REPORT TO THE GOVERNOR AND THE LEGISLATURE ON NEW JERSEY'S ROADWAY PAVEMENT SYSTEM

FISCAL YEAR 2023

July 01, 2022-June 30, 2023

Prepared by:

New Jersey Department of Transportation

September 2023

State of New Jersey
DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

PHILIP D. MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

DIANE GUTIERREZ-SCACCETTI
Commissioner

September 13,2023

Dear Governor Murphy and members of the Legislature:

In compliance with N.J.S.A. 27:1B-21.23 and 21.24, I am pleased to submit the Department's report on New Jersey's state-maintained pavement system for State Fiscal Year 2023. The state highway network is one of New Jersey's largest assets and preserving our pavement investment continues to be a high priority for the Department. The state highway system carries approximately 40% of the state's vehicular traffic and is an essential element of New Jersey's economy.

The Department strives to maintain the roadway infrastructure in a state of good repair and address deficiencies. Funding for pavement projects remains a critical criterion for how much roadway repair and how many improvements can be accomplished.

The Department utilizes a comprehensive Pavement Management System to make the most effective use of available resources. This strategy includes using a mix of pavement treatments and various techniques, ranging from preventive maintenance to milling and resurfacing, rehabilitation, and reconstruction.

This report highlights work completed during State Fiscal Year 2023. Additionally, Appendix A of this report details pavement segments of the state highway system in need of major repair in the future.

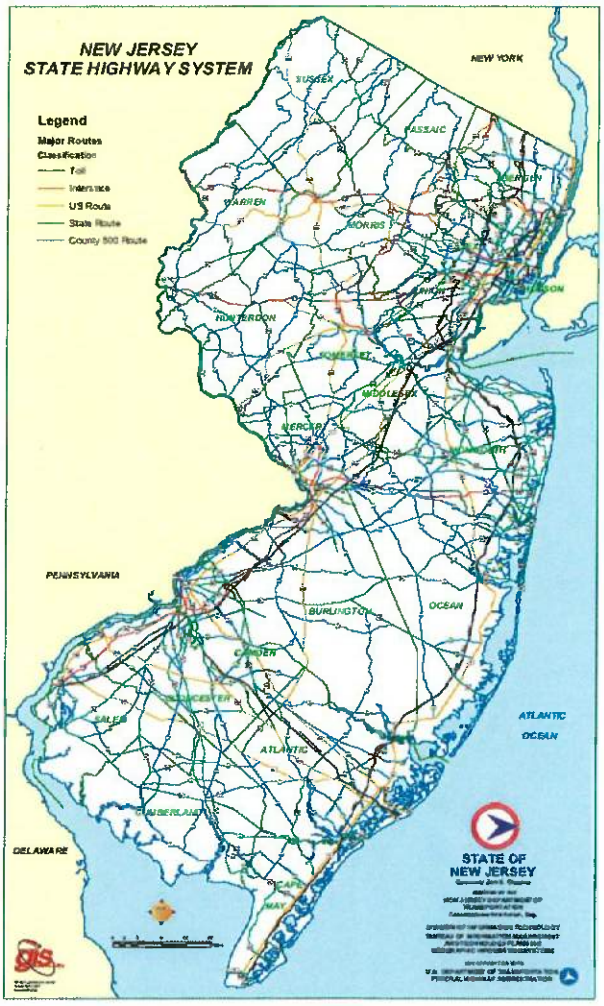
Sincerely,

Diane Gutierrez-Scaccetti
Commissioner

TABLE OF CONTENTS

CURRENT STATUS OF THE STATE HIGHWAY SYSTEM

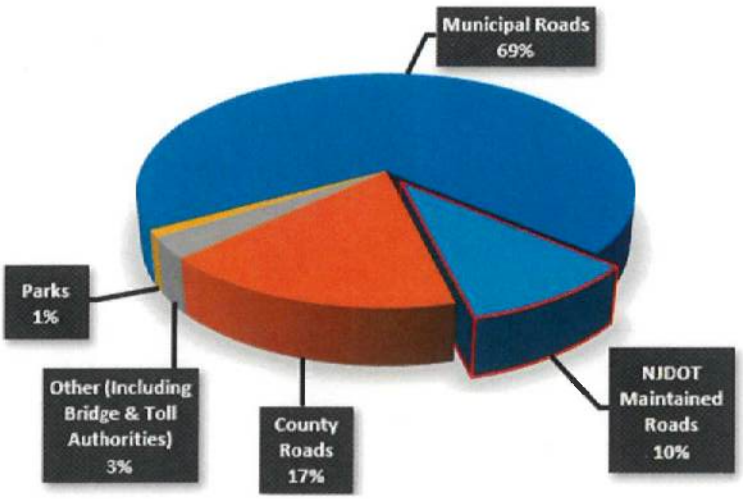
Description of System



There are approximately 38,783 centerline (CL) miles of roadways in New Jersey. The NJDOT maintains approximately 2,330 CL miles of those roadways, commonly referred to as the state highway system. Most of the remaining mileage is under county jurisdiction (6,713 CL miles) and municipal jurisdiction (28,824 CL miles). The New Jersey Turnpike Authority (NJTA) maintains 324 CL miles, including the Garden State Parkway and the New Jersey Turnpike. The South Jersey Transportation Authority (SJTA) maintains 50 CL miles along the Atlantic City Expressway. Other authority milage includes 30 CL miles maintained by various bridge authorities and 12 CL miles along the Palisades Interstate Parkway. The total state CL mileage also includes 400 CL miles of park roads maintained by state, county, and local agencies and 100 CL miles of federal agency roadways, including the U.S. Fish & Wildlife Service and the National Park Service.

To get a better idea of pavement quantities, lane miles rather than centerline miles are used (1 mile of a 2-lane road represents 2 lane miles). As shown in Figure 1 below, NJDOT maintains about 10% of the total statewide lane mileage, but approximately 40% of all traffic, including a high percentage of heavy trucks, is carried on NJDOT-maintained roads.

FIGURE 1: NJ Roadway System, Breakdown by Lane Miles



Assessment of the State Highway System

Evaluation of the New Jersey state highway system is based upon data collected on state-maintained roads and stored in the Pavement Management System. Analysis of this data to assess current pavement conditions considers the following functional adequacy indices:

- **IRI (International Roughness Index)** estimates roughness as perceived by vehicle occupants by using lasers to determine the actual variations in the pavement surface from a perfectly flat condition, measured in inches per mile. Although IRI can vary theoretically from 0 to an unlimited number, practical ranges seen on pavement are 30 to 400 (higher values mean rougher pavements). The FHWA acceptable ranges for IRI are: IRI<= 400 and IRI >= 30.
- **SDI (Surface Distress Index)** is a composite index that is used to assess surface distress and visible deterioration by evaluating cracking, patching, faulting, shoulder drop, rut depth and joint deterioration. SDI is reported on a scale of 0 to 5 (5 is a perfect pavement free of any distress).
- **Rut Depth** measures depths of load related pavement consolidation within the vehicle wheel paths.
- **Skid Number** measures the pavement surface frictional characteristics.

While all the indices listed above are considered in selecting locations and types of pavement treatments, IRI and SDI are most indicative of functional adequacy and are used to evaluate the system status. IRI is a national standard supported by the Federal Highway Administration and SDI is a New Jersey standard index used for many years in roadway assessment.

The analyses discussed herein utilized road data collected in 2022 to evaluate the State-owned and maintained highway system consisting of approximately 2,330 centerline miles of roadway. In terms of pavement quantities, this amounts to 8,560 lane miles of mainline roadway, approximately 4,050 miles of shoulders, and 550 miles of ramps that are state-owned and maintained. The criteria shown in Table 1 below were used to evaluate the mainline roadway condition.

TABLE 1 - CONDITION CRITERIA

Status	Condition Index Criteria (IRI = International Roughness Index, in/mi; SDI = Surface Distress Index, 0 – 5 Scale)	Engineering Significance
Deficient (Poor)	**IRI > 170 *AND/OR* SDI ≤ 2.4 (Deficient classification results from either deficient roughness alone or surface distress alone or both).**	**These roads are due for treatment.** Drivers on these roads will notice that they are driving on a rough surface and may be barely tolerable for high-speed traffic. These pavements may have deteriorated to such an extent that they affect the speed of free flow traffic and may cause damage to vehicles. There will be signs of significant deterioration, including potholes and deep cracks. Deficient pavements will generally be most costly to rehabilitate.
Fair	**All combinations of IRI and SDI between those above and below listed range. IRI ≥ 95 and IRI ≤ 170 and/or SDI > 2.4 and < 3.5**	**These roads exhibit minimally acceptable smoothness that is noticeably inferior to those of new paving.** These pavements may show some signs of deterioration such as rutting and cracking or patching. Most importantly, roads in this category are in jeopardy and should immediately be programmed for a cost-effective treatment that will restore them to a good condition and avoid costly rehabilitation soon.
Good	**IRI < 95 *AND* SDI ≥ 3.5 (Both IRI and SDI must be good to rate this classification).**	**These roads exhibit good ride quality with little or no sign of deterioration.** A proactive preventive maintenance strategy is necessary to keep roads in this category if possible.

The road data analysis results are presented in tabular form in Table 2 below and graphically in Figure 2.

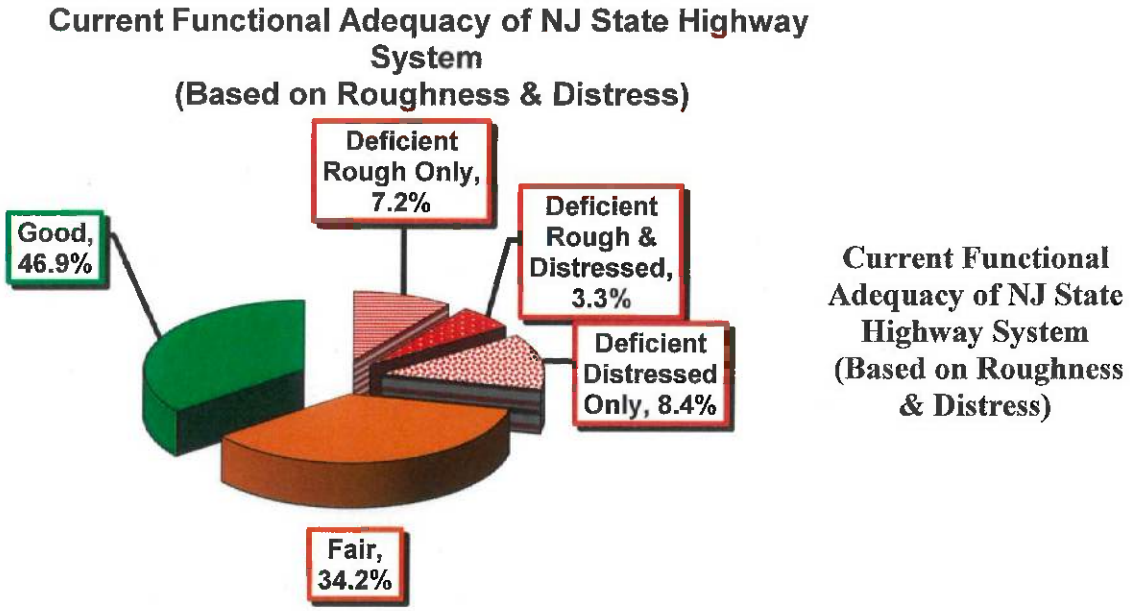
† *Note:*

TABLE 2
Functional Adequacy of NJ State Highway System
(Based on Roughness and Distress)

Condition	Road Miles (Two Directions)	Lane Miles (Two Directions)	% of Total System Performance by Lane Miles
Deficient by Roughness Alone (IRI > 170)	340.2	611.58	7.20%
Deficient by Roughness & Distress (Both)	174.93	285.04	3.30%
Deficient by Distress Alone (SDI ≤ 2.4)	418.26	715.26	8.40%
Total Deficient	933.39	1611.88	18.90%
Total Fair/Mediocre	1614.93	2907.51	34.20%
Total Good	2115.37	3997.13	46.90%
Total State System	4663.69 †	8516.52 †	100.0%

Source: NJDOT Pavement Management System, 2022 Data
Mileage in Table 2 represents tested mileage.

FIGURE 2

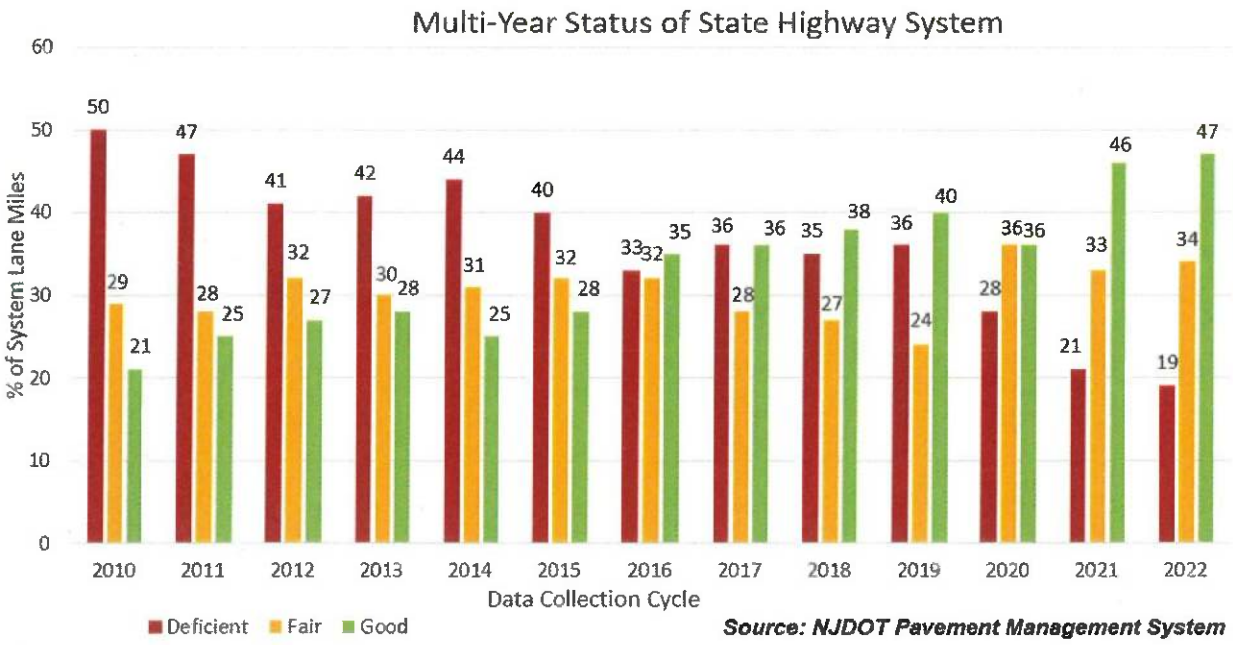


Source: NJDOT Pavement Management System, 2022

NJDOT considers the 18.9 % total deficiency (combination of three deficient subcategories above) as a serious condition that warrants treatment as soon as possible. Deficiency by IRI could indicate a safety or vehicle damage concern. SDI deficiency indicates a serious condition with regards to pavement breakup, potholes, shortened pavement life, etc. Obviously, the presence of both deficiencies is even more serious. The type of deficiency is important in that it can aid in selecting the most efficient treatment methodology and can indicate whether materials currently in use are performing adequately by the amount of deficiency due to cracking.

Similar analyses using data collected over the last 15 years show that, while the total deficiency has remained significant over time, current efforts have resulted in reduced deficiencies (see Figure 3).

FIGURE 3



SUMMARY OF PAVEMENT PROJECT EXPENDITURES

A summary of pavement projects expenditures in State Fiscal Year 2023 is provided in Table 3 below. Costs for individual projects awarded in State FY 2023 are shown on pages 6 through 13.

TABLE 3
Summary of Pavement Projects Expenditures for State Fiscal Year 2023
(Individual costs for projects awarded in State FY 2023 are shown on pages 6 through 13)

Program Category	Description	Expenditure In $ Millions
Highway Capital Maintenance (Betterments) Projects	This is an ongoing program of minor improvements / betterments to the state highway system for miscellaneous maintenance repair projects, repair parts, miscellaneous needs for emergent projects, handicap ramps, and drainage rehabilitation / maintenance. (Table 4)	**$5.862**
Highway Resurfacing – Division of Operations Support Projects	This is a comprehensive program of providing renewed riding surfaces to state highways to prolong the life of the pavement and provide a smoother ride for users of the system. (Table 5)	**$80.985**
Highway Resurfacing / Rehab & Reconstruct – Division of Capital Program Management Projects	This program funds larger scale projects administered through Capital Program Management which are primarily involved with pavement restoration. (Table 6)	**$89.035**
Pavement Preservation Preventive Maintenance – Division of Capital Program Management Projects	This program provides funding for eligible federal pavement preservation preventive maintenance activities which help to keep New Jersey's highway system in a state of good repair. (Table 7)	**$121.840**
Totals		**$297.722**

WORK COMPLETED IN STATE FISCAL YEAR 2023

The Department's Division of Operations Support administers highway capital maintenance and selected resurfacing projects. Alternatively, the Division of Capital Program Management administers resurfacing and major rehabilitation/reconstruction projects which are more involved regarding required project documents, scoping and design. Each of these types of projects, which result in significant pavement system improvement, is broken down and described by program categories in the sections which follow.

State FY 2023 Highway Capital Maintenance (Betterments) Projects

As described in Table 4, Highway Capital Maintenance dollars, which are also the state Transportation Trust Fund (TTF) dollars, were spent in State Fiscal Year 2023 on pavement-related maintenance work administered through the Division of Operations Support of NJDOT. In-house operations (maintenance) crews regularly performed a variety of maintenance tasks to extend the life of pavement and address emergency conditions, including the following:

- Patching potholes to keep the riding surface intact and prevent intrusion of moisture into the pavement layers.
- Quick-set concrete to patch and repair bridge decks.

In addition, specialized maintenance work was performed through projects awarded and administered through the Division of Operations Support, including the following:

- "If-And-Where" resurfacing projects statewide administered through Regional Operations personnel to quickly address emergency conditions.
- Crack sealing and longitudinal joint patching to prolong pavement life.
- Diamond grinding of concrete pavement to improve ride quality, skid resistance, wet weather visibility and to reduce tire noise.

TABLE 4

Highway Capital Maintenance (Betterments) Projects –Awarded by Division of Operations Support State FY 2023

Projects	Description of Work	County	Total Cost In $ Millions
Maintenance Resurfacing Contract#525 (MRC), DP#23410	This is a Statewide "If and Where Directed" contract which will address various locations within the regions. The work will be mostly temporary restoration of pavement surface for a short distance. It may be limited to pavement between two curb lines or may include a travel lane and shoulder also. The purpose of such work is to extend the life of pavement until a full resurfacing project is initiated and constructed.	Various locations in different counties will be addressed on an "as and when needed" basis	$5.862
Totals			**$5.862**

***MRC** - Maintenance Resurfacing Contract*

State FY 2023 Highway Resurfacing – Division of Operations Support Projects

As mentioned previously, selected resurfacing projects are administered through the Department's Division of Operations Support. These projects are funded with state TTF dollars. Table 5 below lists the resurfacing projects valued at **$80.985M** that were awarded in State Fiscal Year 2023.

TABLE 5

Highway Resurfacing Projects – Division of Operations Support Projects Awarded in SFY 2023

Project	Route	Direction	Start Mile Post	End Mile Post	Total Lane Miles	County	Total Cost in $ Millions
MRC #N110	094	B	13.97	21.73	15.59	Sussex, Warren	$9.436
	023	B	31.22	36.02	9.62	Sussex	
	094	B	7.68	9.04	2.80	Warren	
MRC #N214	046	B	29.00	31.40	7.90	Morris	$10.483
	046	B	34.50	36.00	3.40	Morris	
MRC #N319	440	B	19.20	21.40	9.00	Hudson	$8.994
	009W	B	7.30	9.00	4.00	Bergen	
MRC #C118	173	B	7.98	8.21	1.04	Hunterdon	$9.046
	173	B	8.49	11.70	6.42	Hunterdon	
	173	B	3.39	6.12	6.01	Hunterdon, Warren	
	173	B	12.81	14.62	3.73	Hunterdon	
MRC #C217	130	N	60.63	61.80	2.84	Mercer	$10.051
	130	S	60.89	62.39	3.11	Mercer	
	130	S	69.71	72.83	6.24	Mercer, Middlesex	
	027	B	8.56	13.41	11.38	Middlesex, Somerset	
MRC #C313	033	B	31.08	36.95	16.12	Monmouth	$8.229
MRC #S118	206	B	11.10	20.80	22.60	Burlington	$8.415
MRC #S119	130	S	55.45	56.76	3.87	Burlington	$5.714
	130	N	55.45	58.27	6.34	Burlington	
	206	B	34.81	35.61	3.22	Burlington	
	206	B	23.78	26.60	5.72	Burlington	
MRC #S311	047	B	4.28	10.34	12.20	Cape May	$10.617
	047	B	14.01	15.98	3.95	Cape May	
	047	B	36.28	38.10	3.72	Cumberland	
If And Where Directed Paved Miles for Various Routes Statewide					97.43		Included In Individual MRC Contracts
Total					**268.25**		**$80.985**

***MRC# Region Contract#** - Maintenance Resurfacing Contracts*

State Fiscal Year 2023 Highway Resurfacing, Rehabilitation, Reconstruction - Division of Capital Program Management Projects

This funding category includes pavement projects administered through Division of Capital Program Management. These projects are more involved than those administered through the Division of Operations Support regarding required project design, documentation, and scoping. This program consists primarily of resurfacing, rehabilitation, or reconstruction of highway pavements, but may also include more repair activities, upgrades to sidewalks, curbing and guiderails, Americans with Disabilities Act (ADA) improvements, application of long-life pavement markings and raised pavement markers, and safety improvements. Table 6 below lists 7 highway resurfacing, rehabilitation, or reconstruction projects awarded in State Fiscal Year 2023, administered through the Division of Capital Program Management valued at **$89.035 million**.

TABLE 6
Highway Resurfacing, Rehabilitation, Reconstruction Projects Awarded in State FY 2023 Administered Through Division of Capital Program Management

Project Description	DOT UPC No.	Route	Direction	Start Mile Post	End Mile Post	Total Lane Miles	County	Fund Source	Cost $ Million
Rt 7 Mill St (CR 672) to Park Ave (CR 646)	158100	007	B	6.05	8.26	8.40	Essex	Federal	$19.867
Rt 9, Wrights Lane to Harbor Rd	154000	009	B	23.40	24.10	1.40	Cape May	Federal	$8.589
			B	25.30	30.70	10.70	Cape May		
Rt 23 from Alexander Rd to Maple Lake Rd	114240	023	N	10.20	13.00	8.40	Morris	Federal	$13.752
Rt 46, Rt 80 to Walnut Rd	148100	046	B	0.00	1.40	3.80	Warren	Federal	$14.468
Rt 53 Pondview Rd to Hall Ave	124240	053	B	1.90	4.66	5.84	Morris	Federal	$5.342
Rt 130 Westfield Ave to Main St.	113090	130	N	67.77	72.68	9.80	Mercer, Middlesex	Federal	$18.722
			S	69.26	69.71	0.80	Mercer		
Rt 439, Rt 28 (Westfield Ave) to Rt 27 (Newark Ave)	153950	439	B	2.00	3.95	6.50	Union	Federal	$8.295
Totals:						**55.64**			**$89.035**

State Fiscal Year 2023 Pavement Preservation Preventive Maintenance Projects

NJDOT has significantly increased the use of preventive maintenance treatments over the last several years. Instead of waiting until pavements deteriorate to a poor condition which then requires conventional resurfacing or rehabilitation treatments, preventive maintenance treatments are applied at a fraction of the cost to roadway sections in good or fair condition. While the majority of the pavement funding is still applied to conventional restoration of deficient pavements, the preventive maintenance strategy applied to non-deficient pavements slows the rate of deterioration and allows NJDOT to reduce the backlog of deficient pavements with the funding available.

NJDOT utilizes the following specialized preventive maintenance treatments depending upon the roadway conditions. In FY 2023 some of these treatments were utilized.

- **Microsurfacing / Slurry Seal:** This process involves sealing the entire pavement surface with a special cold mixture of polymer modified asphalt emulsion, high quality mineral aggregate, mineral filler, water, and other additives applied in a thin layer on the existing pavement surface.
- **Ultra-Thin Friction Course (UTFC):** A surface treatment that places a 0.75-in. thick polymer-modified hot mix asphalt layer placed on a polymer-modified emulsified asphalt membrane. This process utilizes a specially designed "spray paver" or "ultra-thin lift paver" to rapidly place polymer modified asphalt emulsion material just ahead of the hot mix asphalt that allows for faster opening to traffic and improved overlay performance.
- **High Performance Thin Overlay (HPTO):** Application of a special hot mix asphalt overlay using a modified asphalt binder generally with an average thickness of 1 inch to the entire pavement surface. This asphalt mixture incorporates performance testing requirements, and the process sometimes utilizes a specially designed "spray paver" or "ultra-thin lift paver" for improved overlay performance.
- **Chip Seal:** Application of modified asphalt binder to the roadway followed by spreading pre-coated high-quality chip seal aggregate, over the binder which is then rolled with pneumatic tire rollers.
- **Cape Seal:** A surface treatment that involves the application of slurry seal to a newly constructed surface treatment or chip seal. Cape seals are used to provide a dense, waterproof surface with improved skid resistance and ride quality.

Projects which were completed in State FY 2023 up to June 30 through Capital Program Management are listed in Table 7 below.

TABLE 7

Pavement Preservation Preventive Maintenance Projects Awarded in State FY 2023 Administered Through Division of Capital Program Management

Project Description	Treatment	DOT UPC No.	Route	Dir	Start Mile Post	End Mile Post	Total Lane Miles	County	Cost $ Million
Rt 1, South Inman Ave to Dowd Ave	High Performance Thin Overlay	213040	001	B	38.03	45.50	44.81	Middlesex, Union	$7.007
Route 9, Garden State Parkway to Seawind Boulevard	Chip Seal	223290	009	B	54.85	59.94	10.18	Burlington	$2.363
Route 9, Ash Road to Bay Avenue	Chip Seal	223370	009	B	59.94	70.60	22.16	Ocean	$5.427
Rt 17 NB, Linwood Ave to CR 83 (Airmount Avenue)	Ultra-Thin Friction Course	223340	017	N	16.50	22.87	19.11	Bergen	$3.388
Route 22, Dickens Lane to Fairway Drive	Chip Seal	223430	022	E	52.18	54.72	6.88	Union	$7.291
			022	W	49.00	54.72	11.44	Union	
Route 30, Haddon Ave to Turner Ave/Illinois Avenue (CR 631) & Route 40, CR 559 (Somers Pt Road) to Route 322	Slurry Seal	223490	040	B	47.40	51.58	8.52	Atlantic	$3.229
			030	B	50.81	52.30	8.97	Atlantic	
Rt 35, Rt 66 to CR 32 (Industrial Way)	Slurry Seal	223330	035	B	24.90	27.99	12.36	Monmouth	$3.369
Route 45, Action Station Road (CR 653) to Route 40 (East Avenue)/ Bailey Street (CR 616)	Chip Seal	223610	045	B	4.12	8.80	9.38	Salem	$2.669
Route 46, Walnut Road to Water Street (CR 620)	Slurry Seal over Scrub Seal	223480	046	B	2.56	7.05	9.94	Warren	$2.998
Route 55 SB, Route 40 to Lambs Road (CR 635)	Ultra-Thin Friction Course over Slurry Seal	223280	055	S	40.00	51.30	22.60	Gloucester	$7.766
Route 72, Old South Broadway to Marsha drive	Ultra-Thin Friction Course	223350	072	B	22.54	25.38	12.60	Ocean	$2.430
Route 77, Bridgeton Road (CR614) to Gangemi Lane	Chip Seal	223460	077	B	10.62	21.00	20.78	Gloucester, Salem	$4.717

TABLE 7

Pavement Preservation Preventive Maintenance Projects Awarded in State FY 2023 Administered Through Division of Capital Program Management

Project Description	Treatment	DOT UPC No.	Route	Dir	Start Mile Post	End Mile Post	Total Lane Miles	County	Cost $ Million
Route 78, Turkeyhill Road to Mulhockaway Creek	High Performance Thin Overlay Over Slurry Seal	223380	078	B	9.40	9.62	1.32	Hunterdon	$4.296
			173	B	8.21	8.49	0.74	Hunterdon	
			078	B	10.54	12.80	13.56	Hunterdon	
Rt. 78, Plainfield Avenue (CR 641) to Walker Avenue	High Performance Thin Overlay	223650	078	W	50.60	52.80	4.40	Union	$6.588
			078	E	42.80	52.80	26.50	Essex, Union	
Rt 78 Local, To Rt 1&9 to Stuyvesant Ave (CR 619)	High Performance Thin Overlay over Slurry Seal	223510	078L	E	48.70	52.60	10.90	Essex, Union	$3.443
			078L	W	50.67	52.60	5.79	Union	
Route 80 WB, Alphano Road (CR 613) to Route 46	High Performance Thin Overlay over Slurry Seal	223320	080	W	19.04	27.80	26.78	Morris, Sussex, Warren	$5.831
Route 80 WB, South Beverwyck Road (CR637) To Riverview Drive	High Performance Thin Overlay	223690	080	W	45.60	56.29	34.06	Essex, Morris, Passaic	$5.863
Route 80 EB, Route 46 (Ledgewood Avenue) to Berkshire Valley	High Performance Thin Overlay	223410	080	E	28.15	29.88	5.19	Morris	$2.338
			080	E	27.25	28.15	2.70	Morris	
			080	E	31.72	32.22	1.50	Morris	
			080	E	31.48	31.72	0.72	Morris	
Route 94, Simpson Road to Adams Road (CR 675)	Chip Seal over Scrub Seal	223310	094	B	0.77	7.68	13.60	Warren	$4.497
Route 124, Route 202 (Southpark Place) to Greenwood Street/Prospect Street	Slurry Seal	223270	124	B	0.07	4.75	12.23	Morris	$2.853
Route 124, CR 649 South to Shorthills Avenue	Chip Seal	223400	124	B	7.50	10.50	11.20	Essex, Union	$3.072
Route 130, Main Street (CR614) to Route 1	Ultra-Thin Friction Course over Slurry Seal	223670	130	S	72.80	74.12	2.64	Middlesex	$7.791
			130	N	77.95	83.46	11.52	Middlesex	
			130	S	80.30	83.35	6.10	Middlesex	
			130	S	76.10	78.86	5.52	Middlesex	
Route 202, W County Dr. (CR 646) to Rt 287	Ultra-Thin Friction Course over SCRUB SEAL	223450	202	B	20.33	26.20	22.90	Somerset	$8.567

TABLE 7

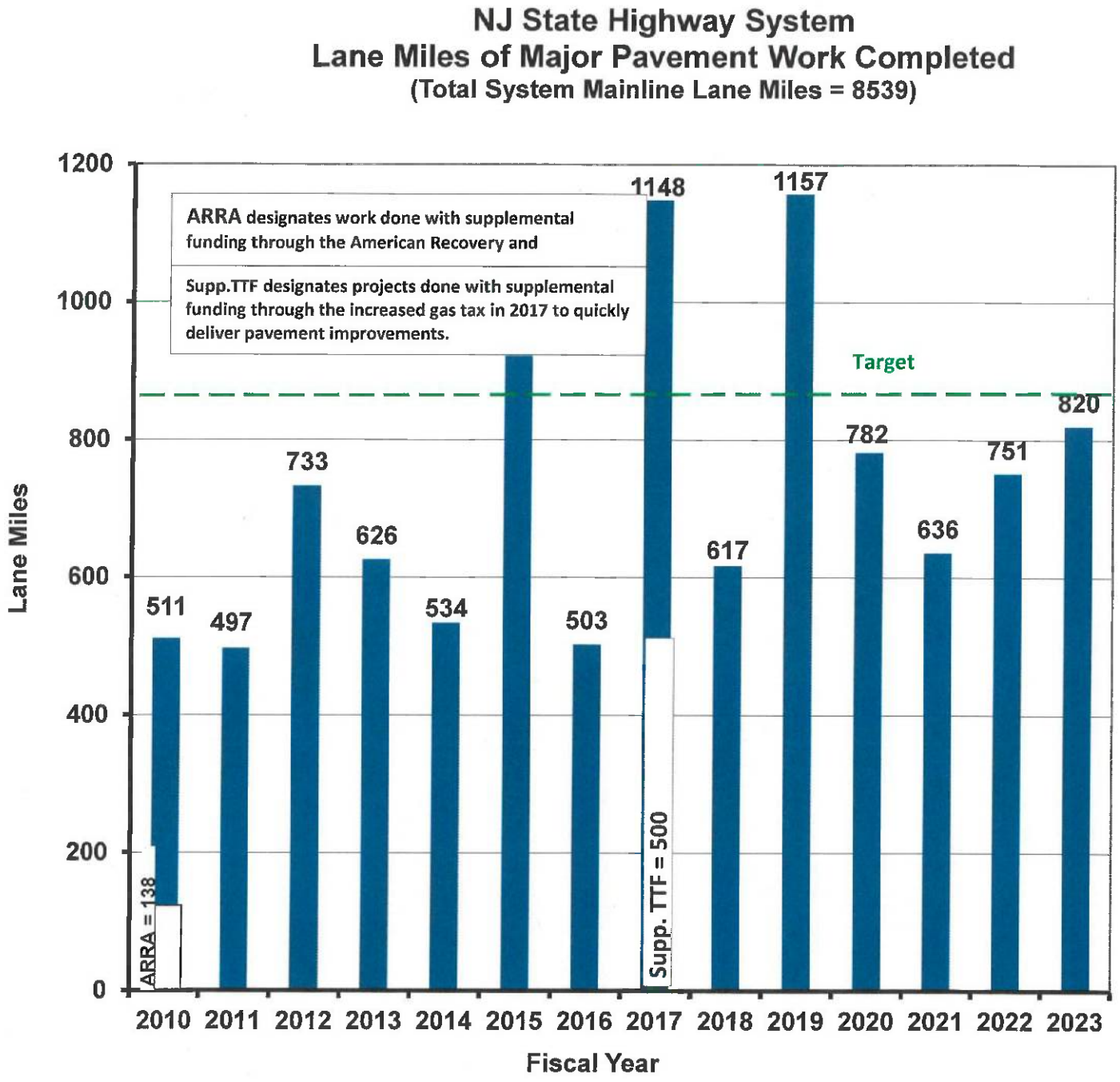
Pavement Preservation Preventive Maintenance Projects Awarded in State FY 2023 Administered Through Division of Capital Program Management

Project Description	Treatment	DOT UPC No.	Route	Dir	Start Mile Post	End Mile Post	Total Lane Miles	County	Cost $ Million
Route 206, Brown Avenue to Route 28	Slurry Seal	223390	206	B	68.50	71.20	12.00	Somerset	$3.101
Route 295, Route 38 to Elbow Lane	High Performance Thin Overlay	223660	295	S	41.00	46.50	18.20	Burlington	$8.848
			295	N	41.00	45.20	14.30	Burlington	
Route 322, Boro Commons Drive to CR 536 (Main St) / CR 654	Slurry Seal	213030	322	B	18.25	24.09	11.68	Gloucester	$2.098
Total							**495.78**		**$121.840**

MULTI-YEAR SUMMARY OF MAJOR PAVEMENT WORK

Figure 4 below shows the lane miles of mainline pavement that received restoration over the last 14 fiscal years. It should be noted that the availability of funding of Capital Program Management projects is a major factor which affects the total lane miles restored during the state fiscal year. A higher number of lane miles paved during SFY 2017 and SFY 2019 can be attributed to Supplemental Transportation Trust Funds, and to a significant increase in preservation lane miles, respectively.

FIGURE 4



REFERENCES

1. New Jersey Department of Transportation, *STATE FY 2022 – 2031 Statewide Transportation Improvement Program,* November 22, 2021.

2. New Jersey Department of Transportation, *Pavement Management System.*

3. New Jersey Department of Transportation, *Transportation Capital Program, State Fiscal Year 2023.*

APPENDIX A
DEFICIENT PAVEMENT SECTIONS
NEEDING FUTURE RESTORATION

DEFICIENT PAVEMENTS NEEDING FUTURE RESTORATION
63 Candidate Projects Sorted by Benefit Rank

Notes:
(1) Candidate projects are based on 2022 Pavement Management Database. Minimum project length = 0.5 miles.
(2) Many of the projects shown below are already programmed for future work and are in design.
(3) AADT = Average Annual Daily Traffic. FPR = Final Pavement Rating (0-5 scale, 5 = perfect pavement).
(4) Benefit = 0.9(5.0-Avg FPR) + 0.1(Traffic Factor) and Traffic Factor = (5/60000) (Avg AADT), with Max = 5.0
(5) For undivided routes (Dir = B): FPR and Benefit shown are the most critical set of values in either direction.
(6) In Rte designation, L=Local, B=Business, T=Truck, U=Upper.
(7) Dir =Direction; B=Both; N=North; S=South; E=East; W=West

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
1	23	B	28.4	29.6	1.2	2.4	Sussex	16099	2.47	4.617	0.84
2	22	E	31.5	32.5	1	2	Somerset	14384	0.75	3.948	0.7
3	28	B	11.5	12.4	0.9	1.8	Middlesex	17378	2.96	3.616	0.63
4	50	B	0.4	1.3	0.9	1.8	Cape May	9807	2.62	3.584	0.63
5	28	B	5.1	6.1	1	2	Somerset	12030	1.14	3.571	0.7
6	35	S	46.9	47.5	0.6	1.3	Middlesex	22120	1.24	3.57	0.455
7	30	B	10.1	10.6	0.5	2	Camden	32007	2.04	3.461	0.7
8	44	B	9.5	10.2	0.7	1.4	Gloucester	8328	1.26	3.433	0.49
9	23	S	10.3	11.9	1.6	4.8	Morris	30663	1.47	3.429	1.68
10	47	B	29.2	30.4	1.2	2.4	Cumberland	2659	2.94	3.386	0.84
11	206	B	63.9	66	2.1	5	Somerset	20733	1.69	3.385	1.75
12	27	B	26.8	28	1.2	4.3	Middlesex, Union	19840	2.2	3.351	1.505
13	46	W	64.3	65	0.7	1.4	Bergen	36269	1.62	3.346	0.49
14	206	B	60.6	61.7	1.1	2.2	Somerset	13921	1.43	3.328	0.77
15	27	B	0	1.2	1.2	2.5	Mercer	13332	1.46	3.297	0.875
16	30	B	12.6	14.6	2	8	Camden	37382	1.98	3.288	2.8
17	124	B	4.8	5.5	0.7	1.4	Morris	18066	1.6	3.223	0.49
18	46	W	0	0.8	0.8	1.2	Warren	3327	1.47	3.206	0.42
19	49	B	26.1	26.7	0.6	1.2	Cumberland	12164	1.11	3.17	0.42
20	161	B	0.4	1	0.6	2.4	Passaic	11796	2.36	3.16	0.84
21	035Z	S	4.1	8	3.9	7.8	Ocean	6051	1.6	3.111	2.73
22	22	E	54.72	55.3	0.58	1.16	Union	29302	1.82	3.104	0.406
23	31	B	41	41.6	0.6	1.2	Warren	19576	1.79	3.051	0.42
24	130	S	68	69.26	1.26	2.92	Mercer	16481	1.79	3.028	1.022
25	31	B	41.9	43.6	1.7	5.3	Warren, Warren	14862	2.06	3.012	1.855
26	28	B	3.1	4.2	1.1	2.2	Somerset	9161	1.7	2.985	0.77
27	73	B	6.7	7.5	0.8	3.2	Camden	15345	2.08	2.975	1.12
28	206	B	54.7	56	1.3	2.6	Mercer	14347	1.45	2.955	0.91

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
29	46	W	61.3	61.9	0.6	1.2	Passaic	20364	1.92	2.939	0.42
30	30	B	11	11.7	0.7	2.8	Camden	32168	1.69	2.933	0.98
31	46	E	47.1	48.4	1.3	2.6	Morris	19672	1.93	2.925	0.91
32	66	W	3.1	3.6	0.5	1	Monmouth	17111	1.93	2.906	0.35
33	206	B	44.6	45.3	0.7	2	Mercer	8191	1.85	2.903	0.7
34	50	B	8.45	9.7	1.25	2.5	Atlantic	5498	1.84	2.893	0.875
35	30	B	15.1	16.4	1.3	5.2	Camden	20739	2.51	2.89	1.82
36	22	E	32.9	34.3	1.4	3.9	Somerset	21557	2	2.878	1.365
37	35	N	5.6	6.3	0.7	1.4	Ocean	6301	1.9	2.839	0.49
38	26	B	0.4	1.51	1.11	2.82	Middlesex	11804	2.48	2.816	0.987
39	40	B	21.7	22.7	1	2	Salem	8748	2	2.812	0.7
40	40	B	34	35.1	1.1	2.2	Atlantic	9323	1.98	2.794	0.77
41	77	B	1.7	2.6	0.9	1.8	Cumberland	13979	2.28	2.749	0.63
42	31	B	44	44.5	0.5	1	Warren	10944	1.96	2.739	0.35
43	9	B	101.9	103.3	1.4	5.6	Monmouth, Ocean	33315	2.27	2.738	1.96
44	27	B	28.4	31.5	3.1	12.4	Union	25322	1.77	2.731	4.34
45	295	S	24.5	25.9	1.4	4.2	Camden, Gloucester	45690	2.41	2.713	1.47
46	009W	B	2.9	3.6	0.7	2.8	Bergen	19235	0.02	2.62	0.98
47	287	S	9.8	10.6	0.8	2.9	Middlesex, Somerset	63264	2.71	2.557	1.015
48	46	E	62	63.1	1.1	2.2	Passaic	20364	2.38	2.527	0.77
49	122	B	0.8	2.3	1.5	3	Warren	9310	1.59	2.522	1.05
50	46	E	65.1	66.6	1.5	3	Bergen	36269	2.55	2.503	1.05
51	10	E	10.6	11.9	1.3	3.1	Morris	30279	2.57	2.437	1.085
52	34	N	4.4	5.5	1.1	2.2	Monmouth	14827	2.49	2.379	0.77
53	10	W	14.1	14.8	0.7	1.4	Morris	13802	2.5	2.366	0.49
54	46	W	52.9	53.6	0.7	1.4	Essex	26937	2.66	2.333	0.49
55	23	B	49.9	50.6	0.7	2.1	Sussex	2837	1.98	2.297	0.735
56	50	B	1.7	3.4	1.7	3.4	Cape May	6113	2.47	2.193	1.19
57	29	B	29.7	30.4	0.7	1.4	Hunterdon	1885	1.45	2.108	0.49
58	22	E	47.1	47.7	0.6	1.2	Union	22966	2.87	2.105	0.42
59	42	S	1.3	1.9	0.6	1.2	Gloucester	13872	2.82	2.08	0.42
60	23	N	9.6	10.2	0.6	1.8	Morris	30673	3.03	2.025	0.63
61	35	N	7.1	8.8	1.7	3.4	Ocean	6301	2.84	1.995	1.19
62	47	B	30.7	31.3	0.6	1.2	Cumberland	6232	1.59	1.909	0.42
63	29	B	27.8	28.5	0.7	1.4	Hunterdon	1885	2.67	1.853	0.49