

**REPORT TO THE GOVERNOR
AND THE LEGISLATURE ON
NEW JERSEY'S ROADWAY PAVEMENT SYSTEM
FISCAL YEAR 2013**



Prepared by:

New Jersey Department of Transportation

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State of New Jersey

DEPARTMENT OF TRANSPORTATION
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CHRIS CHRISTIE
Governor

JAMES S. SIMPSON
Commissioner

KIM GUADAGNO
Lt. Governor

Dear New Jersey Citizens:

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 fiscal year 2013. 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 41% of the state's vehicular travel 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 continues to be a major constraint to network improvement. By using combined State and federal funds, the Department has been able to make improvements to the network and reduce New Jersey's percentage of deficient pavements. To achieve a Department goal of reducing this deficiency to no more than 20% of the system by 2021, analysis has indicated that approximately \$300 million per year would be required; to eliminate the backlog of deficient pavements entirely, approximately \$600 million per year would be needed. Improving the condition of the state highway network remains a difficult task in times of tough competition for limited financial resources.

The Department utilizes a comprehensive Pavement Management Plan to make the most effective use of available resources. This strategy includes a mix of pavement treatments ranging from preventive maintenance to rehabilitation and reconstruction and takes advantage of the Department's expedited project pipeline delivery system.

This report highlights work completed through the Plan in fiscal year 2013. Additionally, in compliance with statutory mandates, Appendix A of this report details pavement segments of the state highway system in need of major repair in the future.

Sincerely,

James S. Simpson
Commissioner

A handwritten signature in black ink, appearing to read "James S. Simpson", written over a large, stylized circular flourish.

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CURRENT STATUS OF THE STATE HIGHWAY SYSTEM

Description of System

There are approximately 38,566 centerline (CL) miles of roadways in New Jersey. NJDOT maintains approximately 2,316 CL miles of roads, commonly referred to as the state highway system. Most of the remaining mileage is under the jurisdiction of counties (6,649 CL miles) and municipalities (28,539 CL miles). Other mileage consists of toll roads including the Garden State Parkway (173 CL miles) and the New Jersey Turnpike (149 CL miles) administered by the New Jersey Turnpike Authority, the Atlantic City Expressway (46 CL miles) administered by the South Jersey Transportation Authority, the Palisades Interstate Parkway (12 CL miles), and mileage maintained by bridge authorities (33 CL miles). Finally, park roads account for approximately 649 CL miles.

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 41% of all traffic, including a high percentage of heavy trucks, is carried on NJDOT maintained roads.

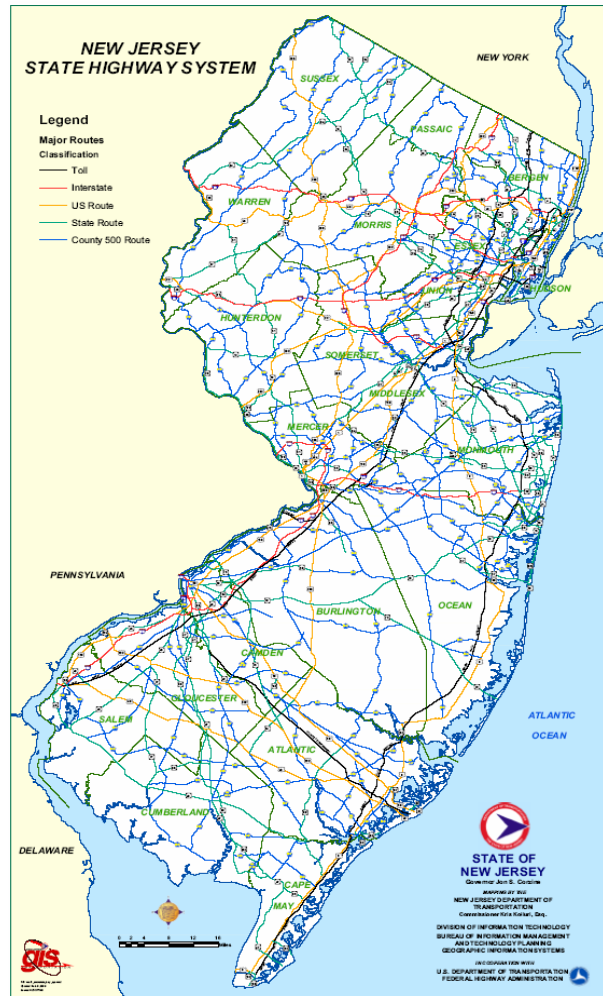
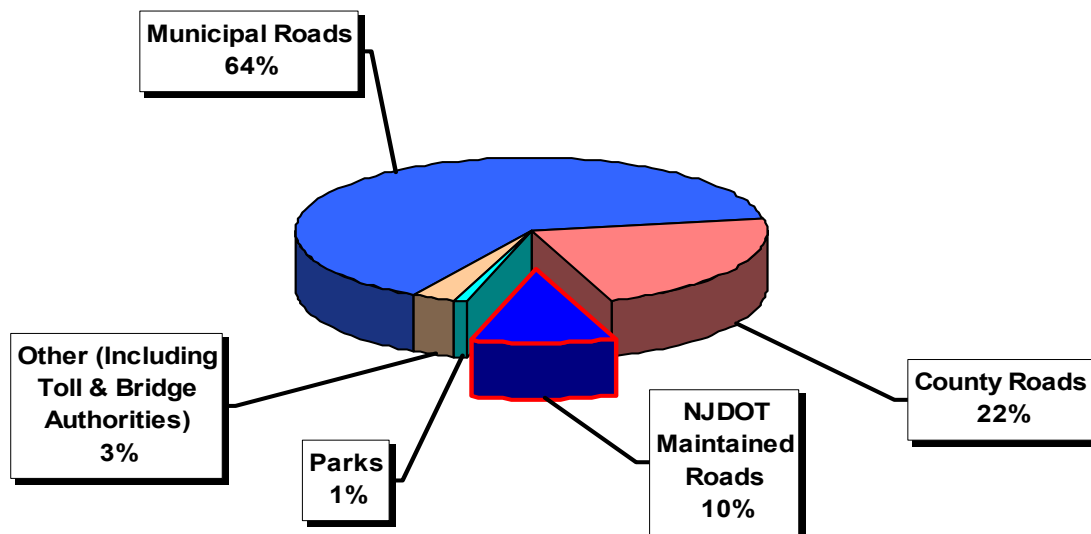


FIGURE 1
NJ Roadway System Breakdown by Lane Miles



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.
- **SDI (Surface Distress Index)** assesses surface distress and visible deterioration by evaluating cracking, patching, faulting, shoulder drop, 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 grooves primarily in vehicle wheel paths.
- **Skid Number** measures the pavement surface frictional characteristics.

While all of 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 used for many years in roadway assessment.

The analyses discussed herein utilized 2012 road data to evaluate the state highway system consisting of approximately 2316 centerline miles of roadway. In terms of pavement quantities, this amounts to 8410 lane miles of mainline roadway, 4086 miles of shoulders, and 563 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 OR SDI ≤ 2.4	These roads are overdue for treatment. Drivers on these roads are likely to notice that they are driving on a rough surface, which puts stress on their vehicles. These pavements may have deteriorated to such an extent that they affect the speed of free flow traffic. Flexible pavements may have large potholes and deep cracks. These roads often show significant signs of wear and deterioration, and may have significant distress in the underlying foundation. Roads in this condition will generally be most costly to rehabilitate.
Fair	(95 ≤ IRI ≤ 170 And SDI > 2.4) OR (IRI < 95 And 2.4 < SDI < 3.5)	These roads exhibit minimally acceptable ride quality that is noticeably inferior to those of new pavements and may be barely tolerable for high-speed traffic. These pavements may show some signs of deterioration such as rutting, map cracking and extensive patching. Most importantly, roads in this category are in jeopardy and should immediately be programmed for some cost-effective treatment that will restore them to a good condition and avoid costly rehabilitation in the near future.
Good	IRI < 95 AND SDI ≥ 3.5	These roads exhibit good ride quality with little or no signs of deterioration. A proactive preventive maintenance strategy is necessary to keep roads in this category as long as possible.

Analysis results are presented in tabular form in Table 2 and graphically in Figure 2 below.

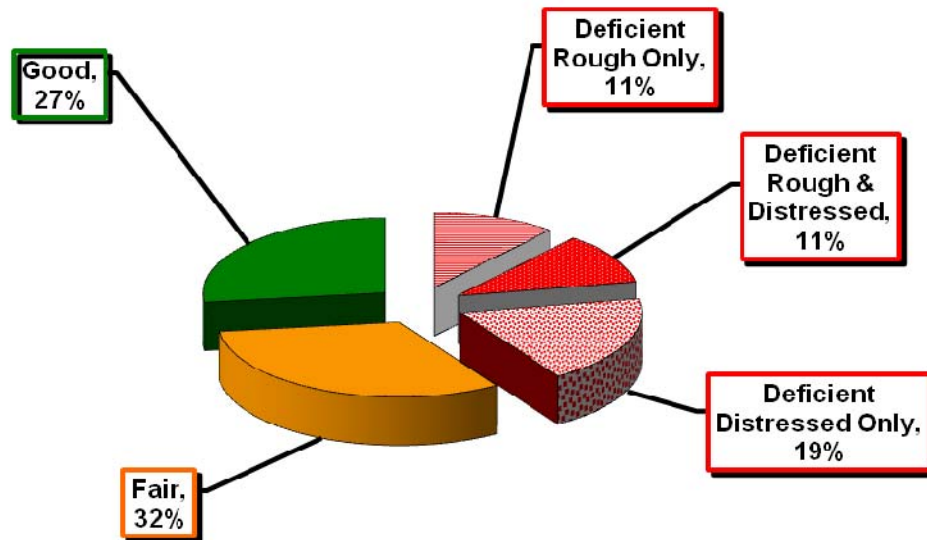
TABLE 2
Functional Adequacy of NJ State Highway System
(Based on Roughness and Distress)

Condition	Road Miles (Two Directions)	Lane Miles (Two Directions)	% of Total System Lane Miles
Deficient by Roughness Alone	526.6	897.5	11%
Deficient by Roughness & Distress	543.1	892.7	11%
Deficient by Distress Alone	988.7	1639.9	19%
Total Deficient	2058.4	3430.1	41%
Total Fair/Mediocre	1522.2	2682.0	32%
Total Good	1052.7	2294.5	27%
Total State System	4663.3†	8406.6†	100%

Source: NJDOT Pavement Management System, 2012 Data

† Note: Mileage in Table 2 represents tested mileage which is slightly less than system mileage (4663 out of 4665 and 8407 out of 8410) due to inaccessibility of some areas for testing.

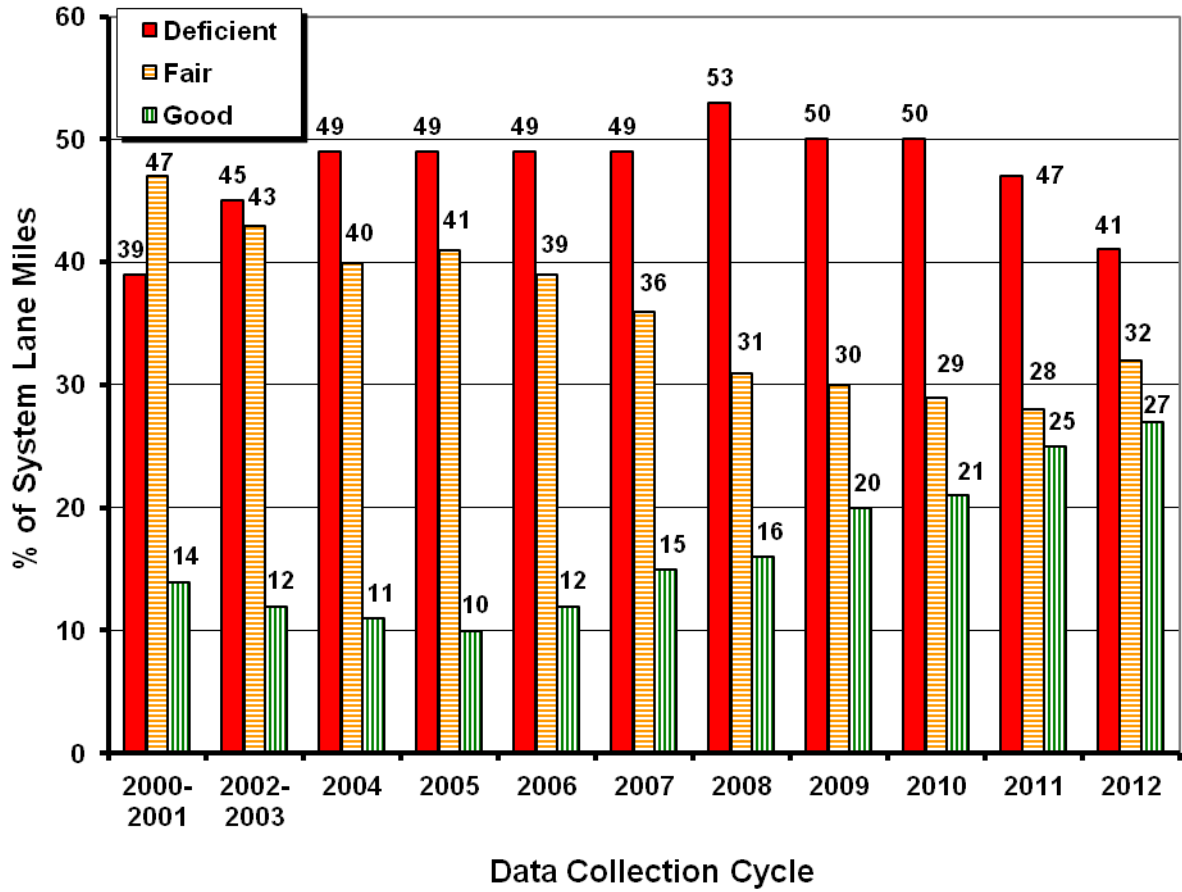
FIGURE 2
Current Functional Adequacy of NJ State Highway System
(Based on Roughness & Distress)



Source: NJDOT Pavement Management System, 2012 Data

These results underscore the severity of the functional deficiency (41% of the system). Similar analyses using data collected over the last 12 years show that while the overall deficiency has remained significant over time current efforts are beginning to reduce deficiencies (see Figure 3 below).

FIGURE 3
Multi-Year Status of State Highway System



Source: NJDOT Pavement Management System



PAVEMENT FUNDING

Programmed funding in fiscal year 2013 for pavement activities is detailed in Table 3 below. Actual project costs broken down by program categories are shown on pages 6 through 10.

TABLE 3
Programmed Pavement Funding for Fiscal Year 2013

(Actual costs broken down by projects are shown on pages 6 through 10)

Program Category	Description	Funding (Millions)
Highway Capital Maintenance - Betterments (State Funding)	This is an ongoing program of minor improvements to the state highway system for miscellaneous maintenance repair contracts, repair parts, miscellaneous needs for emergent projects, handicap ramps, and drainage rehabilitation/maintenance.	\$10
Highway Capital Maintenance - Pavement Preservation (Fed. Funding)	This program provides funding for eligible federal pavement preservation activities which help to keep New Jersey's highway system in a state of good repair.	\$5
Highway Resurfacing - Operations Projects (State Funding)	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.	\$70
Highway Resurfacing / Rehab & Reconstruct - Capital Program Mgt. Projects (State & Fed. Funding)	This program funds larger scale projects administered through Capital Program Management which are primarily involved with pavement restoration.	\$323*
Totals		\$408*

***Total Capital Program Management funding of \$323 million includes approximately \$175 million of federal emergency funding for the 3 projects reconstructing Route 35 after Hurricane Sandy.**

WORK COMPLETED IN FISCAL YEAR 2013

The Department's Operations Division administers highway capital maintenance and selected resurfacing projects. Additionally, resurfacing projects which are more involved with regards to required project documents and scoping and rehabilitation/reconstruction pavement restoration projects are administered through the Capital Program Management branch. Each of these types of projects directly related to pavement system improvements is broken down and described by program categories in the sections which follow.

Fiscal Year 2013 Highway Capital Maintenance Projects

As described in Table 3, Highway Capital Maintenance dollars were spent in fiscal year 2013 on pavement-related maintenance work administered through the Operations Division of NJDOT. In-house maintenance crews regularly performed a variety of preventive maintenance tasks to extend the life of pavement, including the following:

- Sweeping and drain cleaning to keep water away from travel lanes.
- 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 contracts awarded and administered through Operations, including the following:

- "If-And-Where" resurfacing contracts statewide administered through Regional Operations personnel to quickly address emergent conditions.
- Crack sealing and longitudinal joint patching to prolong pavement life.
- Ultra-thin overlays, including Microsurfacing, to restore the pavement surface and improve ride quality.
- Diamond grinding of concrete pavement to improve ride quality, skid resistance, wet weather visibility and to reduce tire noise.

The following pavement preservation contracts were completed in FY 2013:

Project Description	Route	Dir (B= Both)	Start Mile- Post	End Mile- Post	Total Lane Miles	County	Cost (Millions)
Microsurfacing Contract (State Funding)	047	B	4.30	10.24	11.8	Cape May	\$4.000
	080	E	0.50	12.80	36.4	Warren	
	202	B	12.55	20.33	30.8	Hunterdon, Somerset	
Microsurfacing (Federal Funding) DP#12401	322	B	25.90	30.70	19.2	Gloucester	\$5.240
Total					132.4		\$9.240

Fiscal Year 2013 Highway Resurfacing – Operations Division Projects

Table 4 below lists pavement resurfacing contract work awarded in fiscal year 2013 through the Department’s Division of Operations Support. Eight contracts valued at \$55.170 million are listed.

**TABLE 4
Highway Resurfacing Contracts Awarded In FY 2013
Through Operations Support Division**

Contract # (MRRC = Maintenance Rdwy Repair Contract)	Route	Dir (B = Both)	Start Mile- Post	End Mile- Post	Total Lane Miles	County	Total Cost (Millions)
MRRC #C106	029	S	2.63	4.18	3.7	Mercer	\$6.550
	029	B	8.50	9.38	3.5	Mercer	
	029	B	17.09	17.16	0.2	Hunterdon	
	029	B	18.09	18.88	2.9	Hunterdon	
	033	B	4.98	7.38	4.8	Mercer	
	156	B	0.00	1.24	2.4	Mercer	
	202	N	5.69	7.01	2.6	Hunterdon	
MRRC #C205	018	N	42.60	45.27	6.0	Middlesex	\$5.770
	018	S	42.71	45.36	6.0	Middlesex	
	026	B	0.00	1.45	3.2	Middlesex	
	027	B	8.61	9.24	1.2	Middlesex, Somerset	
	027	B	9.28	10.76	3.3	Middlesex, Somerset	
MRRC #C206	206	B	71.20	71.40	0.8	Somerset	\$4.980
	206	N	78.58	85.02	7.5	Somerset, Morris	
	206	S	78.65	85.02	8.3	Somerset, Morris	
MRRC #N307	017	B	0.00	4.54	12.4	Bergen	\$6.130
	017	S	5.43	6.48	3.3	Bergen	
	017	N	5.88	6.50	1.8	Bergen	
MRRC #N308	001	N	42.30	45.08	7.9	Union	\$6.900
	001	S	42.83	45.50	7.4	Union	
	001	S	54.96	57.02	4.0	Hudson	
	001	N	55.05	56.60	0.0	Hudson (Shldrs Only)	
	024	E	0.00	0.96	1.3	Morris	
MRRC #N309	003	B	0.00	1.10	5.5	Passaic	\$7.210
	046	W	61.96	63.17	2.4	Passaic	
	046	E	61.97	62.92	1.8	Passaic	
	063	B	0.00	3.10	9.2	Hudson, Bergen	

Table 4 Operations Resurfacing Contracts Awarded in FY 2013 – Continued

Contract # (MRRC = Maintenance Rdwy Repair Contract)	Route	Dir (B = Both)	Start Mile-Post	End Mile-Post	Total Lane Miles	County	Total Cost (Millions)
MRRC #S106	042	N	6.22	13.09	19.8	Gloucester, Camden	\$9.230
	042	S	6.33	12.88	20.0	Gloucester, Camden	
	073	N	26.81	28.71	5.2	Burlington	
	090	W	2.25	3.13	2.3	Camden, Burlington	
	154	B	0.00	1.51	3.0	Camden	
	168	B	6.86	7.33	0.8	Camden	
	168	B	7.56	8.65	4.0	Camden	
MRRC #S205	045	B	0.37	4.12	7.4	Salem	\$8.400
	047	B	39.30	41.70	4.8	Cumberland	
	049	B	0.11	5.70	11.2	Salem	
	049	B	27.00	31.40	8.8	Cumberland	
Totals					200.70		\$55.170

FY 2013 Hwy Resurfacing/Rehab/Reconstuct-Capital Program Mgt Projects

This funding category includes special pavement projects administered through Capital Program Management using a fast track delivery system. These projects are more involved than those administered through the Operations Division with regards to required project design, documentation and scoping. The program consists primarily of resurfacing/rehabilitation/reconstruction of highway pavements, but may also include selected repair activities, upgrades to walks/curbing and guardrails, application of long-life pavement markings and raised pavement markers, and safety improvements. Table 5 below lists 17 highway resurfacing/rehab/reconstruct projects with construction funding in fiscal year 2013 administered through Capital Program Management valued at \$323.113 million.

TABLE 5
Hwy Resurfacing/Rehab/Reconstruct Projects with FY 2013 Construction Funding
Administered Through Capital Program Management

Project Description	DOT UPC No.	Route (L= Local)	Dir (B= Both)	Start Mile- Post	End Mile- Post	Lane Miles	County	Fund- ing Source	Cost (Millions)
Rt 9, Pavement Rehab, Middlesex/Monmouth Counties	093070	009	S	116.75	130.93	37.0	Middlesex, Monmouth	Federal	\$36.717
		009	N	121.93	130.93	25.3	Middlesex		
		009	N	132.72	134.76	5.7	Middlesex		
		009	S	132.72	135.65	8.6	Middlesex		
Rt 10 WB from Jefferson Rd to West Northfield Ave, Pavement	123430	010	W	13.40	18.80	10.8	Morris, Essex	State	\$3.358
Rt 17 SB from Cameron Rd to Airmount Ave (CR 83), Pavement	123390	017	S	19.50	23.10	10.8	Bergen	State	\$3.446
Rt 22 WB from I-78 to Oldwick Rd (CR 523), Pavement	123410	022	W	19.30	25.50	11.6	Hunterdon	State	\$4.005
Rt 27 from Parillo Dr to Sandford St, Pavement	123330	027	B	12.60	15.40	9.8	Middlesex	State	\$2.294
Rt 30 from Grove St to Brand Ave	123370	030	B	7.80	9.30	6.2	Camden	State	\$4.768
		030	B	10.10	13.89	15.8	Camden		
Rt 30 from E. of Brand Ave to E. of London Ave, Pavement Rehab	103350	030	B	13.89	16.36	10.0	Camden	Federal	\$3.850
		030	B	16.66	18.15	4.9	Camden		
Rt 35 Restoration from Berkley Twp to Toms River (M.P. 0-4)	950319	035	B	0.00	4.00	17.9	Ocean	State & Federal	\$86.530
Rt 35 Restoration from Toms River Twp to Mantoloking	950321	035	B	4.00	9.00	19.9	Ocean	State & Federal	\$93.988
Rt 35 Restoration from Mantoloking to Pt. Pleasant	950322	035	B	9.00	12.50	7.1	Ocean	State & Federal	\$44.800
Rt 45 from Reid St to Rt 130, Pavement	123420	045	B	25.00	25.47	2.0	Gloucester	State	\$1.504
		045	B	26.33	26.50	0.5	Gloucester		
		045	B	27.70	28.51	3.0	Gloucester		

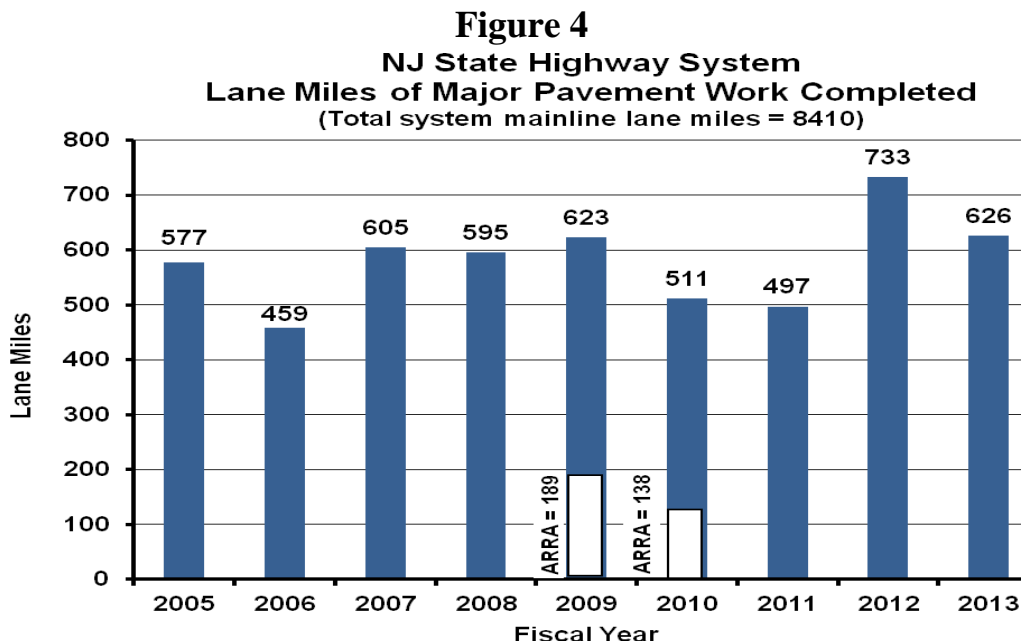
Table 5 CPM Resurfacing/Rehab/Reconstruct Projects With FY 2013 Funding—Continued

Project Description	DOT UPC No.	Route (L= Local)	Dir (B= Both)	Start Mile-Post	End Mile-Post	Lane Miles	County	Fund-ing Source	Cost (Millions)
Rt 46 EB Lower Notch Rd to Rock Hill Rd, Pavement	123400	046	E	58.97	60.60	4.2	Passaic	State	\$1.890
Rt 80 Parsippany-Troy Hills Rdwy Improve -ments, Rehabilitation	003712	080	B	41.50	45.60	4.9 (See Note 1)	Morris	Federal	\$10.800 (See Note 1)
		080L	E	43.90	45.60				
		080L	W	44.10	45.60				
Rt 202 SB from Headquarters Rd to Old York Rd, Pvmt.	123350	202	S	0.40	7.00	13.2	Hunterdon	State	\$4.405
Rt 206 from South of Bridge Point Rd to Doctor's Way	113080	206	B	60.50	66.35	13.8	Somerset	Federal	\$5.821
Rt 284 from Rt 23 to the New York State Line, Pavement	123340	284	B	0.00	7.00	14.0	Sussex	State	\$4.537
Rt 322 from Eighth St to Watering Race Brook, Pavement	123360	322	B	36.90	45.90	36.0	Atlantic	State	\$10.400
Total						293.0			\$323.113

Note: 1) Rt 80 project was funded over FY 2012 & 2013. Total project cost = \$81.150 million (\$10.800 million was funded in 2013). Total project lane miles = 36.5 (4.9 apportioned to 2013).

MULTI-YEAR SUMMARY OF MAJOR PAVEMENT WORK

Figure 4 below shows the lane miles of mainline pavement that received restoration over the last 9 fiscal years. **Note that the 2013 reduction reflects the large expenditure for relatively limited lane miles on the three Route 35 reconstruction projects after Hurricane Sandy.**



REFERENCES

1. New Jersey Department of Transportation, *Capital Investment Strategy FY 2013-2022*, March 2012.
2. New Jersey Department of Transportation, *FY 2012 – 2021 Statewide Transportation Improvement Program*.
3. New Jersey Department of Transportation, *Transportation Capital Program, Fiscal Year 2013*.

APPENDIX A

DEFICIENT PAVEMENT SECTIONS

NEEDING FUTURE RESTORATION

APPENDIX A

DEFICIENT PAVEMENTS NEEDING FUTURE RESTORATION

227 Candidate Projects Sorted By Benefit Rank

Notes:

- (1) Candidate projects are based on 2012 Pavement Management Database. Minimum project length = 0.5 mile.
- (2) AADT = Average Annual Daily Traffic. FPR = Final Pavement Rating (0-5 scale, 5 = perfect pavement).
- (3) Benefit = 0.9(5.0-Avg FPR) + 0.1(Traffic Factor) and Traffic Factor = (5/60000)(Avg AADT), with Max = 5.0
- (4) For undivided routes (Dir = B): FPR and Benefit shown are the most critical set of values in either direction.
- (5) In Rte designation, L=local, B=business, 095M = NJDOT maintained portion of Interstate 95.

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
1	022	E	2.0	3.2	1.2	2.5	Warren	18188	0.50	4.199	\$0.750
2	078	E	9.4	9.9	0.5	1.5	Hunterdon	45494	0.84	4.120	\$0.450
3	019	S	0.6	1.4	0.8	2.2	Passaic	16517	0.58	4.119	\$0.660
4	003	W	4.3	6.2	1.9	5.7	Bergen, Passaic	62955	1.01	4.089	\$1.710
5	022	E	4.0	4.5	0.5	1.0	Warren	18111	0.68	4.038	\$0.300
6	030	B	46.2	47.6	1.4	5.6	Atlantic	17018	0.60	4.030	\$1.680
7	040	E	56.6	57.1	0.5	1.0	Atlantic	16734	0.69	4.023	\$0.300
8	018	S	39.7	40.5	0.8	2.2	Middlesex	39038	0.91	4.008	\$0.660
9	009	S	135.7	136.4	0.7	1.8	Middlesex	23304	0.78	3.990	\$0.540
10	040	B	50.6	51.5	0.9	2.3	Atlantic	29228	0.74	3.958	\$0.690
11	676	S	0.0	0.8	0.8	2.3	Camden	34460	0.95	3.936	\$0.690
12	010	W	0.0	0.9	0.9	1.3	Morris	13663	0.76	3.930	\$0.390
13	130	N	11.0	11.8	0.8	1.6	Gloucester	5572	0.70	3.920	\$0.480
14	080L	E	64.7	68.1	3.4	11.2	Bergen	35269	0.98	3.914	\$3.360
15	031	B	5.8	6.9	1.1	2.9	Mercer	24144	0.82	3.860	\$0.870
16	028	B	17.3	18.4	1.1	2.2	Union	11286	0.76	3.860	\$0.660
17	080	W	66.7	68.3	1.6	4.2	Bergen	33270	1.03	3.852	\$1.260
18	026	B	2.0	2.5	0.5	2.0	Middlesex	18612	0.81	3.851	\$0.600
19	183	N	0.0	0.6	0.6	1.1	Morris	7808	0.81	3.837	\$0.330
20	031	B	10.6	12.0	1.4	2.8	Mercer	15622	0.82	3.832	\$0.840
21	034	B	21.2	22.3	1.1	2.2	Monmouth	17144	0.84	3.812	\$0.660
22	033	B	1.4	5.1	3.7	10.5	Mercer	15388	0.84	3.805	\$3.150
23	130	S	13.7	14.2	0.5	1.0	Gloucester	10412	0.87	3.802	\$0.300
24	045	B	25.5	26.3	0.8	2.9	Gloucester	12344	0.85	3.787	\$0.870
25	004	E	5.4	8.9	3.5	8.8	Bergen	49884	1.25	3.786	\$2.640
26	440	S	1.8	2.9	1.1	3.4	Middlesex	55752	1.34	3.763	\$1.020
27	033	B	35.9	37.0	1.1	4.4	Monmouth	16008	0.92	3.742	\$1.320
28	076	S	0.7	1.9	1.2	5.2	Camden	68110	1.40	3.741	\$1.560
29	046	E	60.6	62.0	1.4	2.8	Passaic	31990	1.16	3.719	\$0.840
30	173Z	B	1.1	1.7	0.6	1.2	Hunterdon	6504	0.91	3.710	\$0.360
31	037	E	6.3	6.9	0.6	1.8	Ocean	27073	1.15	3.689	\$0.540
32	009	S	115.4	116.8	1.4	2.8	Monmouth	16104	1.06	3.677	\$0.840
33	173Z	B	0.0	0.7	0.7	1.4	Hunterdon	6504	0.95	3.671	\$0.420
34	040	E	61.6	63.5	1.9	3.8	Atlantic	16550	1.08	3.670	\$1.140
35	010	B	18.9	21.8	2.9	9.0	Essex	15106	0.99	3.669	\$2.700
36	040	W	61.6	62.3	0.7	1.4	Atlantic	15668	1.08	3.658	\$0.420
37	195	E	1.2	1.8	0.6	1.3	Mercer	25397	1.18	3.654	\$0.390
38	206	N	68.7	71.2	2.5	6.3	Somerset	14536	1.10	3.627	\$1.890

DEFICIENT PAVEMENTS SORTED BY BENEFIT RANK - CONTINUED

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
39	050	B	6.6	7.4	0.8	1.6	Atlantic, Cape May	6532	1.03	3.601	\$0.480
40	034	S	0.0	1.7	1.7	3.4	Monmouth	18524	1.17	3.600	\$1.020
41	280	W	0.0	3.2	3.2	6.6	Morris	31966	1.31	3.591	\$1.980
42	152	B	0.0	3.2	3.2	6.4	Atlantic	12340	1.07	3.589	\$1.920
43	181	B	0.0	1.5	1.5	3.4	Morris	5432	1.05	3.578	\$1.020
44	206	B	45.9	46.6	0.7	1.4	Mercer	14240	1.10	3.570	\$0.420
45	078L	W	57.7	58.3	0.6	1.3	Essex	28080	1.30	3.567	\$0.390
46	030	B	18.2	19.6	1.4	5.6	Camden	7958	1.08	3.564	\$1.680
47	001	B	57.4	58.0	0.6	2.4	Hudson	29096	1.18	3.563	\$0.720
48	023	S	12.5	13.0	0.5	1.7	Morris	29958	1.32	3.562	\$0.510
49	046	B	69.9	70.4	0.5	2.0	Bergen	36128	1.21	3.558	\$0.600
50	040	E	52.1	54.3	2.2	5.1	Atlantic	16857	1.20	3.557	\$1.530
51	027	B	0.0	1.4	1.4	2.8	Mercer	13052	1.12	3.550	\$0.840
52	046	E	66.3	67.0	0.7	1.4	Bergen	27174	1.32	3.538	\$0.420
53	022	E	34.3	37.4	3.1	8.2	Somerset	35624	1.40	3.537	\$2.460
54	050	B	10.0	11.3	1.3	2.6	Atlantic	3700	1.10	3.525	\$0.780
55	035	S	50.6	52.2	1.6	2.9	Middlesex	11613	1.19	3.525	\$0.870
56	035	S	34.5	39.4	4.9	10.2	Monmouth	16211	1.24	3.522	\$3.060
57	054	B	6.1	6.8	0.7	1.4	Atlantic	9792	1.14	3.513	\$0.420
58	080	E	39.8	41.5	1.7	6.8	Morris	46062	1.53	3.504	\$2.040
59	072	E	21.7	23.5	1.8	4.3	Ocean	17229	1.27	3.498	\$1.290
60	159	B	0.6	1.3	0.7	1.4	Essex	18190	1.21	3.486	\$0.420
61	046	E	62.9	64.0	1.1	2.2	Passaic	43392	1.54	3.473	\$0.660
62	143	B	0.0	1.9	1.9	3.8	Camden	2748	1.16	3.469	\$1.140
63	046	W	51.7	52.2	0.5	0.9	Essex, Morris	17449	1.31	3.465	\$0.270
64	035	N	14.1	16.0	1.9	3.8	Monmouth, Ocean	10282	1.25	3.464	\$1.140
65	093	B	2.2	3.5	1.3	2.6	Bergen	21426	1.25	3.463	\$0.780
66	035	S	43.3	44.3	1.0	2.0	Monmouth	16831	1.32	3.455	\$0.600
67	004	E	0.0	2.4	2.4	5.2	Bergen, Passaic	22267	1.37	3.451	\$1.560
68	322	B	18.3	24.1	5.8	11.6	Gloucester	13096	1.23	3.446	\$3.480
69	159	W	0.0	0.6	0.6	1.0	Essex, Morris	9095	1.26	3.444	\$0.300
70	004	W	0.0	2.1	2.1	4.2	Bergen, Passaic	20833	1.37	3.437	\$1.260
71	022	W	36.0	37.4	1.4	3.9	Somerset	36800	1.52	3.435	\$1.170
72	046	E	57.2	57.7	0.5	1.5	Passaic	61765	1.74	3.434	\$0.450
73	071	B	0.0	1.7	1.7	3.4	Monmouth	16526	1.26	3.431	\$1.020
74	140	B	0.1	1.0	0.9	1.8	Salem	5560	1.22	3.429	\$0.540
75	046	B	34.2	37.5	3.3	8.4	Morris	14846	1.26	3.428	\$2.520
76	034	N	0.2	7.7	7.5	15.4	Monmouth	15787	1.34	3.427	\$4.620
77	021	B	2.4	3.3	0.9	3.7	Essex	65750	1.50	3.427	\$1.110
78	124	B	0.2	4.7	4.5	12.0	Morris	12684	1.25	3.424	\$3.600
79	094	B	21.8	22.5	0.7	1.4	Sussex	11062	1.25	3.419	\$0.420
80	022	E	51.5	52.2	0.7	1.4	Union	39731	1.57	3.417	\$0.420
81	021	S	4.0	4.6	0.6	1.6	Essex	36263	1.54	3.414	\$0.480

DEFICIENT PAVEMENTS SORTED BY BENEFIT RANK – CONTINUED

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
82	093	B	0.1	0.7	0.6	2.1	Bergen	21888	1.31	3.410	\$0.630
83	439	B	2.2	2.7	0.5	1.9	Union	21504	1.33	3.393	\$0.570
84	124	E	8.4	9.3	0.9	1.8	Essex	6298	1.29	3.392	\$0.540
85	057	B	18.7	21.1	2.4	4.8	Warren	16380	1.31	3.389	\$1.440
86	073	S	27.1	28.1	1.0	2.7	Burlington	27398	1.50	3.381	\$0.810
87	202	B	44.7	46.0	1.3	4.0	Morris	17146	1.33	3.377	\$1.200
88	166	B	0.1	2.2	2.1	4.2	Ocean	24640	1.37	3.374	\$1.260
89	049	B	5.7	8.0	2.3	4.6	Salem	10496	1.30	3.371	\$1.380
90	030	B	9.3	10.1	0.8	3.2	Camden	29868	1.40	3.366	\$0.960
91	072	E	25.4	26.7	1.3	2.6	Ocean	9466	1.35	3.366	\$0.780
92	035	B	52.2	58.1	5.9	23.6	Middlesex	21332	1.37	3.356	\$7.080
93	018	N	39.5	40.8	1.3	3.6	Middlesex	39010	1.63	3.356	\$1.080
94	045	B	9.5	10.5	1.0	2.0	Salem	5908	1.30	3.350	\$0.600
95	007	B	9.5	10.1	0.6	1.2	Essex	12296	1.34	3.347	\$0.360
96	035	B	18.5	19.9	1.4	2.8	Monmouth	21410	1.38	3.346	\$0.840
97	029	B	15.1	15.6	0.5	1.0	Mercer	10216	1.33	3.342	\$0.300
98	035	B	22.7	24.6	1.9	3.9	Monmouth	22552	1.39	3.341	\$1.170
99	035	N	34.5	35.0	0.5	1.0	Monmouth	16211	1.44	3.339	\$0.300
100	159	E	0.1	0.6	0.5	0.9	Essex, Morris	9095	1.38	3.337	\$0.270
101	009	B	16.1	18.7	2.6	5.2	Cape May	9380	1.35	3.328	\$1.560
102	035	N	12.8	13.4	0.6	1.1	Ocean	10367	1.41	3.320	\$0.330
103	057	B	0.1	3.1	3.0	6.0	Warren	12846	1.37	3.320	\$1.800
104	035	S	12.8	14.2	1.4	2.7	Ocean	10516	1.41	3.316	\$0.810
105	094	B	5.5	13.8	8.3	16.6	Warren	6322	1.37	3.295	\$4.980
106	009	B	89.6	90.8	1.2	3.7	Ocean	23094	1.45	3.295	\$1.110
107	050	B	4.2	4.7	0.5	1.0	Cape May	6776	1.40	3.273	\$0.300
108	036	B	6.4	9.4	3.0	6.0	Monmouth	13238	1.43	3.268	\$1.800
109	022	W	47.8	48.8	1.0	2.0	Union	24574	1.61	3.256	\$0.600
110	079	B	0.1	2.6	2.5	5.0	Monmouth	15578	1.46	3.255	\$1.500
111	073	S	29.6	30.1	0.5	1.0	Burlington	30684	1.68	3.245	\$0.300
112	077	B	0.0	3.0	3.0	6.7	Cumberland	14538	1.46	3.243	\$2.010
113	009	B	57.2	66.0	8.8	17.6	Burlington, Ocean	12306	1.46	3.241	\$5.280
114	049	B	9.8	10.6	0.8	1.6	Salem	7590	1.44	3.233	\$0.480
115	033B	B	0.0	2.8	2.8	6.2	Monmouth	11834	1.46	3.232	\$1.860
116	012	B	10.9	11.4	0.5	1.0	Hunterdon	14948	1.49	3.223	\$0.300
117	036	S	1.9	3.8	1.9	3.8	Monmouth	18616	1.60	3.216	\$1.140
118	045	B	18.8	22.6	3.8	7.6	Gloucester	15684	1.50	3.213	\$2.280
119	094	S	0.1	0.7	0.6	0.9	Warren	3140	1.47	3.207	\$0.270
120	045	B	15.7	17.6	1.9	3.8	Gloucester	9346	1.48	3.207	\$1.140
121	080L	W	65.5	68.2	2.7	8.3	Bergen	34832	1.76	3.202	\$2.490
122	091	B	1.3	2.2	0.9	1.8	Middlesex	14132	1.52	3.193	\$0.540
123	083	B	0.3	3.8	3.5	7.0	Cape May	5074	1.50	3.174	\$2.100
124	079	B	9.9	11.9	2.0	4.0	Monmouth	10940	1.54	3.159	\$1.200

DEFICIENT PAVEMENTS SORTED BY BENEFIT RANK – CONTINUED

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
125	070	B	40.2	41.3	1.1	2.2	Ocean	16108	1.57	3.157	\$0.660
126	015	B	14.2	17.0	2.8	6.1	Sussex	22932	1.60	3.155	\$1.830
127	056	B	0.6	4.8	4.2	8.4	Cumberland	8780	1.54	3.154	\$2.520
128	047	B	41.9	43.1	1.2	5.1	Cumberland	28224	1.63	3.147	\$1.530
129	072	W	25.4	26.3	0.9	1.8	Ocean	9466	1.59	3.147	\$0.540
130	295	S	1.7	4.4	2.7	5.4	Salem	12961	1.63	3.141	\$1.620
131	027	B	37.0	37.9	0.9	3.6	Essex	13904	1.57	3.141	\$1.080
132	009W	B	1.0	3.2	2.2	8.8	Bergen	24218	1.63	3.136	\$2.640
133	001	S	39.5	41.7	2.2	6.6	Union	29797	1.80	3.132	\$1.980
134	066	E	0.1	0.9	0.8	0.9	Monmouth	10517	1.62	3.130	\$0.270
135	077	B	10.7	11.4	0.7	1.4	Salem	5072	1.55	3.130	\$0.420
136	009	B	55.3	56.9	1.6	3.2	Burlington	7154	1.57	3.118	\$0.960
137	202	B	41.3	42.2	0.9	1.8	Morris	9682	1.58	3.115	\$0.540
138	072	W	27.1	28.5	1.4	3.3	Ocean	9466	1.64	3.105	\$0.990
139	171	B	0.5	1.3	0.8	1.8	Middlesex	14835	1.62	3.105	\$0.540
140	183	B	0.6	1.6	1.0	2.0	Morris, Sussex	14110	1.62	3.104	\$0.600
141	030	B	31.1	32.0	0.9	3.6	Atlantic	12398	1.61	3.103	\$1.080
142	068	B	1.5	3.7	2.2	4.4	Burlington	6732	1.59	3.094	\$1.320
143	072	W	23.0	23.5	0.5	1.0	Ocean	19202	1.76	3.080	\$0.300
144	009	B	25.3	28.9	3.6	7.2	Cape May	8274	1.63	3.066	\$2.160
145	027	B	34.1	36.9	2.8	10.6	Essex, Union	13286	1.66	3.062	\$3.180
146	202	B	40.2	40.7	0.5	1.0	Morris	8416	1.64	3.061	\$0.300
147	032	E	0.4	1.2	0.8	1.6	Middlesex	13157	1.73	3.054	\$0.480
148	040	E	4.4	5.2	0.8	1.6	Salem	7184	1.68	3.050	\$0.480
149	072	E	27.2	28.7	1.5	3.0	Ocean	9466	1.71	3.040	\$0.900
150	206	B	98.4	99.1	0.7	1.5	Sussex	21912	1.74	3.024	\$0.450
151	070	B	38.6	39.2	0.6	1.2	Ocean	14032	1.72	3.012	\$0.360
152	440	N	1.1	4.0	2.9	8.7	Middlesex	49668	2.12	3.010	\$2.610
153	031	B	1.9	3.9	2.0	8.0	Mercer	13524	1.76	2.977	\$2.400
154	206	B	50.0	53.9	3.9	8.3	Mercer	15486	1.77	2.974	\$2.490
155	053	B	0.6	1.1	0.5	2.0	Morris	13240	1.77	2.966	\$0.600
156	183	S	0.0	0.5	0.5	1.0	Morris	7808	1.78	2.965	\$0.300
157	202	N	50.0	50.6	0.6	1.2	Morris	10416	1.81	2.960	\$0.360
158	066	B	0.9	2.3	1.4	2.8	Monmouth	21678	1.82	2.954	\$0.840
159	045	B	11.3	15.1	3.8	7.6	Gloucester, Salem	4018	1.75	2.946	\$2.280
160	009W	B	9.0	11.2	2.2	4.4	Bergen	5632	1.76	2.940	\$1.320
161	022	E	49.4	50.9	1.5	3.0	Union	17163	1.89	2.939	\$0.900
162	005	B	0.6	1.1	0.5	1.4	Bergen	9448	1.79	2.924	\$0.420
163	009W	B	6.7	7.3	0.6	1.2	Bergen	6752	1.82	2.894	\$0.360
164	206	B	90.4	91.8	1.4	2.8	Morris	22338	1.94	2.847	\$0.840
165	003	E	4.3	5.4	1.1	3.3	Bergen, Passaic	60313	2.40	2.837	\$0.990
166	044	B	1.4	3.2	1.8	3.6	Gloucester	1836	1.86	2.831	\$1.080

DEFICIENT PAVEMENTS SORTED BY BENEFIT RANK – CONTINUED

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
167	077	B	21.0	22.5	1.5	3.0	Gloucester	7820	1.90	2.824	\$0.900
168	009	N	134.8	136.4	1.6	3.7	Middlesex	26695	2.13	2.805	\$1.110
169	050	B	20.7	23.4	2.7	5.7	Atlantic	7746	1.93	2.799	\$1.710
170	044	B	3.5	5.2	1.7	3.4	Gloucester	4376	1.91	2.796	\$1.020
171	206	B	89.0	89.8	0.8	1.9	Morris	20244	1.99	2.791	\$0.570
172	017	N	8.8	9.3	0.5	1.5	Bergen	41457	2.29	2.787	\$0.450
173	001	N	39.6	42.3	2.7	8.1	Union	29806	2.18	2.785	\$2.430
174	322	B	5.7	6.4	0.7	1.4	Gloucester	16946	2.00	2.775	\$0.420
175	010	E	0.0	0.9	0.9	1.8	Morris	13663	2.05	2.768	\$0.540
176	206	B	92.2	95.0	2.8	5.9	Morris	20998	2.02	2.765	\$1.770
177	047	B	34.1	37.0	2.9	5.8	Cumberland	8918	1.97	2.764	\$1.740
178	287	N	52.9	54.0	1.1	3.3	Morris, Passaic	44359	2.34	2.764	\$0.990
179	094	B	41.0	41.6	0.6	1.2	Sussex	9330	1.99	2.751	\$0.360
180	439	B	3.0	4.0	1.0	3.0	Union	23462	2.07	2.737	\$0.900
181	040	B	8.0	9.8	1.8	3.6	Salem	16280	2.05	2.719	\$1.080
182	022	E	55.5	56.0	0.5	1.1	Union	35470	2.31	2.713	\$0.330
183	109	B	2.5	3.0	0.5	1.0	Cape May	18152	2.09	2.696	\$0.300
184	035	S	15.1	15.9	0.8	1.6	Monmouth	10044	2.10	2.694	\$0.480
185	130	N	28.5	29.5	1.0	2.9	Camden	21230	2.23	2.667	\$0.870
186	094	B	28.6	35.6	7.0	14.0	Sussex	10958	2.09	2.665	\$4.200
187	017	S	6.5	7.3	0.8	2.4	Bergen	29310	2.31	2.665	\$0.720
188	047	B	44.0	46.6	2.6	6.2	Cumberland	20362	2.14	2.656	\$1.860
189	036	N	2.3	3.8	1.5	3.0	Monmouth	17836	2.22	2.650	\$0.900
190	676	N	0.2	0.8	0.6	1.8	Camden	34460	2.38	2.641	\$0.540
191	042	N	13.1	14.3	1.2	3.6	Camden	74498	2.65	2.617	\$1.080
192	082	B	3.1	4.8	1.7	6.8	Union	29532	2.24	2.610	\$2.040
193	070	B	30.5	31.2	0.7	1.4	Burlington	10160	2.18	2.580	\$0.420
194	044	B	5.6	9.0	3.4	7.1	Gloucester	5332	2.17	2.570	\$2.130
195	017	N	17.2	17.9	0.7	2.1	Bergen	63034	2.71	2.561	\$0.630
196	130	N	30.8	32.2	1.4	4.2	Camden	20645	2.35	2.553	\$1.260
197	130	S	32.7	36.0	3.3	9.9	Burlington, Camden	20971	2.37	2.539	\$2.970
198	676	S	2.6	3.1	0.5	1.5	Camden	34460	2.52	2.521	\$0.450
199	072	W	21.7	22.6	0.9	1.8	Ocean	13731	2.36	2.490	\$0.540
200	130	S	30.7	31.7	1.0	3.0	Camden	20645	2.44	2.479	\$0.900
201	017	N	6.5	7.6	1.1	3.3	Bergen	31119	2.54	2.472	\$0.990
202	009	B	32.3	34.0	1.7	3.5	Atlantic	12898	2.32	2.466	\$1.050
203	047	B	20.2	21.2	1.0	2.0	Cape May	10184	2.32	2.459	\$0.600
204	041	B	0.1	1.8	1.7	3.4	Gloucester	14044	2.34	2.449	\$1.020
205	147	E	2.8	3.5	0.7	1.4	Cape May	5760	2.34	2.442	\$0.420
206	206	S	68.5	70.3	1.8	4.2	Somerset	14669	2.46	2.407	\$1.260
207	028	B	0.2	2.9	2.7	5.6	Somerset	15034	2.41	2.392	\$1.680
208	049	B	45.4	49.2	3.8	7.6	Atlantic, Cumberland	6842	2.38	2.386	\$2.280

DEFICIENT PAVEMENTS SORTED BY BENEFIT RANK – CONTINUED

Benefit Rank	Rte	Dir	MP Start	MP End	Center Line Length	Lane Miles	County	Avg AADT	Avg FPR	Benefit	Cost Estimate (Millions)
209	050	B	24.2	26.0	1.8	3.6	Atlantic	7910	2.40	2.372	\$1.080
210	046	B	17.5	21.0	3.5	7.7	Warren	11900	2.42	2.368	\$2.310
211	047	S	1.5	3.0	1.5	3.0	Cape May	11305	2.49	2.354	\$0.900
212	130	S	64.0	64.8	0.8	1.6	Mercer	14976	2.53	2.351	\$0.480
213	046	B	24.5	26.4	1.9	7.6	Morris	25356	2.51	2.344	\$2.280
214	046	B	7.6	10.2	2.6	5.2	Warren	7768	2.44	2.337	\$1.560
215	012	B	1.0	2.3	1.3	3.8	Hunterdon	5470	2.44	2.328	\$1.140
216	015	S	3.2	5.0	1.8	4.4	Morris	25210	2.66	2.318	\$1.320
217	130	N	41.1	42.3	1.2	3.6	Burlington	20216	2.61	2.318	\$1.080
218	050	S	23.4	24.2	0.8	1.5	Atlantic	3530	2.51	2.271	\$0.450
219	017	N	4.5	5.1	0.6	1.8	Bergen	16756	2.64	2.264	\$0.540
220	015	S	6.4	7.0	0.6	1.2	Morris	22988	2.72	2.246	\$0.360
221	047	B	32.3	33.7	1.4	2.8	Cumberland	11698	2.56	2.242	\$0.840
222	094	B	39.0	40.4	1.4	2.8	Sussex	10168	2.59	2.209	\$0.840
223	010	W	9.9	10.4	0.5	1.5	Morris	26936	2.83	2.178	\$0.450
224	080	E	34.6	35.1	0.5	1.9	Morris	30648	2.87	2.169	\$0.570
225	010	W	8.3	8.8	0.5	1.5	Morris	26936	2.87	2.140	\$0.450
226	070	E	49.6	50.1	0.5	1.0	Ocean	12608	2.74	2.138	\$0.300
227	047	B	24.5	25.0	0.5	1.0	Cumberland	2914	2.70	2.086	\$0.300
Totals						870.4					\$261.120