

# **The Cost of Roadway Construction, Operations and Maintenance in New Jersey**

## **PHASE 1 FINAL REPORT**

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In cooperation with:  
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16. Abstract New Jersey's transportation systems comprises a vast array of infrastructure, The costs associated with planning, constructing, operating and maintaining New Jersey's transportation infrastructure is significant and can vary significantly from year to year. On average, 59 percent of total transportation-related expenditures in the New Jersey are for activities not directly associated with planning, constructing, operating, and maintaining roads and bridges under NJDOT's jurisdiction. The primary research objective for Phase I of this study was to estimate how much it costs on average to plan, construct, operate and maintain the roadways and bridges under NJDOT jurisdiction. Costs averaged around \$1.5 billion annually. This equates to an average cost of \$183,757 per lane mile, excluding debt service, to plan, construct, operate and maintain the roadways and bridges under NJDOT jurisdiction. When interest payments on bonds is added in, the total cost increases to an average of \$212,927 per lane mile. These results provide a baseline understanding of average aggregate costs associated with NJDOT roadways and bridges. Additional analysis will be conducted as part of Phase II of the study in order to understand more completely the factors that influence cost efficiency of specific NJDOT projects and programs, and the costs associated with planning, constructing, operating and maintaining roadways under the jurisdictions of New Jersey toll road Authorities.					
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## TABLE OF CONTENTS

	<b>Page</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>3</b>
<b>RESEARCH OBJECTIVES</b> .....	<b>3</b>
<b>ANALYSIS APPROACH AND METHODS</b> .....	<b>3</b>
<b>About the Phase I Data</b> .....	<b>4</b>
<b>Cost Pools and Expenditure Allocations by Job Type</b> .....	<b>6</b>
<b>COST PER LANE MILE CALCULATIONS</b> .....	<b>18</b>
<b>DEBT SERVICE AND BOND REPAYMENT</b> .....	<b>20</b>
<b>DISCUSSION AND NEXT STEPS</b> .....	<b>22</b>
<b>APPENDICES</b> .....	<b>25</b>

## LIST OF TABLES

	<b>Page</b>
Table ES-1 – Summary of Phase 1 Results .....	2
Table 1 – Transactions and Expenditures by Fiscal Year.....	4
Table 2 – NJDOT Expenditures Database (FY2010-2014) – Data Fields.....	5
Table 3 – Expenditures Excluded from Cost per Mile Calculations .....	7
Table 4 – Summary Cost per Mile Estimates for Roadways and Bridges under NJDOT Jurisdiction by Fiscal Year .....	18
Table 5 – Cost per Lane Mile Calculations FY2010.....	19
Table 6 – Cost per Lane Mile Calculations FY2011.....	19
Table 7 – Cost per Lane Mile Calculations FY2012.....	19
Table 8 – Cost per Lane Mile Calculations FY2013.....	20
Table 9 – Cost per Lane Mile Calculations FY2014.....	20
Table 10 – TTFA Debt Service Interest Cost per Land Mile Estimates for FY2010-2014.....	21

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## EXECUTIVE SUMMARY

New Jersey's transportation systems comprises a vast array of infrastructure, including more than 38,000 centerline miles of roadways and thousands of bridges under State and local jurisdiction; more than 3,000 buses operating on 262 bus routes; 12 commuter rail lines serving 165 stations in 117 municipalities; 3 light rail lines serving 62 station/stops; 350+ park-and-ride lots; 3 commercial airports, 46 general aviation airports; 225 miles of commercial navigation channels; the largest seaport on the east coast; two Class I rail freight carriers and 14 regional and shortline railroads.<sup>1</sup>

The costs associated with planning, constructing, operating and maintaining New Jersey's transportation infrastructure is significant. New Jersey's total transportation expenditures can vary significantly from year to year (see Table ES-1). From FY2010 to FY2014, total annual expenditures—excluding expenditures by toll road authorities—ranged from a low of approximately \$3.4 billion in FY2012 to a high of more than \$4 billion in FY2014. On average, 59 percent of total transportation-related expenditures are for activities not directly associated with planning, constructing, operating, and maintaining roads and bridges under NJDOT's jurisdiction. These include: grants and other expenditures related to the NJDOT local Aid program and other grants made to local governments; capital project and operating support to NJ TRANSIT; debt service on bonds issued to finance transportation projects; funds passed through to MPOs and TMAs; and expenditures associated with NJDOT's Bureau of Aeronautics, Office of Maritime Resources and activities related to rail freight planning.

Overall spending in FY2014 was approximately \$300 million dollars greater than the average for the five-year analysis period. This increase in spending was at least partially due to the level of available funding and the complexity of projects undertaken. In FY2014, capital construction expenditures included a number of complex and expensive projects including but not limited to reconstruction of the Pulaski Skyway in northern New Jersey and the post-Sandy reconstruction of Route 35 in Monmouth County. In 2014, atypical funding sources included Federal funds made available to support Hurricane Sandy recovery and funding made available by the Port Authority of New York and New Jersey for the Pulaski Skyway rehabilitation project.

The primary research objective for Phase I of this study was to estimate how much it costs on average to plan, construct, operate and maintain the roadways and bridges under NJDOT jurisdiction. As shown in Table ES1, costs averaged around \$1.5 billion annually. This equates to an average cost of \$183,757 per lane mile, excluding debt service, to plan, construct, operate and maintain the roadways and bridges under NJDOT jurisdiction. When interest payments on bonds is added in, the total cost increases to an average of \$212,927 per lane mile. Appendix 1 presents detailed tables for each fiscal year analyzed for this study.

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<sup>1</sup> New Jersey's Long-Range Transportation Plan, 2008; NJ TRANSIT Facts At A Glance, 2014

The results of Phase I provide a baseline understanding of average aggregate costs associated with NJDOT roadways and bridges. Additional analysis will be conducted as part of Phase II of the study in order to understand more completely the factors that influence cost efficiency of specific NJDOT projects and programs, and the costs associated with planning, constructing, operating and maintaining roadways under the jurisdictions of New Jersey toll road Authorities.

**Table ES1 – Summary of Phase 1 Results**

	2010	2011	2012
Total Transportation-related Expenditures <sup>1</sup>	\$3,834,521,409	\$3,742,385,422	\$3,417,528,066
Expenditures directly related to planning, constructing, operating and maintaining roadways and bridges under NJDOT jurisdiction	\$1,653,454,212	\$1,626,844,479	\$1,318,747,115
Percent of Total Expenditures	43%	43%	39%
<b>Cost Per Lane Mile Estimates:</b>			
Administration, Planning & Research	\$7,282	\$7,261	\$8,491
Capital Construction	\$151,756	\$131,713	\$101,004
Operations & Maintenance	\$37,567	\$54,468	\$47,312
Subtotal	\$196,606	\$193,442	\$156,807
Interest Payments on Bonds	\$23,884	\$25,233	\$31,091
<b>Full Cost Total per Lane Mile</b>	<b>\$220,490</b>	<b>\$218,674</b>	<b>\$187,898</b>
	2013	2014	Average
Total Transportation-related Expenditures <sup>1</sup>	\$3,685,825,313	\$4,069,813,267	\$3,750,014,695
Expenditures directly related to planning, constructing, operating and maintaining roadways and bridges under NJDOT jurisdiction	\$1,375,402,580	\$1,752,544,686	\$1,545,398,614
Percent of Total Expenditures	37%	43%	41%
<b>Cost Per Lane Mile Estimates:</b>			
Administration, Planning & Research	\$9,167	\$5,924	\$7,625
Capital Construction	\$96,305	\$137,999	\$123,755
Operations & Maintenance	\$58,072	\$64,465	\$52,377
Subtotal	\$163,544	\$208,388	\$183,757
Interest Payments on Bonds	\$31,768	\$33,872	\$29,170
<b>Full Cost Total</b>	<b>\$195,312</b>	<b>\$242,261</b>	<b>\$212,927</b>

Notes: 1 – Cash expenses, excluding toll road authority expenditures.



## **INTRODUCTION**

Well-maintained transportation infrastructure is necessary to support the needs of the traveling public and goods movement and other economic activity. In today's fiscally constrained funding environment, cost efficiency in highway construction and maintenance is an important goal for transportation agencies nationwide. In September 2015, the New Jersey Department of Transportation (NJDOT) retained the Alan M. Voorhees Transportation Center at Rutgers University to conduct a study of roadway construction, operations and maintenance costs in New Jersey. The purpose of the study was to provide NJDOT with short-term insight into the average cost of roadway construction and maintenance projects in New Jersey and longer-term understanding of the factors that influence construction and maintenance costs, how New Jersey's cost structure compares to other nearby states and what other states are doing to ensure the cost efficiency of roadway projects.

## **RESEARCH OBJECTIVES**

1. Estimate the average cost per-lane-mile of roadway construction projects on State- and Authority-owned roadways in New Jersey.
2. Estimate the cost-per-lane-mile of maintaining roadways under State and Authority jurisdiction.
3. Identify the factors that influence the cost efficiency of roadway construction and maintenance projects in New Jersey.
4. Benchmark the cost efficiency of New Jersey roadway construction and maintenance against that of surrounding northeastern states.
5. Identify what leading practices are being used in other states to improve the cost efficiency of roadway construction and maintenance projects.

## **ANALYSIS APPROACH AND METHODS**

To achieve these research objectives, the Rutgers research team is conducting a two phase study. Phase I of the study employed a program-level analysis to estimate costs based on various expenditure pools. Phase II of the study will include a more detailed analysis of costs for specific NJDOT road and bridge projects; estimation of construction and maintenance costs-per-lane mile for roadways under New Jersey Turnpike Authority and South Jersey Transportation Authority jurisdiction; benchmarking New Jersey costs against those of nearby northeastern states; as well as a review of leading practices being used in other states to increase the cost-efficiency of roadway construction and maintenance projects.

For the Phase I programmatic analysis, the research team examined annual NJDOT expenditures for various activities related to administration, planning and research; capital construction; operations and maintenance; and debt service to provide a base-line understanding of costs associated with roadways under NJDOT jurisdiction. These

expenditures data were then utilized to estimate an average cost-per-lane mile of roadways under NJDOT jurisdiction. The programmatic analysis was conducted for fiscal years 2010 through 2014. As part of Phase 1, the research team convened a small advisory group of NJDOT staff that included subject matter experts from planning, design, construction, operations, maintenance, finance, and capital investment. The advisory group facilitated data acquisition, provided input regarding research methodology, and reviewed preliminary research findings.

**About the Phase I Data**

For Phase I of this study, NJDOT provided expenditures data for the last five years (FY2010-2014). These data included accounting records exported from the NJDOT's mainframe data warehouse. The database provided by NJDOT for each fiscal year included in excess of 100,000 records per year showing net expenditures charged against all active accounts in each fiscal year. These data include funding from a variety of sources, including: state appropriations; Federal and State motor fuels and petroleum products gross receipts taxes; a portion of the State sales tax; as well as third party payments and in-kind services from developers. Table 1 provides basic statistics on the data provided for each year.

**Table 1 – Transactions and Expenditures<sup>1</sup> by Fiscal Year**

Fiscal Year	No. of Unique Records	Expenditure Total
2010	124,308	\$3,834,521,409
2011	123,801	\$3,742,385,422
2012	115,437	\$3,417,528,066
2013	121,441	\$3,685,825,313
2014	122,863	\$4,069,813,267

Note: 1 - Cash expenses. Expenditures associated with toll roads are not included.

It is important to note that total expenditures in any one fiscal year may far exceed the NJDOT's annual capital and operating budget because most capital projects take multiple years to complete. Consequently, funding authorized in one fiscal year may continue to be spent in one or more subsequent years.

The expenditures data provided for this study included both debits and credits associated with salary costs for NJDOT personnel and employee reimbursement for incidental expenses; as well as a variety of direct expenses, including: payments to contractors and vendors for research, planning, engineering and other services; payments to contractors and vendors related to the construction, operations and maintenance of roadways and bridges; costs associated with the purchase of right-of-way and relocation of utilities in association with capital projects; debt service and bond repayment related to capital projects financed through the NJ Transportation Trust Fund Authority; payments to vendors for utilities, telecommunication service, equipment, supplies, and other goods and services; grants to local

governments; and funding passed through to outside agencies such as NJ TRANSIT, the three Metropolitan Planning Organizations (MPOs) and the seven Transportation Management Associations (TMAs) that serve New Jersey. The expenditures data did not include "salary additive" costs associated with employee fringe benefits and leave time. Table 2 describes the data fields included within the database provided by NJDOT and how they were used to support the analysis.

**Table 2 - NJDOT Expenditures Database (FY2010-2014) – Data Fields**

Field Name	Description	How Used
Idn Cfs Account Number	Account number against which expenditures are charged. Each project or program area is assigned a unique account number for each appropriation year.	This field provided a reference point for the span of fiscal year accounts expenses were being charged to.
Approp Text Account Desc	Brief text description for account number	Depending on the expenditure, this field provided additional insight into the nature of the expense.
Idn Cfs <sup>1</sup> Acct Fund	Reference number for the funding source (Federal, TTF, State general appropriation) expenditures are being charged to.	Not used in analysis.
Idn Cfs Acct Organization	Reference code for DOT cost centers, including specific activities related to administration, planning, research, capital construction, operations, maintenance, local aid, multimodal services, and NJ TRANSIT.	This field was used extensively as a top-level screen for allocating expenditures to the cost pools used for the analysis. See Appendix 2 for detailed descriptions of the organization codes.
Txt Transaction Desc	Brief text entry providing detail regarding the expenditure, including project/vendor reference number and employee, vendor or grant recipient name where applicable.	This field provided a secondary screen for understanding the nature of expenditure. In particular whether the expenditure was a personnel, contractor/vendor or local aid expense.
Text Job Name	Brief text entry providing detail regarding the nature of the expenditure, including project name/location, program area activity, or other type of expense.	This field provided a secondary screen for understanding the nature of expenditure, including whether the expenditure was related to a state/local road/bridge project, and/or the type of activity the expenditure was related to.
Cde Job Type	Abbreviated reference for the high level cost centers used by DOT to track expenditures	This field was used as an organizing framework for allocating expenditures across the cost pools used for this study.
Amt Fed Share of Total	Dollar amount of expenditure charged to Federal sources	Not used in analysis.
Amt State Share of Total	Dollar amount of expenditure charged to State sources	Not used in analysis.
Amt Thrdpty Share of Total	Dollar amount of expenditure charged to Third Party sources	Not used in analysis.
Amt Cost Base Cost	Total Cost of each expenditure, excluding salary additives associated with employee fringe benefits and leave time.	The cost of each expenditure transaction appearing in this field was allocated to the appropriate cost pool.

Note: 1 – Identification Number –NJ Comprehensive Financial System

## Cost Pools and Expenditure Allocations by *Job Type*

For the purpose of the Phase I analysis, NJDOT expenditures data were reviewed and allocated to one of four cost pool categories identified for this study. The cost pool categories included:

- **Administration, Planning and Research** – This cost pool includes expenditures related to the general administration and functioning of the Department, including the costs associated with Commissioner’s office functions; statewide planning and research activities not associated with specific capital projects; as well as other personnel and direct expenses not identifiable to a specific project or program.
- **Capital Construction** – This cost pool includes expenditures related to replacing, rehabilitating, and reconstructing State roadways and bridges; improving intersections/interchanges; projects designed to improve roadway safety and other expenditures related to constructing State roadway and bridge projects. This includes not only construction costs, but also planning, engineering, right-of-way acquisition and utility relocation costs associated with capital projects.
- **Operations and Maintenance** – This cost pool includes expenditures related to operating and maintaining the NJDOT roadways, bridges and rights-of-way as well as its physical plant, including building and grounds.
- **Excluded Costs** – Expenditures not directly related to the construction, operation and maintenance of roadways under NJDOT jurisdiction were excluded from the cost per lane mile calculations. These included: expenditures associated with NJDOT’s Bureau of Aeronautics and Office of Maritime Resources; activities related to rail freight planning; grants and other expenditures related to the NJDOT local Aid program; other grants made to local governments; funds passed through to MPOs and TMAs; and capital project and operating support to NJ TRANSIT. Costs associated with debt service associated with capital projects financed through the NJ Transportation Trust Fund Authority (TTFA) were also excluded and analyzed separately. See the Debt Service section for more detail. As shown in Table 3, on average, approximately 59 percent of NJDOT annual expenditures fall into this category.

**Table 3. Expenditures Excluded from Cost per Lane Mile Calculations**

Expenditure Category	FY2010	FY2011	FY2012
Local Aid Assistance to Counties and Municipalities	\$229,133,907	\$333,766,886	\$286,750,517
Capital and Operating Support to NJ TRANSIT	\$1,125,169,718	\$899,930,419	\$857,424,232
Transportation Trust Fund Authority Debt Service	\$774,730,420	\$809,410,976	\$912,135,575
Other Excluded Costs (e.g., Aviation, Maritime, Multimodal Services, MPOs, TMAs, etc.)	\$52,033,152	\$72,432,662	\$42,470,626
Total Excluded Expenditures	\$2,181,067,197	\$2,115,540,943	\$2,098,780,951
Total Fiscal Year Expenditures	\$3,834,521,409	\$3,742,385,422	\$3,417,528,066
Percent of Total Expenditures Excluded	57%	57%	61%
Expenditure Category	FY2013	FY2014	Average
Local Aid Assistance to Counties and Municipalities	\$299,585,892	\$313,140,625	\$292,475,565
Capital and Operating Support to NJ TRANSIT	\$1,044,404,374	\$880,209,839	\$961,427,716
Transportation Trust Fund Authority Debt Service	\$926,819,285	\$1,080,215,973	\$900,662,446
Other Excluded Costs (e.g., Aviation, Maritime, Multimodal Services, MPOs, TMAs, etc.)	\$39,613,182	\$43,702,145	\$50,050,353
Total Excluded Expenditures	\$2,310,422,733	\$2,317,268,581	\$2,204,616,081
Total Fiscal Year Expenditures	\$3,685,825,313	\$4,069,813,267	\$3,750,014,695
Percent of Total Expenditures Excluded	63%	57%	59%

NJDOT uses a limited number of cost center *Job Types* to classify expenditures across different functions and business units. These *Job Types*, which are described briefly below, were used as the framework for allocating expenditures to the costs pools used for this analysis. The cost pool category determinations described under each *Job Type* resulted from a close review of the data fields included for each record. Detailed tables showing the allocation of expenditures across cost pools and *Job Types* for Fiscal Years 2010-2014 appear in Appendix 1.

**ACP (Access Permits)** – Under the NJ State Highway Access Management Code, property owners seeking traffic access to state roadways and transportation infrastructures must submit applications for access to NJDOT. The access management and permitting process is integral to operating the State highway network in a safe and efficient manner. As such, costs associated with this *Job Type* were categorized as **Operations and Maintenance** expenses. Expenditures included salary costs associated with administering the State highway access permitting program.

**AER (Division of Aeronautics)** – NJDOT, through its Bureau of Aeronautics, has general oversight of 43 public use airports and almost 400 restricted use facilities, including airstrips, heliports and balloonports. The Bureau promotes aviation safety. It provides information about aviation grants, relevant forms and how to obtain them online, and explains regulations to 14,000 Federal Aviation Administration (FAA) licensed aviators and the general public. These duties, while under the purview of DOT are not related to the construction, operations or maintenance of the State highway network. Therefore, costs associated with this *Job Type* were **excluded** from the analysis.

**BLG (Building and Grounds)** – NJDOT's physical plant includes office buildings, maintenance facilities, other structures and grounds throughout the State. These facilities require upkeep and maintenance and are integral to the safe and efficient operation and maintenance of the State highway system. As such, costs associated with this *Job Type* were categorized as **Operations and Maintenance** expenses. Expenditures under this *Job Type* included salary costs for NJDOT personnel and costs associated with subcontractors and vendors providing outsourced services and materials. Salary costs include those associated with NJDOT personnel responding to Open Public Records Act (OPRA) requests.

**CAG (Construction by Agreement)** – On a limited basis, NJDOT may enter into an agreement with a developer to construct a road or bridge improvement. Typically these agreements are tied to an access permit. This *Job Type* includes the costs associated with executing these developer agreements. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses.

**CD (Concept Development)** – The NJDOT project delivery process sometimes includes a number of phases. The Concept Development phase of the project delivery process involves drafting a well-defined and well-justified Purpose and Need Statement focusing on the primary transportation need to be addressed. Elements of concept development may include, but are not limited to, data collection, coordination with NJDOT Subject Matter Experts/local stakeholders, risk identification, development of a reasonable number of sensible and practical conceptual alternatives and investigation of all aspects of a project. These aspects may include environmental, right of way, access, utilities, design, community involvement, and constructability. This early stage work, which is most often completed by NJDOT in-house planners and engineers, may

lead to the advancement of capital construction projects. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses. Expenditures under this *Job Type* included salary costs for NJDOT personnel.

**CLM (Claims)** – From time to time, claims and lawsuits are filed against NJDOT by construction contractors related to the completion of roadway and bridge projects. Expenditures under this *Job Type*, include the costs associated with resolving construction contractor claims and lawsuits. These expenditures include salary costs for NJDOT personnel and the direct costs of settling the claims. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses.

**CON (Construction)** – The construction phase of the NJDOT project delivery process includes the work required to advertise and award construction contracts, set up construction management systems and processes, mobilize for construction, execute and control the construction of capital projects, complete contract work, and close out the project. Expenditures under this *Job Type* include a variety of costs related to capital construction projects as well as operations and maintenance, local aid and others. Expenditures associated with this *Job Type* were categorized under the following cost pools:

**Capital Construction** expenditures including salary costs for DOT personnel and contractor costs associated with:

- Repairing and/or replacing bridges on the State roadway network;
- Rehabilitating, reconstructing, resurfacing and pavement preservation projects on State roadways;
- Improving intersections/interchanges and other projects to address roadway congestion;
- Improving roadway safety—including the construction of pedestrian improvements on State roadways, median crossing prevention, installation of centerline and shoulder rumble strips, projects to address safety at railroad crossings on State and local roadways and rock slope stabilization along State roadways;
- Constructing truck weigh stations; and
- Environmental remediation associated with construction projects.

**Operations and Maintenance** expenditures including salary costs for DOT personnel and contractor costs associated with:

- Bridge painting, preventive maintenance and perimeter fence maintenance;
- Preventive maintenance pavement crack sealing;
- Replacing sign structures along State roadways;
- Improving drainage along State roadways;

- Upgrading traffic signal along State roadways; and
- Installing/maintaining Intelligent Transportation System (ITS) on State roadways.

The following expenditures were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network:

- Grants made to local governments to maintain, reconstruct, and rehabilitate municipal and county roads and bridges;
- Grants made to local governments for pedestrian, bicycle, traffic calming and streetscape improvements;
- Grants made to local governments along designated Safe Corridors as part of the Highway Safety Fund Grant Program;
- Grants made to local governments for Safe Routes to School and Safe Streets to Transit infrastructure improvements;
- Grants made to local governments for other safety improvements on local roads;
- Grants made to local governments as part of DOT's Smart Growth and Transit Villages initiatives;
- Grants made to local governments for Transportation Enhancements and ADA ramps on local roads;
- Salary costs for DOT personnel to administer these grant programs;
- Funds allocated to Metropolitan Planning Organizations to support local project planning and development;
- Contractor costs associated with multimodal (maritime, rail freight, and aviation) services, design and construction; and
- Park and Ride lease payments.

**DBR (Drawbridge)** – NJDOT is responsible for 18 drawbridges throughout the state. NJDOT employees operate these drawbridges and also inspect them three times a year. These drawbridges are part of the State roadway system. As such, expenditures associated with this *Job Type* were categorized as **Operations and Maintenance** expenses. Expenditures included salary costs for DOT personnel and contractor costs associated with operating and maintaining the drawbridges.

**DES (Design)** – The NJDOT project development process includes a number of phases, including final engineering design of road and bridge construction, operations and maintenance projects. This *Job Type* includes expenditures associated with the final design of projects, including contractor and vendor costs for engineering design services, acquisition of aerial photogrammetrics, geotech investigations, land surveying, and salary costs for DOT personnel. These costs were categorized as **Capital Construction** expenses. In addition, this *Job Type* includes a limited number of



expenditures associated with the final design and/or “scoping” of local aid projects. These expenditures were **excluded** from the analysis because they were not directly related to constructing, operating and maintaining the State roadway network.

**EDP (Electronic Data Processing)** – This *Job Type* includes subcontractor and vendor costs associated with the development and maintenance of NJDOT data management systems. The expenditures under this *Job Type* were categorized as **Administration, Planning and Research**.

**ELE (Electrification Signals)** – This *Job Type* includes expenditures related to installing, operating and maintaining traffic signals along State roadways. Costs include salaries for DOT personnel, as well as subcontractor and vendor costs. As such, expenditures associated with this *Job Type* were categorized as **Operations and Maintenance**.

**ENV (Environmental Analysis)** – NJDOT has developed/adopted and complies with a range of environmental policies and regulations. The environmental groups within NJDOT ensure that roadway projects comply with all environmental policies, State and federal environmental regulations, and commitments stemming from coordination with regulatory agencies and consultation with cultural resource agencies. The groups perform or oversee the preparation of National Environmental Policy Act (NEPA) documents; permit applications; Soil Erosion and Sediment Control certifications; cultural resource studies; construction monitoring; wetland mitigation plans/monitoring; and hazardous waste requirements. Expenditures under this *Job Type* include salary costs for DOT personnel as well as subcontractor and vendor costs associated with environmental investigations, cultural resources investigations, historic preservation, and wetlands mitigation related to specific capital projects. These costs were categorized as **Capital Construction** expenditures. This *Job Type* also includes hazardous waste clean-up and remediation at DOT maintenance yards and along State roadway rights of way, which were categorized as **Operations and Maintenance** expenditures.

**EQP (Equipment)** – This *Job Type* includes salary charges for DOT personnel as well as vendor and subcontractor expenses related to the purchase of vehicles, equipment, parts, vehicle/equipment maintenance contracts, fuel purchases, EZ Pass charges, and other costs associated with the acquisition and/or maintenance of DOTs vehicle fleet and other equipment such as radio communication systems. Expenditures under this *Job Type* were categorized as **Operations and Maintenance**.

**FA (Feasibility Analysis)** – The phase of work that follows Concept Development (see above) in the NJDOT project delivery process is Feasibility Assessment. Feasibility assessment is the first phase of scoping, during which the NJDOT Division of Project Planning and Development performs sufficient engineering to determine whether the concept emerging from concept development can be feasibly evolved into a project in

light of environmental and community constraints and issues. Expenditures under this *Job Type* include salary costs for DOT personnel as well as subcontractor expenses. This early stage work generally leads to the advancement of capital construction projects. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses.

**FD (Final Design)** – The major objective of the Final Design phase of the NJDOT project delivery process is to produce the project’s construction contract documents (i.e., Final Plans, Specifications, and Cost Estimate) for use in soliciting bids from prospective contractors, and moving the project to the Construction phase. This requires the continuation and completion of environmental and engineering tasks initiated in the Preliminary Design/Preliminary Engineering phase (see below). This *Job Type* includes expenditures associated with the final design of roadway and bridge projects on the State roadway system, including contractor and vendor costs for engineering design services, and salary costs for DOT personnel. These costs were categorized as **Capital Construction** expenses or **Operations and Maintenance** expenses depending on the nature of the project. In addition, this *Job Type* includes a limited number of expenditures associated with the final design of local aid projects. These expenditures were **excluded** from the analysis because they were not directly related to constructing, operating and maintaining the State roadway network.

**GAD (General and Administration)** – This *Job Type* includes regular salary costs for DOT personnel not directly chargeable to other expense categories and/or projects. This includes various divisions and activities related to Commissioner’s office business, interagency coordination, communications, community and constituent relations, human resources, accounting and audit, procurement, information technology, and civil rights and affirmative action. Also included under this *Job Type* are: regular salaries paid to employees for activities such as training time, time spent taking civil service exams, conducting personnel interviews, medical leave, union business activities, and others; overtime compensation, shift differential and supplemental salary paid to DOT personnel from various divisions, including operations and maintenance. Finally, this *Job Type* includes debt service paid through the NJ Transportation Trust Fund Authority (TTFA) and various direct expenses such as vendor and subcontractor costs associated with telecommunications, computers, photocopiers, mailing and shipping, office supplies, outside reproduction and printing, uniforms, paint and painting supplies, etc. Expenditures associated with this *Job Type* were categorized as **Administration, Planning and Research, Capital Construction**, and **Operations and Maintenance** based on the *Acct Organization* code charged. Expenditures identified with the NJ TTFA, NJ TRANSIT, Aviation, Maritime and Multimodal Services were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network. Debt service was the subject of a separate analysis. See the Debt Service section of this report for more detail.

**GRA (Grant)** – This *Job Type* includes costs related to the administration and implementation of grant funds received from the Federal Government under the Motor Carrier Safety Assistance Program. Expenditures under this *Job Type* were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network.

**HPR (Highway Planning and Research)** – This *Job Type* includes costs associated with engineering support services related to advancing capital, operations and maintenance projects on State roadways. Expenditures include salary costs for DOT personnel associated with producing the contract documents for the design of bridge, roadway and railroad crossing rehabilitation/reconstruction projects for the capital program, as well as safety/congestion relief projects and emergency priority repairs. Activities may also include managing final scope development, oversight of the design consultant selection and agreement process, managing both in-house and consultant design, overseeing the acquisition of real estate for transportation purposes in support of the delivery of capital projects; oversight of the construction contractor bid and award; and managing the project through construction close out. Expenditures associated with this *Job Type* were categorized under **Capital Construction** and **Operations and Maintenance** based on the *Acct Organization* code charged.

**IMP (General Suburb Rail Improvement)** – The NJDOT manages and oversees numerous freight planning studies and research projects. The Department also collaborates with other transportation agencies and works on other public and private initiatives, such as the State Rail Plan. This *Job Type* includes a variety of rail freight infrastructure improvement projects supported by State funding. Expenditures include salaries for DOT personnel as well as pass through grants to private freight rail operators and contractors. These activities, while under the purview of DOT are not related to the construction, operations or maintenance of the State highway network. Therefore, costs associated with this *Job Type* were **excluded** from the analysis.

**ITA (Information Technology – Application Development)** – This *Job Type* includes costs associated with Information Technology systems and internet-related projects for NJDOT divisions. Expenditures include salary for DOT personnel that provide direction, establish policy, and set standards for Information Technology at DOT. Given the nature of this function, expenditures under this *Job Type* were allocated to the **Administration, Planning and Research** cost pool.

**LEV (Leave Time)** – Expenditures under this *Job Type* include salary costs for DOT personnel associated with compensated leave time such as State holidays, vacation, sick leave, administrative leave, emergency/early closings, lost time due to injury, jury duty, and Personal Leave Bank days. Expenditures associated with this *Job Type* were categorized under **Administration, Planning and Research, Capital Construction,** and **Operations and Maintenance** based on the *Acct Organization* code charged. Expenditures identified with NJ TRANSIT and Multimodal Services were **excluded** from

the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network.

**LOC (Local Aid)** – NJDOT provides State assistance to local governments for the funding of road, bridge and other transportation projects. This *Job Type* includes the costs associated with administering Local Aid grants to counties and municipalities. Expenditures under the *Job Type* include salaries for DOT personnel as well as grant funding passed through to local governments for local projects. These activities, while under the purview of DOT are not related to the construction, operations or maintenance of the State highway network. Therefore, costs associated with this *Job Type* were **excluded** from the analysis.

**MDI (Miscellaneous Direct Expense)** – This *Job Type* includes a range of expenses and credits related to administration, capital construction, and operations and maintenance, as well as programs administered by NJDOT aeronautics division, NJ TRANSIT and the Motor Vehicle Commission. Expenditures and credits include salaries costs for DOT/agency personnel, incidental expense reimbursements, unanticipated expenses and other payments and credits. Expenditures and credits associated with this *Job Type* were categorized under **Administration, Planning and Research, Capital Construction, and Operations and Maintenance** based on the nature of the expense. Expenditures and credits identified with NJDOT Division of Aeronautics, NJDOT Smart Moves Program (tax credits to employers for voluntary trip reduction), NJ TRANSIT, NJ Motor Vehicle Commission and the Statewide Dam inspection program were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network.

**MIN (Miscellaneous Indirect Expenses)** – This *Job Type* includes a range of expenses related to administration, capital construction, and operations and maintenance. Expenditures include salary costs for DOT personnel, telephone charges, legal expenses and settlements, prompt payment interest payments, purchase of coastal evacuation equipment, office supplies, payments related to local aid projects, as well as expenses related to the NJ Scenic Byways program. Expenditures associated with this *Job Type* were categorized under **Administration, Planning and Research, Capital Construction, and Operations and Maintenance** based on the nature of the expense. Expenditures related to the Delaware River Infrastructure Protection Project, Maritime Pilot Commission employees and MVC-related time/expense were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network.

**MSC (Miscellaneous Other Expenses)** – This *Job Type* includes a range of expenses related to administration, capital construction, operations and maintenance. Expenditures include salaries costs for DOT personnel, wireless communication charges, payments to TRANSCOM for traffic operations monitoring, miscellaneous condemnation expenses, and equipment purchases. Expenditures associated with this

*Job Type* were categorized under **Administration, Planning and Research, Capital Construction**, and **Operations and Maintenance** based on the nature of the expense. Expenditures related to projects at Atlantic City International Airport and expenses related to NJDOT's park and ride and rail freight programs were **excluded** from the analysis because they are not directly associated with constructing, operating or maintaining the State roadway network.

**MTN (Maintenance)** – This *Job Type* includes expenditures associated with operating and maintaining roadways under NJDOT's jurisdiction. This includes 13,341 lane miles of roadway travel lanes, shoulders, and ramps. Activities under this *Job Type*, include but are not limited to: winter storm operations, the costs of which can fluctuate from year to year depending on winter severity; traffic monitoring and operations; traffic signal operations and maintenance, general roadway maintenance, in-house roadway repairs and resurfacing, drainage infrastructure maintenance, bridge repair and painting, infrastructure inspection activities, sign installation and repair, traffic incident response, and other emergency preparedness, response and recovery activities. Expenditures include salary costs for DOT personnel as well as subcontractor and vendor costs associated with various service and equipment contracts. As such, costs associated with this *Job Type* were categorized as **Operations and Maintenance** expenses.

**NJT (NJ TRANSIT)** – NJ TRANSIT is New Jersey's public transportation corporation. The agency's service area covers 5,325 square miles, which makes NJ TRANSIT the nation's third largest provider of bus, rail and light rail transit in the nation. NJ Transit operates a fleet of 2,027 buses, 711 trains and 45 light rail vehicles. On 236 bus routes and 12 rail lines statewide, NJ TRANSIT provides nearly 223 million passenger trips each year. A portion of NJ TRANSIT's capital program is funded through the NJ Transportation Trust Fund. Expenditures related to these capital outlays are administered by NJDOT. Given the nature of these costs, expenditures associated with this *Job Type* were **excluded** from the analysis because they are not directly related to the construction, operations or maintenance of the State highway network.

**OCR (Office of Civil Rights)** – Through its Office of Civil Rights and Affirmative Action, the NJDOT provides its employees, its contractors, the business community and the public with equal employment opportunities, environmental justice, business development opportunities for the disadvantaged and fair wage rate practices in a suitable work climate. This *Job Type* includes costs associated with the activities of the NJDOT Office of Civil Rights and Affirmative Action. Expenditures under this *Job Type* include salary costs for DOT personnel as well as costs paid to a limited number of vendors and contractors. Given the nature of expenditures under this *Job Type*, they were categorized as **Administration, Planning and Research**.

**OMR (Office of Maritime Resources)** – The NJDOT Office of Maritime Resources provides interagency support, program planning and policy recommendations on maritime issues to the Commissioner, Governor and the Legislature and promotes

coordination and cooperation among state, federal, regional and non-governmental agencies. The Office advances public education on all maritime and marine issues and serves as the primary advisory body and lead agency for support of New Jersey's \$50 billion maritime industry which includes ports and terminals, cargo movement, boat manufacturing and sales, ferry operations, government services, marine trades, recreational and commercial boating and maritime environmental resources. These duties, while under the purview of DOT are not related to the construction, operations or maintenance of the State highway network. Therefore, costs associated with this *Job Type* were **excluded** from the analysis.

**PD (Preliminary Design)** – Preliminary Design is the phase of the NJDOT project delivery process that follows Concept Development and Feasibility Assessment. This phase includes additional community involvement, environmental documentation, and preliminary engineering work (see below). Expenditures under this *Job Type* include salary costs for DOT personnel as well as subcontractor expenses. Preliminary design/engineering work, which is completed by NJDOT in-house planners and engineers as well as consulting firms, advances capital construction projects. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses.

**PE (Preliminary Engineering)** – Preliminary Engineering involves performing engineering tasks and technical environmental studies as part of the Preliminary Design phase of the NJDOT project delivery process (see above). Preliminary Engineering tasks may include development of design level base plans; preparation of pavement recommendations; development of geometric design (horizontal, vertical alignment, type, size, location, etc.) that clarifies environmental and right of way (ROW) impacts; utility discovery and verification; geotechnical studies (soil borings and analysis) for foundation and pavement design; preliminary drainage work; access impact evaluation; identification of new risks and risk analysis, and development of property acquisition cost estimates and a total project cost estimate. Expenditures under this *Job Type* include salary costs for DOT personnel as well as subcontractor expenses. Preliminary design/engineering work, which is completed by NJDOT in-house planners and engineers as well as consulting firms, advances capital construction projects. As such, costs associated with this *Job Type* were categorized as **Capital Construction** expenses.

In addition to preliminary engineering and design work related to NJDOT capital projects, this *Job Type* includes costs associated with: inspection of bridges on and off the State roadway network; State culvert inspection; as well as the completion of preliminary engineering work on a limited number of local aid projects. These activities are carried out by in-house engineers and/or contracted engineering firms. Expenditures related to the inspection of bridges on the State roadway system and State culverts were categorized as **Operations and Maintenance** expenses. Bridge inspections on off-system, municipal and county bridges and engineering work

completed in association with local aid projects were **excluded** from the analysis because the expenses are not directly related to the construction, operations or maintenance of the State highway network.

**PL (Metro Planning)** – Since the 1962 Federal-aid Highway Act, federal authorizing legislation for expenditure of surface transportation funds has required metropolitan area transportation plans and programs to be developed through a continuing, cooperative, and comprehensive planning process. Consistent with this requirement, NJDOT undertakes a variety of Statewide planning activities, including: early project “scoping” activities related to state and local projects; developing the State’s long range transportation plan and Statewide Highway Safety Improvement Plan; coordinating with the three Metropolitan Planning Organizations (MPOs) and seven Transportation Management Associations (TMAs) that serve New Jersey; freight planning; pedestrian and bicycle planning; conducting research; crash data analysis and monitoring; traffic counts/monitoring; and a range of other planning activities. Expenditures under this *Job Type* include salary costs for DOT personnel as well as contractor costs. While planning activities may eventually lead to capital construction projects and may inform operations and maintenance of the State roadway network, planning and research activities are not attributable to specific projects and/or facilities. As such, expenditures under this *Job Type* were categorized as **Administration, Planning and Research**. Expenditures related to the scoping and development of local projects and planning funds that were passed through to the State’s three MPOs and seven TMAs were **excluded** from the analysis.

**PUR (Public Utilities Relocation)** – Most NJDOT owned rights-of-way contain public utilities such as water supply mains; sanitary sewer pipes; electric transmission conduits, pole and wires; and telecommunication infrastructure. Roadway, bridge or other transportation infrastructure projects may require the relocation of these utilities before or during construction. This *Job Type* includes the costs associated with the design and relocation of utilities associated with the construction of road and bridge projects. Expenditures under this *Job Type* include salary costs for DOT personnel as well payments to utility companies, local governments, NJ TRANSIT and other entities to compensate them for relocating their infrastructure. Given the direct relationship between these costs and capital construction projects, expenditures under this *Job Type* were categorized as **Capital Construction** expense.

**ROW (Right of Way Acquisition)** – Some capital construction projects require additional right-of-way. This *Job Type* includes the costs associated with acquiring real property as part of road and bridge improvement projects. Expenditures under this *Job Type* include salary costs associated with DOT personnel, public notice costs, subcontractor expenses, and payments to property owners. Given the direct relationship between these costs and capital construction projects, expenditures under this *Job Type* were categorized as **Capital Construction** expense.

**STA (State Aid)** – NJDOT provides State assistance to local governments for the funding of road, bridge and other transportation projects. This *Job Type*, like LOC (Local Aid), includes the costs associated with administering grants to counties and municipalities for specific capital projects. This code is used infrequently. Expenditures under the *Job Type* include salaries for DOT personnel as well as grant funding passed through to local governments for local projects. These activities, while under the purview of DOT are not related to the construction, operations or maintenance of the State highway network. Therefore, costs associated with this *Job Type* were **excluded** from the analysis.

### COST PER LANE MILE CALCULATIONS

NJDOT operates and maintains 8,410 lane miles of roadway, 4,078 miles of shoulders and 853 miles of ramps. In order to calculate the average cost per mile to construct, operate and maintain roadways under the NJDOT’s jurisdiction, the research team performed a straightforward calculation by dividing total expenditures related to the administration, construction, operations and maintenance of state roadways under NJDOT jurisdiction by the number of lane miles, lane miles with shoulders and lane miles with shoulders and ramps.

Roadways under NJDOT Jurisdiction
8,410 LANE MILES
4,078 MILES OF SHOULDER
853 MILES OF RAMPS

As shown in Tables 4 through 9 and presented in more detail in Appendix 1, over the analysis period, NJDOT spent an average of approximately \$1.5 billion annually to construct, operate and maintain State roadways and bridges under its jurisdiction. On a per lane mile basis, over the five year period, NJDOT spent on average \$7,625 on administration, planning and research; \$123,755 on capital construction projects; and \$52,377 and on operations and maintenance. This equates to a total average cost of \$183,757 per lane mile, excluding debt service. It should be noted that only the cost per lane mile calculations are presented in Summary Table 4. Calculations that include shoulder and ramps are shown in Tables 5 through 9.

**Table 4 – Summary Cost per Lane Mile Estimates for Roadways and Bridges under NJDOT Jurisdiction by Fiscal Year**

Cost Per Lane Mile Estimates	2010	2011	2012	2013	2014	Average
Administration, Planning & Research	\$7,282	\$7,261	\$8,491	\$9,167	\$5,924	\$7,625
Capital Construction	\$151,756	\$131,713	\$101,004	\$96,305	\$137,999	\$123,755
Operations & Maintenance	\$37,567	\$54,468	\$47,312	\$58,072	\$64,465	\$52,377
<b>TOTAL</b>	<b>\$196,606</b>	<b>\$193,442</b>	<b>\$156,807</b>	<b>\$163,544</b>	<b>\$208,388</b>	<b>\$183,757</b>



**Table 5 - Cost per Lane Mile Calculations FY2010**

	Administration, Planning & Research	Capital Construction	Operations & Maintenance	TOTAL
Total spent to administer, construct, operate and maintain roadways and bridges under NJDOT jurisdiction	\$61,244,399	\$1,276,268,340	\$315,941,473	\$1,653,454,212
Cost per lane mile calculations:				
Lane miles under NJDOT jurisdiction	\$7,282	\$151,756	\$37,567	<b>\$196,606</b>
Lane miles + shoulders	\$4,904	\$102,200	\$25,300	\$132,403
Lane miles + shoulders and ramps	\$4,591	\$95,665	\$23,682	\$123,938

**Table 6 - Cost per Lane Mile Calculations FY2011**

	Administration, Planning & Research	Capital Construction	Operations & Maintenance	TOTAL
Total spent to administer, construct, operate and maintain roadways and bridges under NJDOT jurisdiction	\$61,063,082	\$1,107,705,940	\$458,075,457	\$1,626,844,479
Cost per lane mile calculations:				
Lane miles under NJDOT jurisdiction	\$7,261	\$131,713	\$54,468	<b>\$193,442</b>
Lane miles + shoulders	\$4,890	\$88,702	\$36,681	\$130,273
Lane miles + shoulders and ramps	\$4,577	\$83,030	\$34,336	\$121,943

**Table 7 - Cost per Lane Mile Calculations FY2012**

	Administration, Planning & Research	Capital Construction	Operations & Maintenance	TOTAL
Total spent to administer, construct, operate and maintain roadways and bridges under NJDOT jurisdiction	\$71,408,407	\$849,442,339	\$397,896,369	\$1,318,747,115
Cost per lane mile calculations:				
Lane miles under NJDOT jurisdiction	\$8,491	\$101,004	\$47,312	<b>\$156,807</b>
Lane miles + shoulders	\$5,718	\$68,021	\$31,862	\$105,601
Lane miles + shoulders and ramps	\$5,353	\$63,672	\$29,825	\$98,849

**Table 8 - Cost per Lane Mile Calculations FY2013**

	Administration, Planning & Research	Capital Construction	Operations & Maintenance	TOTAL
Total spent to administer, construct, operate and maintain roadways and bridges under NJDOT jurisdiction	\$77,097,590	\$809,921,882	\$488,383,107	\$1,375,402,579
Cost per lane mile calculations:				
Lane miles under NJDOT jurisdiction	\$9,167	\$96,305	\$58,072	<b>\$163,544</b>
Lane miles + shoulders	\$6,174	\$64,856	\$39,108	\$110,138
Lane miles + shoulders and ramps	\$5,779	\$60,709	\$36,608	\$103,096

**Table 9 - Cost per Lane Mile Calculations FY2014**

	Administration, Planning & Research	Capital Construction	Operations & Maintenance	TOTAL
Total spent to administer, construct, operate and maintain roadways and bridges under NJDOT jurisdiction	\$49,824,307	\$1,160,569,973	\$542,150,407	\$1,752,544,686
Cost per lane mile calculations:				
Lane miles under NJDOT jurisdiction	\$5,924	\$137,999	\$64,465	<b>\$208,388</b>
Lane miles + shoulders	\$3,990	\$92,935	\$43,414	\$140,338
Lane miles + shoulders and ramps	\$3,735	\$86,993	\$40,638	\$131,365

**DEBT SERVICE**

In New Jersey, revenue from New Jersey's motor fuels and petroleum product gross receipts tax and a portion of the State sales tax is managed through the New Jersey Transportation Trust Fund Authority (TTFA). The TTFA is an independent agency of New Jersey state government whose stated mission is to finance the cost of "planning, acquisition, engineering, construction, reconstruction, repair, resurfacing, and rehabilitation of the state's transportation system." The Authority's financing process is directed at issuing sufficient bonds to reimburse NJDOT/NJ TRANSIT Capital Program expenditures previously requested and authorized by the Legislature. The level of bonding needed is based on the expected level of cash expenses for transportation projects in any given fiscal year. The resulting debt service is supported by the aforementioned dedicated revenues that are appropriated to the Authority by the Legislature.

TTFA debt service include both repayment of bond principal and interest charged until the bonds are repaid. The analyses presented in previous sections of this report include cash

disbursements associated with NJDOT capital projects. These expenditures were paid using the proceeds from bonds issued by the TTFA and therefore account for the principal portion of debt service. What has not yet been accounted for are interest payments. While not a direct cost of transportation construction, operations and maintenance, like mortgage interest on a home, the amount the State ultimately must pay in the form of interest on bonds issued by the TTFA should be considered part of the full cost of transportation projects.

The total amount paid each year by the TTFA for interest payments and repayment of principal on bonds varies. In addition, given the way the TTFA operates in terms of issuing bonds and restructuring its debt on a periodic basis, it is not practical to associate the costs of a particular bond issuance with specific projects. Therefore determining the precise financing cost of each transportation project or program activity in any given year was not feasible as part of this study. Further, in any given year, not all debt service and bond repayment is attributable to NJDOT projects and programs. A significant proportion goes to repaying bonds used to support NJ TRANSIT capital projects and Local Aid projects and programs.

To address this conundrum, NJDOT provided the research team with data that estimates the proportional distribution of debt service (principal and interest) attributable to NJDOT projects/programs versus NJ TRANSIT and Local Aid projects and programs. These data were provided for Fiscal Years 2010-2014. To estimate the cost-per-lane-mile for the interest portion of debt service on NJDOT projects and programs, the research team divided the proportion of total interest costs attributable to NJDOT roadway and bridge capital projects for each year by the number of roadway lane miles (8,410) under NJDOT jurisdiction. Table 10 shows these calculations. Appendix 3 includes the detailed data provided by NJDOT to support this analysis.

**Table 10. TTFA Debt Service Interest Cost per Lane Mile  
Estimates for FY2010-2014**

<b>Fiscal Year 2010</b>		<b>Principal</b>	<b>Interest</b>	<b>Total</b>	<b>Interest Cost per Lane Mile</b>
Total TTFA Debt Service		\$281,170,000	\$493,560,420	\$774,730,420	
NJDOT proportion	39%	\$103,664,550	<b>\$200,863,152</b>	\$304,527,702	<b>\$23,884</b>
NJ TRANSIT/Local Aid proportion	61%	\$177,505,450	\$292,697,268	\$470,202,718	
<b>Fiscal Year 2011</b>					
Total TTFA Debt Service		\$309,530,000	\$499,880,976	\$809,410,976	
NJDOT proportion	40%	\$115,431,200	<b>\$212,207,494</b>	\$327,638,694	<b>\$25,233</b>
NJ TRANSIT/Local Aid proportion	60%	\$194,098,800	\$287,673,482	\$481,772,282	

<b>Fiscal Year 2012</b>					
Total TTFA Debt Service		\$310,110,000	\$602,024,575	\$912,134,575	
NJDOT proportion	41%	\$112,356,650	<b>\$261,473,872</b>	\$373,830,522	<b>\$31,091</b>
NJ TRANSIT/Local Aid proportion	59%	\$197,753,350	\$340,550,703	\$538,304,053	
<b>Fiscal Year 2013</b>					
Total TTFA Debt Service		\$313,175,000	\$613,644,285	\$926,819,285	
NJDOT proportion	41%	\$109,730,750	<b>\$267,167,460</b>	\$376,898,210	<b>\$31,768</b>
NJ TRANSIT/Local Aid proportion	59%	\$203,444,250	\$346,476,825	\$549,921,075	
<b>Fiscal Year 2014</b>					
Total TTFA Debt Service		\$408,045,000	\$672,170,973	\$1,080,215,973	
NJDOT proportion	40%	\$147,634,100	<b>\$284,867,678</b>	\$432,501,778	<b>\$33,872</b>
NJ TRANSIT/Local Aid Proportion	60%	\$260,410,900	\$387,303,295	\$647,714,195	

Source: NJDOT

## DISCUSSION AND NEXT STEPS

New Jersey's transportation systems comprises a vast array of infrastructure, including more than 38,000 centerline miles of roadways and thousands of bridges under State and local jurisdiction; more than 3,000 buses operating on 262 bus routes; 12 commuter rail lines serving 165 stations in 117 municipalities; 3 light rail lines serving 62 station/stops; 350+ park-and-ride lots; 3 commercial airports, 46 general aviation airports; 225 miles of commercial navigation channels; the largest seaport on the east coast; two Class I rail freight carriers and 14 regional and shortline railroads.<sup>2</sup>

NJDOT has jurisdiction over 13,341 lane miles of roads, bridges, shoulders and ramps statewide. In addition the agency maintains a robust program of maritime, aviation and multi-modal services; transportation research; regional transportation planning in partnership with the State's three Metropolitan Planning Organizations; travel demand management planning in partnership with the State's seven Transportation Management Associations; pedestrian and bicycle facilities planning and investment; as well as a diverse and sizeable Local Aid program that supports transportation enhancements, pedestrian and bicycle infrastructure improvements and bridge/pavement projects on roadways under the jurisdiction of New Jersey's counties and municipalities. NJDOT also programs a significant portion of the Federal and State transportation funds under its control for NJ TRANSIT's capital projects.

The costs associated with planning, constructing, operating and maintaining New Jersey's transportation infrastructure is significant. As demonstrated by this analysis, NJDOT's total

<sup>2</sup> New Jersey's Long-Range Transportation Plan, 2008; NJ TRANSIT Facts At A Glance, 2014

transportation expenditures can vary from year to year (see Table 1). From FY2010 to FY2014, total annual expenditures—excluding expenditures by toll road authorities—ranged from a low of approximately \$3.4 billion in FY2012 to a high of more than \$4 billion in FY2014. This variation in year to year spending can be due to any number of factors, including: infrastructure and asset management needs; the scale and complexity of the projects being undertaken in any given year; and available funding resources. For example, overall spending in FY2014 was approximately \$300 million dollars greater than the average for the five-year analysis period. The increase in spending in FY2014 is likely due to the complexity of projects undertaken and new funding made available from the Port Authority of New York and New Jersey for the Pulaski Skyway rehabilitation project.

The primary research objective for Phase I of this study was to estimate how much it costs on average to plan construct, operate and maintain the roadways and bridges under NJDOT jurisdiction. Over the analysis period, NJDOT spent an average of approximately \$1.5 billion annually to plan, construct, operate and maintain State roadways and bridges under its jurisdiction. This equates to a total average cost of \$183,757 per lane mile, excluding debt service. When debt service was added in, the total cost estimate increased to an average of \$212,927 per lane mile.

These results provide a baseline understanding of average aggregate costs associated with NJDOT roadways and bridges. Additional analysis is needed to understand more completely the factors that influence cost efficiency of specific NJDOT projects and programs, and the costs associated with planning, constructing, operating and maintaining roadways under the jurisdictions of New Jersey toll road Authorities.

As part of Phase II of this study, the research team will conduct an analysis of toll road Authority expenditures and a detailed case study analysis of various types of NJDOT and Authority roadway and bridge projects in an effort to understand cost efficiency variation more completely and to determine what factors appear to increase or decrease costs in different years. In addition to estimating costs by project type, to the extent feasible based on the data available from NJDOT, the research team will further stratify total project costs by the following project components:

- Preliminary Engineering/Final Design;
- ROW Acquisition;
- Utility Relocation;
- Environmental Mitigation (erosion control and other);
- Construction (itemized by materials and labor for pavement related items as well as other project costs such as drainage, striping, electrical, etc.);
- Construction Management; and
- Traffic Maintenance

Project location will also be considered. This may include parsing of projects by region of state (i.e., North vs. South Jersey) and/or urban vs. rural depending on where the projects were constructed. The analysis will yield average project cost and average cost per lane-mile estimates for a full range of project types and a full spectrum of project components. As was the case with the Phase I programmatic cost analysis, the research team will conduct a qualitative assessment of the projects in the sample set to identify outlier project and differentiating factors that may help to explain variation in the cost estimate range.

## **APPENDIX 1**

### **Detailed Cost Pool Allocations and Cost per Lane Mile Calculation Tables (FY2010-2014)**

**FY 2010 Expenditure Allocations to Cost Pools and Cost Per Mile Calculations**

Prepared by: Rutgers University - Alan M. Voorhees Transportation Center

Last Revised: 3/28/2016

Cde Job Type	Job Description	Amt Cost Base Cost	Costs Associated with Roadways			Excluded Costs				TOTAL COSTS
			Admin, Planning & Research	Capital Construction	O&M	Local Aid	NJT	TTFA	Other	
ACP	Access Permits	\$3,061,896			\$3,061,896					\$3,061,896
AER	Division of Aeronautics	\$11,774,940							\$11,774,940	\$11,774,940
BLG	Buildings and Grounds	\$14,478,194	\$960,687		\$13,517,507					\$14,478,194
CAG	Construction by Agreement	\$840,686		\$840,686						\$840,686
CCO	Construction by Contract	\$2,950		\$2,950						\$2,950
CD	Concept Development									\$0
CLM	Claims	\$1,595,275		\$1,595,275						\$1,595,275
CON	Construction	\$994,780,092		\$879,507,980	\$32,897,265	\$82,342,952	\$19,896	\$12,000		\$994,780,092
DBR	Drawbridge	\$67,382			\$67,382					\$67,382
DES	Design	\$30,321,053		\$25,965,151	\$3,163,005	\$1,113,507		\$79,390		\$30,321,053
EDP	Electronic Data Processing	\$75,375	\$75,375							\$75,375
ELE	Electrification Signals	\$1,718,113			\$1,718,113					\$1,718,113
ENV	Environmental Analysis	\$3,654,822		\$1,548,932	\$2,105,890					\$3,654,822
EQP	Equipment	\$35,832,751			\$35,832,751					\$35,832,751
FA	Feasibility Ananalysis	\$7,582,537		\$7,582,537						\$7,582,537
FD	Final Design	\$34,622,398		\$33,172,316	\$1,407,891	\$42,192				\$34,622,398
GAD	General & Administration <sup>1</sup>	\$1,075,656,375	\$22,108,924	\$17,770,660	-\$1,119,202		\$261,500,000	\$774,730,420	\$665,572	\$1,075,656,375
GRA	Grants	\$226,128							\$226,128	\$226,128
HPR	Highway Planning and Research	\$1,355,368		\$823,683	\$531,685					\$1,355,368
IMP	Gen Surburb Rail Improvement	\$9,003,553							\$9,003,553	\$9,003,553
ITA	Information Tech - Application Development	\$821,521	\$821,521							\$821,521
LEV	Leave Time	\$40,729,113	\$6,371,221	\$16,708,604	\$17,173,712				\$475,575	\$40,729,113
LOC	Local Aid	\$137,204,652				\$137,204,652				\$137,204,652
MDI	Miscellaneous Direct	\$53,355,693	-\$11,047,680	\$150,179,413	-\$87,822,822	\$46,101		\$2,000,680		\$53,355,693
MIN	Miscellaneous Indirect	\$8,712,531	\$2,731,113	\$304	\$4,102,127	\$82,292		\$1,796,695		\$8,712,531
MSC	Miscellaneous	\$27,630,375	\$1,631,944	\$22,447,938	\$2,959,314			\$591,179		\$27,630,375
MTN	Maintenance	\$275,262,698			\$275,262,698					\$275,262,698
MVS	Motor Vehicle Services	-\$1,367							-\$1,367	-\$1,367
NJT	NJ TRANSIT	\$863,649,822					\$863,649,822			\$863,649,822
OCR	Office of Civil Rights	\$2,228,166	\$2,228,166							\$2,228,166
OMR	Office of Maritime Resources	\$2,828,794							\$2,828,794	\$2,828,794
PD	Preliminary Design	\$11,781,007		\$11,781,007						\$11,781,007
PE	Preliminary Engineering	\$37,262,297	\$177,891	\$20,017,758	\$11,082,262	\$5,979,679		\$4,707		\$37,262,297
PL	Metropolitan Planning	\$60,083,072	\$35,185,236			\$2,322,531		\$22,575,305		\$60,083,072
PUR	Public Utilities Relocation	\$46,835,588		\$46,835,588						\$46,835,588
ROW	Purchase of Right of Way	\$39,487,558		\$39,487,558						\$39,487,558
STA		\$0								\$0
Sum:		\$3,834,521,409	\$61,244,399	\$1,276,268,340	\$315,941,473	\$229,133,907	\$1,125,169,718	\$774,730,420	\$52,033,152	\$3,834,521,409
					<b>Total Included Costs</b>	<b>\$1,653,454,212</b>	<b>Total Excluded Costs</b>			<b>\$2,181,067,197</b>
					<b>Percent Included</b>	<b>43%</b>	<b>Percent Excluded</b>			<b>57%</b>

FY 2010 Cost per mile calculations	Lane Miles	Costs per Mile			TOTAL	TOTAL FULL COST
Lane miles under NJDOT jurisdiction	8,410	\$7,282	\$151,756	\$37,567	\$196,606	\$220,489.58
Lane miles with shoulders	12,488	\$4,904	\$102,200	\$25,300	\$132,403	
Lane miles with shoulders & ramps	13,341	\$4,591	\$95,665	\$23,682	\$123,938	

FY 2010 Debt Service and Bond Repayment	Principal	Interest	Total	Interest Cost Per Mile
Total TTFA Debt Service	\$281,170,000	\$493,560,420	\$774,730,420	
NJDOT proportion	39%	\$103,664,550	\$200,863,152	\$304,527,702
NJ TRANSIT/Local Aid Proportion	61%	\$177,505,450	\$292,697,268	\$470,202,718

NOTES: 1 - Includes adjustments to TTFA amounts to reconcile payments made in current fiscal year attributable to debt service costs associated with prior or subsequent fiscal years



**FY 2011 Expenditure Allocations to Cost Pools and Cost Per Mile Calculations**

Prepared by: Rutgers University - Alan M. Voorhees Transportation Center

Last Revised: 3/28/2016

Cde Job Type	Job Description	Amt Cost Base Cost	Costs Associated with Roadways			Excluded Costs				TOTAL COSTS
			Admin, Planning & Research	Capital Construction	O&M	Local Aid	NJT	TTFA	Other	
ACP	Access Permits	\$1,909,905			\$1,909,905					\$1,909,905
AER	Division of Aeronautics	\$4,773,575							\$4,773,575	\$4,773,575
BLG	Buildings and Grounds	\$10,227,034	\$914,944		\$9,312,091					\$10,227,034
CAG	Construction by Agreement	\$496,639		\$496,639						\$496,639
CCO	Construction by Contract	\$2,398		\$2,398						\$2,398
CD	Concept Development									\$0
CLM	Claims	\$524,294		\$524,294						\$524,294
CON	Construction	\$1,071,252,343		\$789,765,759	\$53,346,181	\$227,575,241	\$11,316		\$553,846	\$1,071,252,343
DBR	Drawbridge	\$62,868			\$62,868					\$62,868
DES	Design	\$28,434,107		\$23,618,249	\$2,836,833	\$1,934,499			\$44,526	\$28,434,107
EDP	Electronic Data Processing	\$61,000	\$61,000							\$61,000
ELE	Electrification Signals	\$243,828			\$243,828					\$243,828
ENV	Environmental Analysis	\$2,924,329		\$1,125,535	\$1,798,794					\$2,924,329
EOP	Equipment	\$55,682,586			\$55,682,586					\$55,682,586
FA	Feasibility Analysis	\$8,405,884		\$8,405,884						\$8,405,884
FD	Final Design	\$32,996,809		\$31,078,606	\$1,835,674	\$48,171			\$34,358	\$32,996,809
GAD	General & Administration <sup>1</sup>	\$1,079,711,488	\$20,726,809	-\$29,372,555	\$53,029,160		\$225,377,277	\$809,410,976	\$539,820	\$1,079,711,488
GRA	Grants	\$316,615							\$316,615	\$316,615
HPR	Highway Planning and Research	\$1,289,246	\$10,554	\$1,210,099	\$68,593					\$1,289,246
IMP	Gen Suburb Rail Improvement	\$17,064,560							\$17,064,560	\$17,064,560
ITA	Information Tech - Application Development	\$404,543	\$404,543							\$404,543
LEV	Leave Time	\$47,864,741	\$7,139,598	\$19,957,058	\$20,191,974				\$576,111	\$47,864,741
LOC	Local Aid	\$91,470,060				\$91,470,060				\$91,470,060
MDI	Miscellaneous Direct	\$47,267,884	-\$14,355,514	\$125,961,103	-\$65,687,859	\$581,278			\$768,876	\$47,267,884
MIN	Miscellaneous Indirect	\$7,480,353	\$2,530,504		\$3,957,751	\$120,224			\$871,874	\$7,480,353
MSC	Miscellaneous	\$16,843,397	\$2,062,531	\$13,184,441	\$1,215,504				\$380,921	\$16,843,397
MTN	Maintenance	\$306,790,306			\$306,790,306					\$306,790,306
NJT	NJ TRANSIT	\$674,541,826					\$674,541,826			\$674,541,826
OCR	Office of Civil Rights	\$1,642,810	\$1,642,810							\$1,642,810
OMR	Office of Maritime Resources	\$25,237,436							\$25,237,436	\$25,237,436
PD	Preliminary Design	\$16,210,028		\$16,210,028						\$16,210,028
PE	Preiminary Engineering	\$40,605,070	\$0	\$20,187,423	\$11,481,269	\$8,791,448			\$144,930	\$40,605,070
PL	Metropolitan Planning	\$63,965,233	\$39,925,303			\$2,914,715			\$21,125,214	\$63,965,233
PUR	Public Utilities Relocation	\$34,454,455		\$34,454,455						\$34,454,455
ROW	Purchase of Right of Way	\$50,896,523		\$50,896,523						\$50,896,523
STA	State Aid	\$331,250				\$331,250				\$331,250
<b>Sum:</b>		<b>\$3,742,385,422</b>	<b>\$61,063,082</b>	<b>\$1,107,705,940</b>	<b>\$458,075,457</b>	<b>\$333,766,886</b>	<b>\$899,930,419</b>	<b>\$809,410,976</b>	<b>\$72,432,662</b>	<b>\$3,742,385,422</b>
			<b>Total Included Costs</b>			<b>\$1,626,844,479</b>	<b>Total Excluded Costs</b>			<b>\$2,115,540,943</b>
			<b>Percent Included</b>			<b>43%</b>	<b>Percent Excluded</b>			<b>57%</b>

FY 2011 Cost per mile calculations	Lane Miles	Costs per Mile			TOTAL	TOTAL FULL COST
Lane miles under NJDOT jurisdiction	8,410	\$7,261	\$131,713	\$54,468	\$193,442	<b>\$218,674.43</b>
Lane miles with shoulders	12,488	\$4,890	\$88,702	\$36,681	\$130,273	
Lane miles with shoulders & ramps	13,341	\$4,577	\$83,030	\$34,336	\$121,943	

FY 2011 Debt Service and Bond Repayment		Principal	Interest	Total	Interest Cost Per Mile
Total TTFA Debt Service		\$309,530,000	\$499,880,976	\$809,410,976	
NJDOT proportion	40%	\$115,431,200	\$212,207,494	\$327,638,694	<b>\$25,233</b>
NJ TRANSIT/Local Aid Proportion	60%	\$194,098,800	\$287,673,482	\$481,772,282	

NOTES: 1 - Includes adjustments to TTFA amounts to reconcile payments made in current fiscal year attributable to debt service costs associated with prior or subsequent fiscal years

**FY 2012 Expenditure Allocations to Cost Pools and Cost Per Mile Calculations**

Prepared by: Rutgers University - Alan M. Voorhees Transportation Center

Last Revised: 3/28/2016

Cde Job Type	Job Description	Amt Cost Base Cost	Costs Associated with Roadways			Excluded Costs				TOTAL COSTS	
			Admin, Planning & Research	Capital Construction	O&M	Local Aid	NJT	TTFA	Other		
ACP	Access Permits	\$2,036,881			\$2,036,881					\$2,036,881	
AER	Division of Aeronautics	\$2,996,663						\$2,996,663		\$2,996,663	
BLG	Buildings and Grounds	\$11,104,540	\$819,860		\$10,284,680					\$11,104,540	
CAG	Construction by Agreement	\$134,058		\$134,058						\$134,058	
CCO	Construction by Contract	\$993		\$993						\$993	
CD	Concept Development									\$0	
CLM	Claims	\$468,201		\$468,201						\$468,201	
CON	Construction	\$837,786,015		\$570,410,975	\$52,884,868	\$212,732,462	\$558,770	\$1,198,941		\$837,786,015	
DBR	Drawbridge	\$126,592			\$126,592					\$126,592	
DES	Design	\$26,705,542		\$20,401,464	\$3,659,821	\$2,636,562		\$7,695		\$26,705,542	
EDP	Electronic Data Processing	\$89,207	\$89,207							\$89,207	
ELE	Electrification Signals	\$310,809			\$310,809					\$310,809	
ENV	Environmental Analysis	\$3,706,176		\$1,094,482	\$2,611,694					\$3,706,176	
EQP	Equipment	\$63,565,082			\$63,565,082					\$63,565,082	
FA	Feasibility Ananlysis	\$5,773,905		\$5,773,905						\$5,773,905	
FD	Final Design	\$43,785,818		\$40,069,477	\$1,150,558	\$2,563,114		\$2,670		\$43,785,818	
GAD	General & Administration <sup>1</sup>	\$1,358,745,086	\$17,365,000	-\$515,802	\$23,978,509		\$405,349,723	\$912,134,575	\$433,081	\$1,358,745,086	
GRA	Grants	\$384,304							\$384,304	\$384,304	
HPR	Highway Planning and Research	\$1,174,690		\$1,094,901	\$79,789					\$1,174,690	
IMP	Gen Suburb Rail Improvement	\$2,727,107							\$2,727,107	\$2,727,107	
ITA	Information Tech - Application Development	\$412,225	\$412,225							\$412,225	
LEV	Leave Time	\$39,870,885	\$5,279,432	\$16,602,639	\$17,462,711			\$526,104		\$39,870,885	
LOC	Local Aid	\$59,351,436				\$59,351,436				\$59,351,436	
MDI	Miscellaneous Direct	\$46,571,876	-\$6,375,158	\$111,214,104	-\$60,781,464	\$26,727		\$2,487,667		\$46,571,876	
MIN	Miscellaneous Indirect	\$13,979,205	\$5,109,433	\$1,629	\$3,470,761	\$237,556				\$13,979,205	
MSC	Miscellaneous	\$13,364,938	\$2,607,576	\$9,729,245	\$733,013			\$295,104		\$13,364,938	
MTN	Maintenance	\$262,925,363			\$262,925,363					\$262,925,363	
NJT	NJ TRANSIT	\$451,515,740					\$451,515,740			\$451,515,740	
OCR	Office of Civil Rights	\$1,867,887	\$1,867,887							\$1,867,887	
OMR	Office of Maritime Resources	\$2,291,148						\$2,291,148		\$2,291,148	
PD	Preliminary Design	\$4,467,546		\$4,467,546						\$4,467,546	
PE	Preiminary Engineering	\$35,258,863		\$14,728,296	\$13,396,702	\$7,133,865				\$35,258,863	
PL	Metropolitan Planning	\$70,262,057	\$44,232,945			\$2,068,796			\$23,960,317	\$70,262,057	
PUR	Public Utilities Relocation	\$24,887,520		\$24,887,520						\$24,887,520	
ROW	Purchase of Right of Way	\$28,878,708		\$28,878,708						\$28,878,708	
<b>Sum:</b>		<b>\$3,417,527,066</b>	<b>\$71,408,407</b>	<b>\$849,442,339</b>	<b>\$397,896,369</b>	<b>\$286,750,517</b>	<b>\$857,424,232</b>	<b>\$912,134,575</b>	<b>\$42,470,626</b>	<b>\$3,417,527,066</b>	
			<b>Total Included Costs</b>	<b>\$1,318,747,115</b>				<b>Total Excluded Costs</b>	<b>\$2,098,779,951</b>		
			<b>Percent Included</b>	<b>39%</b>				<b>Percent Excluded</b>	<b>61%</b>		

FY 2012 Cost per mile calculations	Lane Miles	Costs per Mile			TOTAL	TOTAL FULL COST
Lane miles under NJDOT jurisdiction	8,410	\$8,491	\$101,004	\$47,312	\$156,807	\$187,897.86
Lane miles with shoulders	12,488	\$5,718	\$68,021	\$31,862	\$105,601	
Lane miles with shoulders & ramps	13,341	\$5,353	\$63,672	\$29,825	\$98,849	

FY 2012 Debt Service and Bond Repayment		Principal	Interest	Total	Interest Cost Per Mile
Total TTFA Debt Service		\$310,110,000	\$602,024,575	\$912,134,575	
NJDOT proportion	41%	\$112,356,650	\$261,473,872	\$373,830,522	\$31,091
NJ TRANSIT/Local Aid Proportion	59%	\$197,753,350	\$340,550,703	\$538,304,053	

NOTES: 1 - Includes adjustments to TTFA amounts to reconcile payments made in current fiscal year attributable to debt service costs associated with prior or subsequent fiscal years

**FY 2013 Expenditure Allocations to Cost Pools and Cost Per Mile Calculations**

Prepared by: Rutgers University - Alan M. Voorhees Transportation Center

Last Revised: 3/28/2016

Cde Job Type	Job Description	Amt Cost Base Cost	Costs Associated with Roadways			Excluded Costs				TOTAL COSTS
			Admin, Planning & Research	Capital Construction	O&M	Local Aid	NJT	TTFA	Other	
ACP	Access Permits	\$2,058,991			\$2,058,991					\$2,058,991
AER	Division of Aeronautics	\$3,123,793						\$3,123,793		\$3,123,793
BLG	Buildings and Grounds	\$16,257,028	\$293,982		\$15,963,047					\$16,257,028
CAG	Construction by Agreement	\$9,778		\$9,778						\$9,778
CCO	Construction by Contract	\$5,129		\$5,129						\$5,129
CD	Concept Development	\$6,745		\$6,745						\$6,745
CLM	Claims	\$1,846,602		\$1,846,602						\$1,846,602
CON	Construction	\$827,989,644		\$525,225,469	\$42,546,346	\$257,546,483	\$983,153	\$1,688,193		\$827,989,644
DBR	Drawbridge	\$65,400			\$65,400					\$65,400
DES	Design	\$29,427,631		\$25,532,616	\$2,252,931	\$1,642,085				\$29,427,631
EDP	Electronic Data Processing	\$151,230	\$151,230							\$151,230
ELE	Electrification Signals	\$348,938			\$348,938					\$348,938
ENV	Environmental Analysis	\$4,405,366		\$2,132,273	\$2,273,093					\$4,405,366
EQP	Equipment	\$57,348,141			\$57,348,141					\$57,348,141
FA	Feasibility Ananlysis	\$2,372,163		\$2,372,163						\$2,372,163
FD	Final Design	\$61,680,025		\$58,992,216	\$547,002	\$2,140,807				\$61,680,025
GAD	General & Administration <sup>1</sup>	\$1,287,603,490	\$17,406,285	-\$7,683,086	\$20,951,255		\$329,923,000	\$926,819,285	\$186,750	\$1,287,603,490
GRA	Grants	\$386,664							\$386,664	\$386,664
HPR	Highway Planning and Research	\$1,195,519		\$1,046,497	\$149,023					\$1,195,519
IMP	Gen Suburb Rail Improvement	\$8,527,196							\$8,527,196	\$8,527,196
ITA	Information Tech - Application Development	\$345,705	\$345,705							\$345,705
LEV	Leave Time	\$42,418,005	\$5,207,232	\$17,862,229	\$18,749,086				\$599,458	\$42,418,005
LOC	Local Aid	\$24,657,457				\$24,657,457				\$24,657,457
MDI	Miscellaneous Direct	\$43,392,865	-\$10,553,612	\$127,719,531	-\$78,494,608	\$51,000		\$4,670,554		\$43,392,865
MIN	Miscellaneous Indirect	\$11,739,411	\$5,889,612		\$3,343,285	\$673,078		\$1,833,436		\$11,739,411
MSC	Miscellaneous	\$7,743,613	\$2,082,215	\$4,529,703	\$876,373			\$255,323		\$7,743,613
MTN	Maintenance	\$385,878,238			\$385,878,238					\$385,878,238
NJT	NJ TRANSIT	\$713,498,221					\$713,498,221			\$713,498,221
OCR	Office of Civil Rights	\$1,913,171	\$1,913,171							\$1,913,171
OMR	Office of Maritime Resources	\$2,567,249							\$2,567,249	\$2,567,249
PD	Preliminary Design	\$4,036,972		\$4,036,972						\$4,036,972
PE	Preiminary Engineering	\$35,709,460		\$11,611,038	\$13,526,568	\$10,571,854				\$35,709,460
PL	Metropolitan Planning	\$72,439,464	\$54,361,770			\$2,303,129		\$15,774,565		\$72,439,464
PUR	Public Utilities Relocation	\$14,240,192		\$14,240,192						\$14,240,192
ROW	Purchase of Right of Way	\$20,435,815		\$20,435,815						\$20,435,815
<b>Sum:</b>		<b>\$3,685,825,313</b>	<b>\$77,097,590</b>	<b>\$809,921,882</b>	<b>\$488,383,107</b>	<b>\$299,585,892</b>	<b>\$1,044,404,374</b>	<b>\$926,819,285</b>	<b>\$39,613,182</b>	<b>\$3,685,825,313</b>
			<b>Total Included Costs</b>			<b>Total Excluded Costs</b>				
			<b>\$1,375,402,580</b>			<b>\$2,310,422,733</b>				
			<b>Percent Included</b>			<b>Percent Excluded</b>				
			<b>37%</b>			<b>63%</b>				

FY 2013 Cost per mile calculations	Lane Miles	Costs per Mile			TOTAL	TOTAL FULL COST
Lane miles under NJDOT jurisdiction	8,410	\$9,167	\$96,305	\$58,072	\$163,544	\$195,311.54
Lane miles with shoulders	12,488	\$6,174	\$64,856	\$39,108	\$110,138	
Lane miles with shoulders & ramps	13,341	\$5,779	\$60,709	\$36,608	\$103,096	

FY 2013 Debt Service and Bond Repayment		Principal	Interest	Total	Interest Cost Per Mile
Total TTFA Debt Service		\$313,175,000	\$613,644,285	\$926,819,285	
NJDOT proportion	41%	\$109,730,750	\$267,167,460	\$376,898,210	\$31,768
NJ TRANSIT/Local Aid Proportion	59%	\$203,444,250	\$346,476,825	\$549,921,075	

NOTES: 1 - Includes adjustments to TTFA amounts to reconcile payments made in current fiscal year attributable to debt service costs associated with prior or subsequent fiscal years

**FY 2014 Expenditure Allocations to Cost Pools and Cost Per Mile Calculations**

Prepared by: Rutgers University - Alan M. Voorhees Transportation Center

Last Revised: 3/28/2016

Cde Job Type	Job Description	Amt Cost Base Cost	Costs Associated with Roadways			Excluded Costs				TOTAL COSTS
			Admin, Planning & Research	Capital Construction	O&M	Local Aid	NJT	TTFA	Other	
ACP	Access Permits	\$2,414,080			\$2,414,080					\$2,414,080
AER	Division of Aeronautics	\$2,931,731						\$2,931,731		\$2,931,731
BLG	Buildings and Grounds	\$17,666,164	\$725,295		\$16,940,869					\$17,666,164
CAG	Construction by Agreement	\$586,002		\$586,002						\$586,002
CCO	Construction by Contract	\$0								\$0
CD	Concept Development	\$11,838		\$11,838						\$11,838
CLM	Claims	\$711,738		\$711,738						\$711,738
CON	Construction	\$1,114,607,873		\$832,112,155	\$30,687,500	\$249,651,597		\$2,156,621		\$1,114,607,873
DBR	Drawbridge	\$119,886			\$119,886					\$119,886
DES	Design	\$36,233,131		\$32,421,773	\$2,638,569	\$1,172,789				\$36,233,131
EDP	Electronic Data Processing	\$74,983	\$74,983							\$74,983
ELE	Electrification Signals	\$1,260,035			\$1,260,035					\$1,260,035
ENV	Environmental Analysis	\$3,492,413		\$1,133,287	\$2,347,359			\$11,767		\$3,492,413
EQP	Equipment	\$55,161,742			\$55,161,742					\$55,161,742
FA	Feasibility Ananlysis	\$1,017,506		\$1,017,506						\$1,017,506
FD	Final Design	\$57,346,240		\$56,082,398	\$216,853	\$1,046,989				\$57,346,240
GAD	General & Administration <sup>1</sup>	\$1,478,196,887	\$18,415,247	-\$16,188,393	\$41,971,657		\$353,373,000	\$1,080,215,973	\$409,404	\$1,478,196,887
GRA	Grants	\$301,890							\$301,890	\$301,890
HPR	Highway Planning and Research	\$1,341,844		\$906,830	\$435,014					\$1,341,844
IMP	Gen Suburb Rail Improvement	\$5,960,554							\$5,960,554	\$5,960,554
ITA	Information Tech - Application Development	\$337,310	\$337,310							\$337,310
LEV	Leave Time	\$43,365,585	\$5,054,349	\$18,103,631	\$19,578,344			\$629,261		\$43,365,585
LOC	Local Aid	\$30,117,196				\$30,117,196				\$30,117,196
MDI	Miscellaneous Direct	\$38,491,675	-\$22,264,118	\$158,683,804	-\$97,470,540	\$17,279		-\$474,750		\$38,491,675
MIN	Miscellaneous Indirect	\$31,980,341	\$7,345,409	\$3,075	\$3,243,304	\$17,409,887		\$3,978,667		\$31,980,341
MSC	Miscellaneous	\$8,321,892	\$2,474,449	\$4,726,465	\$943,948			\$177,030		\$8,321,892
MTN	Maintenance	\$448,625,022			\$448,625,022					\$448,625,022
NJT	NJ TRANSIT	\$526,836,839					\$526,836,839			\$526,836,839
OCR	Office of Civil Rights	\$1,125,857	\$1,125,857							\$1,125,857
OMR	Office of Maritime Resources	\$4,113,782						\$4,113,782		\$4,113,782
PD	Preliminary Design	\$4,579,287		\$4,579,287						\$4,579,287
PE	Preiminary Engineering	\$40,843,580		\$15,879,287	\$13,036,765	\$11,927,528				\$40,843,580
PL	Metropolitan Planning	\$61,839,075	\$36,535,526			\$1,797,360		\$23,506,189		\$61,839,075
PUR	Public Utilities Relocation	\$28,269,150		\$28,269,150						\$28,269,150
ROW	Purchase of Right of Way	\$21,530,140		\$21,530,140						\$21,530,140
<b>Sum:</b>		<b>\$4,069,813,267</b>	<b>\$49,824,307</b>	<b>\$1,160,569,973</b>	<b>\$542,150,407</b>	<b>\$313,140,625</b>	<b>\$880,209,839</b>	<b>\$1,080,215,973</b>	<b>\$43,702,145</b>	<b>\$4,069,813,267</b>
			<b>Total Included Costs</b>			<b>Total Excluded Costs</b>				
			<b>\$1,752,544,686</b>			<b>\$2,317,268,581</b>				
			<b>Percent Included</b>			<b>Percent Excluded</b>				
			<b>43%</b>			<b>57%</b>				

FY 2014 Cost per mile calculations	Lane Miles	Costs per Mile			TOTAL	TOTAL FULL COST
Lane miles under NJDOT jurisdiction	8,410	\$5,924	\$137,999	\$64,465	\$208,388	\$242,660.69
Lane miles with shoulders	12,488	\$3,990	\$92,935	\$43,414	\$140,338	
Lane miles with shoulders & ramps	13,341	\$3,735	\$86,993	\$40,638	\$131,365	

FY 2014 Debt Service and Bond Repayment		Principal	Interest	Total	Interest Cost Per Mile
Total TTFA Debt Service		\$408,045,000	\$672,170,973	\$1,080,215,973	
NJDOT proportion	40%	\$147,634,100	\$284,867,678	\$432,501,778	\$33,872
NJ TRANSIT/Local Aid Proportion	60%	\$260,410,900	\$387,303,295	\$647,714,195	

NOTES: 1 - Includes adjustments to TTFA amounts to reconcile payments made in current fiscal year attributable to debt service costs associated with prior or subsequent fiscal years

## **APPENDIX 2**

### **NJDOT Account Organization Code Descriptions**

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
<b>6000</b>									
	ACAA	Commissioner's Office	Agency Head of the NJDOT. Responsible to, in a coordinated and integrated matter, solve or assist in the solution of the problems of all modes of transportation; to promote an efficient, fully integrated and balanced transportation system for the State; to prepare and implement comprehensive plans and programs for all modes of transportation development in the State; and to coordinate the transportation activities of State agencies, State-created public authorities, and other public agencies with transportation responsibilities within the State.	X					
	AGAA	Interagency Coordination	Department's liaison with other transportation agencies such as the toll road authorities.	X					
	AIAA	Inspector General	Oversees the following functions: Internal Audits, Internal Investigations, Records Management & OPRA and Ethics & Special Projects	X					
	APIA	Communications Office	Responsible for communicating and promoting the mission, policies, programs and employees of the Department both internally and to the general public. Provide management assistance in the Department's relations with the public assuring the accuracy of all information received and released regarding the public and NJDOT interests.	X					
	CAAA	Community and Constituent Relations	- Promotes ongoing public partnerships with the Department to insure that transportation projects and issues are considered within the context of the communities that are impacted.	X					
	CFAA	Employee Support	Establish policies for the DOT which foster safe and healthful workplace operations. Provide consultation on and ensure proper abatement of health & safety citations and identified hazards. Provide opportunities for professional development and performance assessments.	X					
	CPAA	Human Resources	Design, implement and monitor a human resource needs plan, review personnel laws and regulations, provide an employee relations program, administer employee benefits and related programs, administer payroll processing and time and leave reporting.	X					
	CPAB	Director of Human Resources	Provide information, advice and recommendations as to HR policies & procedures. Plan for future employment needs. - Rolls up under CPAA	X					
	CPAC	Employee Relations	Liaison with representatives of collective bargaining units. Advise and counsel management on contractual agreements, administer the employee discipline program, administer the employee grievance procedures, administer the Drug and Alcohol testing program. - Rolls up under CPAA	X					
	CPAD	Recruiting, Payroll, Records	Administer and maintain the Electronic Cost Accounting System (eCATS) for time and leave reporting. Administer regular and supplemental payrolls. Plan and conduct classification surveys and audits, develop job specifications, administer the promotional examination program. - Rolls up under CPAA	X					
	DBAA	Budget & Management Support	Recommend an optimal resource allocation plan for the operating budget. Provide technical support in defense of the budget. Advise senior management of significant spending plan variances. Coordinate and prepare information that enables compliance with Federal Highway Administration and Transportation Trust Fund requirements for earnings and the use and monitoring of these funds.	X					
	DFAA	Accounting & Auditing	Carry out the fiscal officer responsibilities and implement fiscal policy to ensure adequate safeguarding of the Department's resources and accuracy of financial reporting.	X					

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	DFAB	Director of Accounting & Auditing	Responsible for development and management of the Accounting and Auditing unit. Efficient administration of financial operations and records while ensuring fiscal accountability in accordance with principles and regulations. - Rolls up under DFAA	X					
	DFAC	General Accounting	Verifies, reviews and approves for payment all invoices submitted to NJDOT. Performs compliance reviews of financial transactions for consistency with agreement and contract terms. - Rolls up under DFAA	X					
	DFAD	Revenue Accounting	Ensures effective control over and proper accounting for all revenues earned by NJDOT. Provides direction to maximize Federal aid recoveries. Ensures adequacy of the third party cost sharing agreement financial terms and conditions and provides for timely billing and collection of amounts due. Monitors and coordinates the financial aspects of all Federal aid and third party cost sharing agreements. - Rolls up under DFAA	X					
	DHAA	Procurement	To professionally and ethically purchase, in a timely manner, equipment, materials, supplies, and services, in accordance with Federal and State laws and the Department of Transportation's specifications and regulations to enable Operating Divisions to meet their objectives	X					
	DHAB	Director of Procurement	Direct procurement operations, including the purchase of equipment, materials, supplies, professional services, and construction services in a timely manner and in accordance with applicable laws, regulations, policies, and procedures. - Rolls up under DHAA	X					
	DHAC	Equipment, Materials, & Supplies Procurement	Costs associated with the unit responsible for the purchase of Equipment, Materials and Supplies. Advertise, solicit, receive, and verify all project bids in accordance with provisions of applicable Federal and State statues, regulations, and specifications. - Rolls up under DHAA	X					
	DHAD	Professional Services Procurement	Costs associated with the unit responsible for the purchase of Professional Services. Advertise, solicit, receive, and verify all project bids in accordance with provisions of applicable Federal and State statues, regulations, and specifications. - Rolls up under DHAA	X					
	DHAE	Construction Services Procurement	Costs associated with the unit responsible for the purchase of Construction Services. Advertise, solicit, receive, and verify all project bids in accordance with provisions of applicable Federal and State statues, regulations, and specifications. Maintain lists of all prequalified contractors, awards & subcontracts, notice of advertising, and bid tabulations. - Rolls up under DHAA	x					
	DIAA	Director of Information Technology	Provide direction, establish policy, and set standards for Information Technology for DOT. Support the IT strategy of effectively aligning resources and funding to projects that will support the overall business objectives.	X					
	DRAA	Civil Rights and Affirmative Action	Primary objective is to promote, oversee, and ensure equal opportunity, access and diversity in all NJDOT programs and economic opportunities through: Education, Technical Assistance, Supportive Services, Outreach, Compliance, and Partnerships.	X					
<b>6050</b>									
	6050	Public Transportation Services	NJTRANSIT					X	
<b>6070</b>									

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	BAAA	Multimodal Services	Formulate planning goals, objectives, and strategies for the effective development and management of an integrated multi-modal transportation system.						X
	BAAB	Aeronautics	Provide the managerial/administrative direction for developing, recommending, and implementing policy and programs to support, improve, and expand the services of the aviation industry.						X
	BAAF	Ports, Terminals & Freight	Manages and oversees numerous Freight planning studies and research projects, such as the Statewide Freight Plan, and the Freight Rail Strategic Plan. Collaborates with other transportation agencies and works on other public and private initiatives, such as the State Rail Plan with NJ Transit. Supports other major freight initiatives under way at NJDOT.						X
	BMAA	Maritime Resources	To provide interagency support, programmatic planning and policy recommendations on maritime issues to the Governor, the Legislature, Commissioner, Asst. Commissioner, Division Director and senior staff of the DOT.						X
	BPAA	Maritime Pilot Commission	Ensures that the pilots who guide ships into New York/New Jersey harbor are well-educated and well-trained and demonstrate high levels of professionalism. To ensure port security and safety and economic development. Functions as a licensing and regulatory oversight agency.						X
	EOAA	Outdoor Advertising	Manages the outdoor advertising activity in the State by reviewing applications, issuing permits and licenses, and collecting fees and fines. Drafts rules and regulations concerning control of outdoor advertising along highways. Also, administers motorist service sign programs (logo and TODS) consistent with federal guidelines and the Manual on Uniform Traffic Control Devices MUTCD.)	X					
<b>6100</b>									
	6100	Maintenance & Operations	Rehabilitates existing roads, bridges and appurtenances on the state highway system for greater safety and to decrease maintenance costs; administers an efficient snow and ice control program for improved public safety and convenience in inclement weather; protects the roadside through landscape maintenance, control of roadside advertising and junkyards and control of access on state highway and public transportation properties; constructs, maintains and operates traffic signals, highway lighting facilities and miscellaneous electrical devices on the state highway system; maintains and operates movable bridges; maintains the equipment fleet of the Department and other State agencies; operates a statewide network of service facilities, including fuel dispensing for other agencies of the State; fabricates specialized equipment as needed.			X			
	EQAA	Equipment Operations	Assumes prime responsibility for the management of the fleet of vehicles and equipment of all types, including the planning, budgeting, engineering, requisition, inspection, servicing, and parts supply support necessary for the maintenance of a modern and efficient fleet.			X			
	EQAB	Region 1 Equipment	Costs associated with Equipment in Region 1. - Rolls up under EQAA			X			
	EQAC	Region 2 Equipment	Costs associated with Equipment in Region 2. - Rolls up under EQAA			X			
	EQAD	Region 3 Equipment	Costs associated with Equipment in Region 3. - Rolls up under EQAA			X			
	EQAE	Region 4 Equipment	Costs associated with Equipment in Region 4. - Rolls up under EQAA			X			



Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	MAAA	Maintenance Administration	Providing directions for the uniform administration of all Maintenance and Operations' areas to ensure that all activities are conducted according to established standards and specifications, in a manner consistent with prevailing industry standards and in compliance with all EEO/DBE requirements, while working within budgeted Operation and Capital funding programs.			X			
	MAAB	Bridge Maintenance	Costs specific to Bridge Maintenance - Rolls up under MAAA			X			
	MAAC	Operations Central	Costs specific to Operations Central - Rolls up under MAAA			X			
	MAAD	Region 3 Maintenance Administration	Costs specific to Region 3 - Rolls up under MAAA			X			
	MAAE	Region 4 Maintenance Administration	Costs specific to Region 4 - Rolls up under MAAA			X			
	MAAF	Region 5 Project Support	Costs specific to Region 5 - Rolls up under MAAA			X			
	MAAH	Ewing Headquarters	Costs specific to Ewing Headquarters - Rolls up under MAAA			X			
	MAAN	Operations North	Costs specific to Operations North - Rolls up under MAAA			X			
	MAAS	Operations South	Costs specific to Operations South - Rolls up under MAAA			X			
	MDAA	Drawbridge Operations	The DOT has 18 drawbridges throughout the state. NJDOT employees operate these drawbridges and also inspect them three times a year.			X			
	MEAA	Electrical Operations	Maintain traffic signal installations, highway lighting facilities and all other electrical and electronic devices associated with state highway operations. Routine inspections. Maintain electrical systems and mechanical equipment on movable bridges. Construct new and upgrade existing traffic signal and roadway illumination facilities.			X			
	MEAC	Region 2 Electrical	Costs specific to Region 2 Electrical - Rolls up under MEAA			X			
	MEAD	Region 3 Electrical	Costs specific to Region 3 Electrical - Rolls up under MEAA			X			
	MEAE	Region 4 Electrical	Costs specific to Region 4 Electrical - Rolls up under MEAA			X			
	MEAG	Region 5 Maintenance & Engineering	Costs specific to Region 5 - Rolls up under MEAA			X			
	MGCA	Rest Area Maintenance	Responsible for the maintenance and operation of the Rest Areas in the Gateway Corridor.			X			
	MGCN	Rest Area Maintenance	Responsible for the maintenance and operation of the Rest Areas in the Northern Region.			X			
	MGCS	Rest Area Maintenance	Responsible for the maintenance and operation of the Rest Areas in the Southern Region.			X			
	MLAC	Operations Central - Landscape	Responsible for Landscape Maintenance on Roadways in the Central Region.			X			
	MLAD	Region 3 Landscape	Responsible for Landscape Maintenance on Roadways in Region 3.			X			
	MLAN	Operations North - Landscape	Responsible for Landscape Maintenance on Roadways in the Northern Region.			X			
	MLAS	Operations South - Landscape	Responsible for Landscape Maintenance on Roadways in the Southern Region.			X			
	MRAA	Road & Bridge	Oversees the operation, administration and support in the areas of Maintenance, Support functions, and Equipment, to carry out the operation and maintenance of the highway transportation system			X			
	MRAB	Bridge Maintenance Engineering & Operations	Provides adequate staffing and material needs for the 24-hour operation of the movable bridges. - Rolls up under MRAA			X			
	MRAC	Operations Central	Responsible for the maintenance of state highways, rest areas, roadsides and bridges; equipment repair; electrical operations; minor access, utility and miscellaneous permits; and regional facility repairs in the Central Region. - Rolls up under MRAA			X			
	MRAD	Region 3 Road	Preparation and administration of roadway repair and resurfacing and supplements regional maintenance in Region 3. - Rolls up under MRAA			X			

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	MRAE	Movable Bridge	Responsible for movable bridge contracts which include maintenance and repair of the various electrical, greasing and mechanical drive systems. - Rolls up under MRAA			X			
	MRAG	Region 5 Maintenance & Engineering	Responsible for the maintenance of state highways, rest areas, roadsides and bridges; equipment repair; electrical operations; minor access, utility and miscellaneous permits; and regional facility repairs in Region 5. - Rolls up under MRAA			X			
	MRAH	Roadway Maintenance, Engineering & Operations	Initiates, prepares and administers maintenance contracts for resurfacing, pavement milling, priority and emergency roadway repairs, fencing, pipeline 4 and other minor improvement projects and other emergency activities related to highway betterments for force account and by private contractors. - Rolls up under MRAA			X			
	MRAN	Operations North	Responsible for the maintenance of state highways, rest areas, roadsides and bridges; equipment repair; electrical operations; minor access, utility and miscellaneous permits; and regional facility repairs in the Northern Region. - Rolls up under MRAA			X			
	MRAS	Operations South	Responsible for the maintenance of state highways, rest areas, roadsides and bridges; equipment repair; electrical operations; minor access, utility and miscellaneous permits; and regional facility repairs in the Southern Region. - Rolls up under MRAA			X			
	OPAC	Director Central Operations	Costs associated with the Directors Office for Central Maintenance and Operations. - Rolls up under OPRT			X			
	OPAD	HQ- Director of Operations Support	Costs associated with the Directors Office of Operations Support at Headquarters. - Rolls up under OPRT			X			
	OPAG	Asst. Commissioners Office	Costs associated with the Assistant Commissioners Office for Maintenance and Operations. - Rolls up under OPRT			X			
	OPAH	HQ- Bur of Maintenance, Engineering & Operations	Roadway Engineering - Preparation and administration of roadway repair and resurfacing contracts, support state agency engineering and paving needs, sign shop administration & overhead sign crew activities, including fabrication of highway, specialty, traffic control signs, vehicle lettering and overhead sign installation, maintenance, repair and replacement. Electrical Engineering - Ensures current maintenance program status, reviews and evaluates maintenance accomplishments relating to quality, quantity, and economy which includes the development of new or improved methods, materials, and equipment. Drainage Engineering - Prepares and administers drainage contracts the purpose of which is to gather and identify problems, develop estimates and specifications, set up advertising & bid dates, determine contractor work priorities, track and monitor progress of contracts. Inventories and maintains condition reports of all underground infrastructure and repairs/installs piping systems. - Rolls up under OPRT			X			
	OPAN	Director of North Operations	Costs associated with the Directors Office for Northern Maintenance and Operations. - Rolls up under OPRT			X			
	OPAS	Director of South Operations	Costs associated with the Directors Office for Southern Maintenance and Operations. - Rolls up under OPRT			X			
	OPRA	Regional Operations	Responsible for the maintenance and repair of all roadway and bridge assets; the maintenance and repair of traffic signals and electrical applications; the service and repair of regional fleet and heavy equipment; the repair of facilities and storage buildings; as well as personnel functions, in accordance with the established policies, procedures, federal requirements and accepted practices. (STATE FUNDS)			X			
	OPRC	Operations Central Director's Office	Costs associated with the Directors Office for Central Maintenance and Operations. - Rolls up under OPRA			X			

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	OPRG	HQ- Asst Commissioner	Costs associated with the Assistant Commissioners Office for Maintenance and Operations. - Rolls up under OPRA			X			
	OPRH	HQ-Bur Maint Engineering & Operations	Roadway Engineering - Preparation and administration of roadway repair and resurfacing contracts, support state agency engineering and paving needs, sign shop administration & overhead sign crew activities, including fabrication of highway, specialty, traffic control signs, vehicle lettering and overhead sign installation, maintenance, repair and replacement. Electrical Engineering - Ensures current maintenance program status, reviews and evaluates maintenance accomplishments relating to quality, quantity, and economy which includes the development of new or improved methods, materials, and equipment. Drainage Engineering - Prepares and administers drainage contracts the purpose of which is to gather and identify problems, develop estimates and specifications, set up advertising & bid dates, determine contractor work priorities, track and monitor progress of contracts. Inventories and maintains condition reports of all underground infrastructure and repairs/installs piping systems. - Rolls up under OPRA			X			
	OPRN	Operations North Director's Office	Costs associated with the Directors Office for Northern Maintenance and Operations. - Rolls up under OPRA			X			
	OPRS	Operations South Director's Office	Costs associated with the Directors Office for Southern Maintenance and Operations. - Rolls up under OPRA			X			
	TOAA	Traffic Systems Management	Operate a unified statewide traffic operations center to ensure the safe and efficient movement of traffic through the integrated operation of multi-agency Intelligent Transportation System. Oversee the distribution of real time traffic information to the public. Provide safety on selected freeway sections for minor/major incidents.			X			
	TOAT	Statewide Traffic Operations	To keep traffic moving by quickly clearing incidents and providing real time traffic information by using the latest transportation technology. Direct and oversee the Traffic Operations Centers. Coordinate Incident Management Response Teams with NJ State Police.			X			
	TROA	Traffic Engineering & Safety	Responsible for the Departments traffic signal and safety engineering program, transportation data development, and safety programs.			X			
<b>6120</b>						X			
	CCAA	Support Services - Central	Planning, designing, constructing and maintaining the DOT's Statewide physical plant. Providing administrative and support services to the office environment for the Central Region.			X			
	CEAA	Support Services	Planning, designing, constructing and maintaining the DOT's Statewide physical plant. Providing administrative and support services to the office environment.			X			
	CEAB	Director of Support Services	Plan, control and direct the activities of the Division.			X			
	CEAC	Facilities Management	Provide building maintenance and repairs, janitorial and grounds keeping services. Control employee ID & access cards. Operates and maintains building systems.			X			
	CEAD	Records & Services, Warehouse	Serves as Custodian of Records, provides printing & copying services, centralized mail handling, maintains furniture & equipment inventory. Shipping & Receiving services for incoming purchases, moving services, Department Cashier.	X					

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	CEAG	Facilities Planning/Engineering	Provides statewide engineering support and technical assistance for the physical plant and all major systems components. Provide field support to correct health and safety deficiencies related to physical facilities. Environmental compliance of fuel facilities. Supervise construction of major repair projects. Improve operating efficiency and energy consumption at all facilities.			X			
	CMAA	Regional Facilities Management	Management of the regional facilities under the purview of the Assistant Commissioner of Maintenance and Operations.			X			
	CMA2	Region 2 Physical Plant	Costs related to Physical Plant Facilities in Region 2 - Rolls up under CMAA			X			
	CMA3	Region 3 Physical Plant	Costs related to Physical Plant Facilities in Region 3 - Rolls up under CMAA			X			
	CMA4	Region 4 Physical Plant	Costs related to Physical Plant Facilities in Region 4 - Rolls up under CMAA			X			
	CMAC	Operations Central	Costs related to Central Operations - Rolls up under CMAA			X			
	CMAH	Ewing Headquarters	Costs related to Ewing Headquarters - Rolls up under CMAA			X			
	CMAN	Operations North	Costs related to Operations North - Rolls up under CMAA			X			
	CMAS	Operations South	Costs related to Operations South - Rolls up under CMAA			X			
	DIAP	PC Maintenance	IT costs for the Department	X					
	DIAS	Telephone Support	IT costs for the Department	X					
<b>6200</b>									
	6200	Transportation Systems Improvement	Includes Capital Program Management, Capital Investment, Planning and Grant Administration and Government and Community Relations.		X				
<b>6300</b>									
	6300	Construction of State Highway	Provides funds from the New Jersey Transportation Trust Fund for transportation improvements on the state highway system.		X				
	6310	Construction of Public Transportation Facilities	Provides funds from the New Jersey Transportation Trust Fund for transportation improvements on the public transportation system.					X	
	6320	State Aid Highway Projects	Provides funds from the New Jersey Transportation Trust Fund for transportation improvements on municipal and county roads.				X		
	63AR	Policy & Capital Programming	To translate and advance the New Jersey Department of Transportation's mission and purpose into policies, programs, goals, objectives, and projects.		X				
	63EA	Design - Trust Fund	Provide engineering and design support for the Department.		X				
	63EC	Construction - Trust Fund	Responsible for the oversight of all Construction projects in the Capital Program, and several Operation Construction projects. Includes enforcement of all Contract provisions, materials inspection, and the quality of constructed work, and to insure the safety of all who come in contact with the project, along with environmental protection.		X				
	63ED	Road Design - Trust Fund	Provides the design effort as well as the support effort for delivering both Capital and maintenance projects. This includes producing the contract documents for the design of bridge, roadway and railroad crossing rehabilitation/reconstruction projects for the Capital Program, as well as safety/congestion relief projects and emergency priority repairs for Operations.		X				
	63EK	Project Management	Overall responsibility for management and delivery of the Capital Program. This includes managing final scope development, oversight of the design consultant selection and agreement process, managing both in house and consultant design, oversight of the construction contractor bid and award, and managing the project through construction close out.		X				
	63ES	Bridge Engineer & Infrastructure Mgmt.	Oversees major contracts which include: Steel, Dredging, Concrete, Timber & Underwater, Preventative Maintenance, Priority Repairs, Painting and Orphaned Bridges.			X			

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	63EW	Right of Way	Responsible for acquiring and taking possession of Real Estate for transportation purposes in support of the delivery of the Capital Program.		X				
	63EY	Quality Management Services	Establishes Design Services policy and procedures that apply to all Capital Program Projects to assure that a quality product is produced at all phases of NJDOT Design Services projects.		X				
	63EZ	Environmental Resources Salaries	Provide environmental support and oversight of activities conducted at various facilities to insure consistency with Federal and State environmental regulations related to storm water management, storage and disposal of solid hazardous waste, and safe drinking water. Provide guidance, advice, and policy recommendations related to environmental regulations and practices.		X	X			
	63PP	Systems Planning - Trust Fund	Update and maintain the transportation element of the State Implementation Plan, by providing travel demand modeling, vehicle fleet data, emissions estimates, technical analysis, interagency consultation, travel demand management strategies, and technology and program analysis.	X					
	63PR	Research & Technology	Works directly with universities and other research professionals to find workable solutions to problems that face transportation engineers. The goal is to enhance the quality and cost effectiveness of the engineering policies, practices, standards and specifications that are used in planning, building and maintaining New Jersey's transportation infrastructure. Deliver customer focused, quality research and technology transfer solutions in order to: Increase public safety, protect the environment, reduce congestion, enhance infrastructure durability, and improve transportation security.	X					
	63PS	Environmental Resources	Provide environmental support and oversight of activities conducted at various facilities to insure consistency with Federal and State environmental regulations related to storm water management, storage and disposal of solid hazardous waste, and safe drinking water. Provide guidance, advice, and policy recommendations related to environmental regulations and practices.		X	X			
	63PT	Safety and Data Development	Provide the safest and most efficient movement of traffic through the application of traffic, electrical, and safety engineering strategies through the design, implementation and evaluation of improvements. Provide highway safety improvement services to the department, local and county officials. Provide for the review, design and regulation of traffic control devices. Identify services, information resources, and data requirements; identify sources for acquiring or generating required information; and perform data collection, analysis, or summarization activities to create unique and responsive informational resources.			X			
	AMAA	Capital Investment Strategies/Planning	Prepare the Statewide Capital Investment Strategy, the Annual Capital Program, the Statewide Transportation Improvement Program and the Study and Development Program.		X				
	ARAA	Local Aid & Economic Development	Provide funding assistance and technical services to local governments for cost effective and beneficial local transportation improvements that complement the statewide transportation system.				X		

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, Png & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	ATAA	Planning & Development	Make policy decisions and recommendations related to transportation, land use planning, and other subject areas under the purview of the constituent divisions. Insure that the Department's program objectives, project commitments, research initiatives, policy initiatives, goals, objectives, and programs are carried out by each division.	X					
	CAAT	Community Relations	Assess' the Department's external environment in order to inform, shape and guide decision making and communications, both inside and outside the Department, and to build statewide coalitions to represent DOT legislative initiatives. Serve as liaison and maintain relationship with the Congressional delegation, State Legislators, County Executives, Freeholders, Mayors, and Town Council members.	X					
	CPAT	Human Resources - Recruitment Unit	Cost associated with recruitment efforts for the Capital Program.	X					
	DIAT	Information Technology	IT costs for the Department	X					
	EAAA	Capital Program Management	Responsible for the development and delivery of the projects that comprise the Capital Program.		X				
	ECAA	Construction Management	Direct State roadway related construction, materials testing, and inspection activities in accordance with established policies, procedures, federal requirements, and accepted practices.		X				
	ECAM	Construction & Materials	Reviews and updates testing methods and material specifications for DOT. Issues Materials Certificate of Acceptance for all construction materials on Federal projects. Provides practices for the standardization of regional materials activities including: personnel requirements, equipment and instrumentation, technical and administrative procedures.			X			
	ECA3	Region 3 Construction Management	Costs related to Construction Management for Region 3 - Rolls up under ECAA						
	EDAA	Road Design	Provides engineering design for in-house design projects, special projects and fast track Capital projects.		X				
	EKAA	Project Management	Overall responsibility for management and delivery of the Capital Program. This includes managing final scope development, oversight of the design consultant selection and agreement process, managing both in house and consultant design, oversight of the construction contractor bid and award, and managing the project through construction close out.		X				
	ESAA	Bridge Engineer & Infrastructure Mgmt.	Oversees major contracts which include: Steel, Dredging, Concrete, Timber & Underwater, Preventative Maintenance, Priority Repairs, Painting and Orphaned Bridges.			X			
	EWAA	Right of Way	Responsible to acquire and take possession of Real Estate for transportation purposes in support of the delivery of the Capital Program.		X				
	EYAA	Capital Program Support	Provide project management and design support for the delivery of the capital program.		X				
	OPRT	Regional Operations	Responsible for the maintenance and repair of all roadway and bridge assets; the maintenance and repair of traffic signals and electrical applications; the service and repair of regional fleet and heavy equipment; the repair of facilities and storage buildings; as well as personnel functions, in accordance with the established policies, procedures, federal requirements and accepted practices. (TRUST FUNDS)			X			
	PLRA	Policy, Legislation, & Regulatory Actions	Analyze and monitor legislation and regulations that affect the DOT. Produce legislative and regulatory initiatives that advance the public interest. Ensure implementation of all newly enacted laws.	X					

Top Level Orgn	Idn Cfs Acct Organization	Description	More Detailed Description	Admin, PIng & Research	Capital Const.	O&M	Local Aid	NJT	Other Excluded
	PPAA	Statewide Planning	Provide broad, future oriented direction for the Department's mission and programs that ultimately result in the delivery of capital investments and mobility services to the public. Formulate planning goals, objectives and strategies for the effective development and management of long range transportation plans.	X					
	PSAA	Environmental Resources	Provide environmental support and oversight of activities conducted at various facilities to insure consistency with Federal and State environmental regulations related to storm water management, storage and disposal of solid hazardous waste, and safe drinking water. Provide guidance, advise, and policy recommendations related to environmental regulations and practices.		X	X			
	PTAS	Safety and Data Development	Provide the safest and most efficient movement of traffic through the application of traffic, electrical, and safety engineering strategies through the design, implementation and evaluation of improvements. Provide highway safety improvement services to the department, local and county officials. Provide for the review, design and regulation of traffic control devices. Identify services, information resources, and data requirements; identify sources for acquiring or generating required information; and perform data collection, analysis, or summarization activities to create unique and responsive informational resources.			X			
<b>6400</b>									
	6400	Motor Vehicle Commission	Motor Vehicle Commission						X
	KAHA	MVC Human Resources	Motor Vehicle Commission						X

## **APPENDIX 3**

### **Calculations for Estimating Debt Service and Bond Repayment Attributable to NJDOT Projects and Programs**



## FY 2010 DEBT SERVICE PAYMENTS

FY	FY Issued	TTFA Bond Account	Interest Payment	Principal Payment	TOTAL Amount	% of Tot DS	Audit Adj Alloc	TOTAL Amount	Highway Spending %	Debt Service Attributable to Highways	Interest Attributable to Highways	Principal Attributable to Highways
2010		1995 B	\$6,273,950.00	\$29,370,000.00	\$35,643,950.00	4.6%	332,265	35,976,215	42%	15,110,010	\$2,774,610	\$12,335,400
2010		1998 A	\$4,627,350.00	\$0.00	\$4,627,350.00	0.6%	43,135	4,670,485	42%	1,961,604	\$1,961,604	\$0
2010	FY2000	1999 A	\$13,148,731.26	\$2,520,000.00	\$15,668,731.26	2.0%	146,060	15,814,792	43%	6,800,360	\$5,716,760	\$1,083,600
2010	FY2002	2001A	\$86,350.00	\$0.00	\$86,350.00	0.0%	805	87,155	36%	31,376	\$31,376	\$0
2010	FY2002	2001 C	\$37,001,692.50	\$124,295,000.00	\$161,296,692.50	20.8%	1,503,572	162,800,264	36%	58,608,095	\$13,861,895	\$44,746,200
2010	FY2003	2003 A	\$16,733,150.00	\$4,520,000.00	\$21,253,150.00	2.7%	198,117	21,451,267	36%	7,722,456	\$6,095,256	\$1,627,200
2010	FY2004	2003 B	\$12,445,450.00	\$0.00	\$12,445,450.00	1.6%	116,014	12,561,464	32%	4,019,668	\$4,019,668	\$0
2010	FY2009	Conversion	\$16,438,262.36	\$0.00	\$16,438,262.36	2.1%	153,234	16,591,496	47%	7,798,003	\$7,798,003	\$0
2010	FY2004	2003 C	\$741,181.26	\$0.00	\$741,181.26	0.1%	6,909	748,090	32%	239,389	\$239,389	\$0
2010	FY2005	2004 A	\$6,180,962.50	\$0.00	\$6,180,962.50	0.8%	57,618	6,238,580	34%	2,121,117	\$2,121,117	\$0
2010	FY2005	2004 B	\$40,336,900.00	\$56,730,000.00	\$97,066,900.00	12.5%	904,836	97,971,736	34%	33,310,390	\$14,022,190	\$19,288,200
2010	FY2005	2005 A	\$18,975,075.00	\$38,560,000.00	\$57,535,075.00	7.4%	536,329	58,071,404	34%	19,744,277	\$6,633,877	\$13,110,400
2010	FY2005	2005 B	\$63,294,840.00	\$0.00	\$63,294,840.00	8.2%	590,020	63,884,860	34%	21,720,852	\$21,720,852	\$0
2010	FY2005	2005 C	\$2,545,200.00	\$0.00	\$2,545,200.00	0.3%	23,726	2,568,926	34%	873,435	\$873,435	\$0
2010	FY2006	2005 D	\$23,215,721.26	\$0.00	\$23,215,721.26	3.0%	216,412	23,432,133	40%	9,372,853	\$9,372,853	\$0
2010	FY2006	2006 A	\$84,121,681.26	\$0.00	\$84,121,681.26	10.9%	784,163	84,905,845	40%	33,962,338	\$33,962,338	\$0
2010	FY2006	2006GARVEE	\$5,281,000.00	\$9,580,000.00	\$14,861,000.00	1.9%	138,531	14,999,531	40%	5,999,812	\$2,167,812	\$3,832,000
2010	FY2008	2007 A	\$54,222,060.00	\$15,595,000.00	\$69,817,060.00	9.0%	650,819	70,467,879	49%	34,529,261	\$26,887,711	\$7,641,550
2010	FY2009	2008 A	\$50,439,431.26	\$0.00	\$50,439,431.26	6.5%	470,185	50,909,616	47%	23,927,520	\$23,927,520	\$0
2010	FY2009	2009 B	\$19,429,895.83	\$0.00	\$19,429,895.83	2.5%	181,121	19,611,017	47%	9,217,178	\$9,217,178	\$0
2010	FY2010	2010 B	\$13,759,875.00	\$0.00	\$13,759,875.00	1.8%	128,266	13,888,141	41%	5,694,138	\$5,694,138	\$0
			\$0.00	\$0.00	\$0.00	0.0%	-	-	0%	-	\$0	\$0
<b>Sub-Total</b>			489,298,759	\$281,170,000	\$770,468,759	99.4%	7,182,137	777,650,896		<b>302,764,134</b>	<b>199,099,584</b>	<b>103,664,550</b>
<b>302,764,134</b>												
<b>Var Rate Bond Int 2009 C&amp;D (FY10)</b>			4,261,661	-	4,261,661	0.6%	39,726	4,301,387	41%	1,763,569	\$1,763,569	\$0
			493,560,420	281,170,000	774,730,420	100.0%	7,221,863	781,952,283		<b>304,527,702</b>	<b>200,863,152</b>	<b>103,664,550</b>

## FY 2011 DEBT SERVICE PAYMENTS

FY	FY Issued	TTFA Bond Account	Interest Payment	Principal Payment	TOTAL Amount	% of Tot DS	Audit Adj Alloc	TOTAL Amount	Highway Expend %	Debt Service Attributable to Highways	Interest Attributable to Highways	Principal Attributable to Highways
2011		1995 B	\$4,364,900.00	\$31,280,000.00	\$35,644,900.00	4.4%	1,182,156	36,827,056	42%	15,467,363	\$2,329,763	\$13,137,600
2011	FY2000	1999 A	\$12,346,468.76	\$21,645,000.00	\$33,991,468.76	4.2%	1,127,320	35,118,789	43%	15,101,079	\$5,793,729	\$9,307,350
2011	FY2002	2001A	\$86,350.00	\$0.00	\$86,350.00	0.0%	2,864	89,214	36%	32,117	\$32,117	\$0
2011	FY2002	2001 C	\$29,095,175.00	\$173,470,000.00	\$202,565,175.00	25.0%	6,718,033	209,283,208	36%	75,341,955	\$12,892,755	\$62,449,200
2011	FY2003	2003 A	\$16,501,275.00	\$4,755,000.00	\$21,256,275.00	2.6%	704,960	21,961,235	36%	7,906,045	\$6,194,245	\$1,711,800
2011	FY2004	2003 B	\$12,445,450.00	\$0.00	\$12,445,450.00	1.5%	412,751	12,858,201	32%	4,114,624	\$4,114,624	\$0
2011	FY2009	Conversion	\$16,388,058.05	\$0.00	\$16,388,058.05	2.0%	543,507	16,931,565	47%	7,957,835	\$7,957,835	\$0
2011	FY2004	2003 C	\$741,181.26	\$0.00	\$741,181.26	0.1%	24,581	765,762	32%	245,044	\$245,044	\$0
2011	FY2005	2004 A	\$6,180,962.50	\$0.00	\$6,180,962.50	0.8%	204,990	6,385,953	34%	2,171,224	\$2,171,224	\$0
2011	FY2005	2004 B	\$38,579,275.00	\$17,200,000.00	\$55,779,275.00	6.9%	1,849,908	57,629,183	34%	19,593,922	\$13,745,922	\$5,848,000
2011	FY2005	2005 A	\$16,896,075.00	\$40,640,000.00	\$57,536,075.00	7.1%	1,908,172	59,444,247	34%	20,211,044	\$6,393,444	\$13,817,600
2011	FY2005	2005 B	\$62,953,387.50	\$0.00	\$62,953,387.50	7.8%	2,087,836	65,041,224	34%	22,114,016	\$22,114,016	\$0
2011	FY2005	2005 C	\$2,545,200.00	\$0.00	\$2,545,200.00	0.3%	84,411	2,629,611	34%	894,068	\$894,068	\$0
2011	FY2006	2005 D	\$23,085,521.26	\$0.00	\$23,085,521.26	2.9%	765,627	23,851,148	40%	9,540,459	\$9,540,459	\$0
2011	FY2006	2006 A	\$83,953,106.26	\$0.00	\$83,953,106.26	10.4%	2,784,288	86,737,394	40%	34,694,958	\$34,694,958	\$0
2011	FY2006	2006GARVEE	\$4,802,000.00	\$10,055,000.00	\$14,857,000.00	1.8%	492,729	15,349,729	40%	6,139,892	\$2,117,892	\$4,022,000
2011	FY2008	2007 A	\$43,174,615.63	\$10,485,000.00	\$53,659,615.63	6.6%	1,779,610	55,439,226	49%	27,165,221	\$22,027,571	\$5,137,650
2011	FY2009	2008 A	\$43,121,531.26	\$0.00	\$43,121,531.26	5.3%	1,430,117	44,551,648	47%	20,939,275	\$20,939,275	\$0
2011	FY2009	2009 B	\$18,803,125.00	\$0.00	\$18,803,125.00	2.3%	623,602	19,426,727	47%	9,130,562	\$9,130,562	\$0
2011	FY2010	2010 B	\$32,805,000.00	\$0.00	\$32,805,000.00	4.1%	1,087,971	33,892,971	41%	13,896,118	\$13,896,118	\$0
2011	FY2011	2010 C	\$13,428,756.25	\$0.00	\$13,428,756.25	1.7%	445,362	13,874,118	47%	6,520,836	\$6,520,836	\$0
2011	FY2011	2010 D	\$16,006,331.25	\$0.00	\$16,006,331.25	2.0%	530,847	16,537,178	47%	7,772,474	\$7,772,474	\$0
2011	FY2011	2010 E	\$329,940.00	\$0.00	\$329,940.00	0.0%	10,942	340,882	47%	160,215	\$160,215	\$0
			\$0.00	\$0.00	\$0.00	0.0%	-	-	0%	-	\$0	\$0
<b>Sub-Total</b>			<b>498,633,685</b>	<b>\$309,530,000</b>	<b>\$808,163,685</b>	<b>99.8%</b>	<b>26,802,585</b>	<b>834,966,270</b>		<b>327,110,345</b>	<b>211,679,145</b>	<b>115,431,200</b>
<b>327,110,345</b>												
<b>Var Rate Bond Int 2009 C&amp;D (FY10)</b>			<b>1,247,291</b>	<b>-</b>	<b>1,247,291</b>	<b>0.2%</b>	<b>41,366</b>	<b>1,288,657</b>	<b>41%</b>	<b>528,349</b>	<b>\$528,349</b>	<b>\$0</b>
532-11B			499,880,976	309,530,000	809,410,976	100.0%	26,843,951	836,254,927		<b>327,638,694</b>	<b>212,207,494</b>	<b>115,431,200</b>

Prepared by: NJDOT

Received: 3/28/16

## FY 2012 DEBT SERVICE PAYMENTS

FY	FY Issued	TTFA Bond Account	Interest Payment	Principal Payment	TOTAL Amount	% of Tot DS	Audit Adj Alloc	TOTAL Amount	Highway Expend %	Debt Service Attributable to Highways	Interest Attributable to Highways	Principal Attributable to Highways
2012		1995 B	\$2,331,700.00	\$33,310,000.00	\$35,641,700.00	3.9%	781,890	36,423,590	42%	15,297,908	\$1,307,708	\$13,990,200
2012	FY2000	1999 A	\$11,155,993.76	\$16,865,000.00	\$28,020,993.76	3.1%	614,711	28,635,704	43%	12,313,353	\$5,061,403	\$7,251,950
2012	FY2002	2001A	\$86,350.00	\$490,000.00	\$576,350.00	0.1%	12,644	588,994	36%	212,038	\$35,638	\$176,400
2012	FY2002	2001 C	\$21,713,537.50	\$99,665,000.00	\$121,378,537.50	13.3%	2,662,742	124,041,280	36%	44,654,861	\$8,775,461	\$35,879,400
2012	FY2003	2003 A	\$16,257,525.00	\$4,995,000.00	\$21,252,525.00	2.3%	466,227	21,718,752	36%	7,818,751	\$6,020,551	\$1,798,200
2012	FY2004	2003 B	\$6,222,725.00	\$0.00	\$6,222,725.00	0.7%	136,511	6,359,236	32%	2,034,956	\$2,034,956	\$0
2012	FY2009	Conversion	\$16,734,846.35	\$0.00	\$16,734,846.35	1.8%	367,121	17,101,967	47%	8,037,925	\$8,037,925	\$0
2012	FY2004	2003 C	\$741,181.26	\$0.00	\$741,181.26	0.1%	16,260	757,441	32%	242,381	\$242,381	\$0
2012	FY2005	2004 A	\$6,180,962.50	\$0.00	\$6,180,962.50	0.7%	135,595	6,316,557	34%	2,147,630	\$2,147,630	\$0
2012	FY2005	2004 B	\$35,578,837.50	\$101,400,000.00	\$136,978,837.50	15.0%	3,004,974	139,983,811	34%	47,594,496	\$13,118,496	\$34,476,000
2012	FY2005	2005 A	\$14,705,118.75	\$42,825,000.00	\$57,530,118.75	6.3%	1,262,067	58,792,186	34%	19,989,343	\$5,428,843	\$14,560,500
2012	FY2005	2005 B	\$62,953,387.50	\$0.00	\$62,953,387.50	6.9%	1,381,040	64,334,428	34%	21,873,705	\$21,873,705	\$0
2012	FY2005	2005 C	\$2,545,200.00	\$0.00	\$2,545,200.00	0.3%	55,835	2,601,035	34%	884,352	\$884,352	\$0
2012	FY2006	2005 D	\$23,085,521.26	\$0.00	\$23,085,521.26	2.5%	506,439	23,591,960	40%	9,436,784	\$9,436,784	\$0
2012	FY2006	2006 A	\$83,953,106.26	\$0.00	\$83,953,106.26	9.2%	1,841,722	85,794,828	40%	34,317,931	\$34,317,931	\$0
2012	FY2006	2006GARVEE	\$4,299,250.00	\$10,560,000.00	\$14,859,250.00	1.6%	325,975	15,185,225	40%	6,074,090	\$1,850,090	\$4,224,000
2012	FY2008	2007 A	\$42,984,575.00	\$0.00	\$42,984,575.00	4.7%	942,974	43,927,549	49%	21,524,499	\$21,524,499	\$0
2012	FY2009	2008 A	\$43,121,531.26	\$0.00	\$43,121,531.26	4.7%	945,979	44,067,510	47%	20,711,730	\$20,711,730	\$0
2012	FY2009	2009 B	\$18,803,125.00	\$0.00	\$18,803,125.00	2.1%	412,494	19,215,619	47%	9,031,341	\$9,031,341	\$0
2012	FY2010	2010 B	\$32,805,000.00	\$0.00	\$32,805,000.00	3.6%	719,660	33,524,660	41%	13,745,111	\$13,745,111	\$0
2012	FY2011	2010 C	\$59,027,500.00	\$0.00	\$59,027,500.00	6.5%	1,294,916	60,322,416	47%	28,351,536	\$28,351,536	\$0
2012	FY2011	2010 D	\$24,625,125.00	\$0.00	\$24,625,125.00	2.7%	540,214	25,165,339	47%	11,827,709	\$11,827,709	\$0
2012	FY2011	2010 E	\$507,600.00	\$0.00	\$507,600.00	0.1%	11,135	518,735	47%	243,806	\$243,806	\$0
2012	FY2011	2011A	\$34,799,413.13	\$0.00	\$34,799,413.13	3.8%	763,412	35,562,825	47%	16,714,528	\$16,714,528	\$0
2012	FY2012	2011B	\$36,189,197.17	\$0.00	\$36,189,197.17	4.0%	793,901	36,983,098	50%	18,491,549	\$18,491,549	\$0
			601,408,309	\$310,110,000	\$911,518,309	99.9%	19,996,437	931,514,746		<b>373,572,310</b>	<b>261,215,660</b>	<b>112,356,650</b>
<b>373,572,310</b>												
<b>Var Rate Bond Int 2009 C&amp;D (FY10)</b>			616,266	-	616,266	0.1%	13,519	629,785	41%	258,212	\$258,212	-
532-12B			602,024,575	310,110,000	912,134,575	100.0%	20,009,956	932,144,531		<b>373,830,522</b>	<b>261,473,872</b>	<b>112,356,650</b>

**FY 2013 DEBT SERVICE PAYMENTS-Post Refunding**

FY	FY Issued	TTFA Bond Account	Interest Payment	Principal Payment	TOTAL Amount	% of Tot DS	Tot DS		Highway Expend %	Debt Service Attributable to Highways	Interest Attributable to Highways	Principal Attributable to Highways
							Audit Adj Alloc	TOTAL Amount				
FY2013	FY2000	1999 A	\$9,669,025.00	\$0.00	\$9,669,025.00	1.0%	134,969	9,803,994	43%	4,215,718	\$4,215,718	\$0
FY2013	FY2002	2001A	\$29,700.00	\$0.00	\$29,700.00	0.0%	415	30,115	36%	10,841	\$10,841	\$0
FY2013	FY2002	2001 C	\$15,965,537.50	\$105,410,000.00	\$121,375,537.50	13.1%	1,694,273	123,069,811	36%	44,305,132	\$6,357,532	\$37,947,600
FY2013	FY2003	2003 A	\$15,994,575.00	\$5,260,000.00	\$21,254,575.00	2.3%	296,691	21,551,266	36%	7,758,456	\$5,864,856	\$1,893,600
FY2013	FY2009	Conversion(2003B)	\$16,998,125.00	\$0.00	\$16,998,125.00	1.8%	237,276	17,235,401	47%	8,100,638	\$8,100,638	\$0
FY2013	FY2004	2003 C	\$370,590.63	\$0.00	\$370,590.63	0.0%	5,173	375,764	32%	120,244	\$120,244	\$0
FY2013	FY2005	2004 A	\$6,180,962.50	\$0.00	\$6,180,962.50	0.7%	86,280	6,267,242	34%	2,130,862	\$2,130,862	\$0
FY2013	FY2005	2004 B	\$30,165,518.75	\$106,805,000.00	\$136,970,518.75	14.8%	1,911,963	138,882,482	34%	47,220,044	\$10,906,344	\$36,313,700
FY2013	FY2005	2005 A	\$11,435,156.25	\$81,745,000.00	\$93,180,156.25	10.1%	1,300,696	94,480,852	34%	32,123,490	\$4,330,190	\$27,793,300
FY2013	FY2005	2005 B	\$55,256,887.50	\$0.00	\$55,256,887.50	6.0%	771,327	56,028,215	34%	19,049,593	\$19,049,593	\$0
FY2013	FY2005	2005 C	\$1,272,600.00	\$0.00	\$1,272,600.00	0.1%	17,764	1,290,364	34%	438,724	\$438,724	\$0
FY2013	FY2006	2005 D	\$11,542,760.63	\$0.00	\$11,542,760.63	1.2%	161,125	11,703,885	40%	4,681,554	\$4,681,554	\$0
FY2013	FY2006	2006 A	\$83,953,106.26	\$0.00	\$83,953,106.26	9.1%	1,171,896	85,125,002	40%	34,050,001	\$34,050,001	\$0
FY2013	FY2006	2006 GARVEE	\$3,771,250.00	\$11,090,000.00	\$14,861,250.00	1.6%	207,447	15,068,697	40%	6,027,479	\$1,591,479	\$4,436,000
FY2013	FY2008	2007 A	\$42,982,025.00	\$0.00	\$42,982,025.00	4.6%	599,983	43,582,008	49%	21,355,184	\$21,355,184	\$0
FY2013	FY2009	2008 A	\$43,121,531.26	\$0.00	\$43,121,531.26	4.7%	601,931	43,723,462	47%	20,550,027	\$20,550,027	\$0
FY2013	FY2009	2009B	\$18,803,125.00	\$0.00	\$18,803,125.00	2.0%	262,472	19,065,597	47%	8,960,830	\$8,960,830	\$0
FY2013	FY2010	2010B	\$32,805,000.00	\$0.00	\$32,805,000.00	3.5%	457,923	33,262,923	41%	13,637,798	\$13,637,798	\$0
FY2013	FY2011	2010C	\$59,027,500.00	\$0.00	\$59,027,500.00	6.4%	823,961	59,851,461	47%	28,130,187	\$28,130,187	\$0
FY2013	FY2011	2010D	\$24,625,125.00	\$0.00	\$24,625,125.00	2.7%	343,741	24,968,866	47%	11,735,367	\$11,735,367	\$0
FY2013	FY2011	2010E	\$507,600.00	\$0.00	\$507,600.00	0.1%	7,086	514,686	47%	241,902	\$241,902	\$0
FY2013	FY2011	2011A	\$31,727,175.00	\$2,865,000.00	\$34,592,175.00	3.7%	482,870	35,075,045	47%	16,485,271	\$15,138,721	\$1,346,550
FY2013	FY2012	2011B	\$66,759,711.26	\$0.00	\$66,759,711.26	7.2%	931,895	67,691,606	50%	33,845,803	\$33,845,803	\$0
FY2013	FY2013	2012A	\$8,337,628.00	\$0.00	\$8,337,628.00	0.9%	116,384	8,454,012	38%	3,212,525	\$3,212,525	\$0
FY2013	FY2013	2012AA	\$22,087,833.00	\$0.00	\$22,087,833.00	2.4%	308,323	22,396,156	38%	8,510,539	\$8,510,539	\$0
SUB-TOT			\$613,390,049	\$313,175,000	\$926,565,049	100%	12,933,863	939,498,912		<b>376,898,210</b>	<b>267,167,460</b>	<b>109,730,750</b>
<b>Var Rate Bond Int 2009 C&amp;D (FY10)</b>			<u>254,236</u>	<u>-</u>	<u>254,236</u>	<u>0.0%</u>						
			613,644,285	313,175,000	926,819,285							

