

Executive Summary

NJDOT has prepared this asset management plan to provide an overview of major assets we own and manage, their existing and desired performance, funding trends and programs, and a plan for how we are going to manage them. Our first asset management plan was published in the Winter of 2009.

How is this plan beneficial?

- 1) This plan captures in one place as a summary of the assets we own, condition levels, and performance measures for each of our major assets and service investment areas so that everyone can understand what we are trying to accomplish as an organization.
- 2) This plan is valuable because it supports NJDOT's annual capital investment strategy.
- 3) The plan is expected to support decision-making in the capital programming process. For a particular asset class, when it comes to actual programming, this plan will help the department assess investment tradeoffs between maintenance, rehabilitation and replacement which can help us provide more sound allocation of funds.
- 4) The plan is useful in that it can assist asset managers in allocating their resources, whether they are contracting resources, other capital resources, or their own staff.
- 5) The plan is also useful in that it will support investment decision-making related to improving asset management data and asset management practice.

These are only a few of the benefits of this plan. Other benefits are likely to be found as we continue to review and update this plan on a yearly basis.

What does the plan include?

The plan includes Structural Assets, Road Assets, Safety Investments, Congestion Investments, Multimodal Investments and Transportation Support Facilities.

What are the major findings and conclusions?

This plan does not cover all the physical transportation assets we manage, but rather accounts for a major portion of our transportation infrastructure and investments that relate to the level of service provided by the state's transportation system such as safety, congestion, and multimodal investments.

It is critical we develop an approach to manage our assets efficiently and effectively as fiscal constraints coupled with projected population growth demand a more sound allocation of funding. The projected increase in population (reaching 10 million by 2030) and the resulting negative effects it will have on the future performance of our transportation system has been analyzed by the three MPOs that cover the state. As to be expected, certain areas within these MPO's will experience more pronounced growth than others, exacerbating currently congested corridors while also creating new ones.

These and other forecasted problems are best dealt with by establishing a goal toward outlining the most effective allocation of funding for maintenance, rehabilitation, and replacement to get us to our target level of performance for each asset class. Although we have established performance measures

that are endorsed by the Asset Management Steering Committee, we likely need to bolster the financial picture and develop more sophisticated lifecycle management strategies as they do not outline plans for routine maintenance, replacement, or expansion for each our asset classes.

We have established a 10-year annual revenue level of \$2.101 billion, however funding levels are not predictable over an extended period of time so could be subject to change. As an assumption for our 10-year capital planning process, we are projecting that the federal funding act will be renewed in Federal Fiscal Year 2010 and are assuming a 3 percent per year increase. As for the State Transportation Trust Fund, we are projecting it will be renewed in State Fiscal Year 2012 at the same level with no annual inflation increase.

We need to continue to focus on clear classification and quantification of core assets and service investments. As we move forward with better data and integrated management systems, we would like to be in a position to outline predicted asset performance based on historical and projected funding trends. This asset management plan is a document that is expected to evolve and improve as we become more sophisticated in asset management practices.

Asset Management Plan

New Jersey Department of Transportation (NJDOT) is committed to supporting the role of asset management in its approach to managing the state's transportation network and fulfilling its mission of "improving lives by improving transportation." The Asset Management Plan not only details how NJDOT's asset management policies reflect the current guiding principles of asset management, but also gives a summary of our key strategic goals.

The adoption of a "systematic cost-effective process of maintaining, upgrading and operating physical assets" by NJDOT began in 2008. In an effort to provide the most cost-effective solutions for the state, NJDOT's asset management approach is being applied to the following asset classes: Roads, Bridges and Culverts, Facilities, Safety, and Congestion. Through the Asset Management Steering Committee (AMSC), ten year performance measures and targets were established in 2009 covering roads, bridges, safety, and congestion. Among a few of these targets to be reached within ten years include:

- Having 80% of the state highway system's pavement in acceptable condition (currently the system is rated at 47% acceptable)
- Reducing by half the total number of deficient bridges on the state highway system (currently 319 bridges are rated as deficient)
- Reducing by 20% the overall number of highway fatalities occurring on all road systems in New Jersey
- Reducing by 20% the amount of bicycle crashes from the baseline of 4,700 a year
- Maintaining peak hour travel time on the I-287 corridor from I-80 to the Garden State Parkway at or below the baseline level of June 2008 (59 minutes NB; 59.7 minutes SB)

The current decision making process for all capital investments is built around meeting or exceeding these targets by 2019. NJDOT plans to meet these targets by further developing this plan in the future.

As the plan matures in the years to come, the goal for the plan is to develop and incorporate funding and performance scenario's that demonstrate alternative levels of service that have been considered in the decision process.

It is expected that the department's focus on bridge maintenance and rehabilitation will continue, however an added emphasis on the quantification and evaluation of the state's many culverts is expected to be a high priority in the near future. In addition, a more data driven management approach has emerged as a priority for the department. This has included the creation of a data warehouse accessible to many departments within NJDOT and the desire to develop a project prioritization method to aid capital investment decision-making.

By further developing our asset management practices outlined in this plan, NJDOT continues to maximize both the functional and financial value of the state's current and future transportation assets. Over the coming years, NJDOT will continue to enhance its asset management capabilities to ensure that future capital projects are based on sound business principles rather than the traditional "worst-first" approach.

Introduction

NJDOT has prepared this asset management plan to provide an overview of major assets we own and manage, their existing and desired performance, funding trends and programs, and a plan for how we are going to manage them.

The plan provides a foundation for strategic, tactical and operational decision making relative to our financial and human resources so that we can take a more systematic approach to managing our assets, moving from crisis response and a "worst-first" funding approach to a system-wide assessment and system condition driven approach to investment. This asset management plan will support our Capital Investment Strategy process, where we establish annual average investment targets for each of our major investment categories, and it will also support project selection within each of the major investment categories.

An asset management plan also helps us identify where we have good data, performance measures and asset management practices and where we need to improve. This information guides NJDOT's Asset Management Steering Committee as it establishes strategic improvement objectives as part of NJDOT's Asset Management Improvement Strategy.

Here is how the asset management plan is structured.

1. Overview

- 1.1 Assets described. Summarizes assets and service level investments included.
- 1.2 Levels of Service provided. Summarizes how performance is measured for each physical asset or service investment, such as safety and congestion.
- 1.3 Future Demand. Discusses current and future demand on our system.

1.4 Lifecycle Management Plan. Summarizes the state of how we manage the lifecycle of our assets.

1.5 Financial Summary. Summarizes the current and planned expenditures on our assets and service investments.

1.6 Asset Management Practices. Summarizes how we collect data and use it to make decisions for each asset or service investment.

1.7 Evaluation, Improvement, and Monitoring. Provides an evaluation of this plan and provides recommendations for updating and improving this plan and for asset management practice in the department.

2. Asset Management Strategy

This section provides more detail regarding Asset Management practice at NJDOT, such as roles and responsibilities and how the Asset Management Plan relates to other strategic documents developed at the department, such as the Long Range Plan, the Pavement report to the legislature, and the Capital Investment Strategy.

3. Specific Asset Management Tactical Plans

Following the Overview and Asset Management Strategy sections, are Tactical Level Asset Management Plans for each of the identified assets or service investments. Each of these plans makes a best effort based on existing information and practices to:

- Define, quantify, and value our current assets.
- Outline a lifecycle management plan, if any.
- Provide a financial forecast and investment tradeoff analyses.
- Describe asset management tools and processes.
- Outline laws and regulations and other mandates.
- Provide recommendations for improved asset management in that specific area.

Overview

1.1 Assets Described

The State Highway system is comprised of a multitude of physical components: pavement, bridges, signs, sidewalks, signals, and so on. This plan does not cover all the physical transportation assets we manage, but accounts for a major portion of our transportation infrastructure. This plan addresses bridges and other structural assets, pavement, signs, signals and beam guide rail. The plan also includes transportation support facilities, comprised of our buildings and maintenance yards.

Beyond physical assets, this asset management plan also includes a number of transportation investments that relate to the level of service provided by the system. These investments include safety, congestion, drainage and multimodal investments. An asset management approach can be used to improve our service levels in these key areas.

The table below outlines each asset type and subclasses if applicable.

Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Structural Assets	Major Viaducts	Extended large multiple span structures	76
	Movable Bridges	Bridges that open at waterways	22
	Standard Bridges	Single span bridges >20' in length	2,417
	Minor Bridges	Single span bridges <20' in length	952
	Dams	Class 1, 2 and 3 dams	26
	Overhead Structures	Sign Cantilever and Full Span	1,690
	High Mast Light Poles	Light towers taller than typical roadway lighting	206
Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Road Assets	Pavements	Asphalt and concrete pavements	12,953 Lane Miles
	Drainage	Natural or artificial removal of surface and sub-surface water from transportation infrastructure ROW (includes Slopes, Pipes/Points, Ditches, Culverts, Catch Basins, etc.	Unknown
	Guiderail	Includes median and road edge guiderail	6,615,312 L.F.
	Signs	All types of signs from guide to warning	Approx. 400,00

	Traffic Signals	Includes signal heads, controllers and associated hardware	3,074 Traffic Signals
Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Safety Investments	Intersection Improvements	May include turn lanes and auxiliary lanes, signals, signing	
	Median Crossover Crash Reduction	Typically median barrier installation	
	Skid Crash Location Reduction		
	Roadway Departure Crash Reduction	Includes fixed object and utility pole crash reduction	
	Safe Corridor Improvement		14 designated safe corridors
	Pedestrian Crash Reduction	May include pedestrian signals, bump outs, signing, crosswalks	
Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Congestion Investments	Missing Links		
	Bottleneck Widening		
	Operational Improvements		
	Incident Management		
	Traveler Information		
Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Multimodal Investments	Maritime	Grants only. No state-owned assets.	
	Rail	Some state-owned rails. Need quantification.	
	Trucking	No assets.	
	Aviation	Two state-owned airports.	
Asset Class	Subclasses	Description of Asset or Investment	Number Owned
Support Facilities	Office and Laboratories		7 facilities
	Maintenance Yards		103 facilities
	Interstate Service Facilities		4 facilities
	Truck Weigh Stations		5 facilities

	Traffic Operations Center		1 facility
	Heavy Equipment	Trucks, Loaders, Tractors and other heavy equipment	
Alternative classification	Appearance		
	Paving – Parking		
	Paving – Operational Areas		
	Out Buildings		
	Garage Bays		
	Fueling		
	Snow Preparedness		
	Security		
	Future Expansion		
	Environmental Concerns		
	Office Buildings		
	Health and Safety		
	Emergency Generators		
	HVAC		
	Utilities		

1.2 Levels of Service Provided

NJDOT's Asset Management approach focuses on roads, bridges and culverts, facilities, equipment, safety, and congestion reduction. A Steering Committee sets department's goals and guarantees that NJDOT is improving Asset Management at NJDOT. In 2009, the Committee established the following broad ten year performance goals:

Major Asset Class	Performance Measure/Metric	Current Condition	10 year Performance Measure
Pavement	Good/Fair/Mediocre/Poor - See pavement plan for details on definition	System is currently rated at 50% Acceptable	Achieve 80% in Acceptable Condition over entire State Highway System
Bridges	Bridge Deck Area/Total Square Footage	4.65 million sq. ft. rated as deficient	Reduce by 50% the total sq. ft. of deficient bridge deck area

	Number of Deficient Bridges	319 Standard Bridges are rated as deficient	Reduce by 50% the total number of deficient bridges on the State Highway System
Safety	Fatalities	594 fatalities occurred in 2008	Reduce by 20% the overall number of fatalities occurring on all road systems in New Jersey
	Total Crashes	300,000 crashes occurred in 2008	Reduce by 20% the overall number of crashes on all road systems in New Jersey
	Lane Departure Crashes/ Baseline of 2008	61,000 occurred in 2008	Reduce by 20 percent from the 2008 baseline
	Intersection Crashes/ Baseline of 2008	76,000 occurred in 2008	Reduce by 20 percent from the 2008 baseline
	Pedestrian Crashes	Baseline of 5,740 per year	Achieve a 20% reduction from the baseline
	Bicycle Crashes	Baseline of 4,700 per year	Achieve a 20% reduction from the baseline
Congestion	Minutes in <i>Peak Hour Travel Time</i> /Baseline Level of June 2008	59 minutes NB; 59.7 minutes SB	Maintain peak hour travel time on the I-287 (NB and SB) corridor from I-80 to the Garden State Parkway at or below the baseline level
	Minutes in <i>Peak Hour Travel Time</i> /Baseline Level of June 2008	25.9 minutes EB; 16.2 minutes WB	Maintain peak hour travel time on the I-78 (EB and WB) corridor from Union County Route 527 to Route 24 at or below the baseline level
	Minutes in <i>Duration of Congestion</i> /Baseline Level of June 2008	111 minutes NB; 102 minutes SB	Maintain the duration of congestion on the I-287 (NB and SB) corridor from I-80 to the Garden State Parkway at or below the baseline level
	Minutes in <i>Duration of Congestion</i> /Baseline Level of June 2008	93.2 minutes EB; 78.2 minutes WB	Maintain the duration of congestion on the I-78 (EB and WB) corridor from Union County Route 527 to Route 24 at or below the baseline level
	State Highway Corridors/Traffic Signals	Not determined	Optimize the operation of traffic signals on 20 state highway corridors

In addition to these broad ten year performance goals, other, more specific goals have been established for various sub-asset classes. The table below summarizes these performance measures, current condition levels, and target service levels for each asset type. Note that these performance measures are under review by the Asset Management Steering Committee and are subject to change.

Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Structural Assets	Major Viaducts	State of Good Repair (SOGR) – Will provide good service for next 10 years with only minor maintenance. This applies to other structural assets as well.	81%	89%
	Movable Bridges	SOGR	37%	67%
	Standard Bridges	SOGR	88%	94%
	Minor Bridges	SOGR	94%	N/A
	Dams Class 1	SOGR	25%	N/A
	Dams Class 2	SOGR	71%	N/A
	Dams Class 3	SOGR	NA	N/A
	Overhead Sign Structures, Cantilever	SOGR	95%	N/A
	Overhead Sign Structures, Full Span	SOGR	93%	N/A
	High Mast Light Poles	SOGR	98%	N/A
Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Road Assets	Pavements	Good/Fair/Mediocre/Poor – see pavement plan for details on definition	50% good/fair/mediocre	80% good/fair/mediocre with 40% fair and 40% fair/mediocre
	Drainage	Avg. annual road closure incidents related to drainage issues	Avg. 315 over 2005, 2006 and 2007	N/A
	Guiderail	Good/Fair/Poor – see guiderail plan for details on definition	98% good/fair	N/A

	Signs	Good/Fair/Poor – see signs plan for details on definition	99% good/fair with 95% good	N/A
	Traffic Signals	Level of operation	100% operational	N/A
		Response to malfunctions – on site within 90 minutes hours of initial notification	85 percent of responses within 90 minutes	87 percent of Responses within 90 minutes
		Response to knockdowns – restoration within 5 hours of field verification	Not identified	Not determined
Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Safety Investments	Fatality Rate	Fatalities/ 100 MVM traveled	1 Fatality/ 100 MVM traveled	Not determined
		# of fatalities annually	594 in 2008	Reduce by 20 percent over 10 years
		# of crashes annually	300,000 in 2008	Reduce by 20 percent over 10 years
Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Congestion Investments	Missing Links			
	Bottleneck Widenings			
	Operational Improvements	Optimize the operation of up to 30 traffic signals per corridor	Need to identify 20 corridors	Optimize signals on 20 corridors over 10 years
	Incident Management			
	Traveler Information			

Travel Time	I-287 Corridor from I-80 to Garden St. Pkwy	Baseline Level of June 2008/ Minutes	59 Minutes NB 59.7 Minutes SB	Maintain peak hour travel time at or below baseline level of June 2008
	I-78 Corridor from Union Co. Rt. 527 to Rt. 24	Baseline Level of June 2008/ Minutes	25.9 Minutes EB 16.2 Minutes WB	Maintain peak hour travel time at or below baseline level of June 2008
Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Multimodal Investments – None at this time.	Maritime			
	Rail			
	Trucking			
	Aviation			
Asset Class	Subclass	Performance Measure/Metric	Current Condition	10 Year Desired Service Level absent funding considerations and trade-offs
Support Facilities	Offices and Laboratories	1 to 5, Poor to Excellent, 3 is fair	19% fair or less as of Nov 2008.	Not established.
	Maintenance Yards	1 to 5, Poor to Excellent, 3 is fair		Note: only includes 86 regional facilities. 34 Ewing facilities not assessed.
	Interstate Service Facilities			
	Truck Weigh Stations			
	Heavy Equipment	Not established		

1.3 Future Demand on our system

According to the New Jersey Long Range Transportation Plan, by 2030 the state's population could increase by over 20% to 10 million.

The Plan also states that as of 2004, 58% of our roads were estimated to be under capacity compared with 1998 when 67% were under capacity.

Lastly the plan notes that each day 621 million tons of freight move from and within New Jersey by truck, van, ship, plane and train. The amount of goods that must be moved is expected to increase by 65% by 2030. Currently 97% of the freight movement within the state is completed through trucks and trucks are expected to continue to carry the vast majority of goods.

NJTPA 2030 Regional Transportation Plan

The North Jersey Transportation Planning Association (NJTPA), New Jersey's metropolitan planning organization (MPO) representing the 13 northern counties has looked at future demand as part of its 2030 Regional Transportation Plan.

Travel forecasts show that congestion will increase throughout the region, but certain areas will experience more dramatic growth than others. For example, from 2005 to 2030, the greatest percentage increases will occur in Hunterdon and Sussex counties — where current levels of congestion are relatively low. This increase is expected to stem from rapid population and employment growth in these counties. Despite the sharp rates of increase, these counties are projected to remain relatively uncongested.

Large percentage increases in delay also will occur in Middlesex and Somerset counties. Middlesex will experience the greatest increase in absolute hours of delay. These counties are home to well-established and growing population and employment centers, but have relatively sparse road networks.

Hudson County, by all measures the most congested county as of 2005, also will see a large increase in absolute hours of delay from the present until 2030. While of significant concern, this congestion may be less of a problem for county residents due to the availability of transit alternatives.

Also of note is the fact that arterial roadways experience the greatest congestion. Arterials, such as US 1, US 9, US 22 and NJ 17, handle a mix of local and long-distance traffic while providing direct access to commercial development. This requires driveways and signalized, at-grade intersections, causing an obvious conflict with through traffic. Congestion on arterials can be relieved somewhat with localized intersection improvements and by limiting or redesigning commercial development and thus the number of driveways along them.

In addition to the areas mentioned above, highway mobility needs are greatest in areas adjacent to major east-west and north-south highway arteries. Highway mobility needs also are high in congested urban areas. Reflecting different expectations about levels of congestion in different places, some rural areas also have significant highway mobility needs.

DVRPC 2030 Regional Transportation Plan

The Delaware Valley Regional Planning Commission (DVRPC) is an MPO covering Mercer, Burlington, Camden and Gloucester Counties in New Jersey and a five-county region in Pennsylvania.

As part of its Congestion Management Process, the Delaware Valley Regional Planning Commission (DVRPC) has looked at current and future travel demand. DVRPC has designated congested corridors in their region as well as emerging congested corridors, based on peak-hour congestion, crash-related congestion, average daily traffic, intermodal importance and land use.

The following corridors have been designated as congested corridors in Mercer, Burlington, Camden and Gloucester Counties:

- I-295 in all counties

- Route 1 and 206 in Mercer Counties
- Route 30 in Camden County
- Route 130
- Route 322 in Gloucester County
- Route 31 in Hunterdon County
- Route 33 in Mercer County
- Route 38 in Burlington County
- Route 45 in northern Gloucester County
- Route 70 in Camden and western Burlington Counties
- Route 73 in Camden and Burlington Counties
- County Route 571 in Mercer County.

Emerging congested corridors in the DVRPC region are:

- Route 206 in central and southern Burlington County
- Route 68 in Burlington County
- Route 70 and 72 in eastern Burlington County
- Routes 55, 40 and 47 in southern Gloucester County.

Based on DVRPC's analysis, Burlington County is expected to see a 26% population increase by 2030. Gloucester County is expected to see a 32% population increase in the next 30 years. Mercer is projected to see a 14% population increase and Camden is expected to see a 2% increase.

Employment is expected to increase by 32% in Gloucester County over the next 30 years. Mercer and Burlington Counties are expected to see a 23% increase and Camden County is expected to see a 9% increase in employment.

SJTPO 2025 RTP

New Jersey's southern MPO, the South Jersey Transportation Planning Organization (SJTPO) has identified through its congestion management system has looked at current and future demand. Based on their analysis, they have designated the following corridors as high priorities for further study:

- Route 9, County Routes 585 and 563 in Atlantic County
- Route 9/Route 109 to the Cape May Ferry in Cape May County
- Route 47 and County Route 615 in Cumberland County

Special consideration is recommended for the following locations based on seasonal congestion issues:

- Route 9 from Nummytown Road to Route 47 in Cape May County
- Route 9 from County Route 657 to the Atlantic County Line in Cape May County
- The southern portion of Route 55 plus Routes 47 and Route 347.

In the SJTPO region, population is expected to increase by 19% over the next 20 years and employment is forecast to grow by 32%. Vehicle miles traveled in the region is expected to increase by 15% between 2000 and 2025. Vehicle hours traveled is expected to increase by 31%.

1.4 Lifecycle Management Plan

A lifecycle management plan for each class of assets is a strategy to reach or maintain desired or targeted performance levels while minimizing long-term costs. These strategies outline plans for maintenance, rehabilitation and replacement. The lifecycle management plan should also consider our system's expansion needs. Lifecycle management plans do not apply to service investments such as safety and congestion.

Given a block of funding to preserve, rehabilitate, replace or expand a particular asset class, a lifecycle management plan should outline a specific resource allocation level be dedicated to preventative maintenance activities, a portion dedicated to more repair and rehabilitation, and a portion dedicated to replacement. Lifecycle management plans may also prioritize based on functional classification, for example interstate highways versus arterial roads.

As we move to the next level of sophistication, we want to, based on alternative funding scenarios for a specific class or subclass of assets, outline the most effective allocation of funding for maintenance, rehabilitation and replacement to get us to our target level of performance.

NJDOT may need to look at setting some business policies to help prioritize assets. For example, are there strategic, regional transportation linkages that need to be maintained to a higher level of service? Secondary, tertiary, etc., networks may also be explored.

Before such prioritization can be outlined, we should first outline the desired system condition level for each asset class and subclass and project the cost to reach it.

Although the accompanying Tactical Level Asset Management Plans are a very good start to robust lifecycle management, we have not established good lifecycle management strategies for any of our assets or investments at this time. The current tactical plans address system characteristics and condition levels, but do not outline plans for routine maintenance, replacement or expansion, not to mention scenarios based on alternative funding levels. The primary reason we do not have such analysis is because we have not developed the models that allow us to predict system condition levels.

We have, however, projected annual funding needs for each class of assets. This should provide a basis to develop first cut lifecycle management strategies. Undertaking the recommendations above will allow the lifecycle management plans to become more sophisticated and useful.

The following table outlines the estimated replacement value of each asset class and an indication of the level of lifecycle management established. We have categorized the maturity level of our lifecycle

management strategies as non-existent, developing and mature. A “mature” lifecycle strategy is one that provides clear approaches to routine maintenance, repair and replacement. A “developing” lifecycle strategy is one that recognizes the need for a mix of improvements, but does not clearly articulate an asset management approach or approaches to spending funds on maintenance, repair or replacement. A “non-existent” lifecycle strategy is where there is no indication of any approach to outlining an integrated maintenance, repair and replacement plan.

Asset Class	Subclass	Service Life	Lifecycle Management Strategy Maturity Level	Asset Replacement Value
Structural Assets	Major Viaducts	50 years	Developing	\$6.2 B
	Movable Bridges	50 years	Developing	\$12 B
	Standard Bridges	50 years	Developing	\$10 B
	Minor Bridges	50 years	Non-existent	\$221 M
	Dams	50 years	Non-existent	\$62 M
	Overhead Sign Structures		Non-existent	\$285 M
	High Mast Light Poles		Non-existent	\$16 M
Asset Class	Subclass	Service Life	Lifecycle Management Strategy Maturity Level	Asset Replacement Value
Road Assets	Pavements	20 years	Developing	\$19 M
	Drainage	NA	Developing	N/A
	Guiderail	12 years	Developing	\$132 M
	Signs	7 years	Developing	\$34 M
	Traffic Signals	25 years	Developing	\$461 M
Safety Investments	Does not apply			
Congestion Investments	Does not apply			
Multimodal Investments	No information at this time. May only apply to state-owned rails or airports.			
Asset Class	Subclass	Service Life	Lifecycle Management Strategy Maturity Level	Asset Replacement Value

Support Facilities	Offices and Laboratories	30 years	Developing	N/A
	Maintenance Yards	30 years	Developing	N/A
	Interstate Service Facilities (Rest Areas)	30 years	Developing	N/A
	Truck Weigh Stations	30 years	Developing	N/A
	Traffic Operations Center	30 years	Developing	N/A
	Equipment		Developing	N/A

1.5 Financial Summary

NJDOT's annual capital program totals approximately \$2.1 Billion. About \$2.0 Billion of our capital revenues are provided through federal and state formula funding. The remaining \$0.1 Billion is provided through special federal high priority project funding or other sources. These funding levels are not predictable over an extended period of time.

The federal funding act, SAFETEA-LU, expired at the end of federal fiscal year 2009, i.e., September 30, 2009. The US Congress, through a Continuing Resolution, has extended the Act to February, 2010. The State Transportation Trust Fund Act expires June 30, 2011.

As an assumption for our 10-year capital planning process, we are projecting that the federal funding act will be renewed in federal fiscal year 2010 and are assuming a 3 percent per year increase. As for the State Transportation Trust Fund, we are projecting that it will be renewed in State Fiscal Year 2012 at the same level with no annual inflation increase.

Given these assumptions we have established a 10-year annual revenue level of \$2.101 Billion.

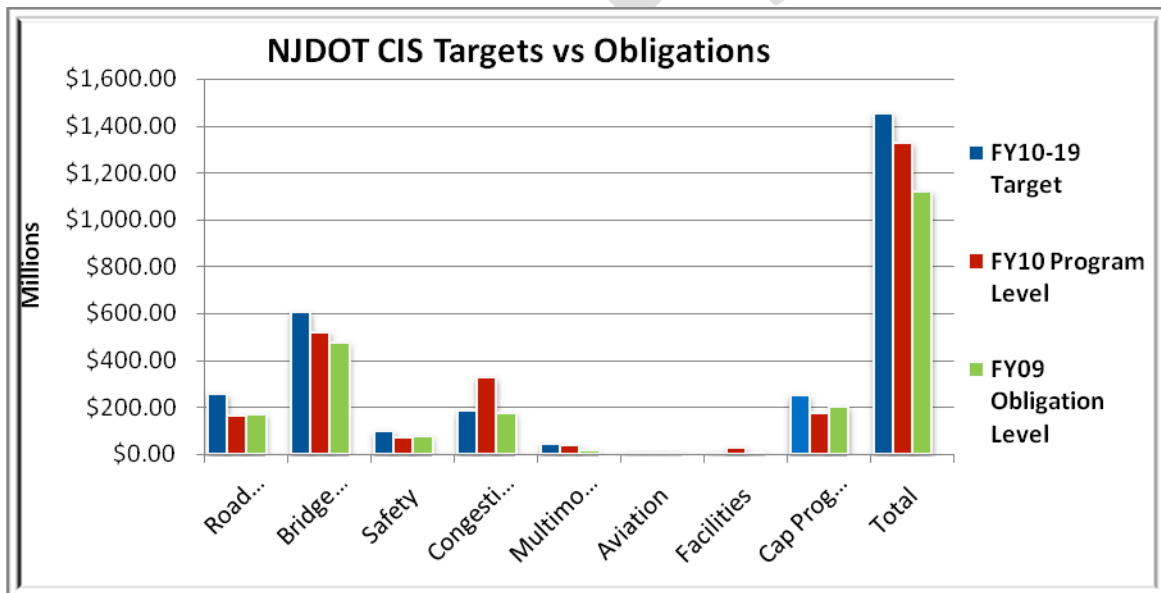
Our investment strategy for Fiscal Year 2011-2020 established the following nine investment categories and targets are listed below:

<u>Investment Category</u>	<u>Annual Investment Target</u>
Aviation (<1%)	\$7,000,000
Structural Assets (33%)	\$605,000,000

Capital Program Delivery (14%)	\$290,000,000
Congestion (11%)	\$200,000,000
Local System Support (19%)	\$340,000,000
Multimodal Investments (2%)	\$45,000,000
Road Assets (14%)	\$257,000,000
Safety Investments (5%)	\$97,000,000
Transportation Support Facilities (1%)	\$20,000,000

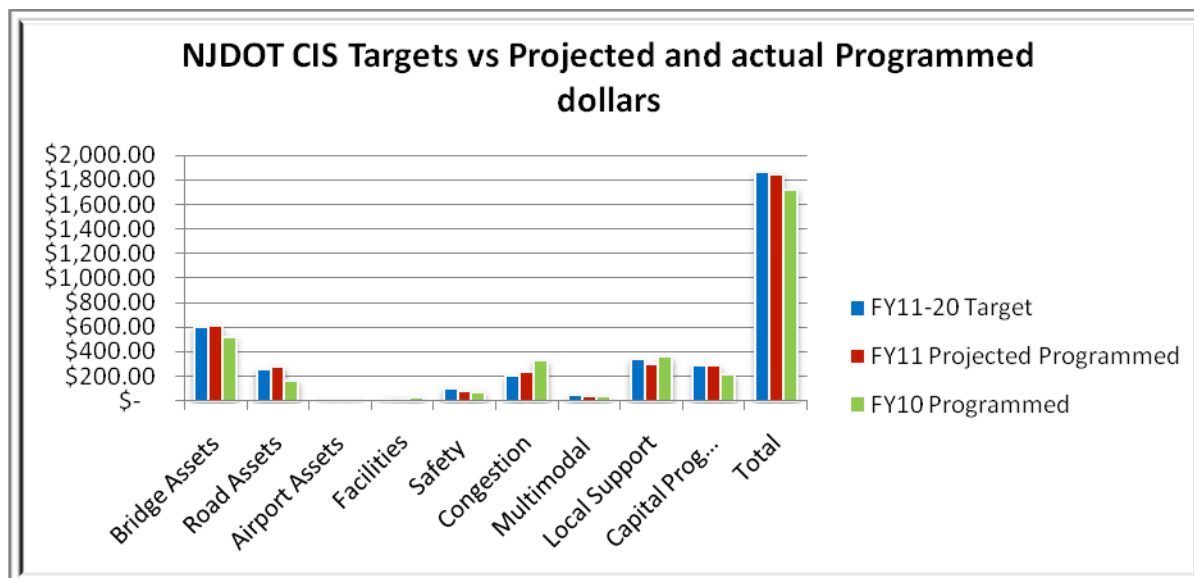
Asset management activities outlined in this asset management plan are all fully funded through the capital program with the exception of emergency response activities.

The figures above outline annual programming/budgeting targets for the various investments. However, the actual expenditure/obligation of funds each year do not necessarily match these targets. For example, the graph on the following page indicates NJDOT's CIS annual investment target levels according to the prior FY2010-2019 investment strategy compared to funds which were programmed for FY2010 to those that were actually obligated in FY2009.



From the graph we see that obligations in FY2009 for three asset categories, Road, Safety, and Capital Programming Development, all exceeded their programmed levels. The variation in actual expenditure/obligation as compared to target level is due to other projects not proceeding and therefore, funds were reallocated to pavement projects that were ready to construct.

A similar graph below for the FY11-20 investment strategy compared to funds which were programmed for FY2010 and projected for FY2011 with similar results.



NJDOT and New Jersey Transit (NJT) have established an agreement to reallocate federal and Transportation Trust Fund (TTF) revenues between them over a five year period, FY2008-2012. Under this agreement, portions of NJDOT's share of TTF revenue will increase to \$1 billion in FY2010 and FY2011 and increase again to \$1,055,750,000 in FY2012. In FY2010 through 2012, federal funds will be appropriated to NJT commensurate with the additional TTF dollars provided to NJDOT. For the NJDOT Capital Plan, this results in an increase in TTF revenues, but a decrease in federal revenues. This will impact how dollars are programmed for projects. Given the shortage in federal dollars, federal dollars will need to be allocated first to multiyear and GARVEE payments before any new obligations are authorized.

1.6 Asset Management Practices

The table below describes our data resources and information management systems for each asset class we own and manage.

Asset Class	Subclass	Data collection process	Frequency of collection	Info Mgmt Sys
Structural Assets	Major Viaducts	NBIS stds, element level	2 years	PONTIS
	Movable Bridges	NBIS stds	2 years	PONTIS
	Standard Bridges	NBIS stds	2 years	PONTIS
	Minor Bridges	Staff/csIt	4 years	Database?

	Dams	NBIS stds	2 years	PONTIS
	Overhead Sign Structures	Staff/csIt	4 years	Database?
	High Mast Light Poles	Staff/csIt	4 years	Database?
Asset Class	Subclass	Data collection process	Frequency of collection	Info Mgmt Sys
Road Assets	Pavements	ICC Survey	Annually	PMS
	Drainage	Road closure reports, Maintenance expenditure, Traffic data		DMS
	Guiderail	Inventory Contracts	1/3 per year	MMS
	Signs	Inventory Contracts	1/3 per year	MMS
	Traffic Signals	Physical Inspection	Annually	MMS
Safety Investments	N/A			
Asset Class	Subclass	Data collection process	Frequency of collection	Info Mgmt Sys
Congestion Investments	N/A			Travel Demand Model
Multimodal Investments	N/A			
Support Facilities	Offices and Laboratories	Physical Inspection	Annually	LBAM
	Maintenance Yards	Physical Inspection	Annually	LBAM
	Interstate Service Facilities (Rest Areas)	Physical Inspection	Annually	LBAM
	Truck Weigh Stations	Physical Inspection	Annually	LBAM
	Traffic Operations Center			
	Equipment			

1.7 Evaluation, Improvement, and Monitoring

Evaluation

The asset management plan is a document that is expected to evolve and improve as we become more sophisticated in Asset management practice.

It is important that we evaluate the effectiveness of this plan so we make sure that we are producing something that is useful to the department.

How do we evaluate the effectiveness of the AM Plan? Two general questions need to be answered.

First, how well does the plan address the major sections outlined?

Second, are there other areas/concerns that the plan needs to address to make it a more valuable tool for the department, i.e., are we asking and answering the right questions?

The scorecard on the following page attempts to answer the first question, “How well does the plan address the major sections outlined?” The yellow highlighted cells indicate the current answer to the question.

Scoring Area	Scoring Rubric				
Does the AM plan encompass the right classes of assets and service level investments?	Fully encompassed	Most encompassed	Some areas, but not all that should be	A few included	The wrong areas
For the scope of assets contained in the plan, are they clearly defined? For example, are movable bridges clearly defined?	Clearly articulated	Majority well-defined	Some defined well	Only a few defined well	Little to non defined well
Are there performance measures identified for each of the identified classes of assets and service level investments?	Clearly identified/defined for all classes and subclasses	Majority identified and well-defined	Some identified	Only a few identified	Little if any identified
Has the NJDOT Senior Leadership, AM Steering Committee, endorsed the performance measures for each class or subclass of assets?	All endorsed	Majority of major asset classes endorsed	Some endorsed	Only a few endorsed	Little if any endorsed
Have current and 10- year system condition or target levels been established and endorsed by the Steering Committee for all classes and subclasses of assets?	All established and endorsed	Majority established and endorsed	Some established and endorsed	Only a few established and endorsed	Little if any established and endorsed

Does the AM Plan paint a good picture of future system demands, particularly where are there key infrastructure stressors or new capacity needs?	Clear, comprehensive projection of future demand statewide	Good projections in the majority of the state	Good projections only in some areas	Limited projections statewide	Little if any picture of future demands
Does the AM Plan identify lifecycle management strategies for assets that address routine maintenance, renewal, and expansion?	Clearly articulates strategies for all assets classes and subclasses	Clearly articulates strategies for majority of asset classes and subclasses	Clearly articulates strategies for 50% of the asset classes and subclasses	Clearly articulates strategies for a few of the classes and subclasses	Clearly articulates strategies in few classes and subclasses
Does the financial summary paint a good picture of funding trends and projections?	Provides clear, concise trend and projection information for all asset classes and subclasses	Provides clear, concise trend and projection information for most asset classes and subclasses	Provides clear, concise trend and projection information for some asset classes and subclasses	Provides limited trend and projection information for asset classes and subclasses	Provides little or no trend and projection information for asset classes and subclasses
Does the AM Plan clearly articulate data resources, systems, and decision-making processes for each asset class or subclass?	Clearly articulates the information for all asset classes and subclasses where they exist.	Clearly articulates the information for most of the asset classes and subclasses where they exist.	Clearly articulates the information for some of the asset classes and subclasses where they exist.	Articulates the information in only a few of the asset classes and subclasses where they exist.	Does not articulate the information where it exists.

As for the second question, “are there other areas/concerns that the plan needs to address to make it a more valuable tool for the department, i.e., are we asking and answering the right questions?” The answer to this is a bit more dynamic than the first.

At this point in our asset management maturity, this plan provides core information about our assets and service investments. As we continue to move forward with better data and better managements systems we would like to be in a position to outline predicted asset performance based on historical and projected funding trends.

We need to continue to focus on clear classification and quantification of core assets and service investments. We have established performance levels that are endorsed by the asset management steering committee. This should then drive the lifecycle management approaches and also help us determine if we are gathering the right data.

Building upon our first AM Plan, this plan also provides core information about our assets and service investments. As we move forward with better data and integrated managements systems, we would like to be in a position to outline predicted asset performance based on historical and projected funding trends.

Improvement Programs and Projects

Completion of the first Asset Management Plan was a primary goal of the Asset Management Steering Committee. It was accomplished in the Winter of 2009. This document is an updating of the first plan.

The Asset Management Steering Committee has approved performance measures and targets for the major areas of bridges, pavement, safety and congestion.

NJDOT is also carrying out a project to integrate data from the various management systems and make it accessible to all. The schedule is to complete integration of the major systems in early 2010, with a second phase being planned that would address the Department's Project Reporting System.

We are also in the research and development phase of a project to develop a decision support system model that will help us prioritize transportation problems for study and prioritize and fund projects for implementation. The schedule to complete the development of a decision support model is Winter, 2010.

Design Services is implementing their new pavement management system which is a module to a larger asset management system. When completed, this system will be able to predict performance of the pavement system and facilitate trade off analyses.

Monitoring and Review Procedures

We expect that this asset management plan will be reviewed and updated on an annual basis in the winter or spring of each year.

Continuing to update the plan on an annual basis will provide the building block for capital investment strategy discussions and decisions relative to tradeoffs between major investment categories. For example, how much should be invested in road assets versus safety versus congestion versus bridges? Are the current investment levels appropriate based on the desired performance levels and predicted performance? Do we have the right mix of projects in our pipeline to ensure that we can deliver to construction annually a mix of projects that aligns with our asset management strategy?

It is expected that the update of this document will reduce the effort needed under the current capital investment strategy process.

The Office of Capital Investment Strategies is the lead unit in initiating and compiling the update.