FY 2011-2020 Statewide Capital Investment Strategy

... asset management, performance-based, strategic direction

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I. EXECUTIVE SUMMARY

The 10 Year Statewide Capital Investment Strategy (SCIS) provides transportation investment recommendations for transportation program categories based upon goals, objectives, and performance measures.

The SCIS is a requirement of the Transportation Trust Fund Authority Act of 2000; and is the product of a collaborative effort involving the New Jersey Department of Transportation (NJDOT), NJ TRANSIT, the New Jersey Turnpike Authority (NJTA), and the South Jersey Transportation Authority (SJTA).

In addition, the State's three Metropolitan Planning Organizations – the North Jersey Transportation Planning Authority, the Delaware Valley Regional Planning Commission, and the South Jersey Transportation Planning Organization – were partners in the process to develop the SCIS. The SCIS report:

- Clearly depicts the current and future condition of New Jersey's transportation system.
- Outlines recommended investment patterns, based on alternative funding scenarios that can be used to guide development of the NJDOT, NJ TRANSIT and Toll Road capital programs.
- Presents an analysis that documents the investments required to address needed transportation improvements over the next ten years.
- Makes clear policy and action recommendations.
- Represents a consensus of the SCIS Task Force and Subcommittees.

The goal of the SCIS is to develop an annual spending level that can achieve the performance objectives of the NJDOT, NJT, NJTA and SJTA. Scenarios were developed to determine performance levels based on different levels of funding. These alternative scenarios help to provide a context for New Jersey's overall transportation needs.

The SCIS includes transportation investments in common categories across agencies, rather than separate Strategies for each agency. This integrated approach provides a foundation for understanding the <u>total</u> state investment needed in roads, bridges, and public transit. It fosters a collaborative approach to making the best use of available transportation funding, which provides for the most efficient use of resources.

The SCIS also represents an "asset management" approach to addressing our transportation needs. Asset Management is a systematic, comprehensive approach and process for maintaining, upgrading and operating physical assets cost-effectively.

As part of the SCIS process, a total of nine investment categories were developed.

The following chart, shown in Figure 1, lists each of the categories and provides a recommended <u>annual</u> investment target and assumes essentially flat transportation funding over the next ten years. It is important to note that these recommendations constitute the combined total investment of approximately $4.1 billion annually for all four transportation agencies. The SCIS is necessarily constrained by the transportation funding resources available to New Jersey.

Figure 1

Summary

Statewide Investment Targets (Millions)	
Categories	**Recommended Constrained Investment Targets**
Bridge Assets	**$846.64**
Road Assets	**$308.98**
Mass Transit Assets	**$1,037.00**
Airport Assets	**$33.00**
Transportation Support Facilities	**$126.43**
Safety Management	**$142.90**
Congestion Relief	**$1,188.37**
Multimodal Support	**$45.50**
Local System Support	**$340.00**
Statewide Total	**$4,068.82**

- **Bridge Assets -- $846.64 Million**

By investing $846.6 million annually in bridges, the SCIS aims to slow the growth of bridges that are deemed structurally deficient. This amount includes investments in state highway and toll road authority bridges. Local bridge investment targets are included under the Local System Support section shown below. The need for bridge preservation in New Jersey is critical, and the SCIS focuses on preventative maintenance, rehabilitation and selective replacements.

- **Road Assets – $308.98 Million**

This category seeks to improve pavement smoothness. It addresses the overwhelming need for pavement preservation focusing on implementing a life-cycle cost approach that completes life-extension treatments including preventive maintenance, rehabilitation and full reconstruction of the roadway.

- **Mass Transit Assets -- $1037.00 Million**

This funding amount seeks to achieve a "state of good repair" for the mass transit network; reliability of service; and

infrastructure rehabilitation. Replacement of bus and rail equipment is also targeted.

- **Airport Assets and Aviation Support -- $33.00 Million**

This annual investment target preserves the continued viability of the core airport system in New Jersey.

- **Transportation Support Facilities Assets -- $126.43 Million**

Although the current condition levels of some facilities are maintained, the backlog of substandard conditions at certain facilities will continue to increase.

- **Safety Management -- $142.90 Million**

This investment amount seeks to maintain the current performance indicators to reduce fatality and injury severity rates, and promotes strategies and partnerships to continue to achieve that reduction. The investment also funds safety partnerships that advance Engineering, Education, Enforcement and Emergency Medical Services (quicker response and care).

- **Congestion Relief -- $1,188.37 Million**

This investment figure includes major widenings planned for the N.J. Turnpike and the Garden State Parkway.

Investment for congestion relief will also be targeted toward strategies like better land-use planning and deployment of Intelligent Transportation Systems (ITS). These strategies can have positive effects on mobility and congestion-reduction.

- **Multimodal -- $45.50 Million**

The Multimodal category is made up of programs that support the economy and promote a better quality of life. Examples of these programs include bicycle and pedestrian projects, goods movement improvements, and maritime programs. This category targets resources in these areas more efficiently, while allowing programs to continue with a goal of enhanced performance.

- **Local System Support -- $340.00 Million**

This category invests in the county and municipal transportation network, where needs such a bridges, safety and congestion reduction are critical.

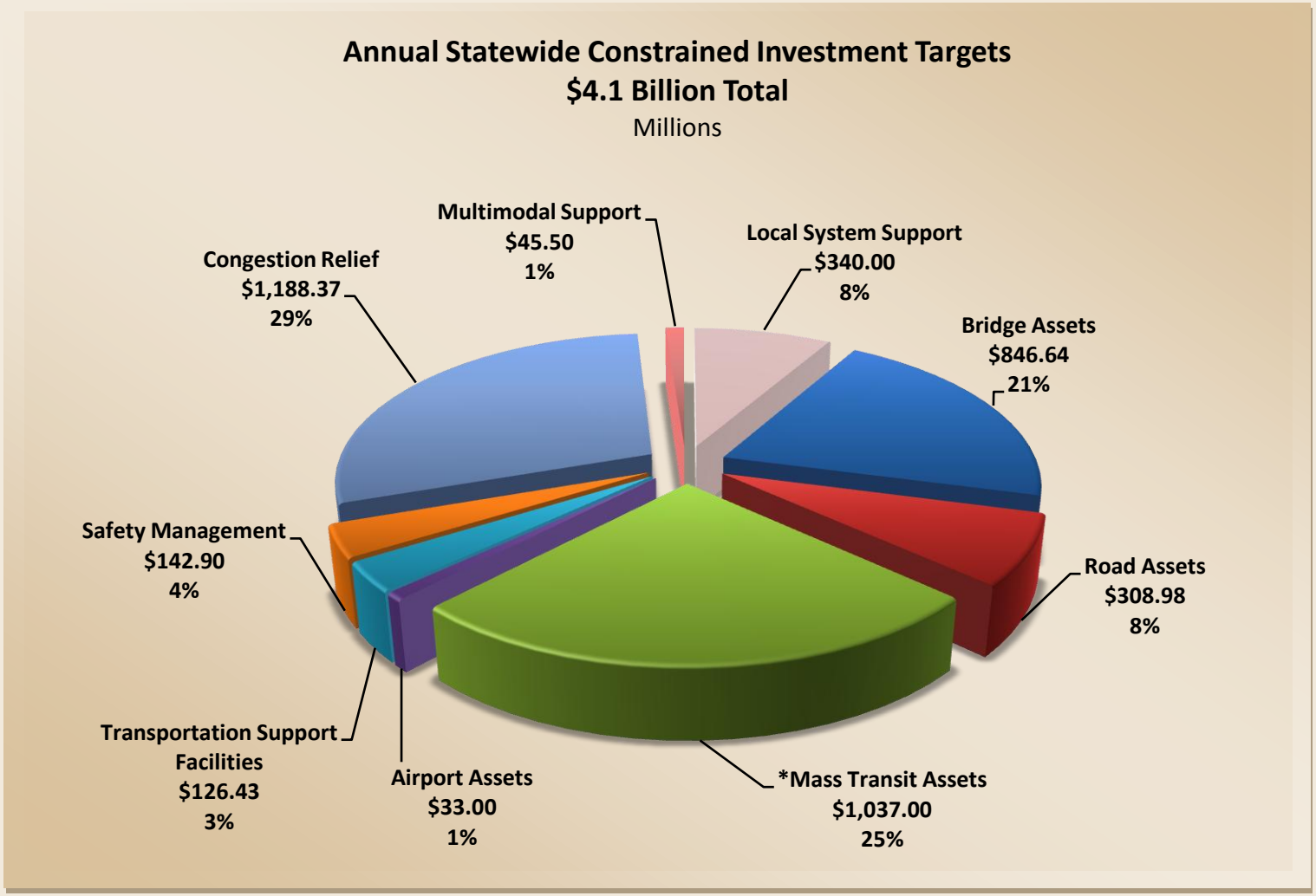
Provided in Figure 2 below is the asset category percentage distributions of the Proposed Constrained Investment Targets. This chart illustrates the proportional relationship of the categories to the sum of the total assets.

As needs continue to grow and revenue is expected to remain limited, the ability to improve the performance of New Jersey's transportation system and achieve statewide transportation goals and objectives becomes a monumental challenge.

Promoting a safe, reliable, durable, and first-rate transportation system requires collaboration on common goals. The SCIS fulfills a statutory mandate of inclusive, thorough, and practical funding guidance for New Jersey's long-term transportation needs.

The following sections provide more detailed information about the creation of this document and the data used to identify needs and make funding recommendations.

Figure 2



Investment targets are fiscally constrained to reflect revenue projections which are estimated to remain relatively flat over the next ten year period. As a result, the "Recommended Constrained Investment Targets" totaling approximately $4.1 billion annually over the next ten years are allocated to emphasize more basic system preservation needs such as infrastructure, safety, and mass transit assets.

II. STATEWIDE CONTEXT

FORMING A PARTNERSHIP TO ACHIEVE STATEWIDE TRANSPORTATION GOALS

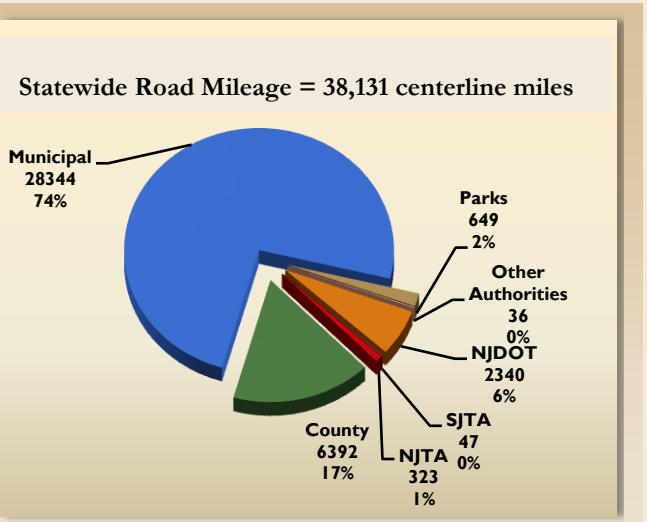
With the intention of fulfilling the statutory mandate, a collaborative effort is necessary to ensure that capital investments for New Jersey's transportation system are planned and implemented in a seamless manner. The New Jersey Department of Transportation (NJDOT), NJ TRANSIT, New Jersey Turnpike Authority (NJTA) and South Jersey Transportation Authority (SJTA) transportation assets and supporting programs have been integrated into a cohesive Statewide Capital Investment Strategy (SCIS).

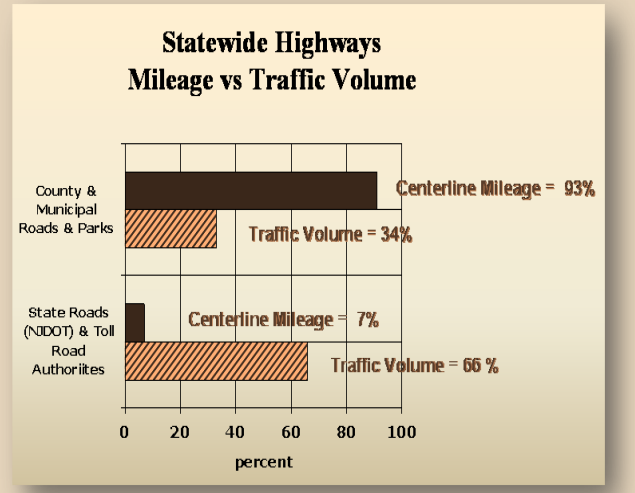
NEW JERSEY'S TRANSPORTATION SYSTEM OWNERSHIP

The responsibility for constructing, maintaining and operating the highway system in New Jersey is shared by state, county and municipal governments and toll road authorities. Combined, these agencies own and operate more than 38,000 centerline miles, as shown in Figure 3.

The major roadways, including interstate highways, freeways, and major arterials, are mainly under the jurisdiction of NJDOT and to a lesser degree one of the toll road authorities. With some exceptions, most of the minor arterial and collector roads are under county jurisdiction. Local streets and roads are owned and operated by municipal governments. As shown in Figure 3, although NJDOT and toll road authority jurisdiction represents only about 7% of the total statewide mileage, approximately two-thirds of all traffic (66%), including high percentages of heavy trucks is carried on state-owned (41%) and toll roads (25%). Despite the fact that the centerline mileage on the New Jersey Turnpike, Garden State

Figure 3





Parkway and the Atlantic City Expressway is relatively small, these facilities handle very large volumes of statewide and regional commuter and recreational traffic. These major highway corridors are vital segments of our highway network.

The county roads account for approximately 17% of the total centerline miles statewide. They provide the critical links that connect the state and municipal roads. The roads under municipal jurisdiction comprise the significantly largest mileage (74%), but service the least amount of traffic volume. However, these local facilities play significant roles in providing access to the county and state transportation networks from urban, suburban and rural communities.

NJ TRANSIT, which is the nation's third largest mass transit provider, has construction, maintenance and operating responsibilities associated with providing extensive mass transportation services throughout the state. The bulk of all transit passengers in New Jersey depend on the operation of NJ TRANSIT rail and bus facilities on a daily basis.

At present, there are 6,493 highway carrying bridges over 20 feet long in New Jersey's bridge inventory. The State of New Jersey and the local governments (county and municipal) own the largest portion of this population, 2579 and 2591 bridges respectively. The remaining bridges are owned by toll authorities (1178), NJ TRANSIT (107), private entities (21), and special agencies (17).The average design life expectancy of a new bridge is 75 years. At present, 16 % of State, 31 % of County/Municipal, 54 % of NJ TRANSIT and 33 % of private bridges are older than 75 years. The average age of the bridges in New Jersey is 51 years.

New Jersey's 44 public use airports accommodate more than 2.5 million general aviation operations each year. This includes 43 general aviation airports and 3 air carrier commercial airports. Twenty six (26) of the State's public-use airports are privately owned and 18 are publicly owned. The New Jersey Department of Transportation (NJDOT) has general oversight of all 44 public-use airports, and over 400 restricted-use aeronautical facilities, including airstrips, heliports and balloon ports. On the commercial side, the responsibilities are divided among agencies: the Port Authority of New York and New Jersey for Newark-Liberty and Teterboro; the South Jersey Transportation Authority for Atlantic City International Airport; and Mercer County for Mercer County Airport.

Based on a recent comprehensive assessment of the existing statewide roadway system, almost 500 locations on the statewide highway network were recently identified as "congested places". These locations consist of 25 mainline bottlenecks, 100 problem interchanges, and 372 high need signalized intersections. In addition, a total of 79 congested commuter and 11 congested recreation corridors have been identified.

III. ECONOMIC IMPACT AND TRANSPORTATION INVESTMENT

Transportation investments play a key role in attracting and maintaining businesses and residents that help to revitalize our urban centers as well as our suburban and rural communities by rebuilding the socio-economic and cultural foundation as places to live, work, visit and do business. The condition of the state's highway and transit systems play a major role in stabilizing and enhancing the economic vitality of New Jersey by serving as a conduit to local, regional and national activity centers. It is an indispensable element providing safe access and mobility to and from residential, commercial, industrial and recreational land uses producing employment, business and tourism opportunities.

New Jersey serves as a global gateway for the world economy. The distribution of goods to, from and within New Jersey ports, distribution centers and commercial zones is extremely dependent upon the physical status of the roadway infrastructure. Consequently, transportation investment in New Jersey also plays a role in driving segments of our global economy. Maintaining and upgrading the structural integrity and surface condition of the state highway network as well as safety and congestion relief is mandatory for economic growth. One of the keys to building and sustaining a strong economy is to minimize the cost of transporting people and goods by maintaining transportation systems that are efficient, well-planned, and in a state of good repair.

The highways themselves—designed for the needs of the middle of the 20th century—are often substandard, deteriorated, and ill-suited to meet the needs of the 21st century. Nevertheless, these roads carry huge amounts of traffic and represent enormous economic investment. Over time, the state has invested billions of dollars in its transportation infrastructure to respond to the safety and mobility needs of the traveling public. Therefore, from an asset management perspective, one of the state's top priorities must be to restore deficient parts of this network to a state of good repair and maintain the entire system at the best possible level of condition.

By pursuing our long-range goals and objectives, the SCIS provides guidance for the formulation of a capital program that pursues essential transportation investments. These strategic investments are vital to the improvement of New Jersey's economy and the quality of life of its citizens while minimizing harm to the environment. For example, the economic impact of traffic on communities and commuters is evident every day as people travel to and from work, school, shopping, and recreation. It is important to select transportation investments that focus on both highway and mass transit assets such as: highway, pedestrian and passenger safety, mobility and congestion relief, bridge and roadway preservation, and multimodal improvements on both the state and local highway networks to fulfill critical transportation goals and objectives.

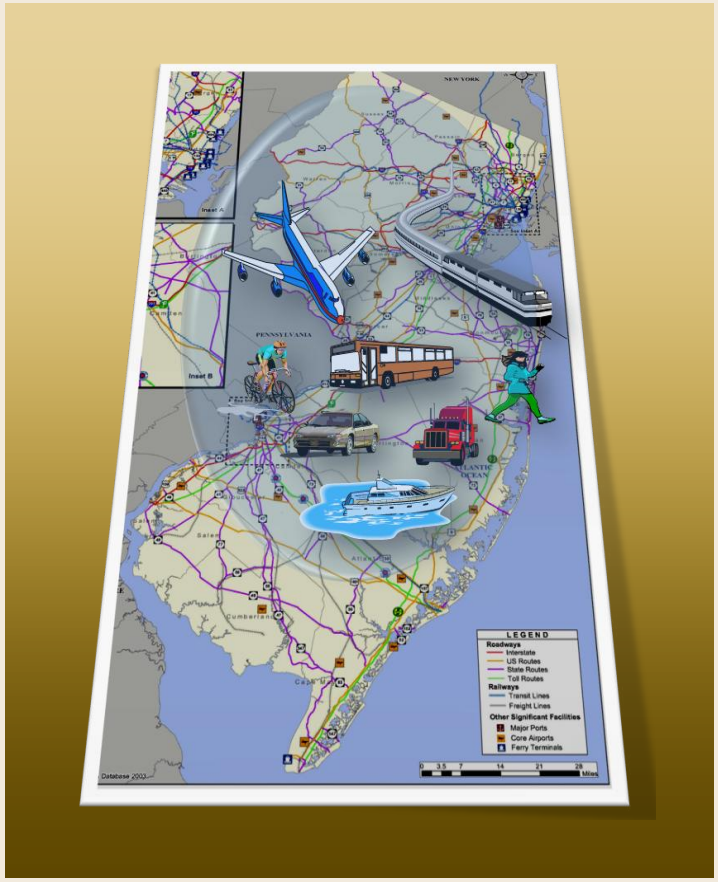
The SCIS sets out the overall *strategy* that the state follows for investing capital transportation dollars in the future. In a time of multiple competing needs and limited capital, the SCIS seeks a cost-effective return on public investments. It tells us how we can get more "bang for our bucks". It enables NJDOT, the Metropolitan Planning Organizations, and the Legislature to make

informed decisions about which projects and programs receive funding. The result is a cost-effective approach to improving the overall quality of New Jersey's transportation system.

STATEWIDE TRANSPORTATION AGENCY CAPITAL PROGRAMS IN REVIEW

During fiscal year 2009, from July 1, 2008 to June 30, 2009, NJDOT invested a record amount in needed highway and bridge improvements. A total of $1 billion in construction contracts was awarded to address New Jersey's transportation infrastructure needs. It is anticipated that this will support and create thousands of jobs while enhancing the long-term physical condition level of the state's heavily traveled and aging infrastructure. As a result, many safety, reconstruction, maintenance and mobility needs will be addressed.

NJDOT awarded 116 construction contracts for a total of $1.062 Billion for projects throughout the state. This includes $262 Million for 15 transportation projects funded by the American Recovery and Reinvestment Act, as well as $800 million for planned NJDOT capital and operations projects.



An increase of $319 Million for construction investment in Fiscal Year 2009 as compared to Fiscal Year 2008 was achieved. In Fiscal Year 2008, NJDOT awarded $743.2 Million for construction projects statewide. Many mass transit needs were addressed as well. For example, NJ TRANSIT planned to invest approximately $900 million in bus, rail and other physical infrastructure assets throughout the state.

Over the next 10 years, there is approximately $34.1 Billion of both highway and mass transit investments currently planned by NJDOT and NJTRANSIT in the FY 2010-2019 Statewide Transportation Improvement Program (STIP) designed to improve the transportation system's performance in order to pursue SCIS goals and objectives. However, there are many financial risks associated with actually having this significant level of funding available to improve and maintain our transportation infrastructure in a state of good repair achieving safety and mobility objectives.

The New Jersey Turnpike Authority (NJTA) and the South Jersey Transportation Authority (SJTA) have also identified significant investments required to enhance and maintain their toll road facilities, airport and other transportation assets. According to their 10-Year Capital Investment Plans, NJTA and SJTA are proposing to invest a total of about $8-11 Billion, $10 Billion and $1 Billion, respectively, over the next ten years to ensure that quality facilities are provided to the traveling public.

AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA)

The American Recovery and Reinvestment Act (ARRA) has provided over $1 billion to improve New Jersey's transportation infrastructure to stimulate the economy by creating thousands of transportation-related jobs and making needed improvements to our statewide transportation system.

New Jersey's Statewide Capital Investment Strategy (SCIS) will take advantage of this opportunity by investing ARRA funding in primarily road and bridge projects on the state highway system as well as local and county roads. However, investments in some congestion relief and safety projects are planned as well. The ARRA investments are expected to improve the performance of our highway and bridge infrastructure by reducing the current rate of deterioration and therefore shrinking the accruing backlog of existing structural and safety deficiencies.

ARRA funding included almost $652 million for highways and bridges and $424 million for transit improvements across the state. NJDOT is utilizing nearly $469 million for projects to make improvements on the state highway system. 40 projects have been advanced - 30 construction projects, nine design projects and one Right of Way acquisition.

The 30 construction projects will allow the Department to:

- Address 23 structurally deficient bridges;
- Replace two deficient moveable bridges on Route 52;
- Preserve 40 bridge decks;
- Paint and provide for steel repairs to 45 interstate highway bridges along three corridors;
- Paint and provide for steel repairs for two moveable bridges;
- Resurfacing of 219 lane miles of deficient pavement;
- Improvements for five priority drainage locations; and
- Construction of new median guide rails on 18.6 miles at various accident cluster locations.

The NJDOT will have ARRA funds available to also advance four more construction projects as well.

In order to benefit transportation infrastructure for New Jersey counties and municipalities, $164 million of federal stimulus funding was sub allocated to New Jersey's three Metropolitan Planning Organizations (MPOs) to identify and select eligible projects. There are 86 local ARRA projects statewide being funded through the MPO. Also, $19.5 Million in ARRA funding was received for the Transportation Enhancement program.

ARRA funding has put the state in a better position to manage our highway infrastructure assets to achieve the states transportation goals and objectives more efficiently by reducing the current backlog earlier. In addition, from a budgeting perspective, other funding sources are now made available for reallocation to other asset categories in our 10-Year Capital Plan including: safety management, congestion relief, bicycle/pedestrian, freight and maritime improvements, as well as transportation support facilities and airport needs.

In conclusion, the ARRA funding stimulates our SCIS. It provides a needed boost towards restoring our infrastructure to a state of good repair. Management of our highway infrastructure assets is a key element in the development of the capital program.

IV. ASSET MANAGEMENT

The State of New Jersey faces significant challenges with respect to determining what investments to make in its transportation system. New Jersey's transportation network is extensive and well-developed. It is critical that New Jersey is in a position to balance investments in different asset and investment categories to best preserve the state's transportation network, while also targeting improvements in mobility, safety and other areas.

In order to address this challenge, New Jersey is taking an asset management approach to preserving and improving the transportation system. Asset management offers an alternative to focusing solely on problem spots or worst conditions. The Federal Highway Administration and the American Association of State Highway and Transportation Officials define Asset Management as a "systematic process of maintaining, upgrading, and operating physical assets cost-effectively".

New Jersey will utilize an Asset Management approach as shown in Figure 4, to operate, preserve and improve NJDOT's infrastructure assets, focusing on roads, bridges and culverts, facilities and equipment, as well as investing in safety and congestion reduction.

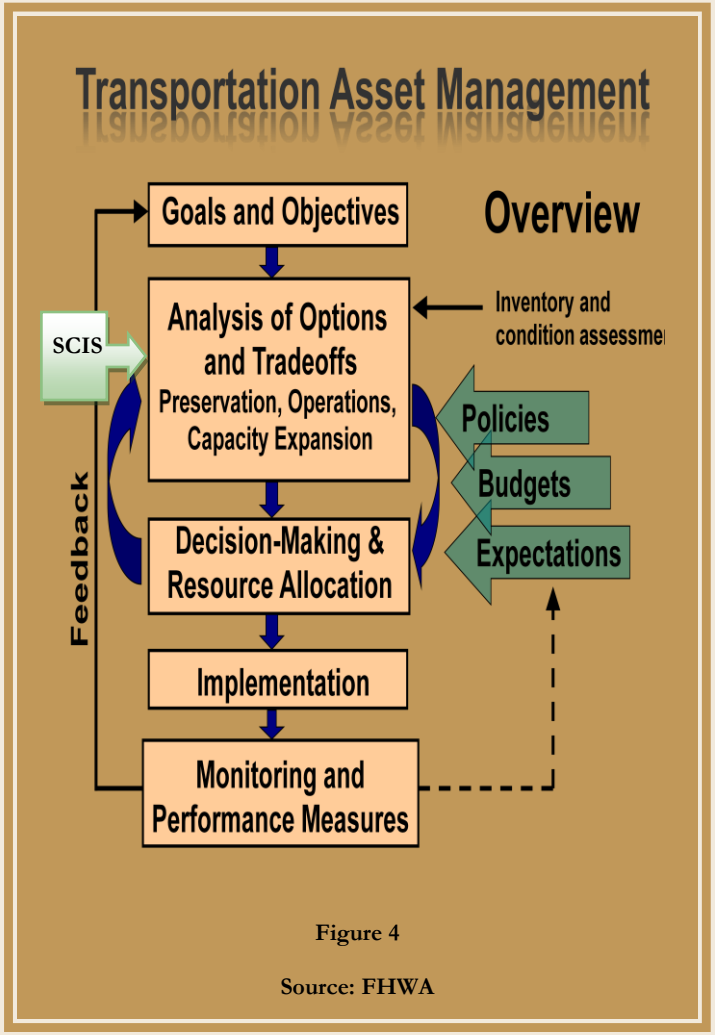


Figure 4

Source: FHWA

This approach will ensure that available funding is spent effectively in an effort to achieve our performance-based goals and objectives.

An essential part of Asset Management is the lifecycle management approach to reach or maintain targeted performance levels while minimizing long-term costs. Lifecycle management also considers system expansion needs. Given a block of funding to preserve, rehabilitate, replace or expand a particular asset class, a lifecycle management plan will 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. Through development of lifecycle management plans, we intend to outline the most effective allocation of funding for maintenance, rehabilitation and replacement in order to reach targeted levels of performance.

V. RESOURCE ALLOCATION ANALYSIS & PERFORMANCE

STATEWIDE GOALS

The SCIS is the mechanism designed to ensure that plans (State Long-Range Transportation Plan) drive capital programs. The New Jersey Long-range Transportation Plan 2030 (LRP) establishes a vision and policy framework, sets forth strategies, provides a structure for guiding investment and identifies the financial resources to sustain the plan's vision. The goals and objectives identified in the LRP address critical statewide transportation needs: bridge, roadway and mass transit preservation, transportation and land use planning, highway, pedestrian and passenger safety and security, congestion relief, environmental and intermodal improvements. (Refer to the following for a detailed list of the LRP goals, policies and strategies.http://www.state.nj.us/transportation/works/njchoices/pdf/2030plan.pdf)

The SCIS functions as an instrument that links the LRP to the 10 year capital plan by connecting broad goals to specific investment choices. Through the connection of the LRP to the SCIS, New Jersey is committed to a long-term program to shrink the backlog of deficiencies and to identify and implement state-of-the-art engineering techniques and asset management practices. As a result, the system is managed to accomplish best possible performance with respect to funding constraints.

As a mechanism to achieve the LRP, the SCIS addresses the following statutory goals, set out in the Congestion Relief and Transportation Trust Fund Renewal Act of 2000, but are not limited to:

- reduction of vehicular and pedestrian accidents
- reduction in the backlog of projects, including one-half of the structurally deficient bridge repair projects and pavement deficiencies
- an increase in lane miles of bicycle paths, with a goal of constructing an additional 1,000 lane miles of bicycle paths in five years to reduce traffic congestion and for recreational uses.
- keeping the public transportation system in a state of good repair
- a strategy and a preliminary timetable for the replacement of the current diesel bus fleet with a fleet of buses which have reduced emission of air pollutants.

Goals and objectives relating to state highways and transit assets have been developed that are aligned with the statutory goals. Specifically these include bridge, road and transit infrastructure assets as well as safety, congestion and multimodal support. The toll road authorities have also identified several goals and objectives that deal with maintaining a state-of-good repair for infrastructure, improving safety and providing congestion relief.

The SCIS evaluates the budget required to bring the state's transportation infrastructure to a state of good repair and keep it there. This asset management approach uses program level performance analyses. It identifies how well current and proposed capital plan allocations perform over time subject to alternative investment scenarios in an effort to achieve the our transportation goals and objectives.

REVENUE ASSUMPTIONS

An annual revenue estimate of approximately $4.1 billion was developed for this analysis. This includes average annual levels of Federal and State funding for NJDOT and NJ Transit, and Authority toll revenues for NJTA and SJTA. NJDOT revenue estimates do not consider Federal earmarks, Federal set asides and Demonstration funding, as well as capital program delivery and support costs.

The NJTA and SJTA revenue estimates include toll revenue anticipated from a recent toll increase.

The investment targets identified in Figure 1 are:

- **Recommended Constrained Investment Targets** are the recommended annual investment levels that are subject to funding constraints based on estimated average annual revenue limitations over the next ten years. Federal earmarks, set-asides and demonstration funding are not included within these totals.

Based on a $4.1 billion total revenue investment level, Figure 2 illustrates the proposed annual constrained investment target allocation percentages displayed by program category.

INVESTMENT CATEGORIES

Bridge Assets

This classification includes work, which is designed to keep the existing bridges functioning, and in a state of good repair, including work which rehabilitates or replaces existing bridges to current design standards. Examples of work included within this classification are:

- Bridge rehab and replacement
- Bridge deck rehab and replacement
- Bridge capital maintenance
- Bridge management
- Dams

Road Assets

This classification includes work that is designed to keep the existing highway system functioning and in a state of good repair, including work which upgrades segments of the system to current design standards (e.g. safety treatments that are part of a general roadway project such as signs, guiderail, barrier curb, traffic signals as opposed to individual line-item programs that exclusively include signs or traffic signals only). Examples of work included in this classification are:

- Resurfacing
- Highway Rehabilitation and Reconstruction
- Pavement Management System
- Drainage Management
- Landscape
- Environmental Remediation

Mass Transit Assets

This classification includes light rail, rail and bus physical assets required to bring the transit system to a state-of-good-repair. Categories within this classification include:

- Track
- Structures
- Electric Traction
- Signaling
- Rolling Stock, rail cars and buses
- Rail Stations, bus terminals, shelters

Airport Assets

Administration of NJ Aviation System: Public Use Airports that consists of a complex system of facilities operated by State, County, Municipal and private entities.

This classification includes work that is anticipated to preserve, maintain and improve NJ Aviation facilities for the development of an efficient air transportation system that responds to the needs of its users and the public. The physical assets included in the category are:

- Atlantic City International - SJTA, Egg Harbor Township, NJ
- Aeroflex-Andover - NJDEP, Andover, NJ
- South Jersey Regional – NJDOT, Lumberton, NJ
- Greenwood Lake – NJDOT , West Milford, NJ
- NJ Aviation System: Public Use Airports - NJDOT, through its Division of Aeronautics, administers the NJ Aviation System has general oversight of 46 public-use airports, and over 400 restricted-use aeronautical facilities, including airstrips, heliports and balloon ports.

Transportation Support Facilities Assets

This classification includes work that is anticipated to preserve, maintain and improve physical plant infrastructure including office buildings, rest areas, maintenance facilities, toll plazas, existing park and ride locations (system preservation). Note: Bus stops and train stations are included under Mass Transit Assets.

Safety Management

"Safety First" is further reflected in several other NJDOT supported projects that utilize the 4E's (Engineering, Education, Enforcement, and Emergency Medical Services (quicker response and care) and other measures to enhance safety and reduce crashes. Safety programs aimed at reducing the frequency and severity of crashes and promoting the all-round engineering, education, and enforcement approach of Safety First. Examples of safety management programs are:

- Intersection Improvement Program
- Safe Corridors
- Accident Reduction
- Cross Median Crash Prevention
- Rail Highway Grade Crossing, Cape May
- Rail Highway Grade Crossing, State
- Rail Highway Grade Crossing, Federal
- Train Preemption for Traffic Signals North
- Safety Projects
- Safety Capital Maintenance
- Betterrments, Safety
- Restriping Program
- Traffic Signal Replacement
- Safety Management System
- Motor Vehicle Crash Records
- Rockfall Mitigation

Congestion Relief

This classification encompasses work that improves the flow of people and goods along transportation corridors. Specific programs Under this heading include highway operational improvements, bottleneck widening, missing links, major widening, intelligent transportation systems, demand management, and congestion management system.

Multimodal

This classification includes work that addresses improvements/provisions for alternative modes of transportation. Program categories within this classification include goods movement, bicycle/pedestrian, ferries,

paratransit, intermodal connections, rail, maritime and other modes.

Local Support Systems

This classification provides for development and implementation of transportation improvements on the local roadway network. Examples of program categories within this classification are local aid to counties and local aid to municipalities, bicycle/pedestrian, regional planning and project development.

PERFORMANCE-BASED DECISION-MAKING

A strategic resource allocation process was conducted that applies performance measures to guide the determination of program category investment targets required to achieve agency goals and objectives over the next ten years. It involves classifying all of the capital work done by each transportation agency into program categories and establishing goals, objectives and performance measures for each category.

Quantitative performance analyses were conducted when possible for highway and mass transit assets. Qualitative performance analyses were used when sound data was not available or could not be technically applied to gauge performance of a particular category. For example, data for state highway infrastructure was inventoried and life-cycle cost performance curves developed and analyzed using various management systems data for bridge and roadway assets including pavement and drainage condition information.

Performance data was also applied from the congestion and safety management systems to conduct prioritization evaluations for alternative budget scenario evaluations as well. For mass transit assets, the expected service life of the component or facility was used to guide investments directed at reaching or maintaining a state of good repair. The process to select the Recommended Constrained Investment Targets made every effort to optimize the overall performance of the budget. This approach tried to make certain that scarce financial resources are used as economically as possible to address our most important needs. Several investment target options were designed to achieve various performance levels for each program, as shown in Figure 6.

The alternative investment scenarios included outcomes (in terms of system condition) and outputs (in terms of prospective project lists) for high, medium, and low investment levels. For example, a performance analysis was conducted which predicts bridge condition levels for painting needs, deck repairs and replacement/rehabilitation needs over the next ten years. This analysis is based on the bridge deterioration that can be improved by implementing current and anticipated bridge improvement projects given specified funding level scenarios.

Figure 6

Scenario A	Continued Funding Level	At a continued (current) funding level, what outcome (condition level, e.g., % deficient) is expected? Deficient deck area for bridges, % roughness for pavements, # of safety locations improved, # of airports preserved.
Scenario B	25% Decrease in Funding level	At a 25% decreased funding level, what outcome (condition level) is expected?
Scenario C	25% Increase in Funding Level	At a 25% increased funding level, what outcome (condition level) is expected?
Scenario D	Maintain Condition Level	Maintain a status quo overall condition level at the end of 10 yrs.
Scenario E	50% Backlog Reduction	Reduce the backlog by 50% - of deficient bridge deck area (%), deficient pavement (%), # of safety projects improved or reducing injury severity rate, # of airports protected over 10 years, # of master plans completed, annual passenger increase, # of facilities improved; # of bike path lane miles built over 10 yrs etc.
Scenario F	100% Backlog Reduction (Total Need)	Reduce the backlog by 100% - of deficient bridge deck area (%), deficient pavement (%), # of safety projects improved or reducing injury severity rate, # of airports protected over 10 years, # of master plans completed, annual passenger increase, # of facilities improved; # of bike path lane miles built over 10 yrs etc.

Examples of outcome-based performance analyses for various alternative bridge and pavement condition budget scenarios for state highways are provided in Figures 7 and 8 and 9. These graphs illustrate the predicted performance trends over the next ten years for bridge rehabilitation and replacement and pavement resurfacing and rehabilitation backlog. These "performance curves" depict how that backlog increases or decreases with the various investment scenarios shown. It should be noted that the performance analyses shown in Figures 7, 8 and 9 are for state infrastructure only and do not include capital maintenance backlog.

Figure 7

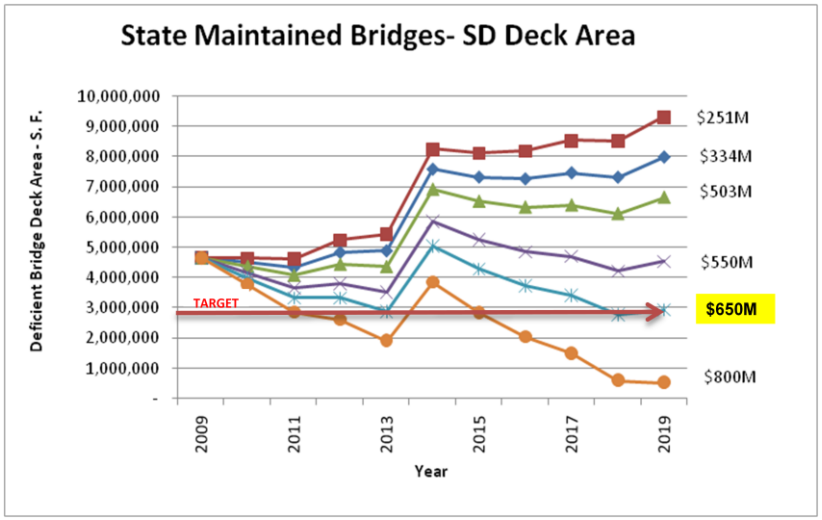


Figure 8

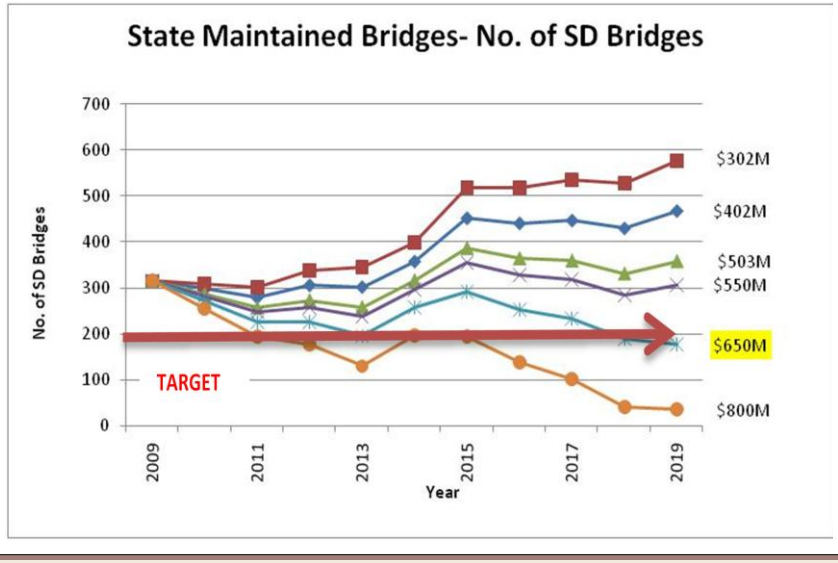
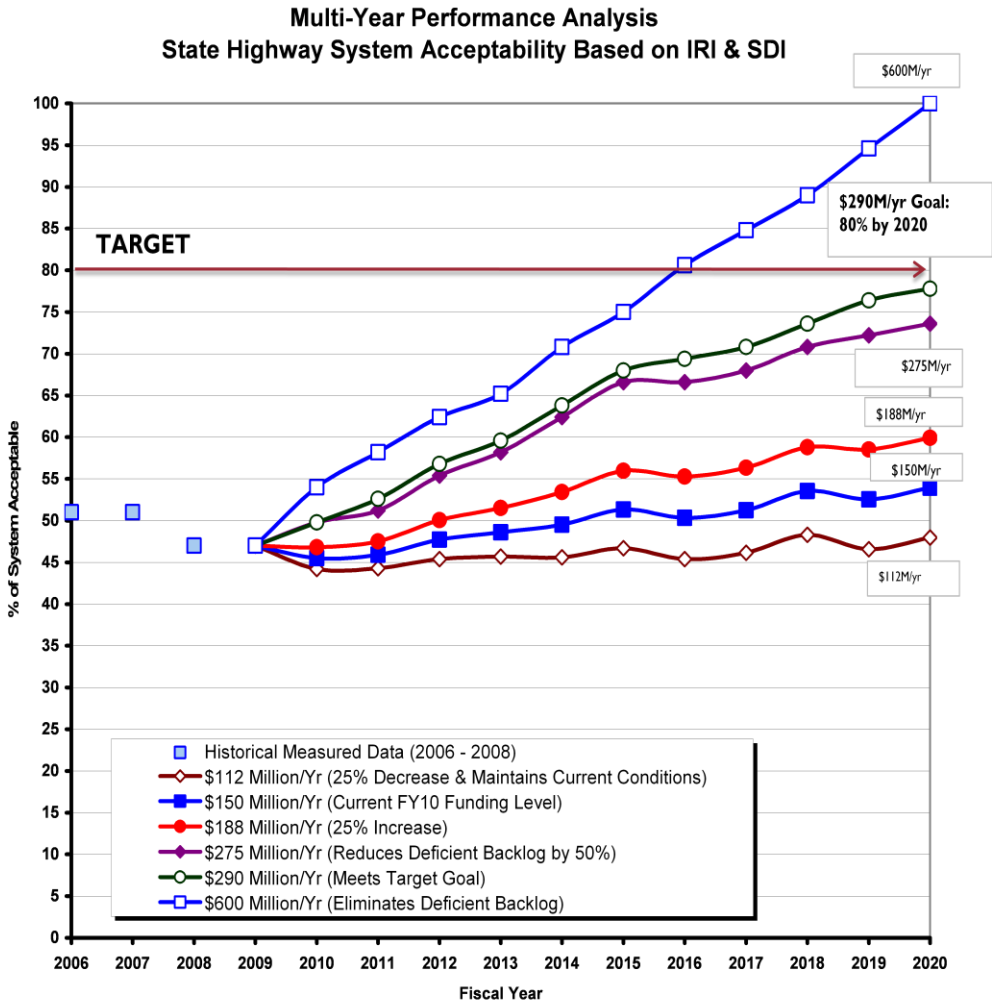


Figure 9

Pavement Resurfacing and Rehabilitation



CONSTRAINING THE INVESTMENT TARGETS

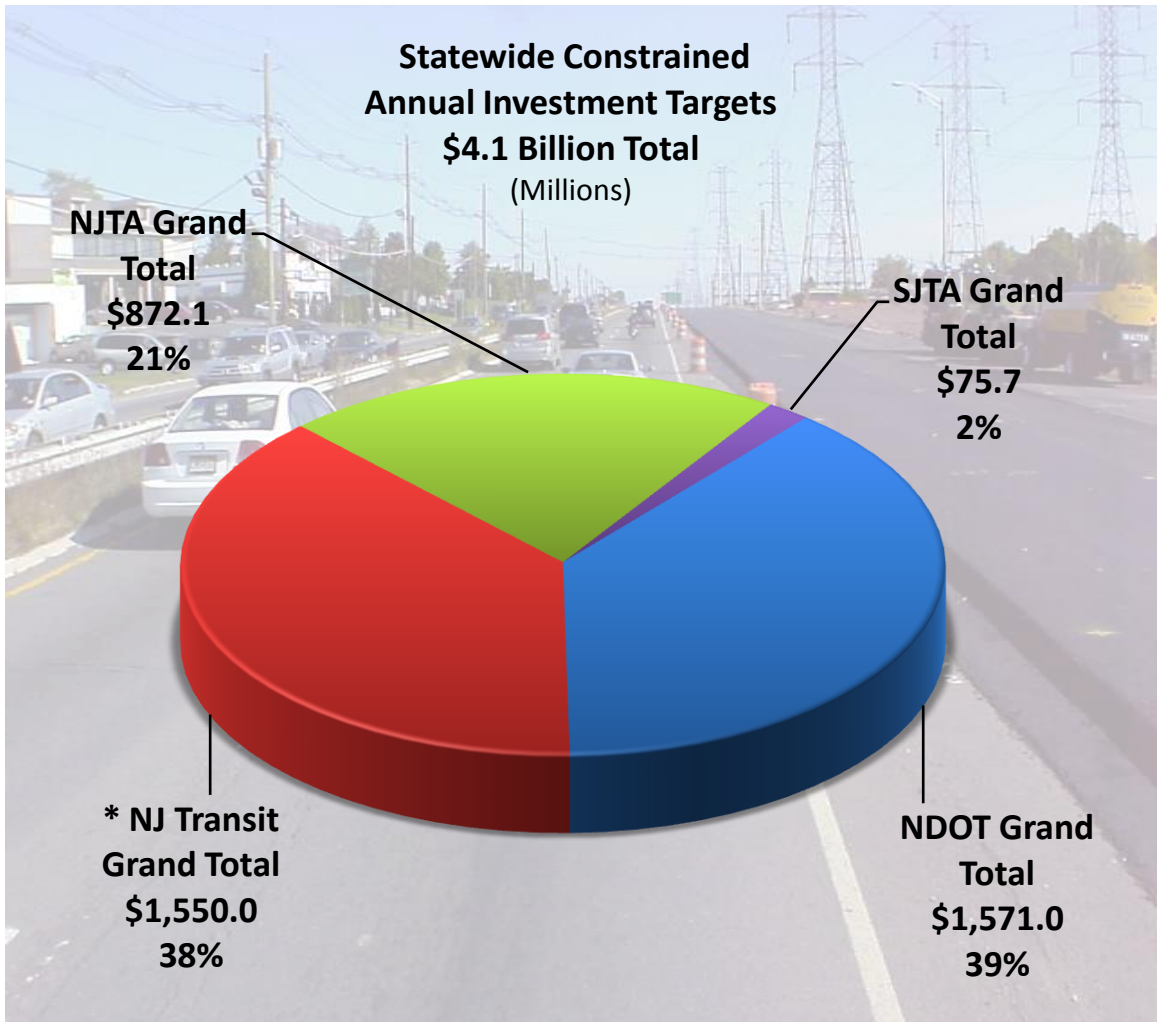
The estimated total investment levels for the Recommended Constrained Investment Targets by transportation agency are presented in Figure 10.

Recommended Constrained Investment Targets totaling $4.1 billion annually over the next ten years are allocated to emphasize highway infrastructure and mass transit assets and safety management as the top statewide transportation priorities.

As a result of maintaining bridge assets as the highest priority, the annual investment levels for other categories such as Roadway Assets and Congestion Relief were not significantly increased over the FY 2010-2019 target levels.

The goal of the SCIS is to apply effective asset management performance measures and targets to policy objectives with results based on the most technically sound data available.

Figure 10



**Includes $200M of presumed ARC federal new start funds.*