

City of Trenton

Trenton Transportation Master Plan Phase Two

Deliverable C:
Evaluation of Strategic Actions
Technical Memorandum



July 2005

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Executive Summary

The Trenton Transportation Master Plan (TMP) is a two-phase planning process, initiated by the City of Trenton Department of Housing & Economic Development, Division of Planning to assess and improve the City's local and regional transportation network. The first phase of the TMP, which was documented in the Phase One Summary Report, assessed the existing conditions, determined the City's transportation goals, and set out preliminary objectives, programs, and projects.

The second phase of the TMP, as documented in this technical memorandum provides a decision-making process to serve as a long-term guide to the city's future transportation investments, policies, and services. Based on the initial work completed in Phase One, Phase Two of generated the following elements:

- A final set of TMP goals and objectives to provide a basis for prioritization of the City's transportation needs and preferences. These goals and objectives provided the basis for both a technical and public scoring system, by which all proposed actions and projects were evaluated;
- Performance measures by which to quantify the effectiveness of transportation projects and actions;
- Descriptions of TMP projects and other specific actions;
- Comparative evaluations of projects and actions based on:
 - Ability to meet the City's goals;
 - Order of magnitude cost;
 - Time for implementation;
 - Location with the City; and
 - Agencies involved in implementation.

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An electronic appendix is also included as part of this memorandum. This appendix includes a Microsoft Excel file detailing the different categories of the evaluation (presented above). The electronic format will allow the City (and members of the public) to sort the actions by each or any combination of the categories; allowing the TMP to remain interactive, offering opportunities for on-going input, and resulting in a more valuable long-term product.

In addition, a separate technical memorandum presents sub-area transportation plans for several of Trenton's redevelopment areas, most notably those areas around the Trenton Train Station, Downtown Trenton, and the Roebling Complex District. These plans illustrate, through written profiles and land-use maps, the transportation, access, and circulation conditions within each area, as well as major opportunities and constraints.

Introduction

The Trenton Transportation Master Plan (TMP) is a two-phase planning process, initiated by the City of Trenton Department of Housing & Economic Development, Division of Planning to assess and improve the City's local and regional transportation network. The first phase of the TMP, which was documented in the *Phase One Summary Report*, assessed the existing conditions, determined the City's transportation goals, and set out preliminary objectives, programs, and projects.

The second phase of the TMP, of which this memorandum is the third deliverable, is intended to develop a long-term decision-making guide to the City's future transportation investments, policies, and services. The resulting guide will be formally incorporated into the City's Master Plan as the transportation element.

Phase Two of the TMP will generate the following elements:

- A final set of TMP goals and objectives to provide a basis for prioritization of the City's transportation needs and preferences;
- Performance measures by which to quantify the effectiveness of transportation projects and actions;
- Descriptions of TMP projects and other specific actions;
- Subarea plans for Downtown Trenton and Roebling Complex Area; and
- Comparative evaluations of projects and actions based on ability to meet the City's goals, order of magnitude cost, time for implementation, location with the City, and agencies involved in implementation.

This memorandum provides the final results of the first three bullets and addresses the comparative evaluations of the final bullet. (The Subarea plans are discussed in a separate deliverable). The first section of this memorandum presents the final listing of goals, objectives, performance

measures, and actions developed through both Phase I and Phase II. The second section of this memorandum presents comparative assessments for each element described above.

An electronic appendix is also included as part of this memorandum. This appendix includes a Microsoft Excel file detailing the different categories of the evaluation. The electronic format will allow the City (and members of the public) to sort the actions by each or any combination of the categories; allowing the TMP to remain interactive, offering opportunities for on-going input, and resulting in a more valuable long-term product.

Phase II of the TMP included an outreach effort that incorporated both public input and technical guidance into the shaping of the evaluation of actions. The Technical Advisory Committee (TAC) which was convened for Phase I was reconvened at two meetings during Phase II. The TAC included advocacy groups and representatives from transportation, planning, financial, and educational agencies, including the City of Trenton, Mercer County, the State of New Jersey, and New Jersey Transit. The TAC provided guidance related to the technical value of each of the TMP's goals, as well as assistance in coordinating with agencies which are involved in each proposed action.

The City also hosted a public workshop, where members of the public provided input on their priorities for the future of Trenton and its transportation needs. The participation of the public helped to prioritize goals and actions based on user-preferences, which served as a balance to the TAC's technical input.

Goals, Objectives, Performance Measures, and Actions

Goals

Figure 1 summarizes the TMP goals, preliminarily developed by the TAC as part of Phase 1, and further refined during Phase II. These goals are based on the vision statements in Trenton planning documents (i.e., *1999 City of Trenton Land Use Plan*), and county, regional, and state plans.

Figure 1 Trenton TMP Goals

TMP Goal 1	Develop an urban transportation network that stimulates and supports a reinvigorated local economy .
TMP Goal 2	Strategically maintain and preserve the existing transportation infrastructure.
TMP Goal 3	Use transportation investments to support the centrality of downtown Trenton.
TMP Goal 4	Provide local transportation services that enhance the livability of Trenton’s residential neighborhoods .
TMP Goal 5	Improve the frequency, attractiveness, and convenience of multi-modal transportation services to enhance the quality of life in Trenton.
TMP Goal 6	Use transportation to promote a safe , secure and healthy environment.
TMP Goal 7	Improve multi-modal connections between major destinations in the city including employment centers, recreation sites, and neighborhoods.
TMP Goal 8	Strengthen regional linkages between Trenton, the Delaware Valley, and the Northeast Corridor.
TMP Goal 9	Support sustainable growth & development of the surrounding region.
TMP Goal 10	Ensure that new investments equitably meet the transportation needs of all users.

Objectives

The TMP goals discussed above are important in establishing the broad vision for transportation in the City of Trenton. Objectives, in turn, translate these goals into more specific, concrete, and measurable aims. The role of objectives is to establish specific and measurable milestones, through which one can track the progress of the TMP. While individually, objectives must be specific enough to allow for a clear measure of their

success, collectively they need to be comprehensive enough to capture the broader aims of the TMP goals.

In Phase I, the TAC developed a wide range of preliminary objectives for the TMP; these objectives were later refined and finalized by the TAC in Phase II. Figure 2 summarizes the TMP objectives and the corresponding goals to which they are tied. While a set of objectives has been defined for each of the ten TMP goals, many objectives serve the purposes of a number of goals. Objectives are presented alongside each goal to which they correspond.

Figure 2 Trenton TMP Objectives

	Goal	Corresponding Objectives
1	Develop an urban transportation network that stimulates and supports a reinvigorated local economy .	<ul style="list-style-type: none"> • Maximize efficiency of the road network. • Minimize congestion on the regional road network. • Improve and increase multi-modal connections between Downtown and the riverfront. • Improve truck circulation. • Improve wayfinding for drivers, transit riders, pedestrians and cyclists.
2	Strategically Maintain and preserve the existing transportation infrastructure.	<ul style="list-style-type: none"> • Improve road maintenance to ensure safe and efficient circulation. • Improve and maintain the City’s transit infrastructure including transit vehicles, bus stops, and Trenton Train Station. • Maintain areas of the road used by bicyclists at the same or higher standards than areas used by motor vehicles. • Encourage transit-supportive land-use development. • Avoid major increases in street capacity unless necessary to remedy severe congestion or critical transportation problems.
3	Use transportation investments to support the centrality of downtown Trenton.	<ul style="list-style-type: none"> • Improve and increase multi-modal connections between Downtown and the riverfront. • Improve transit connections between Trenton Train Station and Downtown. • Encourage transit-supportive land use development. • Increase rates of transit utilization by employees commuting to Downtown Trenton. • Improve the pedestrian circulation network.

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	Goal	Corresponding Objectives
4	Provide local transportation services that enhance the livability of Trenton’s residential neighborhoods .	<ul style="list-style-type: none"> • Calm traffic in residential neighborhoods. • Strengthen Trenton Train Station’s connection with surrounding neighborhoods. • Protect residential areas from the parking impacts of nearby business districts.
5	Improve the frequency, attractiveness, and convenience of multi-modal transportation services to enhance the quality of life in Trenton.	<ul style="list-style-type: none"> • Improve frequencies of intracity local bus service. • Improve the availability of transit information. • Improve performance of the bike network. • Improve the pedestrian circulation network. • Reduce pedestrian barriers like utility poles, signs and water hydrants. • Improve the responsiveness of local taxi service. • Reduce automobile dependency for local trips. • Reduce Trenton School District’s driving to school. • Improve daily maintenance of pedestrian network, including snow removal, sidewalk repairs and signage upkeep, including establishment of jurisdictional agreements of responsibilities.
6	Use transportation to promote a safe , secure and healthy environment.	<ul style="list-style-type: none"> • Improve traffic safety for residential neighborhoods. • Provide high level of safety for motorists, pedestrians and bicyclists on Trenton streets. • Prioritize safety and comfort of pedestrian school-routes in street modification projects that affect school travel routes. • Reduce noise and air pollution from transportation operations.
7	Improve multi-modal connections between major destinations in the city including employment centers, recreation sites, and neighborhoods.	<ul style="list-style-type: none"> • Improve connections and ease transfers between modes and services. • Enhance public perception of Trenton Train Station as transit hub for the City of Trenton. • Improve intermodal connections at Trenton Train Station and all other multi-modal transit stops. • Improve transit, bike and pedestrian connections between downtown and the Delaware River Walk, surrounding residential neighborhoods, and new commercial districts. • Improve wayfinding signage and information distribution to support and encourage inter-service connections.
8	Strengthen regional linkages between Trenton, the Delaware Valley, and the Northeast Corridor.	<ul style="list-style-type: none"> • Improve ease of transferring between local transportation services and regional commuter services. • Improve wayfinding, signage and information distribution that supports and encourages inter-service connections. • Improve inter-service coordination at Trenton Train Station. • Enhance Trenton Train Station’s role as city gateway.

	Goal	Corresponding Objectives
9	Support sustainable growth & development of the surrounding region.	<ul style="list-style-type: none"> • Encourage transit-supportive land-use development. • Develop re-use plans for city-controlled vacant land and surface parking. • Extend the street grid in large redevelopment areas. • Establish mix of land uses which reduce the necessity of driving. • Incorporate travel demand analysis for auto and non-auto modes into development approval process.
10	Ensure that new investments equitably meet the transportation needs of all users.	<ul style="list-style-type: none"> • Improve frequencies of local bus services. • Expand provision of accessible transportation services for people with special needs.

Performance Indicators

Performance indicators are a measure of the City’s success in meeting the TMP’s goals and objectives. They allow the implementation process for the goals and objectives to be quantified and monitored.

There are three specific areas where a comprehensive set of performance indicators are most useful to the City of Trenton:

- Provide an overall “report card” or progress report from year to year to inform the community, city staff, and City Council on how the City’s transportation system is performing.
- Help prioritize projects for funding and staff time.
- Analyze the potential benefits and/or impacts of projects, either through incorporation into the environmental review process, or as part of a separate effort.

Figure 3 summarizes the final TMP performance indicators, with references to the goals they serve to evaluate. They are divided into “primary” indicators, which should be the focus of attention and highlighted in any reporting to the public and elected officials, and “secondary” indicators, which add explanatory power – particularly when the primary indicator is broad. Note that in many cases the indicators are

not strictly transportation-based, but attempt to measure the wider impacts of transportation programs on a community. The performance indicators were initially developed in Phase I and have been refined by the TAC in Phase II with adjustments for availability of data and appropriateness for application.

Figure 3 Strategic Performance Indicators

	Goal	Performance Measures
1	Develop an urban transportation network that stimulates and supports a reinvigorated local economy .	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • City of Trenton population, employment, and household income <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Commercial property tax valuations • Auto V/C along designated truck routes • Auto V/C at other key intersections • Downtown parking utilization
2	Strategically maintain and preserve the existing transportation infrastructure.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Pavement condition along key auto, transit, and bicycle routes • NJDOT Local Aid projects <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Number of claims for sidewalk and pavement deficiencies • % of maintenance needs funded
3	Use transportation investments to support the centrality of downtown Trenton.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Downtown population, employment, and household income • Establishment of programs to encourage transit use, (e.g., Transit Check) <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Downtown sales tax revenue • Commercial property tax valuations • Ridership on bus routes within downtown Trenton
4	Provide local transportation services that enhance the livability of Trenton’s residential neighborhoods .	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Transit ridership • Linear feet of new bikeways <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Motor vehicle speeds • Pedestrian volumes along key corridors • City of Trenton population (local vs. regional trends) • Percentage of vacant and/or tax delinquent parcels

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	Goal	Performance Measures
5	Improve the frequency, attractiveness and convenience of multi-modal transportation services to enhance the quality of life in Trenton.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Transit ridership <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Pedestrian volumes along key corridors • Auto mode share • Regional population within 0.5 miles of rail service, or 0.25 miles of a fixed-route bus line • Bicycle ridership along key corridors • Length of bike lanes created
6	Use transportation to promote a safe , secure and healthy environment.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Injury accidents on the City street network • Number of CMAQ funded projects <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Combination of walking/school bus mode share for Trenton schools • Number of Trenton elementary schools with a “Safe Routes to School ” program • Air quality
7	Improve multi-modal connections between major destinations in the city, including employment centers, recreation sites, and neighborhoods.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Transit ridership <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Transit boardings at targeted destinations • Regional population within 0.5 miles of rail service, or 0.25 miles of a fixed-route bus line
8	Strengthen regional linkages between Trenton, the Delaware Valley, and the Northeast Corridor.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Boardings at Trenton Train Station for all modes providing access outside of Trenton <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Ridership on Capital Connection routes • Ridership on the RiverLine
9	Support sustainable growth and development of the surrounding region.	<p><i>Primary:</i></p> <ul style="list-style-type: none"> • Percentage of Trenton employees residing within Trenton and commuting to employment in other communities <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Regional population within 0.5 miles of rail service, or 0.25 miles of a fixed-route bus line • City of Trenton population and employment

	Goal	Performance Measures
10	Ensure that new investments equitably meet the transportation needs of all users.	<i>Primary:</i> <ul style="list-style-type: none">• % of regional capital and operations funding allocated to service within the City of Trenton

Strategic Actions

Figure 4 presents the final list of projects and actions proposed within Trenton. Initially generated in Phase 1 of the TMP, the list was refined by the TAC in Phase II. The list is divided into four categories by type of modes:

- Motor Vehicle;
- Pedestrian/Bicycle;
- Transit; and
- Multi-Modal.

Each project includes a description and the applicable performance measures.

Figure 4 Strategic Action Matrix

No.	Project/Action	Description/Rationale	Performance Measures
Motor Vehicle			
1	Route 1 Interchange Upgrades Near Industrial Areas	Improvement of linkages between regional roadways and Trenton has been identified in planning efforts as an area in need of improvement. Improved and new interchanges would facilitate growth in modernizing industrial areas of the city and enhance visitor and worker accessibility to Trenton.	Pavement condition at Route 1 interchanges for auto, transit, and bicycles
2	Highway Signage Improvements	Improvements would address the need for better routing information for trucks to Trenton's industrial areas and motorist needs in efficiently getting to Trenton and its destinations from the regional highway network. This project was identified in the 'Pipeline Inventory' and ULI Study.	Auto LOS along designated truck routes
3	Local Bridge Rehabilitation / Replacement Program	This project represents the completion of the partially funded rehabilitation or replacement of the Chestnut Street, Monmouth Street, East State Street, and South Broad Street bridges.	Pavement condition along key auto, transit and bicycle routes
4	Muirhead Avenue Extension	The extension would give trucks using the Route 1/North Olden Avenue interchange a direct route into the Route 1 Industrial Center and would keep trucks from using the North Olden Avenue and North Clinton Avenue intersection	Auto V/C along designated truck routes
5	Route One Bridge Widening	This project is recommended in the Southerly Crossing Corridor Study as the optimal way to reduce congestion on the four Trenton area Delaware River crossings.	Auto V/C along designated truck routes
6	Local Truck Route Plan	This plan would review, update and sign truck routes in Trenton. It would also reevaluate weight limits based on noise, vibration, economic and other environmental impacts.	Auto V/C along designated truck routes
7	On-Street Parking Management Plan	This plan would examine current on-street parking policy and implement reforms to address the on-street parking needs of residents while balancing the desire to have on-street parking available for high value, high turnover shopping trips. The plan should also evaluate any areas where on-street parking is prohibited in favor of a travel lane and regulations regarding parking distance from corners.	Downtown parking utilization
8	Regional Congestion Relief	Recommended in the Urban Supplement, congestion relief strategies would be employed in suburban locations along Business Route 1 and Routes 27, 31, 33, 206, and 579	Auto V/C at other key intersections
9	Downtown Circulation and Wayfinding Improvements	This project would implement relevant recommendations from: The New Jersey State House District Access and Circulation Review and the Master Plan for the Trenton Capitol District.	Ridership on Capital Connection routes Creation and maintenance of signage inventory
10	Accelerated Pavement Maintenance / Rehabilitation	Trenton already has a maintenance management program in place. This project would increase funding for pavement maintenance and rehabilitation in Trenton. Often street conditions are an important indicator to the real estate investment community. Having streets in good repair improves the appearance of the city, reduces the damage to private vehicles, and makes cycling safer and more pleasant.	Pavement condition along key auto, transit and bicycle routes
11	Residential Arterials (concurrent with County Roadway Access Management Code)	This project would reduce the impacts of traffic on residential areas by designating certain streets as residential arterials. The first step would be to develop design standards and specifications for "Urban Minor Arterial" streets, which might include lower speed limits, traffic calming devices, and landscaping improvements. City code proposed to be developed concurrently with County Code.	Motor vehicle speeds
12	Route 1 Access Ramps	Reconfiguration of Route 1 access ramps between Route 29 and Route 129.	Motor vehicle speeds Auto V/C at other key intersections Pedestrian volumes along key corridors
Pedestrian / Bicycle			
13	Route 29 Boulevard / River Access Strategies	This project would retrofit Route 29 from south of the Northeast Corridor railroad bridge to Sullivan Way. Primary goals would be to provide physical access to the Delaware River where it is adjacent to the Capitol District and improve the downtown street grid.	Pedestrian volumes along key corridors
14	Train Station Area Pedestrian / Bicycle Improvements	Currently, \$250,000 is allocated to improve Market Street as it approaches the train station. This program would complete and build on this project to improve the pedestrian environment throughout the train station area.	Boardings at Trenton Train Station Pedestrian volumes along key corridors
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	This project would improve the streetscapes of these downtown area streets. These streets were identified in the Urban Supplement for Trenton as a non-pipeline project of interest to the city.	Pedestrian volumes along key corridors
16	Assunpink Creek Greenway	The envisioned greenway would connect parks and provide a major amenity to the northern parts of the city. Regional planning efforts would continue the greenway in Hamilton and Lawrence Townships.	Bicycle ridership along key corridors

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No.	Project/Action	Description/Rationale	Performance Measures
17	Delaware River Walk & Connections	Currently in planning and partially constructed, the Delaware River Walk will eventually provide a continuous pedestrian connection along the Delaware River in Trenton.	Pedestrian volumes along key corridors
18	Central Pedestrian Plaza	Needed as a replacement to the Trenton Commons, a possible location is at Mercer County Community College. Other potential sites to be determined.	Pedestrian volumes along key corridors
19	D&R Canal Towpath Signage and Access Improvements	This project would upgrade the towpath by signing and formalizing access points, potentially adding new access points, and possibly upgrading the towpath with interpretive signage.	Bicycle ridership along key corridors
20	Delaware and Bound Brook Rail Trail (Reading ROW)	Create a greenway on this 3.5 mile abandoned ROW. In Trenton the ROW lies in an area where the city is seeking revitalization via new housing development.	Bicycle ridership along key corridors
21	Cass Street District Pedestrian Improvements	Recommendations will come from the currently underway Cass Street Light Rail District Plan. Improvements should address crossing Route 129 from the River LINE station south on Cass Street and crossing Route 29 at Cass and Warren streets to the Waterfront Park	Pedestrian volumes along key corridors
22	Calhoun Street Bridge Safety and Access Improvements	The project would examine access for bicyclists and pedestrians to the path of the Calhoun Street bridge. Road configuration and signage would be specifically addressed to improve the safety at this dangerous access point.	Pedestrian volumes along key corridors
23	On-Street Bicycle Route Improvements	This project would refine and implement the recommendations for improving the bicycle level of service on Trenton arterials as outlined in the Draft DVRPC analysis.	Bicycle ridership along key corridors Number of new bike lanes
24	Bicycle Parking and Amenity Program	This program would expand the amount and quality of bicycle parking in the city focusing on key destinations and commercial districts.	Bicycle ridership along key corridors
25	Streetscape Improvement / Pedestrian Enhancement Program	This program would prioritize and implement streetscape improvements in commercial and other areas – primarily those with deteriorating streetscapes. The program should examine the feasibility of widening sidewalks and providing pedestrian amenities such as landscaped bulb-outs and neck-downs where appropriate. It would also examine the feasibility of reducing curb cuts on to key pedestrian streets, and establish Pedestrian Level of Service standards for these corridors. This program would establish design standards and prioritization criteria, and implement traffic calming measures in residential neighborhoods.	Pedestrian volumes along key corridors
26	Princeton Rail Trail On Street Bike Boulevard Extension	Proposed trail would link Ewing and Lawrence. ROW ends near Trenton border and if completed, it would be worthwhile to provide a high-quality cycling environment with signage from the trail's end near Trenton to downtown destinations.	Bicycle ridership along key corridors
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	This project would address the 'gap' in the D&R Canal State Park Towpath by providing a high-quality cycling and walking environment between the two segment ends with connections to downtown and other destinations. A closed 'gap' will mean the recreational use will extend from New Brunswick to Frenchtown through Trenton.	Bicycle ridership along key corridors
28	Bike Map	A bike map would show the best bicycle routes for accessing key destinations in the city and beyond. This map could utilize and highlight information provided by the Greater Mercer County TMA County Bike Map.	Bicycle ridership along key corridors
29	Hamilton Avenue Station Pedestrian Linkages	Numerous streetscape improvements are in progress in the area of the Sovereign Bank Arena and the new Hamilton Avenue SNJLRTS station. However this project would seek to provide direct, safe, appealing and comfortable linkages directly from the station to the arena and the Roebling redevelopment area.	Pedestrian volumes along key corridors
30	Safe Routes to School Program	Develop safe-routes-to-school program for Trenton, which includes design standards, performance criteria and monitoring, as well as capital improvements and integration into the curriculum.	Walking/school bus mode share for Trenton schools Number of Safe Routes to School Projects
Transit			
31	Bus Comprehensive Service Assessment / Upgrade	This project would enhance the NJ TRANSIT bus system in Trenton by comprehensively reviewing the current service, making recommendations for improvements with a focus on making the system more accessible, legible and convenient to use. In addition to frequency improvements, the study should examine how the current route structure and scheduling can be adjusted to serve the changing needs of the city. The study should also address intermodal transfers, with the aim of facilitating fast and easy connections between different routes – including non-NJ Transit service. Most importantly, the study should provide a realistic funding plan for any additions to existing service levels.	Transit ridership

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No.	Project/Action	Description/Rationale	Performance Measures
32	Trenton Jitney	The city is currently considering the merits of a jitney service that would connect the Trenton Train Station with key downtown destinations along the State Street corridor as well as other destinations in the city. Ideally, the jitney study would be coordinated with or folded into a larger transit system study to avoid redundancy with the Capital Connection. This study includes the shuttle between the Trenton Train Station and the NJDOT office, scheduled to begin in July 2005.	Transit ridership
33	Bus Stop Amenity / Information Upgrades	While a comprehensive service assessment would examine traveler amenities and information, several improvements could be implemented in the short term. Adding bus shelters, improving signage and providing schedule and transfer information at stops in Trenton are possibilities. This could also entail providing a transit map on the NJ TRANSIT website. Installation of schedule/information at shelters maintained by private vendors could also be an element.	Transit ridership
34	Free NJ TRANSIT Bus-Rail Transfers	Free transfers for rail riders could serve to reduce parking demand at the Trenton Train Station and increase bus ridership from the station to downtown Trenton —this could increase the appeal of using rail services to Trenton workers. A wider application would encompass SEPTA and Amtrak services as well.	Transit ridership
35	Transit Check / Eco-Pass Program	This project could represent either widespread availability and promotion (particularly to state employees) of Transit Checks -- which allows transit costs to come out of pre-tax income -- or an "Eco-Pass" Program, where employees are provided transit passes at no direct charge to employees but instead employers who are charged based on assessments of usage level. (In Trenton's case, state departments would pay NJ TRANSIT for the passes.)	Transit ridership
36	Regional Express Buses	Two regional express bus concepts have been proposed for the Trenton area. One was evaluated in the Southerly Crossings Corridor Study as an alternative to Route 1 widening. The service would run between the Oxford Valley Mall in Langhorne, PA and the Quakerbridge Mall in Lawrence, NJ. The Central Jersey Transportation Forum is doing preliminary exploration of Bus Rapid Transit service concepts. The concepts do not necessarily include Trenton.	Auto mode share
37	Transit Priority Streets	This project would identify key streets where transit service should have priority over other vehicles, in order to maintain speed and reliability.	Transit ridership
38	Trenton Train Station Connections	This project would examine and implement measures to improve physical connections between a newly renovated Trenton Train Station and the River LINE. It would also address wayfinding and information issues, both between these rail services and NJ Transit bus lines.	Boardings at Trenton Train Station
Multi-Modal			
39	Downtown Parking and Access Study and Program	Faced with a reduction in commuter parking supply due to pending development, NJ Department of Treasury has expressed interest in creative parking management strategies, access planning and Transportation Demand Management. This study would analyze: The most effective means of expanding parking supply Improved parking management of existing supply Opportunities for expanding access choices by other modes Cost comparison for all parking and access options Comprehensive, phased, multimodal implementation strategy for accommodating planned surface parking reductions and an increase in commuters. This study should be jointly managed by the State Treasury and the City of Trenton so that it covers not just the needs of State commuters, but employees of other businesses as well as the access needs of visitors and shoppers.	Downtown parking utilization Transit ridership
40	Multi-Modal Access Map / Website	A likely recommendation of a downtown parking study, but possible on its own, this project would build off of the current Trenton Parking Authority map to provide parking facility locations, prices, hours of operation, etc. The map would also show transit services and provide detail on how to access downtown and its environs by transit. The map should be geared to visitor trips, it would clearly show points of interest, highlight recreational opportunities, and show one-way streets to aid navigation.	Downtown parking utilization
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	In order to "operationalize" the goals of the Transportation Master Plan, it is critical that all of the city's codes and guidelines are consistent. The parking requirements should be updated to support Transit Oriented Development, the Roadway Standards should be updated to reflect the appropriate balance among users and other requirements should be adjusted to remove obstacles to the implementation of the transportation plan.	Downtown parking utilization
42	Transit Supportive Development	This program would identify sites available for infill development. It would establish criteria for development on these parcels that would support transit services without increasing demand for roadway and parking capacity, and solicit development proposals.	Transit Ridership
43	Gateway Treatments	This project would define and improve gateways to the City. It would implement signage, landscaping, roadway improvements and transit route modifications to increase the accessibility and attractiveness of key gateways.	Commercial property tax valuations Number of Gateway projects

Comparative Evaluation of Actions

Score of Goals Addressed

In Phase 1, each member of the TAC prioritized the ten TMP goals by distributing 100 points across the ten goals. Theoretically, if all goals were determined to be equal in importance then each of the ten goals would be assigned 10 points. In practice, TAC members assigned a range of 0 – 25 points for each of the goals. The results from the 12 members of the TAC were averaged together to determine a preliminary weight for each goal.

In Phase 2, public input was incorporated into developing weights for the TMP. As part of the public workshop, each attendee was asked to prioritize their top three most important goals (“top goals”) and the one goal which they consider “least important.”

Utilizing the public input, the Project Team scored each goal based on a plus/minus system. Every “top goal” vote was counted as a plus; every “least important goal” vote was counted as a minus. A raw score was calculated by adding every plus and subtracting every minus. Attendees at the public workshop submitted a total of 102 total votes; the raw scores were converted by percentages to represent a total of 100 points.

Figure 5 presents the weights of the goals according to both the TAC- and public-generated weighting systems.

The Final Score for each goal was determined by doubling the TAC Score and adding the Public Score; this Total Score was then divided by three to calculate a Final Score out of 100 points. If multiple projects result in the same score, the TAC has recommended that the project which addresses the greatest number of goals would be rated as the higher priority.

This score is intended to assist in prioritizing TMP actions by linking them to the weights of the goals they address. Figure 6 presents the

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multiple scores for each action, including the TAC and Public Scores (each out of a maximum of 100 points), the Total Score (out of a maximum of 300 points), the Final Score (out of a maximum of 100 points), and the number of goals addressed (out of a maximum of 10).

Figure 5 Comparative Weights of TMP Goals

Goal			TAC Weight	Public Weight
1	Develop an urban transportation network that stimulates and supports a reinvigorated local economy	Economy	14	16
2	Strategically maintain and preserve the existing transportation infrastructure	Maintain	11	5
3	Use transportation investments to support the centrality of downtown Trenton	Downtown	8	14
4	Provide local transportation services that enhance the livability of Trenton’s residential neighborhoods	Neighborhoods	10	13
5	Improve the frequency, attractiveness, and convenience of multi-modal transportation services to enhance the quality of life in Trenton	Quality of Life	14	16
6	Use transportation to promote a safe, secure and healthy environment	Safety	8	14
7	Improve multi-modal connections between major destinations in the city including employment centers, recreation sites, and neighborhoods	Connections	14	8
8	Strengthen regional linkages between Trenton, the Delaware Valley, and the Northeast Corridor	Regional	10	5
9	Support sustainable growth & development of the surrounding region	Sustainable Development	5	1
10	Ensure that new investments equitably meet the transportation needs of all users	Equity	6	8
	TOTAL		100	100

Figure 6 Comparative Evaluation of Actions by TAC, Public, Total, and Final Scores

Project/ Action Number	Project/Action Name	TAC Score	Public Score	Total Score	Final Score	Number of Goals Addressed
Motor Vehicle						
1	Route 1 Interchange Upgrades Near Industrial Areas	89	95	273	91	9
2	Highway Signage Improvements	65	66	196	65	7
3	Local Bridge Rehabilitation / Replacement Program	82	81	245	82	8
4	Muirhead Avenue Extension	81	81	243	81	8
5	Route One Bridge Widening	51	58	160	53	6
6	Local Truck Route Plan	81	81	243	81	8
7	On-Street Parking Management Plan	75	87	237	79	8
8	Regional Congestion Relief	21	14	56	19	3
9	Downtown Circulation and Wayfinding Improvements	63	69	195	65	6
10	Accelerated Pavement Maintenance / Rehabilitation	76	87	239	80	8
11	Residential Arterials (concurrent with County Roadway Access Management Code)	32	43	107	36	3
12	Route 1 Access Ramps	51	62	164	55	5
Pedestrian / Bicycle						
13	Route 29 Boulevard / River Access Strategies	69	77	215	72	7
14	Train Station Area Pedestrian / Bicycle Improvements	89	95	273	91	9
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	68	65	201	67	7
16	Assumpink Creek Greenway	67	65	199	66	7
17	Delaware River Walk & Connections	79	82	240	80	8
18	Central Pedestrian Plaza	30	44	104	35	3
19	D&R Canal Towpath Signage and Access Improvements	78	70	226	75	8
20	Delaware and Bound Brook Rail Trail (Reading ROW)	57	60	174	58	6
21	Cass Street District Pedestrian Improvements	71	76	218	73	7
22	Calhoun Street Bridge Safety and Access Improvements	65	66	196	65	7

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Project/ Action Number	Project/Action Name	TAC Score	Public Score	Total Score	Final Score	Number of Goals Addressed
23	On-Street Bicycle Route Improvements	76	79	231	77	8
24	Bicycle Parking and Amenity Program	89	95	273	91	9
25	Streetscape Improvement / Pedestrian Enhancement Program (Downtown and Residential Neighborhoods)	90	95	275	92	9
26	Princeton Rail Trail On Street Bike Boulevard Extension	89	95	273	91	9
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	81	81	243	81	8
28	Bike Map	63	64	190	63	6
29	Hamilton Avenue Station Pedestrian Linkages	71	68	210	70	7
30	Safe Routes to School Program	38	51	127	42	4
Transit						
31	Bus Comprehensive Service Assessment / Upgrade	95	99	289	96	9
32	Trenton Jitney	75	73	223	74	7
33	Bus Stop Amenity / Information Upgrades	85	94	264	88	8
34	Free NJ TRANSIT Bus-Rail Transfers	67	65	199	66	7
35	Transit Check / Eco-Pass Program	37	36	110	37	4
36	Regional Express Buses	37	36	110	37	4
37	Transit Priority Streets	58	68	184	61	5
38	Trenton Train Station Connections	85	86	256	85	8
Multi-Modal						
39	Parking & Access Study-Now Mercer County Study	57	60	174	58	6
40	Multi-Modal Access Map / Website	71	68	210	70	7
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	75	87	237	79	8
42	Transit Supportive Development	51	60	162	54	5
43	Gateway Treatments	49	42	140	47	4

Figure 7 presents the final rankings of the actions, both by overall ranking and categorized within each of the four modes. The two types of rankings provide a valuable indicator about the City’s intention to develop beyond traditional automotive-dependent patterns.

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Figure 7 Final Rankings of Actions by Mode and Overall

Project/Action Number	Project/Action Name	Final Score	Number of Goals Addressed	Final Ranking (Mode)	Final Ranking (Overall)
Motor Vehicle					
1	Route 1 Interchange Upgrades Near Industrial Areas	91	9	1	3
2	Highway Signage Improvements	65	7	6	17
3	Local Bridge Rehabilitation / Replacement Program	82	8	2	6
4	Muirhead Avenue Extension	81	8	3	7
5	Route One Bridge Widening	53	6	9	24
6	Local Truck Route Plan	81	8	3	7
7	On-Street Parking Management Plan	79	8	5	9
8	Regional Congestion Relief	19	3	11	30
9	Downtown Circulation and Wayfinding Improvements	65	6	7	18
10	Accelerated Pavement Maintenance / Rehabilitation	80	8	4	8
11	Residential Arterials (concurrent with County Roadway Access Management Code)	36	3	10	28
12	Route 1 Access Ramps	55	5	8	22
Pedestrian / Bicycle					
13	Route 29 Boulevard / River Access Strategies	72	7	8	14
14	Train Station Area Pedestrian / Bicycle Improvements	91	9	2	3
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	67	7	10	16
16	Assunpink Creek Greenway	66	7	11	17
17	Delaware River Walk & Connections	80	8	4	8
18	Central Pedestrian Plaza	35	3	16	29
19	D&R Canal Towpath Signage and Access Improvements	75	8	6	11
20	Delaware and Bound Brook Rail Trail (Reading ROW)	58	6	14	21
21	Cass Street District Pedestrian Improvements	73	7	7	13
22	Calhoun Street Bridge Safety and Access Improvements	65	7	12	17
23	On-Street Bicycle Route Improvements	77	8	5	10

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Project/Action Number	Project/Action Name	Final Score	Number of Goals Addressed	Final Ranking (Mode)	Final Ranking (Overall)
24	Bicycle Parking and Amenity Program	91	9	2	3
25	Streetscape Improvement / Pedestrian Enhancement Program (Downtown and Residential Neighborhoods)	92	9	1	2
26	Princeton Rail Trail On Street Bike Boulevard Extension	91	9	2	3
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	81	8	3	7
28	Bike Map	63	6	13	19
29	Hamilton Avenue Station Pedestrian Linkages	70	7	9	15
30	Safe Routes to School Program	42	4	15	26
Transit					
31	Bus Comprehensive Service Assessment / Upgrade	96	9	1	1
32	Trenton Jitney	74	7	4	12
33	Bus Stop Amenity / Information Upgrades	88	8	2	4
34	Free NJ TRANSIT Bus-Rail Transfers	66	7	5	17
35	Transit Check / Eco-Pass Program	37	4	7	27
36	Regional Express Buses	37	4	7	27
37	Transit Priority Streets	61	5	6	20
38	Trenton Train Station Connections	85	8	3	5
Multi-Modal					
39	Parking & Access Study-Now Mercer County Study	58	6	3	21
40	Multi-Modal Access Map / Website	70	7	2	15
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	79	8	1	9
42	Transit Supportive Development	54	5	4	23
43	Gateway Treatments	47	4	5	25

As presented in Figure 8, the projects with the top three scores are from three of the four categories. The project with the top score from the fourth category (Multi-Modal) would be ranked ninth overall. These

rankings provide a tool for decision-makers in prioritizing overall transportation needs for the City, as well as prioritizing individual modal options.

Figure 8 Top Final Scores of Actions (Overall and By Mode)

Project/Action Name	Category	Final Score	Final Ranking (Mode)	Final Ranking (Overall)
Bus Comprehensive Service Assessment/Upgrade	Transit	96	1	1
Streetscape Improvement/Pedestrian Enhancement Program (Downtown and Residential Neighborhoods)	Pedestrian/Bicycle	92	1	2
Route 1 Interchange Upgrades Near Industrial Areas	Motor Vehicle	91	1	3 (tied)
Princeton Rail Trail On Street Bike Boulevard Gap Closure	Pedestrian/Bicycle	91	2	3 (tied)
Bus Stop Amenity/Information Upgrades	Transit	88	2	4
Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	Multi-Modal	79	1	9

Keys to Implementation

Utilizing the scoring system developed through technical and public input, the City now has a methodology for prioritizing proposed transportation projects. Additional information is required for the development of an implementation plan. Decision-makers and planners require information about the agencies responsible for implementation, the location of each action, and each action's cost. This information is the who, where, and how much for the transportation element of the City's Master Plan; each element is presented below.

Funding

Relative Cost of Actions

The costs for planning, constructing, and maintaining an action is a critical element in prioritizing a range of options. The cost of an action should be considered in the context of the relative benefit anticipated to

be realized through implementation; this is known as an action’s cost-benefit. Comparison of these relative costs to the scores presented in previous sections can help decision-makers determine the relative cost-benefits of the proposed actions. The costs of the proposed actions have been estimated based on the following order-of-magnitude scale, which provides categories of comparable costs:

- Very Low = Less than \$10,000
- Low = \$10,000–\$100,000
- Medium = \$100,000–\$1M
- High = \$1M–\$10M
- Very High = Higher than \$10M+

Figure 9 presents the relative costs of the actions. As presented in Figure 10, the largest group of actions is estimated to cost between \$100,000 and \$1M each (19). Very Low- and Very High-cost projects comprise a small portion of the actions (five, total).

Figure 9 Relative Cost of Actions

Project/ Action Number	Project/Action Name	Relative Cost*
Motor Vehicle		
1	Route 1 Interchange Upgrades Near Industrial Areas	Very High
2	Highway Signage Improvements	Low
3	Local Bridge Rehabilitation / Replacement Program	High
4	Muirhead Avenue Extension	Medium
5	Route One Bridge Widening	High
6	Local Truck Route Plan	Medium
7	On-Street Parking Management Plan	Medium
8	Regional Congestion Relief	Very High
9	Downtown Circulation and Wayfinding Improvements	Very High
10	Accelerated Pavement Maintenance / Rehabilitation	Medium
11	Residential Arterials (concurrent with County Roadway Access Management Code)	Low
12	Route 1 Access Ramps	Medium
Pedestrian / Bicycle		
13	Route 29 Boulevard / River Access Strategies	Medium
14	Train Station Area Pedestrian / Bicycle Improvements	Low

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Project/ Action Number	Project/Action Name	Relative Cost*
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	Medium
16	Assunpink Creek Greenway	High
17	Delaware River Walk & Connections	High
18	Central Pedestrian Plaza	High
19	D&R Canal Towpath Signage and Access Improvements	Medium
20	Delaware and Bound Brook Rail Trail (Reading ROW)	High
21	Cass Street District Pedestrian Improvements	High
22	Calhoun Street Bridge Safety and Access Improvements	Medium
23	On-Street Bicycle Route Improvements	Medium
24	Bicycle Parking and Amenity Program	Low
25	Streetscape Improvement / Pedestrian Enhancement Program (downtown and residential neighborhoods)	High
26	Princeton Rail Trail On Street Bike Boulevard Extension	Medium
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	Medium
28	City of Trenton Bike Map/ Update Mercer County Map	Low
29	Hamilton Avenue Station Pedestrian Linkages	Medium
30	Safe Routes to School Program	Medium
Transit		
31	Bus Comprehensive Service Assessment / Upgrade (study only)	Medium
32	Trenton Jitney (study only)	Low
33	Bus Stop Amenity / Information Upgrades	Medium
34	Free NJ TRANSIT Bus-Rail Transfers	Medium
35	Transit Check / Eco-Pass Program	Very Low
36	Regional Express Buses	Very High
37	Transit Priority Streets (study only)	Low
38	Trenton Train Station Connections	Medium
Multi-Modal		
39	Parking & Access Study-Now Mercer County Study	Medium
40	Multi-Modal Access Map / Website	Low
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	Low
42	Transit Supportive Development	Low
43	Gateway Treatments	High

***Key to Relative Costs**

Very Low = Less than \$10,000

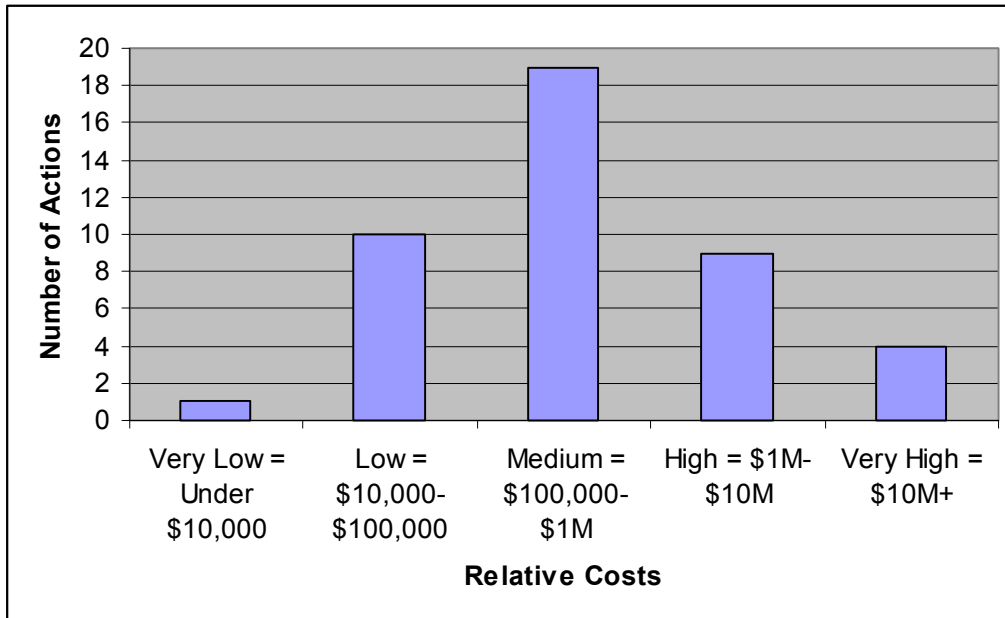
Low = \$10,000-\$100,000

Medium = \$100,000-\$1M

High = \$1M-\$10M

Very High = Greater than \$10M

Figure 10 Number of Proposed Actions by Relative Costs



Potential Sources of Funding

The best planned projects will go unfulfilled without sufficient funds. In the past, the Federal government was the prime source for transportation funds; unfortunately, these funds have recently been dramatically reduced, requiring localities to seek new sources and innovative options. To obtain sufficient funding for each of the actions determined by the priorities of the City of Trenton, a combination of the following sources are recommended.

Federal

The recently passed 2005 transportation bill, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (H.R. 3) (SAFETEA-LU) is the third iteration of the surface transportation program established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act (ISTEA) and renewed in 1998 through the Transportation Equity Act for the 21st Century (TEA-21).

SAFETEA-LU has been enacted to support transportation projects through fiscal year 2009 and provides a menu of Federal programs which may provide funds for Trenton's transportation actions are described below. These funds are generally distributed by the Delaware Valley Regional Planning Commission:

- **Interstate Maintenance:** Funds to rehabilitate, restore, and resurface the Interstate highway system. The program will not fund reconstruction projects that add new travel lanes to the freeways unless the new lanes are High Occupancy Vehicle (HOV) lanes. However, reconstruction of bridges and interchanges along existing Interstate routes, including the acquisition of right-of-way, may be funded under this program.
- **National Highway System:** Funds can be used for any type of improvement (new lanes, reconstruction, resurfacing, etc.) on roadways designated as part of the National Highway System. These include all the Interstate routes as well as other freeways and specially designated "principal arterials." These eligibility guidelines for NHS are more flexible than the Interstate programs. Funds can be used for transit projects, ridesharing projects, or any other type of project in the travel corridor served by a NHS road so long as it improves travel in the corridor.
- **STP-Urban Program:** The STP-Urban program is one of several Surface Transportation Programs that provide funds for projects not on the Interstate System or the National Highway System. The funds are intended to benefit minor arterial and collector roads rather than the more critical principal arterials funded by the Interstate and NHS programs. However, to be eligible a roadway must still be classified by the Federal Highway Administration as a collector or arterial. The STP-Urban program provides funds for improvements to eligible roads in urban areas. These eligibility guidelines for STP-Urban are flexible. Funds can be used for a

wide range of projects including roadway widening, roadway reconstruction and transit projects.

- STP–Anywhere Program: STP–Anywhere funds can be used anywhere. The funds can be used for any type of transportation project. Historically, this program is the largest of all the STP funding categories.
- STP–Safety Program: Ten percent of all STP funds must be spent on safety improvement projects.
- STP–Transportation Enhancement (TE) Program: Ten percent of all STP funds must be spent on transportation enhancement projects. There is no single criterion or definition of what constitutes an “enhancement” project. Generally, however, the project should enhance the environment of motorists, transit users, pedestrians, or bicyclists. Restoration of historic transportation facilities is also an eligible type of project. Categories of eligible activities as listed in the legislation include: (note: all activities below must relate to surface transportation):
 - Facilities for pedestrians and bicycles;
 - Safety and educational activities for pedestrians and bicyclists;
 - Scenic easements and scenic or historic sites;
 - Landscaping and other scenic beautification;
 - Historic preservation;
 - Rehabilitation & operation of historic transportation facilities;
 - Preservation of abandoned railway corridors;
 - Control and removal of outdoor advertising;
 - Archeological planning and research;

- Environmental mitigation to address water pollution due to highway runoff or reduce wildlife mortality while maintaining habitat connectivity; and
 - Establishment of transportation museums.
- High Priority Projects: TEA-21 included 1,850 high priority projects specified by Congress. Unlike other funding programs authorized by TEA-21, Congress included a specific list of individual projects to be included in the program. Funds can only be used for the projects on the list. Unlike any other funding category, HPP funds for any given project are appropriated in six annual installments over the six years of TEA-21.
- Bridge Program (On System): The primary federal bridge program is the "On System" bridge program. It provides funds to replace or rehabilitate bridges on eligible roads. To be eligible a bridge must be on a road classified as a collector or higher. That is, it must be "on" the Federal-Aid road system.
- Bridge Program: (Off System): The "Off System" bridge program provides funds to replace or rehabilitate bridges that are not on the Federal-Aid road system. Candidate projects are selected from the list of local and State bridges with poor or fair condition ratings. Since most State roads are on the Federal-Aid road system they are not qualified for this program. Many of the funded projects are municipal bridges.
- Congestion Mitigation and Air Quality Program: The Congestion Mitigation and Air Quality Program was created specifically to address congestion and air quality problems. Funds must be used for projects that reduce congestion and/or vehicular emissions. The funds are intended to help achieve the goal of the 1990 federal Clean Air Act Amendments. Examples of eligible activities include: transit improvements, travel demand management strategies, traffic flow improvements, and public fleet conversions to cleaner fuels.

- FTA Section 5309 Capital Funding Program (including “New Starts”): Federal Transit Administration (FTA) administers several transit funding programs. The Section 5309 program provides capital funding for the establishment of new rapid transit projects, the improvement and maintenance of existing rail and other fixed guideway systems, and the rehabilitation of bus systems .
- FTA Section 5307 Capital & Preventive Maintenance Program: FTA Section 5307 funds are primarily for capital projects such as the purchase of new buses. However, a portion of the funds can be used to cover the cost of preventive maintenance. The primary distinction of this program is that the funds are allocated to individual urban areas according to a formula based on the size of the population.

Additional sources of Federal transportations funds include:

- National Recreational Trails Fund (Simms Trails System Act);
- Scenic Byways Program;
- National Highway Traffic Safety Administration Section 402 Safety Funds; and
- Department of Housing and Urban Development Community Development Block Grant Program.

State of New Jersey

New Jersey currently collects a tax of 14.5 cents per gallon (cpg) for unleaded gasoline and 17.5 cpg on diesel; these funds are included in the State’s Transportation Trust fund. The New Jersey Transportation Trust Fund Authority Act allocates these funds to counties and municipalities for the following types of road and bridge improvement projects:

- State Aid for Counties: County Aid funds are appropriated by the Legislature annually for the improvement of public roads and

bridges under county jurisdiction. Public transportation and other transportation projects are also included.

- State Aid for Municipalities (Municipal Aid and Urban Aid): Municipal Aid funds are appropriated by the Legislature annually for the improvement of public roads and bridges under municipal jurisdiction.
- State Aid Discretionary: Subject to funding appropriation, a Discretionary Fund is established to address emergencies and regional needs throughout the State. Any county or municipality may apply at any time. These projects are approved at the discretion of the Commissioner. Payment of project costs is the same as the Municipal Aid Program. Under this program a county or municipality may also apply for funding for safe streets to schools and bikeway projects.

The State of New Jersey Department of Environmental Protection also distributes State Green Acres grants and loans to fund pedestrian projects. Funding is available from the Garden State Preservation Trust Act for land acquisition and facilities development for development of multi-use trails and facilities.

Local

The City of Trenton and Mercer County enjoy a robust capital improvement program that is funded in large part by revenue generated through County bonds. However, in addition to County funds, other local sources (and in some cases innovative sources) of funding may be possible. The County often partners with developers to implement transportation improvements, and developer contributions (while small) should continue to be a source of funding. A more intense source of private funding may come in the form of a Special Assessment District or a Tax Increment Finance (TIF) district. These districts have been successfully created to generate revenue to be used for improvements within a specific geographic boundary. In a district, dollars for

improvements are generated by businesses (new and old) attracted by the district's benefits. Specifically, money for infrastructure improvements and other incentives comes from the growth in property tax revenues, which is the tax increment. The State of New Jersey has established an Urban Enterprise Zone within Downtown Trenton. Development of districts in other portions of the City may be an option to generate transportation funds dedicated for neighborhoods outside of Downtown.

A second option for generating revenue could include implementation of a varying fee system on local parking facilities within the City, due to the significant supply of parking within the area. Parking revenue could be used to fund transportation improvements through agreements with the property owners.

New Jersey has also developed a joint state/county program for creation of Transportation Development Districts. These districts fund transportation improvements through a combination of public and private funding within a defined area of growth.

Time for Implementation

The length of time needed to implement a proposed action may be less critical in determining the City's priorities, but more important for overall planning. Utilizing the time for implementation estimates presented in Figure 11, the City can develop preliminary timelines for project planning, construction, initiation, and on-going use. The proposed actions represent projects with a range of implementation times; 13 are short-term, 21 are medium-term, and nine are long-term.

Figure 11 Estimated Time for Implementation of Actions

Project/ Action Number	Project/Action Name	Time for Implementation (Short/Medium/ Long Term)
Motor Vehicle		
1	Route 1 Interchange Upgrades Near Industrial Areas	Long
2	Highway Signage Improvements	Short
3	Local Bridge Rehabilitation / Replacement Program	Long
4	Muirhead Avenue Extension	Long
5	Route One Bridge Widening	Long
6	Local Truck Route Plan	Medium
7	On-Street Parking Management Plan	Medium
8	Regional Congestion Relief	Long
9	Downtown Circulation and Wayfinding Improvements	Medium
10	Accelerated Pavement Maintenance / Rehabilitation	Medium
11	Residential Arterials (concurrent with County Roadway Access Management Code)	Short
12	Route 1 Access Ramps	Medium
Pedestrian / Bicycle		
13	Route 29 Boulevard / River Access Strategies	Long
14	Train Station Area Pedestrian / Bicycle Improvements	Medium
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	Medium
16	Assunpink Creek Greenway	Long
17	Delaware River Walk & Connections	Medium
18	Central Pedestrian Plaza	Medium
19	D&R Canal Towpath Signage and Access Improvements	Short
20	Delaware and Bound Brook Rail Trail (Reading ROW)	Long
21	Cass Street District Pedestrian Improvements	Medium
22	Calhoun Street Bridge Safety and Access Improvements	Long
23	On-Street Bicycle Route Improvements	Short
24	Bicycle Parking and Amenity Program	Medium
25	Streetscape Improvement / Pedestrian Enhancement Program (downtown and residential neighborhoods)	Medium
26	Princeton Rail Trail On Street Bike Boulevard Extension	Medium
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	Medium
28	City of Trenton Bike Map/ Update Mercer County Map	Short
29	Hamilton Avenue Station Pedestrian Linkages	Medium
30	Safe Routes to School Program	Short
Transit		
31	Bus Comprehensive Service Assessment / Upgrade	Medium

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Project/ Action Number	Project/Action Name	Time for Implementation (Short/Medium/ Long Term)
32	Trenton Jitney	Medium
33	Bus Stop Amenity / Information Upgrades	Short
34	Free NJ TRANSIT Bus-Rail Transfers	Short
35	Transit Check / Eco-Pass Program	Short
36	Regional Express Buses	Short
37	Transit Priority Streets	Medium
38	Trenton Train Station Connections	Medium
Multi-Modal		
39	Parking & Access Study-Now Mercer County Study	Medium
40	Multi-Modal Access Map / Website	Short
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	Short
42	Transit Supportive Development	Short
43	Gateway Treatments	Medium

Agencies Responsible for Implementation

Similar to estimating the time required for implementation, determining the agency responsible for implementing each action is intended to assist the City in long-term coordination. As presented in Figure 12, the implementing agency is frequently a team of agencies, sharing responsibilities. While the majority of actions require implementation by the City of Trenton, additional responsibilities frequently require implementation by Mercer County, the State of New Jersey, or multiple regional agencies.

Figure 12 Agencies Responsible for Implementation of Actions

Project/ Action Number	Project/Action Name	Implementing Agencies*
Motor Vehicle		
1	Route 1 Interchange Upgrades Near Industrial Areas	NJ DOT
2	Highway Signage Improvements	City of Trenton (Public Works) Mercer County (Engineering) NJ DOT
3	Local Bridge Rehabilitation / Replacement Program	NJ DOT (Bridges)
4	Muirhead Avenue Extension	NJ DOT City of Trenton Mercer County
5	Route One Bridge Widening	NJ DOT Delaware River Joint Toll Bridge Commission
6	Local Truck Route Plan	City of Trenton (Public Works) Mercer County (Engineering), NJ DOT
7	On-Street Parking Management Plan	City of Trenton (Public Works)
8	Regional Congestion Relief	NJ DOT Delaware Valley Regional Planning Commission Greater Mercer Co. Transportation Mgmt. Assoc.
9	Downtown Circulation and Wayfinding Improvements	City of Trenton State of New Jersey
10	Accelerated Pavement Maintenance / Rehabilitation	City of Trenton (Public Works)
11	Residential Arterials (concurrent with County Roadway Access Management Code)	City of Trenton (Public Works) Mercer County (Planning)
12	Route 1 Access Ramps	NJ DOT Delaware River Joint Toll Bridge Commission
Pedestrian / Bicycle		
13	Route 29 Boulevard / River Access Strategies	NJ DOT City of Trenton Capital City Redevelopment Corporation Delaware River Joint Toll Bridge Commission Delaware Valley Regional Planning Commission
14	Train Station Area Pedestrian / Bicycle Improvements	City of Trenton NJDOT
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	City of Trenton Mercer County (Engineering) Delaware Valley Regional Planning Commission
16	Assunpink Creek Greenway	Delaware Valley Regional Planning Commission City of Trenton

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Project/ Action Number	Project/Action Name	Implementing Agencies*
17	Delaware River Walk & Connections	Delaware Valley Regional Planning Commission City of Trenton Mercer County Improvement Association Mercer County NJDOT
18	Central Pedestrian Plaza	City of Trenton
19	D&R Canal Towpath Signage and Access Improvements	Delaware Valley Regional Planning Commission City of Trenton D&R Canal Commission
20	Delaware and Bound Brook Rail Trail (Reading ROW)	Delaware Valley Regional Planning Commission City of Trenton NJDOT
21	Cass Street District Pedestrian Improvements	City of Trenton Delaware Valley Regional Planning Commission Mercer County NJ Transit
22	Calhoun Street Bridge Safety and Access Improvements	NJ DOT Delaware Valley Regional Planning Commission Mercer County (Engineering) Delaware River Joint Toll Bridge Commission
23	On-Street Bicycle Route Improvements	Delaware Valley Regional Planning Commission City of Trenton (Public Works) Mercer County (Engineering)
24	Bicycle Parking and Amenity Program	City of Trenton Greater Mercer Co. Transportation Mgmt. Assoc.
25	Streetscape Improvement / Pedestrian Enhancement Program (downtown and residential neighborhoods)	City of Trenton (Public Works) Mercer County Improvement Authority Mercer County (Engineering) NJDOT Delaware Valley Regional Planning Commission
26	Princeton Rail Trail On Street Bike Boulevard Extension	Delaware Valley Regional Planning Commission City of Trenton (Planning) Mercer County (Planning)
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	Delaware Valley Regional Planning Commission City of Trenton (Planning) D&R Canal Commission
28	City of Trenton Bike Map/ Update Mercer County Map	City of Trenton (Planning) Greater Mercer Co. Transportation Mgmt. Assoc.
29	Hamilton Avenue Station Pedestrian Linkages	Mercer County Improvement Authority
30	Safe Routes to School Program	City of Trenton (Planning, Public Works, Board of Education) NJDOT

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Project/ Action Number	Project/Action Name	Implementing Agencies*
Transit		
31	Bus Comprehensive Service Assessment / Upgrade	NJ Transit City of Trenton Mercer County (Planning) Greater Mercer Co. Transportation Mgmt. Assoc.
32	Trenton Jitney	City of Trenton NJ Transit NJDOT NJ Treasury - CCRC Greater Mercer Co. Transportation Mgmt. Assoc.
33	Bus Stop Amenity / Information Upgrades	NJ Transit City of Trenton Mercer County
34	Free NJ TRANSIT Bus-Rail Transfers	NJ Transit
35	Transit Check / Eco-Pass Program	NJ Transit NJ Treasury City of Trenton Delaware Valley Regional Planning Commission
36	Regional Express Buses	NJ Transit City of Trenton Delaware Valley Regional Planning Commission
37	Transit Priority Streets	City of Trenton NJ Transit Mercer County NJDOT
38	Trenton Train Station Connections	City of Trenton NJ Transit NJDOT
Multi-Modal		
39	Parking & Access Study-Now Mercer County Study	Mercer County Improvement Authority
40	Multi-Modal Access Map / Website	City of Trenton (Planning) Greater Mercer Co. Transportation Mgmt. Assoc.
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	City of Trenton (Planning) Mercer County (Planning) Greater Mercer Co. Transportation Mgmt. Assoc.
42	Transit Supportive Development	City of Trenton (Planning) Mercer County (Planning) NJDOT
43	Gateway Treatments	City of Trenton (Planning) Mercer County (Planning) NJDOT

*Refers to lead or coordinating agency or team of agencies. Where known, primary agency listed first and specific department listed in parenthesis.

Location

Another long-term implementation factor is the location of each action. Figure 13 presents the locations for each proposed action. The location may be as specific as a neighborhood within the City of Trenton, or may be applicable City- or region-wide.

Figure 13 Location of Actions

Project/ Action Number	Project/Action Name	Location
Motor Vehicle		
1	Route 1 Interchange Upgrades Near Industrial Areas	Citywide
2	Highway Signage Improvements	Citywide
3	Local Bridge Rehabilitation / Replacement Program	Citywide
4	Muirhead Avenue Extension	Battle Monument
5	Route One Bridge Widening	Riverfront
6	Local Truck Route Plan	Citywide
7	On-Street Parking Management Plan	Citywide
8	Regional Congestion Relief	Citywide
9	Downtown Circulation and Wayfinding Improvements	Capitol District
10	Accelerated Pavement Maintenance / Rehabilitation	Citywide
11	Residential Arterials (concurrent with County Roadway Access Management Code)	Citywide
12	Route 1 Access Ramps	Downtown and Waterfront
Pedestrian / Bicycle		
13	Route 29 Boulevard / River Access Strategies	Waterfront
14	Train Station Area Pedestrian / Bicycle Improvements	Capitol District
15	Calhoun, Willow, and Perry Street Pedestrian Improvements	Downtown
16	Assunpink Creek Greenway	Citywide
17	Delaware River Walk & Connections	Waterfront
18	Central Pedestrian Plaza	Citywide
19	D&R Canal Towpath Signage and Access Improvements	Waterfront
20	Delaware and Bound Brook Rail Trail (Reading ROW)	Citywide
21	Cass Street District Pedestrian Improvements	Cass Street District and Waterfront Park
22	Calhoun Street Bridge Safety and Access Improvements	Waterfront
23	On-Street Bicycle Route Improvements	Citywide
24	Bicycle Parking and Amenity Program	Citywide

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Project/ Action Number	Project/Action Name	Location
25	Streetscape Improvement / Pedestrian Enhancement Program (downtown and residential neighborhoods)	Citywide
26	Princeton Rail Trail On Street Bike Boulevard Extension	Citywide
27	D&R Canal Towpath On Street Bike Boulevard Gap Closure	Citywide
28	City of Trenton Bike Map/ Update Mercer County Map	Citywide
29	Hamilton Avenue Station Pedestrian Linkages	Roebling Complex District
30	Safe Routes to School Program	Citywide
Transit		
31	Bus Comprehensive Service Assessment / Upgrade	Citywide
32	Trenton Jitney	Citywide
33	Bus Stop Amenity / Information Upgrades	Citywide
34	Free NJ TRANSIT Bus-Rail Transfers	Citywide
35	Transit Check / Eco-Pass Program	Citywide
36	Regional Express Buses	Citywide
37	Transit Priority Streets	Downtown
38	Trenton Train Station Connections	Trenton Train Station
Multi-Modal		
39	Parking & Access Study-Now Mercer County Study	Citywide
40	Multi-Modal Access Map / Website	Downtown
41	Zoning Code, Parking & Traffic Code, Roadway Standards, Design Guidelines and Environmental Compliance Criteria Update	Citywide
42	Transit Supportive Development	Citywide
43	Gateway Treatments	Citywide

ELECTRONIC APPENDIX

STRATEGIC ACTION MATRIX WITH EVALUATION CRITERIA