



# Strategy Refinement – Final Report

## ***Background***

Strategy Evaluation and its follow-up Strategy Refinement are performance-based planning studies conducted by the North Jersey Transportation Planning Authority (NJTPA) to assess regional needs and recommend specific strategies and project concepts for further investigation. Strategy Evaluation identified transportation needs in the NJTPA region, and delineated areas throughout the region where certain types of transportation improvements might be appropriate. The types of improvements (referred to as “strategies”) were grouped into four general categories: Ridesharing and Transit Support; Public Transit Enhancement; Roadway Improvements; and Freight Movement. Within each of those Strategy Groups, more specific strategies were identified, for example, highway operational improvements, local buses, rail freight projects, and park and ride lots. Strategy Areas, showing where strategies could most effectively be applied, were identified and mapped. More detail on the Strategy Evaluation process can be found in Regional Transportation Plan’s (RTP) Appendix C – NJTPA Strategy Evaluation Study Report.

Strategy Refinement builds upon the work done in Strategy Evaluation. The objective of Strategy Refinement was to identify about 30 project concepts which can be considered for advancement into participating agencies’ study and development processes. To do this, potential Refinement Areas were identified. These “Refinement Areas” consisted of individual strategies which could be effectively applied within the Strategy Areas. As an example, a public transit enhancement for the Jersey City & Secaucus strategy area was further defined as the Refinement Area, or individual strategy that could be effectively applied within the strategy area, as implementing a Jersey City local bus study.

As a result of this process, over 300 potential Refinement Areas were identified. These were screened and ranked, and, through a collaborative process involving the NJTPA’s partners, narrowed down to 30 Areas that were studied further to produce Concept Reports.

## ***Selection of the Refinement Areas for Development of Project Concepts***

The Strategy Refinement process started off with a candidate list of around 335 Refinement Areas from the Strategy Evaluation process. These consisted of strategies considered appropriate within the Strategy Areas. An initial screening and ranking of those candidates was performed by evaluating potential strategy Refinement Areas, considering two groups of factors. The first included the local effects of a Refinement Area and its compatibility with the NJTPA’s planning principles, including the Regional



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Transportation Plan (RTP) and the Regional Capital Investment Strategy (RCIS). These considerations included:

- Compatibility with Smart Growth principles, including compact development, preservation of natural resources and economic diversity.
- Advancing sustainability by addressing energy and environmental issues
- Serving people in areas with identified needs, which were listed during Strategy Evaluation.
- Impacts and benefits to minority and low-income communities
- Compatibility with NJTPA's Regional Capital Investment Strategy (RCIS) principles

The second group considered all strategy Refinement Areas in a regional context. Feasibility issues were assessed. Factors considered in this level of evaluation included:

- Level of local and institutional support
- Cost
- Magnitude of benefits
- Difficulty of implementation
- Synergies between two or more Refinement Areas in the same vicinity
- Impact on multiple subregions – determination of potential for regional impact

A screenshot of the evaluation matrix is shown on *Figure 1*. This matrix was used to make a general “first cut” assessment ranking of the Refinement Areas. Based on this, a list of Refinement Areas and associated strategies were developed for each subregion.

Each Refinement Area was a valid candidate because it came from the Strategy Evaluation process. For each subregion, a list of the top scoring Refinement Areas was prepared. Meetings were held with each of the subregions to get their input in arriving at a refined (and ranked) list of their top Refinement Areas, with a selection of the first-ranked Areas as the primary objective. Based on subregional input, final lists of ranked Refinement Areas were developed for each subregion.

Regional Refinement Areas were then identified. They were defined as affecting multiple subregions and having clear regional impacts. The list of potential regional Refinement Areas was drawn up by the NJTPA project team from the initial list of 335 Refinement Areas.

At the completion of this process, a list of approximately 75 Refinement Areas was developed that consisted of the top-ranking Areas by subregion, combined with the top-ranked regional Refinement Areas. In general, the top four to six top-ranked Refinement Areas in each Subregion were included, along with six regional Refinement Areas.





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The next step was to narrow down the list of 75 candidates into a final list of 30 that would advance into the preparation of Concept Reports. It was determined that a workshop, held with the subregional partners, was the preferred method to narrow the list. As preparation for the workshop, a categorized list of the 75 refinement areas was sent to the participants. This list was divided into three segments, as noted below.

- *Segment 1* - a spreadsheet list showing the *Selected Refinement Areas* identified as most important by the subregions, and key regional Refinement Areas identified by the NJTPA);
- *Segment 2* – a spreadsheet list showing *Other Refinement Areas* that could be considered for inclusion in final list of 30;
- *Segment 3* - *Other Refinement Areas*, a list of Refinement Areas that were considered for advancement, but include projects that are currently in the development process or under study

The listings of the three segments are included as Attachments 1-3.

### ***Selection of Refinement Areas***

All of the 75 potential Refinement Areas were subject to a multi-step screening process that considered, first, geographic diversity, and, next, modal diversity.

To address geographic diversity, the top Refinement Areas were selected based on the subregional outreach effort. These areas were the 15 top-ranked subregional Refinement Areas. The top 6 regional projects selected by the NJTPA project team were added to the list. Regional projects were evaluated based on the extent of their regional effect, subregional support as indicated in the subregional meetings, potential cost, and the benefits of producing concept reports concerning them. This entire process resulted in the selection of 21 Refinement Areas in segment 1, shown as color-coded blue on Attachment 1

Next, modal diversity was assessed. This is the relative proportion of the Refinement Area categories being considered: Ridesharing and Transit Support, Public Transit Enhancements, Roadway Improvements, and Freight Improvements. Based on a number of considerations including Board RCIS expenditure goals, RTP guiding principles, and the success of advancement in the first Strategy Refinement process conducted several years ago, a target mix of concepts by mode was developed, with the objective of narrowing the list down to 30 Refinement Areas. These ranges were defined as:

Transit Enhancement 11-13, target at 11  
Roadway 9-11, target at 9  
Rideshare Support 4-7, target at 7  
Freight 2-3, target at 3  
TOTAL TARGET: 30



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The Refinement Areas shown in Attachment 1 were cross referenced against the modal categories to check totals against the targets, with the following results:

- Transit Enhancement target at 11: 6 included in Attachment 1, leaving 5 more that could be added to the final list
- Roadway target at 9: 6 included in Attachment 1, leaving 3 more that could be added to the final list
- Rideshare Support target at 7: 6 included in Attachment 1, leaving 1 more that could be added to the final list
- Freight target at 3: 3 included in Attachment 1, leaving no more that could be added to the final list

### ***Other Refinement Areas***

Attachment 2 shows a total of 24 other Refinement Areas, of which 9 (color-coded in green) were recommended for advancement, and 16 (color-coded in orange) were considered by workshop participants for advancement in place of any of the 9 recommended Areas.

To select the 9 recommended Refinement Areas, the following process was used:

1. The first 21 Refinement Areas, consisting of the 15 top priorities of the subregions, plus the 6 top-ranked regional Refinement Areas were considered as “firmly-in” the final list.
2. For the remaining Refinement Areas, three considerations were balanced, including, first, input from the subregions, second, the mix of modes versus the goal ranges listed above, and, third, geographic location within the region. These Refinement Areas were defined as the “last-in” Areas (9 Refinement Areas colored green in Attachment 2).
3. When the 9 “last-in” Refinement Areas were added to the “firmly-in” list of 21 Refinement Areas, the RCIS category goals listed above were met, including the following mix of Area types:
  - Transit Enhancement, 5 added to the list for a total of 11 Refinement Areas
  - Roadway, 3 added to the list for a total of 9 Refinement Areas
  - Rideshare Support, 1 added to the list for a total of 7 Refinement Areas
  - Freight, 0 added to the list for a total of 3 Refinement Areas
4. Next, a further look at the remaining unselected areas was conducted based on input from the subregions, modal diversity and geographic diversity. This resulted in the selection of a number of Refinement Areas considered to be the “last-out” Areas. These Areas were worthy of discussion, but, because of the necessity to balance modal diversity, subregional rankings, and geographic diversity, they “missed the cut” for the initial list of 30 Areas. They include 15



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Refinement Areas (colored orange in Attachment 2), which are called “Unselected Areas”.

### ***Refinement Areas Underway***

Attachment 3 shows a list of Refinement Areas that were considered for advancement, but include projects that are currently in the development process or under study. These Refinement Areas were among those considered important by the NJTPA and the subregions. However, as the overall goal of the Strategy Refinement process is to generate new project starts, it was felt it would not be in the best interest of this study to reexamine these areas, because they are already advancing in the pipeline process. Attachment 3 includes 11 such Areas.

### ***Strategy Refinement Workshop***

A Workshop was held on December 8, 2008, to finalize the list of 30 Refinement Areas. Workshop participants were asked to reconsider the mix of the final 9 “last-in” Refinement Areas. One or more of the 15 “Unselected Areas” could be substituted for one or more of the 9 recommended (“last-in”) Areas. However, modal diversity required in the RCIS goals still had to be taken into account. There was some flexibility in this because the goals noted above were a range, not a fixed number, although the target mix was considered to be the most accurate representation of the Board’s RCIS goals.

In advance of the meeting, participants were provided the matrix with the areas highlighted as defined above – including the Areas already being studied or in the pipeline, the 21 Areas firmly in the final list of 30, the 9 “last-in” Areas, and the “last-out” Areas. The objective of the workshop was to evaluate the “last-in” and “Unselected Areas” to arrive at consensus as to which Areas should comprise the final list of 30.

The workshop began with an explanation of the process as defined above. The discussion was directed to the “last-in” and “last-out” Areas: the 9 “last-in” refinement Areas, and the 15 “last-out” Refinement Areas. Group discussion on each candidate led to a general consensus of what Strategy Refinement areas should be included in the list of 30.

As a result of the workshop, a few changes and clarifications were made to the Refinement Areas to arrive at a finalized list of 30, which is included as Attachment 4.

### ***Project Concept Reports***

Within each of the 30 selected Refinement Areas, more specific strategies were identified to develop a further assessment of needs and appropriate project concepts that could advance in the strategy refinement process.



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Two work products were generated for each of the target Refinement Areas, a concept report and a summary graphic sheet. These work products were the culmination of a refinement process that generally followed these steps:

1. Discussion with county where refinement area was located to understand key issues and relevant adjacent projects or developments
2. Discussion with NJDOT and NJTransit to ascertain if any relevant projects were underway in the area and identify key issues
3. Data request to agencies and internal team as needed
4. Field visit
5. Review of the straight line diagram of study area
6. Set Limits of study area
7. Make general assessments
8. Review reports and data
9. Summarize and develop concepts
10. Create mapping and summary graphics

### ***Concept Reports***

The concept reports were organized in a fashion that put the most important information up front, so a reader with limited time would easily understand and visualize issues and concepts. The cover page generally consists of three boxes, one summarizing key background information (for example, AADT, crash rates, planning and environmental issues), one outlining projects recommended for consideration, and a final box showing a map of the study area. There were variations on the individual reports as necessary to reflect the nature of the Concept and the context of the material depending on whether the Concepts came from the Ridesharing and Transit Support; Public Transit Enhancement; Roadway Improvements; or Freight Movement categories.

The main body of the report is divided into two sections: Concepts recommended for further consideration, and corridor background and context (again, the more critical information is presented first). In the Concepts section, potential concepts are divided into relevant strategy groups and screened for future investigation. The end of this section summarizes which of these strategies are recommended for advancement, the implementing authority, and the estimated cost of implementation.

The next section provides background corridor information and sets the context for the strategies being recommended. It considers elements relevant to the strategy type, such as land use, observed issues, access, environmental studies, supporting studies, and relevant projects currently programmed in the TIP or PDWP.

The cover sheet of a Concept Report is shown in Attachment 5.



### ***Preparing Project Concepts for Development***

The overall objective of Strategy Evaluation and Refinement is to identify and develop projects that reflect the NJTPA's goals and priorities. This means that project concepts need to be investigated further so that specific projects can be developed. There are several paths which can potentially lead to this result:

- 1. Project Development Work Program (PDWP):** In the case of roadway concepts, a Problem Statement is written for the NJDOT, recommending that a concept enter the Project Pipeline for study and development. An example of a Problem Statement for a Strategy Refinement Concept is shown in Attachment 6. The PDWP proceeds in two phases of work at the NJDOT: Concept Development (CD) and Preliminary Engineering (PE). During these phases a project scope is prepared and engineering is carried out to approximately 25% of full design. Environmental studies are also undertaken in the PDWP. Upon completion of PE, projects become eligible for funding in the Transportation Improvement Program (TIP).
- 2. Incorporation into Budget Line Items in the PDWP or TIP:** Several line items exist in the TIP or PDWP that can accommodate project Concepts that cannot be moved directly into project development. Examples of line items in the TIP are minor roadway resurfacing, bridge deck replacement, traffic incident management, the statewide signs program, and transit rail initiatives. Similar programs in the PDWP include bus rapid transit planning and development, and rail station and parking planning.
- 3. Inclusion in NJTPA Corridor Studies or Regional Bus Studies:** Periodically the NJTPA undertakes corridor or regional bus studies. An example of a recently-completed corridor study was the I-78 Corridor Transit Study. There are currently four regional bus studies taking place, sponsored collaboratively by the NJTPA and NJ Transit. These cover northwest New Jersey, Bergen and Passaic Counties, Hudson County, and the Greater Newark Area. Another NJTPA-NJ Transit study is being undertaken for an intermodal center in Elizabeth. These types of studies offer an appropriate medium in which to further investigate Project Concepts that emerge from Strategy Refinement.
- 4. Project Development by Transportation Management Associations (TMAs):** The NJTPA supports six TMAs throughout the region. TMAs are responsible for developing alternative means of transportation with the objective of reducing dependence on single-occupant-vehicle (SOV) travel. TMAs typically fund strategies such as car-pooling, shuttles, and employee trip-reduction. Periodically the TMAs are offered the opportunity by the NJTPA to compete for CMAQ



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funding for development of new strategies. During the solicitation process, the TMAs are encouraged to develop strategies that are recommended in Strategy Refinement Concept Reports.

These Project Concept development paths can effectively leverage NJTPA and implementing agency processes to improve the Concepts' probability of success. The traditional path to project development is via the PDWP, which is accessed by Problem Statements submitted by the NJTPA to the NJDOT or NJ Transit. However, in times of scarce funding, these agencies do not have the resources to develop many of the Project Concepts. Therefore, alternative paths, such as those described above, must be used to keep Project Concepts under consideration. In this manner, over time, the NJTPA stands a reasonable chance of successfully implementing many of them, thereby ensuring that regional goals and priorities are effectively taken into account in the overall regional planning and project development process.



# **Attachment 1**

Attachment-1

SELECTED REFINEMENT AREAS ("FIRMLY-IN")			
Strategy Category	Refinement Area	Descriptive Statement	Subregion
Ridesharing/Transit Support	Bicycle and Pedestrian Facilities in Bergen County	Create appropriate and safe bicycle and pedestrian facilities in an area of Bergen County to be determined in consultation with the county	Bergen
	TMA Program in Hudson County	Create ridesharing and vanpool programs to areas in Hudson County not well served by traditional transit service.	Hudson
	Boonton & Morristown Lines Park&Ride and Shuttle Service Study	Where possible, expand Park and Ride lots along the Morris & Essex Line between Summit and Dover and investigate local shuttle service to improve access to rail stations.	Morris
	Bicycle and Pedestrian Facilities in Passaic County	Create appropriate and safe bicycle and pedestrian facilities in an area of Passaic County to be determined in consultation with the county	Passaic
	RVL Shuttle Study in Somerset	Determine routing for and identify long-term funding sources for rail shuttles around RVL stations in Somerset county.	Somerset
	Bicycle and Pedestrian Facilities statewide guidebook	Create a statewide guidebook to finding resources for bicycle and pedestrian projects, including access to funding, design standards and guidance on project development.	Regional
Public Transit Enhancement	Transit Service Jersey City & Secaucus	Provide improved transit service from residential areas in Jersey City to industrial and retail employment centers in Secaucus.	Jersey City
	New Brunswick/Rt 1 BRT Study	Investigate express bus service from outlying park and rides to New Brunswick along Routes 9 & 18, and develop methods to prioritize bus mobility in the corridor.	Middlesex
	Reverse Transit Service in Morris, Essex & Hudson	Study reverse peak transit service from Hudson county to job centers in Essex and Morris Counties including Livingston, East Hanover and Parsippany.	Newark
	Intermodal Transit Hub in Elizabeth	Develop an intermodal transit hub in Elizabeth to efficiently deal with the growing bus and rail service in the area and provide room for future expansions.	Union
	Bus Service to Major Attractors in Lakewood/Toms River	Study improving bus service from the Route 9 corridor in Ocean, Monmouth and Middlesex Counties to Midtown Manhattan, including destinations outside the Port Authority Bus Terminal.	Regional
	Regionwide ITS	Study using technology to improve transit operations region-wide including, but not limited to real-time information for operators and passengers and improved communication between vehicles and operations management.	Regional
Roadway Improvements	Downtown Newark Area Congestion Management	Create methods and facilities to manage congestion causing incidents and improve ramps on I-280 in Downtown Newark, a major regional facility	Essex
	Clinton Area Operational Improvements	Study operational improvements along I-78 and Route 31, including signal timing, intersection configuration and ramp design to alleviate congestion in Clinton Township	Hunterdon
	Operational Improvements along Rts 33/66, GSP-Shore	Study operational improvements along Routes 33 and 66 between the Garden State Parkway and the Shore, including signal timing, intersection configuration and ramp design to alleviate congestion on this important East-West route in Monmouth County.	Monmouth
	Operational Improvements along Rts 70/88 in Lakewood -Pt. Pleasant	Improve roadway operations along Routes 70 & 88 in the Lakewood-Point Pleasant area by improving signal timing, mitigating bottlenecks, and re-configuring intersections along this major East-West corridor in Ocean County	Ocean
	Operational Improvements along Rt. 23 in Hamburg- Franklin	Improve roadway operations along Routes 23 in Sussex County area by improving signal timing, mitigating bottlenecks, and re-configuring intersections along this major regional corridor.	Sussex
	Congestion Mitigation in Phillipsburg Area	Investigate mitigating congestion in the Phillipsburg area by improving signal timing and re-configuring intersections.	Warren
Freight Improvement	Core Freight Facilities Regionwide	Study using technology to improve routing and handling of freight throughout the region.	Regional
	Core Freight Facilities Area at Marion Junction in Jersey City	Improve the operation of Marion Junction in Jersey City, a major rail bottleneck, to facilitate region-wide movement of rail freight	Regional
	Port Facilities Area Around Bayonne Bridge	Improve the port to handle larger cargo vessels by improving dock facilities and possibly increasing the capacity of the channel under the Bayonne Bridge through dredging or bridge replacement.	Regional

# **Attachment 2**

Attachment-2

RECOMMENDED REFINEMENT AREAS ("LAST-IN")			
Strategy Category	Refinement Area	Descriptive Statement	Subregion
Ridesharing /Transit Support	Shuttle service around NEC stations	Determine routing for and identify long-term funding sources for rail shuttles around Northeast Corridor stations in Middlesex county.	Middlesex
Public Transit Enhancement	BRT study around Attractors in Bergen County	Study BRT concepts in Bergen/Passaic area such as a bus service circulator around the River Edge Rail Station, regional shopping areas and the Hackensack Hospital in Bergen County	Bergen
	Express Bus from Rts 9 and 35 to Metropark	Create express bus service from the Route 9 and 35 corridors in Ocean and Monmouth counties to Metropark and surrounding areas.	Ocean
	BRT study for Pat-Ham Turnpike and Main Street	Study BRT concepts for bus service along Main Street in Paterson and Paterson-Hamburg Turnpike between Paterson and Wayne.	Passaic
	Study Express Bus Rt 27	Study concepts for express bus service along Route 27 through Franklin Township between Princeton and New Brunswick.	Somerset
	Passaic-Bergen Line extension to Butler	Extend the Passaic-Bergen Line from its current planned terminus in Hawthorne to Butler area.	Passaic
Roadway Improvements	Operational and ITS Improvements to the Pulaski Skyway	Study operational improvements and ITS Pulaski Skyway & Rt 1/9 Jersey City-North Bergen	Jersey City
	Comprehensive Roadway Improvements Strategies along Rt 18 in East Brunswick	Investigate operational improvements at intersections along Route 18 in East Brunswick to mitigate congestion and improve access to transit and pedestrian facilities.	Middlesex
	Comprehensive Roadway Improvements Strategies along I-80	Improve operations along I-80 in Morris county by improving interchanges and using technology to manage incidents and deliver real-time driver information.	Morris

REFINEMENT AREAS FOR CONSIDERATION ("UNSELECTED")			
Strategy Category	Refinement Area	Descriptive Statement	Subregion
Ridesharing/Transit Support	Bicycle and Pedestrian Facilities in Journal Square Area	Bicycle and Pedestrian facilities in areas with need, Journal Sq area, including parkign and people-mover	Jersey City
	Study Shuttle Service around NJCL Stations in Middlesex County	Determine routing for and identify long-term funding sources for rail shuttles around NJCL stations in Middlesex county.	Middlesex
	Bicycle and Pedestrian facilities in Monmouth County	Create appropriate and safe bicycle and pedestrian facilities in an area of Monmouth County to be determined in consultation with the county	Monmouth
	Shuttle service to Main, Bergen and Pascack Valley Line Stations	Determine routing for and identify long-term funding sources for rail shuttles around Main Line stations in Passaic county.	Passaic
	Bicycle and Pedestrian facilities in Sussex County	Create appropriate and safe bicycle and pedestrian facilities in an area of Somerset County to be determined in consultation with the county	Somerset
	Funding Continuation of Shuttle Service along Route 22 Retail Areas	Investigate a variety of methods for providing continued funding sources for shuttle services beyond 3 years when CMAQ funds expire using Route 22 as a pilot.	Union
Public Transit Enhancement	Pascack Valley & Bergen County Line Service Improvement	Study improved service along the Pascack Valley and Bergen County lines by increasing capacity and refining operations.	Bergen
	Regional transit connectivity in Essex County	Improve transit service from Essex County to Newark to increase options for regional transit connectivity.	Essex
	Follow up to New Brunswick BRT Study's Recommendations	Continue advancing BRT concepts for bus service in the New Brunswick area.	Middlesex
Roadway Improvements	Comprehensive Roadway Improvements Strategies along Rt. 202	Improve operations along Route 202 in Hunterdon county by improving intersections, using technology to manage incidents and deliver real-time driver information, and managing access.	Hunterdon
	Interchange Improvements along I-78 in Hudson County	Improve operations along I-78 in Hudson county by improving interchange capacity.	Hudson
	Incident Management and Interchange Issues along Route 24 and I-78 in Essex & Union	Improve incident management and investigate interchange issues at interchanges along Route 24 and I-78 in Union county.	Union
	Congestion Mitigation alon Rt 46 in Hackettstown-Mt Olive	Study operational improvements along Route 46 in Warren County to mitigate congestion by improving intersections and managing access.	Warren
Freight Improvement	Freight Rail Strategies along eastern end of Lehigh Line	Improve the Lehigh Line on the eastern end with additional capacity for shared use with transit.	Essex
	Improving/Expanding Port capacity, Regionally and Nationally	Improve port capacity by developing additional support areas and improving connections to the regional and national transportation networks.	Regional

# **Attachment 3**

**Attachment-3**

SUBREGIONAL PRIORITIES UNDERWAY OR WELL DEFINED			
Strategy Category	Refinement Area	Descriptive Statement	Subregion
Public Transit Enhancement	Bergen Line Service Improvement	Study improved service along the Bergen line by increasing capacity and refining operations.	Bergen
	Jersey City & Secaucus Light Rail	Bayfront Light Rail Extension	Jersey City/Hudson
	Jersey City & Secaucus HBLR/PATH	Additional HBLR/PATH Stations	Hudson
	Jersey City & Secaucus Local Bus	Implementation of Jersey City Local Bus Study	Jersey City/Hudson
	Central Bergen: Stations and Employers	Northern Branch study	Bergen
	Rt 9 Corridor: NYC to Freehold	Study transit needs from south to Freehold and points North (MOM Study)	Monmouth
	Newark Bus Study	Enhanced bus service: Springfield Ave and Bloomfield Ave to Newark Airport including Local Bus Study	Newark
	NW NJ Bus Study/Lackawanna	Lackawanna Cut-Off	Sussex
	West Trenton Line	West Trenton Express Bus and Rail Extension	Somerset
Cross-County RVL to Elizabeth	Continue advancing the Cross-County Rail Line between Cranford and Elizabeth.	Union	
Roadway Improvements	Jersey City-Hudson County ITS and Incident Management	Improve ITS and incident management on Route 440 - 1&9 in Jersey City	Jersey City
	Eastern Passaic-Southern Bergen Area	Evaluate Rt 17 for improvement study	Bergen
	Downtown Newark Area	Improve Incident Management and interchange issues on Rt 21 "missing Link", Downtown Newark	Newark
Freight Improvement	Freight Rail Strategies along western end of Lehigh Line	Improve the Lehigh Line on the western end through additional passing sidings.	Hunterdon

# **Attachment 4**

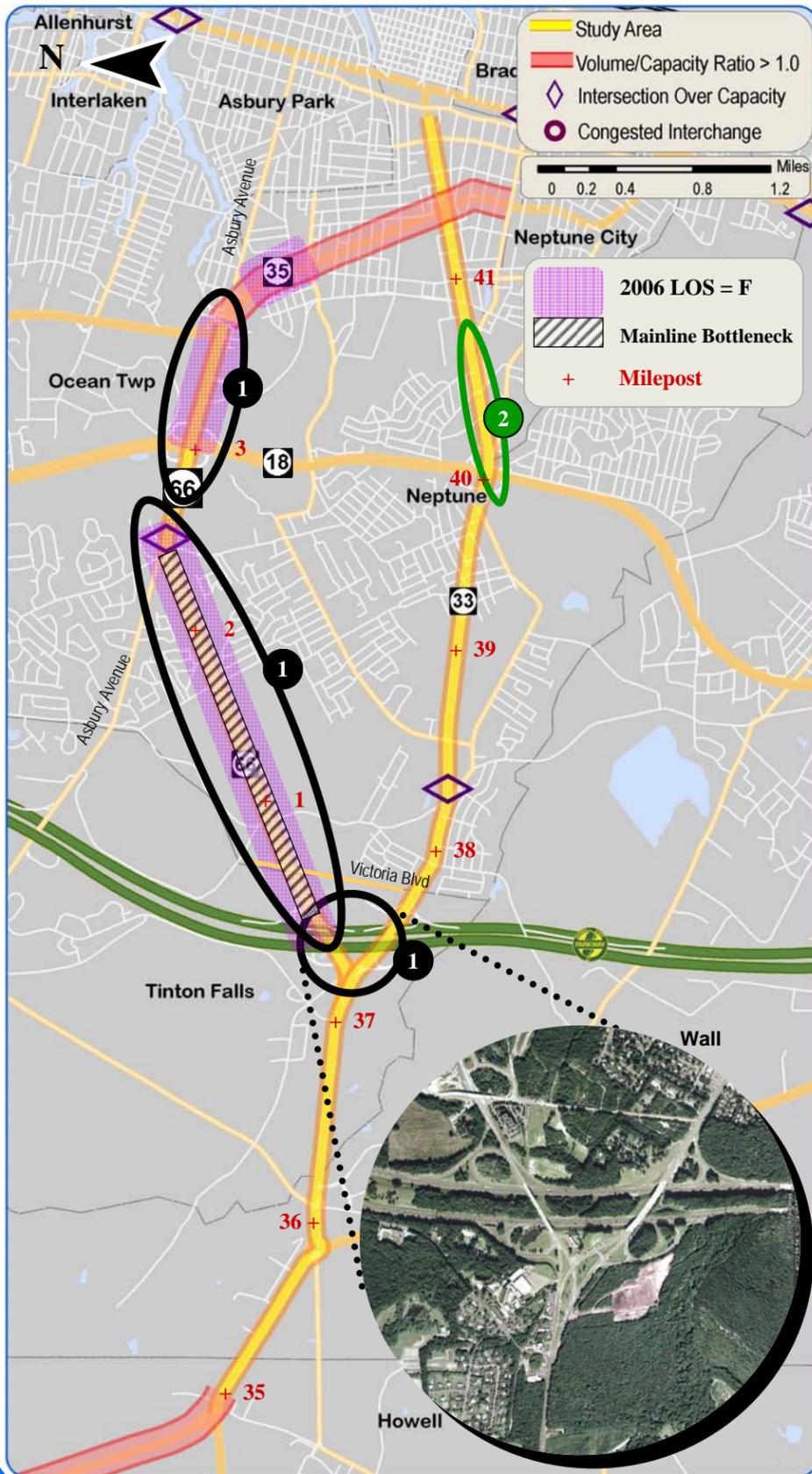
**STRATEGY REFINEMENT AREAS SELECTED FOR PROJECT CONCEPT REPORTS**  
**FINAL RESULT OF WORKSHOP OF DECEMBER 10, 2008**

<b>SELECTED REFINEMENT AREAS</b>		
<b>Strategy Category</b>	<b>Refinement Area</b>	<b>Descriptive Statement</b>
<b>Ridesharing/Transit Support</b>	Bicycle and Pedestrian Facilities in Bergen County	Create appropriate and safe bicycle and pedestrian facilities in an area of Bergen County to be determined in consultation with the count
	Hudson & Meadowlink TMA's Employer Based Rideshare Programs	Create ridesharing and vanpool programs to areas in Hudson County not well served by traditional transit service.
	Expansion of Shuttle Service and Park & Ride lots along Morris & Essex Line	Where possible, expand Park and Ride lots along the Morris & Essex Line between Summit and Dover and investigate local shuttle service to improve access to rail stations.
	Bicycle and Pedestrian Facilities in Passaic County	Create appropriate and safe bicycle and pedestrian facilities in an area of Passaic County to be determined in consultation with the county
	RVL Shuttle Study in Somerset (Routing and Funding)	Determine routing for and identify long-term funding sources for rail shuttles around RVL stations in Somerset county.
	Regionwide Shuttle Study	Study funding, purpose, market served (ie industrial, commuter, retail) and needs for shuttle services. Identify criteria to assist in evaluating and funding shuttles. Potential use Route 22 Shuttle in Union as a case study.
	NEC Shuttle Study (Including Routing and Funding)	Determine routing for and identify long-term funding sources for rail shuttles around Northeast Corridor stations in Middlesex and Union Counties.
<b>Public Transit Enhancement</b>	Transit Service Jersey City to Secaucus	Provide improved transit service from residential areas in Jersey City to industrial and retail employment centers in Secaucus. This would be a status report of the results of all previous studies.
	Express Bus Route 9 & 18 Corridor to New Brunswick	Investigate express bus service from outlying park and rides to New Brunswick along Routes 9 & 18, and develop methods to prioritize bus mobility in the corridor.
	Reverse Transit Service from Hudson/Newark to Suburban Essex/Morris	Study reverse peak transit service from Hudson county to job centers in Essex and Morris Counties including Livingston, East Hanover and Parsippany.
	Intermodal Transit Hub in Elizabeth	Develop an intermodal transit hub in Elizabeth to efficiently deal with the growing bus and rail service in the area and provide room for future expansions
	Bus Service Route 9 Corridor (Ocean, Monmouth, Middlesex) to Midtown Manhattan	Study improving bus service from the Route 9 corridor in Ocean, Monmouth and Middlesex Counties to Midtown Manhattan, including destinations outside the Port Authority Bus Terminal
	Regionwide Transit ITS	Study using technology to improve transit operations region-wide including, but not limited to real-time information for operators and passengers and improved communication between vehicles and operations management.
	BRT Study around Attractors in Bergen County	Study BRT concepts in Bergen/Passaic area such as a bus service circulator around the River Edge Rail Station, regional shopping areas and the Hackensack Hospital in Bergen County
	Express Bus from Rts 9 and 35 to Metropark	Create express bus service from the Route 9 and 35 corridors in Ocean and Monmouth counties to Metropark and surrounding areas
	BRT study for Paterson-Hamburg Turnpike and Main Street	Study BRT concepts for bus service along Main Street in Paterson and Paterson-Hamburg Turnpike between Paterson and Wayne
	Study Express Bus Rt 27	Study concepts for express bus service along Route 27 through Franklin Township between Princeton and New Brunswick
<b>Roadway Improvements</b>	Passaic-Bergen Line Extension to Butler Area	Extend the Passaic-Bergen Line from its current planned terminus in Hawthorne to Butler area.
	Congestion Management along I-280 in Downtown Newark Area	Create methods and facilities to manage congestion causing incidents and improve ramps on I-280 in Downtown Newark, a major regional facility
	Clinton Area Operational Improvements	Study operational improvements along I-78 and Route 31, including signal timing, intersection configuration and ramp design to alleviate congestion in Clinton Township
	Operational Improvements along Rts 33/66, GSP-Shore	Study operational improvements along Routes 33 and 66 between the Garden State Parkway and the Shore, including signal timing, intersection configuration and ramp design to alleviate congestion on this important East-West route in Monmouth County.
	Operational Improvements along Rts 70/88 in Lakewood -Pt. Pleasant	Improve roadway operations along Routes 70 & 88 in the Lakewood-Point Pleasant area by improving signal timing, mitigating bottlenecks, and re-configuring intersections along this major East-West corridor in Ocean County
	Operational Improvements along Rt. 23 in Hamburg- Franklin	Improve roadway operations along Routes 23 in Sussex County area by improving signal timing, mitigating bottlenecks, and re-configuring intersections along this major regional corridor.
	Congestion Mitigation along Rt. 22 in Phillipsburg Area	Investigate mitigating congestion in the Phillipsburg area by improving signal timing and re-configuring intersections.
	Comprehensive Roadway Improvements Strategies along Rt 18 in East Brunswick	Investigate operational improvements at intersections along Route 18 in East Brunswick to mitigate congestion and improve access to transit and pedestrian facilities.
<b>Freight Improvement</b>	Comprehensive Roadway Improvements Strategies along I-80	Improve operations along I-80 in Morris county by improving interchanges and using technology to manage incidents and deliver real-time driver information.
	Comprehensive Roadway Improvements Strategies along Rt. 202	Improve operations along Route 202 in Hunterdon county by improving intersections, using technology to manage incidents and deliver real-time driver information, and managing access.
	Regionwide ITS Development and Deployment <b>NOTE:</b> revised to be <i>Port Highway Access and Operational Improvements</i> after the workshop.	Study and apply technologies for freight-related incident and construction management, roadway safety and congestion, cargo security and road operation throughout of the Core Freight Facilities Area. <b>NOTE:</b> revised to <i>Develop and Plan Methods to Advance/Implement Road Enhancements and Operational Improvements throughout the Core Freight Facilities Area after the workshop</i>
	Improve Connectivity in Jersey City/Kearny/Newark area	Improve the operation of major rail bottlenecks, to facilitate region-wide movement of rail freight and RVL ttransit service, including Marion Jct., eastern end Lehigh Valley Line, and Port Jersey Junction.
	Improve Infrastructure to Handle Large Cargo Vessels <b>Sent after 12/10/08 Workshop:</b>	Improve the port to handle larger cargo vessels by improving port access, dock facilities, truck and rail access, and support areas
	Improve Connectivity at Marion Junction in Jersey City	Improve the operation of Marion Junction in Jersey City, a major rail bottleneck, to facilitate region-wide movement of rail freight
Improve Infrastructure Under Bayonne Bridge to Handle Large Cargo Vessels	Improve the port to handle larger cargo vessels by improving dock facilities and possibly increasing the capacity of the channel under the Bayonne Bridge through bridge modification or replacement.	

# **Attachment 5**



Potential Concepts



1 **NJDOT Operational and Capacity Improvements**

Investigate increasing capacity (with required CMP alternatives analysis) and enhance efficiency of Route 66 including, but not limited to:

- ◆ Add a center turn lane and/or right turn lanes
- ◆ Consider widening to a four lane cross section, Jumping Brook Rd to Wayside Rd (MP 0-2.5)
- ◆ Upgrade intersections of Rt 66 at Asbury Avenue, Rt 18, and Rt 35
- ◆ Provide sidewalks and pedestrian improvements along and crossing Rt 66
- ◆ Upgrade intersection of Rts 33 and 66, GSP

2 **NJDOT Safety Improvements**

Investigate implementation of NJTPA's Safety Improvement Initiative on Route 33, including:

- ◆ Install left turn lanes at Oxford Way
- ◆ Advanced signal ahead warning at Oxford Way
- ◆ Pedestrian improvements at Oxford Way and at Neptune Blvd
- ◆ Restrict Wakefield Road and shopping center to right turns only
- ◆ Access improvements at Jersey Shore Medical Center signal, including left lanes
- ◆ Add left turn lane at Neptune Blvd signal, apply left turn prohibitions on cross streets between Neptune Blvd and Rt 35, one way street pairs

**NJDOT ITS Improvements**

Investigate ITS System for Route 66 (mp 0-4) and Route 33 (mp 37-42) including:

- ◆ A coordinated closed signal system
- ◆ Incident detection/response systems

**NJDOT Quick Fix Projects**

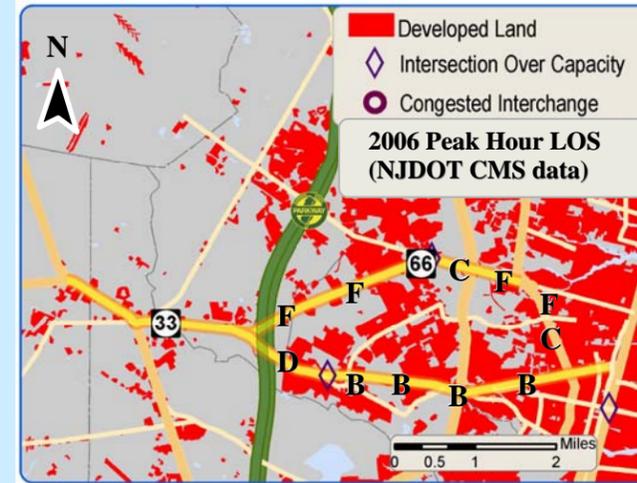
Investigate improving directional signage

- ◆ At intersection of GSP, Route 33, and Route 66
- ◆ At intersection of Route 66 and Asbury Ave

**Neptune and Neptune City**

1. Investigate Access Management on Route 33:
  - ◆ Consolidation of driveways
  - ◆ Improve land use connectivity
  - ◆ Limit access points
2. Investigate Providing traffic calming on residential streets between Oxford Way and Wakefield Ave

CONGESTION CONDITIONS



- ◆ Highly congested:
  - ⇒ Route 66 AADT 22,200
  - ⇒ Route 33 AADT 17,600-35,300
  - ⇒ Route 66 Peak hr V/C max 1.2-1.7
- ◆ 5 congested intersections on Route 66 (NJDOT)
- ◆ Route 66 is NJDOT "Mainline Bottleneck"
- ◆ Route 66 ranked 16th of 79 top Congested Corridor Commuter Roadways (NJDOT Statewide CIS FY 2008-2012)
- ◆ Dense development with numerous driveways accessing retail office, and residential parcels

**Existing Relevant Studies:** 2005 – A consultant completed a study of the Route 66 corridor that confirmed the need for widening to a four lane cross section to eliminate bottlenecks. This study led to the application to DCA for a Smart Growth Planning Grant, which is still awaiting decision.

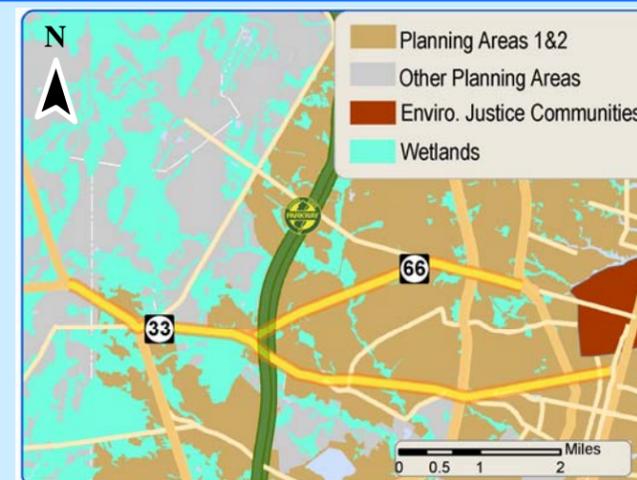
SAFETY ISSUES



- ◆ Route 66
  - ⇒ Average 50-80 crashes/mi on Route 66 east of Route 18, low rate elsewhere (NJTPA)
  - ⇒ Approx 3.0 of 3.6 study area miles on Route 66 over state-wide crash average for similar cross sections (NJDOT 2007)
- ◆ Route 33
  - ⇒ Low crash rate on Route 33 (NJTPA)
  - ⇒ 1 fatality (NJDOT 2007)
  - ⇒ Approx 2.3 of 4 study area miles over statewide crash average for similar cross sections (NJDOT 2007)
- ◆ Both highways were in the top 15% of roads in the NJTPA region for crashes per lane mile

**Existing Relevant Studies:** June 2008 – Phase II for NJTPA's Development of Regional Safety Priorities. This study suggested short and long term improvements at particular intersections, as well as corridor wide studies to improve safety and reduce conflicts.

ENVIRONMENTAL FACTORS



- ◆ SDRP Planning Areas 1 & 2 (Metropolitan & Suburban)
- ◆ Significant Environmental Justice Populations
  - ⇒ Asbury Park (85%)
  - ⇒ Neptune (52%)
  - ⇒ Tinton Falls (28%)
  - ⇒ Bradley Beach (26%)
  - ⇒ Neptune City (25%)
- ◆ Minor environmental issues (Potential impacts to wetlands, flooding & open water)

# **Attachment 6**

**New Jersey Department of Transportation  
North Jersey Transportation Planning Authority**

**Transportation Problem Statement**

**Route 66 Operational and Capacity Improvements**

**PLEASE SEND THIS COMPLETED FORM TO PLANNING DIVISION, NJTPA**

*The following information is to be completed by the Division of Capital Programming & Funds Management*

DB Number:

Legislative District:

Congressional District:

CIS Text and CIS No.:

Program Category:

Information contained on this form has been verified by \_\_\_\_\_

**Route 66 Operational and Capacity Improvements**

**LOCATION**

Route: 66

Structure number (if applicable):

Limits: Route 66: MP 0.0 to 3.62 (entire length)

County(s): Monmouth County

Municipality(s): Ocean Township, Neptune Township, Tinton Falls Borough,

Check those items that best describe the problem:

**Existing Highway**

- Capacity problem
- Operational problem
- Physical condition problem
- Safety problem
- Other (specify)

**Existing Bridge**

- Capacity problem
- Physical condition problem
- Safety problem
- Other (specify)

**Corridor/area Capacity Problem**

- Need for corridor study
- Possible highway on new alignment
- Possible new transit line
- Need for park and ride development

**DESCRIBE THE PROBLEM:**

NJ Route 66 is highly congested, and has been identified as a problem in an NJTPA Strategy Refinement Concept Report, as well as the Monmouth County Route 66 Corridor Improvement Report. According to NJ DOT data from 2006, Route 66 functions at Level of Service (LOS) D or F during peak periods along all but a half mile of the route. Volume-to-capacity ratios along this roadway are among the highest in the region, between 1.1 and 1.7. The area of Route 66 between MP .46 (just east of the GSP) and 2.5 (Asbury Ave.) has been designated a "Mainline Bottleneck" by the NJ DOT in its 2009 Congested Place report.

Route 66 often experiences congestion due to high volume (AADT 22,200), as well as design and land use issues. A cross section change at the intersection of Asbury Avenue from four to two lanes creates congestion. An abundance of driveways causes a significant number of potential conflicts. Intersections with other significant state and local roadways are non-standard and poorly signed, including the intersections of Route 66 and Asbury Ave, Route 35, and the confluence of Route 33, 66, and the Garden State Parkway.

The area Route 66 serves is mostly zoned as commercial, with a significant amount of retail development contributing to the previously mentioned number of driveways. Additionally, a large shopping area was recently opened near the intersection of Route 66 and the Garden State Parkway. A lack of bike/ped facilities between closely spaced retail establishments may require drivers to repeatedly enter and exit the roadway, further contributing to the problem. Infill development along the corridor is expected to continue, and background growth expected for the region will continue to compound these issues.

The NJTPA's Strategy Refinement Concept Report recommends investigating intersection improvements at Route 33 and Asbury Ave, Route 18, Route 35, and the Garden State Parkway. Investigating a widening to add a center lane or a full lane in each direction between Wayside Ave (MP 2.45) and Jumping Brook Road (MP 0.97) is also recommended to address this bottleneck. This would require a full Congestion Management Process (CMP) alternatives analysis. An investigation of pedestrian improvements is also recommended.

**NOTE: Please attach related correspondence, map of the area, and other appropriate support material.**

**A. Has this problem been identified in the RTP, a local or county transportation plan, a traffic/technical study, or a bridge, pavement, safety, or CMS management system?  Yes  No If yes, explain how:**

This problem was identified through the NJTPA's Strategy Refinement Process, using data from the NJ DOT congestion management system, as well as the Monmouth County Route 66 Corridor Improvement Report.

**B. If an outside group actively supports this problem, please identify:**

Monmouth County Board of Chosen Freeholders  
Monmouth County Planning Board

**C. Will this problem have to be addressed by an increase in vehicular traffic capacity?  Yes  No If "Yes", explain how:**

This problem may be solved through the widening of the cartway. The final implementation would depend on the results of an alternatives analysis.

**D. Does this problem lend itself to a solution that will reduce air contaminant emissions?  Yes  No If "Yes", explain how:**

The alleviation of congested conditions may reduce air contaminant emissions, dependent upon the implemented solution.

**E. Can this problem be effectively addressed by one of the following?**

- 1. Additional transit services
- 2. Travel Control Measures (carpools, ridesharing, telecommuting, etc)
- 3. Bicycle-pedestrian improvements
- 4. Intermodal freight facilities
- 5. Intelligent transportation systems (ITS)