

XII. PRIORITIZATION OF IMPROVEMENTS

As detailed in the previous sections of this report, a wide variety of concept improvement packages have been developed to facilitate the movement of international shipping containers to, from and through the Port District. These improvement concepts range from systems management to terminal operations to rail network utilization to roadway infrastructure expansion and improvement. It is anticipated that a major component of the next steps in the overall Portway program will include advancement of the various improvement concepts into the project implementation pipeline. This will require a coordinated effort among numerous public and private agencies, not the least of which will include the New Jersey Department of Transportation, NJ Transit, the North Jersey Transportation Planning Authority, Port Authority of NY/NJ, NJ Turnpike Authority, New Jersey Department of Environmental Protection, and the US Army Corp of Engineers.

Decisions pertaining to where and when investment of public dollars will be made to the transportation infrastructure must be made with a full understanding of the overall improvement program. A comprehensive understanding of the design and permitting process and timeline required to implement these concepts, in conjunction with an understanding of at what point in the future each of the conceptual improvements will be required, is critical to an orderly, managed and effective improvement implementation program. This is particularly true in light of the likely limitation of funding for the implementation of the various improvement concepts.

To facilitate the anticipated next steps in the overall Portway program implementation process, the improvement concepts developed as part of the Portway Extensions Concept Development Study were prioritized. The prioritization was based primarily upon comparison of the nature and extent of anticipated impediments to the safe and efficient movement of containers at key points in time over the next 20+ years. Future conditions in the years 2010 and 2025 were evaluated as a starting point in delineation of near and long-term improvement requirements.

Additional consideration was also given to the anticipated ease of implementation (timeline required for completion of design and permitting efforts), order-of-magnitude funding requirements, and institutional challenges. The following sections summarize the recommended prioritization of the improvement concepts.

XII.1 NEAR TERM IMPROVEMENTS

Near-term improvements are those that could reasonably be implemented within the next 3 to 5 years. Primarily due to the lengthy design and permitting process that is

typically required for advancement of physical infrastructure improvements, the near-term concepts include the systems and operational improvements detailed in Section X. Improvement concepts that would not require physical construction or expansion of the roadway infrastructure, and have been assigned to the recommended near-term improvement category. Near-term improvements, in order of recommended priority for implementation, include:

- **ITS Architecture.** Building upon the existing ITS architecture components already in place within and proximate to the Port District would provide the communications framework for all of the operational improvement strategies detailed in Section X. Coordination with, and potential incorporation of the TRANSCOM Regional Architecture as the communications framework will be addressed as part of the next stage of the Portway program.
- **Off-Peak Freight Operations.** Coordination between the terminal operators, trucking companies and operators of the major warehouse and distribution centers to accommodate off-peak movement of containers would require little to no investment in the transportation infrastructure beyond the creation of the communications network and ITS infrastructure. Maher Terminals has already begun operating during non-traditional times, with gate hours being extended into off-peak hour and off-peak days (i.e.: weekend operations). The beginning of positive improvements realized through reduction of container related truck trip demand during the peak hours could be realized virtually immediately.
- **Container Management Strategies.** In conjunction with the movement of loaded containers during off-peak hours, handling and repositioning of empty containers could be accomplished during similar off-peak hours. This shift in operating logistics would remove still more trips from the peak travel demand periods, with positive benefits realized virtually immediately with little or no investment in the public infrastructure required. Specific strategies and policies for increasing the backhaul of empties should be explored and advanced.
- **Short Haul Rail Spine.** The possibility of short-haul rail service for containers (as detailed in Section X) would serve several potential applications:
 - Substitute for trips that would otherwise occur by truck, primarily to dense regional warehouse and distribution clusters (in essence, a “local” version of the PIDN concept).
 - Support the creation of freight villages, the management of empty containers, and the redevelopment of brownfield sites, consistent with the intent of the Smart Growth initiatives.

- Support for the development of inland port facilities.

While the basic rights-of-way and trackage currently exists to allow operation of the shorthaul rail spine concept, there are many institutional challenges involved in shorthaul rail service for containers. These challenges include overcoming the perceived cost and service advantage provided by trucking, developing suitable institutional and business relationships among the railroads, demonstrating how the concept can benefit truckers and customers, identifying the necessary rail infrastructure and improvements, and ensuring that short-haul rail operations are compatible with other uses of the regional rail system. In the future, as critical mass and demand is developed, infrastructure investment will likely be required to eliminate height, width and weight restrictions along various components of the rail network. However, the process of coordinating the variety of affected and involved agencies and private operators to overcome these challenges can commence immediately, without immediate need for significant investment in the transportation infrastructure.

It is important to note that for certain routes and service between individual container movement origin and destination pairs, it may be feasible to substitute short-haul barge or freight ferry service in lieu of the shorthaul rail spine. These opportunities will required a detailed operations and economic assessment in the next stages of the Portway program.

XII.2 MID-TERM IMPROVEMENT CONCEPTS

Mid-term improvements are those that will be required due to growth in the volume and distribution of container movements, as well as growth of background traffic volumes, in the next 5 to 10 years. While growth in the container volumes handled within the Port District is generally expected to grow in a linear fashion, several “spikes” in the growth pattern are expected to occur within this window.

Most notably, the container terminal planned for construction along the northern shore of the MOTBY peninsula may reasonably be expected to commence operation by or shortly after the year 2010. While it is likely that some length of time will pass from the commencement of operations to realization of the full (or near-full) capacity operations within this new facility, significant system management and roadway infrastructure improvements must be in place to accommodate the movement of containers to and from the MOTBY container terminal. Mid-Term improvement concepts (as defined in Section X), in order of recommended priority for implementation, include:

- **Routes 1&9 NB with Delancy Street.** This location represents a point of recurring congestion today. As background traffic volumes and the number of container related truck trips continue to increase, this condition will be exacerbated. The relatively low cost, easily implementable improvements associated with this concept should be advanced in the early stages of the mid-term window.
- **NJ Turnpike Interchange 13-A Improvements.** In addition to the expanding port related activity in the immediate area, the local region served by NJ Turnpike Interchange 13-A includes major retail and commercial components including the highest grossing IKEA store in the US, the Jersey Gardens Mall and several new hotels. The combination of these competing travel demands will continue to exacerbate conditions in this area. The objectives of the Portway Extensions program would be enhanced by the advancement of the physical infrastructure improvements identified in the Union County TDD beyond those that are already underway (i.e.: Kapkowski Road / North Avenue Grade Separation).
- **NJ Turnpike Interchange 13 Improvements.** Phase II of the Union County Transportation Development District study, completed in 2001, recognized the need to create enhanced connections between the Goethals Bridge and Routes 1&9 and NJ Turnpike Interchange 13. Enhanced connectivity would create a better balance in capacities between the bridge and its approach/departure roadways, subsequent to completion of the Goethals Bridge replacement.
- **NJ Turnpike Interchange 14-A Improvements.** This interchange represents a major constraint even in the existing conditions. With the continued growth in background traffic along the Hudson County waterfront, as well as the anticipated startup of container port operations on the MOTBY peninsula, this condition is expected to continue to degrade. Major infrastructure improvements to the NJ Turnpike Interchange 14-A will likely require a number of years to design, permit and implement. It is recommended that this process commence in the near term, so that completion of the required improvements may be realized within the mid-term window.
- **NJ Turnpike Newark Bay Bridge Interim Improvements.** Similar to the Interchange 14-A, the Newark Bay Bridge currently experiences congested conditions during the peak travel demand periods. Continued growth in the region is expected to exacerbate this condition. Implementation of a movable center median would allow operation of an additional travel lane in the peak direction during varying times of day. This type of operation has proven to be effective on the Tappan Zee Bridge for a number of years, and would provide interim relief while the NJ Turnpike

is evaluating for permanent solutions to the problem and a potential replacement of the bridge.

- **NJ Turnpike Interchange 12 Area Improvements.** As a supplement to the on-going Interchange 12 improvements, expansion and extension of Roosevelt Avenue and Industrial Avenue are necessary to provide access for trucks to Carteret and Port Reading. Land use development is anticipated to occur rapidly within this area over the next 10 to 12 years, tapering off thereafter. Implementation of roadway improvements to supplement the shorthaul rail spine accessibility will greatly enhance the operations in this area.
- **New Road Extension to Little Ferry and the NJ Turnpike.** One key component of the Portway Phase I improvements is the creation of a new roadway linking St. Paul's Avenue to Secaucus Road. While this would provide enhanced local connectivity, the roadway would not facilitate container truck movements to and from the Little Ferry Railyard or to and from points north. By the year 2010, significant growth along the Tonnelle Avenue corridor will necessitate toe need to implement this alternative pathway.
- **NJ Turnpike Interchange 15-W Connectivity.** This improvement concept, dubbed "the wishbone" due to its design appearance, would utilize right-of-way currently occupied by the under-utilized Newark Industrial track and the east end of the Boonton Line. Anticipated growth trends associated with the two major intermodal railyards serving the area will necessitate this improvement within the mid-term window. This would be consistent with anticipated timeline for expansion of the railyard handling capacity expected to evolve over the next decade.
- **NJ Turnpike Interchange 10 Improvements.** Under the future growth scenarios, the volume of traffic, including container trucks, accessing the complex is expected to increase significantly over the next decade. The NJ Turnpike Interchange 10 is expected to receive significant volumes of additional traffic flows. To accommodate these volume increases by the time they occur, it is recommended that this improvement concept be advanced in the near term so necessary improvements will be on-line within the mid-term window.

XII.3 LONG-TERM IMPROVEMENT CONCEPTS

Long-Term improvements are those that will not be required until such time as a majority of the anticipated growth in the container movements through out the region are fully

realized. Additionally, long-term improvements are those anticipated to require extensive time and effort in the detailed analysis, design, permitting and construction. While these improvements are recommended for final implementation in the 10+ year horizon, required efforts to advance these improvements should be undertaken in the immediate future to ensure the improvements have adequate time to be processed through the project development and funding pipeline. Long-Term improvement concepts (as defined in Section X), in order of recommended priority for implementation, include:

- **NJ Turnpike Interchange 14 Improvements.** Interchange 14 connects the NJ Turnpike with Interstate 78 and Routes 1&9. Adjacent to the interchange is the beginning of the Portway Phase I improvements, which link Port Newark/Port Elizabeth to the Kearny, Croxton and Little Ferry Rail Yards. The conceptual improvements to Interchange 14 facilitate movements from Interstate 78 eastbound and the NJ Turnpike exit plaza to Brewster Road, Port Street and the Newark/Elizabeth Seaport Complex.
- **Paterson Plank Road / Route 3 Corridors.** Two conceptual improvements were determined to have merit with respect to relieving congestion and facilitating the movement of containers. Reconstruction of the former Paterson Plank Road bridge over the Hackensack River would create a new corridor for travel between Route 17 north of Route 3 and the Tonnelle Avenue/Paterson Plank Road interchange area. These improvements would not likely be required if the extension of New Road from Secaucus Road to the NJ Turnpike were to be implemented. In the event that the New Road Extension was not constructed, the Paterson Plank Road corridor improvement options represent alternatives that could be advanced in the long term.
- **Hackensack River Bridge – Central Ave to Route 440.** Portway Phase I includes the construction of a new bridge across the Passaic River. The bridge would supplement the existing Route 1&9 Truck crossing, and provide a connection between Doremus Avenue and Central Avenue. A logical extension to this improvement is the construction of a bridge across the Hackensack River connecting Central Avenue with Route 440 in the vicinity of Culver Avenue. This new bridge, coupled with the Portway Phase I improvements would create an alternative pathway between Jersey City and the Bayonne Peninsula and the Port Newark/Elizabeth area and NJ Turnpike Interchange 15-E. This would create a redundant, alternative routing that would alleviate congestion on the Newark Bay Bridge as well as the NJ Turnpike Interchange 14 area. Due to the likely timeline required for design, permitting and construction, it is recommended that this concept be advanced in the mid-term so that construction would be complete within the long-term window.

- **Bayonne Bridge Elevation.** The Bayonne Bridge spans the Kill Van Kull connecting Bayonne, New Jersey to Staten Island, New York, and links the MOTBY port area to the Port Richmond/Howland Hook area. Oceangoing vessels currently use the waterway beneath the bridge to access Port Newark/Port Elizabeth, as well as the Howland Hook marine terminal. The bridge currently operates with two travel lanes per direction, with shoulders. The Bayonne Bridge is currently one of the least utilized in terms of daily traffic volumes. While operational improvements were not found to be necessary in terms of roadway capacity, it is recognized that the channel clearance of the bridge at mid-section is only one hundred fifty feet. Due to the likely timeline required for design, permitting and construction, it is recommended that this concept be advanced in the mid-term so that construction would be complete within the long-term timeframe.