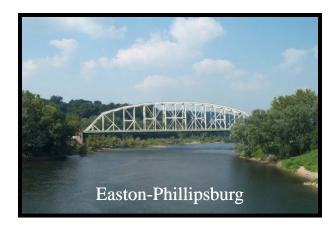
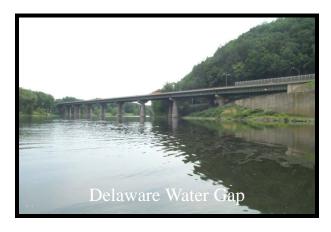


#### TOLL BRIDGES

Trenton-Morrisville
New Hope-Lambertville
Interstate 78
Easton-Phillipsburg
Portland-Columbia
Delaware Water Gap
Milford-Montague









# SEVENTIETH ANNUAL INSPECTION REPORT 2007

Prepared by



TranSystems|Lichtenstein

#### TOLL SUPPORTED BRIDGES

Lower Trenton
Calhoun Street
Scudder Falls
Washington Crossing
New Hope-Lambertville
Centre Bridge-Stockton
Lumberville-Raven Rock
Uhlerstown-Frenchtown
Upper Black Eddy-Milford
Riegelsville
Northampton Street
Riverton-Belvidere
Portland-Columbia

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45 Eisenhower Drive Suite 250 Paramus, NJ 07652 Tel 201-368-0400 Fax 201-368-7740

www.transystems.com

January 28, 2008 revised April 4, 2008 Mr. Frank G. McCartney Executive Director Delaware River Joint Toll Bridge Commission 110 Wood Street Morrisville, PA 19067

RE:

Consulting Engineer's Seventieth Annual Inspection Report-2007

DRJTBC Contract No. C-07-02A Our Project Number 708070022

Dear Mr. McCartney:

It is with great pleasure that we are submitting the Consulting Engineer's Seventieth Annual Inspection Report (2007) for the Commission's following facilities:

- A. The Seven (7) Toll Bridges
- B. The Thirteen (13) Toll Supported (Non-Toll) Bridges
- C. The Thirty-five (35) approach bridges and roadways serving the above bridges
- D. The Commission's buildings and grounds
- E. The Commission's vehicles and equipment

This Annual Inspection Report summarizes our findings and recommendations based upon the 2007 inspection of the Toll Facilities and an update of the 2006 inspections of the Toll Supported Facilities updated to indicate any material changes in conclusions and recommendations since the 2006 inspection. All facilities are in operating condition.

The Eleventh Annual Maintenance Report which defines activities to be undertaken by the Commission's maintenance staff is published separately.

The report identifies certain ongoing capital projects and their estimated costs for 2008 and 2009. The estimated expenditure for capital projects in 2008 is \$150,930,000. In addition, an estimated expenditure of \$1,197,000 is recommended for new vehicle and equipment purchases in 2008. Therefore the total amount of ongoing capital projects and vehicle and equipment expenditures in 2008 is estimated to be \$150,930,000. The estimated expenditure for ongoing capital projects for 2009 is \$127,567,000.

It has been a pleasure to serve the Commission. Please contact us if you require any additional information.

Very truly yours,

Transystems|Lichtenstein

William Clark, P.E.

To le More

Project Manager/Associate

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#### DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

#### **MEMBERS OF THE COMMISSION**

#### **NEW JERSEY**

## HONORABLE DAVID R. DEGEROLAMO Chairman

HONORABLE DONALD HART HONORABLE THOMAS W. SUMNERS, ESQ.

HONORABLE WILLIAM J. HODAS
Secretary Treasurer

HONORABLE HARRY ZIKAS, JR.

#### **PENNSYLVANIA**

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HONORABLE J. ALAN FOWLER HONORABLE BERNARD A. GRIGGS, JR.

HONORABLE MELISSA HELLER HONORABLE JOHN PREVOZNIK, ESQ.

#### DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

#### PROFESSIONAL ASSOCIATES

#### **CONSULTING ENGINEERS**

TRANSYSTEMS|LICHTENSTEIN Paramus, New Jersey

#### **LEGAL COUNSEL**

FOX ROTHSCHILD, LLP Philadelphia, Pennsylvania

FLORIO, PERRUCCI, STEINHARDT & FADER Phillipsburg, New Jersey

#### LABOR COUNSEL

STRADLEY, RONON, STEVENS & YOUNG Philadelphia, Pennsylvania

WOLFF & SAMSON Roseland, New Jersey

#### **AUDITORS**

MERCADIEN Princeton, New Jersey

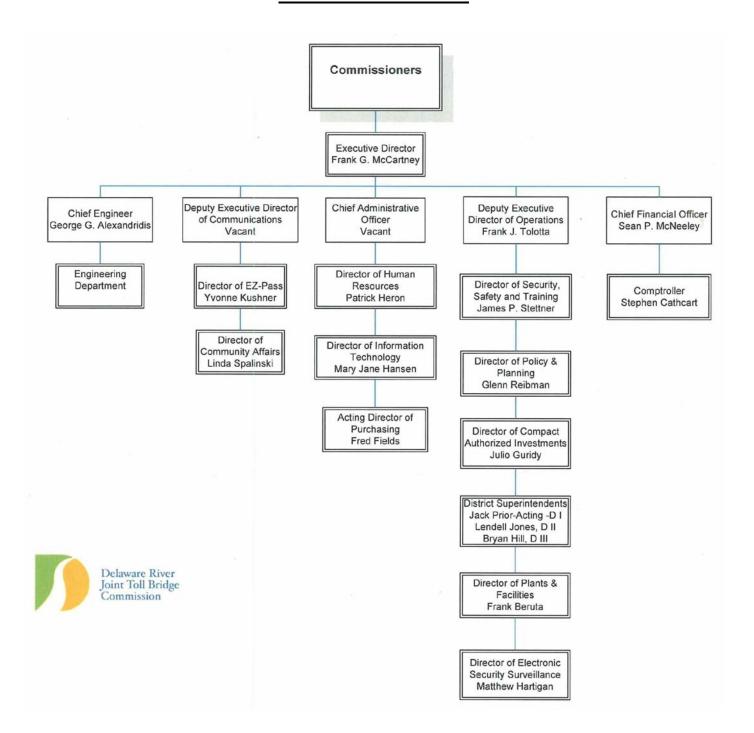
#### **COMMUNICATIONS CONSULTANT**

BELLEVUE COMMUNICATIONS Philadelphia, Pennsylvania

#### INVESTMENT MANAGEMENT

COMMERCE CAPITAL MARKETS Philadelphia, Pennsylvania

#### **COMMISSION STAFF**



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#### **INTRODUCTION**

In accordance with Federal Highway Administration (FHWA) regulations, all bridges must be inspected at least once every two (2) years, more often if warranted, due to condition. Under the Commission's 2003 Bond Resolution, all bridges and toll facilities are to be inspected once every two (2) years. The Commission will inspect its Toll Supported Bridges in even years (2006, 2008, etc.) and the Toll Bridges in odd years (2007, 2009, etc.). The associated facilities and grounds will be inspected in the year the bridge is inspected.

This Seventieth Annual Inspection Report of bridges and facilities owned and operated by the Delaware River Joint Toll Bridge Commission contains the findings of the 2007 inspections of the Toll Bridges. The conclusions and recommendations concerning the Toll Supported Bridges are based on the 2006 inspections performed by Schoor DePalma. The inspection findings shown for the Toll Supported Bridges is for informational purposes only. This year's inspections consisted of seven (7) Toll Bridges and any accompanying facilities and approach structures. The Trenton-Morrisville Toll Bridge (Route 1) is currently undergoing major rehabilitation and only the accessible areas which continue to carry traffic on the toll bridge and approach structures were inspected.

Commission District foremen and maintenance personnel provided our inspection crew with support services and access equipment necessary for performing the inspections. Several maintenance personnel also assisted in providing a valuable 'walk through' of the bridges, prior to beginning the inspections, highlighting the major areas of concern and any previous work done on the structure.

The equipment used to access the majority of the bridges (underdeck) consisted of various length ladders, Commission owned single and dual lift trucks as well as an under-bridge unit called The Bridgemaster.

The following report highlights the significant findings observed during the inspections, including recommended measures of repairing or improving noted deficiencies, either by Commission maintenance forces or by a future contract. This report, however, does not discuss routine preventative maintenance items regularly performed by Maintenance forces. Any maintenance force level deficiencies which have been identified during the annual inspection can be found in the *Eleventh Annual Maintenance Report*, published under a separate cover, which has been prepared to expedite communication of repair work to the maintenance staff. In general these maintenance tasks include, but are not limited to, the following:

- Removal of accumulated debris from the deck, deck joints, inlets, catch basins, and drainage pipes
- Annual cleaning of structures (bridge flushing)
- Monitoring and repair of lighting and electrical work
- Removal of vegetation from substructures
- Removal of graffiti from bridges and retaining walls
- Patching concrete spalls and asphalt potholes
- Sealing roadway and bridge deck cracks
- Localized cleaning and painting of rusted steel/bearings
- Deck joint rehabilitation
- Guide rail repairs
- Miscellaneous steel repairs

A consistent numbering system was used to identify the bridge spans. Span numbering generally begins at the westernmost location of the bridge and increases to the east. However, a specific numbering system was not utilized for the individual structural members. The locations for individual members (stringers, floorbeams, etc.) are referenced by their relationship to known fixed points, such as bridge fascias and piers.

## Several capital improvement projects were completed beyond the past two years. Among these projects are the following:

Projects Completed Beyond Past Two Years	P	rogram Cost
Uhlerstown-Frenchtown Rehabilitation	\$	5,779,187
Northampton Street Bridge Rehabilitation	\$	7,364,066
Substructure & Scour Remediation	\$	482,299
T-M Space Plan (Design thru Task Order)	\$	56,544
Southerly Crossing Corridor Study	\$	544,643
Power Upgrades - all facilities+Struct Wiring+Telephone	\$	4,760,754
New Hope-Lambertville Toll Bridge Plaza & Bridge Rehab	\$	9,671,373
New Hope-Lambertville TSB Rehabilitation (Design, Construction, CM/CI)	\$	7,700,991
New Hope-Lambertville Toll Supported Bridge Emergency Sidewalk Repair	\$	156,083
Easton-Philipsburg Pavement of Bridge Approaches (PennDOT)	\$	517,090
SF Toll Supported Bridge Guiderail Replacement (By NJDOT)	\$	103,000
Replace Overhead Sign (by NJDOT)	\$	230,309
EZ Pass Implementation	\$	18,023,146
Portland Columbia TS Pedestrian Bridge - Handicap Accessible Ramp	\$	305,656
Portland Columbia TSB Deck Repairs and Drainage Modifications	\$	290,998
Emergency and Priority Repair Contract (all Bridges) -T/TS 389	\$	749,233
Emergency and Priority Repair Contract (all Bridges) -I-80/NH TSB	\$	367,116
CS Interim Repair Contract (Structural Steel Repairs)	\$	445,913
RGL End Floorbeam Bearings (Task Order)	\$	565,563
I-78 Salt Storage Bid	\$	485,681
Cleaning & Painting of the LT Toll Supported Bridge & Sign Replacement	\$	4,567,205
I-78 Expansion Dam Replacement	\$	867,788
Elevator Upgrade (In-House Design)	\$	106,455
I-80 NJ Service Road Repair & Repaving	\$	239,885
Easton-Philipsburg Sidewalk Replacement	\$	1,705,247
High Priority Structural Steel Repairs at the SFToll Supported Bridge	\$	968,625
I-78 Roadway Restriping	\$	184,898
Northampton Street Toll Supported Bridge Inspection/Access Cable/Lifeline	\$	222,044
Washington Crossing TSB Deck joint replacement/ rehabilitation @ Pier 1,2,4 & 5	\$	407,885
Portland Columbia Impact Attenuators Design, see 438 (Constr. cost incl. in 441)	\$	29,289
I-80 DWG Impact Attenuators Design (see 438, Constr. Cost included in 440)	\$	69,228
M-M TB Impact Attenuators Design, see 438 (Constr. cost incl. in 430)	\$ \$	34,614
Wide Area Network (WAN)		192,957
Emergency Management Studies (Phase 1 & 2)	\$	184,000
Total =	\$	68,379,765

Several capital improvement projects were completed within the past two years. Among these projects are the following:

Projects Completed Within Past Two Years		Pr	ogram Cost
Riverton-Belvidere TSB Rehabilitation	(	\$	9,005,855
Scudder Falls TSB Deck Joint Replacement	:	\$	1,400,157
Scudder Falls TSB Lighting Upgrade		\$	125,275
Easton-Phillipsburg TB In-Depth Inspection and Load Rating Analysis		\$	73,294
Centre Bridge-Stockton TSB Rehabilitation		\$	9,705,787
New Hope-Lambertville TB Admin. Building Terne Roof Replacement	:	\$	685,102
Easton-Phillipsburg TB Sign Structure Replacement	:	\$	2,577,682
District 3 TB Facilities Roof Replacement		\$	781,634
Portland-Columbia Sign Structure Repair	:	\$	27,732
I-80 NJ Repaving		\$	581,442
I-78 Emergency Slab Replacement		\$	135,000
	Total =	\$	25.098.960

The capital improvement projects shown below are underway and are either being developed, studied, designed, or constructed:

Projects Underway	<b>Program Cost</b>
District 1, 2 & 3 Substructure & Scour Remediation	\$ 5,591,000
Electronic Surveillance Detection System (ESS)	\$ 22,784,000
I-78 Open Road Tolling (ORT) Lanes	\$ 46,295,000
I-78 Roadway Rehabilitation	\$ 49,640,000
I-80 / Delaware Water Gap Task Force Consultant	\$ 521,000
I-80 / Delaware Water Gap Toll Bridge Bearing Remediation and Deck Study	\$ 1,805,000
I-80 / DWG Toll Bridge ORT & One Additional WB Lane (PE & Final Design)	\$186,308,000
I-95 / Scudder Falls Improvement Project (Design, CM/CI, Construction)	\$254,232,000
Lumberville - Raven Rock Toll Supported Bridge Blast Clean and Paint Bridge	\$ 3,039,000
Milford - Montague Toll Bridge Rehabilitation	\$ 19,129,000
New Hope - Lambertville Toll Bridge Additions & Renovations	\$ 5,660,000
NJDEP & PADEP Municipal Stormwater Regulation Compliance at Toll Facilities	\$ 286,000
Phase 1 Rehabilitation & Concept Study for the Washington Crossing TSB	\$ 3,357,000
Riegelsville Toll Supported Bridge Rehabilitation	\$ 6,974,000
Trenton Morrisville Toll Bridge Rehab + One Aux. NB Lane	\$102,384,000
Upper Black Eddy - Milford Toll Supported Bridge Rehabilitation	\$ 13,948,000
Total =	\$721 953 000

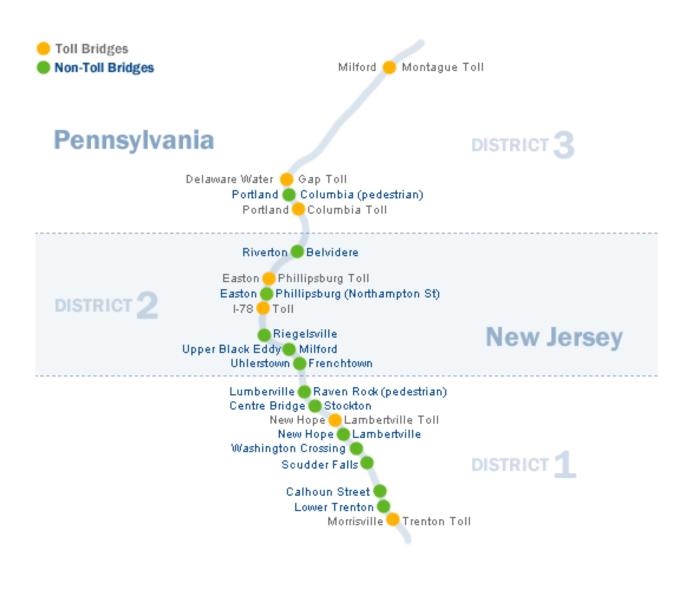
In 2000 the Commission adopted a "fix it right" philosophy for its Capital Program as compared to the previous "fix what's broken" approach. The "fix it right" approach is based on the premise that whenever a project requires a bridge closure for implementation, that project must be designed so that no additional repair projects requiring a closure will be necessary for a subsequent period of at least 15 years. The estimated costs of the recommended improvements included in this report account for all costs of design, construction, construction management and inspection, and contract administration, are consistent with the Commission's "fix it right" approach. It is also noted that the general findings and estimated repair costs developed from the

2006 Underwater Inspection Report, prepared by Louis Berger Group, have been included in this report.

The format of the cost sheets for the Seventieth Annual Inspection Report has been revised to reflect the estimated cost of recommended improvements funded by the General Reserve in 2008 and 2009. In addition the cost sheets provide the total program cost of the projects. The total in each section does not include the cost of completed projects.

The following report will summarize significant findings, recommendations, and associated estimated costs at the end of each section for each structure. Following the main reports are the recommendations for equipment and vehicle inspections and their associated repair/replacement costs. Finally, the Schedule of Insurance is provided towards the end of this report.

#### **KEY SHEET**





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## COMMISION INITIATIVES AND SYSTEM WIDE PROJECTS

In addition to addressing the findings of the 2006 annual inspection, the Commission has instituted in its Capital Program a number of "Commission Initiatives and System-wide Projects". These initiatives increase the safety and security of patrons, increase the Commission's responsiveness to emergencies, identify needed future capacity improvements, and allow for increased control of projects and equipment.

The following is a partial listing of Commission Initiatives and System-wide Projects that have begun or will begin in the near future:

Project Description	* Program Cost	General Re 2008	serve Fund 2009
Compact Authorized Investments Compact Authorized Investment Consultants In order to maintain and enhance the bridge infrastructure the Commission has programmed projects in 2005 and 2006 to include Compact Authorized Expenditures for host community transportation infrastructure improvements. These expenditures will be geared toward improving throughout at the Commission's facilities. The project is currently underway.	\$40,000,000 \$2,000,000	\$26,824,000 \$710,000	\$7,412,000 \$165,000
Capitalized Engineering Department Labor This Commission initiative will track the in house engineering department's efforts on all capital projects. The total programmed amount is shown as well as the expected expenditures in 2008 and 2009.	\$9,024,000	\$600,000	\$621,000
Capitalized Capital Prgm Mgmt Consultant The Capital Program Management Consultant has enabled the Commission to continue to move the Capital Program forward by managing design, construction and construction management contracts associated with the capital program. Additional project managers have been provided under this contract and this cost is being tracked as a capital expense.	\$23,348,000	\$1,500,000	\$1,551,000
Northerly Corridor Congestion Mitigation Study  Professional consultant services will be provided for an interagency task force focused on addressing eastbound and westbound congestion mitigation for the I-80 corridor within the vicinity of the Delaware Water Gap Toll Bridge.	\$659,000	\$47,000	\$0

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

Project Description	* Program Cost	General Re 2008	serve Fund 2009
Troject Description	1 Togram Cost	2000	2009
Electronic Surveillance Detection System  This project involves the planning, design, installation and maintenance of an electronic surveillance and detection system to provide for the security of the Commission's bridges, roadways, toll plazas, and support facilities. The program will also include upgrades to the Commission's existing radio communications system. A consulting firm will be responsible for program management including the administration, planning, development, and coordination of the implementation of an electronic system designed to deter and detect impacts of threats to Commission assets. The project is currently underway.	\$22,784,000	\$12,786,000	\$7,354,000
System Wide IT and Telephone Upgrade This project involves the installation and maintenance of improvements to the Commission's Information Technology (IT) and Telephone systems in order to enhance the quality, security and reliability of the facility and inter-facility communications.	\$242,000	\$242,000	\$0
Stormwater Compliance @ Toll Facilities  On April 1, 2004 the Commission was issued the New Jersey Pollutant Discharge Elimination System (NJPDES) Permit Number NJG0153052 Authorization to Discharge (Authorization) as a R12 – Highway Agency Storm water General Permit. This initiative will continue to provide for the compliance program bringing the Commission into conformance with the New Jersey permit. Although the Commonwealth of Pennsylvania has not yet adopted a formal permit process, the Commission will address and comply with the policies set forth by the Commonwealth of Pennsylvania Department of Environmental Protection's (PADEP) Phase II Storm water Program. The project is ongoing.		\$109,000	\$75,000

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

Project Description	* Program Cost	General Re 2008	eserve Fund 2009
In-Lane System Integration DBM  The existing toll lanes are comprised of automatic lanes, manual/attended lanes and dedicated ETC lanes. The current toll collection system has no VES and all enforcement is performed via manual means, toll gates.	\$9,024,000	\$2,242,000	\$3,400,000
As part of the toll collection system expansion, the Commission will implement a three (3) lane ORT system at the I-78 Toll Bridge and also equip the existing conventional lanes with VES. In addition to the installation of the ORT and VES at the I-78 Toll Bridge, the Commission intends to install VES at the remaining six (6) toll bridges. Included in this project is the design, build and maintenance of the ORT, VES and the maintenance of the existing ETC system.			
Customer Service Center / Violation Processing Center As part of the Commission's toll collection system expansion, the Commission plans to implement an ORT system and to equip numerous conventional lanes with VES. This project includes the CSC/VPC design, development, installation, integration and testing. This project also includes the replacement of the existing CSC with a new CSC that also provides violation processing capability. The CSC/VPC System shall interface with the existing ETC system, the ORT system and the VES system to obtain transaction data and violation images to post transactions and pursue toll evaders.	\$4,033,000	\$990,000	\$1,592,000
Financial Management System  The Commission proposes to address the increasing scale of expenditures and complexity of the capital program and improve enterprise resource management by upgrading from the existing accounting system and implementing a comprehensive financial management system. The Commission will assess needs and implement a solution that addresses some or all of the following areas: accounting, general ledger, accounts payable, project accounting, job cost tracking and analysis, budgeting, cash management, and purchasing.	\$2,585,000	\$500,000	\$1,551,000

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

Project Description	* Program Cost	General Re 2008	serve Fund 2009
District 1, 2 & 3 Substructure & Scour Remediation Professional engineering services are required to perform the Substructure & Scour Remediation Repairs for the Commission's bridges. The Consultant will be responsible for preparing a Concept Study, providing preliminary, final and post design services and compiling construction documents. The need for the proposed scour remediation and substructure repair work stems from the findings of the 2005 Underwater Inspection, and the more recent assessment of substructure damage as a result of the flood experienced in 2006.	\$5,591,000	\$314,000	\$898,000
ITS Improvement @ (DWG, E-P, I-78, T-M, S-F) - ROM The Commission proposes to implement Intelligent Transportation System (ITS) improvements to monitor real- time traffic conditions and disseminate traveler information at the Trenton-Morrisville, Easton-Phillipsburg, I-78 and Delaware Water Gap Toll Bridge Facility and the I-95 Scudder Falls Toll supported Bridge. Dissemination of information could improve travel time and safety during recurring and non-recurring congestion. ITS efforts could include deploying incident detection/management devices using roadway sensors for vehicle and incident detection. Incident verification/management using CCTV can be accomplished by deploying cameras at each facility. Dissemination of real-time traveler information can be accomplished through kiosks at major traffic generators / rest stops / visitor centers, as well as DMS/HAR installed along the roadway prior to major decision points that will allow motorists to use alternative routes.	\$4,403,000	\$0	\$0
Fire Protection Systems All Communications / IT Rooms The Commission has planned the design and installation of fire protection/suppression systems in the communication equipment rooms at all of the Commission's Administration Buildings.	\$464,000	\$60,000	\$404,000

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

Ducient Description	* Duo ongen Coat	General Re 2008	eserve Fund 2009
Project Description	* Program Cost	2008	2009
Asset Management System (Incl Maint Mgmt Track, The Commission will develop a GIS based system to track the Commission's assets and provide the ability to show how, when, and why resources were committed by the Commission. The purpose of a Bridge Management System (BMS) is to provide a centralized location for pertinent information related to each bridge including providing a link between inspection, maintenance, design and construction data. A BMS should satisfy the FHWA requirements for the proper safety inspection and evaluation of highway bridges. Critical components of a BMS include monitoring the existing condition of the Commissions Bridges; maintain current records of structural capacity, anticipated fatigue life, seismic vulnerability, scour vulnerability and the functional assessment of each bridge. A BMS will help to better manage the Capital Program and plan for maintenance and rehabilitation costs each year.	\$631,000	\$0	\$311,000
Update General Information Documents  The Bridge Commission desires to update their current General Information Documents. These two (2) documents entitled "General Information on Toll Bridges" and "General Information on Non-Toll Bridges" were last revised in June of 1996 and March of 1995, respectively. The goals of this Commission Initiative are to update the content of documents with current information, update the presentation of documents with graphics and color and produce electronic versions of the documents.	\$50,000	\$50,000	\$0
District 1 Bridge Repairs District 2 Bridge Repairs District 3 Bridge Repairs The Commission should be prepared to package miscellaneous bridge and facility repair items for one (1) district into one (1) construction contract. This will allow the Commission to receive a competitive price for completing various minor miscellaneous items. It is envisioned that one (1) contract will be completed each year and each district should be placed on a three (3) year cycle. Expenditures are expected to occur from 2009 to 2016.	\$5,802,000 \$5,998,000 \$6,104,000	\$0 \$0 \$0	\$311,000 \$0 \$0

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

		General Re	eserve Fund
Project Description	* Program Cost	2008	2009
District 3 Maintenance Deicing Study and	\$1,189,000	\$75,000	\$1,114,000
<u>Implementation</u>			
The 69th Annual Inspection Report prepared by Schoor			
DePalma Associates, recommended a study to be performed			
to determine the District's deicing requirements. The study			
will include determining salt storage capacity, location,			
alternatives for deicing materials and additional deicing			
needs. It is anticipated that this study will be accomplished			
through a Task Order Assignment.			
	* Program Cost	2008	2009
Total for all of the above Commission Initiatives and			
System-wide Projects:	\$144,217,000	\$47,049,000	\$26,759,000

<sup>\*</sup> Note: The Program Cost includes the costs from 2001 to 2018

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## TRENTON-MORRISVILLE TOLL BRIDGE FACILITY

(Structure No. 20)

COMMONWEALTH OF PENNSYLVANIA BOROUGH OF MORRISVILLE COUNTY OF BUCKS

The great lift Half with

STRUCTURE NO. 79

STATE OF NEW JERSEY COUNTY OF MERCER CITY OF TRENTON

NEW JERSEY APPROACH TO THE Sructure No. 79 MENCEURE NO. 41 STOKE ME. ZZ

HENCINES No. 70

TRENTON-MORRISVILLE TOLL BRIDGE

TRENTON-MORRISVILLE TOLL BRIDGE PENNSYLVANIA APPROACH TO THE

TRENTON - MORRISVILLE TOLL BRIDGE

#### **GENERAL**

#### TRENTON-MORRISVILLE TOLL BRIDGE

(12 span, simply supported, composite steel multi-girder)

The Trenton-Morrisville Toll Bridge (Structure No. 20) carries US Route 1 over the Delaware River between Trenton, New Jersey and Morrisville, Pennsylvania. The main bridge is a twelve span, simply supported, composite steel girder structure with an overall length of 1,324 feet. The substructure consists of reinforced concrete abutments and piers with granite facing on the piers. The bridge was originally constructed by the Commission in 1952 as a four (4) lane roadway, and widened to six (6) lanes in 1965 for a total roadway width of 62 feet. In 1983 an aluminum barrier was erected across the bridge, creating three southbound and two northbound lanes. The posted speed limit in the northbound direction is 40 mph and 50 mph in the southbound direction until midspan, where the speed limit is reduced to 20 mph approach to toll plaza.

The Commission is currently investing more than \$100 million in a multi-year project for the widening and rehabilitation of the Route 1 corridor. This work includes the main river bridge and approach structures in New Jersey and Pennsylvania. The main river bridge is being widened from the piers up, to provide an extra lane in the northbound direction. The widening also includes a full deck replacement. Construction on this project began in late 2006 and is expected to be completed in late 2009.

#### TRENTON-MORRISVILLE TOLL BRIDGE APPROACH STRUCTURES

The New Jersey approach consists of eight approach structures. The Pennsylvania approach consists of two approach structures.

#### TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach, has six toll lanes. The tollbooths are erected on concrete islands and are protected by an overhead canopy. Each lane is equipped for EZ-Pass. The construction project underway includes rehabilitating the existing toll plaza. The new toll plaza will consist of five toll collection lanes, all equipped with EZ-Pass, and a service tunnel for the toll collection staff.

The 2007 inspection included the accessible portions (due to construction) of the main river bridge, two approach bridges, and the facility and grounds.

#### SIGNIFICANT FINDINGS

#### TRENTON-MORRISVILLE TOLL BRIDGE

(12 span, simply supported, composite steel multi-girder)

The Trenton-Morrisville Toll Bridge is currently under construction. The toll bridge is being widened to accommodate an added lane in the northbound direction.

#### ROUTE 29 OVERPASS (NJ)

(3 span, prestressed concrete spread box beams)

This bridge is currently under construction. The structure is being reconstructed to accommodate an added off-ramp lane from Route 1.

#### RAMP N OVERPASS (NJ)

(1 span, steel mutli-girder)

This bridge is currently under construction. The structure is being widened to accommodate an added lane in the northbound direction.

#### RAMP IY OVERPASS (NJ)

(3 span, steel multi-girder)

This bridge is currently under construction for replacement of the deck.

#### RAMP Y OVERPASS (LONG RAMP) (NJ)

(4 span, steel multi-girder)

The structure is in overall good condition. The bridge will be cleaned and painted and the barrier parapets will be replaced as part of Contract T-380B.

#### UNION STREET OVERPASS (NJ)

(1 span, steel multi-girder)

This bridge is currently under construction. The southbound structure is being widened to accommodate an added lane in the northbound direction. The entire deck is being replaced as part of Contract T-380B.

#### CENTER STREET UNDERPASS (NJ)

(1 span, riveted steel plate girders)

The structure is in overall good condition.

#### BROAD STREET UNDERPASS (NJ)

(1 span, steel multi-girder)

This bridge is currently under construction. Approach roadway work and cleaning and painting of the superstructure is currently underway.

#### RAMP N OVER UNION STREET (NJ)

(3 span, prestressed concrete girders)

The structure is in overall good condition.

#### WASHINGTON STREET OVERPASS (PA)

(1 span, steel multi-girder)

This bridge is currently under construction. Deck and approach roadway work on the northbound lanes is currently underway.

#### SOUTH PENNSYLVANIA AVENUE OVERPASS (PA)

(1 span steel multi-girder)

The structure is in overall good condition.

#### TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

There is on going construction at the toll plaza and approaches. A new concrete tunnel was constructed under the toll plaza to provide access between the tollbooths and the administration building.

The entrance to the administration building closest to the toll plaza is closed because of ongoing construction on Route 1.

The HVAC system is not working adequately. The facility personnel have indicated that the HVAC duct cleaning has been completed.

The existing roof of the administration building consists of rubber membrane system. Repair patches were observed on the roof. Occasional roof leakage has been reported.

Contracts for an electronic surveillance system along with upgrading of the fire warning and alarm systems have been awarded.

The maintenance facility administration building roof replacement is in the planning stage.

#### **CONCLUSIONS**

#### TRENTON-MORRISVILLE TOLL BRIDGE

The structure is in overall good condition.

#### ROUTE 29 OVERPASS (NJ)

The structure is in overall good condition.

#### RAMP N OVERPASS (NJ)

The structure is in overall satisfactory condition due to the cracks and spalls at the substructure. There are no repairs recommended at this time due to ongoing construction.

#### RAMP IY OVERPASS (NJ)

The structure is in overall good condition.

#### RAMP Y OVERPASS (LONG RAMP) (NJ)

The structure is in overall good condition.

#### UNION STREET OVERPASS (NJ)

The structure is in overall good condition.

#### **CENTER STREET UNDERPASS (NJ)**

The structure is in overall good condition.

#### BROAD STREET UNDERPASS (NJ)

The structure is in overall fair condition due to paint loss and minor pitting of the webs at the superstructure. There are no repairs recommended at this time due to the ongoing construction.

#### RAMP N OVER UNION STREET (NJ)

The structure is in overall good condition.

#### WASHINGTON STREET OVERPASS (PA)

The structure is in overall good condition.

#### SOUTH PENNSYLVANIA AVENUE OVERPASS (PA)

The structure is in overall good condition.

#### TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

A study should be performed to determine the best method of upgrading the HVAC system.

The administration building elevator should be replaced to eliminate frequent breakdowns and repairs. Presently the building elevator replacement is being studied.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

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## Trenton-Morrisville Toll Bridge

## ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Ro 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
380	T-M TB Rehab + One Aux. NB Lane	\$102,384,000	\$31,998,000	\$31,358,000
	BRIDGES SUB TOTAL	\$102,384,000	\$31,998,000	\$31,358,000
	Facilities and Grounds			
TMTB	Miscellaneous Projects (less than \$100k each)	\$686,000	\$50,000	\$52,000
499	TM Elevator Upgrade	\$387,000	\$40,000	\$347,000
500	TM Renovations (Roof, HVAC, Space)	\$3,294,000	\$200,000	\$1,732,000
	FACILITIES AND GROUNDS SUB TOTAL	\$4,367,000	\$290,000	\$2,131,000
	TOTAL COST	\$106,751,000	\$32,288,000	\$33,489,000

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## NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY

(Structure No. 140)

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STATE OF NEW JERSEY COUNTY OF HUNTERDON TOWNSHIP OF DELAWARE

COMMONWEALTH OF PENUSYLVANIA

COUNTY OF BUCKS
TOWNSHIP OF SOLEBURY

NEW HOPE - LAMBERTVILLE TOLL BRIDGE

NEW JERSEY APPROACH TO THE NEW HOPE-LAMBERTVILLE TOLL BRIDGE

PENNSYLVANIA APPROACH TO THE NEW HOPE-LAMBERTVILLE TOLL BRIDGE

#### **GENERAL**

#### NEW HOPE-LAMBERTVILLE TOLL BRIDGE

(10 span, continuous, steel two girder/floorbeam/stringer)

The New Hope-Lambertville Bridge (Structure No. 140) was opened to traffic on July 22, 1971 and carries US Route 202 over the Delaware River between Lambertville, New Jersey and New Hope, Pennsylvania. The bridge is a ten span, continuous, steel two girder fracture critical structure. The deck is reinforced concrete and carries two lanes of traffic in each direction separated by a median barrier. The substructure units are composed of reinforced concrete with stone facing. The total length of the structure is 1,682 feet measured from center to center of bearings.

#### NEW HOPE-LAMBERTVILLE APPROACH BRIDGES

The Commission's jurisdiction also includes the loop-ramp interchanges with overpasses provided at Route 29 in New Jersey and Route 32 in Pennsylvania. The posted speed limit on the approach roadways is 55 mph.

#### NEW HOPE-LAMBERTVILLE FACILITY AND GROUNDS

The toll plaza and toll booths at the Pennsylvania approach have one-way toll collection, replacing the two-way collection prior to the reconstruction. All lanes are equipped with EZ-Pass. The toll plaza is erected on concrete islands and is protected with an overhead canopy that matches the Operations building roof.

The 2007 inspection included the main river bridge, two approach bridges, and the facility and grounds.

#### SIGNIFICANT FINDINGS

#### NEW HOPE-LAMBERTVILLE TOLL BRIDGE

(10 span, continuous, steel two girder/floorbeam/stringer)

This structure has been classified as structurally deficient per the FHWA system due to deficiencies found in the cantilever brackets. The condition is being addressed under Contract C-449B-4 to improve the overall condition and remove the structurally deficient classification of the structure.

The deck, approach roadways, and substructure are in good condition.

Interim inspections of the superstructure should be performed on a 3 month interval to monitor the cracks at the cantilever brackets throughout the structure. The tie plates at the cantilever bracket are bent upwards due to pack rust between the tie plate and the top flange of the girders. Contract C-449B-4 is addressing this condition with an in-depth inspection of the cantilever brackets with a permanent repair to follow. Several stringers exhibited arrested areas of material

loss to the web and bottom flange. Small holes were noted at a few stringer webs. The Stringer 11 connection to the floorbeam 3 north cantilever bracket top flange in Span 9 exhibits two (2) of four (4) anchor bolts sheared off. The south fascia stringer in Span 4 exhibits a longitudinal crack at the base of the web which has been arrested by a ½" diameter drilled hole. The web at this location exhibits ¼" localized buckling.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure was found to be in good condition with only minor exposure of the pier footings.

#### **ROUTE 29 OVERPASS**

(3 span, simply supported, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck is in good condition. There are several areas of loose portions of the wabo-flex deck joint at the northbound and southbound roadways.

The approach roadway is in satisfactory condition. The approach slabs exhibit several fine to medium cracks throughout.

The superstructure is in good condition.

The substructure is in satisfactory condition. Several large areas of hollow concrete are noted at the east abutment breastwall and the pier caps and columns. Pier 2 exhibits a large spall with exposed reinforcement and an adjacent hollow concrete area at the north end of the cap.

#### **ROUTE 32 OVERPASS**

(1 span, reinforced concrete rigid frame)

The structure is in overall satisfactory condition.

The roadway is in good condition.

The approach roadway is in satisfactory condition. The approach roadway slabs exhibit few medium to wide cracks throughout.

The superstructure is in satisfactory condition. The intrados of the rigid frame exhibits few fine to medium cracks with efflorescence at the north and south ends of the midspan. Incipient spalls are noted on the concrete rigid frame over the median and the northbound left lane.

The substructure is in good condition.

#### NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

The New Hope-Lambertville tollbooths and tunnels are in new condition. The roadways at the tollbooths are in good condition. The administration building, attached garage facility, and barn sheds have new roofs. New lampposts have been installed in the parking lots.

An extension to the existing administration building should be under construction in late fall of 2007 and completed by spring of 2008. Also, 29 additional parking spaces will be constructed adjacent to the existing parking lot.

#### **CONCLUSIONS**

#### NEW HOPE-LAMBERTVILLE TOLL BRIDGE

The structure is in overall poor condition due to the superstructure. Due to the cracks noted in the steel superstructure, interim inspections are recommended to be performed on a three (3) month basis. These inspections should include all cantilever brackets on the bridge. Priority repairs to arrest the noted cracks should be undertaken within the next 6-12 months. This recommendation has been addressed through Contract C-449B-4. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **ROUTE 29 OVERPASS**

The structure is in overall satisfactory condition. The deck joints are deteriorated throughout the structure and the portions of the deck joints that are either loose or missing should be repaired. There are several areas of spalls with exposed reinforcement and hollow concrete areas throughout the substructure that should be patched with concrete. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **ROUTE 32 OVERPASS**

The structure is in overall satisfactory condition. The concrete rigid frame exhibited areas of incipient spalls over the median and the northbound left lane. The concrete at these areas should be removed, the exposed reinforcement cleaned, and the area epoxy coated. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

A HVAC study was included with the administration building extension to be built in the near future. Contract T-397B will include upgrades to the HVAC system. Contract T-397B will also include a back-up generator to supply all power needs of the facility. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

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## New Hope Lambertville Toll Bridge

## ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Ro 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
498	NH-L TB - Floorbeam Bracket Improvements	\$5,897,000	\$2,945,000	\$2,952,000
	BRIDGES SUB TOTAL	\$5,897,000	\$2,945,000	\$2,952,000
	Facilities and Grounds			
NHLTB	Miscellaneous Projects (less than \$100k each)	\$401,000	\$30,000	\$32,000
NHLFRN	Furnishings and Equipment for Addition and Renovation	\$200,000	\$0	\$200,000
397	NH-L Additions & Renovations	\$5,660,000	\$4,818,000	\$238,000
	FACILITIES AND GROUNDS SUB TOTAL	\$6,261,000	\$4,848,000	\$470,000
	TOTAL COST	\$12,158,000	\$7,793,000	\$3,422,000

## INTERSTATE 78 TOLL BRIDGE FACILITY

(Structure Nos. 270 & 275)

# INTERSTATE TOLL BRIDGE

#### **GENERAL**

#### INTERSTATE 78 TOLL BRIDGE

(Twin 7 span, continuous, steel multi-girder)

The Interstate 78 toll bridge carries traffic over the Delaware River between Northampton County, Pennsylvania and Warren County, New Jersey. The facility was opened to traffic on November 21, 1989. The Interstate 78 main river bridge (Structure nos. 270 & 275) is a twin, 1,222 foot long, four girder, 7 span continuous bridge. The dual roadways are each 46 feet from curb to curb and carry three lanes of traffic. The substructure consists of reinforced concrete hammerhead piers and reinforced concrete stub abutments. The posted speed limit on the bridge is 55 mph.

#### **INTERSTATE 78 APPROACH BRIDGES**

The New Jersey approach consists of six approach structures. The Pennsylvania approach consists of five approach structures. In total there are eleven (11) approach structures owned and maintained by the Commission that are part of the Interstate 78 Toll Bridge Facility.

#### **INTERSTATE 78 ROADWAY**

The Commission's jurisdiction extends approximately 2.2 miles to the west at the Pennsylvania approach and includes five (5) bridges and a Welcome Center. The New Jersey approach extends approximately 4.7 miles to the east (not including Conrail over I-78 or the Route 173 structures) from the main river bridge and includes six (6) bridges.

#### INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach of the westbound lanes, has seven toll lanes. All toll booth are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped with EZ-Pass.

The 2007 inspection included the eastbound and westbound main river bridges, eleven (11) approach structures, and the facility and grounds.

#### **SIGNIFICANT FINDINGS**

#### INTERSTATE 78 TOLL BRIDGE (WESTBOUND)

(7 span, continuous, steel multi-girder)

The structure is in overall good condition.

The deck, superstructure, substructure are in good condition.

The approach roadway is in satisfactory condition. Few medium to wide transverse cracks were noted at the approach roadways. The hot pour sealer at the abutment header is slightly deteriorated and depressed.

#### <u>INTERSTATE 78 TOLL BRIDGE (EASTBOUND)</u>

(7 span, continuous, steel multi-girder)

The structure is in overall good condition.

The deck is in satisfactory condition. The top of deck exhibits numerous fine to medium transverse cracks throughout. The SIP forms at the underside of the deck have isolated areas of spot rust and the concrete overhangs exhibit few fine cracks with efflorescence.

The approach roadway is in satisfactory condition. Few medium to wide transverse cracks were noted at the approach roadways. The east approach roadway exhibits a spall between the right and center lanes.

The superstructure and substructure are in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructures for the eastbound and westbound roadways were found to be in good condition with only minor deficiencies noted.

#### MORGAN HILL ROAD OVERPASS

(2 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck is in satisfactory condition. The top of deck exhibits fine to medium cracks, some partially sealed, throughout. The compression seal deck joints are partially covered with hot poured sealer and exhibit deterioration where visible.

The approach roadway is in satisfactory condition. Medium to wide cracks were noted throughout both approach roadways. The approach shoulder pavement exhibits heavy scaling and potholes at the east and west shoulders of both approach roadways.

The superstructure and substructure are in good condition.

#### CEDARVILLE ROAD OVERPASS

(4 span, simply supported, prestressed concrete I-beams)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

#### I-78 WESTBOUND OVER ROUTE 611

(3 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadway exhibits medium to wide cracks. The east approach roadway has few spalls partially patched with asphalt.

#### <u>I-78 EASTBOUND OVER ROUTE 611</u>

(3 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadway exhibits medium to wide cracks. The east approach roadway has few spalls partially patched with asphalt and few wide cracks.

#### CARPENTERSVILLE ROAD OVERPASS

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

#### EDGE ROAD OVERPASS

(2 span, continuous, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck, approach roadways, and substructure are in good condition.

The superstructure is in satisfactory condition. The bottom flanges exhibit light to moderate rust and the remaining portion of the superstructure and bearings exhibit light surface rust.

#### I-78 WESTBOUND OVER ROUTE 519

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

#### <u>I-78 EASTBOUND OVER ROUTE 519</u>

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition.

The deck is in satisfactory condition. The compression seal deck joints are partially covered with hot poured sealer and exhibit areas of minor to moderate settlement.

The approach roadways are in satisfactory condition. The west approach roadway exhibits few partially sealed wide cracks.

The superstructure and substructure are in good condition.

#### I-78 WESTBOUND OVER RAMP C

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadways exhibits spalls and wide cracks. There are spalls at the approach slabs between the lanes due to missing and broken lane reflectors.

#### I-78 EASTBOUND OVER RAMP C

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The approach roadways exhibit wide cracks throughout.

#### SERVICE ROAD OVERPASS

(1 span, simply supported, prestressed concrete adjacent box beams)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

#### **INTERSTATE 78 ROADWAY**

The I-78 roadway in New Jersey is comprised of concrete slabs. These slabs have many severe transverse cracks throughout the slabs. The concrete approach roadways have many settled and uneven slab sections with spalled edges along joints. Many joints between slabs have spalled and have been filled with asphalt. An Interstate 78 Roadway Rehabilitation Contract is underway (Contract T-424A).

#### INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

Permanent impact attenuators (protective crash cushions) should be considered for installation at the islands for increased protection to the traveling public and Commission employees.

Some of the I-78 facility vehicles and equipment are not protected from the weather and are stored along parking lots because of a lack of storage capacity within the building.

#### **CONCLUSIONS**

#### <u>INTERSTATE 78 TOLL BRIDGE (WESTBOUND)</u>

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### INTERSTATE 78 TOLL BRIDGE (EASTBOUND)

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### MORGAN HILL ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### CEDARVILLE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### <u>I-78 WESTBOUND OVER ROUTE 611</u>

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### I-78 EASTBOUND OVER ROUTE 611

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### CARPENTERSVILLE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **EDGE ROAD OVERPASS**

The structure is in overall satisfactory condition. The guide rail at the east parapet of the south approach exhibits a sheared anchor bolt and should be replaced. The superstructure steel and bearings should be painted. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### I-78 WESTBOUND OVER ROUTE 519

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### <u>I-78 EASTBOUND OVER ROUTE 519</u>

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### I-78 WESTBOUND OVER RAMP C

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### I-78 EASTBOUND OVER RAMP C

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### SERVICE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### INTERSTATE 78 ROADWAY

The I-78 roadway has excessive slab cracking and settlement for the majority of the Commission owned portion of I-78 (especially the NJ portion). Presently, Contract T-424 is underway for the I-78 Roadway Rehabilitation in New Jersey.

#### INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

A study should be conducted to determine the need for additional vehicle and equipment storage at the I-78 facility.

A study of the HVAC system should be conducted to determine whether the system located in the maintenance facility needs to be upgraded.

Consideration should be given to the installation of permanent impact attenuators at the toll plaza.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

### Interstate 78 Toll Bridge

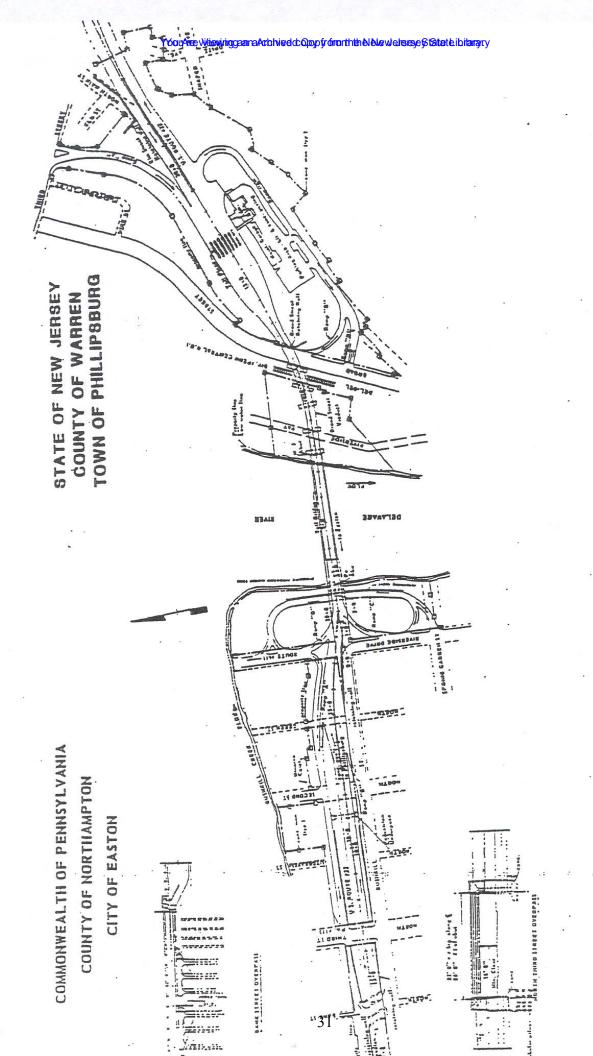
## ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Ro 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
424	I-78 Roadway Rehabilitation	\$49,640,000	\$22,309,000	\$24,101,000
427B	I-78 Open Road Tolling (ORT) Lanes	\$43,632,000	\$8,056,000	\$12,811,000
	BRIDGES SUB TOTAL	\$93,272,000	\$30,365,000	\$36,912,000
	Facilities and Grounds			
I-78TB	Miscellaneous Projects (less than \$100k each)	\$668,000	\$50,000	\$52,000
507	I-78 HVAC Upgrade	\$698,000	\$0	\$78,000
508	I-78 Vehicle Storage Building	\$3,105,000	\$0	\$168,000
506	I-78 Mill and Pave Facility Parking Lots and Service Branch Roads	\$140,000	\$140,000	\$0
	FACILITIES AND GROUNDS SUB TOTAL	\$4,611,000	\$190,000	\$298,000
	TOTAL COST	\$97,883,000	\$30,555,000	\$37,210,000

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## EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

(Structure No. 300)



EASTON-PHILLIPSBURG TOLL BRIDGE

#### **GENERAL**

#### EASTON-PHILLIPSBURG TOLL BRIDGE

(1 span, Petit Thru-Truss)

The Easton-Phillipsburg Toll Bridge (Structure No. 300) carries US Route 22 over the Delaware River. The bridge was opened to traffic on January 14, 1938. Westbound only toll collection commenced on June 4, 1989. The main river bridge consists of a 540 foot Petit thru-truss span over the Delaware River. The overall length, including the approaches on either end of the structure, is approximately 1,010 feet. The roadway width is 40 feet between the trusses and carries 4 lanes of traffic. There are 8 foot sidewalks cantilevered outside of both trusses. The substructure consists of reinforced concrete abutments. The posted speed limit through the toll bridge facility is 25 mph.

Sidewalk reconstruction was performed under Contract T-420 and was completed in 2004.

The underside of the Easton-Phillipsburg Toll Bridge, which includes the roadway stringers, floorbeams, and the bottom chords of the trusses, received an in-depth inspection performed by Schoor DePalma, Inc. in April 2007. This special in-depth inspection was required due to the limited access to those members for the regular inspections. The underside components were found to be in overall satisfactory condition. All major areas of section loss at the floorbeams and lateral bracing was found below the curblines due to poor drainage.

#### EASTON-PHILLIPSBURG TOLL BRIDGE APPROACH STRUCTURES

The Commission's jurisdiction includes a total of five (5) approach structures. On the Pennsylvania approach there are four approach structures.

Approximately 2,000 feet of the Pennsylvania approach was reconstructed in 1982. This reconstruction included new superstructures for the overpasses at Bank Street, Third Street, and Route 611. The truss support for the center bearing of the Broad Street Viaduct was reconstructed in 2001.

#### EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the New Jersey approach, has five toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped for EZ-Pass.

The 2007 inspection included the main river bridge, five (5) approach bridges, and the facility and grounds.

#### **SIGNIFICANT FINDINGS**

#### EASTON-PHILLIPSBURG TOLL BRIDGE

(1 span, Petit Thru-Truss)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. Numerous medium to wide transverse cracks are noted throughout the bridge, mainly over the floorbeam locations. The pedestrian railing exhibited cracks at the base of the several posts.

There are no approach roadways for this structure due to the adjacent approach structures.

The superstructure is in satisfactory condition. Several members exhibit isolated areas of light to moderate surface rust and peeling paint. Pack rust was noted at several locations between eyebars and at gusset plate connections. Few access cover plates at the vertical truss members are welded and few welds are cracked. The underside inspection performed by Schoor DePalma, Inc. in April 2007 noted minor section loss to the floorbeams and lateral bracing.

The substructure is in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure was noted to be in good condition. No major deficiencies were noted at either abutment in the underwater inspection report.

#### **BROAD STREET VIADUCT**

(5 span, simply supported, riveted steel three girder-floorbeam-stringer system)

The structure is in overall fair condition.

The deck is in satisfactory condition. Fine to medium transverse cracks are noted throughout the top of deck. Several areas of the underside steel trough and sidewalk SIP forms exhibit heavy laminar rust. Cracks are noted at the base plates of the north and south bridge pedestrian railing posts.

The approach roadway (east only) is in satisfactory condition. Medium to wide cracks are noted in the asphalt. The eastbound and westbound lane exhibited small spalls and loose concrete.

The superstructure is in fair condition. Several structural steel members exhibit areas of moderate to severe corrosion below the deck joints, along the curb openings, and those exposed directly to the elements. Severe rust was noted at the end stringers and floorbeam under the deck joint at Pier 4 with up to 50% material loss to the stringer connection bolts. Stringers 2 and 4 (from the north) deflect up to ¼" at the connection to the floorbeam at Pier 4 due to the losses at the connection bolts. Repaired cracks were noted at Piers 1 to 3 at the floorbeam-kneebrace connections. The weld repair at the vertical connection to the Span 3 south girder at Pier 3 has cracked and is 21" long. The crack extends approximately ½" beyond the weld repair area.

The substructure is in good condition.

#### ROUTE 611 OVERPASS

(1 span, simply supported, prestressed concrete adjacent box beam)

The structure is in overall satisfactory condition.

The deck is in fair condition. The top of deck exhibits large areas of deteriorated asphalt patches and concrete areas. The compression seal deck joints at the east and west abutments are depressed, torn, and missing throughout. The parapets have few small spalls and incipient spalls throughout.

The approach roadway (west only) is in good condition.

The superstructure is in satisfactory condition. The prestressed box beams exhibit few small spalls and moderate water stains throughout.

The substructure is in satisfactory condition. The abutments have few medium to wide cracks throughout.

#### THIRD STREET OVERPASS

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

#### BANK STREET OVERPASS

(3 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

The inlet at the northwest corner of Bank Street under Span 2 has settled with erosion of the roadway slab subbase material adjacent to the inlet. The concrete sidewalls of the inlet have also spalled with several areas of missing and broken concrete.

#### PEDESTRIAN TUNNEL

(Single cell, reinforced concrete box culvert)

The structure is in overall good condition. The roadway and culvert are in good condition.

#### EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The west side of the toll plaza has several concrete slabs of roadway with a few open and wide transverse cracks. The roadway surface is uneven with wear along tire lines and minor settlement of concrete slabs. During heavy rain, there are areas with ponding water and the tunnel under the toll booth exhibits minor leakage and occasionally the carpets on tunnel floor over the drains become wet. Overall the toll plaza is in fair condition.

Localized failure of steep embankments located at east and south sides of the maintenance yard, adjacent to the Broad Street ramp, were previously noted. Eroded embankment was observed at the base of the slope. These areas appear to be stable at the time of this inspection.

The current diesel fuel storage tank used by this facility has a 250 gallons capacity and it is inadequate for current needs. The fuel is dispensed utilizing a hand pump. The current underground diesel storage tank should be replaced with an above ground tank.

The circulating hot water heating system in the administration building is not functioning adequately and it needs to be flushed cleaned. Maintenance forces at the facility indicated that they will flush this heating system.

The tiles in the 1<sup>st</sup> floor hallway, 2<sup>nd</sup> floor hallway, and elevator of the administration building should be replaced due to the uneven walking surface. The existing tile and mastic material may contain asbestos. The Commission should have a qualified consultant or contractor test for asbestos containing material. If asbestos exists the Commission should let a contract to properly dispose of the material and replace the tile.

The roof on the administration building and garage was replaced under Contract T-465A.

The City of Easton recently informed the Commission that a storm drainage line running in close proximity to the northern foundation of Sign Structure A is partially blocked by concrete. The storm drainage line in question is an 18" concrete line. The blockage's location is in line with Sign Structure A's northern foundation.

#### **CONCLUSIONS**

#### EASTON-PHILLIPSBURG TOLL BRIDGE

The structure is in overall satisfactory condition. The general condition of the paint system of the above-deck truss is fair. Consideration should be given for a major rehabilitation project for the toll bridge and the approach structures. The rehabilitation project should include cleaning and painting of the superstructure, miscellaneous steel repairs, and drainage improvements. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **BROAD STREET VIADUCT**

The structure is in overall fair condition. The cracked vertical connection angles between the south girder and east end floorbeam at Pier 3 and between Stringer 3 and the floorbeam at Pier 4 should be replaced during a future rehabilitation project, while arresting the cracks should be included in a future miscellaneous repair contract. All the floorbeam ends and gusset plates should be cleaned and spot painted. The cracks at the east abutment backwall and breastwall should be sealed. The cracked and hollow areas at the east abutment backwall and northeast wingwall should be removed and patched with concrete. The repaired cracked welds at the connection angles throughout the structure and the Span 5 stringer connections at Pier 4 should be monitored. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### ROUTE 611 OVERPASS

The structure is in overall satisfactory condition. The top of deck exhibits large areas of deteriorated asphalt patches and concrete areas which should be removed and repaired with concrete. The compression seal deck joints at the east and west abutments should be replaced. Rebuild the settled and cracked south sidewalk at the west approach. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### THIRD STREET OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **BANK STREET OVERPASS**

The structure is in overall good condition. The inlet at the northwest corner of Bank Street should be repaired due to the erosion around the inlet. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### PEDESTRIAN TUNNEL

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The deteriorated and cracked concrete slabs on the west side of the toll plaza should be replaced. Several of concrete slabs on the east side of toll plaza in the westbound lanes should be replaced. The spalled curbs and deteriorated relief joint should be repaired.

A study should be performed for the replacement of the current diesel fuel storage tank.

A contract will be let to rectify the storm water blockage at Sign Structure A's northern foundation in the near future.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

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## Easton-Phillipsburg Toll Bridge

## ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	<b>General Reserve Fund</b>	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
436	E-P TB Sign Struct Replacements, Repair & Signage Upgrades	\$2,797,000	\$287,000	\$0
437	E-P TB Facility Rehabilitation	\$15,073,000	\$160,000	\$749,000
	BRIDGES SUB TOTAL	\$17,870,000	\$447,000	\$749,000
	Facilities and Grounds			
ЕРТВ	Miscellaneous Projects (less than \$100k each)	\$589,000	\$40,000	\$42,000
475	E-P AST Diesel Fuel Storage Tank Replacement	\$92,000	\$92,000	\$0
509	E-P HVAC Upgrade	\$600,000	\$0	\$0
	FACILITIES AND GROUNDS SUB TOTAL	\$1,281,000	\$132,000	\$42,000
	TOTAL COST	\$19,151,000	\$579,000	\$791,000

## PORTLAND-COLUMBIA TOLL BRIDGE FACILITY

(Structure No. 340)

PORTLAND - COLUMBIA TOLL BRIDGE

#### **GENERAL**

#### PORTLAND-COLUMBIA TOLL BRIDGE

(10 span, riveted steel multi-girder)

The Portland-Columbia Toll Bridge Facility (Structure No. 340) opened to traffic on December 1, 1953 and converted to toll collection in the westbound direction only on May 25, 1989. The bridge connects Pennsylvania Route 611 at Portland, Pennsylvania with US Route 46 at Columbia, New Jersey. US Route 46 merges with Interstate 80 located just north of the bridge on the New Jersey approach.

The main river bridge consists of a ten span, riveted steel plate girder system with an approximate total length of 1,309 feet. The roadway is 32 feet wide from curb to curb and carries one lane of traffic in each direction with a posted speed limit of 35 mph. The substructure units consist of reinforced concrete piers and concrete bin abutments. All the substructures are founded on spread footings with the exception of Pier 8, which is founded on piles. The piers also have partial granite stone facing.

A rehabilitation contract performed in 1992 included replacement of the existing concrete deck with a cast-in-place deck and concrete parapets. The combination sidewalk and maintenance walkway were removed and a new lighting system on the downstream side of the main bridge was installed. Approach roadway improvements (NJ and PA) and new drainage systems were also implemented. In 1998, the main river bridge, the pedestrian bridge to the north of the toll bridge, and both approach structures were cleaned and painted by contract.

#### PORTLAND-COLUMBIA APPROACH BRIDGES

The Commission's jurisdiction also includes two additional bridges at the New Jersey approach. Deck and barrier replacements were performed in 1992 in conjunction with the main river bridge rehabilitation contract.

#### PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach, has three toll lanes. All the tollbooths are erected on concrete islands and are protected by an overhead canopy. All three lanes are equipped for EZ-Pass.

The 2007 inspection included the main river bridge, two approach bridges, and the facility and grounds.

#### **SIGNIFICANT FINDINGS**

#### PORTLAND-COLUMBIA TOLL BRIDGE

(10 span, riveted steel multi-girder)

The structure is in overall good condition.

The deck is in good condition. Impact damage was noted to the cantilever sign structure connected to the north girder at Span 3. The steel support behind the sign panel is disconnected, however the sign panels are secure. The steel support at the base did not show any signs of distress or cracks. This condition is being repaired under Contract C449A-2.

The approach roadway is in satisfactory condition. Large areas of fine map cracking are noted at both approaches with few medium to wide cracks. The guide rail at the north side of the east approach exhibits impact damage.

The superstructure and substructure are in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The underwater components of the substructure were noted to be in good condition with only minor defects noted.

#### **ROUTE 46 OVERPASS**

(1 span, riveted steel multi-girder)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadway is in satisfactory condition. There is a previously patched cracked and deteriorated concrete area at the centerline of the roadway of the west approach. The east approach exhibits numerous medium to wide cracks throughout the pavement.

#### LOCUST STREET OVERPASS

(4 span, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck, approach roadways, and superstructure are in good condition.

The substructure is in satisfactory condition. A spall was noted at the east abutment bridge seat exposing the anchor bolt of the Stringer 6 bearing with a 10 in<sup>2</sup> area of undermining of the masonry plate (approximately 10%). A 2 in<sup>2</sup> area of undermining (less than 5%) was also noted at the Stringer 1 bearing at the west abutment due to a small spall. All three piers exhibit hollow concrete areas at the pier columns and at the pier cap of Pier 1.

#### PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance parking lot is in poor condition with wide cracking of the asphalt pavement and unevenness throughout. The additional storage yard and driveway are in poor condition with numerous areas of deteriorated pavement. Also, the roadway drainage is poor because of spalling and cracking of the pavement.

The roof on the maintenance garage and the administration building was recently replaced under Contract T-439A.

The HVAC controls are approximately 20 years old and the controls are not working properly.

The paint system on the overhead sign structure over the eastbound roadway, west approach, is in poor condition with areas of rust. The reflectivity of the sign panels throughout the facility is degraded and consideration should be given to replace the panels.

The entire District 3 salt storage is maintained at this location. The existing storage capacity is not sufficient.

#### **CONCLUSIONS**

#### PORTLAND-COLUMBIA TOLL BRIDGE

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### **ROUTE 46 OVERPASS**

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### LOCUST STREET OVERPASS

The structure is in overall satisfactory condition. Repair the spalls causing the minor undermining of the bearings of Stringer 6 at the east abutment and Stringer 1 at the west abutment. Remove the pack rust below the rocker bearings at Stringer 2 to 5 at the west abutment and Stringer 4 at the east abutment. Reset the shifted sliding plate bearings at all the piers. Replace the missing anchor bolts at Stringer 1 of Pier 3. The cracked and hollow concrete throughout the piers should be removed and patched with concrete. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance (rear) parking lot and the salt storage yard access and turn around should be repaved. New sidewalks, curbs and drainage should be constructed.

The sign structures should be repainted or replaced.

A study should be performed on the HVAC controls to determine what components need to be replaced, or if the entire system should be upgraded.

A study should be performed to determine the district's deicing requirements. The study should determine salt storage capacity, storage location and type of storage.

For a list of maintenance repair items, see the Eleventh Annual Maintenance Report.

## Portland-Columbia Toll Bridge

## $\frac{\textbf{ESTIMATED COST OF RECOMMENDED IMPROVEMENTS}}{\textbf{FUNDED BY THE GENERAL RESERVE FUND}}$

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Re 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
441	Locust Street Bridge Rehab (including Impact Attenuators)	\$704,000	\$20,000	\$534,000
	BRIDGES SUB TOTAL	\$704,000	\$20,000	\$534,000
	Facilities and Grounds			
РСТВ	Miscellaneous Projects (less than \$100k each)	\$270,000	\$20,000	\$21,000
460	Portland Wastewater System Connection	\$64,000	\$54,000	\$0
510	P-C Rear Parking Lot, Storage Yard and Driveway Paving	\$270,000	\$270,000	\$0
512	P-C HVAC Upgrade	\$600,000	\$0	\$0
	FACILITIES AND GROUNDS SUB TOTAL	\$1,204,000	\$344,000	\$21,000
	TOTAL COST	\$1,908,000	\$364,000	\$555,000

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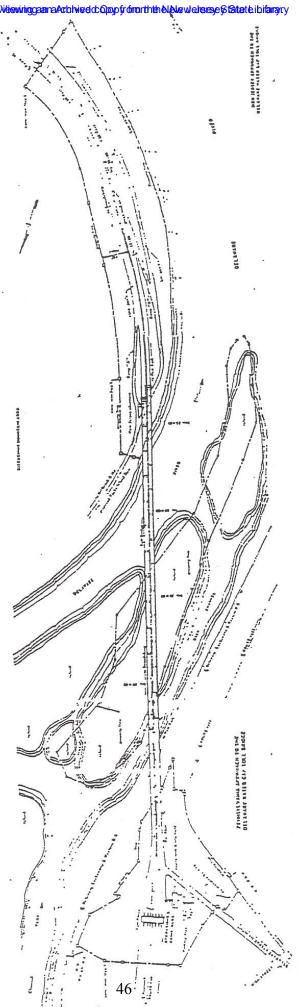
DELAWARE WATER GAP

TOLL BRIDGE FACILITY

(Structure Nos. 380 & 390)

BOROUGH OF DELAWARE WATER GAP COMMONWEALTH OF PENNBYLVANIA COUNTY OF MONROE

TOWNSHIP OF PAHAQUARRY STATE OF NEW JERSEY COUNTY OF WARREN



GAP TOLL BRIDGE WATER DELAWARE

#### **GENERAL**

#### DELAWARE WATER GAP TOLL BRIDGE

(Eastbound: 17 span, riveted steel multi-girder) (Westbound: 16 span, riveted steel multi-girder)

The Delaware Water Gap Toll Bridge (Structure Nos. 380 and 390) carries Interstate 80 across the Delaware River near Stroudsburg, Pennsylvania, providing a gateway from the eastern metropolitan area to the Pocono recreational area. Through Pennsylvania, the four lane limited access highway crosses the width of Pennsylvania to the Ohio border and directly connects to the Ohio Turnpike. On the New Jersey side, Interstate 80 connects the Delaware Water Gap Toll Bridge to the George Washington Bridge.

The toll bridge, built by the Commission and opened on December 16, 1953, is a twin, multispan (17 spans EB and 16 spans WB), steel riveted plate girder bridge approximately 2465 feet in total length. The dual roadways are each 28 feet wide from curb to curb, carrying two lanes of traffic each, and are separated by an aluminum barrier. A 5 foot wide sidewalk is located on the south side of the eastbound roadway, separated from the travel lanes with a concrete barrier. The substructure units consist of reinforced concrete bin abutments and piers. The piers also have partial granite stone facing. The speed limit posted at both approach roadways is 55 mph.

Major rehabilitation work was completed in 1989. The rehabilitation work included reconstruction of the toll plaza for one-way toll collection in the westbound direction (8 total lanes), deck replacement, construction of a New Jersey approach pedestrian walkway, toll plaza access tunnel, and miscellaneous pavement replacement. Other work performed under this contract included the installation of the aluminum median barrier, lighting and signage.

#### DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach has eight (8) toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy.

Contract T-492A repaved ½ mile of Interstate 80.

The 2007 inspection included the eastbound and westbound main river bridges and the facility and grounds.

#### **SIGNIFICANT FINDINGS**

#### DELAWARE WATER GAP TOLL BRIDGE (EASTBOUND)

(17 span, riveted steel multi-girder)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. The cast-in-place microsilica concrete (deck slab) roadway and sidewalk deck, installed in 1989, exhibits numerous fine to medium transverse cracks and longitudinal cracks over the stringer locations. These cracks were formed during the initial pouring procedures. Cores taken in 1989 and again in 1996 indicated that cracks to have grown to a maximum width of 1/16" at some locations, and also showed no signs of corrosion to the reinforcement. This inspection revealed minor or no rust to the stay-in-place forms at the underside of the deck and no significant changes to the cracks on the surface of the deck. The cracks noted at the top of deck do not pose a structural concern at this time. The deck joints were rebuilt during the deck replacement in 1989 and are consist of steel plates welded to the original finger joints, combined with steel angle armoring and strip seals. The "Seva" patch material, used as the joint header material, is deteriorated at numerous locations throughout. The material is settled, cracked, and spalled, exposing the steel plates and steel angle armoring below. Few deck joints in the eastbound roadway are slightly vertically offset between spans resulting in minor plow catch damage. All the deck joints also exhibit moderate debris accumulation in the joint opening.

The approach roadway in Pennsylvania is in satisfactory condition. Fine to medium map cracks were noted at the approaches. Random cracks and small spalls were also noted at the approaches.

The superstructure is in good condition. The north girder exhibits isolated areas of minor material loss to the bottom flange throughout all spans. Several rocker bearings exhibit moderate to heavy rust at the bearings and keeper angles. Minor material loss and missing retaining bolts were noted at a few of the keeper angles. Few bearings are missing shoulder bolts. No lateral movement of the bearings was noted at the time of inspection. The paint at the fascia beams is in fair condition, while the paint at the interior beams is in good condition.

The substructure is in satisfactory condition. The substructure exhibits areas of spall repair and epoxy coating that was performed by Maintenance forces. Numerous areas of spalled and hollow concrete were noted throughout the substructure. Some of these areas have been removed by maintenance forces and the exposed reinforcement was epoxy coated. The footing at Pier 8 is exposed.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure for the eastbound roadway was found to be in satisfactory condition due to the spalls with exposed reinforcement on the concrete pier caps and stems and the exposure of the footings with no undermining noted.

#### DELAWARE WATER GAP TOLL BRIDGE (WESTBOUND)

(16 span, riveted steel multi-girder)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. The defects noted at the westbound roadway deck are similar to the eastbound roadway deck. The deck joints in the westbound roadway exhibit ½" to ¾" vertical offset resulting in plow catch damage at the east and west abutments and Pier 3. The aluminum median barrier exhibits scrape marks and a large gouge (6' long by 1' high) was noted in Span 1.

The approach roadway is in satisfactory condition. Fine to medium map cracks were noted at the approaches. A large spall was noted at the east approach slab.

The superstructure is in satisfactory condition. The defects noted at the westbound superstructure are similar to the eastbound superstructure.

The substructure is in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure for the westbound roadway was found to be in good condition with only minor defects noted.

The results of the recently completed Northerly Crossing Corridor Congestion Mitigation Study indicate that the I-80 DWG Bridge currently operates at a level of service F during the weekday PM peak period. This report recommends that the DRJTBC proceed with an Open Road Tolling project at the I-80 DWG Bridge to help increase the throughput capacity at the I-80 bridge. Included in the ORT is the addition of a third lane in the westbound direction on the northern section of the bridge approaching the toll plaza. Widening is proposed for a length of approximately 800 feet approaching the toll plaza. This concept will require the widening of the bridge in the westbound direction. These improvements are proposed under Contract T-440.

#### DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The District 3 superintendent has requested that the existing maintenance garage facility be expanded. The maintenance garage currently does not have bathroom, locker room or lunchroom facilities, which are present at the other Commission toll facilities. Several of the Commission vehicles are parked outside in the open areas a distance away from the facility equipment. A training/meeting room for the district is requested. Presently meetings take place in the garage area and are disrupted by outside activity.

Maintenance has requested to replace HVAC system because it is not functioning properly. Maintenance has also requested to replace streetlight electrical panels at three locations. The metal cabinets are corroded and are difficult to open and close.

Maintenance has indicated that the salt storage capacity is insufficient for the entire district.

#### **CONCLUSIONS**

#### DELAWARE WATER GAP TOLL BRIDGE (EASTBOUND)

The structure is in overall satisfactory condition. The bearings should be cleaned and painted throughout the structure. Replace the bolts at locations where keeper angle and shoulder bolts are missing. The Commission should consider replacement of these bearings with elastomeric bearings. The hollow concrete areas and spalls throughout the substructure should be repaired with concrete. The north and south fascia girders and the end 6 feet of all girders should be painted. Install riprap around the exposed footing at Pier 8. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### DELAWARE WATER GAP TOLL BRIDGE (WESTBOUND)

The structure is in overall satisfactory condition. The bearings should be cleaned and painted throughout the structure. Replace the bolts at locations where keeper angle and shoulder bolts are missing. The Commission should consider replacement of these bearings with elastomeric bearings. The north and south fascia girders and the end 6 feet of all girders should be painted. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

A study for the expansion and modifications of maintenance garage is recommended.

A study should be performed on the HVAC controls to determine what components need upgrading, or if entire system should be upgraded.

A study should be performed on the electrical panels for the streetlights to determine which units need to be replaced and to specify the replacement item.

A study should be performed to determine the district's overall deicing requirements. The study should include but not limited to determining salt storage capacity, storage location, type of storage and any additional deicing capabilities.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

### Delaware Water Gap Toll Bridge

## ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Re 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
395B	I-80 / DWG Task Force Consultant	\$521,000	\$352,000	\$156,000
440	DWG ORT & One Additional WB Lane (PE & Final Design)	\$186,308,000	\$1,252,000	\$1,726,000
472	DWG TB Bearing Remediation and Deck Study	\$1,805,000	\$355,000	\$1,451,000
	BRIDGES SUB TOTAL	\$188,634,000	\$1,959,000	\$3,333,000
	Facilities and Grounds			
DWGTB	Miscellaneous Projects (less than \$100k each)	\$668,000	\$50,000	\$52,000
474	DWG Admin, Operations & Maintenance Garage Utilization Study	\$104,000	\$0	\$104,000
513	DWG HVAC Upgrade	\$581,000	\$0	\$63,000
	FACILITIES AND GROUNDS SUB TOTAL	\$1,353,000	\$50,000	\$219,000
	TOTAL COST	\$189,987,000	\$2,009,000	\$3,552,000

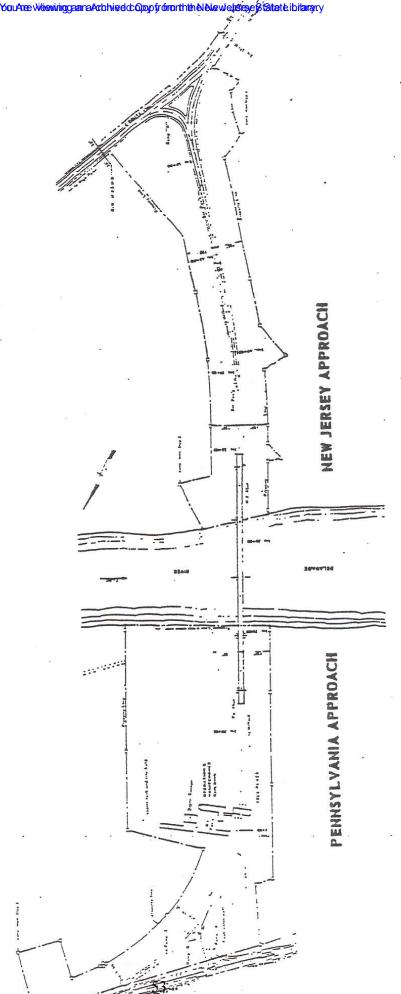
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# MILFORD-MONTAGUE TOLL BRIDGE FACILITY

(Structure No. 400)

COMMONWEALTH OF PENNSYLVANIA TOWN OF MILFORD COUNTY OF PIKE

STATE OF NEW JERSEY TOWN OF MONTAGUE COUNTY OF SUSSEX



TOLL BRIDGE MILFORD - MONTAGUE

#### **GENERAL**

#### MILFORD-MONTAGUE TOLL BRIDGE

(4 span, continuous, steel deck truss)

The Milford-Montague Toll Bridge (Structure No. 400) is the northern-most toll bridge across the Delaware River under the Commission's jurisdiction. Located seven miles south of the New Jersey/New York state line, the bridge connects US Route 206 at Montague, New Jersey to US Routes 6 and 209 at Milford, Pennsylvania.

The toll bridge, built by the Commission and opened to traffic on December 30, 1953, is a four span continuous steel deck truss structure with an approximate total length of 1,150 feet. The curb to curb width of the roadway is 27'-6" and carries one lane of traffic in each direction with a posted speed limit on the New Jersey approach of 40 mph. Cantilevered from the north truss is a 4'-0" wide sidewalk. The substructure units consist of reinforced concrete abutments and piers with granite stone facing on the piers.

In 1982 the original deck was replaced with precast concrete deck panels and stringers were relocated (fifth stringer added) for the addition of the cantilevered sidewalk. Also included in the 1982 rehabilitation project were modifications to the substructures and bridge lighting, and the addition of the aluminum safety barriers. In 1998, the New Jersey approach was milled and repaved by contract.

Contract T430-A, a rehabilitation contract for the Milford-Montague Toll Bridge, is currently underway with an anticipated construction start date of Spring 2008. The proposed improvements to the structure are:

- Concrete deck replacement
- Superstructure steel repairs
- Cleaning and painting of the superstructure
- Substructure repairs
- Slope protection and erosion damage repairs
- Approach roadway repaving
- Drainage improvements
- Safety feature improvements (signage, guide rails, etc.)
- Toll plaza rehabilitation

#### MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

At the Pennsylvania approach, there are three westbound toll collection lanes that are protected by a canopy and founded on concrete islands.

Maintenance forces completed the conversion of the Pennsylvania toll plaza in 1999, converting it to one-way tolls. This project included removing two toll booths and their respective lanes and canopy, reconstructing slabs, installing median barriers, and impact attenuators on the ends of the median barrier.

The 2007 inspection included the main river bridge and the facility and grounds.

#### **SIGNIFICANT FINDINGS**

#### MILFORD-MONTAGUE TOLL BRIDGE

(4 span, continuous, steel deck truss)

The structure is in overall satisfactory condition.

The deck is in fair condition. Several of the precast concrete deck panels exhibit large spalls with exposed epoxy coated reinforcement and few incipient spalls at the underside of the deck. Transverse cracks with efflorescence were noted beneath the transverse deck panel joints. The deck slab expansion joints, located at the piers and abutments, exhibited signs of water leakage. The east abutment finger joint is misaligned with the east approach side ½" higher causing a potential plow catch. At several locations, the bridge scupper pipes are located directly above the truss bottom chord members. No deck joint drainage trough is present below the west abutment finger joint.

The approach roadway is in good condition.

The superstructure is in satisfactory condition. Heavy rust with localized material loss was noted below at the top and bottom flange of the center stringer throughout and locally on the adjacent stringers. Several floorbeams also exhibited material loss to the web at the connection with Stringer 3. The top and bottom chord members exhibit peeling paint with light to moderate surface rust throughout and isolated locations of minor pitting. Several gusset plate connections and end diaphragms exhibit moderate to heavy rust, few with material losses, due to drainage pipes located above the members. No deck joint drainage trough is present below the west abutment finger joint. The water drains directly onto the bridge seat and down the abutment walls causing the bearings and steel below the joint to be moderately rusted.

The substructure is in satisfactory condition. Areas of fine map cracking were noted throughout both abutments and medium transverse cracks were noted at the concrete exposed portion of the pier caps. The granite stone facing at the piers exhibited random areas of missing mortar.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The underwater components of the substructure were noted to be in good condition with only minor defects noted. No undermining was noted during the inspection, although the Pier 2 footing was found to be partially exposed.

#### MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

The Pennsylvania approach slab, just east of the toll plaza, is severely deteriorated with numerous wide cracks and medium to large spalls throughout. The pavement relief joint is cracked and spalled.

The concrete slabs west of the toll plaza, were rehabilitated and found to be in good condition.

Contract T430-A includes the rehabilitation of the toll plaza and approaches.

The water storage and distribution system for the facility is not providing sufficient pressure on occasions. Fire hydrants are located at a distance from facilities. This creates reduced fire protection for the facility and is below the capacity of other toll facilities. Contract T-432, completed in 2007, provided a direct connection for municipal water through the Milford Water Authority.

The HVAC system is showing signs of the age and it is not functioning satisfactorily.

The maintenance facility asphalt pavement parking lot is in fair to poor condition with uneven pavement and wide cracking throughout. The sidewalks have random cracking and the curbs are spalled.

The paint system is failing on the steel cantilever sign structure with multiple areas of light rust. Maintenance reports that the sign panels reflectivity is significantly reduced.

The present salt storage capacity is insufficient for the entire district in the event of a major snowstorm.

#### **CONCLUSIONS**

#### MILFORD-MONTAGUE TOLL BRIDGE

The structure is in overall satisfactory condition. No significant work is recommended due to Contract T430-A, a rehabilitation contract for the Milford-Montague Toll Bridge, which is currently underway with an anticipated construction start date of Spring 2008. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

#### MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

The toll plaza, approach roadway, and sign structures will be rehabilitated under Contract T430-A.

The parking lot should be rehabilitated.

Construction of a new waterline connecting the facility to the Milford Water Authority has been completed under Contract T-432A. This resolved the problem of water storage and the inadequate water pressure at the facility.

A study should be performed on the HVAC controls to determine what components need upgrading, or if the entire system should be upgraded.

A study should be performed to determine the district's overall deicing requirements. The study should include but not limited to determining salt storage capacity, storage location, type of storage and any additional deicing capabilities.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

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## Milford-Montague Toll Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

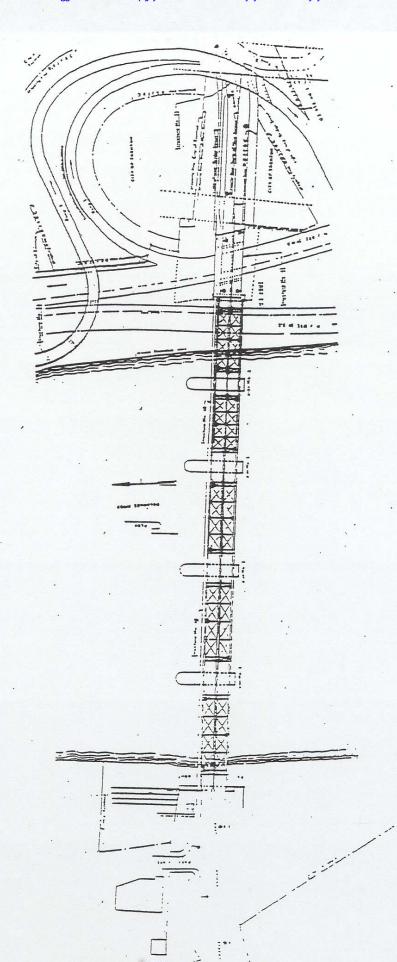
Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Re 2008	serve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
430	M-M Toll Bridge Rehabilitation	\$19,129,000	\$14,040,000	\$3,752,000
	BRIDGES SUB TOTAL	\$19,129,000	\$14,040,000	\$3,752,000
	Facilities and Grounds			
MMTB	Miscellaneous Projects (less than \$100k each)	\$466,000	\$35,000	\$37,000
514	M-M HVAC Upgrade	\$369,000	\$52,000	\$317,000
432	M-M Upgrade Water Supply	\$752,000	\$230,000	\$0
	FACILITIES AND GROUNDS SUB TOTAL	\$1,587,000	\$317,000	\$354,000
	TOTAL COST	\$20,716,000	\$14,357,000	\$4,106,000

# LOWER TRENTON TOLL SUPPORTED BRIDGE

(Structure No. 40)

# LOWER TRENTON TOLL SUPPORTED BRIDGE

STATE OF NEW JERSEY COUNTY OF MERCER CITY OF TRENTON



COMMONWEALTH OF PENNSYLVANIA COUNTY OF BUCKS BORROUGH OF MORRISVILLE

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#### LOWER TRENTON BRIDGE

#### **GENERAL**

#### LOWER TRENTON TOLL SUPPORTED BRIDGE

(5 span, subdivided Warren Truss)

The Lower Trenton Bridge (Structure No. 40), also known as the 'Trenton Makes' Bridge, carries Bridge Street traffic from Trenton, New Jersey to Morrisville, Pennsylvania; one of three bridges connecting these two towns.

The superstructure is a five-span subdivided Warren Truss built in 1928, with a total length of approximately 1,022 feet. The roadway consists of two lanes, one lane in each direction separated by the center truss. The substructure, originally built in 1804, widened and raised in 1874, consists of stone masonry.

The downriver truss displays the "Trenton Makes The World Takes" sign which is mounted to the truss members; hence, the nickname 'The Trenton Makes Bridge". The original sign was erected in 1935 and replaced in 1981. *A new sign was installed in 2005*.

The bridge is currently posted for a five-ton weight limit restriction and a twenty-five mile per hour speed limit. The bridge is also posted for a ten-foot vertical clearance.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all five (5) spans, the substructure units and the west approach roadway. The east approach bridge is NJDOT owned and was not part of the inspection.

#### SIGNIFICANT FINDINGS

The bridge appears to be in good condition.

The structure has undergone extensive cleaning and painting of the above deck structural steel and sidewalk railings. As part of this renovation project, a new "Trenton Makes" sign has been installed addressing the lighting and maintenance problems associated with the old sign technology.

The sway frame between the center and outer trusses exhibits old impact damage at a few locations. Missing rivets (2 of 35 rivets) were found at the center truss top chord connection in span 4. The missing rivets and impact damage do not affect the structural capacity of the connections.

Rust stains were observed throughout the metalized superstructure, as a result of light rusting of the open grate steel decking. The steel members that were inaccessible during cleaning and metalizing in 1997, in particular portions of the truss bottom chord, are rust staining the adjacent steel since they do not have a protective coating. The bearings exhibited minor corrosion and deterioration of the anchor bolts, none of which are of major concern at this time.

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#### LOWER TRENTON BRIDGE

The substructures are in generally good condition above the waterline. The lower portions of the west abutment exhibited loose or missing mortar joints. In general mortar joints of the substructures below high water line are deteriorating.

The officer's shelter located on the Pennsylvania side of the bridge has been replaced in 2006.

An upgrade of the traffic signals at the intersection of Warren and Bridge Streets, and Warren Street and the Route 1 Ramp was performed in 2006 by the New Jersey Department of Transportation (NJDOT) via a purchase order issued to NJDOT by the Commission.

The east abutment deck joint sealer in the westbound lanes has become dislodged allowing water to infiltrate on to the bridge seat.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in fair condition. The underwater inspection noted that the upstream portion of the substructures exhibited undermining of the concrete aprons and the PA abutment's upstream retaining wall also exhibited scour along the full length. The upstream end of pier 3 exhibited split and missing stone masonry and deteriorated mortar joints. Estimated repair costs have been included in this report.

#### **CONCLUSIONS**

The bridge is in overall good condition and is structurally adequate to carry the posted weight limit at the time of the inspection.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2005 Underwater Inspection Report. Pointing of deteriorated mortar joints should also be addressed.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Lower Trenton Toll Supported Bridge

# $\frac{\textbf{ESTIMATED COST OF RECOMMENDED IMPROVEMENTS}}{\textbf{FUNDED BY THE GENERAL RESERVE FUND}}$

Contract	Bridge and Roadway	Program		serve Fund	
No.	Recommended Improvements	Cost	2008	2009	
	Bridges, Roadways, Sidewalks, and Approaches				
	This bridge was rehabilitated in 1997 with cleaning and painting being performed and the "TRENTON MAKES" sign being replaced in 2005				
	BRIDGES SUB TOTAL	\$0	\$0	\$0	
	Facilities and Grounds				
LTTSB	Miscellaneous Projects (less than \$100k each)	\$180,000	\$10,000	\$11,000	
	FACILITIES AND GROUNDS SUB TOTAL	\$180,000	\$10,000	\$11,000	
	TOTAL COST	\$180,000	\$10,000	\$11,000	

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# CALHOUN STREET TOLL SUPPORTED BRIDGE

(Structure No. 60)

64

CALHOUN STREET TOLL SUPPORTED BRIDGE

STATE OF NEW JERSEY COUNTY OF MERCER CITY OF TRENTON

COMMONWEALTH OF PENNSYLVANIA COUNTY OF BUCKS BORDUGH OF MORRISVILLE

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#### **GENERAL**

#### <u>CALHOUN STREET TOLL SUPPORTED BRIDGE</u>

(7 span, wrought iron phoenix truss)

The Calhoun Street Bridge (Structure No. 60) is one of three bridges constructed to connect Trenton, New Jersey and Morrisville, Pennsylvania. Toll collection was discontinued at the time of the Commission's purchase on November 14, 1928. The truss was built in 1884 and the stone masonry substructure was built in 1859.

The bridge is a seven-span, wrought iron, pin-connected Phoenix Pratt truss with a total length of 1,274 feet. The open steel-grate roadway provides a clear width of eighteen feet, four inches between the thrie-beam guide rails. A timber plank sidewalk is supported by the upriver truss on steel cantilever brackets. The bridge is currently posted for a three-ton weight limit and a fifteen-mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all seven (7) spans, the substructure units and both approach roadways.

#### **SIGNIFICANT FINDINGS**

Interim strengthening of steel stringers and floor beams was performed under Contract No. TS-390 in 2003. The interim repairs were necessary to maintain the current bridge rating of three tons. Also, the intersection on the Pennsylvania approach was milled and repaved.

It has been determined previously that the bridge can safely support the posted vehicular loading of 3 tons when every other stringer is in satisfactory condition according to the 1998 repair contract (Contract No. 345) prepared by the DRJTBC Engineering Department in conjunction with Michael Baker Jr., Inc. The work was performed by an outside contractor, and consisted of removing and replacing of alternate (odd numbered) lines of stringers which were determined to be in unsatisfactory condition. Stringers located in the even numbered lines which were determined to be beyond repair were flame cut and removed during this contract.

Approach sidewalks exhibited wide cracks, spalling and scaling due to age and wear and tear.

The upper truss members were last painted in 1985. The paint system above the deck is in generally satisfactory to fair condition, with localized areas of peeling paint. The floor system was last painted in 1982 and the paint system is in poor condition.

The steel open-grate deck appears to be in fair condition, with signs of wear. Small sections of decking have been broken off or removed in span 1. Cracks in the span 7 deck plate have developed from vehicular wear and tear.

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The below-deck superstructure not included in the recent interim repairs is in poor condition. Stringers exhibited severe section loss at numerous locations, mostly in even lines. A number of stringers, mainly in even lines, had the bottom flange and lower web completely removed. Perforations of the lower webs of stringers were also noted. Floor beams typically exhibited light to moderate rust with several end floor beams exhibiting severe exfoliated rust, especially at bottom flanges and lower webs, with locations of web perforations. Minor section loss (necking) was observed at the floorbeam U-bolt supports.

Many localized areas of the transverse struts and upper chords were repaired with bolted splice plates and appear to be in fair condition with some areas in poor condition with corrosion developing in the member. Other localized areas were noted to require similar repairs, which exhibited impacted rust, causing rivets to push out and flanges of the Phoenix members to separate. Lateral Phoenix members were noted to exhibit moderate rust adjacent to weep holes in the webs. Several holes were found in the Phoenix members. The holes are occurring on the north end of the top chord of the sway frames in all spans. In addition, several areas of the Phoenix members showed signs of corrosion and impacted rust.

Several truss diagonals and counters comprised of steel bars or rods are in contact with one another. Several of these locations exhibit signs of moderate wear and corrosion. This condition was noted randomly at both upstream and downstream sides. These areas have no protective paint system and are susceptible to further rust.

Several locations of the existing intermediate post eyebar/cable tension members, as well as new reinforced tension cables, were observed to be loose.

Sidewalk timber planks (untreated) are generally in fair condition. Several have deflected both upward and downward slightly, with light to moderate deterioration. The sidewalk railing posts, adjacent to the roadway, were noted to be loose at the support base in some locations.

The upper concrete portions of the substructure units were noted to be in poor condition requiring concrete repairs and an epoxy waterproof coating. The upper pier caps exhibited stone pop-out, large spalling, incipient spalls, scaling, cracking and exposed rebar.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in satisfactory condition. Minor to moderate scour with missing rock protection was observed during the underwater inspection at most of the substructure units, but did not affect the structural integrity at the time of the underwater inspection. Estimated repair costs have been included in this report.

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#### **CONCLUSIONS**

TranSystems/Lichtenstein has been retained by the Delaware River Joint Toll Bridge Commission to perform a structural analysis of the bridge carrying Calhoun Street over the Delaware River under Contract C-447A. The primary objective of this study is to understand the structural integrity of the bridge and determine the remaining useful life of the structure and determine the most economical and constructible structural remediation strategies.

The bridge is in overall poor condition due to severely deteriorated superstructure stringers and deterioration to the piers. It is recommended that a bridge Rehabilitation Contract be performed in the future. Overall rehabilitation should include truss member repairs as well as substructure and scour remediation, and should include reconstruction of the pier tops as well as substructure deterioration noted in the 2005 Underwater Inspection Report. Due to continued deterioration, it is also recommended that the entire floor system (stringers, floor beams, sidewalk, etc.) be replaced to improve the current rating of three-tons and to extend the useful life of the bridge. These improvements, in conjunction with blast cleaning and painting of the trusses, will also remove the lead-based paint from the bridge. Approach roadway sidewalk improvements should be included.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Calhoun Street Toll Supported Bridge

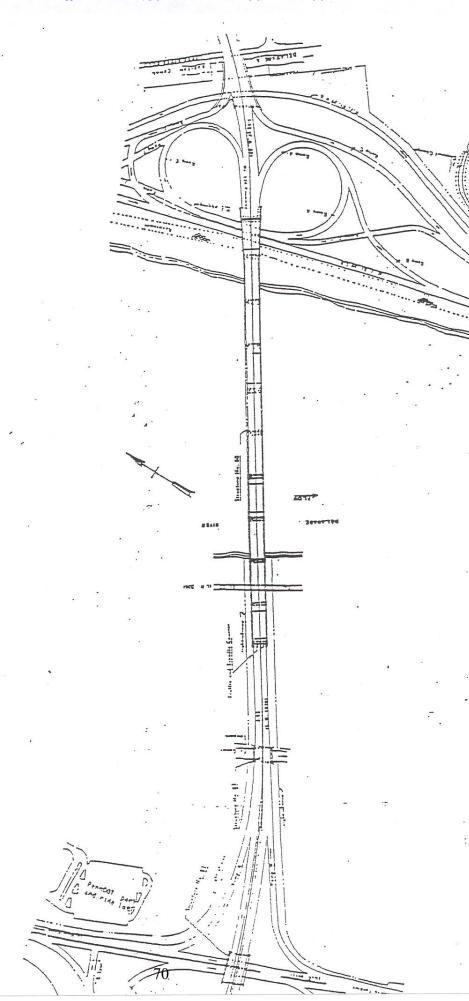
# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Re 2008	eserve Fund 2009
110.	Bridges, Roadways, Sidewalks, and Approaches			
394	Alternative Analysis Study - Additional Capacity at Calhoun Street	\$230,000	\$39,000	\$0
447	CS TSB Rehabilitation Contract (Design / Construction)	\$15,829,000	\$464,000	\$388,000
	BRIDGES SUB TOTAL	\$16,059,000	\$503,000	\$388,000
	Facilities and Grounds			
CSTSB	Miscellaneous Projects (less than \$100k each)	\$155,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$155,000	\$10,000	\$11,000
	TOTAL COST	\$16,214,000	\$513,000	\$399,000

# SCUDDER FALLS TOLL SUPPORTED BRIDGE

(Structure No. 80)

STATE OF NEW JERSEY COUNTY OF MERCER TOWNSHIP OF EWING



SCUDDER FALLS TOLL SUPPORTED BRIDGE

COUNTY OF PEHNSYLYAMA COUNTY OF BIJCKS TOWNSHIP OF LOWER MAKEFIELD

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#### **GENERAL**

#### SCUDDER FALLS TOLL SUPPORTED BRIDGE

(10 span, riveted steel two girder/floorbeam/stringer)

The Scudder Falls Toll Supported Bridge (Structure No. 80) carries Interstate 95 over the Delaware River from Lower Makefield Township in Pennsylvania to Ewing Township in New Jersey.

The main river bridge is a ten-span, riveted plate girder bridge consisting of two-span continuous deck girders and alternating cantilever spans. Built by the Commission in 1959 and opened to traffic on June 22, 1961, the bridge carries two dual roadways each 27 feet wide with a concrete median barrier, and flanked by an upstream and downstream safety walk. The total length of the bridge is 1,740 feet. The substructure units are reinforced concrete, with stone facing on the piers. The posted speed limit on the bridge approach roadways is fifty-five miles per hour. The Commission's jurisdiction at this crossing also includes two Pennsylvania approach overpasses at Taylorsville Road and the Pennsylvania Canal.

At the request of the Commission, TranSystems/Lichtenstein conducted an interim inspection of the Scudder Falls Toll Supported Bridge (I-95). The purpose of this interim inspection was to determine the condition of the fracture critical pin and hanger assembilies and the floorbeam cantilever brackets in the negative moment region. TranSystems/Lichtenstein completed the special inspection of the Scudder Falls Toll Supported Bridge over the Delaware River on August 8, 2007. For the complete inspection findings see Appendix A.

#### SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

(1 span, simply supported, steel multi-stringer)

The Scudder Falls Pennsylvania Canal Overpass (Structure No. 81) carries Interstate Route 95 over the Pennsylvania Canal in Lower Makefield Township, Pennsylvania. The structure is an approach bridge to the main Scudder Falls Bridge that crosses the Delaware River.

The Pennsylvania Canal Overpass is a simple span, concrete deck, multi-stringer structure founded on reinforced concrete abutments on footings, which are supported by steel bearing piles. Opened to traffic on June 22, 1961, the bridge carries two dual roadways each 27 feet wide with a concrete median barrier, and flanked by an upriver and downriver safety walk. The total span length of the bridge is 61'-4".

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#### TAYLORSVILLE ROAD OVERPASS

(3 span, steel multi-stringer)

Taylorsville Road Overpass (Structure No. 82) carries Interstate 95 over Taylorsville Road in Lower Makefield Township, Pennsylvania and provides access to the main Scudder Falls Bridge over the Delaware River. The bridge was built in 1959 and opened to traffic on June 22, 1961.

The superstructure is a three-span, concrete deck, multi-stringer structure founded on reinforced concrete abutments and piers on footings that are supported by cast in place concrete piles. The bridge carries two dual roadways each 27 feet wide with a concrete median barrier. The bridge is flanked by a north and south safety walk. The total span length of the bridge is 134'-0".

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. That inspection included all ten (10) spans, the substructure units and both approach roadways. Also included were the two approach bridges, approach roadways, and roadway ramps.

#### **SIGNIFICANT FINDINGS**

#### SCUDDER FALLS BRIDGE

The Commission is moving forward with plans to improve the I-95/Scudder Falls Bridge based on conclusions contained in its Southerly Crossings Corridor Study. That study found that congestion and safety problems on the bridge were a result of its narrow configuration, the proximity of adjoining interchanges, and ramps merging onto I-95.

The bridge carries more than 57,500 vehicles per day and operates at the worst level of service (LOS F) during peak rush hours. Over the next 25 years, traffic volumes are expected to increase an additional 35 percent.

In cooperation with the New Jersey and Pennsylvania Departments of Transportation, the Commission is completing a preliminary engineering plan and an environmental assessment to select a preferred alternative that will improve safety and relieve anticipated congestion on the bridge and an approximate 4 mile stretch of I-95, from Route 332 in Bucks County, PA to Bear Tavern Road in Mercer County, NJ.

The assessment includes environmental studies, alternatives to improve safety and congestion, and preliminary engineering design. The Commission has communicated with the public regarding this project via public meetings, newsletters, and a website to reflect the current status.

The main river bridge was last painted in 1981. The paint condition is poor on the girders, which exhibit moderate to heavy paint peeling. Locations under deck joints at piers 2, 5

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and 8, and pin/hangers typically exhibit the worst paint condition, with top and bottom flanges of floorbeams, ends of stringers, stiffeners, and lateral connections exhibiting moderate to heavy corrosion, obviously due to defective deck joints. Barn swallow nests and debris were observed throughout the main river bridge on stringer flanges and webs. This presents a concern as to its impact to the bridge's paint system.

The pin and hanger assemblies exhibit light to moderate rusting throughout, more so on the outside face exposed to the weather. Several areas of hangers exhibited light to moderate pitting and section loss. Ultrasonic testing was performed on the pin and hanger assemblies during the 2000 Inspections and no significant findings were found. A backup catch system is in place at all pin-hanger assemblies.

High priority structural repairs were performed in 2004 under Contract TS-421 to repair cracks in the fascia stringers as well as some of the first interior stringers at Piers 2, 5 and 8 due to advanced deterioration of the web. The work performed included the installation of stringer-support brackets; the replacement of diaphragm members; high-strength steel bolts and rivets at various locations; and the cleaning and painting of all structural steel within three feet of the stress-relief joints.

Fine transverse cracks were noted in the concrete deck above and below. Fascia soffits typically exhibit cracks with efflorescence and incipient spalling at intermittent joint locations. Throughout the underside of deck, random areas exhibited spalling, some of which had exposed rebar. The deck also shows signs of wear with aggregate pop-out and random locations of concrete and asphalt patches in the LMC overlay.

Hot-poured sealer deck joints at piers 2, 5 and 8 are worn, cracking and spalled. There are multiple temporary asphalt patches that need to be permanently repaired. The median barrier at all the deck joints is not sealed causing debris to build up on the shear locks below. Safetywalk deck joints also exhibit heavy deterioration and perforations/separations of strip seals at several locations. These openings are allowing water to infiltrate to underlying structural steel and the pin and hanger assemblies.

The substructure units are in generally good condition, with minor rust stains on pier caps. Spalling on the north end and the seat of pier 2 was noted.

Many of the railing brackets on both sides of the bridge exhibited cracks in the support brackets. There were also a few locations where the railing and brackets were dislodged.

Due to ongoing maintenance issues with the bridge lighting, a repair contract has been issued and was completed in 2006 under Contract 393F.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures (Piers 2 through 8) to be in good condition. Estimated repair costs from the underwater inspection report have been included in this report.

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#### SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

The paint condition is typically fair on all girders and poor at the girder ends. The bearings exhibit moderate to heavy corrosion with debris on the bridge seats. The backwall of the east abutment contains some spalls. The joint material in the vertical expansion joints throughout the substructure is missing or dislodged.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc. has found the substructures to be in good condition. Estimated repair costs from the underwater inspection report have been included in this report.

#### SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

The bridge is in fair condition due to the condition of the underside of deck at the deck joint locations and the non-functioning bearings.

The paint condition is typically fair to poor throughout.

Impact damage to the three northern stringers (bottom flanges and cover plates) in the northbound lanes of Taylorsville Road was observed with the 2<sup>nd</sup> stringer from the north being the worst. This collision damage does not affect the structural capacity of the bridge.

Several bearings are misaligned and exhibiting moderate to heavy corrosion with debris on the bridge seats. The backwall of the west abutment contains several spalls and vertical cracks. The joint material in the vertical expansion joints throughout the substructure is missing or dislodged.

The concrete deck below the joints is in poor condition. The underside of the deck at concrete header and deck joints is spalled in several locations above the piers.

The Commission-maintained portion of Interstate 95, including the Pennsylvania ramps and shoulders, is in good condition, having been rehabilitated in 1999 under the Taylorsville Road Interchange Rehabilitation contract (Capital Project No. 9904A). Both approach structures have been overlaid with bituminous concrete under this contract. The pavement is beginning to show signs of normal distress such as cracking due to age and usage.

#### **CONCLUSIONS**

Under Contract 393A, I-95/Scudder Falls Toll Supported Bridge Improvement Project, the main river bridge and its approach roadways and bridges are expected to be replaced by 2013. For this reason a rehabilitation to address the above noted conditions will not be undertaken.

Although the main river bridge is in satisfactory condition, the paint system is poor. At piers 2, 5 and 8 the deterioration caused by water infiltration begins at the deck joints and works downward corroding the structural steel and will eventually deteriorate the concrete

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piers, which is evident by the spalls beginning to form at pier 2. In addition, above deck slab deterioration with numerous cracks have resulted in below deck deterioration. As a result, Contract TS-393C has been issued and completed in 2006 to preserve the useful life of the structure.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2006 Underwater Inspection Report. Contract C-476A, Districts 1, 2 & 3 Substructure and Scour Remediation will address this issue.

A Preliminary Engineering and Environmental Documentation contract (C-393A) has been awarded for improvements to the Scudder Falls Toll Supported Bridge Facility. Also due to the current traffic congestion, it is recommended that an interim capacity improvement study be undertaken to determine if anything can be done to relieve congestion and if so implement those improvements within the next two years.

#### SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

The Pennsylvania Canal Overpass is generally in satisfactory condition. Although the canal bridge is in satisfactory condition, the paint system is poor.

The Pennsylvania Canal Bridge is in fair condition, however the structure should be maintained and necessary repairs be performed in order prevent further deterioration. Repairs should include cleaning and painting the girder ends and end diaphragms, and also cleaning and epoxy coating the bridge seats.

#### SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

The Taylorsville Road Bridge is in fair condition, however the structure should be maintained and necessary repairs be performed in order prevent further deterioration.

A rehabilitation contract should be performed to repair the non-functioning bearings, deck joints and underside of deck spalling. This contract should be included in the Main River Bridge Rehabilitation Contract.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Scudder Falls Toll Supported Bridge

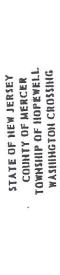
# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	<b>General Reserve Fund</b>	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
393A	I-95 / SF Improvement Project (Design, CM/CI, Construction)	\$254,232,000	\$11,865,000	\$12,629,000
	BRIDGES SUB TOTAL	\$254,232,000	\$11,865,000	\$12,629,000
	<u>Facilities and Grounds</u>			
SFTSB	Miscellaneous Projects (less than \$100k each)	\$180,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$180,000	\$10,000	\$11,000
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	TOTAL COST	\$254,412,000	\$11,875,000	\$12,640,000

# WASHINGTON CROSSING TOLL SUPPORTED BRIDGE

(Structure No. 100)

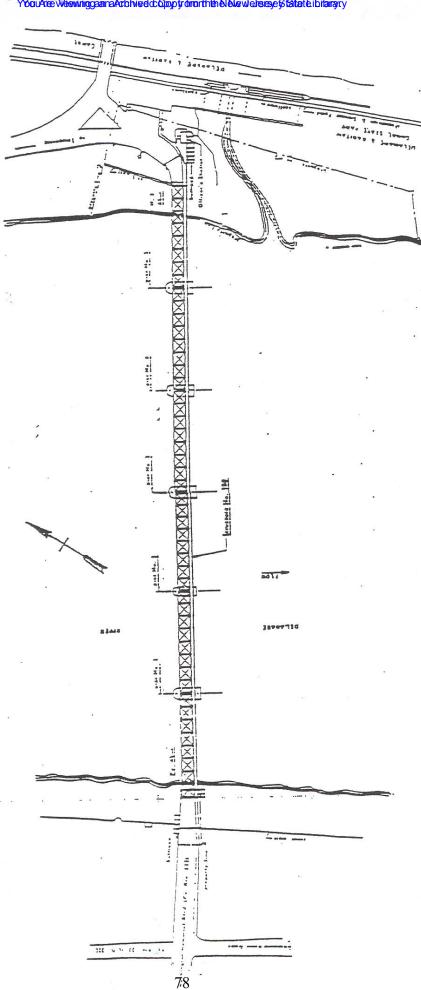
WASHINGTON CROSSING TOLL SUPPORTED BRIDGE



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TOWNSHIP OF UPPER MAKEFIELD WASHINGTON CROSSING

COUNTY OF BUCKS



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#### **GENERAL**

#### WASHINGTON CROSSING TOLL SUPPORTED BRIDGE

(6 span, double Warren Truss)

The Washington Crossing Bridge (Structure No. 100) connects Mercer County Route 546 in Hopewell Township, New Jersey with PA Route 532 (George Washington Memorial Boulevard) in the Township of Taylorsville in Upper Makefield, Pennsylvania.

The bridge consists of a six-span double Warren truss structure, with a total length of 877 feet. The steel superstructure was built in 1904. The substructures, composed of rubble stone-faced masonry, are from the original construction in 1831. The open steel grid deck provides a clear roadway width of 15 feet between the steel channel rub-rails. The downstream side of the truss supports a cantilevered, wood-planked sidewalk. The bridge was closed from August 15, 1994 to January 13, 1995 for extensive structural rehabilitation.

The bridge is currently restricted to a 15-mile per hour speed limit and a 3-ton weight limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways

#### **SIGNIFICANT FINDINGS**

The deck joint support system was repaired under Contract TS-428A in 2005. This Contract consisted of repairing and replacing riser beams.

Several floorbeam stringers at multiple locations were noted to have a minor twist (buckling) to their web, mainly at the supports over the floorbeams. According to the previous reports and the current findings, the twist has not increased in severity since 1998 and the bridge appears to be handling the current loads. Several areas of pitting of the steel were also noted throughout the top flanges of floorbeams, especially near stringer bottom flanges.

Due to the Flood of June 2006, the post tensioning rods in spans 1, 4, 5 and 6 were elongated to the point where there is excessive sagging. There is also minor sagging in the post tensioning rods in spans 1, 2 and 3. As previously documented, the tie rod on the south side of span 2 was removed during the Flood of 2005. From previous analysis, performed by Lichtenstein Engineers, the rods do not affect the posted load carrying capacity.

The steel roadway railings at the north side of span 2 at floorbeam 3, span 3 at floorbeam 2 and at span 4 were damaged by debris.

Impact damage from previous floods was observed to the bottom chord in span 5, bay 3, span 4, bay 9 and span 2, floorbeam 4 diagonal. Damage resulting from the Flood of June 2006 was limited to span 5, bay 2 and span 6, bay 2 on the upstream side of the structure. At the

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#### WASHINGTON CROSSING BRIDGE

present time, no action is required regarding the damage. The deficiencies should continue to be monitored during the regularly scheduled biennial inspections.

Although the west abutment was rehabilitated under the 1994 rehabilitation contract, it has begun to show deterioration. Wide diagonal cracks were observed at the north and south ends of the west abutment backwall. Both the north and south roadway barriers adjacent to the bridge appear to have deflected outward from backwall movement and rotation. No signs are present depicting impact damage to either barrier. In addition, the tooth dam at the west abutment was fully closed at the time of inspection. The temperature at the time was approximately 60°, indicating that the closure was not temperature related. Maintenance forces have provided a small pavement relief joint in the west approach adjacent to the west abutment and have made remedial concrete repairs. This joint has begun to exhibit signs of deterioration.

During the post flood inspection performed in early April 2005, the substructure sustained damage that warranted the closing of the bridge. A section of the Pier 5 stone facing had washed away, exposing the stacked stone core. In addition, the superstructure sustained impact damage from debris that washed downriver. The superstructure damage was incidental and does not require repair. High priority repairs to the substructure were completed by contract.

The concrete aprons at the piers exhibit wide cracks. These cracks can lead to spalling of the aprons and deterioration of the pier protection. The substructure units appear to be in fair condition, with areas of loose and missing mortar on the northern ends of the piers. A 50 SF area of damaged apron was observed at the upstream end of pier 2.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. Although pier footings were not visible during the underwater inspection due to the concrete aprons, several mortar bags of the pier footings were found to be loose, created by scour of the channel around the piers. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

#### **CONCLUSIONS**

The bridge is in satisfactory condition due to the problems with the west abutment and scour at the piers.

An In-Depth Inspection and Rating leading to a rehabilitation contract is recommended. The last In-Depth Inspection and Rating Contract (C-326) was performed in 1992, prior to the rehabilitation done in 1994. The long term needs of the tie rods should also be investigated to determine their future use as a secondary strengthening system.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to re-point areas of missing and loosed mortar and repair any substructure deterioration found below the water line noted in the 2005 Underwater Inspection Report.

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Slight web twisting is apparent on the older bridge stringers, but when exactly the twisting occurred is unknown (possibly before the weight limit restriction). Although no repair is recommended at this time, this situation should be monitored during annual inspections.

The rehabilitation contract should include the deficiencies noted above.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Washington Crossing Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Ro 2008	eserve Fund 2009
	Bridges, Roadways, Sidewalks, and Approaches			
442A	Phase 1 Rehabilitation & Concept Study for the Washington Crossing TSB	\$3,357,000	\$600,000	\$2,244,000
442B	Washington Crossing TSB Phase 2 Rehabilitation	\$9,720,000	\$0	\$0
428	WX Deck joint replacement/ rehabilitation @ Pier 1,2,4 & 5	\$408,000	\$0	\$0
	BRIDGES SUB TOTAL	\$13,485,000	\$600,000	\$2,244,000
	Facilities and Grounds			
WCTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$131,000	\$10,000	\$11,000
	TOTAL COST	\$13,616,000	\$610,000	\$2,255,000

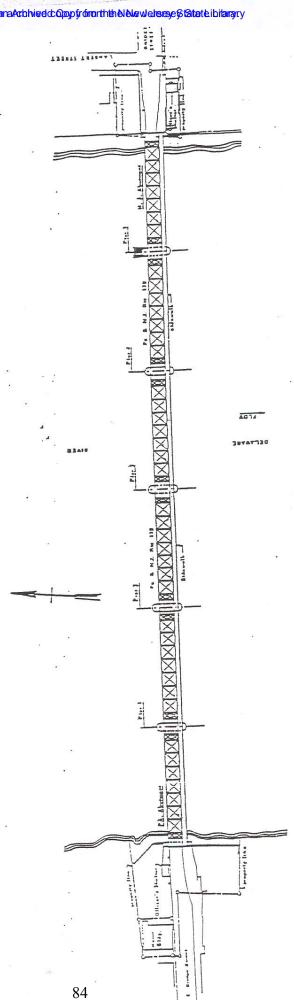
# NEW HOPE-LAMBERTVILLE TOLL SUPPORTED BRIDGE

(Structure No. 120)

NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

STATE OF NEW JERSEY COUNTY OF HUNTERDON CITY OF LAMBERTVILLE

COMMONWEALTH OF PENNSYLVANIA COUNTY OF BUCKS BORDHON OF NEW HOPE



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#### **GENERAL**

#### NEW HOPE-LAMBERTVILLE TOLL SUPPORTED BRIDGE

(6 span, pin connected Pratt Truss)

The New Hope-Lambertville Toll Supported Bridge (Structure No. 120) connects Bridge Street in New Hope, Pennsylvania to Lambertville, New Jersey.

The bridge superstructure, constructed in 1904, is a six-span pin connected Pratt truss with a total length of 1,046 feet. The open steel grate deck provides a clear roadway width of 20 feet 7 inches between steel rub rails. A timber-plank sidewalk, installed in 1982, is supported on the downstream side by steel cantilever brackets. Abutments, wingwalls, and piers are ashlar-faced masonry; the piers are stone-filled. All substructure units are from original construction in 1814.

The current posting consists of a 4-ton loading restriction and a fifteen mile per hour speed limit. The lower chord has been strengthened with a post-tensioning rod system by contract in 1984. A thrie-beam guide rail system was added by Maintenance forces to both sides of the roadway.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways.

#### SIGNIFICANT FINDINGS

The bridge was recently rehabilitated by J. D. Eckman under Contract No. TS-370A. The rehabilitation was completed and the bridge was reopened on June 7, 2004.

During the post flood inspection performed in early April 2005, the superstructure and portions of the sidewalk sustained impact damage caused by debris floating downstream. The damage did not appear to affect the structural integrity of the bridge and the sidewalk was repaired by maintenance.

During the Flood of June 2006, multiple areas of minor damage to several members of the upstream bottom chord were observed throughout the bridge. The damage sustained does not pose a threat to the structural integrity of the bridge.

However, in span 5 at the 2<sup>nd</sup> bay from the east, the bottom chord exhibited more damage than the other areas noted above. This built up lower chord member is comprised of two (2) steel channels connected together with lacing bars in a diagonal pattern for the full length of the member. Impact damage to this member has caused it to deflect horizontally approximately 8". The upstream channel apparently absorbed more of the impact (causing it to twist) than the adjacent downstream channel. Also, multiple lacing bars, which tie the two channels together, were observed to be distorted and buckled from the impact.

#### NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

It was also observed that the top flange of the upstream channel exhibited cracks in at least 5 locations. The cracks occur directly adjacent to the rivet holes and do not appear to have propagated beyond the holes.

Several post tensioning rods that run along the upstream and downstream bottom chords sustained damage where floating debris became entangled, causing them to detach from their supports. In span 3, the north post tensioning rod became completely detached from the hangers and ultimately sheared off. The failure occurred at the base of the double nut connection at the north bearing at pier 3. In span 3 at the south side, the tie rod became detached from the hangers, and elongated at pier 3, causing it to sag. A similar condition to the south post tensioning rod of span 3 occurred at the north side of span 2 and span 4. There were heavy vibrations in span 2 caused by debris entangled in the post tensioning rod. The post tensioning rods at all other locations appear to have sustained no damage.

At the north side of pier 4, the steel bracket attached to the bearing for the inspection rigging cable was disconnected. Maintenance forces should realign the cable bracket. This deficiency does not affect the structural integrity of the bridge.

Damage to the sidewalk planks was observed at one location in span 2 and two locations in span 3. It appeared that debris struck the underside of the planks causing them to lift up and become detached from the stringer supports. In span 2, in addition to the sidewalk damage, the empty utility conduit sustained damage.

Heavy debris was observed at the upstream end of pier 2 and minor to moderate debris accumulation at all of the other pier locations. A damaged section of guide rail in bay 8 of span 2 (caused by floating debris) was observed.

Multiple areas of debris were observed to be wedged throughout the upstream lower chord of the north truss.

There is a Commission owned building (formerly a firehouse) located on the Pennsylvania side that is currently being used for storage by Maintenance. There do not appear to be any major defects, with the building, however a code use and occupancy study should be conducted.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition with some moderate to heavy cracking of the concrete aprons around the piers, moderate areas of collapsed concrete aprons, undermining of portions of the aprons, and minor mortar loss in masonry joints.

#### **CONCLUSIONS**

The bridge has been downgraded from good to satisfactory condition due to damage sustained during the flood of 2006. Subsequent to the inspections and under the direction of the Commission, Parsons Brinkerhoff performed the rating calculations during the in-depth inspection and determined that the damage sustained by the flood did not warrant a

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### NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

continued bridge closure. Non-destructive testing was also performed to areas of the severely damaged bottom chord in span 5 and no evidence of cracking was found. Maintenance forces repaired the damaged sidewalk planks. The DRJTBC opened the bridge to vehicular and pedestrian traffic on July 2, 2006.

Emergency repairs to the severely damaged bottom chord in span 5 were in progress at the time this report was written.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to re-point areas of missing and loosed mortar and repair any substructure deterioration found below the water line noted in the 2005 Underwater Inspection Report.

A code use and occupancy study should be conducted for the Commission owned building (formerly a firehouse) currently being used for storage by Maintenance.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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# New Hope-Lambertville Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

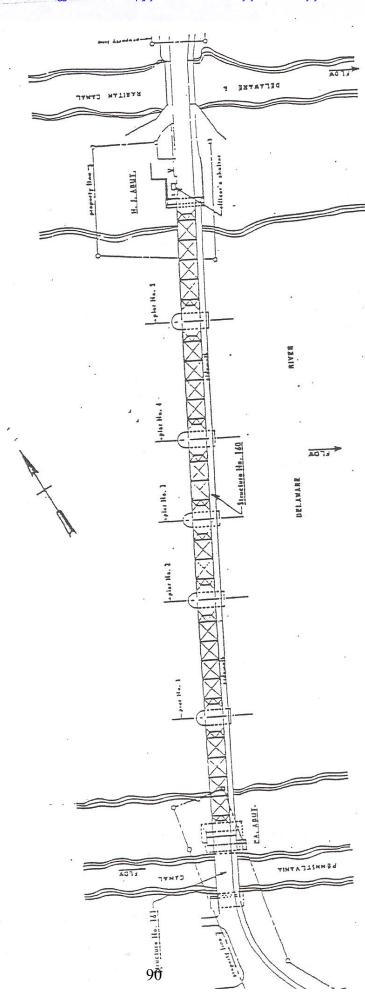
Contract	Bridge and Roadway	Program	General Reserve Fund	
No.	<b>Recommended Improvements</b>	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
	The bridge was recently rehabilitated in 2004			
	BRIDGES SUB TOTAL	\$0	\$0	\$0
	<b>Facilities and Grounds</b>			
HLTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$131,000	\$10,000	\$11,000
	TOTAL COST	\$131,000	\$10,000	\$11,000

# CENTRE BRIDGE-STOCKTON TOLL SUPPORTED BRIDGE

(Structure No. 160)

# CENTRE BRIDGE - STOCKTON TOLL SUPPORTED BRIDGE

STATE OF NEW JERSEY COUNTY OF NUNTERBON TOWNSHIP OF DELAWARE BOROUGH OF STOCKTON



COMMONWEALTH OF PENNISYLVANIA COUNTY OF HICKS TOWNSHIP OF SOLEBURY CENTRE BRIDGE

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### **GENERAL**

### CENTRE BRIDGE-STOCKTON TOLL SUPPORTED BRIDGE

(6 span, riveted steel Warren Truss)

The Centre Bridge-Stockton Bridge (Structure No. 160) connects PA Route 32 in Solebury Township, Pennsylvania to NJ Route 29 in Stockton, New Jersey. The bridge, opened to traffic in 1927, is a six-span, riveted steel Warren truss structure, with a total length of 825 feet. The steel open-grate deck, added to the bridge in 1990, provides a clear roadway width of 20 feet between thrie-beam railings. In addition, a six-foot timber-plank sidewalk, replaced in 1990, is supported on the downriver truss on steel cantilever brackets.

The piers and abutments were originally constructed in 1814 from random ashlar masonry, are stone-filled and rest upon timber crib foundations. In 1926 portions of the piers were encased with reinforced concrete.

The bridge is currently posted for a twenty-five mile per hour speed limit and a twenty-ton weight limit restriction (6 tons maximum per axle).

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection involved a one-day cursory visual walk through of the main bridge. The Pennsylvania Canal Overpass (Structure No.161) was also inspected in 2006.

### PENNSYLVANIA CANAL OVERPASS

(1 span, prestressed concrete adjacent box beams)

The Centre Bridge-Stockton Pennsylvania Canal Overpass (Structure No. 161) carries traffic over the Pennsylvania Canal in Solebury Township, PA. The structure is an approach bridge to the main Centre Bridge-Stockton Bridge that crosses the Delaware River.

The Pennsylvania Canal Overpass is a simple span, prestressed adjacent concrete box beam bridge. The roadway with is 20'-0" and the span length is 63'-0".

### **SIGNIFICANT FINDINGS**

### CENTRE BRIDGE-STOCKTON BRIDGE

A comprehensive rehabilitation of Centre Bridge-Stockton was completed in 2007 under Contract TS-429A. The scope of the rehabilitation included noted deficiencies from the previous inspection.

During an in-depth inspection in the Fall of 2005, it was determined that the lower chord members of the south truss exhibited advanced section loss that would require emergency interim repairs until the rehabilitation project was underway. The interim repairs were performed under Contract TS-429B in late 2006.

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Due to the upcoming rehabilitation and recent in-depth inspection, this structure was the subject of a cursory visual inspection.

The following significant findings have been transposed from the previous inspection reports for a general overview of the bridge's condition. For the most in-depth evaluation of this bridge, refer to Contract TS-429A's in-depth inspection report.

Repairs to the bottom chords were completed in 1998 (under Contract No. 344). The repairs included portions of the members of lower truss connections in spans one, two, four and five. Previous repairs under a separate contract include fascia portions of floorbeam bottom flanges, lower wind bracing, fascia stringer replacements, and a new guide rail system. Rust staining on the new galvanized members was typically noted.

The bridge was last painted in 1990 under Contract No. 304. The overall paint system, however, is fair above the roadway deck and poor below the roadway with peeling and blistering paint throughout. *This condition was repaired under Contract TS-429A*.

Although the structural repairs done in 1998 have improved the overall condition of the bridge, the remaining bottom chord members, more so on the downstream side, still exhibit severe rust with significant section loss. Floorbeam steel adjacent to previous repairs to the floorbeams or horizontal gusset plates also exhibit severe section loss, up to 60% at some locations (some with perforations) of the bottom flanges and rivets to the bottom flange. The locations with the greatest section loss adjacent to a previous repair were noted at the west floorbeam of pier three and the east floorbeam over pier four. Section losses were noted to be up to 60% in the bottom flanges. *This condition was repaired under Contract TS-429A*.

Upper horizontal tie plates of floorbeam and post connections (below the edge of the sidewalk) at the ends exhibit rivet head losses up to 80% as well as impacted rust and steel section losses up to 30%. *This condition was repaired under Contract TS-429A*.

Increased structural losses were located in the first bay adjacent to the west abutment (Span one), all bays of Span 3, and near the east abutment (Span six as noted in previous inspection). The end floorbeams and their stringer seat connections exhibit moderate to severe rust with section losses up to 20%. East abutment bearings and horizontal gusset plates were also noted to be full of debris. *This condition was repaired under Contract TS-429A*.

Sidewalk overhang brackets exhibit up to 40% section loss to the top flanges at intermittent locations. Channel sidewalk stringers exhibit moderate rust at localized areas with moderate to severe rust to seat angles/plates over floorbeam brackets. The worst condition of this was noted over pier four. Sidewalk stringers are also showing signs of bowing. Tie back bracket straps, as well as rivets heads, exhibited moderate to severe rust and necking with section losses up to 80%. Timber deck planks appeared to be in satisfactory condition. The substructures typically exhibit incipient spalling at upper portions of the pier caps, including efflorescence, scaling and rust stains. Loose, deteriorated and missing mortar

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### CENTRE BRIDGE-STOCKTON BRIDGE

joints were also observed. Pier three and four appeared to be in the worst condition. The water level was too high to view the aprons at the time of the inspection. *This condition was repaired under Contract TS-429A*.

A staircase exists at the southwest corner of the main bridge, which provides access from the sidewalk above to the Pennsylvania Canal towpath below. In general the steel frame of the sidewalk exhibits moderate heavy rust and moderate exfoliated rust throughout. The staircase is not in compliance with building codes as related to, rise to run ratio, tread depth, and hand railing dimensions. Maintenance forces have performed some repairs to damaged areas of the staircase. *This condition was repaired under Contract TS-429A*.

In addition to the general description of the significant findings above, additional inspections have been performed due to the Flood of June 2006. Such inspections noted debris buildup and damaged pier-mounted conduits. *This condition was repaired under Contract TS-429A*.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in fair condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

### CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL BRIDGE

No significant findings were observed at the time of the walk through inspection.

The north ends of the east and west abutments exhibit minor spalling and mapcracking with efflorescence. Maintenance should continue to patch spalls as needed. The concrete deck is in good condition with fine cracking on the deck.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc. and submitted to the Commission in 2006, has found the substructures to be in good condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

### **CONCLUSIONS**

### CENTRE BRIDGE-STOCKTON BRIDGE

The bridge is in overall fair condition. Bottom chords, although partially rehabilitated, require additional repair work to be in satisfactory condition, such as the lacing bars and localized portions of angle members. Floorbeams, bottom flanges especially, also require strengthening or replacement, including high-strength bolts at areas adjacent to previous repairs. Areas mentioned in Significant Findings with severe deterioration and section loss should also be blast cleaned and painted. Rivets with greater than 50% section loss should be replaced with high-strength bolts. Additionally, the southwest staircase is in fair condition and should be replaced to meet current building codes. *These conditions were repaired under Contract TS-429A*.

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An in-depth inspection and Rehabilitation Contract is recommended for this bridge. Since the floor system (stringers, floorbeams, etc.) of the bridge is in overall fair condition and several repairs have already been made in the 1998 Repair Contract, a complete replacement of the superstructure should not be required. This contract should include an In-Depth Inspection and Rating to determine the extent of repairs and verify the current and proposed available rating. Repair plans should be developed, and should include structural steel repairs, the southwest staircase replacement, and substructure repairs. Blast cleaning and painting of the bridge should be included. *These conditions were included under Contract TS-429A*.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of the substructure deterioration noted in the 2005 Underwater Inspection Report.

### CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL OVERPASS

The bridge is in overall good condition, with minor spalling and map cracking at the northern end of the east and west abutments.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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# Centre Bridge-Stockton Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Reserve Fund	
No.	<b>Recommended Improvements</b>	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
	The bridge was recently rehabilitated in 2007			
	BRIDGES SUB TOTAL	\$0	\$0	\$0
	<b>Facilities and Grounds</b>			
CBSTSB	Miscellaneous Projects (less than \$100k each)	\$66,000	\$5,000	\$6,000
	FACILITIES AND GROUNDS SUB TOTAL	\$66,000	\$5,000	\$6,000
	TOTAL COST	\$66,000	\$5,000	\$6,000

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# LUMBERVILLE-RAVEN ROCK PEDESTRIAN BRIDGE

(Structure No. 180)

STATE OF NEW JL.....

# LUMBERVILLE - RAVEN ROCK TOLL SUPPORTED BRIDGE

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### **GENERAL**

### **LUMBERVILLE-RAVEN ROCK**

(5 span suspension bridge)

The Lumberville-Raven Rock Pedestrian Bridge (Structure No.180) connects Solebury Township (Lumberville) in Pennsylvania with Delaware Township (Raven Rock) in New Jersey.

This pedestrian bridge is a five-span suspension bridge with straight backstays and a precast waffle-style concrete slab held together by longitudinal post-tensioning web cables. The floor system is strengthened by cable trusses along each suspension cable.

The bridge was closed to vehicular traffic in February of 1944. In 1947, the superstructure was re-built on the original 1856 masonry substructure. A major rehabilitation contract was completed in 1993 that included the new deck slab, pier and abutment repointing, approach sidewalks, and bridge lighting. The entire bridge was last painted in 1980 by Maintenance forces and the towers were again painted in 1990.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all five (5) spans, the substructure units and both approach roadways

### SIGNIFICANT FINDINGS

The deck is in good condition with some locations of water ponding, despite several drainage openings at the deck's edge.

The general condition of the paint system at the towers is poor. Upper structural steel, such as cables, suspension hangers and fencing exhibit moderate paint peeling. Upper and lower portions of suspension towers (including bearings) typically exhibit light rust and debris accumulation at the upper portions. Moderate rust was also noted at the tower base steel at the east abutment. Below deck (fascia) steel exhibits moderate random flange and bolted splice rust of transverse tee sections due to water infiltration at the ends of the deck and exposure.

Pitting with light to moderate section loss was exhibited on the lower horizontal wind bracing rods (below deck), several appearing to be caused by direct contact with the wood spacers or previous damage. Water infiltration through the construction joints at these locations seems to contribute to this problem. A sealant has been applied to these locations. Although appearing intact, the seal seems to be leaking as evidenced by moisture on the formwork and concrete.

The end sockets for the post tensioning at pier locations are heavily corroded as observed from below the deck. This condition appears to occur at all of the socket locations.

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Considering no evident damage to the deck panels, it does not appear to affect the structural integrity of the structure.

Gusset plates of the lower towers at the piers (below deck) typically exhibit moderate corrosion of the steel and rivets.

Pier concrete aprons, though underwater at the time of our inspection, were noted to be in fair to poor condition with sections washed away, spalled or cracked.

In addition to the routine inspection findings, a post Flood of June 2006 inspection was performed and some minor damage was observed. Debris accumulation was observed at the piers and on the deck. The bridge fencing was damaged due to debris impacting the bridge.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in poor condition. The underwater inspection report indicated that scour with subsequent undermining was noted at Piers 1, 2 and 3. Most locations of rock protection have been washed away and some timber cribbing has been exposed. The Pier 3 condition of undermining appears to be the most critical. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

At the southwest corner of the bridge, the Commission-owned stone retaining wall appears to be distorted. However, at the time of the routine inspection and again after the Flood of June 2006 Inspection, the wall appeared to be intact and stable.

### **CONCLUSIONS**

The bridge is in good condition and is structurally capable of carrying legal pedestrian loading. The bridge is in generally good structural condition.

Necking or corrosive section loss to the ends of lower horizontal wind bracing or fascia T's was observed at several locations. No increase in deterioration was noted from previous inspections.

The paint system is in poor condition. A cleaning and painting contract is recommended, especially for the towers and bearings. At minimum the upper and lower portions of the towers and bearings should be blast cleaned and painted. Recoating of the cables, hangers and fencing should also be included.

The southwest retaining wall along the Pennsylvania Canal and adjacent to Commission owned property should be reconstructed. A study should be undertaken to consider alternate solutions of repair. In addition, a cursory visual inspection of the exterior of the Commission owned house located on the Pennsylvania side, indicated that the above ground oil tank foundation is not level. However, it appeared to be stable at the time of inspection. A study should be undertaken to determine if any routine and/or necessary repairs need to be made.

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A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2006 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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# Lumberville-Raven Rock Pedestrian Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Re	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
443	L-RR TSB Rehabilitation & Retaining Wall Reconstruction	\$3,039,000	\$290,000	\$581,000
	BRIDGES SUB TOTAL	\$3,039,000	\$290,000	\$581,000
	Facilities and Grounds			
LRRTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$131,000	\$10,000	\$11,000
	TOTAL COST	\$3,170,000	\$300,000	\$592,000

# UHLERSTOWN-FRENCHTOWN TOLL SUPPORTED BRIDGE

(Structure No. 220)

UHLERSTOWN - FRENCHTOWN TOLL SUPPORTED BRIDGE

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### **GENERAL**

### <u>UHLERSTOWN-FRENCHTOWN TOLL SUPPORTED BRIDGE</u>

(6 span, riveted steel Warren Truss)

The Uhlerstown-Frenchtown Bridge (Structure No. 220) carries Bridge Street traffic from Uhlerstown, Tinicum Township in Pennsylvania to Frenchtown, New Jersey.

The bridge, which rests on the original masonry substructure built in 1843, consists of a six-span riveted steel Warren truss structure, built in 1931. The steel open-grate deck, added in 1949, provides a clear roadway width of 16 feet 6 inches curb to curb. A concrete-filled steel grating sidewalk is supported by the upstream truss on steel cantilever brackets.

The bridge was rehabilitated in 2001 under Contract No. TS-363. The bridge is currently posted at a 15-ton weight limit and a 15 mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways

### SIGNIFICANT FINDINGS

When performing post Flood of June 2006 Inspections, only minor damage was observed. In the 2<sup>nd</sup> bay from pier 1 in span 2 at the 2<sup>nd</sup> stringer from the north, a small area of impact damage was observed near the midspan of the stringer with damaged galvanized coating and adjacent wood debris. No indentations or other significant damage were noted. Maintenance forces can coat the damaged area of steel with a cold applied zinc compound.

During the post flood inspections performed in early April 2005, flood damage was observed to the upstream side of the railing and sidewalk. The damage was caused by debris that drifted downstream at high velocity. At the time of the 2006 routine inspection, the damaged sidewalk railing was under repair.

Bird debris and nests were observed on many of the truss verticals and diagonals, as well as under the sidewalk. The east approach pavement is showing signs of wear.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. The underwater inspection report noted that the concrete aprons exhibited medium to wide cracks with undermining of the aprons and various locations due to washing away of the rock protection. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

### **CONCLUSIONS**

The bridge is in good condition.

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A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

Repairs to the damage to the sidewalk and railing caused by the 2004 Flood should be completed.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Uhlerstown-Frenchtown Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Reserve Fund	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
	The bridge was rehabilitated in 2001			
	BRIDGES SUB TOTAL	\$0	\$0	\$0
	Facilities and Grounds			
J <b>FTSB</b>	Miscellaneous Projects (less than \$100k each)	\$392,000	\$30,000	\$32,000
	FACILITIES AND GROUNDS SUB TOTAL	\$392,000	\$30,000	\$32,000
	TOTAL COST	\$392,000	\$30,000	\$32,000

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# UPPER BLACK EDDY-MILFORD TOLL SUPPORTED BRIDGE

(Structure No. 240)

# UPPER BLACK EDDY – MILFORD TOLI

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### **GENERAL**

# <u>UPPER BLACK EDDY- MILFORD TOLL SUPPORTED BRIDGE</u> (3 span, Warren Truss)

The Upper Black Eddy-Milford Bridge (Structure No. 240) extends over the Delaware River and connects PA Route 32 and Hunterdon County Route 619 via Bridge Street from Upper Black Eddy, Bridgeton Township, Pennsylvania to Milford Borough, New Jersey.

The bridge, constructed in 1933, is a three-span Warren truss structure, with a total length of 700 feet. The deck consists of concrete-filled steel inverted "T's" and provides a clear roadway width of 20 feet between steel channel rubrails. In 1996 a new galvanized plate sidewalk was added to the bridge and is supported on the upriver truss on steel cantilever brackets.

Both abutments, recapped with reinforced concrete following flood damage, were originally built in 1842 with rubble-faced masonry. The piers, built in 1842, are stone-filled having also been recapped with reinforced concrete.

The bridge is currently posted for a fifteen mile per hour speed limit with no weight limit restriction.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and both approaches.

### SIGNIFICANT FINDINGS

Impact damage to the north bottom chord of the north truss was observed during the routine inspection and was most likely caused by the flooding that occurred in 2005. The damage is not critical and does not threaten the structural integrity of the bridge.

Severe rusting was found at the bays adjacent to both abutments. The north and south fascia stringers and their steel shims, the steel formwork for the deck and the adjacent ends of floorbeams and horizontal gusset plates (and rivet heads) were heavily corroded and delaminating. The westernmost bay in span one (1) exhibited the worst case of rust.

Light to moderate rusting was exhibited at most of the fascia stringers (and shim plates) and in localized areas throughout the remaining structural steel. More severe rusting was observed at adjacent and underlying steel beneath openings at the rubrails (edge of roadway) and at the exposed fascia steel of the bottom chord and adjacent vertical post. Lower horizontal gusset plate connections to the floorbeams were observed to exhibit light to moderate rust with debris accumulation. Batten/tie plates of bottom chord exhibit impacted rust

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### UPPER BLACK EDDY - MILFORD BRIDGE

Several bays of the below-deck superstructure were noted to contain bird nests and associated debris.

The stub stringers over pier one at the expansion (west) side rest on support brackets. The support bracket is in direct contact with the bottom flange of the floorbeam and is causing it to bend downward slightly.

Some locations of the galvanized steel sidewalk plates exhibited loss of galvanizing with minor section losses.

The concrete-filled steel deck is showing signs of wear, especially along the wheel lines. Edges of deck also exhibit minor concrete scaling with debris allowing water to infiltrate below deck. Steel deck joint sliding plates also show signs of wear specifically at the west abutment.

Substructure units were re-pointed in 1998 (Contract No. 347) and appear to be in satisfactory condition, except for pier one which exhibits signs of 'bulging' at the west side, no signs of distress were noticed in the pier cap. This bulging has been present since approximately 1970. This area should be visually monitored in future inspections. The west abutment, east side of pier one and west side of pier two, showed some minor mortar loss.

The east and west abutment backwalls exhibit heavy map cracking and spalling, especially on the south side. Two vertical cracks in the west abutment backwall and three vertical cracks in the east abutment backwall were also noted with efflorescence. The west face of pier 2 exhibited spalling at the north end. Similar conditions were noted at the upper portions of piers.

During the post flood inspection performed in early April 2005, minor damage was noted to the upstream railing caused by debris floating downstream. Again, following the post Flood of June 2006 Inspections, minor debris buildup on the piers was observed.

The officer's shelter septic sewer system has been reported to be malfunctioning.

The post Flood of June 2006 Inspection did not identify any deficiencies. The condition of the mortar loss of the stone facing and random loosening at the substructure units do not appear to have worsened due to the flood.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. It was recommended that scour countermeasures be put into place to prevent degradation up and downstream of the bridge. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

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### **CONCLUSIONS**

The bridge is in overall good condition, having been well maintained throughout the years. The steel paint condition of the truss and floor system is overall satisfactory to good, having been painted in 1992. Several areas of localized rusted and corroded steel should be spot cleaned and painted, especially in the first bays adjacent to both abutments.

It is recommended that an in-depth inspection and rating be performed for this bridge. Although this bridge is not currently posted for a weight restriction, heavy truck traffic is typical and ratings should determine if posting is necessary.

A rehabilitation contract should be considered for a complete bridge deck replacement. The new deck should provide increased protection to underlying steel. The in-depth inspection and rating should be included to study the possible alternatives (if any) for the superstructure. Based upon the current condition of the bridge, its superstructure and the current load posting, a complete superstructure replacement is not anticipated. In the interim, maintenance should repair the damaged railing caused by the 2005 flood.

The officer's shelter septic system should be properly abandoned and a new sewer line should be installed to connect into the municipal sewer system.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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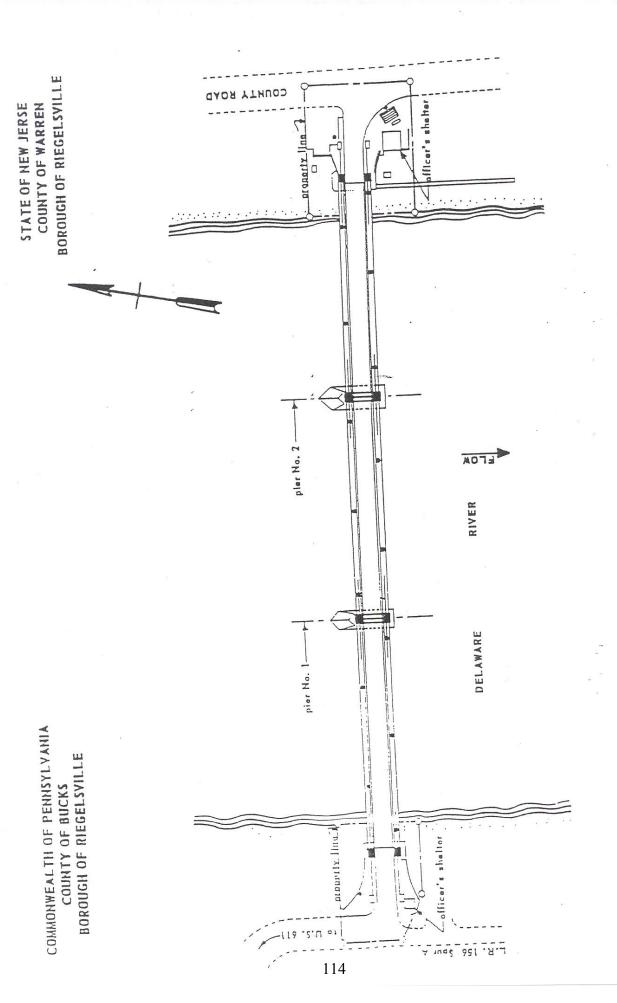
## Upper Black Eddy-Milford Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Reserve Fund	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
444	Upper Black Eddy - Milford TSB Rehabilitation	\$13,948,000	\$509,000	\$1,578,000
	BRIDGES SUB TOTAL	\$13,948,000	\$509,000	\$1,578,000
	Facilities and Grounds			
UBEMTSB	Miscellaneous Projects (less than \$100k each)	\$196,000	\$15,000	\$16,000
	FACILITIES AND GROUNDS SUB TOTAL	\$196,000	\$15,000	\$16,000
	TOTAL COST	\$14,144,000	\$524,000	\$1,594,000

# RIEGELSVILLE TOLL SUPPORTED BRIDGE

(Structure No. 260)



RIEGELSVILLE TOLL SUPPORTED BRIDGE

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### **GENERAL**

### RIEGELSVILLE TOLL SUPPORTED BRIDGE

(3 span cable suspension bridge)

The Riegelsville Toll Supported Bridge (Structure No. 260) connects Durham Township in Pennsylvania with Pohatcong Township in New Jersey.

The bridge, constructed in 1904, is a three-span cable suspension bridge with straight backstays and a total length of 577 feet. The open-grid steel deck, supported by a king post floorbeam system, provides a roadway width of 16 feet between steel rubrails. A timber plank sidewalk rests on floorbeam cantilevers on both fascias. The sidewalk railing is actually a double-warren truss, assisting in strengthening the bridge roadway. The substructure, originally built in 1835, was raised and built-up in 1904.

The bridge is currently posted for a two and one-half ton weight limit and a fifteen mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and the approach roadways.

### **SIGNIFICANT FINDINGS**

Under Contract TS-391, the Riegelsville Bridge has undergone the first step in a full rehabilitation, as part of the Commission's 10-year capital program addressing improvements to many of the bridges. Work consisted of strengthening towers on the river piers, replacement of hanger blocks connecting vertical hangers to the floor beams, repair of floor beam bearings at each end of the floor beams of the three spans, concrete repair on pier two, and concrete crack repairs at the anchorages.

The bridge was last painted by contract in 1985. The structural steel paint condition is fair above the bridge deck and poor below the bridge deck. The cable and upper suspension rods coating is in satisfactory condition.

Under vehicular impact, excessive vibrations were previously noted in spans 1 and 2, especially at pier 1 and pier 2, however the addition of the elastomeric floorbeam bearings has lessened the effect. Two (2) vertical suspension rod hangers adjacent to the towers in each span were noted to be loose. The tension in the rod hangers was reduced due to the addition of the elastomeric bearings, therefore no repair is required.

Both the north and south ends of several channel floorbeams have previously had web plates and/or replacement channels welded to the existing beams. Several floorbeams exhibit rusting and a failed zinc-coated paint system.

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### RIEGELSVILLE BRIDGE

The majority of the perforations in the lower web of the floorbeam channels, mainly above king posts, have been repaired. However, there are a few locations where perforations exist, above the king posts and near the south suspenders anchor points. The lower wind bracing angles exhibit peeling and blistering paint and exhibit moderate to locally severe rusting with subsequent section loss throughout. These conditions occur mostly beneath the sidewalks. These losses to the wind bracing do not impact the structural rigidity of the bridge at this time.

Medium transverse cracks were observed in the upriver tower horizontal saddle plates at piers 1 and 2. These cracks have been present for at least the past 9 years and have not increased in size, and therefore do not affect the structural integrity of the bridge.

At the southern lower diagonal brace at the north tower of the east abutment, as well as the northern lower diagonal brace at the south tower of pier two, signs of bending or possibly vehicular impact were noted.

Several U-shaped hangers connecting cables, more prevalent at the midspan locations, exhibited rusting and minor necking. With the present posting, repairs are not required at this time.

The following locations exhibited areas of deterioration and corrosion:

- Several floorbeam channels above the king post in span 3 exhibited perforations through the web.
- Bottom flanges and webs of floorbeams, especially near horizontal gusset plates and suspension hanger lower connections to floorbeams with poor weld conditions.
- Horizontal bracing angles at tower upper lateral struts.
- Top of sidewalk floorbeams and shim plates beneath timber nailers.
- Several lower wind bracings (also pitting and perforations)
- Lower hanger rod blocks.

A cleaning and pointing contract was completed for the substructure in 1998 and mortar joints are typically in good condition. However the tops of piers and abutments still exhibit severe scaling and spalling throughout bridge seats and backwalls in the area directly below the end floor beams. The spalling varies in depth from 2 inches to over 6 inches. The spalling does not occur near the tower supports. Concrete apron slabs above the water line at the base of piers were noted in the past to also exhibit undermining, scaling and cracking that do not effect the structural integrity of the bridge at this time.

A portion of the pier apron was washed away during the rains of Hurricane Ivan in the early fall of 2004. Further damage was sustained during the Flood of June 2006, which washed away an additional section of concrete apron.

Construction Contract TS-461A is currently in progress to repair the damaged concrete aprons and address the additional damage due to the Flood of June 2006. Construction is scheduled to commence in late 2006.

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### RIEGELSVILLE BRIDGE

During the post Flood of June 2006 Inspection, only minor damage was observed. The lower rail of the upstream sidewalk railing exhibited minor impact damage and did not require immediate repair. Additionally, debris accumulation had occurred and should be addressed by Maintenance.

Both approach roadways exhibit cracking, unevenness and general deterioration, more so at the New Jersey approach and adjacent sidewalk/parking area.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in fair condition. A section of the concrete apron at pier 2 has been washed away. The east abutment exhibited moderate erosion and loss of concrete slope protection. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

### **CONCLUSIONS**

The bridge is in fair condition, with an overall fair to poor paint condition.

It is recommended that a complete bridge rehabilitation contract be performed. The purpose of the rehabilitation contract should not only address the deficiencies of the bridge, but also investigate the possibility of increasing the current load rating of 2-1/2 tons.

The design for the Rehabilitation Project should begin with an In-Depth Inspection and Rating to determine the extent of required repairs. A study should be included with this inspection contract to determine the feasibility of a floor system rehabilitation. It is assumed that the suspension cable system will not be modified. A contract to develop rehabilitation plans and specifications should then be completed, which is assumed to include as a minimum, floorbeam replacement along with the associated hanger rod attachment blocks, blast cleaning and painting steel of the suspension cable and hangers, substructure repairs and milling and repaving the approaches and NJ Officers' shelter parking area.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report. In the interim, the washout of the pier apron that occurred during the rains of Hurricane Ivan in the early fall of 2004, and again in June 2006, should be repaired.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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# Riegelsville Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Re	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
445	RGL Rehabilitation	\$6,974,000	\$0	\$0
	BRIDGES SUB TOTAL	\$6,974,000	\$0	\$0
	Facilities and Grounds			
RTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$131,000	\$10,000	\$11,000
	TOTAL COST	\$7,105,000	\$10,000	\$11,000

# NORTHAMPTON STREET TOLL SUPPORTED BRIDGE

(Structure No. 280)

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NORTHAMPTON STREET TOLL SUPPORTED BRIDGE

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#### **GENERAL**

#### NORTHAMPTON STREET TOLL SUPPORTED BRIDGE

(3 span, cantilevered truss)

The Northampton Street Toll Supported Bridge (Structure No. 280), just south of the Easton-Phillipsburg Toll Bridge, connects Easton, Pennsylvania to Phillipsburg, New Jersey.

The bridge, although aesthetically resembling a suspension bridge, is a double cantilever truss structure, adjoined by a center (main) suspended span. The three-lane open-grid steel grate deck provides a clear roadway width of 32 feet and a total bridge length of 550 feet. The current bridge was constructed in 1895, with major rehabilitation and repairs done due to flood damages.

The bridge is currently posted for a three-ton weight limit and a twenty-five mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and the approach roadways.

At the request of the Commission, Transystems/Lichtenstein conducted a special inspection of the Northampton Street Toll Supported Bridge. The reason for this special inspection was that an audible noise was being heard at the west abutment (PA side) below the south sidewalk. The scope of this special inspection was to determine the condition causing the noise. For complete inspection findings, see Appendix A.

#### **SIGNIFICANT FINDINGS**

The bridge is in satisfactory condition due to the recent damage caused by the Flood of June 2006, which resulted in several damaged stringers with the most severely damaged stringer in span 2, which is approximately 5" out of plane. Due to the redundancy of the floor system, the stringers remain functional in this current state.

A new safety line was recently installed along both the upstream and downstream lower chords. These new safety lines allow maintenance and inspection access to the underside of the bridge.

An eyebar on the north truss is slightly bowed in the direction of the roadway, however not directly in the path of traffic. The deficiency does not affect the structural integrity of the structure.

Following the Flood of June 2006, inspections were performed to evaluate the flood damage. The initial investigation from the roadway and sidewalks revealed several areas of damaged sidewalk planks located on the north side of all 2 spans.

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Upon visual inspection of the bottom chords and surrounding areas, no evidence was found of any significant structural damage caused by the flood which would warrant bridge closure. General impact scrapes, scratched paint and minor localized dents/bends to the steel members were noted. There were several missing navigational lights and damaged/missing architectural lights beneath the bridge, including several broken electrical conduits and exposed wires. The electrical panel near the upstream side of Pier 1 was also damaged. Most of the damage noted, including the navigational lights and abrasions/paint scrapes, appears to have been caused by the Flood of 2005.

The most significant damage appears to be damaged/twisted fascia roadway stringer in span 2 at the north side in bay L9-L10. The stringer was impacted approximately 5 feet from L9 and was noted to be approximately 5" out of plane. Although no apparent damage was noted to the connections, one (1) of the riser beams sustained a 4" long broken weld.

Subsequent to the inspections, an additional walk-through inspection was performed to determine the extent of damage to the bridge lighting and whether the current Construction Contract TS-393F needed to be modified as a result of the flooding damage. This visual inspection was limited to the roadway and two (2) access roads beneath the bridge. Additional damage was noted to the downstream fluorescent lighting fixtures. However, since the decorative lighting was not de-energized or re-lamped since the flood, it is difficult to determine if the lighting fixtures which do not show physical damage are not operating.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. No additional damage was found following a subsequent inspection due to the Flood of June 2006.

#### **CONCLUSIONS**

The bridge is in satisfactory condition. Damage caused by the flood to the main superstructure (bottom chord) does not require repairs at this time. However, the damage to the northern sidewalk railing, sidewalk planks and stringers should be repaired by heat straightening or other acceptable method.

It is recommended that the fluorescent fixtures on the downstream side of the bridge be relamped and tested. Any fixture or wiring found to be defective should be replaced for a complete operating system.

For a list of required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Northampton Street Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Re	serve Fund
No.	<b>Recommended Improvements</b>	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
	The bridge was recently rehabilitated in 2002			
	BRIDGES SUB TOTAL	\$0	\$0	\$0
	Facilities and Grounds			
NHSTSB	Miscellaneous Projects (less than \$100k each)	\$667,000	\$50,000	\$52,000
	FACILITIES AND GROUNDS SUB TOTAL	\$667,000	\$50,000	\$52,000
	TOTAL COST	\$667,000	\$50,000	\$52,000

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# RIVERTON-BELVIDERE TOLL SUPPORTED BRIDGE

(Structure No. 320)

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BELVIDERE TOLL SUPPORTED BRIDGE **RIVERTON**-

COMMONWEALTH OF PENHSYLYANIA COUNTY OF HORTHAMPTON TOWNSHIP OF LOWER MOUNT BETHEL RIVERTON

STATE OF NEW JERSEY COUNTY OF WARREN TOWN OF BELVIDERE

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#### **GENERAL**

#### RIVERTON-BELVIDERE TOLL SUPPORTED BRIDGE

(4 span, riveted steel, double Warren Truss)

The Riverton-Belvidere Toll Supported Bridge (Structure No. 320) carries Water Street across the Delaware River and connects Riverton, Lower Mount Bethel Township, Pennsylvania with the Town of Belvidere, New Jersey.

The bridge, constructed in 1904, is a four-span, riveted steel, double Warren truss structure, with a total length of 653 feet. The steel open-grate deck provides a clear roadway width of 16 feet between thrie-beam railings. In addition, a concrete-filled steel-grating sidewalk is supported on the upriver truss with steel cantilever brackets.

The piers and the Pennsylvania abutment are rough ashlar-faced masonry and stone-filled. The piers are supported on timber cribs and lower portions are concrete-filled steel sheet piling (1929-32). The New Jersey abutment, including its wingwalls, is constructed of concrete on timber piles.

The bridge is currently posted for a fifteen-mile per hour speed limit and an eight-ton weight limit restriction.

Due to the upcoming rehabilitation project under Contract C-371A and the in-depth inspection involved with that contract, a one-day cursory visual walk-through inspection of the bridge was performed during the 2006 Annual Inspections.

## **SIGNIFICANT FINDINGS**

A comprehensive rehabilitation of Riverton-Belvidere was completed in 2007 under Contract TS-371A. The scope of the inspection included all noted deficiencies noted from the previous inspection.

The following significant findings have been transposed from the previous inspection report to give a general description of the condition of the bridge. The in-depth inspection performed under Contract C-371A would be the most current re-evaluation of this bridge. The bridge will be rehabilitated under Contract TS-371A.

The paint condition has localized areas of poor conditions at supports and intermittent locations. Paint peeling was noted at upper and lower steel locations exposed to the elements. The bridge was last cleaned and painted in 1981. The upper superstructure paint system is satisfactory to fair. *This condition was repaired under Contract TS-371A*.

Moderate to heavy impacted rust and deterioration was noticed in the lower chord batten plates and angle members. Debris accumulation has clogged drain (weep) holes in the bottom chords. Connections of the bottom chord and vertical truss members are severely deteriorated with rivet head losses and moderate to severe impacted rust. *This condition was repaired under Contract TS-371A*.

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#### RIVERTON-BELVIDERE BRIDGE

Localized rust was exhibited throughout stringers, floorbeams and lower wind bracing. Typically little or no losses were observed but there are random areas with moderate losses to the stringer webs. Increased deterioration was observed in the first bay adjacent to the west abutment (span one), on the flanges and lower webs of stringers and floorbeams, as well as the end of deck bearing bars exhibited heavy rust. Perforations were also noted in the webs of several sidewalk brackets and at the north end of the east abutment floorbeam. In the first bay of span one, maintenance forces have performed remedial repairs to several steel members. Some areas, however, still require repair, especially perforations in stringers (and their riser beams) and the end floorbeam. *This condition was repaired under Contract TS-371A*.

The underside of the sidewalk generally exhibits severe corrosion to the metal forms, especially at the outer edges. The top surface of the sidewalk exhibits heavy concrete scaling throughout with locations of exposed steel grating (rusted) and overall unevenness. The edge of the sidewalk steel grate and fascia plate exhibit heavy rusting and section losses due to water infiltration from the concrete deck. The approach sidewalk is in poor condition exhibiting deterioration and cracking throughout. *This condition was repaired under Contract TS-371A*.

The upper lateral wind bracing is in fair condition, exhibiting corrosion and necking at end connections. *This condition was repaired under Contract TS-371A*.

Several finger joint teeth of the pier 2 tooth dam, especially at the north side, have broken off due to corrosion and the area filled in with bituminous patch material. The tooth dam and some additional teeth remain lifted/buckled at some locations from impacted rust. The east support riser beam for the deck joint also exhibits severe section loss and corrosion, which may have contributed to the problem. The bituminous patch material may prevent proper thermal expansion of the bridge. *This condition was repaired under Contract TS-371A*.

The thermal relief joint at Pier 2 is comprised of stub stringers seated on brackets attached to the floorbeam. The stub stringers are loosely bolted to the brackets through slotted holes with the shim plates also becoming loose. *This condition was repaired under Contract TS-371A*.

The vertical diagonal truss members at the sidewalk level have connection tie plates in which several exhibit impacted rust, corrosion and subsequent bending. *This condition was repaired under Contract TS-371A.* 

The bridge railing behind the newly installed thrie-beam guide rail on the south side of the bridge is rusted throughout and is staining the guide rail with rust. *This condition was repaired under Contract TS-371A.* 

The officer's shelter at the New Jersey approach is not protected from traffic impact by means of guide rail or other device. Moreover, the New Jersey approach pavement is in fair to poor condition with cracking, rutting and spalling. The interface of the east abutment deck joint with the approach pavement is worn and discontinuous. The Pennsylvania approach pavement is in fair to poor condition.

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#### RIVERTON-BELVIDERE BRIDGE

Adjacent to the southeast retaining wall at the rear of the officer's shelter, the embankment and neighboring sidewalk have settled. Additional riprap has been added to the embankment by Maintenance forces and appears to have stabilized the slope. The concrete sidewalk has settled and cracked and appeared to have stabilized during at the time of inspection. The base of the outer concrete foundation appears to be at an inadequate depth and too close to the edge of the embankment. The shelter's foundation appears satisfactory. *This condition was repaired under Contract TS-371A*.

Commission owned property also includes a storage garage located on the New Jersey side of the bridge. The roof of the structure is comprised of a corrugated material. Heavy moss growth was observed throughout the roof. Maintenance has indicated that repairs have been performed to prevent leaks in the roof and additional repairs are required.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

#### **CONCLUSIONS**

A comprehensive rehabilitation of Riverton-Belvidere was completed in 2007 under Contract TS-371A. The scope of the inspection included all noted deficiencies noted from the previous inspection.

The bridge is in overall fair condition due to the condition of the superstructure and deck joints. It is recommended that a bridge rehabilitation contract be performed.

The overall rehabilitation should begin with an in-depth inspection and rating to determine the extent of the required repairs. Based on the current condition of the bridge, it is assumed that the entire floor system will be replaced to improve the current condition and rating of the bridge. This method will also remove the lead based paint on the bridge combined with blast cleaning. Repair plans should be developed for replacement of the stringers, floorbeams, and the sidewalk, blast cleaning and painting of the truss, expansion tooth dam replacement, substructure repairs, approach milling and repaving, and guide rail at the officer's shelter. *These conditions were repaired under Contract TS-371A*.

A separate contract should be issued to replace the roof of the storage garage in order to protect equipment being stored in the structure.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

The embankment behind the Officer's shelter should continue to be monitored by Maintenance forces as well as during annual inspections.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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## Riverton-Belvidere Toll Supported Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Re	rve Fund	
No.	Recommended Improvements	Cost	2008	2009	
	Bridges, Roadways, Sidewalks, and Approaches				
371	R-B TSB Rehabilitation Contract (Design / Construction)	\$782,000	\$782,000	\$0	
	BRIDGES SUB TOTAL	\$782,000	\$782,000	\$0	
RBTSB	<u>Facilities and Grounds</u> Miscellaneous Projects (less than \$100k each)	\$5,000	\$5,000	\$6,000	
	FACILITIES AND GROUNDS SUB TOTAL	\$5,000	\$5,000	\$6,000	
	TOTAL COST	\$787,000	\$787,000	\$6,000	

# PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

(Structure No. 360)

STATE OF NEW JERSEY COUNTY OF WARREN TOWN OF COLUMBIA

COMMONWEALTH OF PENHSYLVANIA COUNTY OF HONTHAMPTON BOROLIGH OF PORTLAND

PORTLAND - COLUMBIA TOLL SUPPORTED BRIDGE

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#### **GENERAL**

#### PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

(4 span, continuous, steel, thru-deck girder)

The Portland-Columbia Pedestrian Bridge (Structure No. 360) connects Portland Borough (Upper Mount Bethel Township), Pennsylvania with Columbia (Knowlton Township), New Jersey, just north of the Portland-Columbia Toll Bridge.

The Pedestrian Bridge is a four-span continuous, thru-deck steel girder system, with a concrete deck and built-up girders with a total length of 770 feet. The width of the walkway is 9'-6" between girder centers. The present bridge was reconstructed in 1958, following the flood of 1955, and original vehicular traffic was diverted to the main river bridge.

The former bridge lighting was removed and replaced, under contract in 1990, with high-mast lighting at each approach. In 1996, new approach guide rails and an ADA access ramp were added to the New Jersey side. More recently in 1998, this bridge, as well as the main river bridge and its approaches, were blast cleaned and painted under Contract No. 346

In 2003, Contract TS-388 was completed for the construction of a handicap accessible ramp at the west approach and bridge deck modifications.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all four (4) spans, substructure units, and both approaches.

## **SIGNIFICANT FINDINGS**

The bridge paint system is currently in good condition, having been painted recently. Light rust was exhibited below the bridge deck on the cross frames and adjacent to open steel grate drains from water flow through the drains and collecting on steel members.

The concrete deck remains in satisfactory condition, with moderate scaling, unevenness and random transverse cracks and spalls. Minor areas of under-deck spalling were noticed at random locations, some with slightly exposed rebar. Random transverse joints were noticed to allow water to infiltrate resulting in incipient spalling and moist concrete below. The concrete adjacent to open steel grates exhibits light to moderate scaling and deterioration resulting from deteriorated seals. No trough system is present beneath the open steel grates.

The substructures are in generally satisfactory condition. Mortar joints on the upstream side of the piers have deteriorated.

The northwest wingwall exhibited signs of movement (approx. 2" outward). The wall appears stable and no threat is apparent. No change in movement was noted.

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No apparent damage from the Flood of June 2006 was observed. Minor accumulation of debris was noted at the north sides of the piers. No significant changes were noted to the erosion at the southeast and southwest corners of the bridge.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in good condition. The underwater inspection report indicated that all piers were noted to have broken, missing or undermined sections of concrete aprons, with marine growth and debris. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

#### **CONCLUSIONS**

The overall condition of the bridge is good. The bridge has been well maintained and is structurally capable of carrying legal pedestrian loading at the time of this year's inspection.

Drainage troughs should be considered beneath the open steel grates to protect underlying steel. Deck remediation should also be included to extend its useful life.

An overall deck and deck drainage enhancement project should be considered, which should include repair plans, drainage system options and feasibility, deck waterproofing alternatives and construction.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2005 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

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# Portland-Columbia Pedestrian Bridge

# ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract	Bridge and Roadway	Program	General Re	
No.	Recommended Improvements	Cost	2008	2009
	Bridges, Roadways, Sidewalks, and Approaches			
412A-10	Portland - Columbia Pedestrian Bridge, PA Approach Vehicle Access	\$87,000	\$5,000	\$63,000
	BRIDGES SUB TOTAL	\$87,000	\$5,000	\$63,000
	<b>Facilities and Grounds</b>			
PCTSB	Miscellaneous Projects (less than \$100k each)	\$153,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$153,000	\$10,000	\$11,000
	TOTAL COST	\$240,000	\$15,000	\$74,000

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# YouAre Weevinggaana Arbhiedd Opp from the New Lesses State te ibitarrayry VEHICLES AND EQUIPMENT

The following section identifies vehicles and equipment that have reached their useful life and are in need of being replaced. The section also recommends the addition of vehicles and equipment that will aid the Commission with daily operations.

## TRENTON-MORRISVILLE TOLL BRIDGE

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
Salt Hopper/Spreader for F550	New Items	\$5,000	\$0	\$5,000
Oce' Copier	New Item	\$56,325	\$0	\$56,325
Konica-Minolta Scanner Wide format Printer, Copier & Scanner Model No.KIP3002	New Item	\$15,000	\$0	\$15,000
2008 4WD Vehicle	2000 Sedan Ser. No. 2FAFP74WTYX214497 Lic. No. MG0507B Mileage 85205 TM 10005	\$25,000	\$1,500	\$23,500
2008 Crew Cab Pick-up with Plow	2000 Ford Dump Truck, 4WD, F450 Ser. No. 1FDXF47F5YEA73 Lic. No. SG16926 Mileage 24578 TM 15001	\$40,000	\$8,000	\$32,000
2008 Dump Truck	1995 Ford Dump Truck, L8000 Ser. No. 1FDYK82EXSVA12727 Lic. No. SG10930 Mileage 18725 TM 15004	\$115,000	\$10,000	\$105,000
2008 Medium Dump Truck	1997 Ford Medium Dump Truck, L8000 Ser. No. 1FDYK82E2VVA19787 Lic. No. SG12152 Mileage 8495 TM 15034	\$115,000	\$12,000	\$103,000
Welder	1974 Miller Welder DC, 2500-2,300 Ser. No. HE784668 Lic. No. SGH133 TM 20009	\$14,000	\$1,500	\$12,500
2008 Zero Turn Mower	2001 John Deere, Tractor/Riding Mower Ser. No. M00455C093030 Runtime 608 TM 52019	\$7,000	\$1,000	\$6,000
	<b>Estimated Total</b>	\$397,325	\$34,000	\$363,325

## **NEW HOPE-LAMBERTVILLE TOLL BRIDGE**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
Arrow Board	New Item	\$5,000	\$0	\$5,000
Arrow Board	New Item	\$5,000	\$0	\$5,000
2008 4WD Vehicle	2002 Chevrolet Blazer, 4WD Ser. No. 1GNDT13W12K23 Lic. No. SG21184 Mileage 52112 NHL 11008	\$28,000	\$8,000	\$20,000
2008 Pick-up Truck with Plow	2000 Chevrolet CK30943, 4WD Pick-up Ser. No. 1GCHK33F3YF473 Lic. No. SG17685 Mileage 80404 NHL 12007	\$40,000	\$8,000	\$32,000
2008 Utility Boat	2001 Prince Craft Yukon 15' Utility Boat Ser. No. ZZA76055H001 Lic. No. 8144GM NHL 16010	\$15,000	\$950	\$14,050
2008 Welder	1976 Lincoln Welder DC, SA-200-F-16 Ser. No. A767950 Lic. No. SGA56D NHL 20019	\$14,000	\$1,000	\$13,000
	Estimated Total	\$112,000	\$17,950	\$94,050

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## **SOUTHERN DIVISION TOLL SUPPORTED BRIDGES**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Utility Truck	1999 GMC 3500, Utility Crew Cab Ser. No. 1GDGC33FOXF04 Lic. No. SG14801 Mileage 76000 SDT 12005	\$65,000	\$10,000	\$55,000
	Estimated Total	\$70,000	\$10,000	\$60,000

## **INTERSTATE 78 TOLL BRIDGE**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
John Deere 4x4 Gator with trailer	New Item	\$11,000	\$0	\$11,000
2008 Utility Tractor	1993 John Deere Utility Tractor Ser. No. L06300H114993 Lic. No. SG10662 Runtime 3330 I78 50004	\$82,000	\$8,000	\$74,000
2008 Loader	1990 Case Loader Ser. No. JAK0018702 Lic. No. SGH177 Runtime 4588 I78 50011	\$120,000	\$8,000	\$112,000
2008 Riding Mower	2000 John Deere Riding Mower Ser. No. M01145X185925 Lic. No. SG21380 Runtime 442 178 52023	\$10,000	\$1,000	\$9,000
	Estimated Total	\$228,000	\$17,000	\$211,000

## **EASTON-PHILLIPSBURG TOLL BRIDGE**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Medium Dump Truck	1997 Ford F800 Medium Dump Truck Ser. No. 1FDXF80EXVVA16 Lic. No. SG12123 Mileage 23393 EP 15033	\$85,000	\$12,000	\$73,000
Street Sweeper/ Sewer Vacuum	2000 Elgin Street Sweeper Ser. No. 49H6WFAA2YHF8 Lic. No. SG17045 Mileage 9658 Runtime 1427 EP 20048	\$185,000	\$30,000	\$155,000
Large VMS Sign	2001 Trailer Mounted Message Board speed signal Trafcon Dynamic Ser. No. 1001ADS5550 Lic. No. SG20795 EP 20124	\$20,000	\$100	\$19,900
	Estimated Total	\$295,000	\$42,100	\$252,900

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## **NORTHERN DIVISION TOLL SUPPORTED BRIDGES**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
	Estimated Total	\$5,000	\$0	\$5,000

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## PORTLAND-COLUMBIA TOLL BRIDGE

Recommended New Units	Items To Be Replaced, Sold, or *Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 4WD Utility Vehicle	*2002 Ford Explorer, 4WD Ser. No. 1FMZU73E92ZB54 Lic. No. 96400MG Mileage 60922 PC 11006	\$25,000	\$0	\$25,000
	Estimated Total	\$30,000	\$0	\$30,000

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## **DELAWARE WATER GAP TOLL BRIDGE**

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Ford F350 Truck	2001 Ford F350 Pick-up Ser. No. 1FTSF31F21EC66 Lic. No. SG20431 Mileage 47558 DWG 12017	\$38,000	\$5,000	\$33,000
Craftco Tar Wagon	1999 Craftco Melter Applicator Ser. No. 1C9SY1018X1418 Lic. No. SG16068 Runtime 472 DWG 20042	\$35,000	\$3,000	\$32,000
Power Pusher	1990 Nu Star Power Pusher Ser. No. 44-165 DWG 20123	\$5,500	\$500	\$5,000
	Estimated Total	\$83,500	\$8,500	\$75,000

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## MILFORD-MONTAGUE TOLL BRIDGE

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Utility Vehicle, 4WD	2002 Chevrolet Blazer, 4WD Ser. No. 1GNDT13W82K209967 Lic. No. SG21313 Mileage 84108 MM 11011	\$25,000	\$1,000	\$24,000
Flat Bed with Lift Gate and Snow Plow	1994 GMC Dump Truck Ser. No. 1GDP7H1J7RJ505 Lic. No. SG10765 Mileage 33371 MM 15012	\$86,000	\$10,000	\$76,000
	Estimated Total	\$116,000	\$11,000	\$105,000

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## **SUMMARY BY DISTRICT**

LOCATION	Estimated Pur. Price	Estimated Sale Price	Estimated Net Price
		30.01.1.00	
Trenton-Morrisville	\$397,325	\$34,000	\$363,325
New Hope-Lambertville	\$112,000	\$17,950	\$94,050
Southern Div. Toll Supported	\$70,000	\$10,000	\$60,000
District 1 Total	\$579,325	\$61,950	\$517,375
Interstate 78	\$228,000	\$17,000	\$211,000
Easton-Phillipsburg	\$295,000	\$42,100	\$252,900
Northern Div. Toll Supported	\$5,000	\$0	\$5,000
District 2 Total	\$528,000	\$59,100	\$468,900
Portland-Columbia	\$30,000	\$0	\$30,000
Delaware Water Gap	\$83,500	\$8,500	\$75,000
Milford-Montague	\$116,000	\$11,000	\$105,000
District 3 Total	\$229,500	\$19,500	\$210,000
TOTAL	\$1,336,825	\$140,550	\$1,196,275

NET PURCHASES (Vehicles & Equipment) \$1,196,275

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# YouAreWéewiringgaaraArbhieddcQpp from the helelewelsesse β Satet & ibitarrary ESTIMATED EXPENDITURES SUMMARY

## **GENERAL RESERVE FUND**

TOLL BRIDGES	2008	2009
<u>Trenton-Morrisville</u>	\$32,288,000	\$33,489,000
New Hope-Lambertville Toll Supported Bridge	\$7,793,000	\$3,422,000
Interstate 78	\$30,555,000	\$37,210,000
Easton-Phillipsburg	\$579,000	\$791,000
Portland-Columbia	\$364,000	\$555,000
Delaware Water Gap	\$2,009,000	\$3,552,000
Milford-Montague	\$14,357,000	\$4,106,000
Subtotal (Toll Bridges)	\$87,945,000	\$83,125,000
TOLL SUPPORTED BRIDGES	2008	2009
<u>Lower Trenton</u>	\$10,000	\$11,000
<u>Calhoun Street</u>	\$513,000	\$399,000
Scudder Falls	\$11,875,000	\$12,640,000
Washington Crossing	\$610,000	\$2,255,000
New Hope-Lambertville	\$10,000	\$11,000
Centre Bridge-Stockton	\$5,000	\$6,000
Lumberville-Raven Rock Pedestrian Bridge	\$300,000	\$592,000
<u>Uhlerstown-Frenchtown</u>	\$30,000	\$32,000
Upper Black Eddy-Milford	\$524,000	\$1,594,000
Riegelsville	\$10,000	\$11,000
Northampton Street	\$50,000	\$52,000
Riverton-Belvidere	\$787,000	\$6,000
Portland-Columbia	\$15,000	\$74,000
Subtotal (Toll Supported Bridges)	\$14,739,000	\$17,683,000
	2008	2009
TOTAL GENERAL RESERVE FUND	\$102,684,000	\$100,808,000

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## Bridges, Roadways, Sidewalks, and Approaches Summary

<u>DISTRICT I</u>		2008	2009
Trenton-Morrisville Toll Bridge		\$31,998,000	\$31,358,000
Lower Trenton Toll Supported Bridge		\$0	\$0
Calhoun Street Toll Supported Bridge		\$503,000	\$388,000
Scudder Falls Toll Supported Bridge		\$11,865,000	\$12,629,000
Washington Crossing Toll Supported Bridge		\$600,000	\$2,244,000
New Hope-Lambertville Toll Supported Bridge		\$0	\$0
New Hope Lambertville Toll Bridge		\$2,945,000	\$2,952,000
Centre Bridge-Stockton Toll Supported Bridge		\$0	\$0
Lumberville-Raven Rock Pedestrian Bridge		\$290,000	\$581,000
	District I Total	\$48,201,000	\$50,152,000
<u>DISTRICT II</u>		2008	2009
<u>Uhlerstown-Frenchtown Toll Supported Bridge</u>		\$0	\$0
Upper Black Eddy-Milford Toll Supported Bridge		\$509,000	\$1,578,000
Riegelsville Toll Supported Bridge		\$0	\$0
Interstate 78 Toll Bridge		\$30,365,000	\$36,912,000
Northampton Street Toll Supported Bridge		\$0	\$0
Easton-Phillipsburg Toll Bridge		\$447,000	\$749,000
Riverton-Belvidere Toll Supported Bridge		\$782,000	\$0
	District II Total	\$32,103,000	\$39,239,000

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<u>DISTRICT III</u>		2008	2009
Portland-Columbia Toll Bridge		\$20,000	\$534,000
Portland-Columbia Pedestrian Bridge		\$5,000	\$63,000
Delaware Water Gap Toll Bridge		\$1,959,000	\$3,333,000
Milford-Montague Toll Bridge		\$14,040,000	\$3,752,000
	District III Total	\$16,024,000	\$7,682,000
		2008	2009
TOTAL FOR BRIDGES, ROADWAYS, SIDEWALKS,& APPROACHES		\$96,328,000	\$97,073,000

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## **Facilities and Grounds Summary**

<u>DISTRICT I</u>		2008	2009
Trenton-Morrisville Toll Bridge		\$290,000	\$2,131,000
Lower Trenton Toll Supported Bridge		\$10,000	\$11,000
Calhoun Street Toll Supported Bridge		\$10,000	\$11,000
Scudder Falls Toll Supported Bridge		\$10,000	\$11,000
Washington Crossing Toll Supported Bridge		\$10,000	\$11,000
New Hope-Lambertville Toll Supported Bridge		\$10,000	\$11,000
New Hope Lambertville Toll Bridge		\$4,848,000	\$470,000
Centre Bridge-Stockton Toll Supported Bridge		\$5,000	\$6,000
Lumberville-Raven Rock Pedestrian Bridge		\$10,000	\$11,000
	District I Total	\$5,203,000	\$2,673,000
<u>DISTRICT II</u>		2008	2009
<u>Uhlerstown-Frenchtown Toll Supported Bridge</u>		\$30,000	\$32,000
Upper Black Eddy-Milford Toll Supported Bridge		\$15,000	\$16,000
Riegelsville Toll Supported Bridge		\$10,000	\$11,000
Interstate 78 Toll Bridge		\$190,000	\$298,000
Northampton Street Toll Supported Bridge		\$50,000	\$52,000
Easton-Phillipsburg Toll Bridge		\$132,000	\$42,000
Riverton-Belvidere Toll Supported Bridge		\$5,000	\$6,000
	District II Total	\$432,000	\$457,000

## YoouAree Wisewiniggeama Archivedct Opposit direnthish elle lewelsesses State te ibitarrayry ESTIMATED EXPENDITURES SUMMARY

<u>DISTRICT III</u>		2008	2009
Portland-Columbia Toll Bridge		\$344,000	\$21,000
Portland-Columbia Pedestrian Bridge		\$10,000	\$11,000
Delaware Water Gap Toll Bridge		\$50,000	\$219,000
Milford-Montague Toll Bridge		\$317,000	\$354,000
	District III Total	\$721,000	\$605,000
		2008	2009
TOTAL FOR FACILITIES AND GROUNDS		\$6,356,000	\$3,735,000

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## **EQUIPMENT PURCHASES**

#### Vehicular Maintenance Equipment

Toll Facility	Estimated Purchase Price of New Units	Estimated Sell Price of Used Units	Estimated Net Cost
Trenton-Morrisville	\$397,325	\$34,000	\$363,325
New Hope-Lambertville	\$112,000	\$17,950	\$94,050
Interstate Route 78	\$228,000	\$17,000	\$211,000
Easton-Phillipsburg	\$295,000	\$42,100	\$252,900
Portland-Columbia	\$30,000	\$0	\$30,000
Delaware Water Gap	\$83,500	\$8,500	\$75,000
Milford-Montague	\$116,000	\$11,000	\$105,000
Southern - Toll Supported Bridges	\$70,000	\$10,000	\$60,000
Northern - Toll Supported Bridges	\$5,000	\$0	\$5,000
Subtotal Maintenance	\$1,336,825	\$140,550	\$1,196,275

\$1,197,000

#### YouAre Weevinggara Arbhied & Opp from the blew welses & Satete bilaryry ESTIMATED EXPENDITURES SUMMARY

## **SUMMARY OF EXPENDITURES**

#### 2008 VEHICLE / EQUIPMENT NET PURCHASES

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 Vehicular and Maintenance Equipment
 \$1,197,000

 Subtotal
 \$1,197,000

#### **GENERAL RESERVE FUND**

		2008	2009
Toll Bridge Facilities		\$87,945,000	\$83,125,000
Toll Supported Bridge Facilities		\$14,739,000	\$17,683,000
Commission Initiatives & System-Wide Projects		\$47,049,000	\$26,759,000
	Subtotals	\$149,733,000	\$127,567,000

2008 Total General Reserve Budget Including Vehicle and Equipment Purchases \$150,930,000 YourAnce Westwininggaranna Archhiered co. Oppp fir orron thath elle welte assess fatet e i bitarrayry

#### I. <u>CURRENT SCHEDULE OF INSURANCE (2007)</u>

The Delaware River Joint Toll Bridge Commission currently has in effect the following principle types and amounts of insurance coverage:

# A. General Liability

\$ 2,000,000	General Aggregate Limit
\$ 2,000,000	Products/Completed Operations Aggregate Limit
\$ 1,000,000	Personal/Advertising Injury Limit
\$ 1,000,000	Each Occurrence Limit
\$ 300,000	Fire Damage Limit, Any One Fire
\$ 15,000	Medical Expense Limit, Any One Person

The above General Liability limits apply for all bridges (Toll and Toll Supported Bridges).

The above General Liability limits apply per each location.

Coverage includes Independent Contractors, Medical Payments, Contractual Liability, Fire Damage Legal Liability, Employees as Additional Insured, Host Liquor Liability, Incidental Medical Malpractice, Broad Form Property Damage Liability, Non-owned Watercraft Liability (under 26ft), Limited Worldwide Products Liability and Extended Bodily Injury Liability.

# B. <u>Commercial Automobile Liability</u>

\$	1,000,000	Bodily Injury/Property Damage Combined Single Limit,
		Each Accident
\$	35,000	Uninsured/Underinsured Motorist Coverage (PA & NJ)
		(\$1,000,000 applies to PPV's, \$35,000 applies to all other vehicles)
\$	50,000	Garagekeepers Liability
(Less	ser of ACV or	Hired Car Physical Damage Coverage
Cost of Repair)		

Deductible on Comprehensive and Collision

\$ 500	Cost New Less than \$29,999
\$ 1,000	Cost New \$30,000-\$49,999
\$ 2,000	Cost New Greater Than 50,000

# C. <u>Umbrella Liability</u>

\$ 25,000,000 Each Occurrence, Annual Aggregate

There is an excess umbrella policy with a \$25,000,000 limit. The total coverage of \$50,000,000 is inclusive of all Bridges, Vehicles, and Operations.

# D. Building & Contents Insurance

\$	1,000,000	Extra Expense	
\$	10,000,000	Loss Limit Location #1	
\$	5,000,000	Loss Limit Locations 2-7	
\$	500,000	<b>Unnamed Locations</b>	
\$	5,000	Deductible	
(Additional sub-limits and deductibles apply)			

Coverage extensions include: Debris Removal, Pollutant Cleanup and Removal, Newly Acquired Buildings and Personal Property, Personal Property of Others/Employees, Valuable papers-Cost of Research, Property Off Premises within 1,000 feet, Outdoor Property - Trees, Shrubs and Plants,

Property in Transit (Special Form Only) and Standards, Light Posts, Fences, Guide rails and Signs.

# E. Equipment Floater Limits (Included in Building Policy)

\$	2,094,361	Specific Limits Apply Per Schedule
\$	449,490	Miscellaneous Unscheduled Tools
Φ	1 000	D 1 (11

\$ 1,000 Deductible

# F. Bridge Property Coverage

#### **Loss Limits:**

\$ 50,000,000	Loss Limit – Primary
\$ 50,000,000	Loss Limit – Excess of \$50,000,000 per Occurrence
\$ 375,000,000	Loss Limit – Excess of \$100.000,000 per Occurrence

#### Values:

## **Toll Bridge Summary**

#### Trenton-Morrisville Facility

\$ 23,700,000	Bridge
\$ 17,800,000	Viaducts
\$ 8,963,000	Use/Occupancy

#### New Hope-Lambertville Facility

\$ 30,000,000	Bridge
\$ 6,700,000	Viaducts
\$ 2,012,976	Use/Occupancy

#### **Interstate Route 78 Facility**

\$ 33,800,000	Bridge
\$ 25,700,000	Viaducts

\$ 34,445,026 Use/Occupancy

# Easton-Phillipsburg Facility

\$ 17,900,000	Bridge
\$ 3,900,000	Viaducts

\$ 9,151,577 Use/Occupancy

#### Portland-Columbia Facility

\$ 16,100,000	Bridge
\$ 4,100,000	Viaducts

\$ 1,610,266 Use/Occupancy

# **Delaware Water Gap Facility**

\$	44,300,000	D: .1
. *	44 (00 000	Bridge
Ψ	11,500,000	Dilugo

\$ 23,096,374 Use/Occupancy

# Milford-Montague Facility

Φ	11 000 000	D ' 1
\$	11,900,000	Bridge

\$ 1,170,070 Use/Occupancy

# All Seven (7) Bridges

\$ 177,700,000	Bridges
\$ 58,200,000	Viaducts

80,449,289 Use and Occupancy

316,349,289 TOTAL (Toll Bridges)

# **Toll Supported Bridge Summary**

<u>Lower Trenton</u>	\$ 13,800,000
Calhoun Street	\$ 17,400,000
Scudder Falls	\$ 53,300,000
Washington Crossing	\$ 12,000,000
New Hope-Lambertville	\$ 14,300,000
Centre Bridge-Stockton	\$ 11,300,000
Lumberville-Raven Rock	\$ 2,800,000
<u>Uhlerstown-Frenchtown</u>	\$ 12,900,000
Upper Black Eddy-Milford	\$ 9,800,000
Riegelsville	\$ 8,400,000
Northampton Street	\$ 12,000,000
Riverton-Belvidere	\$ 9,300,000
Portland-Columbia	\$ 3,100,000

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#### SCHEDULE OF INSURANCE

All Thirteen (13) Bridges \$ 180,400,000

GRAND TOTAL: TWENTY (20) BRIDGES: \$496,749,289

Use and Occupancy Deductible – 5 days, All other 1% of Loss (\$50,000 Minimum) Flood Coverage - \$250,000,000 Annual Aggregate - Multiple Policies Earthquake Coverage – \$150,000,000 Annual Aggregate - Multiple Policies Boiler & Machinery Coverage Insured under separate policy

# G. Public Officials / Employee Liability

\$ 10,000,000 Each Loss \$ 10,000,000 Aggregate

Officers Company

#### Retention

- \$ 50,000 Corporate Reimbursement
- \$ 50,000 Entity Coverage
- \$ 35,000 Employee Coverage

Excess policy provides additional \$10,000,000 Per Claim/Annual Aggregate

# **H.** <u>Workers Compensation Coverage</u> - The Graham Company is not the broker for this coverage

Statutory Benefits for Medical, Disability, Funeral Expenses and Rehabilitative Expenses \$500,000 Bodily Injury by Accident – Each Accident

\$500,000 Bodily Injury by Disease – Policy Limit

\$500,000 Bodily Injury by Disease – Each Employee

# I. <u>Commercial Crime Coverage</u>

\$ 10,000 Forgery or Alteration, No deductible

\$ 250,000 Money In-Out for Theft, Disappearance and Destruction

\$ 5,000,000 Employee Dishonesty, \$50,000 Deductible

Coverage includes all locations.

## II. <u>INSURANCE REQUIREMENTS FOR 2007</u>

In accordance with Section 714 of the Bridge System Revenue Bond Resolution, the following types of insurance are required to be maintained by the Commission to the extent as reasonably obtainable:

#### MULTI-RISK INSURANCE

The Commission currently maintains insurance for full replacement of all twenty (20) Toll and Toll Supported Bridges and their approach structures (viaducts). In 1999 the Commission supplemented the full insurance coverage for the thirteen (13) Toll Supported Bridges. The full replacement costs are reviewed annually and updated accordingly to follow current inflation and construction costs.

Transystems|Lichtenstein has re-assessed each of the twenty (20) Toll and Toll Supported Bridges and their associated approach structures (viaducts) with respect to the structures replacement costs. Most of the bridges, when and if replaced, will be required to be re-constructed in accordance with *current* standards, codes and practices, in lieu of a replacement in kind. A simple cost per square foot (the overall bridge length multiplied by its overall width) was used in the development of replacement costs for all of the toll and toll supported bridges and their approach structures (viaducts). Square foot unit costs may vary between bridges due to specific characteristics such as its height above the river, structure type, and aesthetics. The 2008 estimated replacement costs have been determined by increasing the previous years estimate by 1.5% and rounding.

The 2008 Estimated Replacement Costs for the twenty toll and toll supported bridge structures and their approaches are listed below:

TOLL FACILITY		<u>BRIDGE</u>	APF	PROACH STRUCTURES
Trenton-Morrisville	\$	24,100,000	\$	18,100,000
New Hope-Lambertville	\$	30,500,000	\$	6,800,000
Interstate Route 78	\$	34,300,000	\$	26,100,000
Easton-Phillipsburg	\$	18,200,000	\$	4,000,000
Portland-Columbia	\$	16,400,000	\$	4,200,000
Delaware Water Gap	\$	45,000,000	\$	0
Milford-Montague	\$	12,100,000	\$	0
SUBTOTALS	\$	180,600,000	\$	59,200,000
TOLL SUPPORTED FACIL	<u> ITY</u>	BRIDGE		
Lower Trenton		\$ 14,100,000		
Calhoun Street		\$ 17,700,000		
Scudder Falls		\$ 54,100,000		

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#### SCHEDULE OF INSURANCE

Riverton-Belvidere	\$ 9,500,000
Portland-Columbia *	\$ 3,200,000

SUBTOTALS \$ 183,700,000

## Total (All Bridges) Replacement Cost for 2008 \$423,500,000

#### **USE AND OCCUPANCY INSURANCE**

The Commission currently maintains Use and Occupancy Insurance for all of its seven (7) Toll Facilities. The Commission has provided the anticipated 2008 revenues presented below.

TOLL FACILITY	<u>200</u>	8 ANTICIPATED REVENUE
Trenton-Morrisville	\$	9,378,237
New Hope-Lambertville	\$	2,374,689
Interstate Route 78	\$	38,881,866
Easton-Phillipsburg	\$	9,404,786
Portland-Columbia	\$	1,737,063
Delaware Water Gap	\$	26,881,266
Milford-Montague	\$	1,206,526
(Total Toll Revenue)	\$	89,864,433
Interest on Investments	\$	16,600,000
Other Income	\$	265,000
(TOTAL PROJECTED REVENUE - 2008)	\$	106,729,433

#### **WAR-RISK INSURANCE**

The Commission does not maintain this type of insurance for any of its bridges, as it is not reasonably obtainable due to its excessive cost. However the Commission does maintain coverage for terrorism.

#### <u>PUBLIC LIABILITY – PROPERTY DAMAGE – BODILY INJURY</u>

Public Liability and Property Damage are maintained by the Commission under its General Liability and Auto Liability insurance coverage, which provides a maximum coverage of \$1,000,000. In addition the Commission carries \$50,000,000 maximum coverage in Excess Liability Insurance on all Bridges, Vehicles and Operations and \$500,000 in Business Travel Accident Insurance.

<sup>\*</sup> Pedestrian Bridge

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#### SCHEDULE OF INSURANCE

#### BLANKET REAL AND PERSONAL PROPERTY INSURANCE-ADMINISTRATIVE & MAINTENANCE BUILDINGS, CONTENTS, TOLL BOOTHS, ETC.

The Commission currently maintains Building and Contents Insurance in the amount of \$27,189,000. Estimated replacement costs for all Toll Facility Administration Buildings, Maintenance Buildings and Garages and Toll Plazas were recalculated, based upon the overall square-foot area of each facility originally calculated and increased by a factor of 1.5% and rounded. The estimated replacement costs for 2008 are as follows:

<u>LOCATION</u>	2008 ESTIMATE	ED REPLACEMI	ENT VALUE
Trenton-Morrisville	\$	8,319,000	
New Hope-Lambertville	\$	3,433,000	
Interstate 78	\$	3,984,000	
Easton-Phillipsburg	\$	4,019,000	
Portland-Columbia	\$	1,616,000	
Delaware Water Gap	\$	3,641,000	
Milford-Montague	\$	2,259,000	
Belvidere (Storage Bldg.)	\$	252,000	
New Hope Toll Supported (Garage)	\$	177,000	
15 Toll Supported Bridge Officer She	elters \$	213,000	
Lumberville-Raven Rock (Bridge Te	nder house) \$	262,000	
TOTAL	\$	28,175,000	

#### **OTHER INSURANCE**

Following good business practice and conforming to the laws of the State of New Jersey and the Commonwealth of Pennsylvania, the Commission carries additional insurance to that which is required by the Bridge System Revenue Bond Resolution. Among this additional coverage is a \$10 million Public Officials Liability insurance.

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# III. CONCLUSIONS AND RECOMMENDATIONS FOR 2007

In general the Commission's overall insurance coverage is adequately provided; however, the amounts of the following coverages should be adjusted:

- The Multi-Risk Insurance coverage should be adjusted for each Toll and Toll-Supported Bridge Facility to reflect the estimated 2008 bridge (and approach structure) replacement costs, as outlined above.
- The Use and Occupancy Insurance should be adjusted to reflect the estimated 2008 anticipated revenues in conformance with the Bridge System Revenue Bond Resolutions.
- The Blanket Building and Contents Insurance should be adjusted to reflect the 2008 estimated property replacement values published above.

# **PAINT CONDITION RATINGS**

**EXCELLENT** - No problems noted.

**GOOD** - Some minor problems, but paint is sound and functioning as intended to

protect the metal surfaces.

**SATISFACTORY** - Surface or freckled rust has formed or is forming. The paint system may

be chaulking, peeling or showing signs of paint distress, but there is no

exposure of metal.

**FAIR** - Surface or freckled rust is prevalent. There may be exposed metal and/or

beginning signs of active corrosion, but there is little to no section loss of

steel members.

**POOR** - The overall paint system has failed which has consequently caused

corrosion and significant section loss to steel members. Exposed metal and/or corrosion is typical throughout the bridge. A new paint system is

required.

NOTE: Paint system ratings for a bridge will be an <u>overall</u> condition. Although localized areas may exhibit a better or worse condition, the rating encompasses the <u>majority</u> of the bridge paint system for the entire bridge.

# **BRIDGE CONDITION RATINGS**

**EXCELLENT** - New Bridge.

**VERY GOOD** - No problems noted.

**GOOD** - Some minor problems.

**SATISFACTORY** - Some minor deterioration of structural elements.

**FAIR** - Minor section loss, deterioration, spalling and/or scour of primary

structural elements.

**POOR** - Advanced section loss, deterioration, spalling and/or scour of primary

structural elements.

**SERIOUS** - Seriously deteriorated primary structural elements.

**CRITICAL** - Facility should be closed until repairs are performed.

**IMMENENT FAILURE** - Facility is closed. Study of repairs is feasible.

**FAILED** - Facility is closed and beyond repair.

NOTE: These condition ratings are used to describe the existing, in-place bridge as compared to its as-built condition or its posted weight restriction. These ratings provide an overall characterization of the general condition of the entire bridge. These ratings do not describe a localized or nominally occurring instance of deterioration or disrepair or reflect structural or geometric adequacy.

# **COST ESTIMATING**

The costs associated with the repairs and rehabilitation for various elements at the bridge facilities are estimated based upon the following criteria as applicable or available:

- 1) <u>BID PRICES</u>: Quantities are developed during routine inspections for the appropriate repair (square foot, cubic yard, etc.). A unit cost is developed using standard bid items most resembling the repair. Inflation, if required, is used to increase unit costs for repair next year.
- 2) <u>COMMISSION PERSONNEL/HISTORY</u>: Maintenance staff are interviewed about the materials and length of time required for certain repairs. Maintenance staff are also asked about previous work relating to the proposed work and the costs relating to them. Depending on the year and extent of the previous work, the proposed costs are adjusted accordingly.
- 3) **EXPERIENCE**: Some of the proposed repairs/rehabilitation cannot be accurately quantified and no previous related work is available. Costs are then developed based upon experience of similar tasks. A length of time to complete the job is assumed and costs are approximated.

NOTE: Cost Estimates for major rehabilitation work include a 20% increase in cost to account for engineering services to prepare the contract documents and supervise construction.

# APPENDIX A INTERIM/SPECIAL INSPECTIONS



# **MEMORANDUM**

September 20, 2007

To:

Mr. George Alexandridis, P.E.

Chief Engineer Lichtenstein Consulting Engineers

Delaware River Joint Toll Bridge Commission

110 Wood Street

Morrisville, PA 19067

From: William Clark, P.E.

Attention: Mr. Joseph Fazio, P.E.

Re: C-07-02 Annual Inspections

Scudders Falls Toll Supported Bridge

#### Gentlemen:

Lichtenstein has completed the special inspection of the Scudders Falls Toll Supported Bridge over the Delaware River. The bridge is a ten span structure with a total length of 1,740 feet. The steel superstructure is a riveted two girder / floorbeam / stringer system. The scope of this special inspection was limited to the cantilever brackets in the negative moment regions of the girders and the pin and hanger assemblies located at the north and south girders in Spans 1, 4, 7, and 10.

At each floorbeam location there are cantilever brackets supporting the roadway / shoulder. The cantilever brackets consist of welded plates with the top flange of the cantilever brackets extending across the top of the main girder top flange transitioning into a tie plate, which is connected to the interior floorbeam top flange with a bolted connection (See Photo 2). The cantilever bracket supports two roadway stringers.

The inspection revealed light to moderate rust throughout the cantilever brackets. Connection bolts at the top flange tie plates over the north girder were noted to be sheared off at two locations. 3 of 8 bolts are sheared at the north tie plate at the floorbeam over Pier 8 (See Photo 4). 1 of 8 bolts is sheared at the north tie plate at the first floorbeam to the east of Pier 8 (See Photo 5). A crack was noted at the south cantilever bracket tie plate at the first floorbeam to the east of Pier 5 (See Photo 3). The crack is arrested by a connection bolt hole and no signs of crack propagation were noted.

Pin and hanger connection assemblies are located at the north and south girders in Spans 1, 4, 7, and 10. The hanger plates exhibit light to moderate rust at all locations (See Photo 6). Minor pack rust was noted between the hanger plates and the pin caps. All of the locations exhibit seismic retrofits, with all steel of the seismic retrofit exhibiting light surface rust. Overall, there are no significant defects noted at the pin and hanger assemblies.

The bridge was last inspected in 2006. The inspection report states that there is light to moderate rust of the pin and hanger assemblies. No cracks or sheared bolts at the tie plate connections were noted during the previous inspection.

There are no priority 1 or 2 repairs recommended based on the findings of this special inspection. The sheared bolts noted at the north bracket at Pier 8 should be replaced on a Priority 3 basis. The crack noted in the south tie plate on the first tie plate east of Pier 5 should be monitored for further propagation during future inspections . The bridge should be inspected during the next regularly scheduled inspection, in 2008.

If you have any questions on the above, please contact our office.

Very truly yours,

LICHTENSTEIN, CONSULTING ENGINEERS

William Clark, P.E. Project Manager

cc: Mr. Roy Little



**PHOTO 1** South elevation, looking north.



**PHOTO 2** Typical Cantilever bracket (Floorbeam 3 at Span 1 shown), looking northeast.



PHOTO 3 Crack in the tie plate over the south girder at the first floorbeam east of Pier 5, looking east. The crack is arrested by a tie plate connection bolt hole and there are no signs of crack propagation.



**PHOTO 4** 3 of 8 connection bolts are sheared at the tie plate connection over the north girder at the floorbeam at Pier 8, looking west.



PHOTO 5 1 of 8 connection bolts is sheared at the tie plate connection over the north girder at the first floorbeam to the east of Pier 8, looking east.



PHOTO 6 General view of the pin and hanger assembly (North girder at Span 1 shown), looking south. Note the light to moderate rust throughout assembly and seismic retrofit.



October 10, 2007

45 Eisenhower Drive Suite 250 Paramus, NJ 07652 Tel 201-368-0400 Fax 201-368-7740

www.transystems.com

Mr. George G. Alexandridis, P.E. Chief Engineer Delaware River Joint Toll Bridge Commission 110 Wood Street Morrisville, PA 19067

Attention: Mr. Joseph Fazio, P.E.

**Re**: C-07-02 Annual Inspections

Northampton Street Toll Supported Bridge

#### Gentlemen:

Lichtenstein has completed the special inspection of the Northampton Street Toll Supported Bridge over the Delaware River. The inspection was at the request of the Commission due to an audible noise being heard by the bridge guards at the west abutment (Pennsylvania side) below the south sidewalk. The bridge guards reported hearing the noise at different times during the day, mostly around 11 am to 1 pm and 7pm to 8pm, with a few reported during the middle of the night. The scope of this special inspection was limited to discovering the condition causing the noise.

The superstructure below the sidewalk consists of 3 stringers connected to cantilever brackets with sliding plate expansion bearings at the abutments. The inspection revealed that the south fascia sidewalk stringer does not have a sliding plate between the masonry plate and sole plate (See Photo 1). The noise is believed occur when the bearing is trying to move in either expansion or contraction. Corrosion build-up between the two plates causes the bearing to be partially frozen until enough thermal force builds up to overcome the friction between the two plates, causing the noise. The remaining two stringers have a plate, either Teflon or stainless steel, between the masonry plate and sole plate which exhibit minor corrosion (See Photo 2). The north fascia stringer at the west abutment exhibits a similar condition although a noise has not been observed at this location. The south and north fascia stringers at the east abutment (New Jersey side) exhibit gaps between the masonry plate and sole plate due to pack rust.

There are no priority 1 or 2 repairs recommended based on the findings of this special inspection. The bearing at the south fascia stringer at the west abutment be retrofitted with either a stainless steel or Teflon coated sliding plate between the masonry plate and sole plate on a Priority 3 basis. Consideration should be given to retrofitting the north fascia bearing at the west abutment and the north and south fascia bearings at the east abutment. The bridge should be inspected during the next regularly scheduled inspection, in 2008.

If you have any questions on the above, please contact our office.

Very truly yours,

Lichtenstein Consulting Engineers

William Clark, P.E. Project Manager

cc: Mr. Roy Little



PHOTO 1 General view of the south fascia sidewalk stringer bearing, looking west. Note there is no sliding plate or gap between the masonry plate and sole plate.



PHOTO 2 General view of the Sidewalk Stringer 2 (from south) bearing, looking west. Note the sliding plate between the masonry plate and sole plate.

# APPENDIX B BRIDGE LISTING



Bridge Name	Structure Type	No. Of Spans	Structure Length (FT - IN)
Trenton-Morrisville Toll Bridge	Steel Multi-girder	12	1324 - 6
Washington Street Overpass (Pa)	Steel Multi-girder	1	52 - 9 c-c brg.
South Pennsylvania Avenue Overpass (Pa)	Steel Multi-girder	1	63 - 7 c-c brg.
Ramp "IY" Overpass (NJ) {Bridge St.}	Steel Multi-girder	3	132 - 9 c-c brg.
Union Street Overpass (NJ)	Steel Multi-girder	1	74 - 6 c-c brg
Ramp "N" Over Union Street (NJ)	P/S Concete Girder	3	168 - 0 c-c brg.
Center Street Underpass (NJ)	Riveted Steel Plate Girder	1	91 - 3 c-c brg.
Broad Street Underpass (NJ)	Steel Multi-girder	1	76 - 11 c-c brg.
Ramp 'N' Overpass (NJ)	Steel Multi-girder	1	77 - 1 c-c brg.
Route 29 Overpass @ TMTB (NJ)	P/S Concrete Spread Box Beams	3	118 - 0
Ramp 'Y' Overpass (Long Ramp) (NJ)	Steel Multi-girder	4	282 - 0 c-c brg.
Lower Trenton Toll Supported Bridge	Subdivided Warren Truss	5	1021 - 7
Calhoun Street Toll Supported Bridge	Iron Phoenix Truss	7	1273 - 3
	Riveted Steel 2 Girder/Floorbeam/Stringer	10	1740
Taylorsville Road Overpass (Pa)	Steel Multi-Stringer	3	134 - 0 c-c-brg.
Pennsylvania Canal Overpass (Pa)	Steel Multi-Stringer	1	61 - 4
Washington Crossing Toll Supported Bridge	Double Warren Truss	6	876 - 7
New Hope-Lambertville Toll Supported Bridge	Pratt Truss	6	1045 - 6.5
New Hope Lambertville Toll Bridge	Steel 2 Girder/Floorbeam/Stringer	10	1682
Route 32 Overpass (Pa)	Concrete Rigid Frame	1	83 - 7
Route 29 Overpass @ NHLTB (NJ)	Steel Multi-Stringer	3	185 - 0 c-c brg.
Centre Bridge-Stockton Toll Supported Bridge		6	824 - 10
Pennsylvania Canal Bridge	P/S Concrete Adjacent Box Beams	1	63 - 0
Lumberville-Raven Rock Pedestrian Bridge	Suspension	4	688 - 3
<b>Uhlerstown-Frenchtown Toll Supported Bridge</b>		6	950 - 10
<b>Upper Black Eddy-Milford Toll Supported Brid</b>		3	699 - 9.25
Riegelsville Toll Supported Bridge	Suspension	3	576 - 9.875
Interstate 78 Toll Bridge WB	Steel Multi-girder	7	1222
Interstate 78 Toll Bridge EB	Steel Multi-girder	7	1222
Morgan Hill Road Bridge Overpass (Pa)	P/S Concrete Spread Box Beams	2	210 - 0 c-c brg.
Cedarville Road Overpass (Pa)	P/S Concrete I-beams	4	
I-78 over Route 611 (Pa) WB	P/S Concrete Spread Box Beams	3	197 - 6 c-c brg.
I-78 over Route 611 (Pa) EB	P/S Concrete Spread Box Beams	3	199 - 9 c-c brg.
Carpentersville Road Overpass (NJ)	Steel Multi-Stringer	2	203 - 0 c-c brg.
Edge Road Overpass (NJ)	Steel Multi-Stringer	2	272 - 0 c-c brg.
I-78 WB over Route 519 (NJ)	Steel Multi-Stringer	2	237 - 10 c-c brg.
I-78 EB over Route 519 (NJ)	Steel Multi-Stringer	2	236 - 5 c-c brg.
I-78 WB over Ramp C (NJ)	Steel Multi-Stringer	1	112 - 6 c-c brg.
I-78 EB over Ramp C (NJ)	Steel Multi-Stringer	1	116 - 11 c-c brg.
Service Road Overpass (Pa)	P/S Concrete Adjacent Box Beams	1	43 - 0 c-c brg.
Northampton Street Toll Supported Bridge	Cantilever Truss	3	550 - 0 Pin to Pin
Easton-Phillipsburg Toll Bridge	Petit Thru-Truss	1	539 - 8 Pin to Pin
( )	Riveted Steel 3 Girder/Floorbeam/Stringer		431 - 4
Third Street Overpass (Pa)	Steel Multi-Stringer	1	83 - 0 c-c brg.
Pedestrian Tunnel (Pa)	Reinforced Concrete Box Culvert	1	100 0
Bank Street Overpass (Pa)	Steel Multi-Stringer	3	120 - 0 c-c brg.
Route 611 Overpass (Pa)	P/S Concrete Adjacent Box Beams	1	34 - 0 fc-fc abut.
Riverton-Belvidere Toll Supported Bridge Portland-Columbia Toll Bridge	Riveted Steel Double Warren Truss	4	652 - 5
Route 46 Overpass (NJ)	Riveted Steel Multi-girder Riveted Steel Multi-girder	10 1	1309 96 - 1
Locust Street Overpass (NJ)	Steel Multi-Stringer	4	170 - 0 c-c brg.
Portland-Columbia Pedestrian Bridge	Steel Thru-Deck Girder	4	770 - 0 C-C big.
Delaware Water Gap Toll Bridge EB	Riveted Steel Multi-girder	17	2398 - 6 c.c Brg. Abut.
Delaware Water Gap Toll Bridge WB	Riveted Steel Multi-girder	16	2462 - 10 c.c. Brg. Abut
Milford-Montague Toll Bridge	Steel Deck Truss	4	1150
	5.55. 2 50K 11000		

# DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

Financial Statements and Supplementary Information

Years Ended December 31, 2007 and 2006

# DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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#### INDEPENDENT AUDITORS' REPORT

To the Board of Commissioners of Delaware River Joint Toll Bridge Commission - Bridge System Morrisville, Pennsylvania

We have audited the accompanying financial statements of Delaware River Joint Toll Bridge Commission - Bridge System (the "Commission") as of and for the years ended December 31, 2007 and 2006. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Accounting Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Commission as of December 31, 2007 and 2006, and the changes in its financial position and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

PENNSYLVANIA OFFICE: 86 BUCK ROAD HOLLAND, PA 18966 TEL 215-355-4860 FAX 215-825-8110

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In accordance with Government Auditing Standards, we have also issued our report dated April 15, 2008, on our consideration of the Commission's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, bond resolutions, contracts, compact and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be considered in assessing the results of our audits.

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#### INDEPENDENT AUDITORS' REPORT (CONTINUED)

Management's discussion and analysis, as shown on pages 3-6, is not a required part of the basic financial statements but is supplementary information required by accounting principles generally accepted in the United States of America. We have applied certain limited procedures, which consisted principally of inquiries of management, regarding the methods of measurement and presentation of management's discussion and analysis. However, we did not audit the information, and we express no opinion on it.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements of the Commission taken as a whole. The supplementary schedules on pages 24-32 are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Certified Public Occumentation
April 15, 2008

#### MANAGEMENT'S DISCUSSION AND ANALYSIS

As management of the Delaware River Joint Toll Bridge Commission - Bridge System (the "Commission"), we offer readers of the Commission's financial statements this narrative overview and analysis of the financial activities of the Commission's fiscal years ended December 31, 2007 and 2006. We encourage readers to consider the information presented here in conjunction with the audited financial statements and supplementary information as a whole.

#### Financial Highlights

Total toll revenues for the Commission totaled \$85,503,496 for the year ended December 31, 2007, which represents an increase of 6.67% over the previous year. The increase in 2007 is primarily the result of a \$0.50 per axle toll adjustment on May 19, 2007, for all commercial vehicles of three axles and larger.

In 2007, net operating revenues totaled \$42,927,641 and change in net assets totaled \$33,342,527, as compared to \$39,098,697 and \$29,903,137, respectively, for 2006.

#### **Overview of the Financial Statements**

This discussion and analysis is intended to serve as an introduction to the Commission's financial statements, which are comprised of the financial statements, the notes to the financial statements, and certain required supplementary information. The supplementary information includes schedules of operations, expenses, cash and equivalent balances, investments, and traffic and revenues.

#### **Basic Financial Statements**

The basic financial statements are designed to provide readers with a broad understanding of the Commission's finances, in a manner similar to that provided in the financial statements of private-sector businesses.

The statements of net assets presents information on the Commission's assets and liabilities at December 31, 2007 and 2006, with the difference between the two reported as net assets. Over time, increases or decreases in net assets may serve as useful indicators of whether the financial position of the Commission is improving or deteriorating. At December 31, 2007, the Commission's net assets equaled \$380,010,360, as compared to \$346,667,833 in 2006 - an increase of 9.6%. Net assets increase when revenues exceed expenses.

The statements of revenues, expenses, and changes in net assets present information showing how net assets changed during the fiscal year. All changes in net assets are reported as soon as the underlying event occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in these statements for some items that will not result in cash flows until future fiscal periods or for items that have resulted in cash flows in previous periods.

#### MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

#### **Notes to Financial Statements**

The notes provide additional information that is essential to a full understanding of the data provided in the basic financial presentation.

#### Other Information

In addition to the basic financial statements and accompanying notes, this report also presents certain supplementary information concerning expenses, investments, and traffic.

#### **Financial Analysis**

Commission assets, consisting of restricted and unrestricted assets, totaled \$865,143,845. Unrestricted current assets, totaling \$12,619,309 (an increase of \$369,873, or 3.02%), represents cash in the operating accounts, cash equivalent investments, and E-ZPass toll receivables. These unrestricted assets will be used to pay current expenses, to pay current debt service or to be transferred to the general reserve fund. Restricted assets, totaling \$848,729,626, are broken into two categories. Restricted current assets of \$64,129,928 decreased 6.41% from the previous year end as a result of changes in investment security maturity terms. Total non-current assets totaled \$788,394,608, which represents an increase of \$319,233,065, or 68.04%, from the 2006 year-end balance. Restricted cash and investments totaling \$524,053,144, which represents an increase of \$263,548,068, or 101.17%, from the previous year, are restricted under the Trust Indenture, to be used only for purposes listed on pages 11-12 of this report. Capital assets totaling \$316,544,247 consist of land, infrastructure, and equipment with an original value of approximately \$501.4 million less accumulated depreciation of approximately \$184.9 million. infrastructure consist of twenty bridge crossings and related access roads spread over a 140-milelong stretch of the Delaware River extending from Trenton, New Jersey north to Milford, Pennsylvania/Montague, New Jersey.

At December 31, 2007, the Commission had current and non-current liabilities of \$485,133,485, with the majority related to its series 2003, 2005A, and 2007A, and B bond issues, which represents an increase of \$281,869,642 from 2006. The purpose of the 2003 issue was for the current refunding of the 1992 series, refunding of the 2002 Bond Anticipation Notes, financing of the first portion of the Commission's ten-year capital program, and related bond-issuance cost. The purpose of the 2005A issue was for the refunding of \$32,165,000 of the 2003 series bonds and the financing of the Commission's \$40 million Compact Authorized Investment program. The purpose of the 2007A and B issues was to provide funds to pay for the cost of capital improvements related to the system, to make deposits into the debt service reserve fund and to fund capitalized interest, to pay insurance and cost of issuance associated with the series.

The following table contains condensed financial information derived from the December 31, 2007 and 2006 financial statements of the Commission:

#### MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

#### Financial Analysis (Continued)

	2007	2006
Net Assets		
Current and other assets	\$ 548,599,598	\$ 280,558,991
Capital assets	<u>316,544,247</u>	269,372,685
Total assets	865,143,845	549,931,676
Bond indebtedness	469,547,491	186,842,968
Other liabilities	<u>15,585,994</u>	16,420,875
Total liabilities	485,133,485	203,263,843
Net assets		
Investment in capital assets, net of related debt	198,100,157	193,889,970
Restricted	174,681,651	148,807,737
Unrestricted	<u>7,228,552</u>	3,970,126
Total net assets	\$380,010,360	<u>\$346,667,833</u>
Changes in Net Assets		
Operating revenues	\$ 85,503,496	\$ 80,153,960
Operating expenses	(42,575,855)	(41,055,263)
Net operating revenues	42,927,641	39,098,697
Depreciation	(13,198,186)	(12,489,830)
Non-operating revenues	17,164,866	13,348,021
Non-operating expenses	(13,551,794)	(10.053.751)
Change in net assets	33,342,527	29,903,137
Net assets, beginning of year	346,667,833	316,764,696
Net assets, end of year	\$380,010,360	\$346,667,833

#### **Significant Events**

In December 2001, the Commission approved a plan that provides major bridge rehabilitation, bridge enhancement, and installation of E-ZPass and other traffic management systems, as well as state-of-the-art bridge security and surveillance.

A toll rate structure was approved by the Commission to fund its Capital Improvement Program for system protection, preservation, management, and enhancement of the Commission's infrastructure including twenty bridges, seven toll plazas, and administration and maintenance facilities that it owns, operates, and maintains, as well as operating expenses for the Commission.

The Capital Improvement Program continues to evolve as the need for additional projects are identified, program costs are re-evaluated and the Commission undertakes new initiatives to fund transportation infrastructure programs in bridge host communities.

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

# Significant Events (Continued)

On September 20, 2007, the Commission issued three bond issues: Series 2007A, 2007B1, and 2007B2. The 2007A issue was a fixed rate totaling \$134,170,000. The two Series 2007B issues were auction rate securities totaling \$75,000,000 each and were hedged by an interest rate swap issued by two counterparties.

On May 19, 2007, the Commission adjusted per axle tolls from \$2.75 per axle to \$3.25 per axle on all commercial vehicles three axles and larger.

Summary of Cash Flows	2007	2006
Cash provided by operating activities	\$ 40,219,606	\$ 41,199,413
Cash flows (used in) provided by investing activities	(312,701,142)	9,802,937
Cash flows provided by (used in) financing activities	268,254,426	(15,068,209)
Net (decrease) increase in cash and cash equivalents	(4,227,110)	35,934,141
Cash and equivalents, beginning of the year	71,633,267	35,699,126
Cash and equivalents, end of the year	<u>\$ 67,406,157</u>	<u>\$ 71,633,267</u>

### STATEMENTS OF NET ASSETS

	December 31,		
	2007	2006	
ASSETS			
Current Assets			
Unrestricted			
Cash and equivalents	\$ 5,370,481	\$ 5,116,204	
Other assets	2,161,765	2,005,226	
E-ZPass clearing account	5,087,063	5,128,006	
Total Unrestricted	12,619,309	12,249,436	
Restricted			
Cash and equivalents	62,035,676	66,517,063	
Accrued interest on investments	1,680,078	1,836,112	
Bond issuance costs - current portion	414,174	167,522	
Total Restricted	64,129,928	68,520,697	
Total Current Assets	76,749,237	80,770,133	
	10,749,237	80,770,133	
Non-Current Assets			
Unrestricted	2.704.010	7 400 706	
Investments	3,794,910	3,498,796	
Restricted	168 015 160	100 000 010	
Investments	462,017,468	193,988,013	
Bond issuance costs - long-term portion	6,037,983	2,302,049	
Capital assets	316,544,247	269,372,685	
Total Restricted	784,599,698	465,662,747	
Total Non-Current Assets	<u> 788,394,608</u>	<u>469,161,543</u>	
Total Assets	<u>\$865,143,845</u>	<u>\$549,931,676</u>	
LIABILITIES AND NET ASSETS			
Current Liabilities			
Accounts payable and accrued expenses	\$ 3,768,182	\$ 6,720,609	
E-ZPass customer accounts	3,460,856	3,184,257	
Accrued interest on bond indebtedness	6,400,327	4,642,769	
Compensated absences - current portion	120,000	120,000	
Bridge system revenue bonds, series 2003, 2005A, 2007A, and			
2007B - current portion	9,790,393	5,685,393	
Premium on bonds - current portion	1,311,327	1,167,663	
Total Current Liabilities	24,851,085	21,520,691	
Non-Current Liabilities			
Compensated absences - non-current portion	1,836,629	1,753,240	
Bridge system revenue bonds, series 2003, 2005A, 2007A, and	1,050,020	*, * * * * * * * * * * * * * * * * * *	
2007B - non-current portion	448,821,145	174,441,537	
Premium on bonds - non-current portion	9,624,626	5,548,375	
Total Non-Current Liabilities	460,282,400	181,743,152	
Total Liabilities	485,133,485	203,263,843	
Net Assets	100 100 167	102 000 070	
Invested in capital assets, net of related debt	198,100,157	193,889,970	
Restricted	174,681,651	148,807,737	
Unrestricted	7,228,552	3,970,126	
Total Net Assets	380,010,360	346,667,833	
Total Liabilities and Net Assets	<u>\$865,143,845</u>	<u>\$549,931,676</u>	

### STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS

	Year Ended December 31.		
	2007	2006	
Operating Revenues	*		
Toll bridge operations			
Cash toll revenues, net	\$ 32,192,163	\$ 32,713,985	
E-ZPass toll revenues, net	53,181,829	47,296,858	
Miscellaneous revenues	129,504	143,117	
Total toll revenues	<u>85,503,496</u>	80,153,960	
Operating Expenses			
Toll bridge operating expenses			
Operating and maintenance expenses	27,315,631	26,556,909	
Administrative expenses	7,334,720	7,230,699	
Toll-supported bridge expenses	<u>7,925,504</u>	<u>7,267,655</u>	
Total operating expenses	42,575,855	41,055,263	
Net Operating Revenues	42,927,641	39,098,697	
Non-Operating Revenues (Expenses)			
Investment return	15,801,031	11,969,547	
Interest on bond indebtedness	(11,516,056)	(8,316,843)	
Amortization of bond premium	1,169,147	1,257,922	
Amortization of bond issuance costs	(253,989)	(176,527)	
Amortization of loss on defeasance	(109,607)	(109,608)	
Compact Authorized Investment program	(1,714,410)	(868,829)	
Emergency repairs reimbursement (expense)	42,268	(581,944)	
Depreciation	(13,198,186)	(12,489,830)	
Gain on sale of fixed assets	194,688	120,552	
Total other expenses	(9,585,114)	(9,195,560)	
Change in net assets	33,342,527	29,903,137	
Net assets, beginning of year	<u>346,667,833</u>	316,764,696	
Net assets, end of year	\$380,010,360	\$346,667.833	

### STATEMENTS OF CASH FLOWS

	Year Ended December 31,			
	2007	2006		
Cash Flows from Operating Activities				
Receipts from cash tolls	\$ 32,192,163	\$ 32,713,985		
Receipts from E-ZPass	53,499,371	47,096,962		
Payments to suppliers, employees, and others	(45,601,432)	(38,754,651)		
Other receipts	129,504	143,117		
Net cash provided by operating activities	40,219,606	41,199,413		
Cash Flows from Investing Activities				
Sales (purchases) of investments, net	(267,105,307)	16,708,201		
Investment return	14,641,016	10,894,324		
Compact Authorized Investment program expense	(1,714,410)	(868,829)		
Emergency repairs reimbursement (expense)	42,268	(581,944)		
Purchases of capital assets	(58,564,709)	(16,348,815)		
Net cash (used in) provided by investing activities	(312,701,142)	9,802,937		
Cash Flows from Financing Activities				
Bond proceeds, including premium	289,133,086	<u></u>		
Principal paid on bond and notes indebtedness	(5,795,000)	(5,530,000)		
Interest paid on bond indebtedness	(10,847,085)	(9,538,209)		
Bond issuance costs	(4,236,575)			
Net cash provided by (used in) financing activities	268,254,426	(15,068,209)		
Net (decrease) increase in cash and cash equivalents	(4,227,110)	35,934,141		
Cash and equivalents, beginning of year	71,633,267	35,699,126		
Cash and equivalents, end of year		\$ 71,633,267		
Reconciliation of net operating revenues to net cash provided by				
operating activities				
Net operating revenues	\$ 42,927,641	\$ 39,098,697		
Changes in net assets and liabilities	φ 42,721,041	Ψ <i>37</i> ,070,077		
Other assets	(156,539)	(76,022)		
E-ZPass clearing account	40,943	(635,338)		
Accounts payable and accrued expenses	(2,952,427)	2,366,531		
E-ZPass customer accounts	276,599	435,442		
Compensated absences	83,389	10,103		
Net cash provided by operating activities		\$ 41,199,413		
Non-cash investing activities				
Unrealized gain on investments	\$ 1,316,049	\$ 462,411		
Omeanzed gain on investments	<u> </u>	402.411		
Non-cash financing activities				
Amortization of bond premium	\$ 1,169,147	\$ 1,257,922		
Amortization of loss on defeasance	(109,607)	(109,608)		
Amortization of bond issuance costs	(253,989)	(176,527)		
Total non-cash financing activities	\$ 805,551	\$ 971,787		

### NOTES TO FINANCIAL STATEMENTS

### A. AUTHORIZED LEGISLATION AND NATURE OF ORGANIZATION

The Delaware River Joint Toll Bridge Commission - Bridge System (the "Commission"), a body corporate and politic, was created in 1934 by a compact, subsequently amended and supplemented, between the Commonwealth of Pennsylvania (the "Commonwealth") and the State of New Jersey, with the approval of the Congress of the United States. The Commission is authorized and empowered, with federal government approval required in certain cases, to acquire, construct, administer, operate, and maintain such bridges as the Commission deems necessary to advance the interests of the two states, to issue bonds and other obligations, and to make payment of interest thereon. The compact provides that Commission indebtedness shall not be deemed to constitute a debt or liability or a pledge of the faith and credit of the two states or any subdivision thereof.

In 1985, a proposed compact change was enacted and approved by the State of New Jersey that was similar to the legislation that had been enacted by the Commonwealth in 1984. This proposed compact change received the required consent of the Congress of the United States in early 1987. The compact, as approved, required the Commission to refinance its bonded indebtedness. In addition, the Commission was obligated to assume full financial responsibility for the cost of operating and maintaining the toll-supported bridges that were financed by appropriations from the Commonwealth and the State of New Jersey. Accordingly, on July 1, 1987, the Commission defeased all of its then-outstanding bonded indebtedness. Due to this compact change, the accompanying financial statements include the operations of the toll-supported bridges.

The Commission has jurisdiction for vehicular and pedestrian traffic across the Delaware River between the Commonwealth of Pennsylvania and the State of New Jersey from the Philadelphia/Bucks County line to the New York state line. The Commission's duties include the maintenance and operation of all the bridges over the Delaware River in its jurisdiction, with the following exceptions: the New Jersey-Pennsylvania Turnpike Bridge and the Burlington-Bristol Toll Bridge, both south of Trenton, and the Dingman's Ferry Toll Bridge, which is north of the Delaware Water Gap.

Effective with the issuance of the 1988 Bridge System and I-78 Revenue Bonds and pursuant to the respective bond resolutions, the financial activity of the I-78 Bridge was previously reported separately from that of the Commission. Due to the in-substance defeasance of the 1988 Bridge System and I-78 Revenue Bonds, effective with the 1992 financial statements, the financial activity of the I-78 Bridge is included with that of the Bridge System.

### **B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

### **Basis of Accounting**

The financial statements of the Commission have been prepared under the economic resources measurement focus, on the accrual basis of accounting and in accordance with accounting principles generally accepted in the United States of America that are applicable to governmental proprietary-type funds. Revenues are recognized when earned, and expenses are recognized when incurred.

### NOTES TO FINANCIAL STATEMENTS

### B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### **Basis of Accounting (Continued)**

GASB Statement No. 20, Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities that Use Proprietary Fund Accounting, provides proprietary activities with a choice of authoritative guidance issued after November 30, 1989. The Commission has elected to follow GASB pronouncements exclusively after that date.

### Revenues

Revenues consist primarily of cash tolls and E-ZPass revenues. Cash toll revenues are recognized as received. E-ZPass revenues are recognized when vehicles with E-ZPass utilize the Commission's toll bridges. Prepayments received from the Commission's E-ZPass customers are deferred and recognized as revenue as utilized at the Commission's toll bridges. Investment income is recognized when earned.

### **Basis of Investments**

The Commission has adopted GASB No. 31, Accounting and Financial Reporting for Certain Investments and for External Investment Pools. Under GASB No. 31, investments in equity securities with readily determinable fair values, and all investments in debt securities, are reported at fair value, with gains and losses included in the statement of revenues, expenses, and changes in net assets.

### Cash and Equivalents

For the purpose of the statement of cash flows, cash equivalents include certificates of deposit and all highly liquid debt instruments with original maturities of ninety days or less. Deposits are with contracted depository banks in interest-bearing accounts, which are insured pursuant to the requirements of Act 72 of the General Assembly of the Commonwealth of Pennsylvania, approved August 6, 1991.

### **Fund Groups**

In accordance with the Bond Resolution relating to the Bridge System Revenue Bonds, Series 2003 and Series 2005A, and Series 2007A and B, the Commission has established the following funds and accounts:

Construction Fund – Bond proceeds for project costs are deposited into this fund.

Revenue Fund – All revenues received by the Commission are deposited in the Revenue Fund. No later than the last business day of each month, the Commission shall withdraw from the Revenue Fund and deposit to the Operating Fund the amount equal to (i) the amount shown by the annual operating budget to be necessary to pay current expenses for the ensuing month and (ii) an amount determined by a Commission official as being reasonably necessary to pay current expenses which are expected for each month, after taking into account the amount on deposit in the Operating Account (including the amount described in clause (i) above), it being recognized that the annual operating budget may have to be amended accordingly.

**Operating Account** – Amounts on deposit in the Operating Account are used by the Commission to pay the Commission's operating expenses.

### NOTES TO FINANCIAL STATEMENTS

### B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### **Fund Groups (Continued)**

**Debt Service Fund** — Transfers are made from the Revenue Fund to the Debt Service Fund to provide for the debt service on all series of bonds. Payments are made from the Debt Service Fund for interest on the bonds, for principal installments on the bonds, and for the redemption price for any bonds to be redeemed.

**Debt Service Reserve Fund** – Transfers are made to this fund from the Revenue Fund in an amount necessary to meet the Debt Service Reserve Requirement. Amounts held in the Debt Service Reserve Fund shall be used for the purpose of paying interest on maturing principal and mandatory sinking fund redemption price of Debt Service Reserve Fund Bonds whenever and to the extent that the monies held for the credit of the Debt Service Fund shall be insufficient for such purpose.

**Reserve Maintenance Fund** — On or before the last business day of each month, the Commission shall transfer the amount shown in the annual capital budget for the ensuing month from the Revenue Fund to the credit of the Reserve Maintenance Fund.

General Reserve Fund — On or before the last business day of each month (or more frequently, if desired) the Commission transfers from the Revenue Fund to the credit of the General Reserve Fund any funds which a Commission official determines to be in excess of the amount required to be reserved therein for future transfers to the Debt Service Fund.

Monies in the General Reserve Fund may be expended by the Commission to restore deficiencies in any funds or accounts created under the Trust Indenture and, absent any such deficiency, for any of the following purposes, with no one item having priority over any of the others:

- (a) To purchase or redeem bonds.
- (b) To secure and pay the principal or redemption price of and any interest on any subordinated indebtedness.
- (c) To make payments into the Construction Fund.
- (d) To fund improvements, extensions and replacements of the Bridge System.
- (e) As a self-insurance reserve.
- (f) To further any corporate purpose.

The Commission is authorized to apply monies on deposit in the General Reserve Fund for any of these purposes.

**Rebate Fund** - The Rebate Fund is a trust fund, but the amounts therein do not constitute part of the trust estate, which consists of assets that secure payment of debt service on the bonds. Amounts on deposit in the Rebate Fund may be used solely to make payments to the United States of America under Section 148 of the Internal Revenue Code and to pay costs related to the calculation of the amounts due. Upon satisfaction of the Commission's covenants to calculate and pay Section 148 requirements, any amounts remaining in the Rebate Fund shall be deposited in the General Reserve Fund.

### NOTES TO FINANCIAL STATEMENTS

### B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### **Net Assets**

Invested in Capital Assets, Net of Related Debt

The net assets invested in capital assets represent the cost basis of capital assets, less the related accumulated depreciation, less the bonds outstanding and unspent bond proceeds that were used to finance the acquisition of the capital assets.

### Restricted

In accordance with the terms of the bond resolution, cash and equivalents of all funds required under such bond resolution are classified as restricted assets. The amounts by which the restricted assets exceed the corresponding liabilities they will liquidate constitute restrictions of net assets, as these excesses are not available for the payment of current operating expenses. Such net assets are restricted primarily for capital projects.

### Unrestricted

The unrestricted net assets represent resources available for current operating expenses in compliance with legal restrictions.

### **Capital Assets**

Purchased or constructed capital assets are recorded at cost or estimated historical cost. Infrastructure assets acquired prior to January 1, 2003, are reported primarily at estimated historical cost using deflated replacement cost. The Commission capitalizes purchases of property and equipment of \$5,000 or more. Depreciation is provided over the estimated useful lives of the assets using the straight-line method. The estimated useful lives are as follows:

Infrastructure	15-50 years
Vehicles	5-15 years
Office furniture and equipment	5-7 years

The cost of maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are expensed when incurred.

### Capitalization of Interest

The Commission capitalizes interest related to projects under construction. Capitalized interest amounted to \$1,805,495 and \$1,091,704 for 2007 and 2006, respectively.

### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates. In addition, certain prior year amounts have been reclassified to conform to current year presentation.

### NOTES TO FINANCIAL STATEMENTS

### B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### **Deferred Bond Costs**

Costs related to the issuance of bonds, including legal, printing, and financing costs, are capitalized and amortized by the interest method over the life of the bonds until maturity.

### Rounding

Some schedules in the financial statements may have dollar differences due to rounding adjustments.

### C. CASH AND EQUIVALENTS AND INVESTMENTS

### General Information

The Commission's cash and equivalents and investments are summarized as follows:

	Decem	December 31.				
	2007	2006				
Cash and equivalents	\$ 67,406,157	\$ 71,633,267				
Investments	465,812,378	<u> 197,486,809</u>				
	<u>\$ 533,218,535</u>	<u>\$ 269,120,076</u>				

Included in the above balances as of December 31, 2007 and 2006, respectively, are approximately \$339.8 million and \$87.1 million of unspent bond proceeds that are restricted by the trust indenture for use only in capital projects and debt service reserve requirements. Detailed supplementary information related to the above is included on pages 24-28 of these financial statements.

### **Investment Policy**

The primary objectives of the Commission's investment policy are safety of principal, liquidity, and yield.

Safety of principal is the foremost objective of the investment program. Investments are undertaken in a manner that seeks to ensure the preservations of capital in the overall portfolio. The objective is to mitigate credit risk and interest rate risk. The Commission's policies for limiting credit risk and interest rate risk are described below.

The portfolio is designed to remain sufficiently liquid to meet all requirements that may be reasonably anticipated. This is accomplished by structuring the portfolio so that securities mature concurrent with cash needs to meet anticipated demands. Since all possible cash demands cannot be anticipated, the portfolio consists largely of securities with active secondary or resale markets. Also, a portion of the portfolio is placed in money market mutual funds or local government investment pools, which offer same-day liquidity for short-term funds.

### NOTES TO FINANCIAL STATEMENTS

### C. CASH AND EQUIVALENTS AND INVESTMENTS (CONTINUED)

### **Investment Policy (Continued)**

The investment portfolio is designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the investment risk constraints and liquidity needs. Return on investment is of secondary importance compared to the safety and liquidity objectives described above. The core of investments are limited to relatively low risk securities in anticipation of earning a fair return relative to the risk being assumed. Securities are not permitted to be sold prior to maturity except under the following conditions:

- 1) A security with declining credit may be sold early to minimize loss of principal.
- 2) A security swap would improve the quality, yield, or target duration in the portfolio.
- 3) Liquidity needs of the portfolio require that the security be sold.

### Custodial Credit Risk - Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the Commission's deposits may not be returned to it. The Commission does not have a deposit policy for custodial credit risk. As of December 31, 2007 and 2006, the Commission's cash balances were exposed to custodial credit risk as follows:

	Decembe	r 31, 2007	December 31, 2006			
	Carrying	Bank	Carrying	Bank		
	Amount	<u>Balance</u>	<u>Amount</u>	Balance		
Amount insured by the FDIC or collateralized with securities held in its name by the Commission.	\$ 5,202,971	\$ 5,238,500	\$ 4,877,366	\$ 7,001,838		
Amount collateralized with securities held by the pledging financial institution's trust department in the						
Commission's name. Uncategorized Petty cash and collectors' change	62,129,086	62,129,086	66,682,151	66,682,151		
funds	74,100		73,750			
	<u>\$67,406,157</u>	\$67,367,586	<u>\$71,633,267</u>	\$73,683,989		

### **Credit Risk - Investments**

The Commission minimizes credit risk, which is the risk of loss due to the failure of the security issuer or backer by limiting investments to the safest type of securities, prequalifying the financial institutions, broker/dealers, intermediaries, and advisors with

### NOTES TO FINANCIAL STATEMENTS

### C. CASH AND EQUIVALENTS AND INVESTMENTS (CONTINUED)

which the Commission will do business, and diversifying the investment portfolio so that potential losses on individual securities will be minimized. As of December 31, 2007, the Commission's investments were rated AAA by Standard & Poor's, AAA by Fitch Ratings, and Aaa by Moody's Investors Service. The Commission historically has not experienced any credit related losses with respect to their investment in these securities. U.S. Treasury notes are explicitly guaranteed by the U.S. government and are not subject to credit risk or custodial credit risk. The Commission's investment in the Pennsylvania Investment Fund is also excluded from credit risk and custodial credit risk as a pooled investment.

### **Interest Rate Risk**

The Commission minimizes the risk that the market value of securities in the portfolio will fall due to changes in general interest rates by structuring the investment portfolio so that securities mature to meet any cash requirements associated with individual funds, which avoids selling the security prior to maturity. The Commission also invests operating funds primarily in shorter-term securities, money market mutual funds, or local government investment pools.

As of December 31, 2007, the Commission had the following investments and maturities:

	Investment Maturities (in Years)							
Investment Type	Fair Value	Less Than 1	1-5	6-10	More Than 10			
FFCB	\$ 1,001,250	\$ -	\$ 1,001,250	\$ -	\$ -			
FHLB	110,674,755	50,524,395	60,150,360	-	-			
FHLBCDN	59,861,000	59,861,000	-	-	-			
FHLBDN	99,765,000	99,765,000	-	-	-			
FHLMCDEBS	6,178,672	6,178,672		-	-			
FHLMCDN	71,464,290	71,464,290	-	Next	**			
FHLMCMTN	4,994,250	4,994,250	-	-	•			
FHLMCN	9,002,920	-	9,002,920	-	_			
FNMADEBS	7,711,938	-	7,711,938	-	_			
FNMA	7,272,950	4,967,200	2,305,750	-	-			
FNMADN	86,711,600	86,711,600	-	-	-			
PA INVEST	1,173,753	1,173,753		***************************************				
Total	<u>\$465,812,378</u>	\$385,640,160	\$ 80,172,218	\$ -	<u>\$</u>			

As of December 31, 2006, the Commission had the following investments and maturities:

	Investment Maturities (in Years)								
Investment Type	Fair Value	Less Than 1	1-5		6-10	More Than 10			
FHLB	\$ 80,445,864	\$ 56,567,104	\$ 23,878,760	\$	-	\$ -			
FHLMC	34,903,850	18,913,710	15,990,140		-	<del>-</del>			
FNMA	38,252,890	26,776,270	11,476,620		-	_			
FHLMCDN	9,939,500	9,939,500	-		_	-			
FNMADN	16,415,000	16,415,000	-		-	-			
FHLBDN	16,414,000	16,414,000	-		_	-			
PA INVEST	1,115,705	1,115,705	_						
Total	<u>\$197,486,809</u>	<u>\$146,141,289</u>	<u>\$ 51,345,520</u>	<u>\$</u>		\$			

### NOTES TO FINANCIAL STATEMENTS

### D. CAPITAL ASSETS

Capital assets activities for the year ended December 31, 2007, were as follows:

	December 31, 2006	Additions	Reductions	December 31, 2007
Non-Depreciable Assets				
Land	\$129,619,844	\$ -	\$ -	\$129,619,844
Infrastructure in progress	29,025,138	58,965,002	2,140,887	85,849,253
Depreciable Assets				
Bridges/road network	256,220,941	2,140,887		258,361,828
Equipment	26,851,718	1,405,203	679,868	27,577,053
Total at Historical Cost	441,717,641	62,511,092	2,820,755	501,407,978
Less Accumulated Depreciation				
Bridge/road network	160,619,693	9,573,664	•••	170,193,357
Equipment	11,725,263	3,624,979	679,868	14,670,374
Total Accumulated				
Depreciation	172,344,956	13,198,643	679,868	184,863,731
Total Capital Assets	\$269,372,685	\$ 49,312,449	\$ 2,140,887	\$316,544,247
Depreciation expense was as follows:				
Bridges/road networks	\$ 9,573,664			
Equipment	3,624,522			
Total Depreciation Expense	\$ 13,198,186			

Capital assets activities for the year ended December 31, 2006, were as follows:

	December 31, 2005	Additions	Reductions	December 31, 2006
Non-Depreciable Assets				
Land	\$129,619,844	\$ -	\$ -	\$129,619,844
Infrastructure in progress	28,550,758	15,776,045	15,301,665	29,025,138
Depreciable Assets				
Bridges/road network	240,740,968	15,479,973	ш,	256,220,941
Equipment	25,855,116	1,486,164	489,562	26,851,718
Total at Historical Cost	424,766,686	32,742,182	15,791,227	441,717,641
Less Accumulated Depreciation				
Bridges/road network	151,677,892	8,941,801	_	160,619,693
Equipment	8,666,796	3,548,029	489,562	11,725,263
Total Accumulated				
Depreciation	160,344,688	12,489,830	489,562	172,344,956
Total Capital Assets	<u>\$264,421,998</u>	\$ 20,252,352	\$ 15.301.665	<u>\$269,372,685</u>
Depreciation expense was as follows:				
Bridges/road networks	\$ 8,941,801			
Equipment	3,548,029			
Total Depreciation Expense	\$ 12,489,830			

### NOTES TO FINANCIAL STATEMENTS

### E. BONDS PAYABLE

The following is a summary of bonds payable:

				Bonds				Bonds		
				itstanding				Outstanding		
				thousands)			(ir	thousands)	A	mounts
	Maturity	Interest		ecember				December	du	e within
Bonds Payable	Dates	Rate	3	1, 2006	<u>Additions</u>	Reductions		31, 2007	01	ne year
2003 series	2003-	3.00%-								
revenue bonds	2024	5.25%	\$	80,545	\$ -	\$ 4,865	\$	75,680	\$	5,115
2003 series	2025-									
revenue bonds	2028	5.00%		29,390	_	-		29,390		_
2005A series	2005-	4.00%-								
revenue bonds	2025	5.50%		58,595		930		57,665		965
2005A series	2026-									
revenue bonds	2030	4.50%		12,825	_	_		12,825		-
2007A series	2008-	4.25%-						,		
revenue bonds	2027	5.00%		-	40,200	_		40,200		470
2007A series	2028-							•		
revenue bonds	2031	5.00%		-	13,100	-		13,100		-
2007A series	2032-							•		
revenue bonds	2035	5.00%		_	47,730	_		47,730		_
2007A series	2036-				•			,		
revenue bonds	2037	4.50%		-	33,140	-		33,140		*
2007B series	2008-				•			,		
revenue bonds	2032	variable		-	75,000	_		75,000		1,675
2007B series	2008-							•		7
revenue bonds	2032	variable			75,000			75,000		1,675
Total bond princi	ipal payable	:		181,355	284,170	5,795		459,730	_	9,900
Loss on defeasan	ice			(1,228)		(110)		(1,118)		(110)
Net bonds payab	le		\$	180,127	\$ 284,170	\$ 5,685	\$	458,612	\$	9,790
			-			***************************************	-		***************************************	

Debt service requirements on bonds outstanding at December 31, 2007, are as follows (in thousands):

	<u>Principal</u>	<u> Interest</u>	<u>Total</u>
2008	\$ 9,900	\$ 18,846	\$ 28,746
2009	11,340	21,343	32,683
2010	11,740	20,743	32,483
2011	12,420	20,226	32,646
2012	13,015	19,564	32,579
2013-2017	73,875	87,679	161,554
2018-2022	78,025	68,704	146,729
2023-2027	68,430	46,585	115,015
2028-2032	103,710	27,577	131,287
2033-2037	<u>77.275</u>	11.213	88,488
	<u>\$ 459,730</u>	<u>\$ 342,480</u>	<u>\$ 802,210</u>

### NOTES TO FINANCIAL STATEMENTS

### **Defeasance of Series 2003 Bonds**

In March 2005, the Commission issued \$72,645,000 Bridge System Revenue Bonds, Series 2005A. The proceeds of the bonds were used to advance-refund \$32,165,000 of the Commission's Bridge System Revenue Bonds, Series 2003. This refunding was done to achieve interest cost savings. Proceeds of the bonds were used to establish an irrevocable escrow account. Funds in the escrow account were invested in special direct obligations of the United States Treasury or other obligations of the United States government or its agencies. The escrow securities and their earnings are structured to pay the principal and interest on the refunded 2003 bonds as such payments become due, until the call dates of the respective refunded bonds, at which time the escrow account will pay the principal of the refunded bonds at a price of par plus accrued interest. Since these funds have been placed in an irrevocable trust, they are considered defeased for these financial statements.

Refunded Series 2003 bonds outstanding at December 31, 2007, consist of the following:

Maturity Date	Interest Rate	Principal Due
2014	5.25 %	
2015	5.25 %	4,125,000
2016	5.25 %	4,345,000
2017	5.25 %	4,570,000
2018	5.25 %	4,815,000
2019	5.25 %	5,060,000
2020	5.25 %	5,330,000
		\$ 32,165,000

The advance-refunding resulted in a difference between the reacquisition price and the net carrying amount of the old debt of approximately \$1.4 million. The accumulated loss on defeasance is reported as a contra-liability on the statement of net assets and is being charged to net assets using a method which approximates the effective interest method over the shorter of the remaining life of the old debt or the life of the new debt. The accumulated capitalized loss on defeasance at December 31, 2007 and 2006 was \$1,118,462 and \$1,228,070, respectively.

### Bridge System Revenue Bonds, Series 2007 (SWAP)

Objective of the swaps. In October of 2005, the Commission entered into two forward starting swaps with two counterparties to hedge against future interest rates. The intention of the swaps was to take advantage of the current historically low interest rate environment in advance of the issuance of bonds by the Commission (as authorized by its trust indenture) in 2007.

### NOTES TO FINANCIAL STATEMENTS

### Bridge System Revenue Bonds, Series 2007 (SWAP) (Continued)

Terms. The swaps were entered into with Merrill Lynch Capital Services, Inc. ("MLCS") and Morgan Stanley Capital Services, Inc. ("MSCS"). The swaps were effective on October 1, 2007, and will mature on July 1, 2032. On the trade date, MLCS and MSCS were both rated AA- by Standard & Poor's Ratings Services ("S&P"), a division of The McGraw-Hill Companies, and Aa3 by Moody's Investors Service, Inc. ("Moody's"). The swaps were priced at a fixed rate of 4.231% based on an amortizing notional schedule with a combined \$150,000,000 initial notional amount. Under the swaps starting October 1, 2007, the Commission pays a fixed rate of 4.231% and receives a variable payment equal to the Bond Market Association Municipal Swap Index (the "BMA" Index). The bonds' variable-rate coupons, when issued, is based on a remarketing rate that is highly correlated to the BMA Index. As part of the swap transactions, the Commission also purchased two interest rate swap insurance policies dated October 6, 2005, issued by MBIA Insurance Corporation for the account of the Commission, as principal, and the counterparties, as beneficiary. The insurance policies provide for risk mitigation and limit the need for the Commission to post eligible collateral.

Fair Value. As of December 31, 2007 and 2006, the swaps had a negative fair value of \$9,319,466 and \$4,939,632, respectively. The fair value was estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement of the swap.

Credit Risk. As of December 31, 2007 and 2006, the Commission was not exposed to credit risk because the swaps had a negative fair value. Should interest rates change and the fair value of the swaps become positive, the Commission would be exposed to credit risk in the amount of the swaps' fair value. Agreed upon collateral threshold levels per the Credit Support Annex ("CSA") require collateral to be posted based on counterparty ratings as set forth in the CSA.

Termination Risk. The swaps are governed by the International Swap Dealers Association Master Agreement, which includes standard termination events. In addition, the swaps may be terminated if the long-term, unenhanced rating on the bonds issued by the Commission is withdrawn, suspended or falls below Baa3 as determined by Moody's, or BBB- as determined by S&P. Furthermore, the swaps may be terminated if the counterparties' credit support provider fails to have any rated long-term, unsecured, unenhanced senior debt or if the rating of the senior debt is withdrawn, suspended or falls below Baa2 as determined by Moody's, or BBB as determined by S&P.

In connection with the aforementioned swaps, no amounts are recorded in the financial statements other than the prepaid cost of issuance of the swaps.

### NOTES TO FINANCIAL STATEMENTS

### F. PENSION PLAN

The Commission contributes to the Commonwealth of Pennsylvania State Employees' Retirement System (the "System"). The System is the administrator of a cost-sharing, multiple-employer, defined-benefit retirement system. The System was established by the Commonwealth to provide retirement, death, and disability benefits for employees of state government and certain independent agencies. Ad hoc cost-of-living adjustments are provided at the discretion of the General Assembly. Article II of the Commonwealth's Constitution assigns the authority to establish and amend the benefit provisions of the plan to the General Assembly. The System issues a publicly available financial report that includes financial statements and required supplementary information for the retirement plan. That report may be obtained by writing to the Commonwealth of Pennsylvania State Employees' Retirement System, 30 North Third Street, P.O. Box 1147, Harrisburg, PA 17108-1147 or by calling 1-717-787-9657. Employees of the Commission are required to pay 5.00%-6.25% of their salaries into the System, and the Commission is required to contribute at an actuarially determined rate. The rate is computed based upon actuarial valuations on the System's fiscal year end of December 31 and applied to the Commonwealth based on its fiscal year end of June 30. Therefore, the employer contribution rate in effect for the System's year end of December 31 reflects a blended average of calculated rates. The contribution requirements of plan members and the Commission are established and may be amended by the System's board of trustees.

The Commission also has three employees who participate in the Public Employees' Retirement System of New Jersey ("PERS"). PERS is a part of the Division of Pensions in the Department of the Treasury, State of New Jersey. PERS is funded annually based on the projected benefit method with aggregate level normal cost and frozen initial unfunded accrued liability. PERS, which covers public employees throughout the state, does not maintain separate records for each reporting unit, and accordingly, the actuarial data for the employees of the Commission who are members of PERS is not available.

The Commission's pension contribution for the years ended December 31, 2007 and 2006, was \$602,219 and \$471,413, respectively, which equaled the required contribution.

### G. SELF INSURANCE

The Commission self-insures the risk for health insurance claims. In addition to the self-insured risk, the Commission carries a stop-loss policy that limits its exposure to a maximum of \$150,000 per plan year per individual and \$5,538,002 in the aggregate for all active and retired employees under the age of 65.

### NOTES TO FINANCIAL STATEMENTS

### H. POST-EMPLOYMENT BENEFITS

The Commission provides certain post-employment life and health insurance benefits to its employees if they retire while working for the Commission. In accordance with the provisions of Statement No. 12 of the Governmental Accounting Standards Board, "Disclosure of Information on Post-Employment Benefits Other Than Pension Benefits by State and Local Governmental Employers," expenditures for post-employment life and health insurance benefits are recognized on a pay-as-you-go basis and were approximately \$1,971,464 and \$2,238,121 in 2007 and 2006, respectively (see Note K for summary of new accounting pronouncement).

As of December 31, 2007 and 2006, 124 and 119 retired employees, respectively, were eligible for both life and health insurance benefits. As of December 31, 2007, one other retired employee was eligible for health insurance benefits only. An additional 37 and 37 retired employees were eligible for life insurance benefits only as of December 31, 2007 and 2006, respectively, in a range of \$2,000-\$4,000 per person.

### I. COMMITMENTS AND CONTINGENCIES

The Commission is involved in various claims and lawsuits arising in the normal course of business, including claims for right-of-way acquisition, handicapped discrimination and hiring practices. In the opinion of management, the ultimate outcome of these claims and lawsuits will not have a material adverse effect on the Commission's financial position.

In 2004, the Commission established a \$40 million dollar program, which is included in restricted net assets, to provide funding for transportation infrastructure related projects in New Jersey and Pennsylvania communities that host its bridges. As of December 31, 2007, the Commission had committed \$33,223,682 in grants to municipalities participating in the Compact Authorized Investment ("CAI") program, of which \$31,368,986 was unexpended at December 31, 2007. Examples of appropriate projects that would be considered for funding under the CAI program include installation of upgrades to traffic signalization around Commission facilities, road widening in areas affected by Commission crossings, bicycle or pedestrian paths leading up to Commission facilities, park and ride facilities, safety lighting, and right of way renovation, protection or beautification.

In 2001, the Commission approved a 10-year, \$526 million Capital Improvement Program for the protection, preservation, management and enhancement of the 20 bridges it owns, maintains, and operates. With the addition of the CAI program, along with additions and changes in the original projects, the Capital Improvement Program currently stands well in excess of the original amount approved in 2001. As of December 31, 2007, the Commission has approved more than \$307.1 million in contracts to study and improve various facilities and systems as part of that program. At December 31, 2007, the Commission had approved contracts that had not yet been completed or paid totaling approximately \$162.8 million.

### NOTES TO FINANCIAL STATEMENTS

### I. COMMITMENTS AND CONTINGENCIES (CONTINUED)

In 2002, the Commission began the installation and operation of a new toll collection system which provided E-ZPass (electronic) toll processing on all of its seven toll bridges. The Commission has entered into a long-term contract to maintain its E-ZPass system hardware. The unpaid portion of the contract amounted to \$625,000 at December 31, 2007. The system maintenance contract runs through July 2008.

### J. ARBITRAGE RULES

The Commission is subject to certain arbitrage rules pursuant to current federal income tax law and in accordance with the Trust Indenture. Under these rules, interest earnings on certain investments of proceeds of the Commission's bonds are subject to the limitations imposed by the arbitrage provisions of the Internal Revenue Code. The Commission is required to rebate certain arbitrage profits on non-purpose investments at least once every five years. At December 31, 2007 and 2006, there were no material arbitrage profits subject to rebate.

### K. NEW ACCOUNTING PRONOUNCEMENT

GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, requires that state and local governmental employers account for and report the annual cost of other post-employment benefits ("OPEB") and the outstanding obligations and commitments related to other post-employment benefits in the same manner as they currently do for pensions. Annual OPEB cost for most employers will be based on actuarially determined amounts that, if paid on an ongoing basis, generally would provide sufficient resources to pay benefits as they come due. The provisions of this statement do not require governments to fund their OPEB plans.

Statement No. 45 also establishes disclosure requirements for information about the plans in which an employer participates, the funding policy followed, the actuarial valuation process and assumptions, and, for certain employers, the extent to which the plan has been funded over time.

The Commission is required to implement GASB Statement No. 45 for the year ending December 31, 2008.

 $\textbf{Y\'o} \textbf{ou} \textbf{Are} \textbf{W\'eavining} \textbf{panna} \textbf{Archived} \textbf{c} \textbf{Opp} \textbf{\textit{from the Oleke Welnesse}} \textbf{State} \textbf{\textit{k}} \textbf{ibitarry} \textbf{\textit{ry}}$ 

### SUPPLEMENTARY INFORMATION

### SCHEDULES OF CASH AND EQUIVALENT BALANCES

December 31, 2007

General Reserve Eund	\$ 10,302,667	1	10,302,667		General Reserve Fund	\$ 19,409,327	*	9,409,327
Debt Service Reserve	708		207,488 \$ 8,908,187 \$ 26,849,708 \$ 10,302,667		Debt Service Reserve Fund	- 114	k .	43,818 \$ 24,200,094 \$ 2,103,664 \$ 5,601,746 \$ 15,158,414 \$ 19,409,327
Debt Service Fund	\$ 8,908,187	I	\$ 8,908,187		Debt Service Fund	46		\$ 5,601,746
Reserve Maintenance Fund	<b>€</b>	,	\$ 207,488		Reserve Maintenance Fund	\$ 2,103,664	1	\$ 2,103,664
Construction Fund	\$ 15,767,626		\$ 15,767,626 \$	1, 2006	Construction Fund	\$ 24,200,094	1	\$ 24,200,094
Clearing Fund	<b>⊗</b>	-	· .	December 31, 2006	Clearing Fund	\$ 43,818	3	69
Operating Fund	\$ 93,409 88,547	74,100	\$ 256,056		Operating Fund	\$ 165,088 80,061	73,750	\$ 318,899
Revenue Fund	5,114,425	***************************************	\$ 67,406,157 \$ 5,114,425 \$		Revenue	\$ 4,797,305	<b>b</b>	\$ 71,633,267 \$ 4.797,305 \$
Total	\$ 62,129,085 5,202,972	74,100	\$ 67,406,157		Total	\$ 66,682,151 4,877,366	73,750	\$ 71.633,267
	Commerce Bank Wachovia Bank Petty cash and collectors' change	funds Total cash and	equivalent balances			Commerce Bank Wachovia Bank Petty cash and collectors' change	funds Total cash and	balances

### SCHEDULES OF INVESTMENTS

December 31, 2007

		Co	nstruction Fur	nd		The state of the s
	Invest	ment Description	on			
Security				Maturity		Market
Description	Face Value	<u>Rate</u>	Yield	Date	Cost	<u>Value</u>
FNMA	\$ 5,000,000	0.00%	5.11%	01-18-08	\$ 4,816,867	\$ 4,991,500
FNMA	5,000,000	0.00%	4.35%	01-22-08	4,983,950	4,989,000
FHLMC	2,900,000	0.00%	4.44%	01-23-08	2,890,571	2,893,330
FHLB	3,000,000	5.25%	5.24%	02-01-08	3,000,000	3,000,930
FHLB	2,000,000	5.20%	5.20%	02-15-08	2,000,000	2,001,260
FHLMC	5,000,000	4.30%	5.07%	05-05-08	4,972,650	4,994,250
FNMA	5,000,000	0.00%	4.18%	07-28-08	4,851,483	4,889,500
FHLB	5,000,000	5.15%	5.15%	08-15-08	5,000,000	5,004,700
FHLB	5,000,000	4.50%	4.50%	11-05-08	5,000,000	5,006,250
FHLB	5,000,000	4.50%	4.50%	11-07-08	5,000,000	5,006,250
FHLB	50,000,000	0.00%	4.29%	01-22-08	49,841,750	49,890,000
FNMA	50,000,000	0.00%	4.35%	01-22-08	49,839,500	49,890,000
FHLB	50,000,000	0.00%	4.41%	01-23-08	49,837,250	49,885,000
FHLMC	55,000,000	0.00%	4.41%	01-23-08	54,821,181	54,873,500
FHLB	50,000,000	0.00%	4.42%	01-25-08	49.825,194	49,875,000
Total Con	struction Fund				\$296,680,396	\$297,190,470
		O <sub>1</sub>	perating Fund			
	Inves	tment Descripti	on			
Security				Maturity		Market
Description	Face Value	<u>Rate</u>	<u>Yield</u>	Date	Cost	Value
FNMA	1,000,000	0.00%	4.35%	01-22-08	\$ 996,790	\$ 997,800
FHLMC	1,800,000	0.00%	4.41%	01-23-08	1,794,148	1,795,860
FHLB	1,000,000	4.50%	4.50%	11-05-08	1,000,000	1,001,250
Total Oper	rating Fund				\$ 3,790,938	\$ 3,794,910
		Reserve	Maintenance	Fund		
· · · · · · · · · · · · · · · · · · ·	Invest	ment Descripti		i diid		
Security			<del></del>	Maturity		Market
Description	Face Value	Rate	Yield	Date	Cost	Value
FNMA	1,000,000	0.00%	4.35%	01-22-08	\$ 996,790	\$ 997,800
FHLMC	1,000,000	0.00%	4.41%	01-23-08	996,749	997,700
Total Reser	rve Maintenance	Fund	· · · · · ·		\$ 1,993,539	\$ 1,995,500

### SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2007

		Gene	ral Reserve Fun	d		
	Inves	tment Descriptio				
Security Description	Face Value	Rate	Yield	Maturity Date	Cost	Market Value
PA INVEST	1,173,753	4.26%	4.26%	01-01-08	\$ 1,173,753	\$ 1,173,753
FHLB	5,000,000	5.13%	5.20%	01-16-08	4,997,050	5,001,550
FNMA	5,000,000	0.00%	5.11%	01-18-08	4,816,867	4,991,500
FNMA	5,000,000	0.00%	4.35%	01-22-08	4,983,950	4,989,000
FHLB	5,000,000	0.00%	4.41%	01-23-08	4,983,725	4,988,500
FHLMC	5,000,000	0.00%	4.41%	01-23-08	4,983,744	4,988,500
FNMA	5,000,000	0.00%	4.35%	01-24-08	4,983,356	4,988,000
FHLB	5,000,000	0.00%	4.42%	01-25-08	4,982,519	4,987,500
FNMA	5,000,000	0.00%	4.35%	01-25-08	4,982,761	4,987,500
FHLB	8,000,000	4.10%	4.10%	03-14-08	8,000,000	7,992,480
FHLMC	6,000,000	0.00%	4.39%	05-05-08	5,872,395	5,915,400
FHLB	5,000,000	4.42%	4.42%	05-08-08	5,000,000	4,996,900
FHLMC	6,200,000	3.88%	4.17%	06-15-08	6,190,204	6,178,672
FHLB	5,000,000	5.25%	5.25%	08-13-08	5,000,000	5,004,700
FNMA	5,000,000	3.25%	4.10%	08-15-08	4,970,400	4,967,200
FHLB	6,500,000	4.50%	4.50%	11-06-08	6,500,000	6,508,125
FNMA	2,700,000	5.25%	5.24%	01-29-09	2,700,000	2,702,538
FHLB	5,000,000	5.25%	5.24%	02-05-09	5,000,000	5,006,250
FNMA	5,000,000	5.30%	5.30%	02-20-09	5,000,000	5,009,400
FHLMC	5,000,000	5.30%	5.32%	02-27-09	4,998,438	5,010,400
FHLMC	4,000,000	3.76%	3.76%	03-18-09	3,999,560	3,992,520
FNMA	2,300,000	5.25%	5.25%	04-15-09	2,300,000	2,305,750
FFCB	1,000,000	3.75%	3.76%	06-10-09	999,850	1,001,250
FHLB	5,000,000	5.30%	5.30%	08-14-09	5,000,000	5,007,800
FHLB	5,000,000	5.13%	5.13%	08-28-09	5,000,000	5,009,400
FHLB	4,000,000	4.50%	4.50%	11-05-09	4,000,000	4,013,760
FHLB	6,000,000	4.55%	4.55%	11-20-09	6,000,000	6,015,000
FHLB	3,000,000	4.25%	4.25%	12-03-09	3,000,000	3,008,430
FHLB	5,000,000	5.40%	5.42%	02-12-10	4,997,656	5,007,800
FHLB	5,000,000	4.60%	4.60%	05-05-10	5,000,000	5,015,650
FHLB	5,000,000	4.50%	4.50%	05-14-10	5,000,000	5,017,200
FHLB	2,000,000	4.48%	4.48%	05-14-10	2,000,000	2,006,880
FHLB	2,000,000	4.63%	4.63%	11-05-10	2,000,000	2,008,760
FHLB	5,000,000	4.80%	4.80%	11-05-10	5,000,000	5,012,500
FHLB	5,000,000	4.75%	4.75%	11-08-10	5,000,000	5,012,500
FHLB	3,000,000	4.80%	4.80%	11-16-10	3,000,000	 3,008,430
Total Gener	al Reserve Fund				162,416,228	 62,831,498

Total General Reserve Fund Total Investments

<u>\$464,881,101</u> <u>\$465,812,378</u>

### SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2006

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	Invest	tment Descripti	on			
Security				Maturity		Market
Description	Face Value	<u>Rate</u>	<u>Yield</u>	Date	<u>Cost</u>	<u>Value</u>
<b>FHLMCDN</b>	\$ 5,000,000	0.00 %	5.26 %	01-26-07	\$ 4,962,127	\$ 4,983,500
FNMADN	5,000,000	0.00 %	5.25 %	01-26-07	4,959,308	4,983,500
FHLBDN	6,500,000	0.00 %	5.27 %	01-31-07	6,442,337	6,474,000
FHLBDN	5,000,000	0.00 %	5.17 %	02-28-07	4,938,964	4,960,000
FNMADN	6,500,000	0.00 %	5.26 %	02-28-07	6,420,420	6,448,000
FHLMCDN	5,000,000	0.00 %	5.26 %	03-06-07	4,935,289	4,956,000
FNMADN	5,000,000	0.00 %	5.18 %	01-26-07	4,959,308	4,983,500
FHLBDN	5,000,000	0.00 %	5.27 %	01-31-07	4,955,610	4,980,000
<b>FNMADN</b>	5,000,000	0.00 %	5.28 %	02-28-07	4,935,750	4,960,000
Total Cons	struction Fund				\$47,509,113	<u>\$47,728,500</u>

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	Invest	ment Descripti	on			
Security				Maturity		Market
Description	Face Value	Rate	<u>Yield</u>	Date	<u>Cost</u>	<u>Value</u>
FHLB	1,500,000	5.00 %	5.03 %	03-20-07	\$ 1,499,415	\$ 1,499,535
FHLMC	1,000,000	5.13 %	5.12 %	04-24-07	1,000,000	999,880
FHLB	1,000,000	5.26 %	5.26 %	10-19-07	1,000,000	<u>999,380</u>
Total Oper	rating Fund				\$ 3,499,415	\$ 3,498,795

### SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2006

		Gene	ral Reserve Fur	nd			
	Inves	tment Descriptio	n				
Security				Maturity			Market
Description	Face Value	Rate	<u>Yield</u>	Date	<u>Cost</u>		Value
PA INVEST	1,115,705	5.21 %	5.21 %	01-01-07	\$ 1,115,705	\$	1,115,705
FNMA	3,400,000	5.00 %	5.07 %	01-15-07	3,397,960	)	3,400,000
FHLB	5,000,000	5.08 %	5.08 %	02-22-07	5,000,000	)	4,998,450
FHLMC	5,000,000	4.25 %	4.63 %	02-28-07	4,975,800	)	4,992,650
FHLB	5,000,000	4.25 %	4.64 %	03-09-07	4,974,150	)	4,990,650
FHLB	5,000,000	5.00 %	5.03 %	03-20-07	4,998,050	)	4,998,450
FHLB	5,000,000	4.50 %	4.66 %	04-17-07	4,989,063	;	4,990,650
FHLMC	4,000,000	4.50 %	4.77 %	04-18-07	3,985,080	)	3,990,840
FHLB	3,000,000	5.23 %	5.23 %	04-30-07	3,000,000	)	2,999,070
FHLB	5,000,000	4.50 %	4.64 %	05-21-07	4,989,550	)	4,987,500
FHLMC	9,000,000	3.55 %	3.80 %	06-22-07	8,998,594	1	8,930,340
FHLB	3,200,000	4.25 %	4.32 %	08-08-07	3,195,776	5	3,179,009
FNMA	3,000,000	4.25 %	4.38 %	08-08-07	2,992,500	)	2,982,180
FNMA	5,000,000	3.75 %	3.87 %	08-15-07	4,985,938	3	4,954,700
FHLB	5,000,000	3.76 %	3.92 %	09-07-07	4,981,250	)	4,950,000
FHLB	3,000,000	3.28 %	3.28 %	10-05-07	3,000,000	)	2,998,140
FHLB	4,000,000	5.25 %	5.25 %	10-05-07	4,000,000	)	3,997,520
FNMA	5,500,000	5.26 %	5.26 %	10-19-07	5,500,000	)	5,496,590
FHLB	5,000,000	5.22 %	5.22 %	12-05-07	5,000,000	)	4,993,750
FHLB	6,000,000	5.15 %	5.15 %	12-07-07	6,000,000	)	5,985,000
FNMA	5,000,000	4.90 %	4.90 %	12-27-07	5,000,000	)	4,982,800
FHLB	8,000,000	4.10 %	4.10 %	03-14-08	8,000,000	)	7,900,000
FHLB	6,000,000	5.32 %	5.32 %	04-10-08	6,000,000	)	5,994,360
FHLMC	5,000,000	5.20 %	5.60 %	05-27-08	4,990,950	)	4,999,250
FHLMC	5,000,000	5.50 %	5.55 %	06-13-08	4,995,250	)	5,002,350
FNMA	6,500,000	5.13 %	5.18 %	10-03-08	6,493,500	)	6,479,720
FHLMC	6,000,000	5.35 %	5.53 %	10-20-08	5,976,563	}	5,988,540
FNMA	5,000,000	5.50 %	5.60 %	11-17-08	4,988,850	)	4,996,900
FHLB	5,000,000	5.50 %	5.50 %	10-05-09	5,000,000	)	4,990,650
FHLB	5,000,000	5.55 %	5.55 %	10-19-09	5,000,000	)	4,993,750
Total Gener	al Reserve Fund				146,524,529	) ]	146,259,514
Total In	vestments				\$197,533,057	<u> </u>	197,486,809

### SCHEDULE OF OPERATIONS

Year Ended December 31, 2007 (With Comparative Totals for the Year Ended December 31, 2006)

	Total	tal							
	Year Ended I	ear Ended December 31,	1	,		i		,	,
			Trenton- Morrisville	New Hope- Lambertville		Easton- Phillipsburg	Portland- Columbia	Delaware Water	Milford- Montague
	2006	2007	Bridge	Bridge	I-78 Bridge	Bridge	Bridge	Gap Bridge	Bridge
Cash toll revenues	\$32,728,041	\$32,223,503	\$ 3,220,787	\$ 862,129	\$12,632,770	\$ 3,475,669	\$ 761,322	\$10,688,485	\$ 582,341
Cash toll (shortage) overage	(14,056)	(31,340)	(22,816)	(2,982)	(2,569)	(1,877)	(867)	321	(220)
E-ZPass revenues	48,152,808	53,980,640	6,028,463	1,449,469	24,144,453	5,532,868	1,027,128	15,168,056	630,203
E-ZPass discounts and allowances	(855,950)	(798,811)	(170,576)	(65,295)	(188,287)	(117,161)	(45,000)	(169,980)	(42,512)
Miscellaneous revenues		129,504	,	-	129,504	1	•	•	-
Total Toll Revenues	80,153,960	85,503,496	9,055,858	2,243,321	36,715,871	8,889,499	1,742,583	25 686 882	1,169,482
Operating and maintenance expenses									
Salaries and wages									
Toll	3,912,728	4,012,910	524,346	387,627	901,102	568,465	336,470	1,064,115	230,785
Maintenance	2,764,020	2,955,301	397,167	324,555	709,526	462,394	195,103	588,751	277,805
Clerical	835,828	913,875	119,773	95,418	166,329	139,193	93,273	234,722	65,167
Supervision		2,662,938	477,350	238,627	522,672	482,616	211,093	510,656	219.924
Total salaries and wages	10.091,675	10,545,024	1,518,636	1,046,227	2,299,629	1,652,668	835,939	2,398,244	793,681
Social security taxes	769,782	803,182	117,366	79,405	174,582	126,249	63,038	183,250	59,292
Pension contributions	287,924	344,446	48,999	30,741	83,405	51,436	27,496	77,130	25,239
Group insurance	3,054,902	2,949,091	446,967	280,696	668,382	451,132	202,113	710,610	189,191
Retirees' costs	1,381,797	1,211,966	194,386	114,345	268,513	183,256	85,759	279,948	85,759
Heat, light and power	538,926	546,116	137,597	70,522	91,337	105,699	43,357	48,325	49,279
Office expenses	24,829	32,380	11,076	5,019	3,990	3,909	1,601	5,498	1,287
Information technology & communications	177,728	171,112	42,257	22,776	17,303	27,765	14,271	25,084	21,656
Travel, meetings and education expense	9,087	13,594	1,341	2,244	4,067	2,383	866	1,776	785
Operating supplies and expenses	49,667	84,824	21,068	1,316	16,096	15,893	1,041	13,387	16,023
E-ZPass operating expenses	3,351,059	3,796,492	709,644	205,818	1,040,101	639,263	121,126	953,367	127,173
State police bridge security	2,913,564	2,441,126	549,617	102,725	617,157	408,068	78,459	594,913	90,187
Maintenance supplies and expenses		•							
Automotive	248,388	214,779	39,533	44,080	50,857	10,531	11,751	35,754	22,273
Buildings and grounds	359,773	450,651	111,023	75,363	84,851	59,707	24,841	53,721	41,145
Toll collection equipment and									
E-ZPass maintenance	987,317	1,207,745	197,005	135,560	229,898	171,718	100,510	255,490	117,564
Roadways, sidewalks and approaches	325,343	457,672	54,462	49,044	136,695	86,921	50,430	38,692	41,428
Insurance	1,985,148	2,045,431	302,724	212,354	659,721	229,537	134,590	409,605	96,900
Total Operating and Maintenance									
Expenses	26,556,909	27,315,631	4,503,701	2,478,235	6,446,584	4,226,135	1,797,320	6,084,794	1,778,862
Net revenues from toll bridges before									
administrative expenses and toll-supported		1			6	6			
bridge expenses	53,597,051	58,187,865	\$ 4,552,157	\$ (234,914)	\$30,269,287	\$ 4,663,364	\$ (54.737)	\$19,602,088	\$ (609,380)
Administrative expenses	7,230,699	7,334,720							
Toll-supported bridge expenses	14 400 254	7,925,504							
Not charoting revenues	£30 008 607	\$47.927.641							
tyel Operating tevenioes	27.07.07.07.0	ALD. 177. (214							

### SCHEDULES OF ADMINISTRATIVE EXPENSES

	Year Ended	December 31,
	2007	2006
Salaries and wages	\$ 3,456,431	\$ 3,630,077
Social security taxes	279,105	267,568
Pension contributions	153,558	97,904
Group insurance	809,561	801,307
Retirees' costs	336,726	382,751
Unemployment compensation	71,274	78,761
Heat, light, and power	***	291
Office expenses	183,391	164,273
Commission expenses	44,148	29,698
Information technology and communications	392,471	322,371
Travel, meetings, and education expense	152,973	115,783
Automotive repairs and expenses	3,793	40,420
Professional service fees	1,107,890	889,379
Advertising and marketing	58,550	38,665
Insurance	<u>284,849</u>	<u>371,451</u>
	<u>\$ 7,334,720</u>	<u>\$ 7,230,699</u>

### SCHEDULES OF TOLL-SUPPORTED BRIDGE EXPENSES

		Year Ended	December 31.	
		2007		2006
		Southern	Northern	
		Division	Division	
	<u>Total</u>	Bridges	<u>Bridges</u>	Total
Salaries and wages	\$3,319,983	\$1,833,871	\$1,486,112	\$3,225,702
Social security taxes	249,405	137,971	111,434	243,436
Pension contributions	104,215	57,510	46,705	85,585
Group insurance	1,014,693	559,620	455,073	1,057,247
Retirees' costs	423,381	234,407	188,974	473,573
Heat, light, and power	71,976	45,205	26,771	62,855
Office expenses	547	482	65	1,474
Information technology and				
communication	25,569	15,626	9,943	16,703
Travel, meetings, and education expense	72	72	···	1,065
Operating supplies and expenses	33,934	22,738	11,196	31,025
State police bridge security	1,603,152	1,187,400	415,752	1,047,767
Maintenance supplies and expenses				
Automotive	10,680	5,041	5,639	12,995
Buildings and grounds	39,803	24,375	15,428	24,199
Roadways, sidewalks and approaches	76,686	61,316	15,370	54,225
Insurance	<u>951.408</u>	645,109	306,299	<u>929,804</u>
	\$7,925,504	\$4,830,743	<u>\$3.094.761</u>	<u>\$7.267,655</u>

### SCHEDULE OF TOLL BRIDGE TRAFFIC AND REVENUES

Years Ended December 31, 2007 (With Comparative Totals for the Year Ended December 31, 2006)



### INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Board of Commissioners of Delaware River Joint Toll Bridge Commission - Bridge System

We have audited the financial statements of Delaware River Joint Toll Bridge Commission - Bridge System (the "Commission") as of and for the year ended December 31, 2007, and have issued our report thereon dated April 15, 2008. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

### Internal Control over Financial Reporting

In planning and performing our audit, we considered the Commission's internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of the Commission's internal control over financial reporting.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

PEHNSYLVANIA OFFICE: 86 BUCK ROAD HOLLAND, PA 18966 TEL 215-355-4860 FAX 215-825-8110

- \* CPA USA NETWORK
- \* American Institute of Certified Public Accountants
- New Jersey Society of Certified Public Accountants
- \* New York Society of Certified Public Accountants
- \* Pennsylvania Institute of Certified Public Accountants
- \* Private Companies Practice Section
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### INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS (CONTINUED)

### Internal Control over Financial Reporting (Continued)

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses, as defined above.

### Compliance and Other Matters

As part of obtaining reasonable assurance about whether Delaware River Joint Toll Bridge Commission - Bridge System's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, bond resolutions, and compact, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

This report is intended solely for the information and use of the finance committee, the Board of Commissioners, management, the Trustee, and others within the Commission and is not intended to be and should not be used by anyone other than these specified parties.

Certified Public Accountable
April 15, 2008

### 2007 TRAFFIC ENGINEERING REPORT

### Year 2008 Toll Bridge Traffic Volume And Revenue Projections







Submitted to:

### **Delaware River Joint Toll Bridge Commission**

Administration Building, 110 Wood Street Morrisville, PA 19067

January 25, 2008



Gregory K. Farnum, P.E.

New Jersey Professional Engineer License No.: 24GE04006600 Pennsylvania Professional Engineer License No.: PE046389E

This is (or has been produced from) an electronic copy of the report.

The original is signed and sealed.

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2007 TRAFFIC ENGINEERING REPORT
YEAR 2008 TOLL BRIDGE TRAFFIC VOLUME AND REVENUE PROJECTIONS
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

### **EXECUTIVE SUMMARY**

Pennoni Associates Inc. (Pennoni) has been retained by the Delaware River Joint Toll Bridge Commission (Commission) to determine if the projected year 2008 revenues will be enough to satisfy the conditions of all current Bridge System Revenue Bonds, which require under Section 703 (b), paragraph 2 that the Commission will not issue any Additional Bonds constituting Long-Term Indebtedness unless (along with other things) the following is delivered to the Trustee:

A report of a Consultant to the effect that (i) the Net Revenues of the Commission during the preceding Fiscal Year were at least 130% of the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness then Outstanding and on any Applicable Long-Term Indebtedness proposed to be issued (which report may assume any revisions of the Tolls which have been approved by the Commission subsequent to the beginning of such Fiscal Year were in effect for the entire Fiscal Year), and (ii) the Projected Debt Service Coverage Ratio is not less than 1.30.

Revenues for 2008 were projected by applying the current toll structure to the 2008 projected volumes for each vehicle type on the seven (7) toll bridges under the jurisdiction of the Commission.

The sum of year 2008 projected toll bridge revenues (\$89,864,433) under the current toll structure is high enough to satisfy Section 703 (b), paragraph 2 of current Bridge System Revenue Bonds. Table 16 lists the projected revenues and expenditures for the year 2008. Since there is a projected Debt Service Coverage Ratio of 1.90, the requirements of current Bridge System Revenue Bonds are projected to be met.





2007 TRAFFIC ENGINEERING REPORT YEAR 2008 TOLL BRIDGE TRAFFIC VOLUME AND REVENUE PROJECTIONS DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

### INTRODUCTION

Pennoni Associates Inc. (Pennoni) has been retained by the Delaware River Joint Toll Bridge Commission (Commission) to project traffic volumes by vehicle type on the seven (7) toll bridges for the year 2008. The seven (7) toll bridges and 13 toll-supported bridges under the jurisdiction of the Commission are listed below from south to north.

TOLL BRIDGES	TOLL-SUPPORTED BRIDGES
DISTRICT ONE	
Trenton-Morrisville (U.S. Route 1)	Lower Trenton
New Hope-Lambertville (U.S. Route 202)	Calhoun Street
	Scudder Falls (Interstate 95)
	Washington Crossing
	New Hope-Lambertville (Route 179)
	Centre Bridge-Stockton
	Lumberville-Raven Rock (Pedestrian Only)
DISTRICT TWO	
Interstate 78	Uhlerstown-Frenchtown
Easton-Phillipsburg (U.S. Route 22)	Upper Black Eddy-Milford
	Riegelsville
	Northampton Street
	Riverton-Belvidere
DISTRICT THREE	
Portland-Columbia	Portland Columbia (Pedestrian Only)
Delaware Water Gap (Interstate 80)	
Milford-Montague	

The purpose of the study is to determine if year 2008 projected toll revenues (under the current toll structure) will satisfy the requirements of current Bridge System Revenue Bonds, which require under Section 703 (b), paragraph 2 that the Commission will not issue any Additional Bonds constituting Long-Term Indebtedness unless (along with other things) the following is delivered to the Trustee:

A report of a Consultant to the effect that (i) the Net Revenues of the Commission during the preceding Fiscal Year were at least 130% of the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness then Outstanding and on any Applicable Long-Term Indebtedness proposed to be issued (which report may assume any revisions of the Tolls which have been approved by the Commission subsequent to the beginning of such Fiscal Year were in effect for the entire Fiscal Year), and (ii) the Projected Debt Service Coverage Ratio is not less than 1.30.

Since there is a projected Debt Service Coverage Ratio of 1.90, the requirements of current Bridge System Revenue Bonds are projected to be met.





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### **METHODOLOGY**

To project traffic volumes on the toll bridges for the year 2008, we considered new development projects which could add traffic to the toll bridges, roadway construction projects which could divert motorists from their regular routes, and general background growth, based on historic traffic volume data crossing the bridges.

### YEAR 2008 DEVELOPMENT PROJECTS

County planning/engineering offices for the eight (8) counties along the Delaware River within the study area (Bucks, Northampton, Monroe, and Pike counties in Pennsylvania and Mercer, Hunterdon, Warren, and Sussex counties in New Jersey) as well as staff from the Pennsylvania Department of Transportation (PENNDOT) and the New Jersey Department of Transportation (NJDOT) were contacted to learn of large developments which could have a major affect on toll bridge volumes during the year 2008. While several development projects are underway, only a few major projects are expected to open/expand/contract during the 2008 calendar year. For informational purposes, we have discussed major projects which may reach full buildout in the distant future but will likely not contribute any traffic during the year 2008.

### **District 1**

In Mercer County, there are several small to medium sized developments at various stages of the approval process, but many are not near the Delaware River or Route 1. No specific increase in traffic at the Trenton-Morrisville Toll Bridge was assumed from Mercer County developments.

In Bucks County, a few residential developments totaling almost 1,100 units have been proposed in Bensalem Township during 2006 and 2007. The Matrix development in Lower Makefield and Middletown Townships underwent major redesign in 2006. The project will now be broken into two phases with the first phase consisting of 600 age qualified units of single family homes. The second phase will consist of 55,000 square feet of both office space and retail, and nothing will be occupied in 2008. We have not assumed any additional traffic crossing the Trenton-Morrisville Toll Bridge from these developments in 2008.

In Hunterdon County, there are no new major developments proposed in the area of the toll bridges.

### **District 2**

The Sands Bethworks Casino is one of the five new stand alone casinos in Pennsylvania, and one of two outside of Philadelphia and Pittsburgh. The casino will be located at the former Bethlehem Steel plant in the City of Bethlehem and is expected to open in the spring of 2009. The casino will house 3,000 slot machines, a 300 room hotel, 200,000 square feet of retail space and a variety of dining and entertainment options. The property will also be home to the National Museum of Industrial History, an arts and cultural center, a 50,000 square foot multi-purpose event center, and the broadcast home of the local PBS affiliate.



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An upscale retail lifestyle center of approximately 1.0 million square feet is being considered in Bethlehem on Route 33 and Freemansburg Road, but the project is in the process of DEP permitting. The project will not be completed in 2008.

Greenfield Industrial Park is a proposed 1,300,000 square foot warehouse located in Bethlehem which is currently under construction and is scheduled to open sometime in 2008. We have not assumed any changes in toll bridge traffic from this development.

Martin Tower in Bethlehem is proposed to consist of a 22-story condominium building with 800 units and retail (Phase 2) and 585 townhouses on the acreage surrounding the tower (Phase 1). Currently Phase 1 has been approved but no construction scheduled and is not expected to be completed by the end of 2008. Phase 2 has been put on hold indefinitely.

The Lehigh Valley Iron Pigs (Philadelphia Phillies AAA minor league team) formerly the Scranton Wilkes-Barre Red Barons, will be playing their first season in the newly constructed Coca-Cola Park located in Allentown. The new stadium will seat 8,100 people and is scheduled to open up April 11, 2008. While the Lehigh Valley Iron Pigs may draw Phillies fans from New Jersey, no major changes to travel patterns across the toll bridges are expected to occur in 2008.

No major developments are proposed in southern Warren County or northern Hunterdon County for 2008.

### **District 3**

In Pike County, the Highland Village residential development is in the final stages of the approval process for the projects beginning phases. However minimal construction has taken place to date and nothing is expected to be occupied during 2008.

A residential development of approximately 770 housing units with miscellaneous retail is being considered in Dingman Township, but plans are in the preliminary design phase. The project will not be completed in 2008.

In Monroe County, Mount Airy Casino and Resort opened in October of 2007. The casino is built on the site of the former Mount Airy Lodge, which was the signature resort in the region for more than half a century. The resort will house approximately 3,000 slot machines, a 200 room hotel and a variety of dining and entertainment options.

The Delaware Water Gap Toll Bridge would be the most direct route for NJ residents to reach Mount Airy Resort. To be conservative, we have not assigned any additional growth to this bridge from a revenue standpoint. Trip Generation estimates for full casinos vary widely, and we do not have before and after data of trip generation for this type of establishment. In addition, comparison of volumes from November 2006 to November 2007 at the Delaware Water Gap indicate a reduction of approximately 14,000 passenger cars, indicating no impact from the grand opening of the casino.

No major developments are proposed in northern Warren County or Sussex County for 2008.





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## RECENT ROADWAY CONSTRUCTION PROJECTS

County planning/engineering offices and the departments of transportation were also asked about significant roadway construction projects near the bridges. In addition, the Delaware Valley Regional Planning Commission (DVRPC) Transportation Improvement Program (TIP) was also reviewed. Our findings are as follows:

# Trenton-Morrisville (Route 1) Toll Bridge Rehabilitation Project

☑ The Trenton-Morrisville Toll Bridge will be rehabilitated, widened and improved. The construction schedule will be broken up into four (4) phases from 2007-2009. Phase I includes improvements on the northbound side of Route 1 and the new toll plaza area and is expected to continue until March 2008. Phase II includes improvements on the southbound side of Route 1 and is expected to take place from March 2008 to January 2009. Traffic impacts that will occur during Phases I and II are lane shifts, decreasing of lane widths, lane closures and lane restrictions. During the peak hours the bridge will have a minimum of two (2) lanes in each direction open. However during all other times the contractor has the option to close lanes in either or both directions.

# Centre Bridge-Stockton Toll Supported Bridge Rehabilitation Project

☑ The Centre Bridge-Stockton Toll Supported Bridge had weekday bridge closures from January 2, 2007 to May 18, 2007. Review of passenger car volumes at the New Hope-Lambertville Toll Bridge and the Uhlerstown - Frenchtown Toll Supported Bridge indicated no significant change in volumes after rehabilitation was completed. Based on the five (5) ton weight limit on the Centre Bridge-Stockton Toll Supported Bridge (recently reduced from 20 tons) we did not assume any appreciable shift in two-axle vehicles to the New Hope-Lambertville Toll Bridge.

## Riverton-Belvidere Toll Supported Bridge Rehabilitation Project

☑ The Riverton-Belvidere Toll Supported Bridge had partial week closures on Sundays through Tuesdays from September 28, 2006 to July 20 2007. Comparing January to July data from 2006 and 2007 indicated a reduction of approximately 240,000 passenger cars. At the Portland-Columbia Toll Bridge, January to July passenger car volumes increased by approximately 100,000 from 2006 to 2007, and at the Easton-Phillipsburg Toll Bridge January to July passenger car volumes were level from 2006 to 2007. We have applied reduction factors for passenger cars at the Portland Columbia Toll Bridge to project 2008 conditions similar to 2006.

## Milford-Montague Toll Bridge Rehabilitation Project

☑ The Milford-Montague Toll Bridge will be rehabilitated to prevent major repairs for a 15 year period. The work included in the bridge improvements project is rehabilitating the bridge structure and approach roadways, possible replacement of the toll plaza and possible improvements to the signage. The construction is scheduled to take place from the summer of 2007 to winter of 2008. The bridge rehabilitation project will not impact the toll bridge volumes.





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# Interstate 78, New Jersey and Pennsylvania

- ☑ The I-78 Toll Bridge roadway within the DRJTBC jurisdiction in New Jersey will be rehabilitated. The roadway improvements will include rehabilitating the concrete roadway pavement, rehabilitation of the bridge decks and various highway feature upgrades along the corridor. The roadway improvements are scheduled to take place from October 2007 to October 2009. During the peak hours the roadway will have three (3) lanes in each direction open. However during all other times the contractor has the option to close lanes in either or both directions. Any diversions will likely go to the Easton-Phillipsburg Toll Bridge.
- ☑ In Greenwich, NJ the former weigh stations were replaced with new weigh stations and a new state police barracks, with construction being completed in 2006. We noted a shift of approximately 50,000 five axle trucks from the I-78 Toll Bridge to the Delaware Water Gap (I-80) in comparing 2006 and 2007 yearly volumes, which could in part be a result of the weigh stations and new state police facility.
- ☑ The I-78 Toll Bridge roadway within the DRJTBC Pennsylvania jurisdiction will be implementing open road tolling (ORT) within the vicinity of the toll plaza. The ORT will allow drivers to pass under a barrier-free electronic array without stopping or slowing down. Along with the ORT, the roadway within the DRJTBC Pennsylvania jurisdiction will be rehabilitated and restored. While construction will start in the summer of 2008, it will have minimal impact on traffic while the new eastbound lanes are constructed.

### **Bucks County, Pennsylvania**

- ☑ The Pennsylvania Turnpike will have an interchange with I-95 in Bristol. The project is in preliminary phases of construction and is not expected to impact any traffic patterns in 2008.
- ☑ In Montgomery, Doylestown and Warrington Townships, US Route 202 from Horsham Road to SR 611 is being widened. The construction schedule will be broken up into four (4) phases from 2007-2010. However the distance of the project to the New Hope Lambertville Toll Bridge is not anticipated to impact the toll bridge volumes.

## **Mercer County, New Jersey**

- ☑ Resurfacing of Interstate 295 from Route 130 to Route 29/I-195 Interchange will begin in early 2008. The resurfacing will take place during the overnight off peak periods and is not anticipated to alter traffic volumes in 2008.
- ☑ Bridge Boulevard, formerly known as New Warren Street, will be relocated north of Route 1 to provide land for redevelopment and improve traffic operations for the downtown area. This project is not anticipated to alter traffic volumes on the Trenton–Morrisville Toll Bridge in 2008.
- ☑ Route 29 will be relocated north of Route 1 to provide land for redevelopment and improve traffic operations for the downtown area. This project is not anticipated to alter traffic volumes on the Trenton–Morrisville Toll Bridge in 2008.





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# **Warren and Sussex Counties, New Jersey**

☑ Resurfacing of Interstate 80 from Knowlton Road to Ledgewood Avenue will begin in early 2008. The resurfacing will take place during the overnight off peak periods and is not anticipated to alter traffic volumes in 2008.

In reviewing the Lehigh Valley Transportation Improvement Program (TIP) as well as the DVRPC TIP for Pennsylvania and New Jersey, there are no major construction projects planned in other areas that are projected to have significant effects on volumes or patterns near the bridges.

# HISTORICAL TRAFFIC VOLUMES

The Commission provided historical traffic volume information for the 11 vehicular toll-supported bridges and the seven (7) toll bridges. For the purpose of this study, volumes and toll revenue data from the years 2002 to 2007 were used.

Monthly traffic volume data for the toll-supported bridges is summarized on a yearly basis from 2002 to 2007, as listed in Tables 1 through 6. Where volume data was not available, traffic volumes were estimated and are shown in italics. No vehicle classification was provided, but most toll-supported bridges (with the exception on the Scudder Falls Bridge and the Upper Black Eddy-Milford Bridge) have weight restrictions prohibiting large trucks.

The Scudder Falls Toll Supported Bridge carries approximately 19-20 million vehicles per year, which converts to an average annual daily traffic volume (AADT) of approximately 55,000 vehicles. Since traffic is higher on weekdays, the average weekday traffic volume (AWDT) is approximately 58,000 vehicles. Volumes on the Scudder Falls Bridge have remained constant for several years. The Northampton Street and Calhoun Street Toll Supported Bridges carry approximately 6.7-8.5 million vehicles per year, and the Lower Trenton and New Hope-Lambertville Toll Supported Bridges carry approximately 4.5 – 6.5 million vehicles per year. While the Calhoun Street Toll Supported Bridge has always carried more traffic than the Lower Trenton Toll Supported Bridge, the gap is narrowing, with a difference of approximately 700,000 vehicles over the past few years, down from over 2 million cars in 2001. We note that construction on the New Hope-Lambertville Toll Supported Bridge closed this bridge for weekdays in the early part of 2004, reducing the yearly volume to approximately 3.7 million vehicles. The remaining toll-supported bridges carry from 1.1 to 2.7 million vehicles per year.

At the toll supported bridges, there were minor fluctuations in volumes year to year on most bridges, with the five (5) year trend generally less than three (3) percent per year. Of exception are the Uhlerstown-Frenchtown, Riegelsville, and New Hope-Lambertville Toll Supported Bridges. We note that volumes at Uhlerstown-Frenchtown have remained consistent for the past three (3) years, while volumes at Riegelsville during 2004 are similar to those from 2003. The Lower Trenton Toll Supported Bridge realized the greatest yearly changes from 2002 to 2003 due to the toll increase, and again saw a large change from 2003 to 2004 due to the toll decrease. More vehicles gradually returned to the Trenton-Morrisville (Route 1) Toll Bridge from the Lower Trenton Toll Supported Bridge during 2005 and 2006, but shifted back to the Lower Trenton Toll Supported Bridge during 2007 from the construction at the Trenton-Morrisville Toll Bridge.



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The Riegelsville Toll Supported Bridge has remained essentially unchanged from 2000 to 2002, and then had approximately 300,000 - 400,000 fewer vehicles from 2003 through 2006. Conversely, the Lower Trenton Toll Supported Bridge had a spike of 500,000 vehicles in traffic during 2002 and a higher spike of 1,000,000 vehicles in 2003. Volumes have reduced by approximately 500,000 from 2003 to 2006, and then increased by approximately 700,000 in 2007, due to the construction on the Trenton-Morrisville Toll Bridge. We assume that vehicles diverting from the Trenton-Morrisville Toll Bridge after the toll increase account for the 2003 increase. Floods during April 2005 closed several smaller toll supported bridges for a period of just four (4) days, but the Washington Crossing Toll Supported Bridge was closed for almost the entire month. Floods at the end of June 2006 closed several toll supported bridges for two (2) days.

Reviewing information from the seven (7) toll bridges under the jurisdiction of the Commission during 2007, we found the Trenton-Morrisville (US Route 1), I-78, Easton-Phillipsburg (US Route 22), and Delaware Water Gap (Interstate 80) Toll Bridges carry between 6.2 million and 10.3 million toll paying (westbound) vehicles per year. The remaining three (3) toll bridges carry between 1.3 million and 2.0 million toll paying (westbound) vehicles per year. These figures have remained consistent over the past few years, with the exception of the New Hope - Lambertville Toll Bridge, which saw a spike in passenger cars during 2004 from the construction on the New Hope - Lambertville Toll Supported Bridge.

The five (5) axle tractor-trailer continues to be the most common truck type, representing approximately 9.2 percent of vehicles crossing the seven (7) toll bridges during 2007, and estimated to comprise approximately 9.2 percent of vehicles during 2008 but generating approximately 58 percent of the 2008 toll revenue. Conversely, passenger cars represented approximately 87 percent of the vehicles on the seven toll bridges during 2008, and are projected to generate approximately 27 percent of the toll revenue during 2008. The volume figures have remained consistent for the past several years.

# YEAR 2008 TRAFFIC VOLUME AND TOLL REVENUE PROJECTIONS

Based on the findings listed above, a growth or reduction factor was applied to 2007 data for each vehicle type on each toll bridge to project year 2008 volumes. Generally, recent one (1) year to three (3) year growth trends are considered, but the 2003 and 2004 calendar year volumes were mildly different. The November 30, 2002 toll increase caused passenger cars to divert from toll bridges to toll supported bridges that were nearby and convenient, and also caused some outright reductions in vehicles crossing the bridges. The October 31, 2003 rollback for passenger car tolls caused some vehicles to return to toll bridges, but generally not back to year 2002 volumes. In January 2004, the second phase of the truck toll increase was implemented. The August 2004 toll increase on the Pennsylvania Turnpike may have shifted some vehicles back to Commission Bridges, as an increase in five (5) axle trucks was observed on the Trenton-Morrisville Toll Bridge. This was the first appreciable increase in this truck class, after a decline of several years. Flooding caused many smaller toll supported bridges to close for approximately 2-4 days in September 2004 and June/July 2006 but it is doubtful that this had any major impact on toll revenues. In May 2007 the Commission increased tolls for trucks 3-axles or larger.



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Tables 7 through 13 illustrate actual traffic volumes for the seven (7) toll bridges for the years 2002 through 2007, as well as the projected year 2008 volumes. The current toll structure was applied to the projected 2008 volumes to determine the projected year 2008 revenue for each toll bridge.

The E-ZPass electronic toll collection system provides a discount over cash paying customers. For passenger cars, casual E-ZPass customers will pay \$0.60, a 20% discount over the cash rate of \$0.75. Frequent or commuter E-ZPass users that have 20 or more crossings in a 35-calendar day period will pay \$0.45, a 40% discount over the cash fare. The sum of commuter E-ZPass transactions was provided for the seven (7) toll bridges. Based on E-ZPass penetration rates at each toll bridge and the number of total commuter E-ZPass transactions, we were able to estimate the number of cash paying passenger cars, casual E-ZPass passenger cars, and commuting E-ZPass passenger cars at each of the seven (7) toll bridges.

For trucks, there are different E-ZPass fares for peak (6 AM – 9 PM) and off peak traffic. Review of hourly traffic during a typical week in 2006 (April 28 – May 4) provided the percentage of peak traffic as a percentage of daily traffic for each truck class on every toll bridge. Data provided by the Commission indicated the percentage of trucks that are using E-ZPass. From the week of hourly data, we were able to determine the peak/off-peak split of the E-ZPass users.

We combined the data of cash users and E-ZPass users, with specific percentages of peak/off peak activity for each vehicle class at each bridge to reach a weighted average toll. For example, the 2-axle trucks at the Trenton-Morrisville Bridge will have 28% cash users at \$5.00, 66.5% peak E-ZPass users at \$4.75, and 5.5% off peak E-ZPass users at \$4.25, for a weighted average toll of \$4.79. Special permit vehicles will maintain the same toll structure of \$0.40 per ton plus \$2.00 permit fee. For example, a truck weighing 80,000 pounds (40 tons) will pay \$18.00.

Table 14 compares the 2007 volumes and revenues for each bridge and maintenance district with the projected 2008 volumes. As indicated, overall toll traffic volumes are projected to remain at current levels, increasing by approximately 230,000 vehicles (+0.6%). This flat growth has been experienced at the other toll agencies. We note that the 2007 toll increase for trucks 3-axles or larger increased revenues for 2007, as more than seven (7) months had the higher tolls in effect. Despite the flat growth projected, 2008 revenues are projected to increase by approximately \$4.32 million (5.05%) over 2007, as the higher truck tolls will be in effect for the full year.

Table 15 is provided in response to (i) of Section 703 (b) paragraph 2 and provides 2008 Total Revenue, 2008 Operating Expenses, Net Revenue, Maximum Annual Debt Service, and 130% of the Maximum Annual Debt Service. All values were provided by the Commission. The requirement that the Net Revenue for the preceding fiscal year be at least 130% of the Maximum Annual Debt Service was met, as indicated in the Table.

Table 16 lists the 2008 projected toll revenues, and subtracts the projected operating expenses. The Net Revenue is then divided by Maximum Annual Debt Service to calculate a Projected Debt Service Coverage Ratio that is not less than 1.30. The Commission provided all the figures in Table 16, with the exception of the projected 2008 toll revenue. With a Projected Debt Service Coverage Ratio of 1.90, the requirements of all current Bridge System Revenue Bonds are projected to be met.





**Table 1 - 2002 Toll Supported Bridge Volumes** 

Hoth	Jour Telect	College Steel	signature Febru	Washington Colesian	Lee Hote Little Life	Come Butte State	jrje som rectori	Jege High	REGETTE	AND	kington tabujuga	, co
January	422,632	570,000	1,634,452	210,867	407,964	138,820	109,044	114,577	98,000	521,534	138,185	4,366,075
February	403,337	550,118	1,600,000	202,382	390,721	136,917	110,329	111,759	114,524	492,374	133,792	4,246,253
March	446,647	627,666	1,728,297	229,953	450,134	157,828	125,882	125,501	128,852	587,766	152,078	4,760,604
April	452,673	644,922	1,771,019	221,147	461,011	172,334	131,898	134,870	133,794	606,097	158,947	4,888,712
May	479,282	680,667	1,843,132	229,836	475,000	189,728	144,873	142,265	146,304	592,278	167,489	5,090,854
June	464,348	667,952	1,773,441	219,264	582,326	190,475	144,825	143,387	142,702	644,126	163,345	5,136,191
July	480,658	577,995	1,808,070	219,531	520,047	198,011	154,365	146,093	139,251	675,027	167,113	5,086,161
August	478,503	612,892	1,832,166	209,626	471,821	196,508	150,228	142,675	132,691	685,509	165,992	5,078,611
September	445,405	631,593	1,890,000	207,791	439,880	180,385	136,675	133,009	126,207	632,404	157,203	4,980,552
October	474,414	592,290	1,832,669	216,606	457,922	182,021	139,073	132,591	130,454	658,191	163,677	4,979,908
November	437,558	557,654	1,970,312	205,000	478,915	166,275	127,521	125,452	119,243	633,977	147,772	4,969,679
December	530,991	632,131	2,150,000	215,000	470,157	158,000	114,477	120,815	118,000	732,026	150,492	5,392,089
Total	5,516,448	7,345,880	21,833,558	2,587,003	5,605,898	2,067,302	1,589,190	1,572,994	1,530,022	7,461,309	1,866,085	58,975,689



**Table 2 - 2003 Toll Supported Bridge Volumes** 

Hotel	Land Tellar	Californ Street	Schulder Fails	Westington Cookside	Rest Hotel Jates Hills	Contra Birthe Stocker	ine som the total	Jed digitary Jed in the state of the state o	Hege dille	kontroller i sterie	kinetori Senitlere	, con
January	564,310	550,000	1,599,968	196,664	429,548	157,104	117,000	100,000	79,000	974,041	143,833	4,911,468
February	443,845	521,260	1,356,222	164,661	377,167	122,798	95,028	101,033	78,494	555,358	128,562	3,944,428
March	548,534	640,157	1,693,978	207,462	482,877	159,330	123,253	128,069	96,178	685,567	161,045	4,926,450
April	538,237	636,833	1,731,919	214,795	488,760	178,486	127,826	132,334	100,623	689,978	167,730	5,007,521
May	564,018	650,000	1,803,229	221,906	514,736	189,238	138,952	144,159	105,264	722,607	179,714	5,233,823
June	551,801	611,738	1,774,949	220,403	509,340	188,205	138,492	140,910	100,064	700,702	176,310	5,112,914
July	579,269	639,029	1,825,107	234,055	535,268	203,903	152,565	148,691	105,971	721,007	185,300	5,330,165
August	569,290	626,182	1,797,945	223,958	527,067	195,991	147,191	145,387	103,158	720,548	176,188	5,232,905
September	547,070	596,817	1,725,191	219,640	482,969	178,125	133,080	136,146	94,722	691,376	168,274	4,973,410
October	573,398	621,353	1,849,644	236,089	522,009	188,364	136,929	141,315	100,340	724,195	177,738	5,271,374
November	515,313	568,435	1,689,946	205,939	478,800	173,185	124,837	128,857	94,727	673,099	157,195	4,810,333
December	527,089	572,532	1,633,976	199,306	458,381	153,321	110,861	120,553	94,378	669,187	149,241	4,688,825
Total	6,522,174	7,234,336	20,482,074	2,544,878	5,806,922	2,088,050	1,546,014	1,567,454	1,152,919	8,527,665	1,971,130	59,443,616



**Table 3 - 2004 Toll Supported Bridge Volumes** 

Hoth	John Trends	Cathour Steel	signature Fairs	We strike to Cote Sets	See Hote Letter Life	come time state	jrje som rectori	Jept High	REGETTE	REPRESENTATION OF THE PROPERTY	kington tabujuga	, co
January	495,049	545,773	1,558,639	215,643	131,272	158,320	104,599	112,951	89,299	647,096	139,963	4,198,604
February	491,631	541,831	1,584,203	220,054	157,576	162,945	108,568	114,563	86,645	646,150	141,661	4,255,827
March	543,079	599,213	1,773,426	244,549	137,807	181,410	122,478	128,366	97,390	718,412	160,225	4,706,355
April	532,424	594,358	1,802,794	250,560	154,061	193,391	130,759	141,162	97,980	724,557	164,864	4,786,910
May	548,806	619,033	1,841,026	270,327	143,402	214,181	143,818	149,292	100,696	750,157	174,202	4,954,940
June	537,692	609,804	1,831,365	250,175	301,416	196,765	139,959	146,241	97,578	708,925	171,847	4,991,767
July	533,218	584,653	1,758,351	231,474	426,710	188,715	146,966	149,039	98,234	716,311	174,983	5,008,654
August	536,367	555,972	1,811,783	221,746	436,722	185,161	144,138	144,543	97,182	720,922	170,090	5,024,626
September	547,070	534,777	1,789,294	199,741	390,205	166,567	125,187	133,017	89,810	634,981	160,925	4,771,574
October	573,398	587,641	1,459,900	216,130	443,149	177,050	133,368	142,999	98,574	714,031	170,631	4,716,871
November	515,313	556,841	1,740,078	190,649	409,346	159,500	116,295	127,600	92,094	675,077	153,783	4,736,576
December	480,000	577,632	1,736,170	190,638	420,771	155,204	112,075	127,686	97,425	692,831	155,831	4,746,263
Total	6,334,047	6,907,528	20,687,029	2,701,686	3,552,437	2,139,209	1,528,210	1,617,459	1,142,907	8,349,450	1,939,005	56,898,967



**Table 4 - 2005 Toll Supported Bridge Volumes** 

Hoth	Jane Telect	College Steel	signature Fairs	Westington Crossins	ke Hote Little Life	Control little Stocker	ine doubt te the contract of	Jet High	REGETTE	ROTTE BELLEVIE STORY	Single Crashing See	Zer
January	453,991	520,094	1,566,950	175,523	369,422	130,496	98,147	115,312	85,589	615,480	136,364	4,267,368
February	436,839	506,071	1,521,736	167,777	359,028	126,870	95,552	109,768	82,146	599,385	135,497	4,140,669
March	543,079	580,142	1,766,709	192,763	405,788	148,274	113,344	126,969	94,544	692,465	155,279	4,819,356
April	532,424	527,249	1,131,518	21,035	385,277	145,725	103,752	116,299	99,691	591,668	147,988	3,802,626
May	548,806	604,119	1,877,850	183,915	441,442	182,304	128,463	137,669	114,644	716,255	167,351	5,102,818
June	537,692	601,724	1,858,574	198,817	436,210	182,171	127,998	132,171	116,004	710,299	165,285	5,066,945
July	533,218	599,309	1,786,565	202,953	427,856	188,107	138,408	135,112	114,466	700,001	170,799	4,996,794
August	510,000	598,063	1,858,505	201,975	437,261	180,094	134,231	131,779	110,654	741,908	162,021	5,066,491
September	482,514	558,116	1,662,649	202,075	417,298	160,857	125,248	125,340	103,239	690,890	160,440	4,688,666
October	504,022	560,559	1,745,874	200,667	439,579	172,000	125,108	124,343	104,940	710,506	166,786	4,854,384
November	472,857	541,370	1,654,746	186,307	417,122	145,307	116,073	116,732	99,694	678,235	159,536	4,587,979
December	480,984	558,001	1,673,429	177,476	414,259	128,022	106,302	112,082	101,868	697,971	155,725	4,606,119
Total	6,036,426	6,754,817	20,105,105	2,111,283	4,950,542	1,890,227	1,412,626	1,483,576	1,227,479	8,145,063	1,883,071	56,000,215



**Table 5 - 2006 Toll Supported Bridge Volumes** 

Hoth	Jour Tretter	College States	signature Fairs	We strictly Cole strict	Lee Hote Little Life	come time state	ine doubt te titout	Jege High	REGERTION	AND AND PROPERTY OF THE PARTY O	kington tabujuga	, co
January	481,349	542,134	1,647,638	180,403	392,376	113,462	106,700	109,085	97,553	692,038	156,259	4,518,997
February	460,026	506,035	1,512,963	162,729	329,479	114,662	96,112	101,386	90,141	657,336	144,571	4,175,440
March	523,914	581,075	1,776,740	191,241	429,947	145,430	116,468	118,054	105,674	743,968	167,761	4,900,272
April	504,442	559,811	1,734,750	195,203	444,336	154,511	120,327	121,299	107,097	739,970	164,243	4,845,989
May	527,000	581,547	1,826,526	212,848	464,451	169,518	130,353	135,000	111,162	753,909	173,749	5,086,063
June	512,623	600,000	1,788,813	205,000	450,000	165,000	128,000	111,000	106,000	691,000	173,000	4,930,436
July	506,000	558,000	1,700,000	200,000	445,000	159,000	115,000	141,000	104,618	670,000	163,480	4,762,098
August	522,121	570,908	1,826,859	212,444	458,066	159,240	115,004	145,038	105,974	703,761	162,924	4,982,339
September	507,037	539,572	1,687,969	208,244	432,513	149,144	119,096	116,836	101,082	676,601	156,138	4,694,232
October	522,611	562,501	1,511,747	224,156	445,294	156,057	123,489	120,092	104,976	713,693	122,807	4,607,423
November	491,981	529,549	1,703,521	193,677	409,206	148,027	110,682	109,788	100,046	679,434	130,358	4,606,269
December	507,939	546,301	1,710,279	194,945	437,619	149,662	113,254	113,532	105,741	721,389	155,793	4,756,454
Total	6,067,043	6,677,433	20,427,805	2,380,890	5,138,287	1,783,713	1,394,485	1,442,110	1,240,064	8,443,099	1,871,083	56,866,012

estimated figures due to adjustments shown in *italics* adjusted figures due to counter malfuntion rounded
June July figures represent adjusted volumes without closures due to flooding



**Table 6 - 2007 Toll Supported Bridge Volumes** 

Hoth	John Telior	Californi Street	Spiller Fails	Westington Colesian	ke Hote Little Life	Control Hills State	ine souther the contract of	Jede Willer	, in the state of	AND THE PROPERTY OF THE PARTY O	digital distance of the state o	, co
January	524,204	542,687	1,685,485	192,444	419,839	41,725	109,786	105,158	96,816	693,543	118,486	4,530,173
February	469,357	473,726	1,500,683	171,680	367,118	37,041	93,879	91,227	85,694	605,955	102,020	3,998,380
March	563,583	565,893	1,757,094	200,232	441,053	42,871	112,786	110,080	100,047	719,066	122,695	4,735,400
April	552,445	553,288	1,753,484	199,323	440,986	52,777	116,939	111,931	104,787	725,886	124,217	4,736,063
May	610,088	605,582	1,907,911	228,224	485,112	-	135,253	125,821	114,212	757,722	152,232	5,122,157
June	588,576	597,164	1,873,937	219,692	459,198	144,609	129,958	121,992	110,936	716,876	140,936	5,103,874
July	585,804	594,745	1,840,925	214,810	469,964	156,410	134,273	128,239	111,487	703,747	140,140	5,080,544
August	607,531	606,545	1,899,467	215,831	473,885	153,788	131,437	128,664	110,141	718,414	150,648	5,196,351
September	560,732	550,187	1,757,370	209,360	449,773	151,546	124,988	122,259	104,853	679,051	145,880	4,855,999
October	604,763	581,938	1,895,727	231,077	464,487	148,710	125,436	121,808	109,742	714,884	153,385	5,151,957
November	568,910	535,795	1,769,634	208,935	426,255	132,809	108,631	111,020	102,463	686,364	137,410	4,788,226
December	553,963	550,136	1,685,119	208,741	420,918	125,165	102,058	105,890	100,357	669,354	127,623	4,649,324
Total	6,789,956	6,757,686	21,326,836	2,500,349	5,318,588	1,187,451	1,425,424	1,384,089	1,251,535	8,390,862	1,615,672	57,948,448

estimated figures due to adjustments shown in italics

adjusted figures due to counter malfuntion rounded

Centre Bridge - Stockton Bridge weekday closures for TS-429A (Jan-May, Nov) and the count station loop detectors were replaced in May

Riverton - Belvidere Bridge weekend and weekday closures for TS-371A (Jan-July, Oct-Nov)

Increase in traffic volume on Lower Trenton Bridge is a result of construction on the Trenton - Morrisville Toll Bridge (T-380B)



**Table 7: Trenton-Morrisville Toll Bridge Volume and Revenue Projections** 

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	4,545,539							
1b - passenger car - token	2,034,702							
1c - E-Zpass passenger cars (December 2002)	141,903							
1 - passenger car		5,771,654	6,281,830	6,588,111	6,805,085	6,396,032	6,428,012	1.005
2 - 2-axle truck	168,564	145,020	159,655	172,109	181,550	176,380	174,616	0.990
3 - 3-axle truck	66,800	60,411	71,473	74,247	78,038	83,143	83,974	1.010
4 - 4-axle truck	63,157	47,223	50,275	55,136	58,329	61,861	62,480	1.010
5 - 5-axle truck	279,071	165,579	169,038	185,618	194,518	178,566	174,995	0.980
6 - 6-axle truck	2,350	1,404	1,594	1,876	1,769	1,494	1,479	0.990
8 - special permit *	277	61	-	-	-	-	-	
7 - 7-axle truck	119	122	146	132	136	38	38	1.000
total toll	7,302,482	6,191,474	6,734,011	7,077,229	7,319,425	6,897,514	6,925,594	
* Special Permit vehicles were classified differenly after 2003								

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car 2 - 2-axle truck 3 - 3-axle truck 4 - 4-axle truck 5 - 5-axle truck 6 - 6-axle truck 8 - special permit	\$ \$ \$ \$ \$ varie:	0.67 4.79 9.23 12.40 15.34 18.54	6,428,012 174,616 83,974 62,480 174,995 1,479	\$ \$ \$ \$ \$ \$ \$	4,279,397.42 836,808.76 774,813.62 774,938.69 2,684,031.63 27,424.86 0.00
7 - 7-axle truck	\$	21.63 Totals	38 <b>6,925,594</b>	\$_ \$	821.83 <b>9,378,236.81</b>



Table 8: New Hope-Lambertville Toll Bridge Volume and Revenue Projections

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	2,305,906							
1b - passenger car - token	926,094							
1c - E-Zpass passenger cars (December 2002)	44,048							
1 - passenger car		1,298,859	2,026,746	1,700,215	1,720,641	1,894,591	1,932,483	1.020
2 - 2-axle truck	106,192	35,788	52,056	50,979	56,265	57,425	58,574	1.020
3 - 3-axle truck	63,141	20,198	24,171	26,248	31,139	28,569	28,283	0.990
4 - 4-axle truck	29,167	6,470	7,797	7,052	6,938	7,614	7,462	0.980
5 - 5-axle truck	72,739	24,372	27,141	26,682	26,910	28,473	29,042	1.020
6 - 6-axle truck	1,466	745	804	718	757	966	966	1.000
8 - special permit *	292	1	-	4	1	-	-	1.000
7 - 7-axle truck	32	34	67	48	52	48	48	1.000
total toll - two directional - 2002 and earlier one directional tolls - 2003 and later	3,671,196	1,386,467	2,138,782	1,811,946	1,842,703	2,017,686	2,056,858	
* Special Permit vehicles were classified differenly after 2003								
** 2004 auto volumes higher than normal due to New Hope Lambert	ville Toll Supported	Bridge Closures						

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car	\$	0.65	1,932,483	\$	1,265,748.60
2 - 2-axle truck	\$	4.85	58,574	\$	284,115.53
3 - 3-axle truck	\$	9.29	28,283	\$	262,870.59
4 - 4-axle truck	\$	12.37	7,462	\$	92,296.94
5 - 5-axle truck	\$	15.51	29,042	\$	450,532.89
6 - 6-axle truck	\$	18.67	966	\$	18,037.74
8 - special permit	varie	s	0	\$	42.00
7 - 7-axle truck	\$	21.78	48	\$_	1,045.41
		Totals	2,056,858	\$	2,374,689.70



**Table 9: Interstate 78 Toll Bridge Volume and Revenue Projections** 

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	4,490,818							
1b - passenger car - token	1,687,182							
1c - E-Zpass passenger cars (December 2002)	149,910							
1 - passenger car		6,518,607	6,974,743	7,226,070	7,605,954	7,821,489	8,017,026	1.025
2 - 2-axle truck	215,748	199,840	222,516	231,076	236,629	235,204	237,556	1.010
3 - 3-axle truck	98,022	102,434	93,683	99,176	104,217	106,916	109,054	1.020
4 - 4-axle truck	111,582	115,586	111,525	119,102	127,958	124,799	126,047	1.010
5 - 5-axle truck	1,883,403	1,891,300	1,946,024	1,922,988	1,943,206	1,877,951	1,877,951	1.000
6 - 6-axle truck	18,236	30,728	35,967	38,604	41,381	42,808	43,664	1.020
8 - special permit *	30,238	797	8	12	8	5	5	1.000
7 - 7-axle truck	794	1,113	1,379	1,420	1,485	1,127	1,127	1.000
total toll	8,685,933	8,860,405	9,385,845	9,638,448	10,060,838	10,210,299	10,412,430	
* Special Permit vehicles were classified differenly after 2003								

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car 2 - 2-axle truck 3 - 3-axle truck 4 - 4-axle truck 5 - 5-axle truck 6 - 6-axle truck 8 - special permit	\$ \$ \$ \$ \$ varie	0.67 4.80 9.16 12.17 15.46 18.47	8,017,026 237,556 109,054 126,047 1,877,951 43,664 5	\$ \$ \$ \$ \$ \$	5,337,270.74 1,140,711.84 999,333.01 1,533,756.28 29,039,627.49 806,464.88 422.90
7 - 7-axle truck	\$	21.54	1,127	\$_	24,278.77
		Totals	10,412,430	\$	38,881,865.92



**Table 10: Easton-Phillipsburg Toll Bridge Volume and Revenue Projections** 

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	2,891,347							
1b - passenger car - token	2,925,012							
1c - E-Zpass passenger cars (December 2002)	126,125							
1 - passenger car		5,004,027	5,551,047	5,690,754	5,702,051	5,742,513	5,771,226	1.005
2 - 2-axle truck	159,128	154,235	168,748	173,094	168,505	164,859	166,508	1.010
3 - 3-axle truck	75,508	62,981	60,320	64,105	64,531	59,599	59,599	1.000
4 - 4-axle truck	36,343	41,555	45,422	42,727	48,881	60,400	60,400	1.000
5 - 5-axle truck	323,098	259,050	263,362	263,496	250,482	210,038	220,540	1.050
6 - 6-axle truck	4,454	3,841	4,853	5,826	6,699	3,351	3,351	1.000
8 - special permit *	3,115	72	-	-	- · · · · ·	-	-	
10 - local bus								
11 - 7-axle truck	142	208	211	252	177	113	113	1.000
total toll vehicles		5,525,969	6,093,963	6,240,254	6,241,326	6,240,873	6,281,737	
* Special Permit vehicles were classified differenly after 2003								

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car	\$	0.66	5,771,226	\$	3,811,108.77
2 - 2-axle truck	\$	4.82	166,508	\$	802,433.69
3 - 3-axle truck	\$	9.26	59,599	\$	552,178.92
4 - 4-axle truck	\$	12.33	60,400	\$	744,569.83
5 - 5-axle truck	\$	15.55	220,540	\$	3,429,633.90
6 - 6-axle truck	\$	18.62	3,351	\$	62,406.28
8 - special permit	varies	3	0	\$	0.00
7 - 7-axle truck	\$	21.72	113	\$_	2,454.55
		Totals	6,281,737	\$	9,404,785.93



Table 11: Portland Columbia Toll Bridge Volume and Revenue Projections

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor fron 2007 to 2008
a - passenger car - cash	283,695							
o - passenger car - token	761,168							
c - E-Zpass passenger cars (December 2002)	32,380							
- passenger car		1,083,030	1,162,560	1,217,782	1,221,400	1,365,195	1,269,631	0.930
- 2-axle truck	25,287	27,528	28,720	29,958	30,743	30,772	31,080	1.010
- 3-axle truck	8,326	9,413	11,677	10,874	10,287	12,364	11,993	0.970
- 4-axle truck	5,839	5,795	6,149	6,780	8,645	7,980	8,140	1.020
- 5-axle truck	28,203	28,508	31,778	34,076	34,464	33,480	33,815	1.010
- 6-axle truck	191	226	453	705	589	475	475	1.000
- special permit *	74	9	-	-	-	-	-	
- 7-axle truck	4	6	14	12	13	9	9	1.000
tal toll vehicles	1,145,167	1,154,515	1,241,351	1,300,187	1,306,141	1,450,275	1,355,143	
Special Permit vehicles were classified differenly after 200	3							

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car	\$	0.66	1,269,631	\$	838,418.36
2 - 2-axle truck	\$	4.83	31,080	\$	150,103.04
3 - 3-axle truck	\$	9.43	11,993	\$	113,051.49
4 - 4-axle truck	\$	12.34	8,140	\$	100,409.64
5 - 5-axle truck	\$	15.56	33,815	\$	525,992.71
6 - 6-axle truck	\$	18.72	475	\$	8,891.12
8 - special permit	varie	s	0	\$	0.00
7 - 7-axle truck	\$	21.83	9	\$_	196.49
		Totals	1,355,143	\$	1,737,062.83



Table 12: Delaware Water Gap (Interstate 80) Toll Bridge Volume and Revenue Projections

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	4,533,423							
1b - passenger car - token	3,359,933							
1c - E-Zpass passenger cars (December 2002)	222,494							
1 - passenger car	,	8,066,666	8,488,847	8,493,107	8,590,643	8,501,039	8,501,039	1.000
2 - 2-axle truck	160,361	143,521	161,134	161,724	162,397	162,971	163,786	1.005
3 - 3-axle truck	87,938	87,427	93,075	95,818	95,676	96,380	96,862	1.005
4 - 4-axle truck	52,109	52,233	57,861	63,106	63,265	67,828	65,793	0.970
5 - 5-axle truck	1,166,886	1,108,058	1,128,514	1,120,941	1,124,054	1,175,507	1,181,385	1.005
6 - 6-axle truck	14,797	19,127	20,887	20,884	19,712	23,663	23,426	0.990
8 - special permit *	18,068	780	69	64	42	38	38	1.000
7 - 7-axle truck	353	992	1,346	1,246	1,376	1,104	1,104	1.000
total toll vehicles	9,616,362	9,478,804	9,951,733	9,956,890	10,057,165	10,028,530	10,033,433	
* Special Permit vehicles were classified differenly after 2003								

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car 2 - 2-axle truck 3 - 3-axle truck 4 - 4-axle truck 5 - 5-axle truck 6 - 6-axle truck 8 - special permit	\$ \$ \$ \$ yarie	0.66 4.81 9.14 12.14 15.51 18.47	8,501,039 163,786 96,862 65,793 1,181,385 23,426 38	\$ \$ \$ \$ \$	5,629,018.48 788,121.85 884,955.14 798,707.22 18,321,620.56 432,641.20 2,419.85
7 - 7-axle truck	\$	21.54 Totals	1,104 10,033,433	\$ <sub>.</sub>	23,781.94



**Table 13: Milford-Montague Toll Bridge Volume and Revenue Projections** 

class	2002 volume	2003 volume	2004 volume	2005 volume	2006 volume	2007 volume	2008 volume (projected)	factor from 2007 to 2008
1a - passenger car - cash	522,139							
1b - passenger car - token	777,299							
1c - E-Zpass passenger cars (December 2002)	33,314							
1 - passenger car		1,231,491	1,311,848	1,300,872	1,303,872	1,310,047	1,316,597	1.005
2 - 2-axle truck	23,330	21,418	22,786	23,234	24,278	26,171	27,218	1.040
3 - 3-axle truck	5,583	5,139	5,328	5,244	5,228	4,545	4,568	1.005
4 - 4-axle truck	1,670	2,145	1,929	1,887	1,946	2,011	2,011	1.000
5 - 5-axle truck	12,737	10,626	10,495	10,014	9,380	8,921	8,832	0.990
6 - 6-axle truck	228	119	107	99	78	85	85	1.000
8 - special permit *	95	7	3	-	-	-	-	
7 - 7-axle truck	18	41	38	24	18	11	11	1.000
total toll	1,376,413	1,270,986	1,352,534	1,341,374	1,344,800	1,351,791	1,359,322	
* Special Permit vehicles were classified differenly after 2003								

class		toll	2008 volume (projected)		2008 revenue
1 - passenger car 2 - 2-axle truck 3 - 3-axle truck 4 - 4-axle truck 5 - 5-axle truck 6 - 6-axle truck 8 - special permit	\$ \$ \$ \$ \$ varie	0.66 4.84 9.43 12.64 15.56 18.85	1,316,597 27,218 4,568 2,011 8,832 85 0	\$ \$ \$ \$ \$	867,072.71 131,628.97 43,096.64 25,426.68 137,456.97 1,601.92
7 - 7-axle truck	\$	<sup>21.98</sup>	1,359,322	\$_ \$	241.81 <b>1,206,525.70</b>



Table 14: Volume and Revenue Comparison -- 2007 to 2008

	Summary by Bridge/District	2007 Volumes	2007 Revenues	2008 Volume (Projected)	2008 Revenue (Projected)	Change in A Projected Volui to 20	ne from 2007	Cha	nge in Actual vs. Pr Revenue from 2007 to 200	ŭ
District						vehicles	percent		dollars	percent
1	Trenton-Morrisville	6,897,514	\$ 9,120,392.99	6,925,594	\$ 9,378,236.81	28,080	0.41%	\$	257,843.82	2.83%
1	New Hope-Lambertville	2,017,686	\$ 2,271,666.77	2,056,858	\$ 2,374,689.70	39,172	1.94%	\$	103,022.93	4.54%
2	Interstate 78	10,210,299	\$ 36,641,467.16	10,412,430	\$ 38,881,865.92	202,131	1.98%	\$	2,240,398.76	6.11%
2	Easton-Phillipsburg	6,240,873	\$ 8,916,600.57	6,281,737	\$ 9,404,785.93	40,864	0.65%	\$	488,185.36	5.48%
3	Portland-Columbia	1,450,275	\$ 1,759,115.87	1,355,143	\$ 1,737,062.83	-95,132	-6.56%	\$	(22,053.04)	-1.25%
3	Delaware Water Gap	10,028,530	\$ 25,647,805.29	10,033,433	\$ 26,881,266.25	4,903	0.05%	\$	1,233,460.96	4.81%
3	Milford-Montague	1,351,791	\$ 1,187,261.44	1,359,322	\$ 1,206,525.70	7,531	0.56%	\$	19,264.26	1.62%
	Total	38,196,968	\$ 85,544,310.09	38,424,517	\$ 89,864,433.14	227,549	0.60%	\$	4,320,123.05	5.05% *
	* Revenues are projected	to increase despite	a flat growth rate sind	ce the large truck	toll increase (effective	e May 19, 2007) w	ill be experienc	ed for tl	he full 12 months	



**Table 15: Actual Revenue and Expenditures for 2007** 

District	Bridge	2007 Volume		2007 Revenue
1 1 2 2 3 3 3	Trenton-Morrisville New Hope-Lambertville Interstate 78 Easton-Phillipsburg Portland-Columbia Delaware Water Gap Milford-Montague	6,897,514 2,017,686 10,210,299 6,240,873 1,450,275 10,028,530 1,351,791	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	9,120,392.99 2,271,666.77 36,641,467.16 8,916,600.57 1,759,115.87 25,647,805.29 1,187,261.44
	Total  Total Toll Revenue Interest Income Other Income  1. Total Revenue - 2007 2. Operating Expenses - 2007 3. Net Revenue	38,196,968  (From above) (Provided by Commission) (Provided by Commission)  (Provided by Commission) (Line 1 - Line 2)	\$ \$ \$ \$	85,544,310.09 85,544,310.09 13,250,000.00 366,565.00 99,160,875.09 42,750,000.00 56,410,875.09
	<ul><li>4. Maximum Annual Debt Service</li><li>5. 130% of Maximum Annual Debt</li></ul>	(Provided by Commission)	\$ \$	18,357,913.00 23,865,286.90
	Therefore, the requirement that the National proceeding fiscal year be greater than Annual Debt Service has been met, of all current Bridge System Revenue Paragraph 2 (i)	130% of the Maximum satisfying the requirements		



**Table 16: Projected Revenue and Expenditures for 2008** 

Projected	l Revenue by Bridge/District	2008 Volume		2008 Revenue
1	Trenton-Morrisville	6,925,594	\$	9,378,236.81
1	New Hope-Lambertville	2,056,858	\$	2,374,689.70
2	Interstate 78	10,412,430	\$	38,881,865.92
2	Easton-Phillipsburg	6,281,737	\$	9,404,785.93
3	Portland-Columbia	1,355,143	\$ \$ \$ \$ \$	1,737,062.83
3	Delaware Water Gap	10,033,433	\$	26,881,266.25
3	Milford-Montague	<u>1,359,322</u>	<u>\$</u>	1,206,525.70
	Total	38,424,517	\$	89,864,433.14
	Total Toll Revenue	(From above)	\$	89,864,433.14
	Interest Income	(Provided by Commission)	\$	16,600,000.00
	Other Income	(Provided by Commission)	\$ \$	265,000.00
	1. Total Projected Revenue - 2008		\$	106,729,433.14
	<ol><li>Operating Expenses - 2008</li></ol>	(Provided by Commission)	\$	46,656,000.00
	3. Net Revenue	(Line 1 - Line 2)	\$	60,073,433.14
	4. Maximum Annual Debt Service	(Provided by Commission)	<u>\$</u>	31,641,000.00
	<ol><li>Projected Debt Service Coverage Ratio</li></ol>	(Line 3 / Line 4)		1.90
	Therefore, the requirement that the Pr Ratio be greater than 1.30 is met, sati current Bridge System Revenue Bond (ii).	isfying the requirements of all		