

**DELAWARE RIVER JOINT TOLL BRIDGE
COMMISSION - BRIDGE SYSTEM**

Financial Statements

and

Supplementary Information

Years Ended December 31, 2005 and 2004

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

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◊ CENTER FOR PUBLIC COMPANY AUDIT FIRMS
◊ REGISTERED WITH THE PCAOB
◊ AN INDEPENDENTLY OWNED MEMBER OF THE
RSM MCGladREY NETWORK

We have audited the accompanying statements of net assets of **DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM** (the "Commission") as of December 31, 2005 and 2004, and the related statements of revenues, expenses and changes in net assets and cash flows for the years then ended. 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 **DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM** as of December 31, 2005 and 2004, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

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OVER 40 YEARS OF SERVICE TO THE COMMUNITY

INDEPENDENT AUDITORS' REPORT (CONTINUED)

In accordance with *Government Auditing Standards*, we have also issued our report dated March 8, 2006, on our consideration of **DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM'S** internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, bond resolutions, contracts, and compact. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in considering the results of our audits.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary schedules on pages 23-31 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.

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 presentation of management's discussion and analysis. However, we did not audit the information, and we express no opinion on it.

Mercadino, P.C.
Certified Public Accountants

March 8, 2006

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, 2005 and 2004. 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 \$79,284,504 for the year ended December 31, 2005, which represents an increase of 0.70% over the previous year. The increase in 2005 is the result of a 1.3% increase in total toll traffic.

In 2005, net operating revenues totaled \$42,574,606 and change in net assets totaled \$29,379,377, as compared to \$42,480,899 and \$28,822,386, respectively, for 2004.

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 present information on the Commission's assets and liabilities at December 31, 2005 and 2004, 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, 2005, the Commission's net assets equaled \$316,764,696, as compared to \$287,385,319 in 2004 - an increase of 10.2%. 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 \$524,024,439. Unrestricted current assets, totaling \$9,564,971 (an increase of \$889,349, or 10.25%), 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 \$511,353,251, are broken into two categories. Restricted current assets of \$33,946,848 increased 8.98% from the previous year end as a result of changes in investment security maturity terms. Total non-current assets totaled \$480,512,620, which represents an increase of \$65,306,505, or 15.73%, over the 2004 year-end balance. Restricted cash and investments totaling \$243,097,731, which represents an increase of \$65,725,441, or 37.06%, 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 \$264,421,998 consist of land, infrastructure and equipment with an original value of approximately \$424.8 million less accumulated depreciation of approximately \$160.3 million. The land and infrastructure consist of twenty bridge crossings and related access roads spread over a 140-mile-long stretch of the Delaware River extending from Trenton, New Jersey north to Milford, Pennsylvania/Montague, New Jersey.

At December 31, 2005, the Commission had current and non-current liabilities of \$207,259,743, with the majority related to its series 2003 and 2005A bond issues, which represents an increase of \$39,612,817 from 2004. 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 following table contains condensed financial information derived from the December 31, 2005 and 2004 financial statements of the Commission:

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

Financial Analysis (Continued)

| | 2005 | 2004 |
|---|-----------------------|-----------------------|
| Net Assets | | |
| Current and other assets | \$ 259,602,441 | \$ 190,975,536 |
| Capital assets | 264,421,998 | 264,056,709 |
| Total assets | <u>524,024,439</u> | <u>455,032,245</u> |
| Bond indebtedness | 193,521,282 | 155,231,379 |
| Other liabilities | 13,738,461 | 12,415,547 |
| Total liabilities | <u>207,259,743</u> | <u>167,646,926</u> |
| Net assets: | | |
| Investment in capital assets, net of related debt | 190,394,663 | 154,641,441 |
| Restricted | 122,664,875 | 129,547,034 |
| Unrestricted | <u>3,705,158</u> | <u>3,196,844</u> |
| Total net assets | <u>\$ 316,764,696</u> | <u>\$ 287,385,319</u> |
| Changes in Net Assets | | |
| Operating revenues | \$ 79,421,406 | \$ 78,856,292 |
| Operating expenses | (36,846,800) | (36,375,393) |
| Net operating revenues | 42,574,606 | 42,480,899 |
| Depreciation | (11,812,571) | (9,581,937) |
| Non-operating revenues | 7,491,251 | 3,105,362 |
| Non-operating expenses | (8,873,909) | (7,181,938) |
| Change in net assets | 29,379,377 | 28,822,386 |
| Net assets, beginning of year | <u>287,385,319</u> | <u>258,562,933</u> |
| Net assets, end of year | <u>\$ 316,764,696</u> | <u>\$ 287,385,319</u> |

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 a 10-year, \$526 million Capital Improvement Program for system protection, preservation, management and enhancement of the twenty bridges the Commission owns, maintains and operates, as well as operating expenses for the Commission.

Additional projects and changes in the Capital Improvement Program, along with addition of a Compact Authorization Investment Program (a "CAI Program"), have increased the estimated cost of the ten-year Capital Improvement Program to \$640 million.

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

Significant Events (Continued)

The CAI program is a \$40 million fund established to pay the cost of capital improvements related to the Commission, including, without limitations, improvements to certain transportation infrastructure projects in host communities.

On January 4, 2004, the final phase of the toll increase was enacted. Tolls for commercial vehicles were increased \$.50 per axle to \$2.75 per rolling axle (increase of \$.25 to \$2.50 per axle for 2-axle vehicles only).

On March 10, 2005, the Commission issued Series 2005A Revenue Bonds. The Bonds were issued to provide funds to pay the costs of capital improvements to the Commission's System, including, without limitation, certain transportation infrastructure projects in certain host communities and other enhancements to the System, together with all necessary and incidental equipment, apparatus, structures and appurtenances, and including all rights-of-way and easements and all personal property that is necessary or desirable for the efficient operation of such improvements, to make a deposit to the Debt Service Reserve Fund established under the Indenture, to refund \$32,165,000 in principal relating to the outstanding Series 2003 Bonds, and to pay the costs of issuance associated with the Series 2005A Bonds.

| Summary of Cash Flows | 2005 | 2004 |
|---|----------------------|----------------------|
| Cash provided by operating activities | \$ 42,510,702 | \$ 43,838,267 |
| Cash flows used in investing activities | (69,875,194) | (31,526,627) |
| Cash flows provided by (used in) financing activities | 29,934,851 | (13,072,612) |
| Net increase (decrease) in cash and cash equivalents | 2,570,359 | (760,972) |
| Cash and equivalents, beginning of the year | 33,128,767 | 33,889,739 |
| Cash and equivalents, end of the year | <u>\$ 35,699,126</u> | <u>\$ 33,128,767</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM
STATEMENTS OF NET ASSETS

| | | December 31, | |
|--|-----------------------|-----------------------|------|
| | | 2005 | 2004 |
| ASSETS | | | |
| Current Assets | | | |
| Unrestricted: | | | |
| Cash and equivalents | \$ 3,143,099 | \$ 2,717,087 | |
| Other assets | 1,929,204 | 2,006,142 | |
| E-ZPass clearing account | 4,492,668 | 3,952,393 | |
| Total Unrestricted | <u>9,564,971</u> | <u>8,675,622</u> | |
| Restricted: | | | |
| Cash and equivalents | 32,556,027 | 30,411,680 | |
| Accrued interest on investments | 1,223,299 | 593,283 | |
| Bond issuance costs - current portion | 167,522 | 145,545 | |
| Total Restricted | <u>33,946,848</u> | <u>31,150,508</u> | |
| Total Current Assets | <u>43,511,819</u> | <u>39,826,130</u> | |
| Non-Current Assets: | | | |
| Unrestricted: | | | |
| Investments | 3,106,217 | 3,087,819 | |
| Restricted: | | | |
| Investments | 210,541,704 | 146,960,610 | |
| Bond issuance costs - long-term portion | 2,442,701 | 1,100,977 | |
| Capital assets | 264,421,998 | 264,056,709 | |
| Total Restricted | <u>477,406,403</u> | <u>412,118,296</u> | |
| Total Non-Current Assets | <u>480,512,620</u> | <u>415,206,115</u> | |
| Total Assets | <u>\$ 524,024,439</u> | <u>\$ 455,032,245</u> | |
| LIABILITIES AND NET ASSETS | | | |
| Current Liabilities | | | |
| Accounts payable and accrued expenses | \$ 4,354,078 | \$ 4,307,625 | |
| E-ZPass customer accounts | 2,748,815 | 2,318,944 | |
| Accrued interest on bond indebtedness | 4,772,431 | 3,848,950 | |
| Compensated absences - current portion | 120,000 | 120,000 | |
| Bridge system revenue bonds, series 2003 and 2005A - current portion | 5,420,393 | 4,455,000 | |
| Premium on bonds - current portion | 1,073,612 | 914,812 | |
| Total Current Liabilities | <u>18,489,329</u> | <u>15,965,331</u> | |
| Non-Current Liabilities | | | |
| Compensated absences | 1,743,137 | 1,820,028 | |
| Bridge system revenue bonds, series 2003 and 2005A | 180,126,929 | 146,735,000 | |
| Premium on bonds - long-term portion | 6,900,348 | 3,126,567 | |
| Total Non-Current Liabilities | <u>188,770,414</u> | <u>151,681,595</u> | |
| Total Liabilities | <u>207,259,743</u> | <u>167,646,926</u> | |
| Net Assets | | | |
| Invested in capital assets, net of related debt | 190,394,663 | 154,641,441 | |
| Restricted | 122,664,875 | 129,547,034 | |
| Unrestricted | 3,705,158 | 3,196,844 | |
| Total Net Assets | <u>316,764,696</u> | <u>287,385,319</u> | |
| Total Liabilities and Net Assets | <u>\$ 524,024,439</u> | <u>\$ 455,032,245</u> | |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS

| | Year Ended December 31, | |
|---------------------------------------|-------------------------|-----------------------|
| | 2005 | 2004 |
| Operating Revenues | | |
| Toll bridge operations: | | |
| Cash toll revenues, net | \$ 35,664,785 | \$ 38,802,332 |
| E-ZPass revenues, net | 43,619,719 | 39,929,331 |
| Miscellaneous revenues | 136,902 | 124,629 |
| Total toll revenues | <u>79,421,406</u> | <u>78,856,292</u> |
| Operating Expenses | | |
| Toll bridge operating expenses: | | |
| Operating and maintenance expenses | 17,784,086 | 17,284,965 |
| State police bridge security | 2,742,758 | 2,065,135 |
| Administrative expenses | 10,959,145 | 11,561,266 |
| Toll-supported bridge expenses | <u>5,360,811</u> | <u>5,464,027</u> |
| Total operating expenses | <u>36,846,800</u> | <u>36,375,393</u> |
| Net operating revenues | <u>42,574,606</u> | <u>42,480,899</u> |
| Non-Operating Revenues (Expenses) | | |
| Investment return | 6,261,686 | 2,024,032 |
| Interest on bond indebtedness | (7,926,600) | (7,036,393) |
| Amortization of bond premium | 1,182,550 | 914,812 |
| Amortization of bond issuance costs | (160,120) | (145,545) |
| Amortization of loss on defeasance | (109,607) | - |
| Compact Authorized Investment program | (107,191) | - |
| Emergency repairs | (570,391) | - |
| Depreciation | (11,812,571) | (9,581,937) |
| Gain on sale of fixed assets | 47,015 | 166,518 |
| Total other expenses | <u>(13,195,229)</u> | <u>(13,658,513)</u> |
| Change in net assets | <u>29,379,377</u> | <u>28,822,386</u> |
| Net assets, beginning of year | <u>287,385,319</u> | <u>258,562,933</u> |
| Net assets, end of year | <u>\$ 316,764,696</u> | <u>\$ 287,385,319</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

STATEMENTS OF CASH FLOWS

| | Year Ended December 31, | |
|---|-------------------------|----------------------|
| | 2005 | 2004 |
| Cash Flows from Operating Activities | | |
| Receipts from toll bridges | \$ 35,664,785 | \$ 38,802,332 |
| Receipts from E-ZPass | 43,509,316 | 39,485,034 |
| Payments to suppliers, employees, and others | (36,800,301) | (34,573,728) |
| Other receipts | 136,902 | 124,629 |
| Net cash provided by operating activities | <u>42,510,702</u> | <u>43,838,267</u> |
| Cash Flows from Investing Activities | | |
| Purchases of investments, net | (64,409,810) | (15,335,474) |
| Investment return | 6,495,720 | 3,165,906 |
| Compact Authorized Investment program expense | (107,189) | - |
| Emergency repairs | (570,391) | - |
| Purchases of capital assets | (11,283,524) | (19,357,059) |
| Net cash used in investing activities | <u>(69,875,194)</u> | <u>(31,526,627)</u> |
| Cash Flows from Financing Activities | | |
| Bond proceeds, including premium | 79,189,528 | - |
| Principal paid on bond and notes indebtedness | (36,950,000) | (5,244,811) |
| Deposit to escrow account for interest on defeased debt | (2,611,947) | - |
| Interest paid on bond indebtedness | (7,897,454) | (7,827,801) |
| Bond issuance costs | (1,795,276) | - |
| Net cash provided by (used in) financing activities | <u>29,934,851</u> | <u>(13,072,612)</u> |
| Net increase (decrease) in cash | 2,570,359 | (760,972) |
| Cash and equivalents, beginning of year | 33,128,767 | 33,889,739 |
| Cash and equivalents, end of year | <u>\$ 35,699,126</u> | <u>\$ 33,128,767</u> |
| Reconciliation of net operating revenues to net cash provided by operating activities | | |
| Net operating revenues | \$ 42,574,606 | \$ 42,480,899 |
| Changes in net assets and liabilities: | | |
| Prepaid expenses and other assets | 76,938 | 191,145 |
| E-ZPass clearing account | (540,275) | (1,005,141) |
| Accounts payable and accrued expenses | 46,453 | 1,632,657 |
| E-ZPass customer accounts | 429,871 | 560,844 |
| Compensated absences | (76,891) | (22,137) |
| Net cash provided by operating activities | <u>\$ 42,510,702</u> | <u>\$ 43,838,267</u> |
| Non-cash investing activities: | | |
| Unrealized gain on investments | \$ 234,034 | \$ 1,141,874 |
| Total non-cash investing activities | <u>\$ 234,034</u> | <u>\$ 1,141,874</u> |
| Non-cash financing activities: | | |
| Amortization of bond premium | \$ 1,182,550 | \$ 914,812 |
| Amortization of loss on defeasance | (109,607) | - |
| Amortization of bond issuance costs | (160,120) | (145,545) |
| Total non-cash financing activities | <u>\$ 912,823</u> | <u>\$ 769,267</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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 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 of Pennsylvania 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 of Pennsylvania 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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 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 includes time deposits, certificates of deposit and all highly liquid debt instruments with original maturities of three months 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, 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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 moneys 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.

Moneys 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; or
- (f) To further any corporate purpose.

The Commission is authorized to apply moneys on deposit in the General Reserve Fund for any of these purposes.

The Rebate Fund is a trust fund, but the amounts therein do not constitute part of the Trust Estate. 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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 all interest related to projects under construction. Capitalized interest amounted to \$894,335 and \$793,331 for 2005 and 2004, 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 with current year presentation.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

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:

| | December 31, | |
|----------------------|----------------------|----------------------|
| | 2005 | 2004 |
| Cash and equivalents | \$ 35,699,126 | \$ 33,128,767 |
| Investments | <u>213,647,921</u> | <u>150,048,429</u> |
| | <u>\$249,347,047</u> | <u>\$183,177,196</u> |

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 preservation 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.

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:

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

C. CASH AND EQUIVALENTS AND INVESTMENTS (CONTINUED)

- 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, 2005 and 2004, the Commission's cash balances were exposed to custodial credit risk as follows:

| | <u>December 31, 2005</u> | | <u>December 31, 2004</u> | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|
| | <u>Carrying Amount</u> | <u>Bank Balance</u> | <u>Carrying Amount</u> | <u>Bank Balance</u> |
| Amount insured by the FDIC or collateralized with securities held in its name by the Commission. | \$ 2,655,614 | \$ 4,388,802 | \$ 2,570,649 | \$ 5,463,586 |
| Amount collateralized with securities held by the pledging financial institution's trust department in the Commission's name. | 32,969,762 | 32,969,763 | 30,479,344 | 30,479,344 |
| Uncategorized: | | | | |
| Petty cash and collectors' change funds | <u>73,750</u> | <u>-</u> | <u>78,774</u> | <u>-</u> |
| | <u><u>\$35,699,126</u></u> | <u><u>\$37,358,565</u></u> | <u><u>\$33,128,767</u></u> | <u><u>\$35,942,930</u></u> |

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, pre-qualifying the financial institutions, broker/dealers, intermediaries, and advisors with 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, 2005, 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

C. CASH AND EQUIVALENTS AND INVESTMENTS (CONTINUED)

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, 2005, the Commission had the following investments and maturities:

| Investment Type | Fair Value | Investment Maturities (in Years) | | | |
|--------------------|-----------------------|----------------------------------|----------------------|-------------|-----------------|
| | | Less Than 1 | 1-5 | 6-10 | More Than 10 |
| FHLB | \$ 52,655,608 | \$ 21,740,830 | \$ 30,914,778 | \$ - | \$ - |
| FHLMC | 37,134,360 | 19,233,790 | 17,900,570 | - | - |
| FMCDN | 34,884,780 | 34,884,780 | - | - | - |
| FNMA | 48,018,848 | 35,124,408 | 12,894,440 | - | - |
| FHLMCDN | 3,900,000 | 3,900,000 | - | - | - |
| FNMADN | 3,986,400 | 3,986,400 | - | - | - |
| FHLBDN | 3,882,840 | 3,882,840 | - | - | - |
| FNMDN | 23,191,480 | 23,191,480 | - | - | - |
| FNDN | 4,926,500 | 4,926,500 | - | - | - |
| PA INVEST | 1,067,105 | 1,067,105 | - | - | - |
| Total | <u>\$ 213,647,921</u> | <u>\$ 151,938,133</u> | <u>\$ 61,709,788</u> | <u>\$ -</u> | <u>\$ -</u> |

As of December 31, 2004, the Commission had the following investments and maturities:

| Investment Type | Fair Value | Investment Maturities (in Years) | | | |
|--------------------|-----------------------|----------------------------------|----------------------|-------------|-----------------|
| | | Less Than 1 | 1-5 | 6-10 | More Than 10 |
| FHLB | \$ 32,839,429 | \$ 12,980,640 | \$ 19,858,789 | \$ - | \$ - |
| FHLMC | 46,152,585 | 17,843,500 | 28,309,085 | - | - |
| FMCDN | 8,987,400 | 8,987,400 | - | - | - |
| FNMA | 59,540,648 | 24,326,195 | 35,214,453 | - | - |
| FFCB | 1,493,445 | 1,493,445 | - | - | - |
| PA INVEST | 1,034,922 | 1,034,922 | - | - | - |
| Total | <u>\$ 150,048,429</u> | <u>\$ 66,666,102</u> | <u>\$ 83,382,327</u> | <u>\$ -</u> | <u>\$ -</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

D. CAPITAL ASSETS

Capital assets activities for the year ended December 31, 2005, were as follows:

| | December 31, 2004 | Additions | Reductions | December 31, 2005 |
|----------------------------|-----------------------|---------------------|---------------------|-----------------------|
| Non-Depreciable Assets | | | | |
| Land | \$ 129,604,374 | \$ 15,470 | \$ - | \$ 129,619,844 |
| Infrastructure in progress | 26,604,613 | 7,675,690 | 5,729,545 | 28,550,758 |
| Depreciable Assets | | | | |
| Bridges/road network | 232,446,393 | 8,294,575 | - | 240,740,968 |
| Equipment | 24,189,011 | 1,921,669 | 255,564 | 25,855,116 |
| Total at historical cost | 412,844,391 | 17,907,404 | 5,985,109 | 424,766,686 |
| Less Accumulated | | | | |
| Depreciation | | | | |
| Bridge/road network | 143,229,234 | 8,448,658 | - | 151,677,892 |
| Equipment | 5,558,447 | 3,363,913 | 255,564 | 8,666,796 |
| Total Accumulated | | | | |
| Depreciation | 148,787,681 | 11,812,571 | 255,564 | 160,344,688 |
| Total Capital Assets | <u>\$ 264,056,710</u> | <u>\$ 6,094,833</u> | <u>\$ 5,729,545</u> | <u>\$ 264,421,998</u> |

Depreciation expense was as follows:

| | |
|----------------------------|----------------------|
| Bridges/road networks | \$ 8,448,658 |
| Equipment | 3,363,913 |
| Total Depreciation Expense | <u>\$ 11,812,571</u> |

Capital Assets activities for the year ended December 31, 2004, were as follows:

| | December 31, 2003 | Additions | Reductions | December 31, 2004 |
|----------------------------|-----------------------|----------------------|----------------------|-----------------------|
| Non-Depreciation Assets | | | | |
| Land | \$ 129,604,374 | \$ - | \$ - | \$ 129,604,374 |
| Infrastructure in progress | 34,826,608 | 3,049,615 | 11,271,610 | 26,604,613 |
| Depreciable Assets | | | | |
| Bridges/road network | 219,740,655 | 12,705,738 | - | 232,446,393 |
| Equipment | 6,007,589 | 18,801,034 | 619,612 | 24,189,011 |
| Total at historical cost | 390,179,226 | 34,556,387 | 11,891,222 | 412,844,391 |
| Less Accumulated | | | | |
| Depreciation | | | | |
| Bridges/road network | 135,392,390 | 7,836,844 | - | 143,229,234 |
| Equipment | 4,432,966 | 1,745,093 | 619,612 | 5,558,447 |
| Total Accumulated | | | | |
| Depreciation | 139,825,356 | 9,581,937 | 619,612 | 148,787,681 |
| Total Capital Assets | <u>\$ 250,353,870</u> | <u>\$ 24,974,450</u> | <u>\$ 11,271,610</u> | <u>\$ 264,056,710</u> |

Depreciation expense was as follows:

| | |
|----------------------------|---------------------|
| Bridges/road networks | \$ 7,836,844 |
| Equipment | 1,745,093 |
| Total Depreciation Expense | <u>\$ 9,581,937</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

E. BONDS PAYABLE

The following is a summary of bonds payable:

| Bonds Payable | Maturity Dates | Interest Rate | Bonds Outstanding (in thousands) December 31, 2004 | Additions | Reductions | Bonds Outstanding (in thousands) December 31, 2005 | Amounts due within one year |
|------------------------------|----------------|---------------|--|------------------|------------------|--|-----------------------------|
| 2003 series revenue bonds | 2003-2024 | 3.00%-5.25% | \$ 121,800 | \$ - | \$ 36,620 | \$ 85,180 | \$ 4,635 |
| 2003 series revenue bonds | 2025-2028 | 5.00% | 29,390 | - | - | 29,390 | - |
| 2005A series revenue bonds | 2005-2025 | 4.00%-5.50% | - | 59,820 | 330 | 59,490 | 895 |
| 2005A series revenue bonds | 2026-2030 | 4.50% | - | 12,825 | - | 12,825 | - |
| Total bond principal payable | | | 151,190 | 72,645 | 36,950 | 186,885 | 5,530 |
| Loss on defeasance | | | - | (1,448) | (110) | (1,338) | (110) |
| Net bonds payable | | | <u>\$ 151,190</u> | <u>\$ 71,197</u> | <u>\$ 36,840</u> | <u>\$ 185,547</u> | <u>\$ 5,420</u> |

Debt service requirements on bonds outstanding at December 31, 2005, are as follows (in thousands):

| | Principal | Interest | Total |
|-----------|-------------------|-------------------|-------------------|
| 2006 | \$ 5,530 | \$ 9,411 | \$ 14,941 |
| 2007 | 5,795 | 9,137 | 14,932 |
| 2008 | 6,080 | 8,850 | 14,930 |
| 2009 | 6,375 | 8,548 | 14,923 |
| 2010 | 6,680 | 8,220 | 14,900 |
| 2011-2015 | 38,570 | 35,343 | 73,913 |
| 2016-2020 | 41,335 | 23,962 | 65,297 |
| 2021-2025 | 34,305 | 14,064 | 48,369 |
| 2026-2030 | 42,215 | 5,167 | 47,382 |
| | <u>\$ 186,885</u> | <u>\$ 122,702</u> | <u>\$ 309,587</u> |

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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

E. BONDS PAYABLE (CONTINUED)

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, 2005 was \$1,337,678.

Bridge System Revenue Bonds, Series 2006-2007

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.

Terms. The swaps were entered into with Merrill Lynch Capital Services, Inc. ("MLCS") and Morgan Stanley Capital Services, Inc. ("MSCS"). The swaps will be effective on March 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, a division of The McGraw-Hill Companies ("S&P"), and Aa3 by Moody's Investors Service, Inc. ("Moody's"). The swaps were priced at a fixed rate of 4.184% based on an amortizing notional schedule with a combined \$150,000,000 initial notional amount. Under the swaps starting March 1, 2007, the Commission pays a fixed rate of 4.184% and receives a variable payment equal to The Bond Market Association Municipal Swap Index ("BMA"). The bonds' variable-rate coupons, when issued, will be 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 ("Insurer") 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, 2005, the swaps had a negative fair value of \$2,305,521. 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, 2005, 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

E. BONDS PAYABLE (CONTINUED)

Termination Risk. The swaps are governed by the International Swap Dealers Association Master Agreement which includes standard termination events. The swaps also include an "Additional Termination Event" whereby the swaps may be terminated if the Insurer fails to issue the swap insurance policies on or before the effective date. 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.

F. PENSION PLAN

Plan Description

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 of Pennsylvania (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%-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 four employees who participate in the State of New Jersey Public Employees' Retirement System. Public Employees' Retirement System of New Jersey ("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, 2005 and 2004, was \$309,273 and \$171,568, respectively, which equaled the required contribution.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

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 \$4,420,100 in the aggregate for all active and retired employees.

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 \$1,705,022 and \$1,550,459 in 2005 and 2004, respectively. Effective April 1, 1995, the Commission suspended post-employment life and health insurance benefits for all new hires.

As of December 31, 2005, 120 retired employees were eligible for both life and health insurance benefits. An additional 49 retired employees were eligible for life insurance benefit only, in a range of \$2,000 - \$4,000 per person.

I. COMMITMENTS AND CONTINGENCIES

Subsequent to the implementation of the toll rates' increase on November 30, 2003, the Trucker Toll Increase case has been filed in the United States District Court for the Eastern District of Pennsylvania by the American Trucking Associations, Inc., PA Motor Truck Association, NJ Motor Truck Association and Roadway Express. The suit was decided in favor of the Commission during 2004; however, there is an appeal pending. A disposition of this matter adverse to the Commission might materially adversely affect future toll revenues. There can be no assurance as to the outcome of the appeal.

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, 2005, the Commission had committed \$20,067,160 in grants to municipalities participating in the Compact Authorized Investment ("CAI") program. 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.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

NOTES TO FINANCIAL STATEMENTS

I. COMMITMENTS AND CONTINGENCIES (CONTINUED)

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 a Compact Authorized Investment ("CAI") program, along with additions and changes in the original projects, the Capital Improvement Program currently stands at approximately \$640 million. As of December 31, 2005, the Commission has approved more than \$96.7 million in contracts to study and improve various facilities and systems as the initial part of that program. At December 31, 2005, the Commission had approved contracts that had not yet been completed or paid totaling approximately \$12.4 million.

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 EZPass system hardware. The unpaid portion of the contract amounted to \$625,000. The system maintenance contract runs through July 2006. The Commission holds an option to extend the maintenance contract for an additional two years. In February 2006, the Commission exercised its option to extend the maintenance contract for an estimated \$2.1 million.

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 nonpurpose investments at least once every five years. At December 31, 2005, there were no material arbitrage profits subject to rebate.

SUPPLEMENTARY INFORMATION

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF CASH AND EQUIVALENT BALANCES

December 31, 2005

| | Revenue Fund | Operating Fund | Clearing Fund | Construction Fund | Reserve Maintenance Fund | Debt Service Fund | Debt Service Reserve Fund | General Reserve Fund |
|--|-----------------|-------------------|------------------|----------------------|--------------------------------|----------------------|---------------------------------|----------------------------|
| Total | \$ 32,969,762 | \$ 413,735 | \$ 42,121 | \$ 4,721,947 | \$ 7,653 | \$ 5,641,289 | \$ 15,726,820 | \$ 6,416,197 |
| Commerce Bank | - | - | - | - | - | - | - | - |
| Wachovia Bank | 2,548,796 | 106,818 | - | - | - | - | - | - |
| Petty cash and collectors' change funds | - | 73,750 | - | - | - | - | - | - |
| Total cash and equivalent balances | \$ 2,548,796 | \$ 594,303 | \$ 42,121 | \$ 4,721,947 | \$ 7,653 | \$ 5,641,289 | \$ 15,726,820 | \$ 6,416,197 |

December 31, 2004

| | Revenue Fund | Operating Fund | Clearing Fund | Construction Fund | Reserve Maintenance Fund | Debt Service Fund | Debt Service Reserve Fund | General Reserve Fund |
|--|-----------------|-------------------|------------------|----------------------|--------------------------------|----------------------|---------------------------------|----------------------------|
| Total | \$ 30,479,344 | \$ 67,664 | \$ - | \$ 4,051,771 | \$ - | \$ 4,102,982 | \$ 12,375,329 | \$ 9,881,598 |
| Commerce Bank | - | - | - | - | - | - | - | - |
| Wachovia Bank | 2,473,389 | 97,260 | - | - | - | - | - | - |
| Petty cash and collectors' change funds | - | 78,774 | - | - | - | - | - | - |
| Total Cash and Equivalent Balances | \$ 2,473,389 | \$ 243,698 | \$ - | \$ 4,051,771 | \$ - | \$ 4,102,982 | \$ 12,375,329 | \$ 9,881,598 |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF INVESTMENTS

December 31, 2005

| Construction Fund | | | | | | |
|--------------------------------|------------------------|-------|-------|---------------|----------------------|----------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| FHLMCDN | \$ 3,900,000 | 0.00% | 3.82% | 01-03-06 | \$ 3,844,536 | \$ 3,900,000 |
| FNMADN | 4,000,000 | 0.00% | 3.91% | 02-01-06 | 3,929,347 | 3,986,400 |
| FHLBDN | 3,900,000 | 0.00% | 3.92% | 02-10-06 | 3,827,737 | 3,882,840 |
| FMCDN | 7,600,000 | 0.00% | 4.26% | 03-03-06 | 7,541,062 | 7,546,800 |
| FMCDN | 7,600,000 | 0.00% | 4.33% | 04-18-06 | 7,497,856 | 7,503,480 |
| FNMDN | 7,600,000 | 0.00% | 4.52% | 05-15-06 | 7,471,471 | 7,476,880 |
| FMCDN | 5,000,000 | 0.00% | 4.16% | 01-31-06 | 4,949,814 | 4,984,000 |
| FNMDN | 5,000,000 | 0.00% | 4.17% | 02-01-06 | 4,949,063 | 4,983,000 |
| FMCDN | 5,000,000 | 0.00% | 4.41% | 03-06-06 | 4,932,071 | 4,965,000 |
| FMCDN | 5,000,000 | 0.00% | 4.20% | 03-07-06 | 4,931,575 | 4,962,500 |
| FNDN | 5,000,000 | 0.00% | 4.41% | 05-03-06 | 4,893,475 | 4,926,500 |
| FMCDN | 5,000,000 | 0.00% | 4.45% | 05-09-06 | 4,891,432 | 4,923,000 |
| FMNDN | 5,500,000 | 0.00% | 4.55% | 06-02-06 | 5,394,461 | 5,397,150 |
| FMNDN | 5,500,000 | 0.00% | 4.64% | 08-28-06 | 5,333,741 | 5,334,450 |
| Total Construction Fund | | | | | <u>\$ 74,387,641</u> | <u>\$ 74,772,000</u> |

| Operating Fund | | | | | | |
|-----------------------------|------------------------|-------|-------|---------------|---------------------|---------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| FNMA | \$ 2,125,000 | 2.00% | 1.68% | 03-15-06 | \$ 2,128,320 | \$ 2,113,716 |
| FHLMC | 1,000,000 | 2.27% | 2.56% | 04-28-06 | 994,375 | 992,500 |
| Total Operating Fund | | | | | <u>\$ 3,122,695</u> | <u>\$ 3,106,216</u> |

| Reserve Maintenance Fund | | | | | | |
|---------------------------------------|------------------------|-------|-------|---------------|---------------------|---------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| FHLB | \$ 2,000,000 | 4.70% | 4.70% | 12-29-06 | \$ 2,000,000 | \$ 2,000,000 |
| Total Reserve Maintenance Fund | | | | | <u>\$ 2,000,000</u> | <u>\$ 2,000,000</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2005

| General Reserve Fund | | | | | | |
|----------------------------|------------------------|-------|-------|------------------|----------------|-----------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| PA INVEST | 1,067,105 | 3.64% | 4.00% | 01-01-06 | \$ 1,067,105 | \$ 1,067,105 |
| FHLB | 2,100,000 | 5.38% | 4.95% | 02-15-06 | 2,100,000 | 2,101,323 |
| FHLB | 3,875,000 | 2.24% | 1.74% | 06-23-06 | 3,884,688 | 3,832,608 |
| FHLB | 4,000,000 | 2.29% | 2.59% | 07-28-06 | 3,965,000 | 3,947,520 |
| FHLB | 3,000,000 | 2.55% | 2.55% | 08-23-06 | 3,000,000 | 2,960,640 |
| FHLB | 2,000,000 | 2.60% | 2.60% | 09-01-06 | 2,000,000 | 1,973,120 |
| FHLB | 2,000,000 | 2.80% | 2.80% | 10-16-06 | 2,000,000 | 1,970,620 |
| FHLB | 3,000,000 | 3.22% | 3.22% | 12-29-06 | 3,000,000 | 2,955,000 |
| FHLB | 5,000,000 | 4.25% | 4.64% | 03-09-07 | 4,974,150 | 4,970,300 |
| FHLB | 5,000,000 | 4.50% | 4.66% | 04-17-07 | 4,989,063 | 4,981,250 |
| FHLB | 5,000,000 | 4.50% | 4.64% | 05-21-07 | 4,989,550 | 4,982,800 |
| FHLB | 3,200,000 | 4.25% | 4.32% | 08-08-07 | 3,195,776 | 3,171,007 |
| FHLB | 5,000,000 | 3.76% | 3.92% | 09-07-07 | 4,981,250 | 4,921,900 |
| FHLB | 8,000,000 | 4.10% | 4.10% | 03-14-08 | 8,000,000 | 7,887,520 |
| FHLMC | 3,000,000 | 2.01% | 2.04% | 01-27-06 | 2,998,125 | 2,994,750 |
| FHLMC | 3,000,000 | 2.34% | 1.99% | 04-28-06 | 2,985,938 | 2,978,460 |
| FHLMC | 5,000,000 | 3.00% | 3.11% | 05-26-06 | 4,990,000 | 4,968,500 |
| FHLMC | 3,500,000 | 2.50% | 2.52% | 08-09-06 | 3,498,359 | 3,456,110 |
| FHLMC | 2,000,000 | 3.10% | 3.10% | 08-25-06 | 2,000,000 | 1,980,360 |
| FHLMC | 2,000,000 | 2.65% | 2.65% | 10-12-06 | 2,000,000 | 1,969,040 |
| FHLMC | 5,000,000 | 4.25% | 4.63% | 02-28-07 | 4,975,800 | 4,970,600 |
| FHLMC | 4,000,000 | 4.50% | 4.77% | 04-18-07 | 3,985,080 | 3,979,920 |
| FHLMC | 9,000,000 | 3.55% | 3.80% | 06-22-07 | 8,998,594 | 8,844,120 |
| FNMA | 2,000,000 | 2.40% | 2.50% | 02-27-06 | 1,995,000 | 1,993,120 |
| FNMA | 3,000,000 | 2.30% | 1.99% | 04-28-06 | 2,988,750 | 2,978,430 |
| FNMA | 4,500,000 | 2.25% | 1.99% | 05-26-06 | 4,505,625 | 4,459,230 |
| FNMA | 1,700,000 | 2.55% | 2.55% | 06-01-06 | 1,700,000 | 1,684,071 |
| FNMA | 5,000,000 | 3.13% | 3.13% | 06-21-06 | 5,000,000 | 4,965,650 |
| FNMA | 1,500,000 | 2.50% | 2.51% | 07-28-06 | 1,499,531 | 1,482,195 |
| FNMA | 7,700,000 | 2.10% | 2.10% | 09-22-06 | 7,700,000 | 7,560,476 |
| FNMA | 8,000,000 | 3.25% | 3.30% | 12-21-06 | 7,995,000 | 7,887,520 |
| FNMA | 5,000,000 | 4.90% | 4.90% | 12-27-07 | 5,000,000 | 4,996,900 |
| FNMA | 3,000,000 | 4.25% | 4.38% | 08-08-07 | 2,992,500 | 2,975,640 |
| FNMA | 5,000,000 | 3.75% | 3.87% | 08-15-07 | 4,985,938 | 4,921,900 |
| Total General Reserve Fund | | | | | \$ 134,940,822 | \$ 133,769,705 |
| Total Investments | | | | | \$ 214,451,158 | \$ 213,647,921 |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2004

| Construction Fund | | | | | | |
|-------------------------|------------------------|-------|-------|------------------|----------------------|----------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| FHLB | \$ 10,000,000 | 1.27% | 1.27% | 03-15-05 | \$ 10,000,000 | \$ 9,975,000 |
| FHLMC | 6,000,000 | 0.00% | 2.60% | 06-14-05 | 5,926,780 | 5,929,800 |
| FMCDN | 6,000,000 | 0.00% | 1.24% | 01-11-05 | 5,928,455 | 5,997,000 |
| FMCDN | 3,000,000 | 0.00% | 2.06% | 02-22-05 | 2,980,235 | 2,990,400 |
| FNMA | 8,000,000 | 1.56% | 1.61% | 04-29-05 | 7,996,000 | 7,975,040 |
| FNMA | 6,000,000 | 0.00% | 2.50% | 05-23-05 | 5,938,437 | 5,941,200 |
| FNMA | 3,000,000 | 0.00% | 2.70% | 07-22-05 | 2,954,165 | 2,955,900 |
| Total Construction Fund | | | | | <u>\$ 41,724,072</u> | <u>\$ 41,764,340</u> |

| Operating Fund | | | | | | |
|-------------------------|------------------------|-------|-------|------------------|---------------------|---------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| FNMA | \$ 2,125,000 | 2.00% | 1.68% | 03-15-06 | \$ 2,128,320 | \$ 2,098,439 |
| FHLMC | 1,000,000 | 2.27% | 2.56% | 04-28-06 | 994,375 | 989,380 |
| Total Operating Fund | | | | | <u>\$ 3,122,695</u> | <u>\$ 3,087,819</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF INVESTMENTS (CONTINUED)

December 31, 2004

| General Reserve Fund | | | | | | |
|----------------------------|------------------------|-------|-------|------------------|----------------------|----------------------|
| Security Description | Investment Description | | | Maturity Date | Cost | Market Value |
| | Face Value | Rate | Yield | | | |
| PA INVEST | 1,034,921 | 0.00% | 1.89% | 01-15-05 | \$ 1,000,000 | \$ 1,034,922 |
| FFCB | 1,500,000 | 2.10% | 2.10% | 08-25-05 | 1,500,000 | 1,493,445 |
| FHLB | 3,000,000 | 4.00% | 3.83% | 02-15-05 | 3,000,000 | 3,005,640 |
| FHLB | 2,100,000 | 5.38% | 4.95% | 02-15-06 | 2,100,000 | 2,151,848 |
| FHLB | 3,875,000 | 2.24% | 1.74% | 06-23-06 | 3,884,688 | 3,825,361 |
| FHLB | 4,000,000 | 2.29% | 2.59% | 07-28-06 | 3,965,000 | 3,947,520 |
| FHLB | 3,000,000 | 2.55% | 2.55% | 08-23-06 | 3,000,000 | 2,970,000 |
| FHLB | 2,000,000 | 2.60% | 2.60% | 09-01-06 | 2,000,000 | 1,981,260 |
| FHLB | 2,000,000 | 2.80% | 2.80% | 10-16-06 | 2,000,000 | 1,985,620 |
| FHLB | 3,000,000 | 3.22% | 3.22% | 12-29-06 | 3,000,000 | 2,997,180 |
| FHLMC | 2,000,000 | 2.07% | 2.07% | 08-26-05 | 2,000,000 | 1,990,820 |
| FHLMC | 2,000,000 | 2.00% | 2.00% | 10-21-05 | 2,000,000 | 1,986,140 |
| FHLMC | 3,000,000 | 2.07% | 2.07% | 10-28-05 | 3,000,000 | 2,979,600 |
| FHLMC | 2,000,000 | 2.25% | 2.25% | 12-15-05 | 2,000,000 | 1,980,960 |
| FHLMC | 3,000,000 | 2.50% | 2.05% | 12-15-05 | 3,000,000 | 2,976,180 |
| FHLMC | 3,000,000 | 2.01% | 2.04% | 01-27-06 | 2,998,125 | 2,968,200 |
| FHLMC | 3,000,000 | 2.34% | 1.99% | 04-28-06 | 2,985,938 | 2,970,450 |
| FHLMC | 5,000,000 | 3.00% | 3.11% | 05-26-06 | 4,990,000 | 4,989,900 |
| FHLMC | 3,500,000 | 2.50% | 2.52% | 08-09-06 | 3,498,359 | 3,463,985 |
| FHLMC | 2,000,000 | 3.10% | 3.10% | 08-25-06 | 2,000,000 | 1,996,220 |
| FHLMC | 2,000,000 | 2.65% | 2.65% | 10-12-06 | 2,000,000 | 1,980,900 |
| FHLMC | 9,000,000 | 3.55% | 3.80% | 06-22-07 | 8,998,594 | 8,950,050 |
| FNMA | 4,500,000 | 1.53% | 1.53% | 05-26-05 | 4,500,000 | 4,483,125 |
| FNMA | 3,000,000 | 2.60% | 2.60% | 12-29-05 | 3,000,000 | 2,970,930 |
| FNMA | 2,000,000 | 2.40% | 2.50% | 02-27-06 | 1,995,000 | 1,985,620 |
| FNMA | 3,000,000 | 2.30% | 1.99% | 04-28-06 | 2,988,750 | 2,966,250 |
| FNMA | 4,500,000 | 2.25% | 1.99% | 05-26-06 | 4,505,625 | 4,447,980 |
| FNMA | 1,700,000 | 2.55% | 2.55% | 06-01-06 | 1,700,000 | 1,680,348 |
| FNMA | 5,000,000 | 3.13% | 3.13% | 06-21-06 | 5,000,000 | 4,995,300 |
| FNMA | 1,500,000 | 2.50% | 2.51% | 07-28-06 | 1,499,531 | 1,485,000 |
| FNMA | 7,700,000 | 2.10% | 2.10% | 09-22-06 | 7,700,000 | 7,560,476 |
| FNMA | 8,000,000 | 3.25% | 3.30% | 12-21-06 | 7,995,000 | 7,995,040 |
| Total General Reserve Fund | | | | | <u>\$105,804,610</u> | <u>\$105,196,270</u> |
| Total Investments | | | | | <u>\$150,651,377</u> | <u>\$150,048,429</u> |

SCHEDULES OF OPERATIONS

Year Ended December 31, 2005 and 2004

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DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF ADMINISTRATIVE EXPENSES

Years Ended December 31, 2005 and 2004

| | <u>2005</u> | <u>2004</u> |
|--|---------------------|---------------------|
| Salaries and wages | \$ 3,271,542 | \$ 3,344,258 |
| Social security taxes | 240,629 | 239,809 |
| Trustee and paying agents' fees | 13,209 | 7,890 |
| Pension contributions | 66,403 | 33,495 |
| Group insurance | 644,000 | 655,487 |
| Retirees' costs | 1,705,022 | 1,550,459 |
| Unemployment compensation | 7,702 | 11,559 |
| Heat, light and power | 390 | 352 |
| Office expenses | 251,092 | 286,813 |
| E-ZPass operating expenses | 1,106,491 | 772,526 |
| Operating supplies and expenses | 209,033 | 151,262 |
| Travel and meeting expenses | 5,695 | 14,655 |
| Education, meeting and conference expenses | 97,149 | 131,422 |
| Automotive repairs and expenses | 1,896 | 110 |
| Buildings and grounds maintenance | 878 | 438 |
| Professional services and legal expenses | 2,923,885 | 3,953,016 |
| Advertising | 21,941 | 47,725 |
| Insurance | 392,188 | 359,990 |
| | <u>\$10,959,145</u> | <u>\$11,561,266</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM

SCHEDULES OF TOLL-SUPPORTED BRIDGE EXPENSES

Years Ended December 31, 2005 and 2004

| | 2005 | | | 2004 |
|---------------------------------------|---------------------|---------------------------------|---------------------------------|---------------------|
| | Total | Southern Division Bridges | Northern Division Bridges | Total |
| Salaries and wages | \$ 3,162,993 | \$ 1,730,198 | \$ 1,432,795 | \$ 3,011,970 |
| Social security taxes | 241,916 | 130,808 | 111,108 | 229,349 |
| Pension contributions | 57,654 | 31,062 | 26,592 | 32,310 |
| Group insurance | 866,837 | 481,705 | 385,132 | 922,211 |
| Heat, light and power | 61,791 | 37,988 | 23,803 | 61,122 |
| Office expenses | 13,742 | 6,996 | 6,746 | 16,103 |
| Operating supplies and expenses | 7,452 | 1,924 | 5,528 | 13,789 |
| Education and conference expenses | 716 | 190 | 526 | 483 |
| Uniforms | 16,819 | 6,629 | 10,190 | 7,740 |
| Maintenance supplies and expenses | | | | |
| Automotive | 10,693 | 1,946 | 8,747 | 13,590 |
| Buildings and grounds | 4,849 | 3,858 | 991 | 5,576 |
| Roadways, sidewalks and approaches | 46,305 | 19,680 | 26,625 | 205,471 |
| Insurance | 854,044 | 551,584 | 302,460 | 929,313 |
| Civil claim | 15,000 | 15,000 | - | 15,000 |
| | <u>\$ 5,360,811</u> | <u>\$ 3,019,568</u> | <u>\$ 2,341,243</u> | <u>\$ 5,464,027</u> |

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM**SCHEDULES OF TOLL BRIDGE TRAFFIC AND REVENUES**

Years Ended December 31, 2005 and 2004

| | Total - Year Ended December 31, | | Trenton- Morrisville Bridge | New Hope- Lambertville Bridge | I-78 Bridge | Easton- Phillipsburg Bridge | Portland- Columbia Bridge | Delaware Water Gap Bridge | Milford- Montague Bridge |
|--|------------------------------------|---------------|-----------------------------------|-------------------------------------|---------------|-----------------------------------|---------------------------------|---------------------------------|--------------------------------|
| | 2004 | 2005 | | | | | | | |
| Number of Vehicles Crossing Toll Bridges, by Class | | | | | | | | | |
| Passenger Cars, Vans and Pickups | 31,797,621 | 32,216,911 | 6,588,111 | 1,700,215 | 7,226,070 | 5,690,754 | 1,217,782 | 8,493,107 | 1,300,872 |
| Two-Axle Trucks, Buses and Tractors | 815,615 | 842,174 | 172,109 | 50,979 | 231,076 | 173,094 | 29,958 | 161,724 | 23,234 |
| Three-Axle Trucks, Buses, Tractor and Trailer | 359,727 | 375,712 | 74,247 | 26,248 | 99,176 | 64,105 | 10,874 | 95,818 | 5,244 |
| Four-Axle Trucks, Tractor and Trailer | 280,958 | 295,790 | 55,136 | 7,052 | 119,102 | 42,727 | 6,780 | 63,106 | 1,887 |
| Five-Axle Trucks, Tractor and Trailer | 3,576,352 | 3,563,813 | 185,616 | 26,682 | 1,922,988 | 263,496 | 34,076 | 1,120,941 | 10,014 |
| Six-Axle Trucks, Tractor and Trailer | 64,665 | 68,714 | 1,878 | 718 | 38,604 | 5,826 | 705 | 20,884 | 99 |
| Vehicles Requiring Special Permits | 80 | 80 | - | 4 | 12 | - | - | 64 | - |
| Seven-or-More-Axle Trucks, Tractor and Trailer | 3,201 | 3,134 | 132 | 48 | 1,420 | 252 | 12 | 1,246 | 24 |
| Total Number of Vehicles | 36,898,219 | 37,366,328 | 7,077,229 | 1,811,946 | 9,638,448 | 6,240,254 | 1,300,187 | 9,956,890 | 1,341,374 |
| Toll Revenues of Vehicles Crossing Toll Bridges, by Class | | | | | | | | | |
| Passenger Cars, Vans and Pickups | \$ 21,777,668 | \$ 21,941,988 | \$ 4,485,117 | \$ 1,138,514 | \$ 4,936,572 | \$ 3,849,150 | \$ 834,988 | \$ 5,810,788 | \$ 886,859 |
| Two-Axle Trucks, Buses and Tractors | 3,943,805 | 4,062,533 | 827,286 | 246,382 | 1,114,584 | 834,981 | 144,613 | 781,939 | 112,748 |
| Three-Axle Trucks, Buses, Tractor and Trailer | 2,823,845 | 2,942,929 | 581,411 | 205,813 | 777,586 | 502,747 | 86,287 | 747,367 | 41,718 |
| Four-Axle Trucks, Tractor and Trailer | 2,898,138 | 3,042,728 | 575,024 | 73,047 | 1,210,911 | 443,764 | 71,621 | 648,310 | 20,051 |
| Five-Axle Trucks, Tractor and Trailer | 47,032,011 | 46,726,090 | 2,410,821 | 351,375 | 25,179,241 | 3,469,921 | 449,210 | 14,733,917 | 131,605 |
| Six-Axle Trucks, Tractor and Trailer | 1,004,939 | 1,065,045 | 29,721 | 11,387 | 592,190 | 92,249 | 11,374 | 326,544 | 1,580 |
| Vehicles Requiring Special Permits | 3,956 | 4,013 | - | 42 | 507 | - | - | 3,464 | - |
| Seven-or-More-Axle Trucks, Tractor and Trailer | 67,846 | 65,553 | 2,540 | 927 | 28,986 | 5,169 | 199 | 27,238 | 494 |
| Total Toll Revenues from Vehicles | 79,552,208 | 79,850,879 | 8,911,920 | 2,027,487 | 33,840,577 | 9,197,981 | 1,598,292 | 23,079,567 | 1,195,055 |
| E-ZPass discounts and allowances and other adjustments | (695,916) | (429,473) | (165,768) | (45,775) | (8,694) | (95,613) | (32,663) | (52,228) | (28,732) |
| Total Toll Revenues | \$ 78,856,292 | \$ 79,421,406 | \$ 8,746,152 | \$ 1,981,712 | \$ 33,831,883 | \$ 9,102,368 | \$ 1,565,629 | \$ 23,027,339 | \$ 1,166,323 |

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*

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* PRIVATE COMPANIES PRACTICE SECTION
* CENTER FOR PUBLIC COMPANY AUDIT FIRMS
* REGISTERED WITH THE PCAOB
* AN INDEPENDENTLY OWNED MEMBER OF THE
RSM MCGILDRAY NETWORK

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, 2005, and have issued our report thereon dated March 8, 2006. 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 **DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM'S** internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements and not to provide assurance on the internal control over financial reporting. Our consideration of the internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be material weaknesses. A material weakness is a condition under which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements caused by error or fraud in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. We noted no matters involving the internal control over financial reporting and its operation that we consider to be material weaknesses. However, we noted other matters involving the internal control over financial reporting, which we have reported to management of **DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION - BRIDGE SYSTEM** in a separate letter dated March 8, 2006.

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OVER 40 YEARS OF SERVICE TO THE COMMUNITY

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)

Compliance

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 audit committee, 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.

Mercaderin, P.C.
Certified Public Accountants

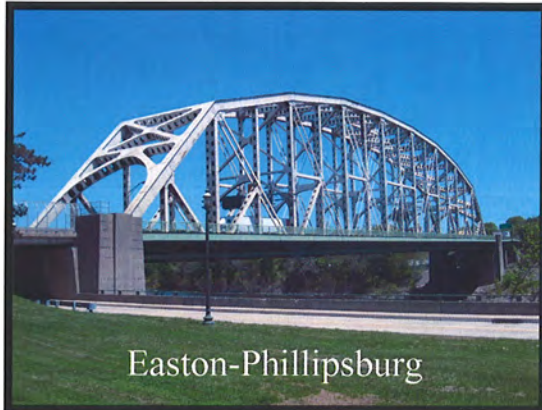
March 8, 2006



Delaware River Joint Toll Bridge Commission

TOLL BRIDGES

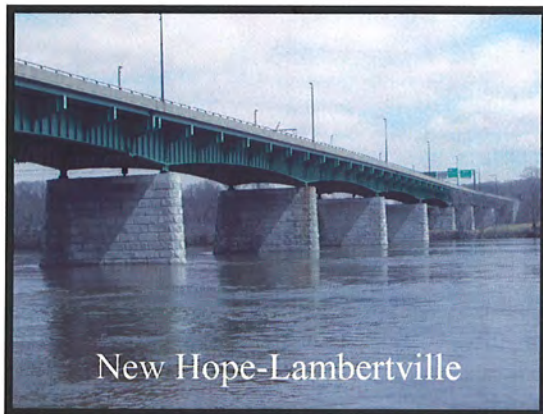
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Interstate 78
Easton-Phillipsburg
Portland-Columbia
Delaware Water Gap
Milford-Montague



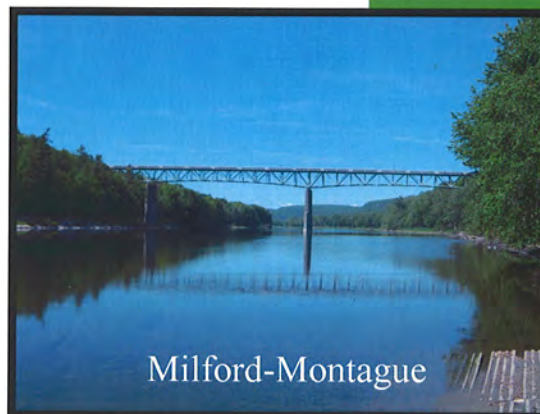
Easton-Phillipsburg



DRJTBC



New Hope-Lambertville



Milford-Montague

Excerpt from the

SIXTY-EIGHTH ANNUAL INSPECTION REPORT 2005

Prepared by



SCHOOR DEPALMA
Engineers and Consultants

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



SCHOOR DEPALMA
Engineers and Consultants

December 19, 2005

Honorable Frank G. McCartney
Executive Director
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067

RE: Consulting Engineer's Sixty-Eighth Annual Inspection Report-2005
DRJTBC Contract No. C 05-02
Our Project Number 050130701

Dear Mr. McCartney:

It is with great pleasure that we are submitting the Consulting Engineer's Sixty-Eighth Annual Inspection Report (2005) for the Commission's following facilities:

- A. The seven (7) Toll Bridges
- B. The thirteen (13) Toll Supported (Non-Toll) Bridges
- C. The thirty-three (32) 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 for the 2005 inspection of the Toll Facilities and the 2004 inspection of the Toll Supported Facilities. All facilities are in operating condition.

The Ninth Annual Maintenance Report has again been published separately.

The report identifies certain maintenance repairs and capital investments amounting to \$285,137,000 be performed over the next two years. In addition, an estimated expenditure of \$1,827,700 is recommended for new vehicular and maintenance equipment purchases. Therefore, the total amount over the next two years for the proper operation and maintenance of the Commission's facilities is estimated to be \$286,964,700. The report also identifies future maintenance repairs and capital improvements amounting to \$288,640,000, which should be programmed over the succeeding three to seven year period.

We express our sincere appreciation to all of the Commission's personnel who were very helpful in assisting Schoor DePalma during all phases of our report preparation, as well as during the inspections.

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Philadelphia ■ Stafford ■ Voorhees ■ White Plains

www.schoordepalma.com



050130701

Honorable Frank G. McCartney

December 19, 2005

Page 2

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

Very truly yours,

SCHOOR DEPALMA INC.

Ronald F. Mieszkowski, P.E.
Senior Vice President

RFM/MR/nac
Encls.

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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 (2004, 2006, etc.) and the Toll Bridges in odd years (2005, 2007, etc.). The associated facilities and grounds will be inspected in the year the bridge is inspected commencing in 2005.

This Sixty-Eighth Annual Inspection Report of bridges and facilities owned and operated by the Delaware River Joint Toll Bridge Commission contains the findings of the 2005 inspections of the Toll Bridges and their facilities. The conclusion and recommendation concerning the Toll Supported Bridges are based on the 2004 inspections. Any changes from the 2004 inspection in findings or recommendations for the Toll Supported Bridges are indicated by text that is ***bold and italicized***. This year's inspections consisted of all seven (7) Toll Bridges and accompanying facilities and thirty (30) approach structures.

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

Presently the Commission forces cannot provide access to the underside of Easton-Phillipsburg Toll Bridge for a "hands on" inspection. A routine inspection of the inaccessible portions of the bridge have been performed by means of binoculars, the tops of the abutments, the river bank and through the access hatches in the sidewalks.

The equipment used to access the majority of the bridges (under deck) consisted of various commission owned ladders, single and dual lift trucks as well as an under-bridge unit called The Bridgemaster. The Bridgemaster was used at all the main toll bridge crossings.

The following report highlights the significant findings observed during 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 preventive maintenance items regularly performed by Maintenance forces. Any deficiencies which have been identified during the annual inspection can be found in the *Ninth 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 routine 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 other electrical work
- Removal of vegetation from substructures.
- Removal of tree from below or along side of the bridges.
- Removal of graffiti from the bridges and retaining walls.
- Patching concrete and bituminous concrete spalls.
- Sealing roadway and bridge deck cracks.
- Localized cleaning and painting of rusted steel/bearings.
- Deck joint rehabilitation.
- Guide rail repair.
- 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 directional relation to known fixed points such as the bridge fascias and the piers.

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

- Toll Plaza Simulation Modeling (C-367A-7)
- Rehabilitation of the New Hope-Lambertville Toll Supported Bridge (TS-370B-3).
- Sidewalk Replacement at Easton - Phillipsburg Toll Bridge (C-372A-7)
- Portland-Columbia Pedestrian Bridge – Deck Repairs and Drainage Modifications. (TS-388A)
- Safety Fence Installation at Various Bridges (T/TS-389A-1)
- Rehabilitation of the Lower Trenton Toll Supported Bridge (C-398)
- Riegelsville Toll Supported Bridge Repairs (TS-391)
- Easton-Phillipsburg Toll Bridge Sign Structure Replacement (T-409)
- I-78 Toll Bridge Expansion Dam Replacement (T-410)
- I-80 NJ Service Road Emergency Repairs (T-417A)
- Easton-Phillipsburg Toll Bridge Sidewalk Replacement (T-420)
- High Priority Structural Steel Repairs at the Scudder Falls Toll Supported Bridge (TS-421)
- I-78 Toll Plaza Roadway Approach Restriping (T-422AR)

Many capital improvement projects are either still under review, study or design. Most noteworthy are the following:

- Riverton-Belvidere Rehabilitation Design (C-371A)
- Preliminary Engineering and Environmental Documentation for Trenton-Morrisville (US Route 1) Toll Bridge Rehabilitation and the Addition of One-lane in the Northbound Direction (C-380A)

- Preliminary Engineering and Environmental Documentation for Scudder Falls (I-95) Toll Supported Bridge Improvements (C-393A)
- Calhoun Street Toll Supported Bridge Peak Hour Capacity Feasibility Study (C-394A)
- Northerly Crossings Corridor Congestion Mitigation Study (C-395A)
- Electronic Surveillance System (ESS) Program Manager (C-396A)
- I-78 Roadway Rehabilitation (C-424A)
- NJDEP & PADEP Municipal Stormwater Compliance Program (C425-A)
- Open Road Tolling Study and Design (C-427A, B)
- Centre Bridge-Stockton Rehabilitation Design (C-429A)
- Milford-Montague Rehabilitation Design (C-430A)

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 no major repairs, requiring bridge closures, will be required in the next 15 years following the repair/rehabilitation of a bridge. The estimated all inclusive (construction, engineering and CM/CI) rehabilitation costs of the recommended improvements included in this report are consistent with the Commission’s “fix it right” approach. Also it is noted that the general findings and estimated repair costs developed from the 2000 Underwater Inspection Report have been included in this report.

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 from equipment and vehicle inspections and their associated repair/replacement costs. Finally, the Schedule of Insurance is provided towards the end of this report.

GENERAL

TRENTON-MORRISVILLE TOLL BRIDGE

The Trenton-Morrisville Toll Bridge (Structure No. 20) carries U.S. 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 and concrete deck bridge with an overall length of 1,324 feet. The piers (granite-faced) and abutments are reinforced concrete. Originally constructed by the Commission in 1952 as a four-lane bridge, the bridge was widened to six lanes in 1965 for a total curb-to-curb width of 62 feet. In 1983 an aluminum median barrier was erected across the bridge, creating three southbound and two northbound lanes. The posted speed limit in the northbound direction is forty miles per hour and fifty miles per hour in the southbound lanes until midspan where the speed limit is reduced to twenty miles per hour approaching the toll plaza.

TRENTON-MORRISVILLE APPROACH BRIDGES

The New Jersey approach includes eight additional bridge structures: Route 29 Overpass, Ramp 'N' Overpass, Ramp 'IY' Overpass, Ramp 'Y' Overpass, Union Street Overpass, Center Street Underpass, Broad Street Underpass, and Ramp 'N' Over Union Street. The Pennsylvania approach includes two separate overpass structures at Washington Street and South Pennsylvania Avenue. All ten approach bridges are owned and maintained by the Commission.

Design is underway (Contract C-380A) to add a northbound auxiliary lane across the main river crossing to reduce congestion problems along the US Route 1 corridor as well as to address the rehabilitation of the main river crossing and approach structures. The limits of work will also include the flanking interchanges at Pennsylvania Avenue and NJ Route 29, in Pennsylvania and New Jersey, respectively.

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 2005 inspection included the main river bridge, all approach bridges and the facility and grounds.

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

SIGNIFICANT FINDINGS

TRENTON-MORRISVILLE TOLL BRIDGE

The bridge was last painted in 1972. Generally, the condition of the painted surfaces is fair to poor, with the majority of paint deterioration occurring at localized areas exposed to the elements such as the fascia girders, steel girder ends, and bearings directly beneath the deck joints and longitudinal median joints. Typically, water infiltration from the deck joints has taken its toll on the underlying steel and bearings.

The existing deck has an LMC overlay (overlaid in 1986 with expansion dams installed). The LMC overlay exhibits significant delamination, widespread cracking and failed patches. The underside of deck exhibits signs of water infiltration with light spalling adjacent to steel girder top flanges, which also have light to moderate rust. The most significant deterioration appears to stem from the underlying construction joints, a result of the widening construction, which causes a medium longitudinal reflection crack in the overlay. The crack appears to have formed directly above the fascia stringers. Portions of the overlay along the longitudinal crack as well as in the widened portions were found to be unsound and large spalls have formed in the northbound lanes. These cracks should continue to be sealed to extend the usefulness of the existing overlay and the spalls repaired to prevent premature deterioration of the superstructure.

The deck joints consist of steel extrusions welded to the top of the original tooth dam (finger joints). The extrusions have 'Z' type anchorage embedded in the adjacent header material. Cracks and impact damage were noticed on numerous headers. Various repair materials have been tried and appear to have failed especially the southbound lanes. Deck joint expansion/filler material failures were also typically found.

Several areas of the inner and outer faces of the concrete parapets, especially on the north side, were noted to exhibit patches and cracks, and some spalled areas. A horizontal crack and unsound concrete were also noted throughout most of the length of the north and south curb. Maintenance forces have begun and should continue to implement repairs to affected areas until a rehabilitation contract gets underway.

Most of the substructure bridge seats were noted to exhibit medium vertical cracks. These cracks appear stable and need only be sealed with a flexible caulk material. Epoxy coating, which generally is not present, should be applied to the bridge seats to prevent future water infiltration.

The bridge mounted cantilever sign structure is not in plumb and level. The members of the structure, including the bridge attachments have heavy rust. The sign structure should be analyzed for the recently added sign panels and a recommendation made for modifications or replacement of the sign structure.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. Although no undermining was observed, several areas of the pier footings were

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

found to be partially exposed. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

WASHINGTON STREET OVERPASS

The paint system is in fair condition with deterioration occurring at the girder ends and at random locations throughout. The bearings exhibit moderate to heavy rust with a number of bearings exhibiting missing anchor nuts, sheared bolts and cracked welds at the sole plate/bottom flange interface. The expansion bearings are fully expanded and not functioning properly. Damage to the girder ends and bearing was caused by water infiltration through the deck joint and onto the bridge seat.

The abutment backwalls and breastwalls exhibited areas of spalling and mapcracking with efflorescence. Spalling along the underside of the deck was observed along the deck joints and the longitudinal haunch supporting stringer caused by water infiltration.

The top of the deck is in overall good condition with a few areas of spalling southbound and numerous cracks near the deck joints southbound.

The approach slabs in the southbound lanes showed signs of spalling and settling at the west approach. The northbound overlay is deteriorating at the approach slab joints.

SOUTH PENNSYLVANIA AVENUE OVERPASS

The northbound roadway exhibits deteriorated pavement at the center line. The southbound roadway exhibits spalled and deteriorated concrete at the center line. The deck joints exhibit small spalls in the adjacent header, minor deterioration of joint material and reflective pavement cracking. The abutments exhibit random spalls and cracking, especially at the upper backwalls. The paint condition is fair with most corrosion at the stringer ends and bearings.

The Pennsylvania side of the Route 1 southbound roadway within the Commission's jurisdiction is showing signs of heavy deterioration and settlement to the west of the South Pennsylvania Avenue Overpass. Maintenance forces have continued to overlay the areas with asphalt to maintain safe roadway conditions.

RAMP I Y OVER BRIDGE STREET

The paint system is in poor condition with peeling paint throughout. The deck joints are in poor condition with deteriorated joint material and evidence of water leakage on the substructure. The bearings and ends of stringers exhibited corrosion due to water infiltration from the deck joints, more so at the piers. Spalling and cracking was noted in the pier cap, pier pedestals and deck joint headers. The deck is in fair condition with areas of cracked deck patches in spans one and three.

UNION STREET OVERPASS

The abutment backwall and breastwall exhibited a number of areas of spalling concrete with exposed reinforcement, map cracking and efflorescence. The paint is in generally fair

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

condition with localized areas of failing paint, especially at bearings and stringer ends. The bearings appeared to be non-functioning and were observed to be overexpanded. The deck joints are in poor condition, exhibiting spalling in the deck slab, deteriorated concrete headers and deteriorated joint material, especially in the southbound lanes. The deterioration along the deck joints is causing water infiltration to the bridge seats.

Excessive roadway settlements have not changed between the Union Street Overpass and the Ramp 'N' Overpass on Route 1, adjacent to the adjoining retaining wall. Commission forces maintain that this area was built on substandard fill material with improper compaction, which may have contributed to the worsening settlements. The settlement may also be affected by the lateral movement of the adjacent retaining wall, which is approximately 30 feet high. Settlements appear generally uniform except at drainage locations, another key factor for settlement. Spacing of adjacent drainage inlets also appeared excessive, with none occurring in the highest settlement areas. At least one of the drainage inlets has been paved over in the southbound lanes to maintain a smooth riding surface.

RAMP N OVERPASS

The abutments exhibit numerous areas of spalling concrete. The paint is in generally fair condition with localized areas of deterioration. The bearings appear to be non-functioning and were observed to be fully expanded at 50 degrees F. The deck joints are in poor condition with evidence of moisture infiltration, especially at the east abutment and numerous spalls/patches at headers. Approach and roadway slabs are in fair condition, exhibiting numerous cracks, deteriorated concrete and failing asphalt patches.

CENTER STREET UNDERPASS

The bearings appear to be not functioning and exhibit severe rusting with areas of section loss. The frozen bearings are causing uplift in some of the masonry plates. Additionally, the deck joints appear to be not functioning properly with spalling along the headers.

Spalling was noted on the abutment backwall and breastwalls. The spalling is caused by water infiltration through the deteriorated deck joints. Also, fine vertical cracks were noted on the abutment breastwalls. These cracks are not detrimental to the structures. Simply sealing the cracks to prevent water infiltration is sufficient.

The Route 1 southbound pavement at the Center Street Underpass has several pavement spalls.

BROAD STREET UNDERPASS

The deck joint headers have severely deteriorated with concrete spalls and deteriorated pavement creating a rough riding surface. Deck joint armoring anchors are exposed and contain holes allowing light to be seen from below. The backwall is also in poor condition with multiple areas of spalling with exposed reinforcement and efflorescence.

The failed deck joints have caused water damage and debris build-up has consequently rusted the bearings and the ends of beams causing severe rusting and minor section loss.

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

The bearings appear to be not functioning. The frozen bearings are causing uplift in some of the masonry plates. The paint is in poor condition with peeling paint throughout.

RAMP N OVER UNION STREET

The bearings on both piers typically exhibit loose or missing anchor bolt nuts. A deteriorated drain pipe and scupper was observed near the west abutment.

ROUTE 29 OVERPASS

Several of the prestressed concrete box beams exhibit exposed and rusted prestressed tendons at the ends of beams, mainly over the piers. This appears to be the result of leaking and deteriorated deck joints. The piers also exhibit spalls, incipient spalls and unsound concrete in the pier caps.

The top of deck exhibited spalling along the deck joints, while spalling with exposed reinforcement was observed on the underside of deck along the longitudinal joints.

RAMP Y OVER ROUTE 29

The paint system is in poor condition. There are minor spalls occurring on the east end of the south abutment and also along the backwall. The deck is in generally good condition with no spalling and only minor fine cracks. There is also a longitudinal crack running along the curb face and minor fine cracks

TRENTON-MORRISVILLE TOLL BRIDGE FACILITIES AND GROUNDS

The access tunnel underneath the toll plaza exhibited signs of moisture infiltration with water stains on the floor.

Ramps 'A', 'E', 'H' and 'J' at the US Route 1 and South Pennsylvania Ave intersection, comprised of a bituminous overlay, exhibited heavy transverse and random cracking and a moderate level of potholes. Additionally, several toll plaza concrete roadway slabs were noted to be in fair condition with spalling and cracks throughout. In general the ramps and approach roadways are in satisfactory condition, with the bituminous Pennsylvania Ramps 'A', 'E', 'H' and 'J' in overall fair to poor condition.

The stone façade surrounding the main entrance door to the Administration Building is deteriorated. In addition, the current fire alarm system is outdated.

Several areas of the sidewalk and curb along the entrance to the Administration Building exhibit cracking, settlement, spalling and failed patches.

A pavement condition assessment and settlement analysis of the US Route 1 approach roadways to the Trenton-Morrisville Toll Bridge was conducted by The Louis Berger Group, Inc. in December of 2004.

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

CONCLUSIONS

TRENTON-MORRISVILLE TOLL BRIDGE

Overall, the Trenton-Morrisville Toll Bridge is in satisfactory condition and found to be structurally adequate to carry legal highway loads at the time of this year's inspection. The operations and maintenance buildings, toll plaza and most approach roadways and bridges appear to have been well maintained over their existence and remain in generally satisfactory condition.

The main Toll Bridge and its approach structures are in need of rehabilitation, due to the generally fair to poor condition of the bearings, severe approach settlement, deteriorated deck joints, poor paint condition and numerous defects in the concrete parapets and wearing surfaces.

An overall Rehabilitation Contract is recommended for the entire Trenton-Morrisville Facility. An In-Depth Inspection and Rating should be performed for the bridges, roadways and ramps to determine the extent of required repairs. An approach settlement study should be combined with the inspections to determine the cause of the settlements. Design and repair plans should be developed for the entire facility, which should include the following as a minimum:

- Blast cleaning and painting main river and approach bridges.
- Rehabilitate or replace the concrete deck on the main river bridge. Replace the concrete parapets and safety walk on main river bridge.
- Replace bridge mounted cantilever sign structures.
- Replace toll booths.
- Bearing, deck, deck joint and header rehabilitation of approach structures.
- Repair ends of beams at Rt. 29 overpass.
- Pennsylvania ramp re-paving.
- Substructure Rehabilitation (Including all items noted in the 9th Annual Maintenance Report)
- Route 1 roadway rehabilitation

A settlement study of the New Jersey approaches, as well as at the South Pennsylvania Avenue Overpass, should include the investigation of the drainage pipes in the vicinity in addition to a subsurface exploration.

The bearing rehabilitation for the approach bridges should include bearing resetting, installation of missing anchor bolts, replacement of severely rusted bolts/nuts and cleaning and painting of bearings and ends of girders. In the interim the bearings should be cleaned and maintained regularly. Full deck joint rehabilitation should also be included.

The bridge mounted cantilever sign structure deflection calculations should be checked for current sign panel load. If sign structure is designed for this load, the sign panel and sign lighting should be reset to a level position. Otherwise a sign structure replacement is warranted.

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

The following outlines specific recommendations for each approach bridge.

WASHINGTON STREET OVERPASS

The Washington Street Overpass is in satisfactory condition. The deck joints should be completely replaced, with associated repairs made to the backwall and headers. Repairs to the concrete spalls on the abutments should also be included. The bearings should be rehabilitated, blast cleaned and painted along with the ends of stringers and at random deteriorated locations.

SOUTH PENNSYLVANIA AVE OVERPASS

The South Pennsylvania Ave Overpass is in satisfactory condition. The deck joints should be completely replaced, with associated repairs made to the backwall and headers. Repairs to the concrete spalls on the abutments should also be included. The bearings should be rehabilitated, blast cleaned and painted along with the ends of stringers and at random deteriorated locations.

RAMP IY OVER BRIDGE STREET

The Ramp IY Overpass is in satisfactory condition. Due to the poor paint condition of the stringers and bearings, the entire bridge should be blast cleaned and painted. The deck joints are in poor condition and should be replaced. The bearing should be replaced at the piers and cleaned and reset at the abutments. The deck exhibited large areas of cracking and failed repairs which may justify a complete deck replacement. A deck evaluation survey should be performed to determine if the deck should be rehabilitated or replaced.

UNION STREET OVERPASS

The Union Street Overpass is in satisfactory condition. The abutment backwall and breastwall spalls should be repaired. Random locations of the failing paint system should be blast cleaned and painted, along with the ends of girders and bearings. The bearings should be reset prior to painting. The deck slab and deck joints should be considered for replacement due to the poor condition of the underside of deck along the deck joints and the need to replace the approach slabs. A deck evaluation survey should be performed to determine if the deck should be rehabilitated or replaced.

The excessive roadway settlements between the Union Street Overpass and the Ramp 'N' Overpass on Route 1, adjacent to the adjoining retaining wall should be investigated and repaired under the overall Trenton-Morrisville Rehabilitation. A settlement analysis should be performed to determine the cause and method of remediation.

RAMP N OVERPASS

The Ramp N Overpass is in satisfactory condition. The abutment backwall and breastwall spalls with exposed reinforcement and efflorescence should be repaired. Random locations of the failing paint system should be blast cleaned and painted, along with the ends of girders and bearings. The bearings should be reset prior to painting. The deck slab and deck

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

joints should be considered for replacement due to the poor condition of the underside of deck along the deck joints and the need to replace the approach slabs. A deck evaluation survey should be performed to determine if the deck should be rehabilitated or replaced.

The slab settlements should be addressed as noted in the Union Street Overpass.

CENTER STREET UNDERPASS

The Center Street Underpass is in satisfactory condition. The non-functioning bearings should be cleaned, reset and painted in conjunction with painting the structural steel. Additionally, the deck joints should be replaced with repairs made to the concrete header, backwall, and breastwall.

BROAD STREET UNDERPASS

The Broad Street Underpass is in satisfactory condition. The deck joints should be replaced and the backwalls rebuilt. All substructure repairs should also be included along with the backwall repairs. The entire bridge should be blast cleaned and painted, which includes all the structural steel and bearings.

RAMP N OVER UNION STREET

The Ramp N Over Union Street Overpass is in good condition.

ROUTE 29 OVERPASS

The Route 29 Overpass is in fair condition due to the condition of the deck and deck joint deterioration and the spalls and exposed prestressing strands at the ends of beams. The extent of damage to the exposed tendons, in addition to the adjacent delaminated concrete should be observed in subsequent inspections. The beam spalls should be cleaned and patched. The spalls on the piers and abutments noted in the Ninth annual maintenance report should be repaired. The deck joints should be replaced and the deck spalls repaired.

RAMP Y OVER ROUTE 29

The bridge is in satisfactory condition. The structural steel and bearings should be blast cleaned and painted. The substructure spalls on the south abutment breastwall and backwall should be repaired. The curb/safety walk should be repaired and the deck sealed.

TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

The rehabilitation of the toll plaza should be included in the upcoming toll bridge rehabilitation and the addition of one-lane in the northbound direction project. The current toll booths and canopies have peeling paint, deteriorating floors, and are in need of an upgraded HVAC system.

An evaluation of the access tunnel should be performed to determine the cause and remediation of the water infiltration.

TRENTON - MORRISVILLE TOLL BRIDGE FACILITY

The deteriorated exterior facade near the entrance should be repaired, at the same time, the main entrance door to the Administration Building should also be replaced. In addition, a study should be performed to determine if the building is ADA compliant.

The HVAC system should be upgraded due to the age of the system. A study should be performed to determine the best method of upgrading. The fire alarm system should also be evaluated to determine if upgrades are needed.

It has been documented that the administration building has had problems with the roof leaking. Due to the age of the roof it is recommended that the roof be replaced on all the buildings at the facility.

The areas of sidewalk and curbing along the entrance to the Administration Building should be repaired (Maintenance).

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

TRENTON-MORRISVILLE TOLL BRIDGE FACILITY
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Rehabilitation of the Trenton-Morrisville Facility <i>Main Bridge, Approaches, and Toll Plaza</i> <i>In-Depth Inspection & Rating, Seismic Susceptibility</i> <i>Evaluation, Settlement Study for approaches, Design/Repair</i> <i>and add one lane NB and new Toll Plaza</i> <i>Bearing Rehabilitation for Approach Structures</i> <i>Blast Cleaning and Painting (& approaches)</i> <i>Deck Rehabilitation or Replacement</i> <i>New Deck Joints, New Barrier Curbs, Pennsylvania Ramp Re-Paving</i> <i>New Northbound Lane and Toll Plaza</i> <i>Substructure Rehabilitation</i> <i>*Electronic Toll Collection - Violation Enforcement System</i> | | \$67,000,000 |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$143,200 |
| *Miscellaneous/Unanticipated Projects | | \$50,000 |
| <u>Buildings and Grounds</u> | | |
| *PA DEP Storm Water Compliance | | \$50,000 |
| *Electronic Surveillance System | | \$1,614,000 |
| Buildings Roof Replacement | | \$340,000 |
| Study Administration Building for ADA Compliance and Repair Main Entrance Façade and Door | | \$50,000 |
| HVAC Study | | \$25,000 |
| HVAC Upgrade | | \$350,000 |
| *General Information Documents | | \$40,000 |
| TOTAL COST | \$0 | \$69,662,200 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure and Scour Remediation Contract (Below Water Line) | \$235,000 |
| *ITS Improvements | \$800,000 |
| TOTAL: Future Repair Contracts | <u>\$1,035,000</u> |
| * Commission Initiative | |

GENERAL

NEW HOPE LAMBERTVILLE TOLL BRIDGE

The New Hope-Lambertville Bridge (Structure No. 140) was opened to traffic on July 22, 1971 and carries U.S. Route 202 over the Delaware River between Lambertville, New Jersey and New Hope, Pennsylvania. The bridge is a ten-span steel girder and concrete deck bridge with a total length of 1,682 feet measured from center to center of bearings. The substructure units are composed of reinforced concrete; the piers are stone faced.

NEW HOPE LAMBERTVILLE APPROACH BRIDGES

The Commission's jurisdiction also includes 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 fifty-five miles per hour.

NEW HOPE LAMBERTVILLE FACILITY AND GROUNDS

Under Contract No. T-370B-2 the toll plaza and toll booths were replaced on the Pennsylvania approach. The new toll plaza has one-way toll collection replacing the two-way collection prior to the reconstruction. All lanes are equipped for EZ-Pass. The new toll plaza was erected on concrete islands and is protected with an overhead canopy the matches the Operations building roof. This contract also upgraded the power, telecommunications and data systems infrastructure of the toll facility as well as the reconstruction of the facilities parking lot.

The 2005 inspection included the main river bridge, two (2) approach structures, and the facility and grounds.

SIGNIFICANT FINDINGS

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

The New Hope-Lambertville Toll Bridge was rehabilitated under Contract No. TS-370B-3. The rehabilitation was completed and the bridge was reopened on June 7, 2004. The reconstruction effort involved concrete deck and spall repairs, reconstruction of deck expansion joints, replacement of the Latex Modified Concrete deck overlay, painting of the steel fascia girders, bearing replacements and miscellaneous steel repairs and painting.

Damage was observed to the north floorbeam tie plate near pier 5. Also, section losses and perforations were noted at a few locations at the ends of several stringers in the webs and flanges, but do not affect the structural capacity of the structure. The area of the holes have been blast cleaned and painted. The defects to the floorbeam tie plate and the noted perforations do not appear to affect the structural integrity of the bridge at this time. A fatigue crack has been arrested by a hole drilled in the web of the south fascia stringer at Pier 4.

NEW HOPE - LAMBERTVILLE TOLL BRIDGE FACILITY

Transverse cracks with efflorescence were noted throughout the underside of deck. A few random locations of spalling were also observed on the underside of deck and concrete parapets, however these deficiencies do not affect the structural integrity of the deck slab. These conditions existed prior to the rehabilitation and any further deterioration should be prevented due to the addition of the LMC overlay.

ROUTE 29 OVERPASS

The substructure exhibits spalling, cracking and unsound concrete at several locations, however, this does not affect the structural integrity of the bridge. Peeling paint and corrosion were noted on the fascia bearings and at several stringers, mostly adjacent to the median joint and along the fascias.

ROUTE 32 OVERPASS

The concrete rigid frame exhibited areas of mapcracking and efflorescence at the center of the intrados at the north and south ends. At the present time the defects noted do not affect the structural integrity of the structure. The roadway over the bridge is in good condition with no apparent defects. Several of the approach slabs exhibit spalling, asphalt patches and deteriorated joint material at joint locations.

NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

A space utilization study conducted at Trenton-Morrisville determined that there is a need for additional space to accommodate an increased capital program. The study identified the NH-L facility as a potential location to accommodate this need.

Several cracks and spalls were noted at the roadway slabs and approach toll plaza slabs.

The roof of the Operations building is showing signs of wear and distress due to age. Additionally, the heating, ventilation, and air-conditioning system has been identified to be not performing acceptably.

The parking lot lighting appears to be deficient.

CONCLUSIONS

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

The New Hope-Lambertville Toll Bridge is in good condition. An interim inspection should be performed on the floorbeam tie plate damage to determine if any stress cracks develop in the tension member. Maintenance should continue to maintain the bridge and make necessary repairs outlined in the annual maintenance reports.

ROUTE 29 OVERPASS

NEW HOPE - LAMBERTVILLE TOLL BRIDGE FACILITY

The Route 29 overpass is in good condition. However, substructure spalls should be repaired and the corroded bearings and ends of stringers should be spot cleaned and painted. Maintenance should continue to perform routine maintenance as needed.

ROUTE 32 OVERPASS

The Route 32 overpass is in overall good condition. Maintenance should continue to perform routine maintenance as needed.

NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

The roof of the operations building is recommended to be replaced and will be under Contract C413A-2.

A HVAC study should be included in the Operations building renovation that is scheduled to be performed in the near future. The parking lot lighting should also be upgraded to a better performing standard.

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

NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| *Miscellaneous/Unanticipated Projects | | \$30,000 |
| <u>Buildings and Grounds</u> | | |
| *PA DEP Storm Water Compliance | | \$50,000 |
| Replace Operations Building Roof | | \$805,000 |
| NH-L Toll Bridge Facility Commission/Administration Addition and Renovation (Design and Construction) | | \$3,260,000 |
| *Electronic Surveillance System | | \$1,963,000 |
| *Electronic Toll Collection - Violation Enforcement System | | \$400,000 |
| Facility Parking Lot Lighting | | \$90,000 |
| TOTAL COST | \$0 | \$6,740,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure and Scour Remediation Contract (Below Water Line) | \$35,000 |
| TOTAL: Future Repair Contracts | <u>\$35,000</u> |
| * Commission Initiative | |

INTERSTATE 78 TOLL BRIDGE FACILITY

GENERAL

INTERSTATE 78 TOLL BRIDGE

The main river bridge (Structure Nos. 270 and 275) is a twin, 1,222-foot long, four girder, 7-span continuous girder bridge supported on reinforced concrete hammerhead piers and reinforced concrete stub abutments. The posted speed limit on the bridge is 55 mph.

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.

INTERSTATE 78 TOLL BRIDGE APPROACH STRUCTURES (AND ROADWAYS)

The Commission's jurisdiction extends approximately 2.2 miles to the west at the Pennsylvania approach, including an interchange at Morgan Hill Road, grade separation bridges at Routes 206 (Cedarville Road) and 611, 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, including grade separation bridges at Carpentersville Road, County Route 519, and Edge Road, and an additional bridge at the Still Valley Interchange. 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 TOLL FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach of the westbound lanes, has seven toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped for EZ-Pass. Lane 7 is still operating as a coin only lane.

The 2005 inspection included the main river bridge, eleven (11) approach structures, and the facility and grounds.

SIGNIFICANT FINDINGS

INTERSTATE 78 TOLL BRIDGE

The condition of the main river bridge is good. However, the deck slab is in satisfactory condition. Although no spalls are present, the deck slab exhibits numerous transverse crack that are more prevalent on the eastbound bridge. Leakage is indicated by the rusted stay-in-place (SIP) forms, rusted underlying steel, and deicing salt staining below the deck. The transverse cracks in the main river bridge are numerous and appear to be increasing in number as reported in previous inspection reports. Maintenance forces have been treating the deck cracks with water sealer as they appear. Although the structural capacity of the deck slab is unaffected, a methacrylate crack healer/sealer should be utilized until a future contract to waterproof and overlay the bridge is awarded.

INTERSTATE 78 TOLL BRIDGE FACILITY

Fine cracks were noticed throughout the fascia concrete overhang of both eastbound and westbound structures, with light efflorescence.

In addition to the numerous transverse cracks in the concrete deck, several transverse construction joints of the deck appear to be allowing water to infiltrate below the deck, causing rusted SIP forms. This has also caused light rusting and paint peeling to underlying steel, including main girders and their field splices.

The inside webs of fascia girders typically exhibit moderate to heavy pigeon debris, which can be detrimental to the paint system. In addition the bottom flanges of several girders typically exhibit light to medium paint peeling.

The bridge deck's expansion dams have been reconstructed under Contract T-420 in 2004. These new deck joints have improved the roadway driving surface and appear to have eliminated the previous noise issues.

The substructures are in good condition. Some areas of the epoxy coating on the bridge seats at both abutments and Pier 6 westbound are chipped and peeling off. The westbound bridge pier 6 footing (land based pier) is exposed at the south end, but rock stabilizers are in place around the foundation and no threat of instability is apparent.

I-78 EASTBOUND OVER ROUTE 519

Minor substructure cracking and spalls were noted. The approach slabs exhibited numerous medium to wide transverse cracks that are routinely sealed by maintenance forces.

I-78 WESTBOUND OVER ROUTE 519

The approach slabs exhibited transverse cracking and spalling which are routinely repaired by maintenance forces. In addition, there is an open channel waterway that runs along Route 519 and under both the eastbound and westbound structures that is severely eroded, but has not compromised the pier foundation.

I-78 WESTBOUND OVER ROUTE 611

The deck joint material exhibits deterioration and is in need of replacement at several locations. The approach slabs exhibited transverse cracking and spalling which are routinely repaired by maintenance forces.

I-78 EASTBOUND OVER ROUTE 611

The approach slabs exhibited transverse cracking and spalling which are routinely repaired by maintenance forces. Minor spalls, some repaired, were also noted at several end diaphragms.

INTERSTATE 78 TOLL BRIDGE FACILITY

SERVICE ROAD OVERPASS

No significant defects were noted at the time of this inspection.

EDGE ROAD OVERPASS

The north and south abutment slope protection exhibited minor settlement and cracking. A few stringer bottom flanges were noted to be slightly distorted, but they do not affect the structural integrity of the bridge.

I-78 WESTBOUND OVER RAMP C

The ends of several stringers exhibited minor surface rust. The approach slabs and Ramp C roadway slabs exhibited transverse cracking and spalling which are routinely repaired by maintenance forces.

I-78 EASTBOUND OVER RAMP C

A portion of the east abutment deck joint steel armoring is missing with spalling occurring at the header. The approach slabs exhibited transverse cracking and spalling which are routinely repaired by maintenance forces. The pavement along the shoulder lines of the approach roadways exhibited deterioration and cracking with potholes occurring.

CARPENTERSVILLE ROAD OVERPASS

Mapcracking was observed at the ends of the abutment backwalls. Light rust was also noted on the diaphragms. Deck joint header joint material exhibits deterioration. Bearings were noted to be slightly over expanded at both abutments.

MORGAN HILL ROAD OVERPASS

The slope protection has settled in some areas which can be repaired by maintenance forces.

CEDARVILLE ROAD OVERPASS

Some minor deterioration to the ends of the prestressed concrete beams was observed. The concrete beams show signs of the prestressing strands rusting through the ends of the beams. The bridge also exhibits some fully expanded and fully contracted deck joints due to the steep slope of the superstructure and subsequent damage to the strip seals

INTERSTATE 78 FACILITIES AND GROUNDS

The I-78 roadway in New Jersey, comprised of concrete slabs, exhibits severe transverse cracking and subsequent settlements throughout the slabs. Condition surveys were performed in 1993 and 1997 by Commission engineering, indicating a significant increase in the number of cracks over the four-year period. Pavement evaluations were performed in

INTERSTATE 78 TOLL BRIDGE FACILITY

1997. The evaluations depict the worst locations of the cracks. In addition the shoulders along the I-78 roadway are deteriorating and in poor condition. A slab stabilization and pavement design study should be performed.

Maintenance has repaired the previously deflected CMU walls of the storage garage. A new salt storage facility was constructed in 2003 under contract T-392R.

When the toll plaza is reconstructed or reconfigured, the permanent attenuators (protective crash cushions) should be considered to be installed at the islands for increased protection of the traveling public and Commission employees.

The Toll Plaza Roadway approach restriping was completed in 2004 under contract T-422AR.

The pavement of the Administration building and the service road leading into the maintenance yard is in poor condition with multiple areas of cracking and distressed pavement. Additionally, the Exit 3 (Route 173) Ramp off Route I-78 is in poor condition exhibiting distressed pavement and numerous cracks.

CONCLUSIONS

INTERSTATE 78 TOLL BRIDGE

The Interstate 78 Toll Bridge is in good condition. Although not as severe, the main river bridge deck slab condition resembles the Delaware Water Gap Toll Bridge regarding the numerous transverse cracks. In order to prevent corrosion of the deck steel from deicing chemicals, it is recommended that a waterproofing membrane and asphalt overlay be installed. An overall Bridge Rehabilitation Contract should be performed. This contract should address the rehabilitation of the deck joints and/or bearings for the Cedarville Road and Carpentersville Road, as well as deck joint rehabilitation to several other approach bridges. All work pertaining to inspection, design, repair plans, and construction should also be included in the overall Bridge Rehabilitation Contract.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2000 Underwater Inspection Report.

I-78 EASTBOUND OVER ROUTE 519

The structure is in good condition with no major defects.

I-78 WESTBOUND OVER ROUTE 519

The structure is in generally good condition with no major defects. A drainage study should be performed for the channel at the Route 519 bridges to address the ongoing erosion and determine if any countermeasures are necessary.

INTERSTATE 78 TOLL BRIDGE FACILITY

I-78 WESTBOUND OVER ROUTE 611

The structure is in good condition. The deck joint seals should be repaired or replaced to prevent advanced deterioration of the underlying steel and pier cap.

I-78 EASTBOUND OVER ROUTE 611

The structure is in good condition with no major defects.

SERVICE ROAD OVERPASS

The structure is in very good condition. Maintenance should continue to maintain the structure as needed.

EDGE ROAD OVERPASS

The structure is in good condition with no major defects.

I-78 WESTBOUND OVER RAMP C

The structure is in good condition with no major defects.

I-78 EASTBOUND OVER RAMP C

The structure is in good condition with no major defects. The east abutment deck joint should be repaired.

CARPENTERSVILLE ROAD OVERPASS

The structure is in good condition. A bearing rehabilitation contract should be performed to address the deck joints and/or bearings at the west abutment in particular, to prevent further deterioration to the underlying steel and bridge seats.

MORGAN HILL ROAD OVERPASS

The structure is in good condition with no major defects.

CEDARVILLE ROAD OVERPASS

The structure is in good condition. A bearing rehabilitation contract should be performed to address the over expanded or over contracted deck joints due to the steep slope of the superstructure. Also, to prevent water infiltration that is causing the prestressing strands at the ends of the beams to rust.

INTERSTATE 78 TOLL FACILITY AND GROUNDS

INTERSTATE 78 TOLL BRIDGE FACILITY

Due to the excessive roadway slab cracking and settlement noted in the majority of the Commission-owned portion of Interstate 78 (especially the NJ portions), an Interstate 78 Roadway Rehabilitation should be performed. The contract should begin with an investigation of the roadway slab condition. A resurfacing study to determine the extent of repairs and the most economical method of rehabilitation and/or stabilization of the roadway should follow this investigation. The Exit 3 ramp off Route I-78 is in poor condition exhibiting distressed pavement and numerous cracks and should be included in the rehabilitation.

Permanent impact attenuators should be considered to be installed during the design of the Open Road Toll Project outlined in the Commission Initiatives.

Maintenance has indicated that the thermostat controls are obsolete and not working properly in the Operations and Maintenance Building/Welcome center. An HVAC study should be performed.

The administration building parking lot, maintenance lot and service road should be milled and repaved.

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

INTERSTATE 78 TOLL BRIDGE FACILITY

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

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Interstate 78 Roadway Rehabilitation (NJ Approach and Main River Bridge) Roadway Slab Stabilization (Study, Design and Construction) Route 519 Drainage Design/Repairs Mill and Overlay Exit Ramp to Route 173 Main Bridge Deck Rehabilitation | | \$42,000,000 |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| *Miscellaneous/Unanticipated Projects | | \$50,000 |
| <u>Buildings and Grounds</u> | | |
| *PA DEP Storm Water Compliance | | \$50,000 |
| *Electronic Surveillance System | | \$2,471,000 |
| *Open Road Tolling | | \$40,000,000 |
| *Electronic Toll Collection - Violation Enforcement System | | \$700,000 |
| *ITS Improvements | | \$800,000 |
| TOTAL COST | \$0 | \$86,213,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| HVAC Study | \$25,000 |
| Substructure and Scour Remediation Contract (Below Water Line) | \$35,000 |
| TOTAL: Future Repair Contracts | <u>\$60,000</u> |
| * Commission Initiative | |

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

GENERAL

EASTON-PHILLIPSBURG TOLL BRIDGE

The Easton-Phillipsburg Toll Bridge (Structure No. 300) carries U.S. Route 22 traffic over the Delaware River. The bridge was opened 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 river. The overall length, which including the approaches on either of the structure is 1,010 feet. The four-lane bridge has a roadway width of 40 feet with 8 ft. concrete sidewalks located outside the trusses on each side. The posted speed limit through the toll bridge facility is 25 mph.

EASTON-PHILLIPSBURG TOLL BRIDGE APPROACH STRUCTURES

The Commission's jurisdiction includes a total of five (5) approach structures. A 430-foot, five-span plate girder viaduct at the New Jersey approach (Broad Street) and a 40-foot prestressed concrete box beam span over relocated Pennsylvania Route 611 on the Pennsylvania approach. In addition, the Commission's jurisdiction also includes two bridges on the Pennsylvania side; Bank Street Overpass, Third Street Overpass, and one pedestrian tunnel.

Approximately 2,000 feet of the Pennsylvania approach was reconstructed in 1982, including new superstructures for the overpasses at Bank Street, Third Street and Pennsylvania Route 611. The center bearing truss 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 2005 inspection included the main river bridge, five (5) approach bridges and the facilities and grounds.

SIGNIFICANT FINDINGS

EASTON-PHILLIPSBURG TOLL BRIDGE

The underside of the Easton-Phillipsburg Bridge, which includes the roadway stringers, floorbeams and the bottom chords of the trusses, have not received an in-depth inspection due to the limited access to those members without the installation of scaffolding or rigging and because of the large amount of bird debris on these members. Since the bird debris is known to be caustic in nature and cause deterioration of the steel, it is recommended that the underside of bridge be cleaned of all debris and then receive a hands on in-depth inspection.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

The general condition of the paint system of the above-deck truss system is fair. The bridge was last painted by contract in 1984. Localized rusting was noted on the truss with numerous areas exhibited paint peeling. Impacted rust was present on a couple of the vertical chord members as well as on the lower chord gusset plate connections. Discoloration was also noted, mostly at the steel above and adjacent to the two right lanes, due to the exhaust fumes from diesel trucks. The floor system paint condition also appeared satisfactory, but with heavy bird debris throughout. Impacted rust was noted between several bridge members and the gusset plate connections.

Transverse cracks were exhibited on the main span's fiber-modified wearing course (with Rosphalt asphalt base course), mainly over floorbeam locations where underlying steel deck repairs were performed by maintenance forces. The patched areas are showing signs of deterioration with cracking and spalling. Sealed longitudinal cracks were also noted in the asphalt in the left lanes of both directions.

The sidewalk reconstruction contract was performed under Contract T-420 and was completed in 2004.

Cover plates over the openings of vertical box members at the sidewalk level were noted to exhibit heavy impacted rust, section loss and perforations. Several of these plates were also non-existent. Maintenance forces should repair and/or replace the plates.

Bird nesting and debris under the bridge deck of the main span continues to be a problem. Extremely heavy pigeon and starling debris and random nests were noted below deck on all floorbeams, lower chords, bracing, and on the insides of all upper box truss members. High acid levels in the droppings are detrimental to the paint system.

Three cracked welds were discovered in the sign supports attached to the bridge in the westbound lanes. Since the support structure is welded in numerous locations these cracked welds are not significant and no immediate repairs are recommended at this time.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. No major problems were noted at either abutment in the underwater inspection report.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

BROAD STREET VIADUCT

Several structural steel members exhibited areas of corrosion beneath the deck joints along curb openings and those exposed directly to the elements. Bearings exhibit light to moderate rusting, especially the base of masonry plates

The deck overlay exhibits areas of transverse cracking and various areas of bituminous patches. Deterioration was also exhibited near the deck joints. Subsequently, several areas of the underside SIP forms exhibit corrosion, including the sidewalk.

Also at the Broad Street Viaduct, the vertical cracks, noted during the 1998 inspections at Piers 2, 3 and 4 on the vertical connection angles and repaired in 1999, appear to be in satisfactory condition. The repaired crack at Pier 3 crack was observed at the inside face of the south fascia girder. At Pier 2 and 4 the repaired cracks were observed at the floorbeam-kneebrace vertical connection angle at the north girder. Cracks begin at the base of the vertical connection angle adjacent to the floorbeam bottom flange and extended along the fillet of the angle. All repairs appear to be holding and no increase in crack sizes was noted.

Cracks were also noted in the base plates of the bridge railing posts at the north and south side of the Broad Street Viaduct. This condition was more prominent at the north side and in the center spans where the bridge curvature is the greatest.

The bird netting in span 1 has been removed and should be replaced (Maintenance).

THIRD STREET OVERPASS

The deck joints are in poor condition. These joints, not included in the Rt. 22 repaving project in 2000, exhibit deteriorated strip seals, spalled/cracked header concrete and overall unevenness. The joints are also noted to be actively leaking with minor rusting to the ends of the fascia stringers. In addition, most of the pavement relief joints are also deteriorated.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

PEDESTRIAN TUNNEL

There were no significant defects at the time of the inspection.

BANK STREET OVERPASS

The deck joints are in poor condition. These joints, not included in the Rt. 22 repaving project in 2000, exhibit deteriorated strip seals, spalling header concrete and settled/missing joint material. Most joints are also noted to be actively leaking. In addition, most of the pavement relief joints are also deteriorated.

The underside of deck overhang exhibited areas of spalling with exposed reinforcement and efflorescence. A number of the bearing anchor bolts on the abutments and piers have sheared off or are missing anchor bolts and exhibit light exfoliated rust. The upper portions (barrier) at the northwest and northeast retaining walls exhibit areas of spalling and delaminated concrete throughout.

The inlet at the northwest corner of the bridge 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. A possible cause of the deficiency is due to the clogging of the drain pipes, allowing runoff to fill the inlet and erode the roadway slab subbase material adjacent to the inlet and deteriorating the concrete inlet walls. In addition, a cracked inlet grate was observed along Third Street just north of the Bank Street Overpass.

ROUTE 611 OVERPASS

The concrete deck and deck joints are deteriorated throughout and have numerous patches, spalls and deteriorated joint material. Maintenance has routinely patched spalls and sealed cracks in the deck and deck joints. The west approach slabs exhibited cracking, spalling and areas of deteriorated bituminous patching.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

Several existing slabs adjacent to the Toll Plaza exhibit medium to wide cracking, spalling and locations of settlement. There are also areas of spalling and cracking along the exit ramp curb east of the toll plaza. In general, the slab replacements and overall toll plaza area are in satisfactory condition with the exception of a few slabs, curbs and pavement relief joints in poor condition.

The steep embankments located at the east and south sides of the maintenance yard, adjacent to the Broad Street ramp, were previously noted to exhibit signs of localized slope failure. Eroded embankment was noted at the base of the slope. These areas appeared stable at the time of this year's inspection.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

The current diesel fuel storage tank, used by Maintenance forces for Commission owned vehicles should be studied to determine if it needs to be upgraded. The current diesel fuel tank has a capacity of 250 gallons and the fuel is dispensed with a hand operated pump. The fuel storage facility at Easton-Phillipsburg is not the same capacity and operation as the other toll facilities.

The roof on the administration building and maintenance garage have exhibited numerous leaks in the past at several locations. Water has previously leaked through the garage roof directly above high-voltage lines, staining walls in the garage. Several other leaking areas have caused staining of the ceiling tiles. The vents in the garage roof are also severely deteriorated. Maintenance forces have covered them with plywood to prevent further water leakage. Maintenance forces are addressing the leaks as they occur with remedial repairs. The roof and vents on the maintenance facility should be analyzed to estimate the costs of replacement.

CONCLUSIONS

EASTON-PHILLIPSBURG TOLL BRIDGE

The main river bridge is in satisfactory condition and is structurally adequate to carry legal highway loading at the time of this year's inspection.

Annual inspection and maintenance operations (i.e. cleaning) of the main river span are limited due to the absence of an underbridge inspection platform and the limited reach of underbridge inspection units to clear the bridge's pedestrian walkways as well as the commission owned lift trucks not being able to reach the top chord of the main trusses.

It is recommended that a design contract be awarded, which will include but not limited to, preparing plans and specifications for the cleaning of the underside of the bridge. Following cleaning operations, while the rigging is in place, an in-depth inspection can be performed.

A rehabilitation contract should be performed for the bridges in this facility. An In-Depth Inspection and Rating should be performed to determine the extent of required repairs. Design and repair plans should also be developed to include, at minimum, the following items:

- Blast cleaning and painting operations
- Mill and repave the main river bridge with an appropriate polymer modified asphalt
- Bird netting installation
- Installation of under bridge inspection walkways
- Sign Structure Replacements
- Approach roadway rehabilitation (Rt. 22)

BROAD STREET VIADUCT

The Broad Street Viaduct is in satisfactory condition. The following is a list of recommended repairs:

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

- Blast cleaning and painting
- Mill and repave with an appropriate polymer modified asphalt and deck/deck joint repairs
- Longitudinal trough drainage improvements to Broad Street Viaduct at curbs
- Substructure repairs and waterproofing
- Sidewalk and railing repairs

ROUTE 611 OVERPASS

The Route 611 Overpass is in satisfactory condition. Deck joint and/or deck reconstruction is recommended and should be included with any approach roadway work.

BANK STREET OVERPASS

The Bank Street Overpass is in satisfactory condition. Deck joint reconstruction and bearing repairs and cleaning/coating the ends of beams and bearings are recommended for this structure.

The inlet at the northwest corner of the bridge and the inlet along Third Street should be repaired (Maintenance).

THIRD STREET OVERPASS

The Third Street Overpass is in satisfactory condition. Deck joint reconstruction and cleaning/coating the ends of beams and bearings is recommended.

PEDESTRIAN TUNNEL

The Pedestrian tunnel is in very good condition. Maintenance should continue to perform routine maintenance, as necessary.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The overhead sign support structure attached to the south fascia of the Broad Street Viaduct, exhibits corrosion, a deteriorating base and peeling paint. The sign support structures on the Pennsylvania approach are in a similar condition. Cracked welds have been found on the bridge mounted sign structures over the westbound lanes near midspan of the main river bridge. Complete replacement of the three sign structures is recommended. A sign structure study is underway under Contract C-367-B.

The deteriorated and cracked concrete slabs on the west side of the Toll Plaza should continue to be replaced. Several of the easterly concrete slabs, especially the westbound lanes, should also be replaced.

A study should be performed to determine the need to replace the diesel fuel storage tanks.

A study should be performed to determine the future salt storage requirements for this facility.

The roof on the administration building and garage should be replaced.

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

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY

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

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Underbridge Cleaning and Inspection Cleaning Inspection Access Design | | \$650,000 |
| Underbridge Access Platform (Construction, CM,CI) | | \$500,000 |
| Replace Sign Structures (4) and Signage Study | | \$1,400,000 |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| *Miscellaneous/Unanticipated Projects | | \$40,000 |
| <u>Buildings and Grounds</u> | | |
| Above-Ground (Diesel) Fuel Storage Tank Replacement | | \$50,000 |
| *Electronic Surveillance System | | \$2,223,000 |
| *NJ DEP Storm Water Compliance | | \$50,000 |
| *Electronic Toll Collection - Violation Enforcement System | | \$500,000 |
| *ITS Improvements | | \$800,000 |
| TOTAL COST | \$0 | \$6,355,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|--|------------------------------|
| E/P Toll Bridge Facility Rehabilitation (Design/Construction) (Main and Approaches) In-Depth Inspection and Rating, Design / Repair Plans Blast Cleaning and Painting, Bird Netting Installation (Main) Seismic Susceptibility Evaluation Approach Bridges Improvements Toll Plaza | \$9,200,000 |
| Replace Roof System on Administration Building & Garage | \$300,000 |
| HVAC Study | \$25,000 |
| TOTAL: Future Repair Contracts | <u>\$9,525,000</u> |
| * Commission Initiative | |

PORTLAND COLUMBIA TOLL BRIDGE FACILITY

GENERAL

PORTLAND COLUMBIA TOLL BRIDGE

The Portland-Columbia Toll Bridge Facility (Structure No. 400) opened to traffic on December 1, 1953 and converted to westbound only toll collection on May 25, 1989, connects Pennsylvania Route 611 at Portland, Pennsylvania with U.S. 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 steel girder system with an approximate total length of 1,309 feet, a 32-foot curb-to curb-width and a posted speed limit of thirty five miles per hour. A rehabilitation contract performed in 1992 included replacement of the existing concrete deck with a cast-in-place deck and concrete safety parapets. The combination sidewalk and maintenance-walk were removed and a new lighting system on the downriver side of the main bridge installed. Approach roadway improvements (NJ and PA) and new drainage systems were also implemented. More recently in 1998, the main river bridge, the pedestrian bridge 1,000 feet north of the toll bridge, and approach structures were cleaned and painted by contract.

The substructures consist of reinforced concrete piers and concrete bin abutments. All substructures are founded on spread footings, except for pier 8, which is founded on piles. The piers are partially granite faced.

PORTLAND COLUMBIA APPROACH BRIDGES

The Commission's jurisdiction on the New Jersey approach includes two additional bridges: the US Route 46 and Locust Street Overpasses. Deck and barrier replacements were made on these two bridges in conjunction with the main river bridge's 1992 rehabilitation contract.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

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

The 2005 inspection included the main river bridge, two (2) approach structures, and the facility and grounds.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY

SIGNIFICANT FINDINGS

PORTLAND COLUMBIA TOLL BRIDGE

The bridge was repainted in 1998. The paint is in good condition.

Fine to medium transverse cracks were observed throughout the main river bridge concrete deck. Above-deck transverse cracks, more prevalent in the middle bay, were also noted below-deck with efflorescence and indicates water infiltration.

The side bracket on the Pier 6 north bearing of span 7, which allows rotation of the bearing during expansion, was repaired since the last inspection.

Several locations of steel, although cleaned and painted in 1998, exhibit small perforations or noticeable section losses, pitting and pack rust especially at support locations and the exposed fascias.

The two cantilever sign structures attached to the bridge are not plumb and level. The sign panels were recently replaced along with the EZ-Pass upgrades.

ROUTE 46 OVERPASS

No significant defects were observed at the time of this years inspection. The paint system is in overall good condition. Maintenance forces should continue to perform routine maintenance as needed.

LOCUST STREET OVERPASS

The paint system is in overall good condition. The deck joints are leaking at the piers due to deteriorated joint material and gaps at the headers. The leaking is causing rust to the underlying steel and staining on the pier caps. In addition, concrete repairs made to the piers have begun to crack and spall.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance parking lot is in fair to poor condition with overall unevenness and cracking of the asphalt pavement. In addition, the additional storage yard and the driveway are in poor condition with numerous areas of deteriorated pavement.

Maintenance personnel have indicated that the roof of the administration building and the maintenance garages are leaking. The leaks have been attended to by the Commissions maintenance forces as well as roofing professionals. The roof was last replaced in 1987.

The HVAC controls are original to when the facility was built approximately 20 years ago. Maintenance has indicated that the controls are not working properly and that repair parts are difficult to find.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY

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

The paint system on the overhead sign structure over the eastbound roadway located at the west approach is in poor condition with areas of rust.

Maintenance has indicated that the salt storage capacity is insufficient for the entire district. Additionally, the current facility is constructed of CMU walls and exhibits signs of deterioration in areas of direct contact with salt; additionally, the roof exhibited impact damage.

CONCLUSIONS

PORTLAND COLUMBIA TOLL BRIDGE

The main river bridge is in good condition and is considered to be structurally adequate to carry legal highway loads at the time of this year's inspection. The locations of steel that exhibited small perforations or noticeable section losses, pitting and pack rust at the exposed fascias have been evaluated and due to the location and extent of the deficiencies it does not affect the load carrying capacity of the bridge.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2000 Underwater Inspection Report.

ROUTE 46 OVERPASS

The US Route 46 Overpass is in very good condition. Maintenance should continue to make repairs as needed.

LOCUST STREET OVERPASS

The Locust Street Overpass is in satisfactory condition. The bridge deck joints should be reconstructed (or at minimum new strip seals) to prevent advanced deterioration of the bearings and pier caps. Also, drainage troughs should be considered beneath the pier deck joints. Interim substructure repairs have been made by maintenance forces. A Rehabilitation Contract should be performed that would include the in-depth inspection, design and repair plan development for the bridge.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance (rear) parking lot and areas of the storage yard access should be reconstructed.

A contract is recommended for the replacement of the Administration Building and Maintenance Garage roofs and is slated to begin in the summer of 2005.

PORTLAND COLUMBIA TOLL BRIDGE FACILITY

A study of the sign structures at the Portland-Columbia Facility should be conducted to determine conformance with MUTCD requirements and the need for strengthening/replacing the structures.

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

Permanent impact attenuators should be installed at the toll plaza.

A study is recommended to be performed to determine the District's deicing requirement. 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 the required maintenance repair items, see the Ninth Annual Maintenance Report.

PORTLAND-COLUMBIA TOLL BRIDGE FACILITY

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Locust Street Bridge Rehabilitation (Design, Construction and CM) Toll Plaza Impact Attenuators | | \$625,000 |
| *Miscellaneous/Unanticipated Projects | | \$20,000 |
| <u>Buildings and Grounds</u> | | |
| *PA DEP Storm Water Compliance | | \$50,000 |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| *Electronic Toll Collection - Violation Enforcement System | | \$300,000 |
| *Electronic Surveillance System | | \$1,428,000 |
| Maintenance Deicing Study | | \$25,000 |
| Signage Study | | \$50,000 |
| Buildings Roof Replacement | | \$330,000 |
| TOTAL COST | \$0 | \$2,970,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$35,000 |
| Rear Parking Lot, Storage Yard and Driveway Paving (Base Reconstruction) | \$240,000 |
| Maintenance Deicing Implimentation | \$1,000,000 |
| HVAC Study | \$25,000 |
| TOTAL: Future Repair Contracts | <u>\$1,300,000</u> |
| * Commission Initiative | |

DELAWARE WATER GAP TOLL BRIDGE FACILITY

GENERAL

DELAWARE WATER GAP TOLL BRIDGE

The Delaware Water Gap Toll Bridge (Structure Nos. 380 & 390) carries Interstate 80 across the Delaware River near Stroudsburg, Pennsylvania, providing a 'gateway' from eastern metropolitan districts to the Pocono recreational areas. 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 Bridge to the George Washington Bridge.

The toll bridge, built by the Commission and opened on December 16, 1953, is a twin, multi-span, steel plate girder bridge 2,465 feet in length. The dual roadways are each 28 feet wide (curb to curb), separated by an aluminum median barrier. A 5-foot wide sidewalk is located on the south side of the eastbound roadway, separated from the travel lanes by a concrete barrier. The speed limit on the approach roadways is fifty miles per hour.

Major rehabilitation work was completed in 1989, which included reconstruction of the toll plaza for one-way toll collection (8 total, westbound), deck replacement, the construction of a New Jersey approach pedestrian walkway, toll plaza access tunnel, and miscellaneous pavement replacements. Other work included in this contract consisted of the installation of the aluminum median barrier, lighting and signing. All toll lanes are equipped for EZ-Pass.

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach, has seven (7) toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped for EZ-Pass.

The 2005 inspection included the eastbound and westbound main river bridges and the facility and grounds.

SIGNIFICANT FINDINGS

DELAWARE WATER GAP TOLL BRIDGE FACILITY

The cast-in-place microsilica concrete (bridge deck slab) roadway and sidewalk deck, installed in 1989, exhibits numerous fine to medium transverse cracks. These cracks were formed during initial pouring procedures. Cores taken in 1989 and again in 1996 showed cracks to have grown to a maximum width of 1/16" at some locations, mostly unchanged, and also showed no signs of corrosion to reinforcement. This year's inspection revealed little to no rust on the stay-in-place forms below and no significant changes in the cracks on the deck slab surface. The transverse cracking throughout the bridge deck (including the sidewalk overhang) does not pose a structural concern at this point. Although the visible portions of the deck appear unaffected, remedial action should be taken to prevent water infiltration through the cracks.

DELAWARE WATER GAP TOLL BRIDGE FACILITY

Longitudinal cracks were also exhibited throughout the bridge deck. Cracks appear to be located over stringer locations. Water laden with deicing chemicals penetrating the combination of transverse and longitudinal cracks may eventually cause spalling in the deck.

The paint condition of the bridge is in generally fair condition (last painted in 1978), with the exception of interior (median) and exterior fascia girders on both roadways, which exhibit moderate rusting and exfoliated rust. The median girders and fascia girders often exhibit moderate to severe impacted rust between the bottom flange plates as well as a build-up of debris. Fascia girders also exhibit rusting at the former sidewalk bracket locations. Most steel exhibits random paint peeling and areas of concrete staining occurring from the 1989 deck replacement.

Bearings also exhibit moderate to heavy rusting, with minor section loss to nuts and bolts; exposed fascia bearings exhibit the worst condition. Rocker bearings have begun to wear depressions into the masonry plates at several bearing locations. Numerous keeper angles (providing restraint against transverse movement) at the expansion bearings exhibit severe wear and rust at the retainage bolt locations. Some retainage bolts were noted to be missing.

The deck joints on the bridge are an additional concern. Deck joints, rebuilt during the deck replacement of 1989, are comprised 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 showing signs of separation from the steel armoring as well as the adjacent concrete deck, allowing water to infiltrate to underlying steel and the bearings. The header material has also settled slightly and has formed medium to large spalls at some locations. Vehicular impact is escalating the deterioration. Maintenance has been repairing spalls as they develop.

It has been noted that an elevation difference is apparent at the deck joints between adjacent spans. This is most notable at Piers 3W and 4W. The differences appear to be unchanged from the last inspection. Measurements were also taken of the bearings and adjacent masonry. See the monitoring program for specific measurements.

The upper substructure partial rehabilitation had been performed by Maintenance forces. Unsound concrete had been removed at numerous locations on the upper portion of piers and has exposed reinforcing steel at several locations, which have been cleaned and epoxy coated. Due to the work effort involved, this work should be completed by an outside contractor to provide concrete cover over the exposed reinforcement bars. Additional areas of unsound concrete and incipient spalling were also noted. Most of the damage was noted on the east face of substructures.

The bridge mounted cantilever sign structure is not plumb and level. All members of the structure, including the bridge attachments exhibit heavy rust. Maintenance forces noted a deflection of the sign structure when the current sign panel was installed. It was observed

DELAWARE WATER GAP TOLL BRIDGE FACILITY

that the sign structure is deflected, however this deflection does not appear to affect the structural capacity of the sign structure.

The 2000 Underwater Inspection Report prepared by Pennoni Associates Inc. and submitted to the Commission in 2001, has found the substructures to be in good condition for both the eastbound and westbound bridges. Although no undermining was observed during the underwater inspection, several areas of the pier footing pedestals were found to be partially exposed. The exposed footings of Piers 7 and 8 of both the eastbound and westbound bridges were visible during this year's annual inspection. Both Pier 7 footings are not founded on piles, however the Pier 8 footings are founded on piles.

DELAWARE WATER GAP TOLL APPROACH ROADWAYS

Reconstruction of the Service Road in New Jersey, which included milling and re-paving from the concrete pavement portion of the roadway east to the Commissions jurisdiction limit with the National Park Service was underway at the time of this years inspection.

The storm water outfalls and embankment slope improvements along the New Jersey Service Road have been reconstructed.

The concrete retaining wall adjacent to the Delaware River, just south of the eastbound bridge and New Jersey Service Road, exhibits moderate to heavy spalling and scaling throughout the upper portions of the wall and barriers.

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The District III Superintendent has requested that the existing Maintenance Facility be expanded. The maintenance garage currently does not have bathroom facilities, locker room facilities or lunch room facilities as present in the other Commission toll facilities. Several of the Commission vehicles are parked outside in the elements and away from the other equipment at this toll facility. A training/meeting room for the District is requested to allow for uninterrupted meetings that normally take place in the garage area. It is anticipated that this building expansion would be a two-story addition.

Maintenance personnel have indicated that the roof of the administration building and the maintenance garages are leaking. The leaks have been attended to by the Commissions maintenance forces as well as roofing professionals. The roof is scheduled to be replaced in the spring of 2006.

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

Maintenance has indicated that the salt storage capacity is insufficient for the entire district. In the event of a major snowstorm, a shortage of salt may occur.

DELAWARE WATER GAP TOLL BRIDGE FACILITY

CONCLUSIONS

DELAWARE WATER GAP TOLL BRIDGE

The bridge is in overall satisfactory condition and is structurally adequate to carry legal highway loading at the time of this year's inspection. The main river bridge and other Commission owned facilities appear to have been well maintained over the years.

A substructure and bearing rehabilitation contract is recommended for this facility. Repair plans should then be developed (including design) for bearing keeper plates, substructure repairs and any other required repairs. A deck condition survey should be performed due to the fine cracks observed throughout the deck.

In addition, a future rehabilitation contract is recommended for this facility. An In-Depth Inspection and Rating should be performed to determine areas requiring rehabilitation. A bridge deck condition study should also be included to determine if any deterioration has occurred. Blast cleaning and painting should also be included. Under this contract, it is recommended that a membrane waterproofing, capable of stopping reflective cracking, and an asphalt overlay be placed on the deck to prevent water seepage into the cracks. New deck joints should be included. Additionally, permanent impact attenuators should be considered to be installed at the toll plaza.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2000 Underwater Inspection Report and address the exposed footings.

DELAWARE WATER GAP TOLL BRIDGE APPROACH ROADWAYS

Repairs to the concrete retaining wall adjacent to the Delaware River, just south of the eastbound bridge and New Jersey Service Road should be included in the bridge rehabilitation contract.

A drainage system should be installed in the access tunnel to drain water that seeps into the tunnel. Water should be channeled into the drainage system or into sump pump. The work should be performed by contract.

DELAWARE WATER GAP TOLL BRIDGE FACILITY

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

A study for the expansion and modifications of the Maintenance Garage is recommended.

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 is recommended to be performed to determine the District's deicing requirement. 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 the required maintenance repair items, see the Ninth Annual Maintenance Report.

DELAWARE WATER GAP TOLL BRIDGE FACILITY

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Northerly Crossing Corridor Congestion Mitigation Study | | \$600,000 |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| Substructure & Bearing Rehabilitation Contract | | \$1,100,000 |
| Deck Condition Survey | | \$25,000 |
| *Miscellaneous/Unanticipated Projects | | \$50,000 |
| <u>Buildings and Grounds</u> | | |
| *Electronic Surveillance System | | \$2,302,000 |
| *PA DEP Storm Water Compliance | | \$50,000 |
| Buildings Roof Replacement | | \$330,000 |
| *Electronic Toll Collection - Violation Enforcement System | | \$800,000 |
| *ITS Improvements | | \$800,000 |
| Maintenance Garage Expansion | | \$800,000 |
| TOTAL COST | | \$6,999,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|--|------------------------------|
| *Rehabilitation Contract (Design / Construction) (Additional \$70 Million Budgeted 2012-2013) | \$54,000,000 |
| Substructure and Scour Remediation Contract (Below Water Line) | \$35,000 |
| HVAC Study | \$25,000 |
| TOTAL: Future Repair Contracts | <u>\$54,060,000</u> |
| * Commission Initiative | |

MILFORD-MONTAGUE TOLL BRIDGE FACILITY

GENERAL

MILFORD MONTAGUE TOLL BRIDGE

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 U.S. Route 206 at Montague, New Jersey to U.S. 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 bridge approximately 1,150 feet in total length. The two-lane bridge has a roadway width of 27 feet 6 inches, with a 4 foot sidewalk located on the outside of the north truss. At the Pennsylvania approach, there are three westbound toll collection lanes that are protected by a canopy and founded on concrete islands. The three toll lanes are equipped for EZ-Pass. The posted speed limit on the New Jersey Approach is forty miles per hour.

MILFORD MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

In 1982 the original deck was replaced with precast concrete deck panels and stringers were relocated (and a fifth stringer added) for the addition of the cantilevered sidewalk. Also included in this 1982 rehabilitation project were modifications to the substructures and bridge lighting, and the addition of the aluminum safety barriers. Maintenance forces finished the reconstruction of the Pennsylvania toll plaza in 1999, converting it to one-way tolls. This project included removing two toll booths and their respective lanes, canopy and reconstructing slabs and installing median barrier and impact attenuators on the ends of the median barrier. In 1998 the New Jersey approach was milled and repaved by contract.

The 2005 inspection included the main river bridge and maintenance facility and grounds.

SIGNIFICANT FINDINGS

MILFORD MONTAGUE TOLL BRIDGE

The overall paint condition of the superstructure is fair, with many areas of localized poor conditions. The bridge was last sand blast cleaned and painted by contract in 1971.

The deck is composed of precast concrete deck panels, which were installed in 1982. Overall the panels are in structurally good condition with localized areas of spalling and exposed reinforcement. However, the transverse joints between precast panels, as well as the full-length longitudinal joint, have a history of leaking. Heavy rusting with localized losses was noted below the deck at the median stringer, locally on adjacent stringers, and at floorbeams beneath panel and deck joints. Transverse cracks with efflorescence were also exhibited on the underside of the concrete deck panels directly beneath transverse joints, as well as other random locations. Maintenance forces have performed remedial repairs by

MILFORD-MONTAGUE TOLL BRIDGE FACILITY

sealing the transverse joints as a regular maintenance item, but evidence of water infiltration noted in localized areas during the inspection. In addition, loose concrete has been removed and any exposed reinforcement has been sealed with epoxy to prevent rusting.

No deck joint drainage trough is present beneath the west abutment finger joint. Water drains directly onto the bridge seat and down the abutment walls. This water leakage is most likely the cause of the past deterioration of the slope protection and swales in front of the west abutment. Maintenance forces have repaired the slope protection and swales. Underlying steel, including the bearings, also exhibit moderate rusting.

There is a slight difference in elevation (approximately $\frac{1}{4}$ "') at the east abutment deck joint that has the potential to snag a snow plow.

At several locations, the bridge scupper pipes are located directly above structural steel, causing water to drop onto underlying steel such as gusset plates and crossbracing. Rust is developing at these locations, especially the bottom chord.

The top and bottom truss chord inverted I-beam was noted to exhibit light rust with water staining in the horizontal web.

The deck slabs' expansion joints, located at pier and abutment locations, showed severe signs of leakage, signified by the moderately to severely rusted floorbeams, stringers, and diaphragms at these locations. Stringer support to floorbeams exhibited moderate to severe section loss to bolts, nuts and seat brackets.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in good condition. Although no undermining was observed during the underwater inspection, several areas of the Pier 2 footing was found to be partially exposed with minor scour activity during the underwater inspection. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

MILFORD MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

At the Pennsylvania approach, just east of the toll plaza, the concrete slabs exhibit severe slab deterioration. Numerous wide cracks and medium to large spalls throughout the slabs and inlet areas were present. The pavement relief joint has also deteriorated. The westbound toll plaza concrete slabs, west of the toll plaza, were recently rehabilitated by Maintenance forces in 1999 and 2000 and appear to be in generally good condition with minor patched areas.

Maintenance personnel have indicated that the roof of the administration building and the maintenance garages are leaking. The leaks have been attended to by the Commissions maintenance forces as well as roofing professionals. The roof was last replaced in 1987 and due to the more severe winter climate the roof has a life expectancy of 15 to 20 years. The replacement of the Operations Building and Maintenance Garage roofs is scheduled to take place in 2006.

MILFORD-MONTAGUE TOLL BRIDGE FACILITY

The water storage system for the facilities is showing signs of distress. The pressure vessel, original to the 1953 construction utilizes mercury controllers and is in need of relining. Water pressure has been an issue and on occasions, the toilets will not flush. Due to the distance to the nearest fire hydrant, fire protection at the facility is below that of other toll bridge facilities. Upgrades to the water supply system and connection to the public water supply is anticipated to take place in 2006.

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

The paint system is failing on the steel cantilever sign structures with multiple areas of light rust. According to Maintenance, the sign panels also appear to have lost their reflectivity.

Maintenance has indicated that the salt storage capacity is insufficient for the entire district. In the event of a major snowstorm, a shortage of salt may occur.

CONCLUSIONS

MILFORD MONTAGUE TOLL BRIDGE

The toll bridge is in overall fair condition and is structurally adequate to carry legal highway loading at the time of this year's inspection.

A design contract for the Rehabilitation of the Milford-Montague Toll Bridge (Contract C430-A) will begin in the Fall of 2005. Some of the proposed improvements are as follows:

- Structure Rehabilitation (Including Substructure and Superstructure, above the Waterline);
- Approach Roadway Rehabilitation/Reconstruction (including NJ/PA intersections)
- Drainage Improvements
- Slope Reconstruction and Stabilization of areas immediately surrounding scupper outfalls
- Roadway Signing and Sign Structures
- Blast Cleaning and Painting (Bridge Superstructure)
- Bridge Deck Rehabilitation
- Toll Plaza Rehabilitation
- Parking Lot Reconstruction

The finger deck joint at the west abutment should be given a trough system beneath the dam opening (similar to the east abutment) to collect water and debris. Prior to the rehabilitation above, Maintenance forces should maintain awareness of the east abutment finger joint snag potential.

Bridge scuppers should be re-directed so the water does not fall onto structural steel. This could be accomplished by the extending the drain pipes below the structural steel. Small

MILFORD-MONTAGUE TOLL BRIDGE FACILITY

drainage “weep” holes should also be considered in the truss' bottom chord I-beams. This work should be included in the Rehabilitation contract.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed under a separate contract and should include repair of any substructure deterioration noted in the 2000 Underwater Inspection Report.

MILFORD MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

The sign panels on the sign structures should be replaced with reflective panels and should be analyzed for MUTCD conformance. The deteriorated cantilever sign structure on the west approach should be replaced. All work will be included in the bridge rehabilitation contract.

The need for permanent impact attenuators should be investigated under the rehabilitation design Contract C430-A.

It is recommended that the water supply be upgraded. Upgrades to the water supply system and connection to the public water supply is anticipated to take place in 2006.

A study is recommended to be performed to determine the District's deicing requirement. 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 the required maintenance repair items, see the Ninth Annual Maintenance Report.

MILFORD-MONTAGUE TOLL BRIDGE FACILITY

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2006 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|---|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Rehabilitation Contract (Design, Construction, CM/CI) | | \$15,000,000 |
| <i>In-Depth Inspection and Rating, Overlay/membrane alternative study</i> | | |
| <i>Design / Repair Plans, Main river bridge waterproof/overlay</i> | | |
| <i>New Deck Joints, Repair deck</i> | | |
| <i>Miscellaneous Steel Repairs</i> | | |
| <i>Seismic Susceptibility Evaluation</i> | | |
| <i>Toll Plaza</i> | | |
| <i>Blast Cleaning and Painting</i> | | |
| <i>Drainage Trough at West Abutment</i> | | |
| <i>Signage</i> | | |
| *Maintenance Management Tracking Program (Projects and Vehicles) | | \$142,800 |
| *Miscellaneous/Unanticipated Projects | | \$35,000 |
| <u>Buildings and Grounds</u> | | |
| *PA DEP Storm Water Compliance | | \$50,000 |
| *Electronic Surveillance System | | \$1,588,000 |
| *Electronic Toll Collection - Violation Enforcement System | | \$300,000 |
| Upgrade Water Supply | | \$600,000 |
| Buildings Roof Replacement | | \$330,000 |
| TOTAL COST | | \$18,045,800 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$35,000 |
| HVAC Study | \$25,000 |
| TOTAL: Future Repair Contracts | <u>\$60,000</u> |
| * Commission Initiative | |

LOWER TRENTON BRIDGE

GENERAL

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.

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.

The 2004 inspection included all five (5) spans, the substructure units and the west approach roadway. The east approach is an NJDOT owned bridge that was not part of the inspection.

SIGNIFICANT FINDINGS

The bridge appears to be in good condition.

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

Several upper lateral bracing connections at horizontal gusset plates exhibit minor exfoliated rust with impacted rust. The sway frame between the center and outer trusses exhibit 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 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 'Trenton Makes' sign support system to the downriver truss shows signs of distress. Moderate rusting with substantial localized section losses were noticed on the connecting I-beams and sign brackets used to fasten the sign to the truss. Broken or missing horizontal U-bolts and connecting plates around vertical truss members combined with moderate impacted rust was also noticed. Water ponding in the I-beams has caused deterioration of

LOWER TRENTON BRIDGE

the I-beam web and splice plate connections. Maintenance forces performed remedial repairs to the sign structure support system in 2001.

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 removed since the previous inspection.

The traffic signals at the intersection of Warren and Bridge Streets, and Warren Street and the Route 1 Ramp are outdated and in need of upgrading

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. The underwater inspection noted 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. 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.

Due to the deterioration of the "Trenton Makes" sign support system, type of connection and high maintenance for the sign lighting, a contract for the in depth inspection, load rating, painting, and sign rehabilitation design was awarded in 2003 under Contract No.C-398A.

The officer shelter previously located on the Pennsylvania side of the bridge will be replaced with a new shelter. The shelter will be used to post a bridge officer who will enforce the posted size and weight restrictions.

Additionally, an upgrade of the traffic signals at the intersection of Warren and Bridge Streets, and Warren Street and the Route 1 Ramp is recommended.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2000 Underwater Inspection Report. Pointing of deteriorated mortar joints should also be addressed.

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

LOWER TRENTON BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Traffic Signal Upgrade At Warren/Bridge Streets | | \$40,000 |
| Traffic Signal Upgrade at Route 1 Ramp/Warren Street | | \$40,000 |
| *Electronic Surveillance System | | \$994,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| Officer Shelter | \$10,000 | |
| TOTAL COST | \$10,000 | \$1,084,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$165,000 |
| TOTAL: Future Repair Contracts | <u>\$165,000</u> |

* Commission Initiative

CALHOUN STREET BRIDGE

GENERAL

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 three-beam guide rails. A timber plank sidewalk is supported by the upper truss on steel cantilever brackets. The bridge is currently posted for a three-ton weight limit and a fifteen-mile per hour speed limit.

The 2004 inspection included all seven (7) spans, the substructure units and both approach roadways.

SIGNIFICANT FINDINGS

Interim structural steel strengthening of stringers and floor beams was performed under contract 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.

The upper truss members were last painted in 1985. The paint system above the deck is in generally satisfactory to fair condition. The floor system was last painted in 1982 and is in poor condition. The steel open-grate deck appears to be in fair condition, with signs of wear. A small section of decking has been broken off or removed in span 1.

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.

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. The 1998 repair contract (Contract No. 345) prepared by the DRJTBC Engineering Department in conjunction with Michael Baker Jr., Inc. with the work performed by a contractor, consisted of removing and replacing the stringers, in the odd lines, that were in unsatisfactory condition. Some stringers that were beyond repair were flame cut in the even lines during Contract No. 345.

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

CALHOUN STREET BRIDGE

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 up and downriver 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 at several locations.

The 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, adjacent to the roadway, was noted to be loose and detached due to have unbolted post bases at several locations because the bolt hole aligned with the space between the timber planks.

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 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, 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.

CALHOUN STREET BRIDGE

CONCLUSIONS

It is recommended that a bridge Rehabilitation Contract be performed in a future contract. The overall rehabilitation should include truss member repairs as well as substructure and scour remediation, which should include reconstruction of the pier tops as well as substructure deterioration noted in the 2000 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.

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

CALHOUN STREET BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Calhoun Street TSB Additional Capacity Alternatives Analysis | | \$325,000 |
| *Electronic Surveillance System | | \$948,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| TOTAL COST | | \$1,283,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Rehabilitation Contract (Design / Construction) <i>In-depth Inspection and Rating, Post Tensioning Bottom Chords Design/Repair Plans (New Floor System), Blast Clean and Paint Bridge Substructure Repairs</i> | \$13,100,000 |
| Substructure & Scour Remediation Contract <i>(Below Water Line)</i> | \$330,000 |
| TOTAL: Future Repair Contracts | <u>\$13,430,000</u> |

* Commission Initiative

SCUDDER FALLS BRIDGE

GENERAL

SCUDDER FALLS BRIDGE

The Scudder Falls Toll Supported Bridge (Structure No. 80) provides access on 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 upriver and downriver 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.

SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

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".

SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

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".

The 2004 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.

SCUDDER FALLS BRIDGE

SIGNIFICANT FINDINGS

SCUDDER FALLS BRIDGE

The main river bridge was last painted in 1981. The paint condition is typically fair to poor on the girders, which exhibit moderate to heavy paint peeling. Locations under deck joints at piers 2, 5 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 outside face exposed to the weather. Several areas of hangers exhibited light to moderate pitting and section loss, apparently a previous condition. Ultrasonic testing was performed on the pin and hanger assemblies during the 2000 Inspections and no significant findings were found.

Cracks in the fascia stringers as well as some of the first interior stringers were found at Piers 2, 5 and 8 due to advanced deterioration of the web. Some of the stringers have begun to sag slightly. The diaphragms in these areas typically exhibit heavy delaminations and section losses. The rivet heads in the top flanges also exhibit severe section loss.

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.

High priority structural repairs (Contract TS-421) have been slated to begin in the summer of 2004. The work to be completed involves 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.

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. Safety walk 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.

SCUDDER FALLS BRIDGE

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.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures (Piers 2 through 8) to be in good condition. Although no undermining was observed during the underwater inspection, several areas of minor to moderate scour were found with moderate debris accumulation. The 2000 Underwater Inspection Report included the Pennsylvania Canal overpass and no problems were noted. Estimated repair costs from the underwater inspection report have been included in this report.

It was observed that the I-95 Scudder Falls bridge experiences excessive congestion of traffic during peak hours. An interim capacity improvement study is recommended.

SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

The Pennsylvania Canal Overpass is generally in satisfactory condition. 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 overhead sign structure has graffiti on both signs above the northbound lanes.

The recently overlaid deck and deck joints are in good condition.

SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

The bridge appears to be 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 2nd 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 recently overlaid deck is in good condition, however 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.

SCUDDER FALLS BRIDGE

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

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 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. Maintenance should continue to repair deteriorated deck joints and seal and repair the LMC overlay of the deck until a rehabilitation contract is awarded.

A Rehabilitation Contract is recommended and will be included as part of the Commission Initiative's I-95 Improvement Project which is outlined in the "Commission Initiatives" section of this report. An In-Depth Inspection and Rating Contract should be performed to determine the extent of required repairs. Combined with the In-Depth Inspection should be the development of repair plans for the main river bridge, which should include cleaning and painting, structural steel repairs, deck joint reconstruction, concrete deck rehabilitation, new parapets, safety walks and railings.

A structural repair contract (Contract TS-421) has been awarded and slated to be completed in the summer of 2004. This contract included stringer repairs at piers 2, 5 and 8.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2000 Underwater Inspection Report.

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

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 BRIDGE

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2000 Underwater Inspection Report.

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.

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

SCUDDER FALLS BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Study/Design/Environmental Documentation Capacity Improvement Project | | \$5,000,000 |
| Deck Joint and Deck Repairs | | \$1,500,000 |
| Interim LMC Patching by Maintenance | \$25,000 | |
| Paint Striping (Including MPT) | \$25,000 | |
| *Electronic Surveillance System | | \$1,876,000 |
| *ITS Improvements | | \$800,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| TOTAL COST | \$50,000 | \$9,186,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| *I-95 Improvement Project (Design and Construction) | \$190,000,000 |
| Substructure & Scour Remediation Contract (Below Water Line) | \$100,000 |
| TOTAL: Future Repair Contracts | <u>\$190,100,000</u> |
| * Commission Initiative | |

WASHINGTON CROSSING BRIDGE

GENERAL

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 downriver 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.

The 2004 inspection included all six (6) spans, the substructure units and both approach roadways

SIGNIFICANT FINDINGS

The deck joint support system is in poor condition. At Pier 1 the transverse supports stringer (riser beam) has failed causing the tooth dam to crack and significantly deflect. At Piers 2, 4 and 5 severely deteriorated transverse support stringers (riser beam) for the joint were also noted, with severe exfoliated rust and perforations to the webs. The stringers have rotated, causing the tooth dam to uplift at the roadway level, more so at Pier 1. In addition, the riser beams are not fully supported and therefore are deflecting downward up to 1" between stringers. A 20 in long longitudinal crack was also observed along the web of the riser beam. The plate atop the east floorbeam (directly below the riser beam) has also buckled apparently due to impacted rust. In addition small perforations were noted at the center of the east tooth dam plate. In general the east riser beams exhibit the worst case of deterioration and the west riser exhibits the worst case of deflection, at each pier.

Notification was submitted to the Commission on May 10, 2004 regarding the inspection findings at the pier 1 deck joint. Although Pier 1 was the location with the worst condition, all four (4) deck joint tooth dam locations at Piers 1, 2, 4 and 5 will be included in the structural repair contract.

Several stringers 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.

WASHINGTON CROSSING BRIDGE

The existing bottom chord post-tensioning rods exhibit light to moderate surface rust throughout. The post-tension rods are redundant structural members that were scheduled to be removed after the completion of Contract No. 326. The post-tension rods were left in place for its redundancy. At numerous locations, the ties supporting the rods are rusting.

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 cool 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 deteriorates.

At the time of the inspection the concrete apron was below the water level, however the concrete aprons at the piers exhibited large cracks when viewed through the water. These cracks can lead to spalling of the aprons and deterioration of the pier protection. The substructure units appeared to be in fair condition, with areas of loose and missing mortar on the northern ends of the piers.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has 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 in various states of either undermining or collapse, created by scour of the channel around the piers. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

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 by debris that washed downriver. The superstructure damage was incidental and does not require repair. High priority repairs to the substructure were completed by contract.

CONCLUSIONS

The bridge is in poor condition due to the condition of the deck joints, west abutment and scour.

Deck joint tooth dam and riser beams at Piers 1, 2, 4 and 5 should be replaced.

WASHINGTON CROSSING BRIDGE

An In-Depth Inspection and Rating is recommended. The last In-Depth Inspection and Rating Contract (No. 326) was performed in 1992, prior to the rehabilitation done in 1994.

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 2000 Underwater Inspection Report.

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.

Even though the lower chord post tensioning rods are redundant structural members, they should be cleaned and painted and the support ties replaced.

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

WASHINGTON CROSSING BRIDGE

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

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|---|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Deck Joint Replacement/Rehabilitation at Pier 1,2,4 & 5 Riser Beams / Tooth Dams (Completed) | | \$300,000 |
| *Electronic Surveillance System | | \$913,000 |
| Rehabilitation Contract (Design, Construction, CM) <i>In-Depth Inspection and Rating</i> <i>Design/Repair Plans</i> <i>Blast Clean and Paint Bridge</i> <i>Post Tensioning Design / Evaluation</i> <i>Substructure Repairs</i> | | \$12,000,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| TOTAL COST | | \$13,223,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$1,700,000 |
| TOTAL: Future Repair Contracts | <u>\$1,700,000</u> |
| * Commission Initiative | |

NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

GENERAL

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.

SIGNIFICANT FINDINGS

Since the bridge was under construction under Contract No. TS-370A by J.D. Eckman, at the time of our inspection, a one-day cursory visual inspection was conducted. During this inspection the areas of the bridge that were completed were in excellent condition. The rehabilitation was completed and the bridge was reopened on June 7, 2004.

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

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.

CONCLUSIONS

The structure should be inspected on its current bi-annual inspection schedule, however, if additional flood damage is uncovered, a load rating and analysis may be required.

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 2000 Underwater Inspection Report.

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

NEW HOPE-LAMBERTVILLE TOLL SUPPORTED BRIDGE

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

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Electronic Surveillance System | | \$906,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| <u>Buildings and Grounds</u> | | |
| Code Use and Occupancy Study of Fire House | | \$25,000 |
| TOTAL COST | | \$941,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$300,000 |
| TOTAL: Future Repair Contracts | <u>\$300,000</u> |

* Commission Initiative

CENTRE BRIDGE-STOCKTON BRIDGE

GENERAL

CENTRE BRIDGE-STOCKTON BRIDGE

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 per axle).

The 2004 inspection involved a one-day cursory visual walk through inspection of the main bridge, which included the entire structure. The Pennsylvania Canal Overpass (Structure No.161) was inspected in 2004 and is included in the next section.

CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL OVERPASS

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 width is 20'-0" and the span length is 63'-0".

SIGNIFICANT FINDINGS

CENTRE BRIDGE-STOCKTON BRIDGE

Repairs were completed in 1998 (under Contract No. 344) on the bottom chords. 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.

CENTRE BRIDGE-STOCKTON BRIDGE

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 losses. 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.

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%.

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.

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 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.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. Scour was noted at piers two through five with subsequent undermining occurring at piers three, four and five during the underwater inspection. The noted undermining was not noted in the last underwater inspection, but does not affect the structural integrity of the piers. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

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 in particular, rise to run ratio, tread depth, and hand railing dimensions. Maintenance forces have performed some repairs to damaged areas of the staircase.

CENTRE BRIDGE-STOCKTON BRIDGE

During the post flood inspection performed in early April 2005, the downriver sidewalk and railing sustained minor damage caused by debris floating downstream. No other damage was evident during post flood inspection.

CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL BRIDGE

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. A new safety fence has been installed at the south side of the bridge.

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 and 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.

The southwest staircase is in fair condition and should be replaced to meet current building codes.

A Rehabilitation Contract is recommended for this bridge, including the southwest staircase and following the bottom chord rehabilitation. 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 is not required. This contract, however, 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, which should include structural steel repairs, the southwest staircase replacement and substructure repairs. Blast cleaning and painting of the bridge should be included.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of the substructure deterioration noted in the 2000 Underwater Inspection Report.

CENTRE BRIDGE-STOCKTON BRIDGE

CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL OVERPASS

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

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

CENTRE BRIDGE-STOCKTON BRIDGE

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

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|---|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Rehabilitation Contract (Design / Construction) <i>In-Depth Inspection & Rating, Post-Tensioning Evaluation / Design Design/Repair Plans (floor system), Blast Cleaning and Painting Substructure Repairs (above water line)</i> | | \$6,700,000 |
| *Electronic Surveillance System | | \$1,005,000 |
| *Miscellaneous/Unanticipated Projects | | \$5,000 |
| TOTAL COST | | \$7,710,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|--|------------------------------|
| Substructure & Scour Remediation Contract <i>(Below Water Line)</i> | \$780,000 |
| TOTAL: Future Repair Contracts | <u>\$780,000</u> |
| * Commission Initiative | |

LUMBERVILLE - RAVEN ROCK BRIDGE

GENERAL

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.

The 2004 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 sound, the seal seems to be leaking evident 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. Considering no evident damage to the deck and the function of the post tensioning, it does not appear to affect the structural integrity of the structure.

LUMBERVILLE - RAVEN ROCK BRIDGE

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. ***During the post flood inspection performed in early April 2005, the upstream end of Pier 4 sustained minor damage. A small area of loose stones and missing mortar was observed at the base of the pier, however the defects do not appear to be detrimental to the substructure.***

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory 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 has worsened since the previous underwater inspection and appears to be the most critical. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

At the southwest corner of the bridge, the stone retaining wall to the east of the Commission-owned dwelling is deformed. At the time of the inspection, the wall appeared to be stable.

CONCLUSIONS

The bridge has been well maintained and is structurally capable of carrying legal pedestrian loading at the time of the inspection. Having been rehabilitated in 1993, the bridge is in generally good structural condition.

Any further necking or corrosive section loss to the ends of lower horizontal wind bracings or fascia T's may warrant future replacement 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.

LUMBERVILLE - RAVEN ROCK BRIDGE

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2000 Underwater Inspection Report.

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

LUMBERVILLE-RAVEN ROCK PEDESTRIAN BRIDGE

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

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| <u>Buildings and Grounds</u> | | |
| House Inspection/Repair Study | | \$25,000 |
| *Electronic Surveillance System | | \$129,000 |
| Retaining Wall Reconstruction | | \$250,000 |
| TOTAL COST | | \$414,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Blast Clean and Paint Bridge | \$1,500,000 |
| Substructure & Scour Remediation Contract (Below Water Line) | \$530,000 |
| TOTAL: Future Repair Contracts | <u>\$2,030,000</u> |
| * Commission Initiative | |

UHLERSTOWN - FRENCHTOWN BRIDGE

GENERAL

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 upriver 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.

The 2004 inspection included all six (6) spans, the substructure units and both approach roadways

SIGNIFICANT FINDINGS

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 normal wear.

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.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. The underwater inspection report noted 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 2000 Underwater Inspection Report have been included in this report.

CONCLUSIONS

The bridge is in excellent condition.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2000 Underwater Inspection Report.

The flood damage warrants the sidewalk to remain closed until repairs are made to the bridge.

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

UHLERSTOWN-FRENCHTOWN BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Electronic Surveillance System | | \$980,000 |
| *Miscellaneous/Unanticipated Projects | | \$30,000 |
| TOTAL COST | | \$1,010,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$475,000 |
| TOTAL: Future Repair Contracts | <u>\$475,000</u> |

* Commission Initiative

UPPER BLACK EDDY - MILFORD BRIDGE

GENERAL

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.

This year's inspection included all three (3) spans, the substructure units and both approaches.

SIGNIFICANT FINDINGS

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 of the two.

Light to moderate rusting was exhibited at most of the fascia stringers (and shim plates) and localized 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

Several bays of the below-deck superstructure were noted to contain bird nests and subsequent 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 section losses.

UPPER BLACK EDDY - MILFORD BRIDGE

The concrete-filled steel deck is showing signs of wear especially at 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 at 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.

The officer's shelter septic sewer system has been reported to be not functioning properly.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. The underwater inspection report noted local scour has washed away the channel bottom to bedrock at both piers. Pier 1 has minor voids under the sheet-piling jacket at two locations. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

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 in 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

UPPER BLACK EDDY - MILFORD BRIDGE

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 2000 Underwater Inspection Report.

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

UPPER BLACK EDDY-MILFORD BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|----------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Electronic Surveillance System | | \$917,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| Officer's Shelter Sewer System | | \$10,000 |
| TOTAL COST | | \$937,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Rehabilitation Contract (Design / Construction) | \$5,500,000 |
| In-Depth Inspection and Rating | |
| Design / Repair Plans | |
| Spot Clean/Painting | |
| Bridge Deck Rehabilitation | |
| Substructure & Scour Remediation Contract (Below Water Line) | \$670,000 |
| TOTAL: Future Repair Contracts | <u>\$6,170,000</u> |

* Commission Initiative

RIEGELSVILLE BRIDGE

GENERAL

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 rest 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.

This year's inspection included all three (3) spans, the substructure units and the approach roadways.

SIGNIFICANT FINDINGS

Under Contract TS-391, the Riegelsville Bridge has undergone a first step towards the full rehabilitation of this structure as part of the Commission's 10-year capital campaign 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.

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 losses throughout. These conditions occur mostly beneath the

RIEGELSVILLE BRIDGE

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 7 years and have not increased in size. These plates are not considered a primary structural member.

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. Typically there is no vehicular protection to the towers (or hangers) across the length of the bridge, except for the lower rubrail.

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:

- A few of floor beam 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. ***A design contract is anticipated to be issued under Assignment C-413B-6 for design repairs to the apron.***

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001 under separate cover, has found the substructures to be in good condition. The underwater inspection report noted both piers exhibited loss of rock protection, which has created an undermined condition beneath the concrete aprons at some locations. A section of the concrete apron at pier 2 has also been washed away. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

RIEGELSVILLE BRIDGE

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

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 is not only to address the deficiencies of the bridge, but also to increase, if possible, the current load rating of the structure.

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 2000 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 should be repaired.

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

RIEGELSVILLE BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Electronic Surveillance System | | \$917,000 |
| Pier Apron Repair (Design and Construction) | | \$175,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| TOTAL COST | | \$1,102,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Rehabilitation Contract (Design / Construction) | \$5,000,000 |
| <i>In-depth Inspection and Rating</i> | |
| <i>Design/Repair Plans (new floor system)</i> | |
| <i>Blast Clean/Paint</i> | |
| <i>Three-beam Guide Rail</i> | |
| <i>Mill/Repave Approaches</i> | |
| <i>Substructure Repairs (above water line)</i> | |
| Substructure & Scour Remediation Contract (Below Water Line) | \$650,000 |
| TOTAL: Future Repair Contracts | <u>\$5,650,000</u> |

* Commission Initiative

NORTHAMPTON STREET BRIDGE

GENERAL

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.

The 2004 inspection included all three (3) spans, the substructure units and the approach roadways.

SIGNIFICANT FINDINGS

The bridge is in good condition having just undergone rehabilitation in 2002 under contract TS-365. ***However, the structure lacks full under bridge access.***

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition.

One of the vertical posts that had previously been heat straightened during the recent rehabilitation has become distorted again. A design contract (Contract No. C-372A-6) to repair the member has been awarded.

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.

There is minor settlement of the southeast and southwest sidewalks as well as the southeast stone parapet.

During the post flood inspection performed in early April 2005, debris floating downstream had caused damage to the bridge railing and sidewalk, as well as minor impact damage to the steel superstructure. This damage, combined with the need to remove a large amount of debris for inspection, resulted in closing the bridge and sidewalks for a number of days. Additionally, the flooding caused damage to the underbridge lighting and minor erosion to the New Jersey banks. None of the damage threatens the structural integrity of the structure.

NORTHAMPTON STREET BRIDGE

CONCLUSIONS

Damages caused by the flood to the main superstructure (bottom chord) do not require repairs at this time. However, the damage to the northern sidewalk railing, sidewalk planks and one fascia sidewalk stringer should be repaired. The north sidewalk should remain closed until these repairs are completed. Additionally, the underbridge lighting damaged by the flood should be repaired by contract.

Access cables should be installed to allow maintenance as well as inspectors easier access to the underside of the bridge.

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

NORTHAMPTON STREET BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Buckled Truss Member Repair (Design, Construction & CM) | | \$45,000 |
| Inspection/Access Cable (Design and Construction) | | \$140,000 |
| *Electronic Surveillance System | | \$917,000 |
| *Miscellaneous/Unanticipated Projects | | \$50,000 |
| TOTAL COST | \$0 | \$1,152,000 |

FUTURE REPAIR CONTRACTS
 (Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---------------------------------------|------------------------------|
| TOTAL: Future Repair Contracts | \$0 |
| * Commission Initiative | |

RIVERTON-BELVIDERE BRIDGE

GENERAL

The Riverton-Belvidere Toll Supported Bridge (Structure No. 320.0) 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 three-beam railings. In addition, a concrete-filled steel-grating sidewalk is supported on the upper 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.

This year's inspection included all four (4) spans, substructure units and both approaches.

SIGNIFICANT FINDINGS

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.

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.

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.

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

RIVERTON-BELVIDERE BRIDGE

water infiltration from the concrete deck. The approach sidewalk is in poor condition exhibiting deterioration and cracking throughout.

The upper lateral wind bracing is in fair condition, exhibiting corrosion and necking at end connections.

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.

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.

The vertical diagonal truss members at the sidewalk level have connection tie plates in which several exhibit impacted rust, corrosion and subsequent bending.

The bridge railing behind the newly installed three-beam guide rail on the south side of the bridge is rusted throughout and is staining the guide rail with rust.

The officer's shelter at the New Jersey approach is not protected from traffic impact by means of a 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 also worn and discontinuous. The Pennsylvania approach pavement is in fair to poor condition.

Adjacent to the southeast retaining wall at the rear of the officer's shelter, the embankment and neighboring sidewalk have previously settled. Additional riprap has been added to the embankment by Maintenance forces and appears to have stabilized the slope. The concrete sidewalk has previously settled and cracked and appears to have stabilized during this year's 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.

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 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. Although no undermining was observed during the underwater inspection, pier 2 was noted to exhibit signs of scour with missing or deteriorated concrete bags. All piers exhibit approximately 25-30% section loss to steel sheeting. Estimated repair costs from the 2000 Underwater Inspection Report have been included in this report.

RIVERTON-BELVIDERE BRIDGE

CONCLUSIONS

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.

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 2000 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 Ninth Annual Maintenance Report.

RIVERTON-BELVIDERE BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|---|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| Steel Repairs in End Bays at Both Abutments, Sidewalk Floorbeams, Stringers (Maintenance) | \$4,000 | |
| Rehabilitation Contract (Design and Construction) <i>Rehabilitate Floor System</i> <i>Sidewalk Rehabilitation</i> <i>Blast Clean and Paint Bridge</i> <i>Substructure Repairs (Above Water Line)</i> <i>Approach Re-Paving</i> | | \$6,150,000 |
| *Electronic Surveillance System | | \$795,000 |
| *Miscellaneous/Unanticipated Projects | | \$5,000 |
| TOTAL COST | \$4,000 | \$6,950,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$40,000 |
| Replace Storage Garage Roof | \$225,000 |
| TOTAL: Future Repair Contracts | <u>\$265,000</u> |

* Commission Initiative

GENERAL

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, was 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.

The 2004 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. Although no change in movement was noted from last year, the wall should be monitored during each inspection.

The 2000 Underwater Inspection Report prepared by Pennoni Associates, Inc. and submitted to the Commission in 2001, has found the substructures to be in satisfactory condition. The underwater inspection report indicated all piers were noted to have broken, missing or undermined sections of concrete aprons, with marine growth and debris.

Estimated repair costs from the 2000 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 2000 Underwater Inspection Report.

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

PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS
FUNDED BY THE GENERAL RESERVE FUND

| Bridge and Roadway Recommended Improvements | 2005 Improvements by Commission Forces - Cost of Materials Only | General Reserve Fund |
|--|--|-------------------------------------|
| <u>Bridges, Roadways, Sidewalks, and Approaches</u> | | |
| *Electronic Surveillance System | | \$114,000 |
| *Miscellaneous/Unanticipated Projects | | \$10,000 |
| TOTAL COST | | \$124,000 |

FUTURE REPAIR CONTRACTS

(Subject to sufficient appropriation by the Commission)

| <u>DESCRIPTION</u> | <u>ESTIMATED COST</u> |
|---|------------------------------|
| Substructure & Scour Remediation Contract (Below Water Line) | \$1,500,000 |
| TOTAL: Future Repair Contracts | <u>\$1,500,000</u> |

* Commission Initiative

2005 TRAFFIC ENGINEERING REPORT

Year 2006 Toll Bridge Traffic Volume And Revenue Projections



Delaware River
Joint Toll Bridge
Commission

Submitted to:

Delaware River Joint Toll Bridge Commission

Administration Building, 110 Wood Street
Morrisville, PA 19067

December 16, 2005

COPY

Gregory K. Farnum, P.E.

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2005 TRAFFIC ENGINEERING REPORT
YEAR 2006 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 2006 revenues will be enough to satisfy the conditions of the Bridge System Revenue Bonds, Series 2003. Specifically, Section 703 (b), paragraph 2 of the Bridge System Revenue Bonds, Series 2003 states 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.

The Commission has made several recent changes to the toll structure and operations at the toll bridges. On November 30, 2002, an electronic toll collection (ETC) system utilizing E-ZPass technology was introduced, with tolls being increased for all vehicle classes on all toll bridges, with discounts given to E-ZPass vehicles. In addition, toll collection at the New Hope – Lambertville Toll Bridge was converted to one-way westbound, the same as the other Commission toll bridges. On October 31, 2003, tolls for passenger cars were reduced, and on January 1, 2004, tolls for trucks were increased.

Revenues for 2006 were projected by applying the current toll structure to the 2006 projected volumes for each vehicle type on the seven toll bridges under the jurisdiction of the Commission.

The sum of year 2006 projected toll bridge revenues (\$80,449,289) under the current toll structure is high enough to satisfy Section 703 (b), paragraph 2 of the Bridge System Revenue Bonds, Series 2003. Table 16 lists the projected revenues and expenditures for the year 2006. Since there is a projected Debt Service Coverage Ratio of 2.99, the requirements of the Bridge System Revenue Bonds, Series 2003 are projected to be met.



2005 TRAFFIC ENGINEERING REPORT
YEAR 2006 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 toll bridges for the year 2006. The seven 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 2006 projected toll revenues (under the current toll structure) will satisfy the requirements of the Bridge System Revenue Bonds, Series 2003. Specifically, Section 703 (b), paragraph 2 of the Bridge System Revenue Bonds, Series 2003 states 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.



2005 TRAFFIC ENGINEERING REPORT
YEAR 2006 TOLL BRIDGE TRAFFIC VOLUME AND REVENUE PROJECTIONS
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

METHODOLOGY

To project traffic volumes on the toll bridges for the year 2006, 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.

We considered the minor reduction in passenger car tolls, possible diversions to toll supported bridges due to the increased truck tolls, and possible diversions from the Pennsylvania Turnpike due to increases in tolls on their facility.

YEAR 2006 DEVELOPMENT PROJECTS

County planning/engineering offices for the eight counties along the Delaware River within the study area (Bucks, Northampton, Monroe, Pike, Mercer, Hunterdon, Warren, and Sussex) as well as staff from PennDOT and NJDOT were contacted to learn of large developments which could have a major affect on toll bridge volumes during the year 2006. While several development projects are underway, only a few major projects are expected to open/expand/contract during the 2006 calendar year. For informational purposes, we have discussed major projects in Bethlehem which may reach full buildout in the distant future but will likely not contribute any traffic during the year 2006.

District 1

In Mercer County, the Mercer Mall located on Route 1 approximately 7.5 miles from the Trenton-Morrisville Toll Bridge received approval in April 2005 for a 25,000 square foot expansion, and they are expecting approvals shortly on an additional 20,000 square foot expansion. The additional 45,000 square feet is expected to be occupied by 2006.

The Quakerbridge Mall, located next to the Mercer Mall is considering an expansion, but no submission has been made at this point. An aggressive approval process would not have the expansion completed by the end of 2006.

Nonetheless, no additional traffic from Pennsylvania is anticipated to cross the Trenton-Morrisville Toll Bridge to use the Quakerbridge Mall or the Mercer Mall, since the Oxford Valley Mall located on Route 1 in Middletown, Bucks County is less than seven miles from the Trenton-Morrisville Toll Bridge. There are several other medium sized developments in Mercer County 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, small industrial park developments totaling almost 600,000 square feet have been proposed in Bristol, Bensalem, Yardley and Falls during 2005. These projects could use the turnpike bridge, the Scudder Falls Toll Supported Bridge, or the Trenton Morrisville Toll Bridge to cross into New Jersey. In Morrisville, a 90,000 square foot industrial project is proposed on Pennsylvania Avenue, which will likely use the Trenton Morrisville Toll Bridge. Nonetheless, we have not assumed any additional traffic crossing the Trenton-Morrisville Toll Bridge from these buildings in 2006.



2005 TRAFFIC ENGINEERING REPORT
YEAR 2006 TOLL BRIDGE TRAFFIC VOLUME AND REVENUE PROJECTIONS
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

The Matrix development, consisting of approximately 190 acres in Lower Makefield and Middletown Townships is considering some office space and age restricted homes, but the project has been in litigation. Even if the litigation is resolved shortly, revised plans might be resubmitted for approvals in 6-8 months at the earliest (mid 2006). Nothing will be occupied in 2006.

District 2

The total area of the Bethlehem Commerce Center project on PA Route 412 off I-78 covers 1,600 acres (ten square miles) and is now being considered as a site for an \$879 million casino project. The project is considering a 300,000 square foot casino with 5,000 slot machines, a 500 to 1,000 room hotel, a convention center, 800,000 square feet of retail space, up to 1,200 apartments, a festival hall, a 3,000 seat arena, and a spa. While very large, this project is years off, assuming a gaming license is obtained.

Another casino is being considered in Allentown near Union Boulevard and Dauphin Street. This \$525 million casino is considering 100,000 square feet with 5,000 slot machines, along with other amenities. Again, nothing will happen with this project during 2006.

In addition to the casinos, an upscale retail center of approximately 1.0 million square feet is being considered in Bethlehem on Route 33 and Freemansburg Road, but plans are speculative, and nothing will occur in 2006.

Olympus is relocating headquarters from Melville, New York (on Long Island) to Upper Saucon, and 800 – 1,000 jobs will be created. Given the 120 mile distance between the current and proposed use, it is assumed that high level employees will relocate to Pennsylvania and support staff will find another job in Long Island. We do not anticipate any commuters from New Jersey.

Several smaller developments are underway, but these are not expected to alter traffic volumes on the toll bridges.

In Warren County, there are approvals for a 226-unit subdivision in Mansfield and a 303-unit subdivision in Harmony. Both projects are on hold at this time, and no homes will be occupied in 2006.

Two developments of approximately 300 units each are proposed in Pohatcong, but these will also not be occupied in 2006. A 244 unit adult housing development is proposed in Belvidere, but no approvals have been issued, and no traffic will cross toll bridges in 2006. A 250 unit development is being considered in Phillipsburg, but no plans have been submitted at this time.

No major developments are proposed in Hunterdon County for 2006.

District 3

Phase 1 of the Mountain Laurel Center for the Performing Arts in Bushkill, Pike County, PA opened in August 2003, but all shows for the 2004 season were cancelled. However, there were 29 events during the summer of 2005. While the 2006 schedule is not complete, we have assumed the same limited operations during the summer of 2006, with no traffic increases assumed for 2006.



2005 TRAFFIC ENGINEERING REPORT
YEAR 2006 TOLL BRIDGE TRAFFIC VOLUME AND REVENUE PROJECTIONS
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

The second phase of this project is to have a 55,000 square foot Cultural Arts and Benefactors building and a theater with 1,100 seats, but it is on hold at this time.

Adjacent to the Performing Arts Center, up to 2,400 housing units are being considered in Lehman Township. At this point, there are no approvals for phases 1-4, but many homes will be built in the future.

In Blooming Grove Township, Pike County, the Pike County Industrial Park is still vacant. The site has 300 acres, but no individual uses have been submitted yet. Again, the site will be a large traffic generator when completed, but the project just received final approval at the township level. In addition, it is located in the center of the county, not very close to any bridges. Therefore, we have not assumed any additional traffic crossing the bridges from this project.

A 135-unit residential development will be completed and occupied in 2006, but it is in Delaware Township near the Dingmans Choice Bridge, with most automobile traffic assumed to cross the Dingmans.

In Monroe County, casinos are under consideration in Tobyhanna and Paradise. The Tobyhanna site at I-80 / I-380/PA 940 is considering approximately 1.0 million square feet, along with up to 2,000 homes. However, these developments are far off, and will not add traffic during 2006.

The Shawnee Valley residential development located just north of the Delaware Water Gap Toll Bridge received approvals for approximately 1,500 homes in 1988, and is starting to move forward. The first stage of approximately 200 homes will be built soon, but no specific increase was assumed for 2006.

In Sussex County, a large retail, residential and office development is being considered at Ross Corner (Routes 206 and 15) in Frankford Township. As there is opposition to the project, a committee has been formed to discuss the project scope. No plans have been submitted, and any development is still years away. No specific increase in bridge crossings were assumed from this development.

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:

Bucks County, Pennsylvania

- ☒ The Pennsylvania Turnpike will have an interchange with I-95 in Bristol. The project is in the early stages, and construction is estimated for 2008. No changes will occur in 2006.



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- ☑ The I-95 interchange with Newtown-Yardley Road (PA 332) in Lower Makefield is under construction and will be completed in late 2006. This project is not anticipated to alter traffic volumes on the Scudder Falls Bridge or the Trenton-Morrisville Toll Bridge.
- ☑ US Route 1 bridge decks in Middletown and Bensalem will be rehabilitated, but construction is not scheduled for 2006.
- ☑ A pedestrian link will be constructed in New Hope from the Delaware River to the public parking lot. Construction is scheduled for 2007, but this is not anticipated to alter traffic volumes in 2006 or 2007.

Mercer County, New Jersey

- ☑ Trenton-Camden Light Rail Train – The Riverlink began service in March 2004, and connects the Sovereign Bank Arena and Waterfront Park in Trenton and several Burlington County river towns to the New Jersey State Aquarium, Campbell's Field and the USS New Jersey in Camden. While the line has reduced vehicular traffic in Trenton and Camden from New Jersey patrons, it is not anticipated to have any impact on Commission bridge crossings.

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 eleven vehicular toll-supported bridges and the seven toll bridges. For the purpose of this study, volumes and toll revenue data from the years 2000 to 2005 were used.

Monthly traffic volume data for the toll-supported bridges is summarized on a yearly basis from 2000 to 2005, 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. The Northampton Street and Calhoun Street Toll Supported Bridges carry approximately 7-8 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. 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-year trend generally less than three percent per year. Of exception are the Uhlerstown-Frenchtown, Riegelsville, and New Hope-Lambertville Toll Supported Bridges. We note that



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volumes at Uhlerstown-Frenchtown have remained consistent for the past three years, while volumes at Riegelsville during 2004 are similar to those from 2003. The Lower Trenton 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.

During 2001, The Uhlerstown-Frenchtown Bridge was closed for repairs during weekdays from March through July, with most traffic diverting to the Upper Black Eddy-Milford Bridge and some diverting to the Centre Bridge-Stockton Bridge. Year 2002 to 2004 volumes indicate that traffic has returned to Uhlerstown-Frenchtown, but not back to the levels prior to construction. The Riegelsville Bridge has remained essentially unchanged from 2000 to 2002, and then had almost 400,000 fewer vehicles in 2003 through 2005. Conversely, the Lower Trenton Bridge had modest growth from 2000 to 2001, and then a spike in traffic during 2002 and a higher spike in 2003. Volumes during 2004 were similar to 2003 levels. The traffic counter was not connected during most of 2005, so a comparison of recent volumes on this bridge is not possible. 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 days, but the Washington Crossing Toll Supported Bridge was closed for almost the entire month.

Reviewing information from the seven toll bridges under the jurisdiction of the Commission during 2005, we found the Trenton-Morrisville (US Route 1), I-78, Easton-Phillipsburg (US Route 22), and Delaware Water Gap (Interstate 80) bridges carry between 6.2 million and 9.9 million toll paying (westbound) vehicles per year. The remaining three toll bridges carry between 1.3 million and 1.8 million toll paying (westbound) vehicles per year, except for the New Hope-Lambertville Toll Bridge, which carried 2.1 million vehicles during 2004 due to the construction at the New Hope-Lambertville Toll Supported Bridge. These figures have remained consistent over the past few years.

The five-axle tractor-trailer continues to be the most common truck type, representing approximately 10 percent of vehicles crossing the seven toll bridges during 2005, and estimated to comprise approximately 10 percent of vehicles during 2006 but generating approximately 59 percent of the 2006 toll revenue. Conversely, passenger cars represented approximately 86 percent of the vehicles on the seven toll bridges during 2005, and are projected to generate approximately 27 percent of the toll revenue during 2006. The volume figures have remained consistent for the past several years.

YEAR 2006 TRAFFIC VOLUME AND TOLL REVENUE PROJECTIONS

Based on the findings listed above, a growth or reduction factor was applied to 2005 data for each vehicle type on each toll bridge to project year 2006 volumes. Generally, recent one-year to three-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 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



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smaller toll supported bridges to close for two days in September 2004, but it is doubtful that this had any major impact on toll revenues.

There were generally no abnormalities during 2005. The floods during April 2005 closed several small toll supported bridges for just four days. The Washington Crossing Toll Supported Bridge was closed for almost the entire month of April 2005, but this likely shifted vehicles to the Scudder Falls Toll Supported Bridge or the New Hope-Lambertville Toll Supported Bridge. Gasoline prices were steadily rising during the summer months to approximately \$2.60 per gallon in New Jersey. The effects of Hurricane Katrina caused gasoline prices to spike from approximately \$2.60 per gallon to \$3.30 per gallon from late August to late September, but by late November 2005, gasoline was observed at \$1.85 per gallon in New Jersey. No long term effect is expected from the September spike in prices.

Given the closure of some toll supported bridges for two days in September 2004 and very high gas prices in 2005, one might expect much higher volumes on the toll bridges in September 2004 as compared to September 2005. While the seven toll bridges had approximately 50,000 more toll vehicles during September 2004, this represents just a 1.6% reduction in the 3.1 million vehicles.

We generally considered the average growth rates on the toll bridges from the years 2003 to 2005, and used these rates as a basis for projected growth. Minor adjustments were made to these average rates to account for expected traffic changes in 2006, such as the stabilizing of traffic on the New Hope-Lambertville Toll Bridge.

Tables 7 through 13 illustrate actual traffic volumes for the seven toll bridges for the years 2000 through 2005, as well as the projected year 2006 volumes. The current toll structure was applied to the projected 2006 volumes to determine the projected year 2006 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 2001 (April 29 – May 5) 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. With respect to the E-ZPass penetration rate for trucks, we used data from October and November 2003, and increased the percentage slightly, as it is anticipated that the number of E-ZPass trucks will continue to increase. This estimate is conservative from a revenue standpoint, as E-ZPass trucks pay less than cash trucks.

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-



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axle trucks at the Trenton-Morrisville Bridge will have 27% cash users at \$5.00, 65% peak E-ZPass users at \$4.75, and 8% off peak E-ZPass users at \$4.25, for a weighted average toll of \$4.78. 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 2005 volumes and revenues for each bridge and maintenance district with the projected 2006 volumes. As indicated, overall toll traffic volumes are projected to increase by approximately 500,000 vehicles (1.33%) while revenues are projected to increase by approximately \$935,000 (1.18%). The growth is projected based on the following factors:

- A small increase (0.5% - 0.9%) in vehicles on three toll bridges, a modest increase (1.4% - 2.0%) on three bridges, and an increase of 3% on the Portland-Columbia Toll Bridge
- A stabilizing of diverted passenger cars returning to the New Hope-Lambertville Toll Supported bridge from the New Hope-Lambertville Toll Bridge

Table 15 is provided in response to (i) of Section 703 (b) paragraph 2 and provides 2005 Total Revenue, 2005 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 2006 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 2006 toll revenue. With a Projected Debt Service Coverage Ratio of 2.99, the requirements of the Bridge System Revenue Bonds, Series 2003 are projected to be met.



Table 1 - 2000 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Unterstown-Frenchtown | Upper Black Eddy-Milford | Riegelsville | Northampton Street | Riverton-Belvidere | Total |
|--------------|---------------|----------------|------------------|---------------------|-----------------------|------------------------|-----------------------|--------------------------|--------------|--------------------|--------------------|------------|
| January | 354,953 | 522,145 | 1,449,918 | <i>180,150</i> | 460,159 | 121,126 | 116,689 | 103,768 | 113,577 | 639,984 | 126,929 | 4,189,398 |
| February | 374,163 | 602,660 | 1,524,147 | 186,017 | 428,088 | 123,545 | 117,817 | 103,362 | 112,030 | 631,240 | 127,772 | 4,330,841 |
| March | 393,175 | 670,395 | 1,726,252 | 219,450 | 507,242 | 151,650 | 140,811 | 122,656 | 129,597 | 736,211 | 153,087 | 4,950,526 |
| April | 402,010 | 653,334 | 1,661,627 | 211,375 | 490,405 | 157,217 | 140,604 | 123,509 | 130,143 | 709,859 | 146,517 | 4,826,600 |
| May | 432,198 | 667,059 | 1,799,786 | 231,512 | 545,164 | 171,705 | 158,492 | 136,697 | 141,155 | 750,832 | 162,747 | 5,197,347 |
| June | 426,805 | <i>715,613</i> | 1,784,701 | <i>219,677</i> | 531,240 | 174,491 | 150,987 | 135,368 | 126,957 | 713,376 | 158,273 | 5,137,488 |
| July | 414,115 | 729,442 | 1,708,197 | 215,597 | 544,956 | 182,191 | 156,645 | 138,305 | 121,596 | 535,657 | 157,508 | 4,904,209 |
| August | 427,226 | 737,377 | 1,778,760 | 212,985 | 536,055 | 173,785 | 154,249 | 138,079 | 122,257 | 703,623 | 160,969 | 5,145,365 |
| September | 411,249 | 702,489 | 1,679,540 | 198,498 | 459,193 | 160,935 | 142,706 | 186,125 | 116,830 | 673,240 | 153,455 | 4,884,260 |
| October | 421,079 | 706,943 | 1,773,687 | 227,273 | 476,371 | 173,535 | 150,846 | 140,732 | 122,529 | 688,282 | 160,794 | 5,042,071 |
| November | 394,851 | 624,395 | <i>1,689,408</i> | 190,503 | 414,140 | 113,980 | 129,646 | 119,905 | 120,873 | 654,722 | 140,849 | 4,593,272 |
| December | 392,317 | 616,301 | 1,613,534 | 183,114 | 428,521 | 144,219 | <i>135,722</i> | 115,091 | 122,636 | 668,753 | <i>148,246</i> | 4,568,454 |
| Total | 4,844,141 | 7,948,153 | 20,189,557 | 2,476,151 | 5,821,534 | 1,848,379 | 1,695,214 | 1,563,597 | 1,480,180 | 8,105,779 | 1,797,146 | 57,769,831 |

estimated figures due to adjustments shown in *italics*



Table 2- 2001 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Unterstown-Frenchtown | Upper Black Eddy-Millford | Riegelsville | Northampton Street | Riverton-Baldyore | Total |
|--------------|---------------|----------------|---------------|---------------------|-----------------------|------------------------|-----------------------|---------------------------|----------------|--------------------|-------------------|------------|
| January | 384,765 | 565,225 | 1,542,037 | 180,772 | <i>420,000</i> | <i>120,000</i> | 111,850 | 107,812 | 112,214 | 639,299 | 131,187 | 4,315,161 |
| February | 362,983 | 536,053 | 1,452,342 | 165,324 | 375,707 | 117,831 | 109,361 | 99,143 | 103,747 | 587,134 | 119,243 | 4,028,868 |
| March | 404,806 | 610,836 | 1,680,865 | 190,276 | 433,212 | 149,743 | 62,384 | 161,457 | 121,620 | 673,576 | 141,122 | 4,629,897 |
| April | 420,647 | 596,302 | 1,728,375 | 205,862 | 448,242 | 174,344 | 46,567 | 188,291 | 132,380 | 687,195 | 151,778 | 4,779,983 |
| May | 444,715 | 648,001 | 1,807,165 | 219,838 | 474,201 | 190,047 | 48,657 | 202,234 | 141,965 | 705,070 | 161,012 | 5,042,905 |
| June | 435,276 | 637,268 | 1,788,324 | 213,296 | 464,735 | 189,874 | 11,579 | 197,288 | 138,031 | 688,357 | 157,618 | 4,921,646 |
| July | 441,550 | 642,315 | 1,763,262 | 215,568 | 481,900 | 197,377 | 82,032 | 186,479 | 133,650 | 686,872 | 161,092 | 4,992,097 |
| August | 443,992 | 637,627 | 1,804,596 | 210,511 | 475,032 | 181,842 | 148,935 | 140,826 | 134,384 | 596,153 | 163,246 | 4,937,144 |
| September | 424,868 | 600,629 | 1,660,935 | 208,194 | 443,877 | 172,766 | 141,789 | 130,430 | <i>115,000</i> | 519,383 | 156,282 | 4,574,153 |
| October | 453,607 | 629,170 | 1,763,790 | <i>227,273</i> | 479,347 | 180,683 | 146,865 | 137,916 | 131,110 | 550,054 | 165,831 | 4,865,646 |
| November | 425,718 | <i>624,395</i> | 1,727,379 | 222,734 | 474,795 | 162,230 | 130,867 | 123,899 | 119,832 | 526,887 | 147,807 | 4,686,543 |
| December | 432,553 | <i>615,000</i> | 1,683,506 | 218,213 | 453,421 | 161,604 | 126,579 | 124,824 | 130,914 | 560,880 | 148,246 | 4,655,740 |
| Total | 5,075,480 | 7,342,821 | 20,402,576 | 2,477,861 | 5,424,469 | 1,998,341 | 1,167,465 | 1,800,599 | 1,514,847 | 7,420,860 | 1,804,464 | 56,429,783 |

estimated figures due to adjustments shown in *italics*
adjusted figures due to counter malfunction rounded



Table 3 - 2002 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Ukersdown-Frenchtown | Upper Black Eddy-Millford | Riegelsville | Northampton Street | Riverton-Belvidere | Total |
|--------------|---------------|----------------|------------------|---------------------|-----------------------|------------------------|----------------------|---------------------------|----------------|--------------------|--------------------|------------|
| January | 422,632 | <i>570,000</i> | 1,634,452 | 210,867 | <i>407,964</i> | <i>138,820</i> | 109,044 | 114,577 | <i>98,000</i> | 521,534 | 138,185 | 4,366,075 |
| February | 403,337 | 550,118 | <i>1,600,000</i> | 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 | <i>475,000</i> | 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 | <i>205,000</i> | 478,915 | 166,275 | 127,521 | 125,452 | 119,243 | 633,977 | 147,772 | 4,969,679 |
| December | 530,991 | 632,131 | <i>2,150,000</i> | <i>215,000</i> | 470,157 | <i>158,000</i> | 114,477 | 120,815 | <i>118,000</i> | 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 |

estimated figures due to adjustments shown in *italics*
adjusted figures due to counter malfunction rounded



Table 4 - 2003 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Ukersdown-Frenchtown | Upper Black Eddy-Millford | Riegelsville | Northampton Street | Riverton-Belvidere | Total |
|--------------|----------------|----------------|---------------|---------------------|-----------------------|------------------------|----------------------|---------------------------|---------------|--------------------|--------------------|------------|
| January | 564,310 | <i>550,000</i> | 1,599,968 | 196,664 | 429,548 | 157,104 | <i>117,000</i> | <i>100,000</i> | <i>79,000</i> | 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 | <i>564,018</i> | <i>650,000</i> | 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 | <i>611,738</i> | 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 | <i>203,903</i> | 152,565 | <i>148,691</i> | 105,971 | 721,007 | 185,300 | 5,330,165 |
| August | <i>569,290</i> | 626,182 | 1,797,945 | 223,958 | 527,067 | 195,991 | 147,191 | 145,387 | 103,158 | <i>720,548</i> | <i>176,188</i> | 5,232,905 |
| September | 547,070 | 596,817 | 1,725,191 | 219,640 | 482,969 | 178,125 | 133,080 | 136,146 | 94,722 | <i>691,376</i> | 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 |

estimated figures due to adjustments shown in *italics*
adjusted figures due to counter malfunction rounded



Table 5 - 2004 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Ukersdown-Frenchtown | Upper Black Eddy-Millford | Riegelsville | Northampton Street | Riverton-Belvidere | Total |
|--------------|----------------|----------------|---------------|---------------------|-----------------------|------------------------|----------------------|---------------------------|--------------|--------------------|--------------------|------------|
| 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 | <i>547,070</i> | <i>534,777</i> | 1,789,294 | 199,741 | 390,205 | 166,567 | 125,187 | 133,017 | 89,810 | 634,981 | 160,925 | 4,771,574 |
| October | <i>573,398</i> | <i>587,641</i> | 1,459,900 | 216,130 | 443,149 | 177,050 | 133,368 | 142,999 | 98,574 | 714,031 | 170,631 | 4,716,871 |
| November | <i>515,313</i> | <i>556,841</i> | 1,740,078 | 190,649 | 409,346 | 159,500 | 116,295 | 127,600 | 92,094 | 675,077 | 153,783 | 4,736,576 |
| December | <i>480,000</i> | <i>577,632</i> | 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 |

estimated figures due to adjustments shown in *italics*
adjusted figures due to counter malfunction rounded



Table 6 - 2005 Toll Supported Bridge Volumes

| Month | Lower Trenton | Cahoon Street | Scudder Falls | Washington Crossing | New Hope-Lambertville | Centre Bridge-Stockton | Unterstown-Frenchtown | Upper Black Eddy-Millford | Riegelsville | Northampton Street | Riverton-Baldyore | Total |
|--------------|----------------|----------------|------------------|---------------------|-----------------------|------------------------|-----------------------|---------------------------|---------------|--------------------|-------------------|------------------|
| 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 | <i>543,079</i> | 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 | <i>532,424</i> | 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 | <i>548,806</i> | 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 | <i>537,692</i> | 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 | <i>533,218</i> | 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 | <i>510,000</i> | 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 | 116,581 | 125,108 | 124,343 | 104,940 | 710,506 | 166,786 | 4,798,965 |
| 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 | <i>480,000</i> | <i>577,632</i> | <i>1,736,170</i> | <i>190,638</i> | <i>420,771</i> | <i>155,204</i> | <i>112,075</i> | <i>127,686</i> | <i>97,425</i> | <i>692,831</i> | <i>155,831</i> | <i>4,746,263</i> |
| Total | 6,035,442 | 6,774,448 | 20,167,846 | 2,124,445 | 4,957,054 | 1,861,990 | 1,418,399 | 1,499,180 | 1,223,036 | 8,139,923 | 1,883,177 | 56,084,940 |

estimated figures due to adjustments shown in *italics*
adjusted figures due to counter malfunction rounded
December data from 2004, and not adjusted



Table 7: Trenton-Morrisville Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 4,058,566 | 4,198,434 | 4,545,539 | | | | | |
| 1b - passenger car - token | 2,535,076 | 2,511,277 | 2,034,702 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 141,903 | | | | | |
| 1 - passenger car | | | | 5,771,654 | 6,281,830 | 6,583,017 | 6,714,677 | 1.020 |
| 2 - 2-axle truck | 169,766 | 164,115 | 168,564 | 145,020 | 159,655 | 171,502 | 176,647 | 1.030 |
| 3 - 3-axle truck | 83,218 | 79,227 | 66,800 | 60,411 | 71,473 | 74,306 | 75,792 | 1.020 |
| 4 - 4-axle truck | 76,610 | 66,293 | 63,157 | 47,223 | 50,275 | 54,947 | 56,046 | 1.020 |
| 5 - 5-axle truck | 348,389 | 332,546 | 279,071 | 165,579 | 169,038 | 184,128 | 185,969 | 1.010 |
| 6 - 6-axle truck | 2,746 | 3,329 | 2,350 | 1,404 | 1,594 | 1,917 | 1,898 | 0.990 |
| 8 - special permit * | 267 | 223 | 277 | 61 | - | - | - | 1.000 |
| 7 - 7-axle truck | 58 | 176 | 119 | 122 | 146 | 121 | 121 | 1.000 |
| total toll | 7,274,696 | 7,355,620 | 7,302,482 | 6,191,474 | 6,734,011 | 7,069,938 | 7,211,150 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|------------------------|
| 1 - passenger car | \$ 0.67 | 6,714,677 | \$ 4,470,242.35 |
| 2 - 2-axle truck | \$ 4.78 | 176,647 | \$ 844,007.71 |
| 3 - 3-axle truck | \$ 7.90 | 75,792 | \$ 599,022.10 |
| 4 - 4-axle truck | \$ 10.53 | 56,046 | \$ 590,083.60 |
| 5 - 5-axle truck | \$ 13.05 | 185,969 | \$ 2,427,505.56 |
| 6 - 6-axle truck | \$ 15.76 | 1,898 | \$ 29,914.29 |
| 8 - special permit | varies | 0 | \$ 0.00 |
| 7 - 7-axle truck | \$ 18.38 | 121 | \$ 2,224.58 |
| Totals | | 7,211,150 | \$ 8,963,000.18 |



Table 8: New Hope-Lambertville Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 ** volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|---|----------------|----------------|----------------|----------------|-------------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 2,277,760 | 2,322,881 | 2,305,906 | | | | | |
| 1b - passenger car - token | 1,028,858 | 1,075,953 | 926,094 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 44,048 | | | | | |
| 1 - passenger car | | | | 1,298,859 | 2,026,746 | 1,699,508 | 1,716,503 | 1.010 |
| 2 - 2-axle truck | 114,223 | 111,676 | 106,192 | 35,788 | 52,056 | 50,573 | 49,056 | 0.970 |
| 3 - 3-axle truck | 45,469 | 52,953 | 63,141 | 20,198 | 24,171 | 26,154 | 27,200 | 1.040 |
| 4 - 4-axle truck | 24,055 | 27,066 | 29,167 | 6,470 | 7,797 | 7,060 | 7,131 | 1.010 |
| 5 - 5-axle truck | 76,774 | 78,516 | 72,739 | 24,372 | 27,141 | 26,794 | 26,526 | 0.990 |
| 6 - 6-axle truck | 1,663 | 1,906 | 1,466 | 745 | 804 | 731 | 709 | 0.970 |
| 8 - special permit * | 506 | 226 | 292 | 1 | - | 1 | 1 | 1.000 |
| 7 - 7-axle truck | 19 | 19 | 32 | 34 | 67 | 44 | 44 | 1.000 |
| total toll - two directional - 2002 and earlier one directional tolls - 2003 and later | 3,671,196 | 3,671,196 | 3,549,077 | 1,386,467 | 2,138,782 | 1,810,865 | 1,827,170 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |
| ** 2004 auto volumes higher than normal due to New Hope Lambertville Toll Supported Bridge Closures | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|------------------------|
| 1 - passenger car | \$ 0.65 | 1,716,503 | \$ 1,124,284.81 |
| 2 - 2-axle truck | \$ 4.82 | 49,056 | \$ 236,558.58 |
| 3 - 3-axle truck | \$ 7.95 | 27,200 | \$ 216,114.04 |
| 4 - 4-axle truck | \$ 10.59 | 7,131 | \$ 75,546.34 |
| 5 - 5-axle truck | \$ 13.13 | 26,526 | \$ 348,366.98 |
| 6 - 6-axle truck | \$ 15.87 | 709 | \$ 11,249.30 |
| 8 - special permit | varies | 1 | \$ 42.00 |
| 7 - 7-axle truck | \$ 18.51 | 44 | \$ 814.37 |
| Totals | | 1,827,170 | \$ 2,012,976.42 |



Table 9: Interstate 78 Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 3,355,038 | 3,485,261 | 4,490,818 | | | | | |
| 1b - passenger car - token | 1,380,023 | 1,447,607 | 1,687,182 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 149,910 | | | | | |
| 1 - passenger car | | | | 6,518,607 | 6,974,743 | 7,216,239 | 7,360,564 | 1.020 |
| 2 - 2-axle truck | 183,885 | 180,536 | 215,748 | 199,840 | 222,516 | 230,643 | 235,256 | 1.020 |
| 3 - 3-axle truck | 82,353 | 80,874 | 98,022 | 102,434 | 93,683 | 98,437 | 99,421 | 1.010 |
| 4 - 4-axle truck | 101,347 | 94,499 | 111,582 | 115,586 | 111,525 | 118,753 | 116,378 | 0.980 |
| 5 - 5-axle truck | 1,614,781 | 1,625,638 | 1,883,403 | 1,891,300 | 1,946,024 | 1,949,259 | 1,959,005 | 1.005 |
| 6 - 6-axle truck | 15,234 | 15,676 | 18,236 | 30,728 | 35,967 | 38,747 | 40,297 | 1.040 |
| 8 - special permit * | 27,196 | 27,325 | 30,238 | 797 | 8 | 12 | 12 | 1.000 |
| 7 - 7-axle truck | 629 | 617 | 794 | 1,113 | 1,379 | 1,453 | 1,497 | 1.030 |
| total toll | 6,760,486 | 6,958,033 | 8,685,933 | 8,860,405 | 9,385,845 | 9,653,543 | 9,812,430 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|-------------------------|
| 1 - passenger car | \$ 0.67 | 7,360,564 | \$ 4,900,236.43 |
| 2 - 2-axle truck | \$ 4.82 | 235,256 | \$ 1,133,335.78 |
| 3 - 3-axle truck | \$ 7.91 | 99,421 | \$ 786,725.29 |
| 4 - 4-axle truck | \$ 10.48 | 116,378 | \$ 1,219,557.24 |
| 5 - 5-axle truck | \$ 13.14 | 1,959,005 | \$ 25,740,255.34 |
| 6 - 6-axle truck | \$ 15.81 | 40,297 | \$ 636,899.73 |
| 8 - special permit | varies | 12 | \$ 416.50 |
| 7 - 7-axle truck | \$ 18.44 | 1,497 | \$ 27,599.80 |
| Totals | | 9,812,430 | \$ 34,445,026.12 |



Table 10: Easton-Phillipsburg Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 2,507,133 | 2,776,237 | 2,891,347 | | | | | |
| 1b - passenger car - token | 3,588,162 | 3,795,821 | 2,925,012 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 126,125 | | | | | |
| 1 - passenger car | | | | 5,004,027 | 5,551,047 | 5,682,745 | 5,767,986 | 1.015 |
| 2 - 2-axle truck | 179,296 | 183,098 | 159,128 | 154,235 | 168,748 | 173,037 | 176,498 | 1.020 |
| 3 - 3-axle truck | 79,530 | 78,914 | 75,508 | 62,981 | 60,320 | 64,054 | 62,773 | 0.980 |
| 4 - 4-axle truck | 49,045 | 51,215 | 36,343 | 41,555 | 45,422 | 43,375 | 42,508 | 0.980 |
| 5 - 5-axle truck | 511,241 | 545,467 | 323,098 | 259,050 | 263,362 | 262,965 | 262,965 | 1.000 |
| 6 - 6-axle truck | 9,254 | 7,613 | 4,454 | 3,841 | 4,853 | 5,645 | 5,645 | 1.000 |
| 8 - special permit * | 3,184 | 6,643 | 3,115 | 72 | - | - | - | 1.000 |
| 10 - local bus | 6,614 | 3,293 | | | | | | |
| 11 - 7-axle truck | 178 | 185 | 142 | 208 | 211 | 255 | 255 | 1.000 |
| total toll vehicles | 6,933,637 | 7,448,486 | 6,544,272 | 5,525,969 | 6,093,963 | 6,232,076 | 6,318,630 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|------------------------|
| 1 - passenger car | \$ 0.66 | 5,767,986 | \$ 3,808,969.19 |
| 2 - 2-axle truck | \$ 4.82 | 176,498 | \$ 851,186.76 |
| 3 - 3-axle truck | \$ 7.94 | 62,773 | \$ 498,112.81 |
| 4 - 4-axle truck | \$ 10.52 | 42,508 | \$ 447,231.23 |
| 5 - 5-axle truck | \$ 13.13 | 262,965 | \$ 3,451,992.80 |
| 6 - 6-axle truck | \$ 15.83 | 5,645 | \$ 89,374.72 |
| 8 - special permit | varies | 0 | \$ 0.00 |
| 7 - 7-axle truck | \$ 18.47 | 255 | \$ 4,709.53 |
| Totals | | 6,318,630 | \$ 9,151,577.03 |



Table 11: Portland Columbia Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 190,544 | 196,401 | 283,695 | | | | | |
| 1b - passenger car - token | 828,699 | 849,251 | 761,168 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 32,380 | | | | | |
| 1 - passenger car | | | | 1,083,030 | 1,162,560 | 1,221,053 | 1,257,685 | 1.030 |
| 2 - 2-axle truck | 23,146 | 24,818 | 25,287 | 27,528 | 28,720 | 29,835 | 30,432 | 1.020 |
| 3 - 3-axle truck | 9,362 | 8,859 | 8,326 | 9,413 | 11,677 | 10,839 | 10,622 | 0.980 |
| 4 - 4-axle truck | 4,019 | 6,532 | 5,839 | 5,795 | 6,149 | 6,732 | 7,001 | 1.040 |
| 5 - 5-axle truck | 31,690 | 29,241 | 28,203 | 28,508 | 31,778 | 34,008 | 35,028 | 1.030 |
| 6 - 6-axle truck | 253 | 263 | 191 | 226 | 453 | 687 | 687 | 1.000 |
| 8 - special permit * | 61 | 65 | 74 | 9 | - | - | - | 1.000 |
| 7 - 7-axle truck | 2 | 5 | 4 | 6 | 14 | 10 | 10 | 1.000 |
| total toll vehicles | 1,087,776 | 1,115,435 | 1,145,167 | 1,154,515 | 1,241,351 | 1,303,164 | 1,341,465 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|------------------------|
| 1 - passenger car | \$ 0.66 | 1,257,685 | \$ 830,529.65 |
| 2 - 2-axle truck | \$ 4.81 | 30,432 | \$ 146,432.94 |
| 3 - 3-axle truck | \$ 7.97 | 10,622 | \$ 84,695.89 |
| 4 - 4-axle truck | \$ 10.62 | 7,001 | \$ 74,339.15 |
| 5 - 5-axle truck | \$ 13.22 | 35,028 | \$ 463,153.73 |
| 6 - 6-axle truck | \$ 15.91 | 687 | \$ 10,928.79 |
| 8 - special permit | varies | 0 | \$ 0.00 |
| 7 - 7-axle truck | \$ 18.56 | 10 | \$ 185.57 |
| Totals | | 1,341,465 | \$ 1,610,265.73 |



Table 12: Delaware Water Gap (Interstate 80) Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 3,945,907 | 4,031,337 | 4,533,423 | | | | | |
| 1b - passenger car - token | 3,584,002 | 3,683,760 | 3,359,933 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 222,494 | | | | | |
| 1 - passenger car | | | | 8,066,666 | 8,488,847 | 8,501,476 | 8,543,983 | 1.005 |
| 2 - 2-axle truck | 164,832 | 162,370 | 160,361 | 143,521 | 161,134 | 162,933 | 164,562 | 1.010 |
| 3 - 3-axle truck | 91,704 | 87,635 | 87,938 | 87,427 | 93,075 | 94,084 | 95,966 | 1.020 |
| 4 - 4-axle truck | 61,728 | 53,788 | 52,109 | 52,233 | 57,861 | 63,902 | 67,097 | 1.050 |
| 5 - 5-axle truck | 1,227,496 | 1,187,027 | 1,166,886 | 1,108,058 | 1,128,514 | 1,124,516 | 1,124,516 | 1.000 |
| 6 - 6-axle truck | 13,392 | 14,393 | 14,797 | 19,127 | 20,887 | 21,164 | 21,376 | 1.010 |
| 8 - special permit * | 19,803 | 19,898 | 18,068 | 780 | 69 | 66 | 66 | 1.000 |
| 7 - 7-axle truck | 414 | 494 | 353 | 992 | 1,346 | 1,239 | 1,239 | 1.000 |
| total toll vehicles | 9,109,278 | 9240702 | 9,616,362 | 9,478,804 | 9,951,733 | 9,969,380 | 10,018,805 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|-------------------------|
| 1 - passenger car | \$ 0.66 | 8,543,983 | \$ 5,657,454.13 |
| 2 - 2-axle truck | \$ 4.82 | 164,562 | \$ 793,413.22 |
| 3 - 3-axle truck | \$ 7.92 | 95,966 | \$ 760,497.98 |
| 4 - 4-axle truck | \$ 10.52 | 67,097 | \$ 706,100.14 |
| 5 - 5-axle truck | \$ 13.17 | 1,124,516 | \$ 14,813,826.34 |
| 6 - 6-axle truck | \$ 15.84 | 21,376 | \$ 338,613.55 |
| 8 - special permit | varies | 66 | \$ 3,573.60 |
| 7 - 7-axle truck | \$ 18.48 | 1,239 | \$ 22,894.89 |
| Totals | | 10,018,805 | \$ 23,096,373.84 |



Table 13: Milford-Montague Toll Bridge Volume and Revenue Projections

| class | 2000 volume | 2001 volume | 2002 volume | 2003 volume | 2004 volume | 2005 volume | 2006 volume (projected) | factor from 2005 to 2006 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|--------------------------------|
| 1a - passenger car - cash | 428,232 | 427,388 | 522,139 | | | | | |
| 1b - passenger car - token | 861,372 | 859,922 | 777,299 | | | | | |
| 1c - E-Zpass passenger cars (December 2002) | | | 33,314 | | | | | |
| 1 - passenger car | | | | 1,231,491 | 1,311,848 | 1,304,418 | 1,310,940 | 1.005 |
| 2 - 2-axle truck | 20,189 | 21,155 | 23,330 | 21,418 | 22,786 | 23,113 | 23,344 | 1.010 |
| 3 - 3-axle truck | 5,263 | 5,198 | 5,583 | 5,139 | 5,328 | 5,241 | 5,241 | 1.000 |
| 4 - 4-axle truck | 2,092 | 1,641 | 1,670 | 2,145 | 1,929 | 1,859 | 1,822 | 0.980 |
| 5 - 5-axle truck | 12,747 | 12,641 | 12,737 | 10,626 | 10,495 | 10,114 | 9,912 | 0.980 |
| 6 - 6-axle truck | 236 | 153 | 228 | 119 | 107 | 95 | 90 | 0.950 |
| 8 - special permit * | 87 | 69 | 95 | 7 | 3 | - | - | 1.000 |
| 7 - 7-axle truck | 28 | 24 | 18 | 41 | 38 | 22 | 22 | 1.000 |
| total toll | 1,330,246 | 1,328,191 | 1,376,413 | 1,270,986 | 1,352,534 | 1,344,862 | 1,351,371 | |
| * Special Permit vehicles were classified differently after 2003 | | | | | | | | |

| class | toll | 2006 volume (projected) | 2006 revenue |
|--------------------|----------|----------------------------|------------------------|
| 1 - passenger car | \$ 0.66 | 1,310,940 | \$ 863,347.17 |
| 2 - 2-axle truck | \$ 4.84 | 23,344 | \$ 112,995.00 |
| 3 - 3-axle truck | \$ 7.98 | 5,241 | \$ 41,830.47 |
| 4 - 4-axle truck | \$ 10.62 | 1,822 | \$ 19,342.61 |
| 5 - 5-axle truck | \$ 13.19 | 9,912 | \$ 130,712.52 |
| 6 - 6-axle truck | \$ 15.92 | 90 | \$ 1,433.15 |
| 8 - special permit | varies | 0 | \$ 0.00 |
| 7 - 7-axle truck | \$ 18.58 | 22 | \$ 408.66 |
| Totals | | 1,351,371 | \$ 1,170,069.59 |



Table 14: Volume and Revenue Comparison -- 2005 to 2006

| Revenue Summary by Bridge/District | | 2005 Volumes * | 2005 Revenues ** | 2006 Volume (Projected) | 2006 Revenue (Projected) | Change in Actual vs. Projected Volume from 2005 to 2006 | | Change in Actual vs. Projected Revenue from 2005 to 2006 | |
|------------------------------------|-----------------------|----------------|------------------|-------------------------|--------------------------|---|---------|--|---------|
| District | | | | | | vehicles | percent | dollars | percent |
| 1 | Trenton-Morrisville | 7,069,938 | \$ 8,801,617.39 | 7,211,150 | \$ 8,963,000.18 | 141,212 | 2.00% | \$ 161,382.79 | 1.83% |
| 1 | New Hope-Lambertville | 1,810,865 | \$ 1,997,414.51 | 1,827,170 | \$ 2,012,976.42 | 16,305 | 0.90% | \$ 15,561.91 | 0.78% |
| 2 | Interstate 78 | 9,653,543 | \$ 33,840,162.75 | 9,812,430 | \$ 34,445,026.12 | 158,887 | 1.65% | \$ 604,863.37 | 1.79% |
| 2 | Easton-Phillipsburg | 6,232,076 | \$ 9,114,102.71 | 6,318,630 | \$ 9,151,577.03 | 86,554 | 1.39% | \$ 37,474.32 | 0.41% |
| 3 | Portland-Columbia | 1,303,164 | \$ 1,569,507.33 | 1,341,465 | \$ 1,610,265.73 | 38,301 | 2.94% | \$ 40,758.40 | 2.60% |
| 3 | Delaware Water Gap | 9,969,380 | \$ 23,018,368.34 | 10,018,805 | \$ 23,096,373.84 | 49,425 | 0.50% | \$ 78,005.50 | 0.34% |
| 3 | Milford-Montague | 1,344,862 | \$ 1,171,918.12 | 1,351,371 | \$ 1,170,069.59 | 6,509 | 0.48% | \$ (1,848.53) | -0.16% |
| Total | | 37,383,828 | \$ 79,513,091.15 | 37,881,021 | \$ 80,449,288.91 | 497,193 | 1.33% | \$ 936,197.76 | 1.18% |

* 2005 volumes taken as sum of 11 monthly reports from January to November, with December 2005 volumes approximated

** 2005 revenues taken as sum of 11 monthly reports from January to November, with December 2005 revenues approximated



Table 15: Actual Revenue and Expenditures for 2005

| District | Bridge | 2005 Volume * | 2005 Revenue ** |
|---|---|--------------------------|-------------------------|
| 1 | Trenton-Morrisville | 7,069,938 | \$ 8,801,617.39 |
| 1 | New Hope-Lambertville | 1,810,865 | \$ 1,997,414.51 |
| 2 | Interstate 78 | 9,653,543 | \$ 33,840,162.75 |
| 2 | Easton-Phillipsburg | 6,232,076 | \$ 9,114,102.71 |
| 3 | Portland-Columbia | 1,303,164 | \$ 1,569,507.33 |
| 3 | Delaware Water Gap | 9,969,380 | \$ 23,018,368.34 |
| 3 | Milford-Montague | <u>1,344,862</u> | <u>\$ 1,171,918.12</u> |
| | Total | 37,383,828 | \$ 79,513,091.15 |
| | Total Toll Revenue | (From above) | \$ 79,513,091.15 |
| | Interest Income | (Provided by Commission) | \$ 5,600,000.00 |
| | Other Income | (Provided by Commission) | <u>\$ 185,000.00</u> |
| | 1. Total Revenue - 2005 | | \$ 85,298,091.15 |
| | 2. Operating Expenses - 2005 | (Provided by Commission) | <u>\$ 37,633,000.00</u> |
| | 3. Net Revenue | (Line 1 - Line 2) | \$ 47,665,091.15 |
| | 4. Maximum Annual Debt Service | (Provided by Commission) | \$ 13,549,900.00 |
| | 5. 130% of Maximum Annual Debt Service | | \$ 17,614,870.00 |
| <p>Therefore, the requirement that the Net Revenue for the preceding fiscal year be greater than 130% of the Maximum Annual Debt Service has been met, satisfying the requirements of the Bridge System Revenue Bonds, Series 2003 Section 703(b), paragraph 2 (i).</p> | | | |
| * | December 2005 Volumes are approximated | | |
| ** | December 2005 Revenues are approximated | | |



Table 16: Projected Revenue and Expenditures for 2006

| Projected Revenue by Bridge/District | | 2006 Volume | 2006 Revenue |
|---|-----------------------|--------------------------|-------------------------|
| 1 | Trenton-Morrisville | 7,211,150 | \$ 8,963,000.18 |
| 1 | New Hope-Lambertville | 1,827,170 | \$ 2,012,976.42 |
| 2 | Interstate 78 | 9,812,430 | \$ 34,445,026.12 |
| 2 | Easton-Phillipsburg | 6,318,630 | \$ 9,151,577.03 |
| 3 | Portland-Columbia | 1,341,465 | \$ 1,610,265.73 |
| 3 | Delaware Water Gap | 10,018,805 | \$ 23,096,373.84 |
| 3 | Milford-Montague | <u>1,351,371</u> | <u>\$ 1,170,069.59</u> |
| Total | | 37,881,021 | \$ 80,449,288.91 |
| Total Toll Revenue | | (From above) | \$ 80,449,288.91 |
| Interest Income | | (Provided by Commission) | \$ 6,600,000.00 |
| Other Income | | (Provided by Commission) | <u>\$ 238,000.00</u> |
| 1. Total Projected Revenue - 2006 | | | \$ 87,287,288.91 |
| 2. Operating Expenses - 2006 | | (Provided by Commission) | <u>\$ 42,141,000.00</u> |
| 3. Net Revenue | | (Line 1 - Line 2) | \$ 45,146,288.91 |
| 4. Maximum Annual Debt Service | | (Provided by Commission) | <u>\$ 15,074,863.00</u> |
| 5. Projected Debt Service Coverage Ratio | | (Line 3 / Line 4) | 2.99 |
| <p>Therefore, the requirement that the Projected Debt Service Coverage Ratio be greater than 1.30 is met, satisfying the requirements of the Bridge System Revenue Bonds, Series 2003 Section 703(b), paragraph 2 (ii).</p> | | | |