

**NEW ISSUE — BOOK-ENTRY ONLY**

*In the opinion of Bond Counsel, under existing law, and assuming continued compliance with the Internal Revenue Code of 1986, as amended, interest on the Series A and B Bonds will not be included in the gross income of holders of the Series A and B Bonds for federal income tax purposes. While interest on the Series A and B Bonds will not constitute a preference item for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations, interest on the Series A and B Bonds will be included in the "adjusted current earnings" of corporate holders of the Series A and B Bonds and therefore will be taken into account in computing the alternative minimum tax applicable to certain corporations. In the opinion of Bond Counsel, under existing law, interest on the Series A and B Bonds and any profit made on the sale thereof are exempt from Massachusetts personal income taxes, and the Series A and B Bonds are exempt from Massachusetts personal property taxes. For federal and Massachusetts tax purposes, interest includes original issue discount. See "Tax Exemption" herein.*



**\$1,377,726,617**  
**Massachusetts Turnpike Authority**  
**Metropolitan Highway System Revenue Bonds**  
**\$1,183,046,617 1997 Series A (Senior)**  
**\$194,680,000 1997 Series B (Subordinated)**

**Dated: September 1, 1997\***

**Due: January 1, as shown  
on the inside cover**

The Series A and B Bonds are issuable only as fully-registered bonds, without coupons, in denominations of \$5,000, including \$5,000 maturity amounts with respect to the Capital Appreciation Bonds (as defined herein), or any integral multiple thereof. The Series A and B Bonds will be initially registered in book-entry form in the name of Cede & Co., as Bondowner and nominee for The Depository Trust Company ("DTC"), New York, New York. Purchasers will not receive certificates representing their interest in Series A and B Bonds purchased. See "Book-Entry Only System" herein.

Interest on the Series A and B Bonds, other than the Capital Appreciation Bonds, will be payable to the Registered Owners thereof as of the record date, beginning on January 1, 1998 and semiannually thereafter on each July 1 and January 1. Interest on certain Series A Bonds identified on the inside cover (the "Capital Appreciation Bonds") will accrue from the date of initial delivery, will be compounded semiannually on January 1 and July 1 of each year commencing January 1, 1998 and will be payable only at maturity. Principal of, and premium, if any, on the Series A and B Bonds will be payable when due upon surrender thereof at the corporate trust office of United States Trust Company of New York, New York, New York, as Trustee (the "Trustee"). So long as DTC or its nominee is the Bondowner, principal, premium, if any, and interest payments are to be made by the Trustee directly to DTC as Bondowner. Disbursement of such payments to the DTC Participants (as defined herein) is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of DTC Participants and the Indirect Participants, as described herein.

The Series A and B Bonds are subject to redemption prior to maturity under certain circumstances as set forth herein.

The Series A and B Bonds are being issued for the purposes described herein under a Trust Agreement dated as of September 1, 1997 (the "Metropolitan Highway System Trust Agreement"), by and between the Authority and the Trustee.

**The Series A and B Bonds will constitute special obligations of the Authority payable solely from and secured solely by a pledge of certain Revenues and funds and accounts established under the Metropolitan Highway System Trust Agreement, as described herein. The Authority has no taxing power. Neither The Commonwealth of Massachusetts (the "Commonwealth") nor any political subdivision thereof is or shall be obligated to pay the principal and redemption price of and interest on the Series A and B Bonds and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to such payment.**

Payment of the principal and sinking fund installments of and interest on certain maturities of the Series A and B Bonds (see inside front cover for insured maturities) when due (other than by reason of optional redemption) will be insured by a financial guaranty insurance policy issued simultaneously with the delivery of the Series A and B Bonds by MBIA Insurance Corporation.



The Series A and B Bonds are offered when, as and if issued and received by the Underwriters, subject to the unqualified approval of legality by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Bond Counsel, Boston, Massachusetts and Krokidas & Bluestein, Boston, Massachusetts, Co-Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the Authority by Robert M. Ruzzo, Esq., as General Counsel to the Authority, and for the Underwriters by Palmer & Dodge LLP, Boston, Massachusetts. Evensen Dodge Inc., Washington, D.C., and Columbia Equity Financial Corp., Washington, D.C., have acted as Financial Advisors to the Authority with respect to the Series A and B Bonds. It is expected that the Series A and B Bonds will be available for delivery in New York, New York on or about October 2, 1997.

**PaineWebber Incorporated**  
**Bear, Stearns & Co. Inc.**

**Goldman, Sachs & Co.**

**A.G. Edwards & Sons, Inc.**

**Fleet Securities, Inc.**

**Lehman Brothers**

**Oppenheimer & Co., Inc.**

**Raymond James & Associates, Inc.**

September 24, 1997

\* The Capital Appreciation Bonds are dated the date of original delivery.

**\$1,183,046,617**  
**Massachusetts Turnpike Authority**  
**Metropolitan Highway System Revenue Bonds,**  
**1997 Series A (Senior)**

\$98,620,000 Serial Bonds

<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price or Yield</u>	<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price or Yield</u>
2010*	\$22,455,000	5%	5.05%	2012*	\$25,375,000	5%	5.20%
2011*	23,920,000	5	5.15	2013	26,870,000	5	5.15

\$83,770,000 5½% Term Bonds due January 1, 2017 - Yield 5.375%  
\$120,310,000 5½% Term Bonds due January 1, 2023 - Yield 5.44%  
\$178,440,000 5% Term Bonds due January 1, 2027 - Yield 5.49%  
\$659,900,000 5% Term Bonds due January 1, 2037 - Yield 5.55%  
(Plus Accrued Interest)

\$42,006,617.00 Capital Appreciation Bonds

<u>Maturity</u>	<u>Aggregate Principal Amount</u>	<u>Aggregate Maturity Amount</u>	<u>Price Per \$1,000 at Maturity</u>	<u>Approximate Yield to Maturity</u>
2024	\$8,650,372.25	\$36,865,000	\$234.65	5.60%
2025	8,203,267.80	36,945,000	222.04	5.60
2028	12,930,025.55	69,745,000	185.39	5.65
2029	12,222,951.40	69,710,000	175.34	5.65

**\$194,680,000**  
**Massachusetts Turnpike Authority**  
**Metropolitan Highway System Revenue Bonds,**  
**1997 Series B (Subordinated)**

\$12,395,000 Serial Bonds

<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price or Yield</u>	<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price or Yield</u>
2010	\$2,875,000	5%	100%	2012	\$3,170,000	5%	5.10%
2011	3,020,000	5	5.05	2013	3,330,000	5	5.15

\$23,345,000 5¼% Term Bonds due January 1, 2017 - Yield 5.375%  
\$32,215,000 5½% Term Bonds due January 1, 2023 - Yield 5.46%  
\$43,625,000 5¼% Term Bonds due January 1, 2029 - Yield 5.5%  
\$83,100,000 5½% Term Bonds due January 1, 2037 - Yield 5.57%  
(Plus Accrued Interest)

\*Not insured.

No dealer, broker, salesperson or other person has been authorized by the Authority or the Underwriters to give any information or to make any representation other than as contained in this Official Statement and, if given or made, such other information or representation must not be relied upon as having been authorized by any of the foregoing. This Official Statement, which includes the cover page and appendices, does not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the Series A and B Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been obtained from the Authority, The Depository Trust Company, MBIA Insurance Corporation and other sources that are deemed to be reliable, but is not guaranteed as to accuracy or completeness by the Underwriters. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement nor any sale of the Series A and B Bonds shall under any circumstances create any implication that there has been no change in the affairs of the Authority since the date hereof.

**IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SERIES A AND B BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.**

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**IN MAKING AN INVESTMENT DECISION, INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE ISSUER AND THE TERMS OF THE OFFERING, INCLUDING MERITS AND RISKS INVOLVED. THESE SECURITIES HAVE NOT BEEN RECOMMENDED BY ANY FEDERAL OR STATE SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT CONFIRMED THE ACCURACY OR DETERMINED THE ADEQUACY OF THIS DOCUMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

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# OFFICIAL STATEMENT

*of the*

## MASSACHUSETTS TURNPIKE AUTHORITY

*relating to*

**\$1,183,046,617**

**Metropolitan Highway System Revenue Bonds,  
1997 Series A (Senior)**

**\$194,680,000**

**Metropolitan Highway System Revenue Bonds,  
1997 Series B (Subordinated)**

### INTRODUCTION

The purpose of this Official Statement, which includes the cover page and the Appendices hereto, is to furnish information in connection with the sale by the Massachusetts Turnpike Authority (the "Authority") of its \$1,183,046,617 Metropolitan Highway System Revenue Bonds, 1997 Series A (Senior) (the "Series A Bonds") and \$194,680,000 Metropolitan Highway System Revenue Bonds, 1997 Series B (Subordinated) (the "Series B Bonds") and collectively with the Series A Bonds, the "Series A and B Bonds"). Unless otherwise defined herein, certain capitalized terms used herein shall have the meanings set forth in APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Definitions."

The Series A and B Bonds are authorized to be issued pursuant to Chapter 81A of the Massachusetts General Laws, as amended (the "Enabling Act"), and are to be issued under a Trust Agreement dated as of September 1, 1997 (the "Metropolitan Highway System Trust Agreement"), by and between the Authority and United States Trust Company of New York, as Trustee (the "Trustee"). The Series A and B Bonds are being issued (i) to refund certain outstanding indebtedness of the Authority, (ii) to pay to The Commonwealth of Massachusetts (the "Commonwealth") amounts to be used by the Commonwealth to pay certain costs relating to the Central Artery/Tunnel Project (the "CA/T Project") in Boston, Massachusetts at the times described herein, (iii) to finance certain capital expenditures related to the Metropolitan Highway System, (iv) to fund the Senior Debt Service Reserve Fund and the Subordinated Debt Service Reserve Fund, (v) to pay a portion of the interest due on the Series A and B Bonds to July 1, 2004 and (vi) to pay the costs of issuing the Series A and B Bonds, all as hereinafter described. See "PLAN OF FINANCE" and "SOURCES AND USES OF FUNDS."

Simultaneously with the issuance of the Series A and B Bonds, the Authority will also be issuing under the Metropolitan Highway System Trust Agreement its \$89,136,005.95 Metropolitan Highway System Revenue Bonds, 1997 Series C (Senior) (the "Series C Bonds"). The principal of and redemption premium, if any, and interest on the Series B Bonds will be paid only after provision has been made for payment of the Authority's Senior Bonds, including the Series A Bonds and the Series C Bonds. As used herein, the term "Senior Bonds" means the Series A Bonds, the Series C Bonds and all Bonds hereafter issued under the Metropolitan Highway System Trust Agreement on a parity with the Series A Bonds and the Series C Bonds and the term "Subordinated Bonds" includes the Series B Bonds and all Bonds hereafter issued under the Metropolitan Highway System Trust Agreement on a parity with the Series B Bonds. The Series A Bonds, the Series B Bonds and the Series C Bonds, together with any Additional Bonds that may be issued hereafter under the Metropolitan Highway System Trust Agreement, including Senior Bonds and Subordinated Bonds, but excluding General Fund Indebtedness (each as defined below) are referred to collectively herein as the "Bonds." See "SECURITY FOR THE BONDS."

The Bonds constitute special obligations of the Authority, secured as to the payment of principal and Redemption Price, if any, of and interest thereon by a pledge of certain revenues and other moneys derived from the operation of the Accepted Metropolitan Highway System (as hereinafter defined) and certain funds and accounts established under the Metropolitan Highway System Trust Agreement, subject to the application thereof for the purposes and on the terms and conditions provided therein. The Series A Bonds and the Series C Bonds are the first Senior Bonds to be issued under the Metropolitan Highway System Trust Agreement. The Series B Bonds are the first Subordinated Bonds to be issued under the Metropolitan Highway System Trust Agreement. See "SECURITY FOR THE BONDS" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT." All of the Series A and B Bonds, other than the Series A Bonds maturing in 2010, 2011 and 2012, will be insured under a financial guaranty insurance policy to be issued by MBIA Insurance Corporation. See "BOND INSURANCE."

The Authority was originally created in 1952 as a body politic and corporate and a public instrumentality of the Commonwealth with the power to construct, maintain, repair, enlarge, improve and operate a toll express highway, which became known as the Massachusetts Turnpike. The Massachusetts Turnpike, which currently

extends approximately 135 miles from the Massachusetts - New York boundary in the Town of West Stockbridge to downtown Boston, initially opened to traffic in May, 1957 and terminated west of Boston at Route 128 (the "Western Turnpike"). The extension of the Massachusetts Turnpike from Route 128 to downtown Boston (the "Boston Extension") initially opened to traffic in September, 1964. The Massachusetts Turnpike is also designated as Interstate 90.

In 1958, the Authority was authorized by law to construct the Lieutenant William F. Callahan Jr. Tunnel (the "Callahan Tunnel") located in Boston, Massachusetts, to acquire and make necessary repairs to the then existing Sumner Tunnel in Boston (the "Sumner Tunnel") and to operate and maintain both tunnels. Until 1995, these two tunnels served as the primary link between downtown Boston and Logan International Airport ("Logan Airport") in East Boston.

As part of the completion of the federal interstate highway system, the Commonwealth, acting through the Massachusetts Highway Department ("MHD"), is undertaking a major transportation construction project known as the CA/T Project. This project will depress a portion of Interstate 93 in downtown Boston (the "Central Artery"), which is now an elevated highway that runs north and south through downtown Boston. The CA/T Project has also included construction of a new tunnel under Boston Harbor, the Ted Williams Tunnel, to link the current terminus of the Boston Extension with Logan Airport and roads leading to the area north of Boston. Construction of the Ted Williams Tunnel began in 1992, and it opened for use by commercial vehicles (taxis, buses, airport limousines and other commercial traffic) on December 15, 1995. Passenger vehicles also now use the Ted Williams Tunnel on a limited basis. The Ted Williams Tunnel will, when fully operational, provide a direct link to Logan Airport for vehicles coming from the west and south of Boston and will double the current cross-harbor capacity of the Sumner and Callahan Tunnels. See "THE METROPOLITAN HIGHWAY SYSTEM - Facilities Under Construction - Ted Williams Tunnel" and "THE CENTRAL ARTERY/TUNNEL PROJECT."

In January, 1995, the Governor proposed legislation providing for, among other matters, the establishment of an integrated system of tunnels and highways to be owned and operated by the Authority and to be known as the Metropolitan Highway System. As originally proposed, the Metropolitan Highway System would have consisted of the Sumner Tunnel, the Callahan Tunnel, the Ted Williams Tunnel (collectively, the "Tunnels"), the Central Artery (upon completion of construction), the existing Central Artery North Area ("CANA"), the Boston Extension and the Tobin Memorial Bridge (the "Tobin Bridge"), another Boston harbor crossing connecting Boston and Chelsea, which is currently owned by the Massachusetts Port Authority ("Massport"). The proposed legislation provided for, among other matters, the transfer or sale of the various components of the CA/T Project to the Authority upon completion of construction and the payment by the Authority to the Commonwealth of at least \$100 million in connection with the transfer of the Ted Williams Tunnel. The proposed legislation also provided that the Metropolitan Highway System be operated and maintained by the Authority as a separate entity.

In July, 1995, the Legislature enacted a modified version of this proposed legislation as Chapter 102 of the Acts of 1995 (as amended, the "1995 Act"). The 1995 Act provided, among other matters, for the transfer of the Ted Williams Tunnel to the Authority and payment by the Authority of at least \$100 million to the Commonwealth and authorized the issuance by the Authority of up to \$300 million of bond anticipation notes to be guaranteed by the Commonwealth for certain purposes. The 1995 Act did not authorize creation of the Metropolitan Highway System.

In accordance with the 1995 Act, the Commonwealth, acting by and through MHD, and the Authority entered into an agreement providing for the transfer of the Ted Williams Tunnel from the Commonwealth to the Authority, effective December 14, 1995. The transfer was undertaken to permit operation of the Ted Williams Tunnel for commercial vehicles and, on a limited basis, passenger vehicles. Under the terms of the agreement, the Authority is fully responsible for operating and maintaining the Ted Williams Tunnel. See "THE METROPOLITAN HIGHWAY SYSTEM - Facilities Under Construction - Ted Williams Tunnel."

In February, 1996, pursuant to the 1995 Act, the Authority issued \$259,315,000 aggregate principal amount of its Guaranteed Bond Anticipation Notes, 1996 Series A (the "1996 Notes"), for the purpose, among others, of paying \$100 million to the Commonwealth in connection with the acquisition by the Authority of the Ted Williams Tunnel. The 1996 Notes are guaranteed by the Commonwealth. The proceeds of the 1996 Notes were also used to refund certain outstanding debt of the Authority relating to the Sumner and Callahan Tunnels, to pay costs of reconstruction and improvement of such Tunnels, to pay certain start-up costs of the Ted Williams Tunnel and to pay costs of issuance and interest due on the 1996 Notes through December 1, 1998.

In December, 1996, as required by the 1995 Act, the Authority and MHD jointly submitted to the Legislature and the Governor a feasibility study (the "Feasibility Study") that examined certain aspects of the financing of the CA/T Project, including the amount of any additional contribution to be paid by the Authority and

Massport with respect to the CA/T Project and proposed necessary legislation to establish the Metropolitan Highway System.

In January, 1997, the Governor introduced legislation providing for the establishment of the Metropolitan Highway System and certain other matters. Such legislation, as modified by the Legislature, was enacted into law in March, 1997, as Chapter 3 of the Acts of 1997 (as amended to date, "Chapter 3"). Chapter 3, among other matters, enacted the Enabling Act and repealed the two prior special acts that previously had governed the Authority.

The Enabling Act establishes two separate systems to be owned and operated by the Authority, the Metropolitan Highway System and the Turnpike. The Metropolitan Highway System, as defined in the Enabling Act, comprises the Boston Extension, the Callahan Tunnel, the Central Artery, CANA, the Sumner Tunnel and the Ted Williams Tunnel and any additional highway, tunnel and bridge components as the Legislature may from time to time determine. The Authority currently owns and operates the Boston Extension and the Tunnels (certain portions of the Ted Williams Tunnel are still owned by MHD, subject to a highway easement running in favor of the Authority. See "THE METROPOLITAN HIGHWAY SYSTEM - Facilities Under Construction - Ted Williams Tunnel"). The Central Artery portion of the Metropolitan Highway System is still under construction and not yet owned by the Authority. The CANA portion of the CA/T Project, which includes certain connecting ramps and tunnels between the Tobin Bridge and the Central Artery, is complete, but still owned and operated by MHD. It is not expected to be transferred to the Authority until completion of the Central Artery. See "THE METROPOLITAN HIGHWAY SYSTEM." For purposes of the Metropolitan Highway System Trust Agreement and this Official Statement, the term "Accepted Metropolitan Highway System" refers to the Boston Extension and the Tunnels and, only upon completion of construction and transfer to the Authority and satisfaction of certain other conditions specified in the Metropolitan Highway System Trust Agreement, the Central Artery and CANA. See "APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Acceptance of Metropolitan Highway System." The Turnpike, as defined in the Enabling Act, consists of the Western Turnpike and any additional highway, tunnel and bridge components as the Legislature may from time to time determine.

In addition to the 1996 Notes, the Authority also has outstanding \$365,555,000 aggregate principal amount of its Turnpike Revenue Bonds, 1993 Series A (the "1993 Bonds"). The 1993 Bonds are secured by a pledge of all toll revenues and other moneys derived from the operation of the Western Turnpike and the Boston Extension. See "THE AUTHORITY - Outstanding Indebtedness." The Series C Bonds are being issued to refund the portion of the 1993 Bonds allocable to the Boston Extension. Simultaneously with the issuance of the Series A and B Bonds and the Series C Bonds, the Authority is also issuing its \$297,520,000 Western Turnpike Revenue Bonds, 1997 Series A (the "Western Turnpike Bonds") under a separate trust agreement (the "Western Turnpike Trust Agreement") to refund the portion of the 1993 Bonds allocable to the Western Turnpike. The Authority is refunding the 1993 Bonds to reconfigure its operations in compliance with the Enabling Act. It is a condition of delivery of the Series A and B Bonds that the Series C Bonds and the Western Turnpike Bonds be delivered. "See PLAN OF FINANCE."

In May, 1997, the Legislature enacted and the Governor signed into law Chapter 11 of the Acts of 1997 which, among other matters, requires the Authority to contribute \$700 million toward the acquisition cost of the Ted Williams Tunnel or any other component of the Metropolitan Highway System no later than December 31, 1998. The Series A and B Bonds are being issued, among other purposes, to refund a portion of the 1996 Notes issued pursuant to the 1995 Act and to fund this \$700 million payment. See "PLAN OF FINANCE."

Effective July 1, 1997, the Authority and MHD entered into a CA/T Project Management Agreement (the "Project Management Agreement"), which transferred responsibility for managing the remaining construction of the CA/T Project to the Authority, although MHD remains obligated to pay all costs of construction not otherwise paid from federal highway assistance or other available funds. See "THE CA/T PROJECT - Status of Construction."

There follows in this Official Statement a description of the Authority, the Metropolitan Highway System and the CA/T Project, together with summaries of the terms of the Series A and B Bonds and certain provisions of the Enabling Act and the Metropolitan Highway System Trust Agreement. All references herein to the Enabling Act and the Metropolitan Highway System Trust Agreement are qualified in their entirety by reference to such law and documents, copies of which are available from the Authority or the Trustee, and all references to the Series A and B Bonds are qualified in their entirety by reference to the definitive forms thereof and the information with respect thereto contained in the Metropolitan Highway System Trust Agreement.

Attached hereto as Appendix A is the Report of Traffic Engineer prepared by URS Greiner Consultants, Inc. Appendix B sets forth audited financial statements of the Authority for the four years ended December 31, 1996, 1995, 1994 and 1993. The financial statements have been prepared on a consolidated basis. Note 10 to the financial statements includes certain information pertaining to the allocation of revenues and expenses between the Metropolitan Highway System and the Western Turnpike. Appendix C contains a summary of certain provisions of the Metropolitan Highway System Trust Agreement. Appendix D sets forth the proposed forms of opinion of Bond Counsel and Co-Bond Counsel. Appendix E sets forth the proposed form of Continuing Disclosure Agreement to be executed by the Authority and the Trustee. Appendix F contains a specimen financial guaranty insurance policy relating to the Series A and B Bonds. See also "BOND INSURANCE."

## THE AUTHORITY

### Purpose

The Authority is a body politic and corporate and a public instrumentality of the Commonwealth originally governed by Chapter 354 of the Acts of 1952, as amended, and Chapter 598 of the Acts of 1958, as amended, and now governed by and subject to the Enabling Act. The Authority is placed within but not subject to the control of the Executive Office of Transportation and Construction of the Commonwealth. Under prior law, the Authority operated and maintained the Massachusetts Turnpike as a separate entity from the Sumner and Callahan Tunnels. The 1995 Act authorized and directed the transfer of the Ted Williams Tunnel, including all responsibility for the operation and maintenance thereof, from the Commonwealth to the Authority. The transfer was effectuated on December 14, 1995, in accordance with the terms of a transfer agreement entered into by the Authority and MHD. See "THE METROPOLITAN HIGHWAY SYSTEM - Facilities Under Construction - Ted Williams Tunnel." Under the Enabling Act, the Authority now will operate and maintain the Metropolitan Highway System as a separate entity from the Western Turnpike.

### Board Membership

The Authority Board (the "Board") comprises three members each appointed by the Governor for staggered terms of eight years. The Authority can act only upon the concurrence of at least two of its members. Each member must be a resident of the Commonwealth and not more than two members may be of the same political party. The Chairman of the Authority is appointed by the Governor and the Vice Chairman is elected by the Board. The present members of the Authority, their backgrounds and the expiration dates of their terms are as follows:

James J. Kerasiotes, Chairman. Mr. Kerasiotes was appointed as Chairman of the Authority in July, 1996. Mr. Kerasiotes' term expires July 1, 2004. Prior to July 1, 1997, Mr. Kerasiotes served concurrently as Secretary of the Executive Office of Transportation and Construction ("EOTC") and Chairman of the Massachusetts Bay Transportation Authority ("MBTA"). While serving as Secretary of EOTC, he also oversaw the operations of MHD, the Massachusetts Aeronautics Commission, and the Commonwealth's Regional Transit Authorities. He is also a former commissioner of MHD. Mr. Kerasiotes is a graduate of the State University of New York at New Paltz. He received his masters degree from Northeastern University.

Thomas J. Curley, Jr., Vice Chairman. Mr. Curley, Jr. was appointed to the Board in July, 1991 and became Vice Chairman in July, 1996. His term expires in 1999. Mr. Curley is a partner in the law firm of Campoli and Curley in Pittsfield, Massachusetts. Previously, Mr. Curley served as an Assistant United States Attorney in the public corruption unit in Boston and as an associate with the firm of Goodwin, Procter & Hoar. He is Chairman of the Pittsfield Community Development Board and serves on the Board of Trustees of Berkshire Community College. Mr. Curley is a graduate of Harvard College and received his law degree from Suffolk University.

Ann M. Hershfang, Board Member. Mrs. Hershfang initially was appointed as a Board Member to fill a vacancy in 1988. Her current term expires in 1998. Mrs. Hershfang has served as Undersecretary of EOTC and as a board member of the Massachusetts Port Authority. She serves on the boards of numerous public, private and charitable organizations and is a former National President of the Women's Transportation Seminar. Mrs. Hershfang is a graduate of Radcliffe College and received a masters degree from Tufts University.

## Administration

Biographical information regarding the executive staff of the Authority is set forth below.

John J. Kriston, Chief Operating Officer. Mr. Kriston joined the Authority in July, 1996. Previously, Mr. Kriston served as Undersecretary and as Chief of Staff of EOTC. Prior to EOTC, Mr. Kriston served as Director of Administrative Services with MHD. Before entering government service, Mr. Kriston owned and operated his own business in the private sector.

James E. Rooney, Chief Financial Officer and Secretary-Treasurer. Mr. Rooney came to the Authority in July, 1996. He previously served as Assistant Project Director and Chief Financial Officer for the CA/T Project from 1994 to 1996. Prior to 1994, Mr. Rooney served as Deputy General Manager of the MBTA. He is a graduate of Harvard College and attended the Boston University Graduate School of Management.

Robert M. Ruzzo, General Counsel. Mr. Ruzzo joined the Authority in July, 1996. He previously served as Deputy Secretary/General Counsel and the Deputy Secretary for Environmental Policy for EOTC. He also served as Senior Environmental Counsel for the CA/T Project. Before entering public service, Mr. Ruzzo was in private law practice for nine years with the firm of Sherburne, Powers & Needham. Mr. Ruzzo is a graduate of Colby College and of the Georgetown University Law Center.

Peter M. Zuk, Director of Central Artery Project. Mr. Zuk joined the CA/T Project in June, 1991 and joined the Authority effective July 1, 1996. Before becoming CA/T Project Director, Mr. Zuk served in several capacities with the Department of the Attorney General from 1987 through 1991. Mr. Zuk has also served as a Commissioner for Essex County and Selectman for the Town of Danvers. He is a graduate of Colgate University and received his law degree from Boston College Law School.

James F. Kane, Deputy Chief of Operations. Mr. Kane joined the Authority in October, 1996. He previously served as Chief of Staff for the Massachusetts Development Finance Agency, an agency created from the affiliation of the Massachusetts Government Land Bank and Massachusetts Industrial Finance Agency. Mr. Kane is a graduate of Holy Cross College and holds a masters degree from Clark University.

Joseph P. Gill, Chief Engineer. Mr. Gill joined the Authority in July, 1996. Mr. Gill previously served in numerous capacities with MHD, most recently as Deputy Chief Engineer for Highway Operations. Mr. Gill is a registered professional engineer and a graduate of the University of Massachusetts.

Francis X. McDonough, Director of Human Resources. Mr. McDonough came to the Authority in September, 1996. He previously served as Chief of Labor Policy and Labor Relations for the MBTA. In addition, Mr. McDonough was also Labor Relations Manager for the Massachusetts Water Resources Authority. Mr. McDonough is a graduate of Providence College and obtained a graduate certificate in Administration and Management from Harvard University Extension.

Shirin Karanfiloglu, Director of Planning and Development. Ms. Karanfiloglu joined the Authority in January, 1997. Prior to joining the Authority, Ms. Karanfiloglu worked with community groups, businesses, and residents on the CA/T Project as Manager of Architecture and Urban Design. She was Project Director for the Department of City Planning with the City of New York. Ms. Karanfiloglu is a registered architect and is a graduate of Dartmouth College and holds a masters degree in architecture from Harvard University Graduate School of Design.

Lorenzo G. Parra, Director of Civil Rights. Mr. Parra joined the Authority in September 1996. Before joining the Authority, Mr. Parra served as Director of Civil Rights for EOTC. He was previously the Commissioner and Chairman for the Human Rights Commission of the City of Cambridge. Mr. Parra is a graduate of Oberlin College.

## Executive Offices

The Authority's executive offices are located in the State Transportation Building at 10 Park Plaza, Suite 5170, Boston, Massachusetts, 02116. The Authority's telephone number is (617) 248-2800.

## **Management and Personnel**

The Authority is governed by the three members of the Board. The Chairman of the Board also serves as the Chief Executive Officer of the Authority. The Board meets formally each month to review, discuss and determine policies affecting the operation and maintenance of the Metropolitan Highway System and the Western Turnpike. The members of the Board are compensated and reimbursed for expenses incurred in the performance of their duties as provided in the Enabling Act.

The executive staff of the Authority consists of the following officers: the Chief Operating Officer, the Chief Financial Officer, the Director of the Central Artery Project, the Deputy Chief of Operations, the Director of Planning and Development, the Director of Human Resources, the Chief Engineer, the General Counsel and the Director of Civil Rights.

The executive staff of the Authority is common to and responsible for managing both the Metropolitan Highway System and the Western Turnpike. In accordance with the Metropolitan Highway System Trust Agreement and Western Turnpike Trust Agreement, the Authority will allocate common costs and benefits between the Metropolitan Highway System and the Western Turnpike.

*Chief Financial Officer.* The Office of the Chief Financial Officer comprises the following units: Accounting, Budget, Cash Management, Internal Audit, Risk Management (insurance), Information Systems and Purchasing. Supervised by the Chief Financial Officer, the Office manages all financial matters of the Authority, including the investment of funds, budgeting, accounting, payroll, auditing and insurance.

*Operations.* The Division of Operations includes the following areas of responsibility: Engineering, Construction, Maintenance, Toll Collection, Public Protection (State Police and Emergency Patrol Services) and Occupational Safety. The Division of Operations develops capital improvement plans for the Authority's facilities, controls traffic flow and administers the Authority's construction contracting process. It is also responsible for maintenance of the Authority's facilities. Through the Toll Collection Units, the Division of Operations is responsible for the classification of vehicles and their related payment of tolls in accordance with scheduled rates for the use of the Authority's facilities and the general administration of personnel and facilities.

Under the terms of a contract between the Authority and the Massachusetts Department of Public Safety, Troop "E" of the Massachusetts State Police is responsible for law enforcement on the Metropolitan Highway System and the Western Turnpike. The police officers are not employees of the Authority; however, the Authority pays the payroll, benefits and related expenses of Troop "E", which currently numbers approximately 140 police officers. See "LITIGATION - Environmental, Regulatory and Other Matters."

*Planning and Development.* The Department of Planning and Development is responsible for planning, developing and managing the Authority's real estate assets as well as its visitor information and community relations programs. Organized under the Director of Planning and Development who reports to the Chief Operating Officer, the department maintains an inventory of Authority property, negotiates real estate contracts, is engaged in transportation planning and the development of park and ride facilities, and manages contracts with vendors of service area facilities. In the area of visitor services and community relations, the department staffs and operates four visitor information centers on the Western Turnpike serving more than half a million visitors each year, organizes community outreach programs, and responds to patron concerns and requests for information.

## **Consultants**

Sverdrup/Parsons Brinckerhoff, a joint venture, ("S/PB") has served as the Authority's Consulting Engineers with respect to the Boston Extension since January, 1996 and with respect to the Sumner and Callahan Tunnels since 1990. The Authority has retained URS Greiner Consultants, Inc., as Traffic Engineer, to review and to estimate traffic and toll revenue for the Metropolitan Highway System in connection with the issuance of the Series A and B Bonds and Series C Bonds. Ernst & Young LLP currently provides auditing services for the Authority. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo P.C. and Krokidas & Bluestein serve as Bond Counsel and Co-Bond Counsel, respectively. United States Trust Company of New York is the Trustee for the Bonds. Evensen Dodge Inc. and Columbia Equity Financial Corp. serve as the Authority's Financial Advisors.

## Employee Relations

The Authority currently employs 1,315 employees, approximately 175 of whom work part-time schedules up to 32 hours per week. Except for 145 unaffiliated employees, all Authority employees are represented by one of four labor unions.

Terms and conditions of employment are unilaterally established by the Board for unaffiliated employees and are created and modified through collective bargaining with labor representatives for all other employees. Collective bargaining agreements are subject to Board approval.

The Authority has already or is about to commence contract negotiations with each of the four unions representing its employees. Three of these unions have contracts which have recently expired or are about to expire. Local 127 of the International Brotherhood of Teamsters represents 964 maintenance and toll collection employees and continues to approve work under an agreement covering the period from June 1, 1994 through May 31, 1997. Local 6 of the Office and Professional Employees International Union represents 54 clerical workers and continues to approve work under an agreement covering the period July 2, 1995 through July 5, 1997. Local 103 of the International Brotherhood of Electrical Workers represents 25 Authority electricians and communications workers pursuant to an agreement covering the period October 2, 1995 through October 4, 1997. The Authority is also bargaining toward an initial contract with Local 5696 of the United Steelworkers of America, which union was certified as the exclusive representative for 127 employees in May, 1996.

Chapter 760 of the Acts of 1962 authorizes the Authority to bargain with recognized and certified labor unions and subjects the Authority to certain labor-related provisions of Massachusetts General Laws, Chapter 150A. Chapter 760 also prohibits strikes by Authority employees. Existing union contracts contain binding contract arbitration requirements in the event that negotiations do not produce new agreements.

## Retirement Plans and Other Employee Benefits

The Massachusetts Turnpike Authority Employees' Retirement System (the "System") was established in 1968 as a contributory retirement system subject to the provisions of Massachusetts General Laws, Chapter 32, Sections 1-28. The System is overseen by a board of five members (the "Retirement Board"): James E. Rooney, Chief Financial Officer/Secretary Treasurer of the Authority, member *ex-officio* and Chairman; Francis X. McDonough, member appointed by the Authority; and Francis Hoey and Stanley J. Britton, members elected by the System membership. The fifth position on the Retirement Board remains vacant.

Provision was made for the funding of past service liability of the System by the enactment of Chapter 566 of the Acts of 1978. The Authority is required to fund and pay to the System the sum of (a) the normal cost for the current year, and (b) an amount sufficient to amortize unfunded past service liability over three time periods, 1979 through 1983, 1985 through 1988, and 1989 until the Authority is dissolved. All such required payments to date have been transferred and credited to the System. As of January 1, 1997, the date of the most recent actuarial valuation, there was an unfunded accrued actuarial liability with respect to the System of \$3,451,662. The Authority conducted an early retirement program in the first half of 1996, and the higher unfunded accrued actuarial liability as compared to the January 1, 1996 value of \$1,572,313 is due primarily to the number of employees who elected to retire under this program.

The accounting policies of the System follow the principles and practices for public employee contributory retirement systems promulgated by the Commonwealth of Massachusetts, Division of Public Employee Retirement Administration pursuant to Chapter 32, Section 21 of the Massachusetts General Laws, as amended.

The Authority provides certain health care benefits for its retired employees. Currently, approximately 570 retirees or retiree spouses meet the eligibility requirements. The cost of retiree health care benefits is recognized as an expense when paid. The aggregate expenses recognized in 1996 and 1995, respectively, were approximately \$1,312,000 and \$1,171,000. The Authority has budgeted approximately \$1,766,000 for these expenses in 1997. As of January 1, 1997, the Authority's actuarial advisor estimated the aggregate present value of the cost of the unfunded retiree health benefits program to be \$7,683,000. The Authority has not budgeted any payment in 1997 to amortize this unfunded cost, other than the current year's expenses referenced above.

Future employee retirement and health care benefit costs will be allocated by the Authority either to the Metropolitan Highway System or Western Turnpike as described in "HISTORICAL AND PROJECTED OPERATING RESULTS - Operating Expenses."

## **Insurance**

The Metropolitan Highway System Trust Agreement requires that the Authority maintain with responsible insurers all required and reasonably obtainable insurance in such amount or amounts, if any, as shall be recommended by the Insurance Consultant (as defined therein) to protect, with respect to the Metropolitan Highway System, any Extension and the Authority's interest in any other Projects, against (i) loss or damage and loss of revenues and (ii) public liability to the extent necessary to protect the interest of the Authority and the Bondowners.

Under the Metropolitan Highway System Trust Agreement, the Authority may self-insure against any risk at the recommendation or approval of the Insurance Consultant; provided, however, that the Authority shall provide adequate funding of such self-insurance if and to the extent recommended by the Insurance Consultant.

The Authority currently maintains use and occupancy insurance with respect to all of its facilities, including the Boston Extension and the Western Turnpike in the aggregate amount of \$250 million, the Sumner Tunnel and Callahan Tunnel in the aggregate amount of \$250 million and the Ted Williams Tunnel in the amount of \$800 million. The policy for the Ted Williams Tunnel expires August 1, 1998. The other policies expire August 1, 1999. The Authority currently maintains worker's compensation insurance in the statutorily required amounts (in excess of a \$400,000 self-insured retention per claim), which expires on July 1, 1998. Upon consultation with its current insurance advisor, the Authority also purchases additional insurance as it is reasonably obtainable and deemed prudent. The Authority currently maintains director's and officer's liability, commercial general liability, umbrella excess liability, automobile liability, employee bond coverage and various other policies. In the event of any claims under such policies, the Authority will allocate the proceeds of insurance between the Metropolitan Highway System and the Western Turnpike.

## **Outstanding Indebtedness**

All of the Authority's currently outstanding debt was incurred prior to the passage of the Enabling Act. The Authority expects to refund a substantial portion of this debt in conjunction with the issuance of the Series A and B Bonds, the Series C Bonds, and the Western Turnpike Bonds. See "PLAN OF FINANCE."

The Authority's 1993 Bonds are currently outstanding in the aggregate principal amount of \$365,555,000. The final maturity date of the 1993 Bonds is January 1, 2023. The 1993 Bonds were issued in March, 1993 to finance improvements to the Western Turnpike and the Boston Extension and are secured by revenues derived from the combined operation of these two facilities.

The Authority's 1996 Notes are currently outstanding in the aggregate principal amount of \$259,315,000 and mature on June 1, 1999. The 1996 Notes were issued in February, 1996 to finance improvements to the Sumner and Callahan Tunnels, to pay \$100 million to the Commonwealth in connection with the Authority's acquisition of the Ted Williams Tunnel, to pay certain costs related to the initial operation of the Ted Williams Tunnel and to refund certain prior debt of the Authority relating to the Sumner and Callahan Tunnels. Interest on the 1996 Notes through December 1, 1998 is payable from proceeds of the 1996 Notes and interest earnings thereon. Principal of the 1996 Notes and the final interest payment on the 1996 Notes on June 1, 1999 are not secured by a pledge of any revenues, moneys or other property of the Authority. The 1996 Notes are guaranteed by the Commonwealth. See "PLAN OF FINANCE" and "SECURITY FOR THE BONDS - Additional Bonds."

## **PLAN OF FINANCE**

The Series A and B Bonds, the Series C Bonds and the Western Turnpike Bonds are being issued to refund certain prior obligations of the Authority and to finance an aggregate \$700 million payment by the Authority to the Commonwealth by December 31, 1998 with respect to CA/T Project costs. The information as to uses of the proceeds of each Series of Bonds described under "SOURCES AND USES OF FUNDS" and below under this heading reflects the provisions of the Metropolitan Highway System Trust Agreement. For federal tax purposes, the Series A and B Bonds and the Series C Bonds are a single issue and the allocation of proceeds to uses differs from that described herein.

The legislation governing the Authority prior to enactment of the Enabling Act required the Western Turnpike and the Boston Extension to be operated as a single system, separate from the Tunnels. The Enabling Act, passed in March, 1997, requires the Authority to reorganize its operations into the Western Turnpike and the Metropolitan Highway System. As described herein, the Metropolitan Highway System, as defined in the Enabling Act, includes the Boston Extension, the Tunnels, the Central Artery and CANA. The Enabling Act also requires that the Authority's 1993 Bonds, which are secured by a pledge of revenues derived from the combined operation



of the Western Turnpike and the Boston Extension, be allocated between the Western Turnpike and the Metropolitan Highway System based on the amount of 1993 Bond proceeds expended on each system. To comply with these provisions of the Enabling Act, the Authority is issuing two series of bonds under separate trust agreements to refund the 1993 Bonds. The Western Turnpike Bonds are being issued to advance refund \$289,155,000 principal amount of 1993 Bonds. The Series C Bonds are being issued under the Metropolitan Highway System Trust Agreement, among other purposes, to advance refund the \$76,400,000 remaining principal amount of 1993 Bonds. As a result of these advance refundings, the 1993 Bonds will be defeased to maturity and the lien on toll and other revenues pledged to secure the 1993 Bonds will be released.

The Series C Bonds and the Western Turnpike Bonds are being offered by the Authority through separate official statements, each dated September 24, 1997, to which reference is made for additional information concerning the Series C Bonds and the Western Turnpike Bonds, respectively.

### **Series A and B Bonds**

The Authority is issuing the Series A and B Bonds under the Metropolitan Highway System Trust Agreement in order (i) to advance refund \$203,410,000 of the \$259,315,000 outstanding principal amount of 1996 Notes (ii) to provide, together with a portion of expected investment earnings, \$700 million for payment to the Commonwealth by December 31, 1998, to be used by the Commonwealth to pay costs of the CA/T Project, (iii) to finance certain capital expenditures related to the Metropolitan Highway System, (iv) to fund the Senior Debt Service Reserve Fund and Subordinated Debt Service Reserve Fund, (v) to pay capitalized interest on the Series A and B Bonds, and (vi) to pay costs of issuing the Series A and B Bonds. See "SOURCES AND USES OF FUNDS."

The refunding of the \$203,410,000 of the 1996 Notes with proceeds of the Series A and B Bonds and other available moneys will be achieved through the deposit of such funds in a Refunding Trust Fund (the "1996 Note Refunding Trust Fund") to be held by State Street Bank and Trust Company, Boston, Massachusetts, as trustee (the "1996 Refunding Note Trustee"). Upon the deposit of such funds in the 1996 Refunding Trust Fund, the refunded portion of the 1996 Notes will no longer be considered outstanding within the meaning of the Authority's Guaranteed Bond Anticipation Note Resolution, as supplemented by the First Supplemental Guaranteed Bond Anticipation Note Resolution, each adopted January 5, 1996. The moneys held in the 1996 Note Refunding Trust Fund will be invested in direct general obligations of the United States of America.

None of the funds in the 1996 Note Refunding Trust Fund shall serve as security for or be available to pay principal of or interest on the Bonds.

Approximately \$9.5 million of the proceeds of the Series B Bonds and Series C Bonds will also be applied by the Authority, together with investment earnings thereon and approximately \$33 million of estimated investment earnings on the proceeds of the Series A and B Bonds to be used to fund the \$700 million payment to the Commonwealth, to pay certain capital expenditures related to the Metropolitan Highway System.

Chapter 11 of the Acts of 1997, obligates the Authority to pay \$700 million no later than December 31, 1998 toward the acquisition costs of the Ted Williams Tunnel from the Commonwealth. The Authority will satisfy this obligation by depositing \$100 million into the Commonwealth's Capital Expenditure Reserve Fund (which under state law may be used to pay costs of the CA/T Project or to pay debt service due on the bonds the Commonwealth issued for such purpose) on June 25, 1998 and the balance on December 31, 1998. The Authority has entered into a memorandum of understanding (the "MOU") with the Commonwealth, acting by and through the Executive Office for Administration and Finance with respect to this payment obligation and a future payment as described below under "Future Debt Issuance." Pending payment by the Authority, the proceeds of the Series A and B Bonds to be used to meet this obligation will be held by the Authority in the Bond Proceeds Account established under the Metropolitan Highway System Trust Agreement and invested in Investment Obligations.

### **Future Debt Issuance**

The Enabling Act currently permits the Authority to issue bonds or notes, without additional legislative authorization, but upon notification of certain legislative committees, solely for the purposes of (i) refunding any outstanding debt of the Authority as of March 1, 1997 (i.e., the 1993 Bonds and the 1996 Notes), (ii) making any additional contribution to the Commonwealth in connection with the acquisition by the Authority of the components of the Metropolitan Highway System not already owned by the Authority and (iii) paying any debt or obligation assumed by the Authority for any costs relating to the ownership, construction, maintenance, improvement or operation of the Metropolitan Highway System, as recommended in the Feasibility Study.

*Refunding of 1996 Notes.* The 1996 Notes are guaranteed by the Commonwealth and are not secured by a pledge of any revenues, moneys or other property of the Authority. The Authority expects to apply Net Revenues available after payment of Combined Net Debt Service and Capital Reinvestment Requirements to defease prior to their maturity date of June 1, 1999, the \$55,905,000 principal amount of 1996 Notes that will remain outstanding after delivery of the Series A and B Bonds. However, the Authority may issue Additional Bonds under the Metropolitan Highway System Trust Agreement to finance the defeasance of such 1996 Notes.

*ETTM.* The Authority recently commenced a request for proposal process with respect to acquisition of an electronic toll and traffic management ("ETTM") system. The Authority has not made any decision regarding how it will finance acquisition of the ETTM system. The aggregate capital cost of ETTM is not expected to exceed \$20 million for both the Western Turnpike and the Metropolitan Highway System. See "HISTORICAL AND PROJECTED OPERATING RESULTS - Toll Collections and Rates."

*Future Payments Pursuant to MOU.* The MOU provides for the Authority to pay \$400 million to the Commonwealth by December 31, 2002, subject to the terms of the MOU. Payment of this amount by the Authority is subject to the Commonwealth being obligated to provide \$25 million annually to the Authority to compensate it for undertaking the operation and maintenance of the Central Artery (the "MHD Subsidy") and certain conditions set forth in the MOU. The MHD Subsidy must constitute a binding general obligation of the Commonwealth and be for a term of at least forty (40) years. See "THE CENTRAL ARTERY/TUNNEL PROJECT - Authority Contributions." The Authority may issue Additional Bonds in 2002, or sooner, to satisfy this obligation. The actual timing and amount of any such issuance will be subject to various factors, some of which may be beyond the control of the Authority. The Authority may also elect to issue debt other than Bonds under the Metropolitan Highway System Trust Agreement for this purpose.

The Authority may also be required or may elect to issue additional debt in the future for any other lawful purpose, which debt, if issued as Bonds, will be subject to the terms and conditions of the Metropolitan Highway System Trust Agreement. See "SECURITY FOR THE BONDS - Additional Indebtedness."

## SOURCES AND USES OF FUNDS

The proceeds from the sale of the Series A and B Bonds, Series C Bonds and Western Turnpike Bonds (exclusive of accrued interest) are expected to be applied as follows:

	<u>Series A and B Bonds</u>	<u>Series C Bonds</u>	<u>Western Turnpike Bonds</u>
<b>Sources</b>			
Par Amount .....	\$1,377,726,617.00	\$89,136,005.95	\$297,520,000.00
Original Issue (Discount)/Premium .....	(88,984,827.55)		
Total Sources of Funds .....	<u>\$1,288,741,789.45</u>	<u>\$89,136,005.95</u>	<u>\$297,520,000.00</u>
<b>Uses(1)</b>			
Deposit to 1993 Refunding Trust Fund .....		\$73,167,178.83	\$267,897,358.03
Deposit to 1996 Note Refunding Trust Fund .....	\$190,401,873.17		
Deposit to Bond Proceeds Fund			
- to Fund Contribution to CA/T Project <sup>(2)</sup> .....	688,779,451.26		
- to Fund MHS Capital Expenditures .....	1,528,783.47	7,972,456.76	
Deposit to Senior Debt Service Fund <sup>(3)</sup> .....	246,057,892.31		
Deposit to Subordinated Debt Service Fund <sup>(3)</sup> .....	40,490,839.32		
Deposit to Senior Debt Service Reserve Fund <sup>(4)</sup> .....	93,283,796.10	7,028,417.04	
Deposit to Subordinated Debt Service Reserve Fund <sup>(5)</sup> ..	15,350,611.86		
Deposit to Western Turnpike Debt Service Reserve Fund .			27,495,490.00
Costs of Issuance, including Underwriters' Discount . . .	12,848,541.96	967,953.32	2,127,151.97
Total Uses of Funds .....	<u>\$1,288,741,789.45</u>	<u>\$89,136,005.95</u>	<u>\$297,520,000.00</u>

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- (1) The amounts are estimates and are subject to change based upon circumstances at the time of delivery of the Series A and B Bonds, Series C Bonds and Western Turnpike Bonds. For federal tax purposes, the Series A and B Bonds and the Series C Bonds are a single issue and the allocation of proceeds to uses differs from that shown.
- (2) Includes an amount sufficient, together with a portion of investment earnings, to pay \$700 million to the Commonwealth by December 31, 1998.
- (3) Includes an amount sufficient to pay a portion of the interest to accrue on the Series A and B Bonds to July 1, 2004.
- (4) To be funded from proceeds of the Series A Bonds and Series C Bonds, as applicable.
- (5) To be funded from proceeds of the Series B Bonds.

## THE SERIES A AND B BONDS

### General

The Series A and B Bonds will be issued in the aggregate principal amount, will mature (unless redeemed prior to maturity) in the years and principal amounts, and will bear interest from the dates and at the per annum rates, all as set forth on the inside cover hereof. Interest on the Series A and B Bonds, other than the Capital Appreciation Bonds, will be payable on January 1 and July 1 of each year, commencing January 1, 1998. The Capital Appreciation Bonds will be dated the date of their initial delivery and will be issued in maturity amounts of \$5,000 or integral multiples thereof. (The amount to be paid on the Capital Appreciation Bonds at maturity is called herein the "Maturity Amount".) Interest on the Capital Appreciation Bonds will accrue from the date of their initial delivery, will be compounded semiannually on January 1 and July 1 of each year commencing January 1, 1998, and will be payable only at maturity as a portion of the Maturity Amount. The principal of the Series A and B Bonds, including the Maturity Amount of the Capital Appreciation Bonds, shall be payable upon presentation and surrender thereof on or after their maturity date at the principal corporate trust office of the Trustee. The Series A and B Bonds are subject to optional and mandatory redemption as described below.

The Series A and B Bonds are being issued only as fully registered bonds and, when issued, will be registered in the name of Cede & Co., as nominee for the Depository Trust Company ("DTC"), New York, New York. DTC will act as securities depository for the Series A and B Bonds. Purchases of beneficial interests in the Series A and B Bonds will be made in book-entry form, in the denomination (Maturity Amount in the case of Capital Appreciation Bonds) of \$5,000 or any integral multiple thereof. Purchasers will not receive certificates representing their interest in Series A and B Bonds purchased. So long as DTC or its nominee, Cede & Co., is Bondowner, payments of the principal of and interest on the Series A and B Bonds will be made directly to such Bondowner. Disbursement of such payments to the DTC Participants (hereinafter defined) is the responsibility of DTC and disbursement of such payments to Beneficial Owners (hereinafter defined) is the responsibility of the DTC Participants and the Indirect Participants (hereinafter defined). See "Book-Entry Only System."

### Book-Entry Only System

The Depository Trust Company, New York, New York will act as securities depository for the Series A and B Bonds. The ownership of one fully registered Bond for each \$200,000,000 principal amount or portion thereof for each maturity of each Series will be registered in the name of Cede & Co., as nominee for DTC. DTC is a limited-purpose trust company organized under the laws of the State of New York, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC was created to hold securities of its participants (the "DTC Participants") and to facilitate the clearance and settlement of securities transactions among DTC Participants in such securities through electronic book-entry changes in accounts of the DTC Participants, thereby eliminating the need for physical movement of securities certificates. DTC Participants include securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations, some of whom (and/or their representatives) own DTC. Access to the DTC system is also available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a DTC Participant, either directly or indirectly ("Indirect Participants").

The DTC Participants shall receive a credit balance in the records of DTC. The ownership interest of each actual purchaser of each Series A Bond and Series B Bond (the "Beneficial Owners") will be recorded through the records of the DTC Participant or Indirect Participant. Beneficial Owners will receive a written confirmation of their purchase providing details of the Series A Bonds or Series B Bonds acquired. Transfers of ownership interests in the Series A and B Bonds will be accomplished by book entries made by DTC and by the DTC Participants who act on behalf of the Indirect Participants and Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interest in the Series A Bonds or Series B Bonds. Interest and principal will be paid by the Trustee to DTC, or its nominee, and then paid by DTC to the DTC Participants and thereafter paid by the DTC Participants and Indirect Participants to the Beneficial Owners when due.

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATIONS TO SUCH DTC PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENTS TO OR THE PROVIDING OF NOTICE FOR THE DTC PARTICIPANTS, OR THE INDIRECT PARTICIPANTS, OR BENEFICIAL OWNERS. SO LONG AS CEDE & CO. IS THE REGISTERED OWNER OF THE SERIES A AND B BONDS, AS NOMINEE OF DTC, REFERENCES HEREIN TO THE BONDOWNERS OR REGISTERED OWNERS OF THE SERIES A AND B BONDS SHALL MEAN CEDE & CO. AND SHALL NOT MEAN THE BENEFICIAL OWNERS OF THE SERIES A AND B BONDS.

Principal and interest payments on the Series A and B Bonds will be made to DTC or its nominee, Cede & Co., as registered owner of the Series A and B Bonds. Upon receipt of moneys, DTC's current practice is to immediately credit the accounts of the DTC Participants in accordance with their respective holdings shown on the records of DTC. Payments by DTC Participants and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is now the case with municipal securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such DTC Participant or Indirect Participant and not of DTC, the Trustee or the Authority, subject to any statutory and regulatory requirements as may be in effect from time to time. When notices are given, they shall be sent by the Trustee to DTC only. DTC shall forward (or cause to be forwarded) the notices to the DTC Participants, so that such DTC Participants may forward (or cause to be forwarded) the notices to the Beneficial Owners.

DTC may determine to discontinue providing its service with respect to the Series A and B Bonds at any time by giving notice to the Authority and discharging its responsibilities with respect thereto under applicable law, or the Authority may determine that continuation of the system of book-entry transfers through DTC (or a successor securities depository) is not in the best interests of the Beneficial Owners. In either of such events, the Trustee will authenticate and deliver replacement Bonds in the form of fully registered certificates. The Beneficial Owner, upon registration of certificates held in the Beneficial Owner's name, will become the registered owner of the Series A Bonds or Series B Bonds, as applicable.

### Redemption Provisions

The Series A and B Bonds maturing on or before January 1, 2007 and the Capital Appreciation Bonds shall not be subject to redemption prior to maturity.

*Optional Redemption.* The Series A and B Bonds maturing after January 1, 2007, other than the Capital Appreciation Bonds, shall be subject to redemption at the written direction of the Authority, in whole or in part on any date from the maturities selected by the Authority on or after January 1, 2007, during the period and at the prices (expressed as a percentage of the principal amount of the Series A and B Bonds being redeemed), plus accrued interest to the date of redemption as set forth below:

<u>Redemption Period</u>	<u>Redemption Price</u>
January 1, 2007 through and including December 31, 2007	102%
January 1, 2008 through and including December 31, 2008	101
January 1, 2009 and thereafter	100

*Mandatory Sinking Fund Redemption.* The Series A Bonds maturing on January 1, 2017, January 1, 2023, January 1, 2027, and January 1, 2037 are subject to mandatory sinking fund redemption and shall be redeemed prior to their stated maturity, from Sinking Fund Installments, on January 1 in the years set forth below by payment of 100% of the principal amount of such Series A Bonds called for redemption, plus interest accrued to the date fixed for redemption according to the schedule set forth below:

#### Series A Bonds Maturing January 1, 2017

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2014	\$26,550,000	2016	\$14,235,000
2015	28,020,000	2017 <sup>‡</sup>	14,965,000

<sup>‡</sup>Stated maturity.

#### Series A Bonds Maturing January 1, 2023

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2018	\$17,630,000	2021	\$20,485,000
2019	18,535,000	2022	21,535,000
2020	19,485,000	2023 <sup>‡</sup>	22,640,000

**Series A Bonds Maturing January 1, 2027**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2024	\$23,795,000	2026	\$63,235,000
2025	24,985,000	2027 <sup>‡</sup>	66,425,000

**Series A Bonds Maturing January 1, 2037**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2030	\$69,645,000	2034	\$84,020,000
2031	73,030,000	2035	87,975,000
2032	76,555,000	2036	92,090,000
2033	80,215,000	2037 <sup>‡</sup>	96,370,000

The Series B Bonds maturing on January 1, 2017, January 1, 2023, January 1, 2029 and January 1, 2037 are subject to mandatory sinking fund redemption and shall be redeemed prior to their stated maturity, from Sinking Fund Installments, on January 1 in the years set forth below by payment of 100% of the principal amount of such Series B Bonds called for redemption, plus interest accrued to the date fixed for redemption according to the schedule set forth below:

**Series B Bonds Maturing January 1, 2017**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2014	\$5,395,000	2016	\$5,980,000
2015	5,680,000	2017 <sup>‡</sup>	6,290,000

**Series B Bonds Maturing January 1, 2023**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2018	\$4,720,000	2021	\$5,485,000
2019	4,965,000	2022	5,765,000
2020	5,220,000	2023 <sup>‡</sup>	6,060,000

**Series B Bonds Maturing January 1, 2029**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2024	\$6,375,000	2027	\$7,430,000
2025	6,710,000	2028	7,820,000
2026	7,060,000	2029 <sup>‡</sup>	8,230,000

<sup>‡</sup>Stated maturity.

**Series B Bonds Maturing January 1, 2037**

<u>Year</u>	<u>Principal Amount</u>	<u>Year</u>	<u>Principal Amount</u>
2030	\$ 8,665,000	2034	\$10,580,000
2031	9,105,000	2035	11,125,000
2032	9,575,000	2036	11,695,000
2033	10,065,000	2037 <sup>‡</sup>	12,290,000

<sup>‡</sup>Stated maturity.

The Authority may purchase Series A Bonds or Series B Bonds of any maturity and credit them against the Sinking Fund Installment for such maturity at the principal amount thereof by delivering them to the Trustee for cancellation at least forty-five (45) days before the Sinking Fund Installment date. Upon the purchase or redemption of any Series A Bonds or Series B Bonds for which Sinking Fund Installments shall have been established, an amount equal to the principal amount of the Bonds so purchased or redeemed shall be credited toward future applicable Sinking Fund Installments in such order as the Authority shall determine.

*Partial Redemption.* If less than all of the Series A Bonds or Series B Bonds of any maturity shall be called for redemption and such Series A Bonds or Series B Bonds are not held in the Book-Entry Only System, the Series A Bonds or Series B Bonds to be so redeemed shall be selected by the Trustee in any customary manner of selection as determined by the Trustee, subject to the provisions of the Metropolitan Highway System Trust Agreement, at their principal amounts plus accrued interest to the redemption date. So long as all of the Series A Bonds or Series B Bonds are held in the Book-Entry Only System, if less than all of the Series A Bonds or Series B Bonds of any one maturity are to be redeemed, the particular Series A Bonds or Series B Bonds or portions of the Series A Bonds or Series B Bonds of such maturity to be redeemed shall be selected by DTC in such manner as DTC may determine.

*Notice of Redemption.* So long as DTC or its nominee is the Bondowner, the Authority and Trustee will recognize DTC or its nominee as the Bondowner for all purposes, including notices and voting. Conveyance of notices and other communications by DTC to DTC Participants, by DTC Participants to Indirect Participants, and by DTC Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory and regulatory requirements which may be in effect from time to time. So long as DTC or its nominee is the Bondowner, any failure on the part of DTC or failure on the part of a nominee of a Beneficial Owner (having received notice from a DTC Participant or otherwise) to notify the Beneficial Owner so affected shall not affect the validity of the redemption.

Except as described below, notice of redemption shall be given by the Trustee not less than thirty (30) nor more than sixty (60) days prior to the date fixed for redemption by first class mail, postage prepaid, to the registered owner of each Series A Bond or Series B Bond to be redeemed, at the address of such registered owner shown on the registry books maintained by the Trustee; *provided, however*, that if any Bondowner shall be the registered owner of \$1,000,000 or more in aggregate principal amount of any Series A Bonds or Series B Bonds or portion of Series A Bonds or Series B Bonds to be redeemed, the Trustee shall mail a copy of such notice by certified mail, return receipt requested. The notice shall require that such Series A Bonds or Series B Bonds be surrendered at the principal corporate trust office of the Trustee for redemption at the redemption price and shall state that further interest on such Series A Bonds or Series B Bonds will not accrue from and after the redemption date. CUSIP number identification with appropriate dollar amounts for each CUSIP number also shall accompany all redemption notices. However, any error in a CUSIP number or contained in any notice of redemption shall not affect the validity of the redemption proceedings.

*Effect of Redemption.* Notice of redemption having been given in the manner provided above, and money sufficient for the redemption being held by the Trustee for the purpose, the Series A Bonds or Series B Bonds so called for redemption shall become due and payable on the redemption date, and interest thereon shall cease to accrue and the owners of the Series A Bonds or Series B Bonds so called for redemption shall thereafter no longer have any security or benefit under the Metropolitan Highway System Trust Agreement except to receive payment of the redemption price for such Series A Bonds or Series B Bonds.

If such moneys are not available on the redemption date, the Series A Bond or Series B Bonds or portions thereof will continue to bear interest until paid at the same rate they would have borne had they not been called for redemption. If, at the time of mailing of the notice of optional redemption, moneys have not been deposited with the Trustee in an amount sufficient to redeem all the Series A Bonds or Series B Bonds called for redemption, such notice shall state that it is conditional, i.e., subject to the deposit of sufficient moneys not later than the opening of business on the redemption date, and any such notice shall be of no effect unless such moneys are deposited.

### **Transfer and Exchange**

In the event that the Book-Entry Only System is discontinued, the following provisions would apply: Series A and B Bonds may be exchanged for an equal aggregate principal amount of Series A and B Bonds in other authorized denominations and of the same maturity and Series, upon surrender thereof at the principal corporate trust office of the Trustee. The transfer of any Series A Bond or Series B Bond may be registered on the books maintained by the Trustee for such purpose only upon the surrender thereof by the registered owner or by such owner's attorney duly authorized in writing to the Trustee with a duly executed assignment in form satisfactory to the Trustee. For every exchange or registration of transfer of Series A and B Bonds the Authority and the Trustee

may make a charge to the owner an amount sufficient to reimburse them for any tax, fee or other governmental charge required to be paid with respect to such exchange or registration of transfer, and, except for (i) with respect to the delivery of definitive Series A Bonds or Series B Bonds in exchange for temporary Series A Bonds or Series B Bonds, (ii) in the case of a Series A Bond or Series B Bond issued upon the first exchange or transfer of a Series A Bond or Series B Bond or Series A Bonds or Series B Bonds surrendered for such purpose within sixty (60) days after the first authentication and delivery of the Series A Bonds or Series B Bonds, or (iii) as otherwise provided in the Metropolitan Highway System Trust Agreement, the Trustee may charge a sum sufficient to pay the cost of preparing each new Series A Bond or Series B Bond issued upon such exchange or transfer, which sum or sums shall be paid by the person requesting such exchange or transfer as a condition precedent to the exercise of the privilege of making such exchange or transfer.

Neither the Authority nor the Trustee shall be required (a) to register, transfer or exchange Series A and B Bonds for a period of fifteen (15) days next preceding an interest payment on the Series A and B Bonds or next preceding any selection of Series A and B Bonds to be redeemed or thereafter until the mailing of any notice of redemption or (b) to register, transfer or exchange any Series A and B Bonds called for redemption.



## DEBT SERVICE REQUIREMENTS

The following table sets forth Debt Service on the Bonds to be outstanding following issuance of the Series A and B Bonds and the Series C Bonds for each Fiscal Year in which such Bonds will be outstanding. The table does not include Western Turnpike Bonds or the remaining 1996 Notes not refunded with proceeds of the Series A and B Bonds, neither of which are secured by the Metropolitan Highway System Trust Agreement. The Authority expects to refund or defease the remaining 1996 Notes with Net Revenues available therefor or with proceeds of Additional Bonds.

### Debt Service<sup>(1)</sup>

Year Ending Dec. 31	Senior Bonds		Total Senior Debt Service <sup>(2)</sup>	Subordinated Bonds	Total Debt Service <sup>(2)</sup>
	<u>Series A Bonds</u>	<u>Series C Bonds</u>		<u>Series B Bonds</u>	
1997	\$19,102,366.67	-	\$19,102,366.67	\$3,348,522.92	\$22,450,889.59
1998	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
1999	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2000	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2001	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2002	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2003	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2004	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2005	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2006	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2007	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2008	57,307,100.00	-	57,307,100.00	10,045,568.76	67,352,668.76
2009	79,762,100.00	-	79,762,100.00	12,920,568.76	92,682,668.76
2010	80,104,350.00	-	80,104,350.00	12,921,818.76	93,026,168.76
2011	80,363,350.00	-	80,363,350.00	12,920,818.76	93,284,168.76
2012	80,589,600.00	-	80,589,600.00	12,922,318.76	93,511,918.76
2013	78,926,100.00	-	78,926,100.00	14,820,818.76	93,746,918.76
2014	79,035,412.50	-	79,035,412.50	14,822,581.26	93,857,993.76
2015	63,814,387.50	\$35,180,000.00	98,994,387.50	14,824,381.26	113,818,768.76
2016	63,814,843.76	35,475,000.00	99,289,843.76	14,820,431.26	114,110,275.02
2017	65,712,887.50	35,825,000.00	101,537,887.50	12,920,206.26	114,458,093.76
2018	65,714,350.00	36,085,000.00	101,799,350.00	12,923,306.26	114,722,656.26
2019	65,714,431.26	36,300,000.00	102,014,431.26	12,923,850.00	114,938,281.26
2020	65,715,825.00	36,470,000.00	102,185,825.00	12,921,325.00	115,107,150.00
2021	65,715,968.76	36,625,000.00	102,340,968.76	12,920,218.76	115,261,187.52
2022	65,717,300.00	36,755,000.00	102,472,300.00	12,919,762.50	115,392,062.50
2023	102,577,000.00	-	102,577,000.00	12,924,187.50	115,501,187.50
2024	102,657,250.00	-	102,657,250.00	12,924,500.00	115,581,750.00
2025	102,713,000.00	-	102,713,000.00	12,922,225.00	115,635,225.00
2026	102,741,250.00	-	102,741,250.00	12,921,575.00	115,662,825.00
2027	102,740,000.00	-	102,740,000.00	12,921,500.00	115,661,500.00
2028	102,705,000.00	-	102,705,000.00	12,920,950.00	115,625,950.00
2029	102,640,000.00	-	102,640,000.00	12,923,875.00	115,563,875.00
2030	102,542,750.00	-	102,542,750.00	12,919,793.76	115,462,543.76
2031	102,416,250.00	-	102,416,250.00	12,923,162.50	115,339,412.50
2032	102,248,500.00	-	102,248,500.00	12,922,443.76	115,170,943.76
2033	102,042,750.00	-	102,042,750.00	12,921,612.50	114,964,362.50
2034	101,796,750.00	-	101,796,750.00	12,924,387.50	114,721,137.50
2035	101,513,000.00	-	101,513,000.00	12,924,231.26	114,437,231.26
2036	101,188,500.00	-	101,188,500.00	12,919,862.50	114,108,362.50

<sup>(1)</sup> Amounts represent required deposits to the applicable Debt Service Fund during the Fiscal Year. A portion of the Debt Service deposited during a Fiscal Year is paid to Bondowners on January 1 of the following Fiscal Year.

<sup>(2)</sup> Totals may not add due to rounding.

## SECURITY FOR THE BONDS

The principal and premium, if any, and interest on the Bonds are payable from and secured by a pledge of the Revenues of the Authority derived from the Accepted Metropolitan Highway System, including all tolls, rates, fees, rentals, and other charges and certain investment income and other revenues, all as more fully described in APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - The Pledge Effected by the Metropolitan Highway System Trust Agreement". All of the Bonds are also secured by a lien and charge on all funds and accounts created under the Metropolitan Highway System Trust Agreement (other than the Rebate Fund), except that the Subordinated Bonds are not secured by the Senior Debt Service Fund and Senior Debt Service Reserve Fund and that the Senior Bonds are not secured by the Subordinated Debt Service Fund and Subordinated Debt Service Reserve Fund.

The Series A Bonds and the Series C Bonds will be the first two series of Senior Bonds to be issued under the Metropolitan Highway System Trust Agreement. The Series B Bonds will be the first Series of Subordinated Bonds to be issued under the Metropolitan Highway System Trust Agreement.

Under the Enabling Act, all revenues from the Metropolitan Highway System are held and administered separately from those of the Western Turnpike. The operations and revenues of the Western Turnpike are separate from those of the Metropolitan Highway System and such revenues are not pledged to, and moneys held under the Western Turnpike Trust Agreement are not available for, either maintenance or repair of the Metropolitan Highway System or any payment on or with respect to the Bonds.

See "HISTORICAL AND PROJECTED OPERATING RESULTS - Projected Revenues, Expenses and Debt Service" and "APPENDIX A - REPORT OF TRAFFIC ENGINEER" for information concerning the Revenues of the Authority expected to be derived from the Accepted Metropolitan Highway System.

The Bonds are not subject to acceleration in the event of any default under the Metropolitan Highway System Trust Agreement.

### **Pledge Under the Metropolitan Highway System Trust Agreement**

The Bonds are special obligations of the Authority payable solely from the items pledged therefor pursuant to the terms of the Metropolitan Highway System Trust Agreement. The payment of the principal and Redemption Price of, interest on, and Sinking Fund Installments for Senior Bonds is secured by a pledge of the following: (i) the proceeds of the sale of Senior Bonds, (ii) the Revenues, (iii) Dedicated Payments allocated to Senior Bonds and interest earnings thereon, if any, (iv) the rental income from certain leases between the Authority and certain third parties specifically listed in a schedule to the Metropolitan Highway System Trust Agreement or added by any Supplemental Trust Agreement and (v) all Funds and Accounts established under the Metropolitan Highway System Trust Agreement (other than the Rebate Fund, the Subordinated Debt Service Fund and the Subordinated Debt Service Reserve Fund), including the investment income thereon, if any. Subject only to the prior pledge created for the payment of Senior Bonds described above and the terms and conditions set forth in the Metropolitan Highway System Trust Agreement with respect to such prior pledge, the property described in clauses (ii), (iv) and (v) above (except moneys or Investment Obligations in the Senior Debt Service Fund or the Senior Debt Service Reserve Fund) are further pledged, and the proceeds of the sale of Subordinated Bonds, Dedicated Payments allocated to Subordinated Bonds and interest earnings thereon, the Subordinated Debt Service Fund and the Subordinated Debt Service Reserve Fund are hereby further pledged, to the payment of the Subordinated Bonds.

Under the Metropolitan Highway System Trust Agreement, "Revenues" means all (i) all rates, fees, tolls, rentals or other charges and other earned income (including, without limitation, any income earned from the investment of such amounts) and receipts as derived in cash by or for the account of the Authority from the Accepted Metropolitan Highway System or any Extension, (ii) Investment Income, (iii) any Supplemental Revenues, (iv) the proceeds of use and occupancy insurance on any portion of the Accepted Metropolitan Highway System or any Extension and of any other insurance which insures against loss of revenues therefrom payable to or for the account of the Authority, and (v) all amounts received by the Trustee for the account of the Authority under a Hedge Agreement. Notwithstanding the preceding sentence, however, Revenues shall not include (i) Dedicated Payments, (ii) amounts received under a Qualified Hedge Agreement which are deposited in a Debt Service Fund

and have been relied upon in calculating Debt Service in accordance with the Metropolitan Highway System Trust Agreement, (iii) receipts from extraordinary, non-recurring events or sources attributable to the Accepted Metropolitan Highway System or any Extension, such as sale of property or air rights, (iv) rental income from leases of or licenses to use property or air rights attributable to the Accepted Metropolitan Highway System or any Extension unless pledged by the Authority pursuant to the Metropolitan Highway System Trust Agreement or, in the Authority's discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement, (v) operating assistance, subsidy or other similar funding received from a governmental or other entity which is attributable to the Accepted Metropolitan Highway System or any Extension, unless pledged by the Authority, in its discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement, or (vi)(a) all rates, fees, tolls, rentals or other charges and other earned income (including, without limitation, any income earned from the investment of such amounts) and receipts as derived in cash by or for the account of the Authority, (b) operating assistance, subsidy or other similar funding received from a governmental or other entity, and (c) the proceeds of use and occupancy insurance and of any other insurance which insures against loss of revenues therefrom payable to or for the account of the Authority, in each case with respect to portions of the Metropolitan Highway System other than the Accepted Metropolitan Highway System and unless pledged by the Authority, in its discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement.

Under the Metropolitan Highway System Trust Agreement, "Operating Expenses" means the Authority's expenses (including deposits to the Operating and Maintenance Reserve Account for such expenses) incurred in the normal course of business for administration, operation, maintenance, repair, ordinary replacements and ordinary reconstruction of the Accepted Metropolitan Highway System or any part of it or any Extension or part of it and shall include, without limiting the generality of the foregoing: allocable overhead and administrative expenses as determined by the Authority in its discretion, including the payment of a private operator or management company, insurance premiums, legal and engineering expenses, pension, retirement, health and hospitalization payments, expenditures relating to advertisements or promotions by or for the Authority to promote or increase use of the Accepted Metropolitan Highway System or any Extension and any other expenses required to be paid by the Authority, all to the extent properly and directly attributable to the operation of the Accepted Metropolitan Highway System and any Extension and payable by the Authority, and the expenses, liabilities and compensation of the Fiduciaries required to be paid under the Metropolitan Highway System Trust Agreement. Operating Expenses shall not include (i) any extraordinary costs or expenses for reconstruction, rehabilitation, improvement or new construction, (ii) any provision for depreciation, amortization or similar charges, (iii) General Fund Expenses, or (iv) any costs or expenses in connection with any project which is not part of the Accepted Metropolitan Highway System or any Extension.

Under the Metropolitan Highway System Trust Agreement, "Net Revenues" means, as of any date of calculation and for any period, the actual Revenues for any such past period or the projected Revenues for any such future period and any other amounts deposited or to be deposited in the Revenue Fund, less the actual Operating Expenses for any such past period or the projected Operating Expenses for any such future period; provided that in both cases the following shall be excluded from Revenues for this purpose: (i) Investment Income from the Senior Debt Service Reserve Fund and the Senior Debt Service Fund to the extent deposited or to be deposited or retained or to be retained, respectively, in the Senior Debt Service Fund and (ii) Investment Income from the Subordinated Debt Service Reserve Fund and the Subordinated Debt Service Fund to the extent deposited or to be deposited or retained or to be retained, respectively, in the Subordinated Debt Service Fund.

Under the Metropolitan Highway System Trust Agreement, "Dedicated Payments" means any revenues of the Authority which are not Revenues as defined in the Metropolitan Highway System Trust Agreement as initially adopted, which the Authority subsequently pledges as additional security for its payment obligations on the Bonds pursuant to a Supplemental Trust Agreement, in each case which are specifically designated as Dedicated Payments by the Authority in accordance with the limitations of the Metropolitan Highway System Trust Agreement and, accordingly, are to be deposited in the Senior Debt Service Fund or the Subordinated Debt Service Fund upon receipt.

If Dedicated Payments are to be received from the United States of America, (a) they must automatically recur without appropriation, approval or other similar action by the United States of America or any agency or instrumentality thereof for so long as the Authority is relying thereon for the purpose of issuing Bonds or demonstrating compliance with covenants under the Metropolitan Highway System Trust Agreement and (b) the

manner of determining the amounts to be derived therefrom must not be subject to change or revision during such period. If such Dedicated Payments are to be received from the Commonwealth, they must consist of a payment obligation payable to the Authority pursuant to a statutory or contractual arrangement with the Commonwealth which, in the opinion of Bond Counsel, constitutes a general obligation of the Commonwealth; provided that at the time of entering into such arrangement (a) such arrangement, by its terms, will not terminate so long as the Authority is relying thereon for the purpose of issuing Bonds or demonstrating compliance with covenants under the Metropolitan Highway System Trust Agreement and (b) the manner of determining the amounts to be derived from such arrangement is not subject to change or revision during such period. Notwithstanding the source of funding, if the Authority has received a written confirmation from each Rating Agency that its rating of Outstanding Bonds will not be adversely affected, the Authority may, in its sole discretion, designate any revenues which are not Revenues, as defined in the Metropolitan Highway System Trust Agreement as initially adopted, as Dedicated Payments. See "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Dedicated Payments."

The Bonds are not a debt of the Commonwealth or any political subdivision thereof and neither the Commonwealth nor any political subdivision thereof shall be liable thereon. The Authority has no taxing power.

#### **Flow of Funds**

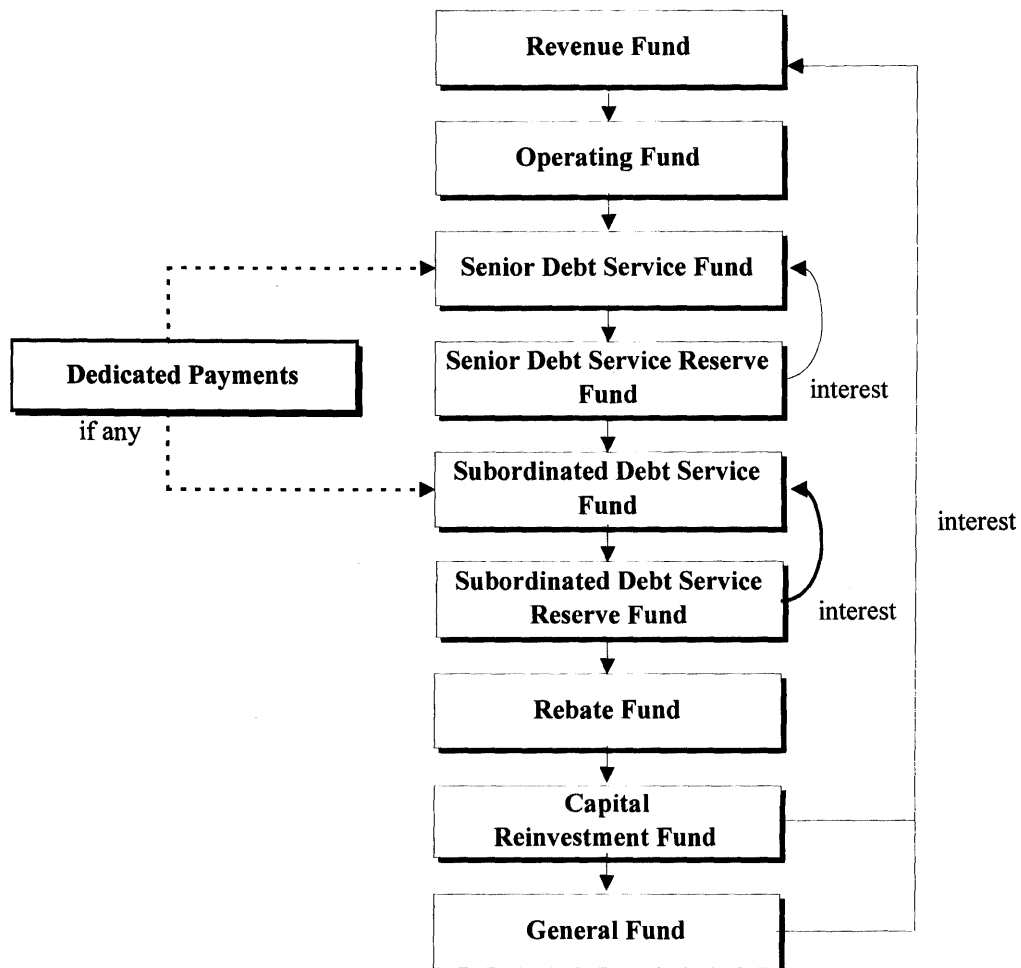
The Metropolitan Highway System Trust Agreement establishes the following Funds and Accounts, to be held and administered by the Trustee:

- (1) the Revenue Fund;
- (2) the Senior Debt Service Fund;
- (3) the Senior Debt Service Reserve Fund;
- (4) the Subordinated Debt Service Fund; and
- (5) the Subordinated Debt Service Reserve Fund.

The Metropolitan Highway System Trust Agreement establishes the following Funds and Accounts, to be held and administered by the Authority:

- (1) the Bond Proceeds Fund, which shall include a Metropolitan Highway System Capital Account, a Commonwealth Payment Account, an Extension Account and such other Accounts as the Authority may create by Supplemental Trust Agreement;
- (2) the Operating Fund, which shall include an Operations and Maintenance Account and an Operating and Maintenance Reserve Account;
- (3) the Rebate Fund;
- (4) the Capital Reinvestment Fund; and
- (5) the General Fund.

Set forth below is an illustration of the flow of funds under the Metropolitan Highway System Trust Agreement which is more fully described in APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Establishment of Funds and Accounts" through "-Application of General Fund."



## **Toll Covenant**

Under the Metropolitan Highway System Trust Agreement, the Authority is required at all times to establish, levy, maintain and collect such tolls, rentals and other charges in connection with the Accepted Metropolitan Highway System, any Extension and other Projects as shall always be sufficient in the aggregate to provide Revenues in each Fiscal Year to satisfy the requirements described in paragraphs (1) and (2) below:

- (1) Revenues for each Fiscal Year shall be at least sufficient for the payment of the sum of:
  - (a) Operating Expenses for such Fiscal Year;
  - (b) An amount equal to the Aggregate Debt Service for such Fiscal Year;
  - (c) The amount, if any, to be paid during such Fiscal Year into the Senior Debt Service Reserve Fund (other than amounts required to be paid into such Fund out of the proceeds of Senior Bonds);
  - (d) The amount, if any, to be paid during such Fiscal Year into the Subordinated Debt Service Reserve Fund (other than amounts required to be paid into such Fund out of the proceeds of Subordinated Bonds);
  - (e) The Capital Reinvestment Requirement for such Fiscal Year; and
  - (f) To the extent not otherwise provided for, the amount which, together with any other lawfully available funds received by the Authority, shall be sufficient to provide for the payment of all other obligations of the Authority allocable to the Accepted Metropolitan Highway System, or any Extension; and
- (2) Net Revenues for such Fiscal Year shall be at least equal to the greater of (i) 1.20 times the Senior Net Debt Service for such Fiscal Year, (ii) 1.15 times the Combined Net Debt Service (which means Senior Net Debt Service plus Subordinated Net Debt Service) for such Fiscal Year and (iii) 1.00 times the Combined Net Debt Service plus the Capital Reinvestment Requirement for the Fiscal Year, which is established by the Authority in its Annual Budget.

Under the Metropolitan Highway System Trust Agreement, "Senior Net Debt Service" means Debt Service payable on Senior Bonds less (i) the sum of (a) interest accrued or to accrue on such Bonds which is to be paid from deposits in the Senior Debt Service Fund made from the proceeds of Bonds (including amounts, if any, transferred to the Senior Debt Service Fund from the Bond Proceeds Fund) in accordance with a certificate of an Authorized Officer to the Trustee, (b) amounts transferred to the Senior Debt Service Fund from the General Fund at the Authority's direction, (c) Investment Income from the Senior Debt Service Reserve Fund and the Senior Debt Service Fund transferred to or retained in the Senior Debt Service Fund and (d) Dedicated Payments deposited in the Senior Debt Service Fund pursuant to the Metropolitan Highway System Trust Agreement plus (ii) Debt Service payable on Bond Anticipation Notes issued in anticipation of Senior Bonds net of any amounts deposited from the proceeds of such notes available in the Senior Debt Service Fund or in another account established in connection with the issuance of such notes for the payment of such Debt Service.

Under the Metropolitan Highway System Trust Agreement, "Subordinated Net Debt Service" means Debt Service payable on Subordinated Bonds less (i) the sum of (a) interest accrued or to accrue on such Bonds which is to be paid from deposits in the Subordinated Debt Service Fund made from the proceeds of such Bonds (including amounts, if any, transferred to the Subordinated Debt Service Fund from the Bond Proceeds Fund) in accordance with a certificate of an Authorized Officer to the Trustee, (b) amounts transferred to the Subordinated Debt Service Fund from the General Fund at the Authority's direction, (c) Investment Income from the Subordinated Debt Service Reserve Fund and the Subordinated Debt Service Fund transferred to or retained in the Subordinated Debt Service Fund and (d) Dedicated Payments deposited in the Subordinated Debt Service Fund pursuant to the Metropolitan Highway System Trust Agreement plus (ii) Debt Service payable on Bond Anticipation Notes issued in anticipation of Subordinated Bonds net of any amounts deposited from the proceeds of such notes available in the Subordinated Debt Service Fund or in another account established in connection with the issuance of such notes for the payment of such Debt Service.

The Authority is permitted under the Metropolitan Highway System Trust Agreement, to the extent permitted by law, with respect to the Accepted Metropolitan Highway System, any Extension or any portion of the Metropolitan Highway System which is not part of the Accepted Metropolitan Highway System, at any time to convert to methods of toll collection other than those presently utilized, provided that it shall comply with the foregoing covenants and other provisions of the Metropolitan Highway System Trust Agreement. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Tolls and Charges."

The Metropolitan Highway System Trust Agreement provides that, on or before the 180th and 360th day of each Fiscal Year the Authority shall determine whether the calculations required under this heading (on an annualized basis) indicate that Revenues are reasonably expected to be at or above the required levels at such time. In the event that Revenues are not at or are not reasonably expected to reach the level necessary to maintain the foregoing covenants, the Authority will obtain a review by an Independent Consultant for the purpose of estimating whether the Revenues in each of the two subsequent Fiscal Years will be sufficient, together with other available moneys to meet the foregoing covenants. If such estimates indicate insufficient Revenues to enable the Authority to maintain the foregoing covenants, the Authority will adjust its tolls, rentals and other charges and take such other action as shall be necessary and sufficient to comply as nearly as practicable with its covenants. Failure to comply with the foregoing covenants will not constitute a default under the Metropolitan Highway System Trust Agreement if the Independent Consultant is of the opinion that a schedule of tolls, rentals and other charges which will comply with such covenants is impracticable at that time and the Authority establishes a schedule of tolls, rentals and other charges which is recommended by the Independent Consultant to comply as nearly as practicable with such covenants. See "HISTORICAL AND PROJECTED OPERATING RESULTS - Toll Collections and Rates", "- Historical Revenues and Expenditures" and "-Projected Revenues, Expenses and Debt Service" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Tolls and Charges."

#### **Senior Debt Service Reserve Fund**

To the extent that amounts in the Senior Debt Service Fund are insufficient to pay Senior Net Debt Service, when due, on the Senior Bonds, deficiencies shall be made up from amounts in the Senior Debt Service Reserve Fund after any transfer from the General Fund. The Metropolitan Highway System Trust Agreement requires the Authority to maintain cash and investment obligations or surety bonds, insurance policies, letters of credit or similar instruments in the Senior Debt Service Reserve Fund equal to the sum of the following amounts for the Series A Bonds, the Series C Bonds and any Series of Additional Senior Bonds: the least of (i) 10% of the original net proceeds from the sale of such Series, (ii) 125% of average annual Debt Service for such Series, and (iii) the maximum amount of Debt Service due on such Series in any future Fiscal Year, or, in any event, such lesser amount as may be required to comply with the Code (the "Senior Debt Service Reserve Fund Requirement"). See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Definitions" and "-Senior Debt Service Reserve Fund." To the extent that the amount on deposit in the Senior Debt Service Reserve Fund is less than the Senior Debt Service Reserve Fund Requirement, the Authority is required to restore the amount on deposit in such Senior Debt Service Reserve Fund. Upon issuance of the Series A Bonds and Series C Bonds, the Senior Debt Service Reserve Fund will be fully funded.

#### **Subordinated Debt Service Reserve Fund**

To the extent that amounts in the Subordinated Debt Service Fund are insufficient to pay Subordinated Net Debt Service when due on the Subordinated Bonds, deficiencies shall be made up from amounts in the Subordinated Debt Service Reserve Fund after any transfer from the General Fund. The Metropolitan Highway System Trust Agreement requires the Authority to maintain cash and investment obligations or surety bonds, insurance policies, letters of credit or similar instruments in the Subordinated Debt Service Reserve Fund equal to the sum of the following amounts for the Series B Bonds and any Series of Additional Subordinated Bonds: the least of (i) 10% of all original net proceeds from the sale of such additional Series, (ii) 125% of average annual Debt Service for such additional Series, and (iii) the maximum amount of Debt Service due on such Series in any future Fiscal Year, or, in any event, such lesser amount as may be required to comply with the Code (the "Subordinated Debt Service Reserve Fund Requirement"). See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Definitions" and " - Subordinated Debt Service

Reserve Fund." To the extent the amount on deposit in the Subordinated Debt Service Reserve Fund is less than the Subordinated Debt Service Reserve Fund Requirement, the Authority is required to restore the amount on deposit in such Subordinated Debt Service Reserve Fund. Upon issuance of the Series B Bonds, the Subordinated Debt Service Reserve Fund will be fully funded.

#### **Additional Indebtedness**

One or more Series of Additional Bonds may be authenticated and delivered upon original issue for any of the following purposes or any combination thereof: (i) to pay or provide for the payment of the 1996 Notes, or any other Authority bonds, notes or other obligations issued in connection with the Metropolitan Highway System, (ii) to refund Outstanding Bonds, (iii) to make payments to the Commonwealth related to the transfer to the Authority of all or a portion of the Metropolitan Highway System, (iv) to pay Project Costs, (v) to make a deposit to the Bond Proceeds Fund, the Operating Fund, the Senior Debt Service Fund, the Senior Debt Service Reserve Fund, the Subordinated Debt Service Fund, the Subordinated Debt Service Reserve Fund, the Capital Reinvestment Fund or the General Fund, including any Accounts therein, and (vi) to pay or provide for the payment of the costs incurred in connection with the issuance of Bonds.

The Additional Senior Bonds of such Series shall be authenticated only upon receipt of the Trustee of one of the following (in addition to the other documents required under the Metropolitan Highway System Trust Agreement for the issuance of Senior Bonds) (i) a certificate of an Independent Consultant estimating that in each of the Fiscal Years following the issuance of the Additional Senior Bonds, during which Senior Bonds will be Outstanding, Net Revenues will be at least equal to 1.20 times Senior Net Debt Service and 1.15 times Combined Net Debt Service; or (ii) a certificate of an Authorized Officer estimating that for at least 12 consecutive months during the last 18 months, assuming that such Additional Senior Bonds had been issued, Net Revenues would have been at least equal to 1.20 times the maximum amount of Senior Net Debt Service and 1.15 times the maximum amount of Combined Net Debt Service in the then current or any future Fiscal Year; or (iii) a certificate of an Independent Consultant that (a) in each of the Fiscal Years following the issuance of the Additional Senior Bonds preceding a particular future Fiscal Year designated for the purpose by the Authority, Net Revenues will be at least equal to 1.20 times the amount of Senior Net Debt Service and 1.15 times the amount of Combined Net Debt Service in each such Fiscal Year and (b) in such designated future Fiscal Year, Net Revenues will be at least equal to 1.20 times the maximum amount of Senior Net Debt Service and 1.15 times the maximum amount of Combined Net Debt Service in the then current or any subsequent Fiscal Year.

The Additional Subordinated Bonds of such Series shall be authenticated only upon receipt of the Trustee of one of the following (in addition to the other documents required under the Metropolitan Highway System Trust Agreement for the issuance of Subordinated Bonds) (i) a certificate of an Independent Consultant estimating that in each of the Fiscal Years following the issuance of the Additional Subordinated Bonds, Net Revenues will be at least equal to 1.15 times Combined Net Debt Service; or (ii) a certificate of an Authorized Officer estimating that for at least 12 consecutive months during the last 18 months, assuming that such Additional Subordinated Bonds had been issued, Net Revenues would have been at least equal to 1.15 times the maximum amount of Combined Net Debt Service in the then current or any future Fiscal Year; or (iii) a certificate of an Independent Consultant that (a) in each of the Fiscal Years following the issuance of the Additional Subordinated Bonds preceding a particular future Fiscal Year designated for the purpose by the Authority, Net Revenues will be at least equal to 1.15 times the amount of Combined Net Debt Service in each such Fiscal Year and (b) in such designated future Fiscal Year, Net Revenues will be at least equal to 1.15 times the maximum amount of Combined Net Debt Service in the then current or any subsequent Fiscal Year.

The Authority reserves the right to issue bonds, notes or any other obligations or otherwise incur indebtedness pursuant to other and separate resolutions or agreements of the Authority, so long as such bonds, notes or other obligations are not, or such other indebtedness is not, except as provided in the Metropolitan Highway System Trust Agreement, entitled to a charge or a lien or right with respect to the Revenues or the Funds and Accounts created by or pursuant to the Metropolitan Highway System Trust Agreement.

The Metropolitan Highway System Trust Agreement also provides for the issuance by the Authority of General Fund Indebtedness, which means any debt issued by the Authority which is secured by or payable from the Revenues and other amounts on deposit from time to time in the General Fund, provided that any such pledge shall



not be prior or equal to the pledge thereof made by the Metropolitan Highway System Trust Agreement for the benefit of Senior Bonds or Subordinated Bonds.

See "THE AUTHORITY - Future Debt Issuance" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Additional Senior Bonds" and "-Additional Subordinated Bonds."

## **BOND INSURANCE**

The Insured Bonds, as defined below, will be insured by a financial guaranty insurance policy to be issued by MBIA Insurance Corporation. The Metropolitan Highway System Trust Agreement provides that certain amendments to the Metropolitan Highway System Trust Agreement require the consent of the Insurer in addition to consent of the Bondowners as specified in the Metropolitan Highway System Trust Agreement. See APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Bond Insurance."

### **The MBIA Insurance Corporation Insurance Policy**

The following information has been furnished by MBIA Insurance Corporation (the "Insurer") for use in this Official Statement. As used herein, "Insured Bonds" means the Series A and B Bonds other than the Series A Bonds maturing in the years 2010, 2011 and 2012. Reference is made to APPENDIX F - "SPECIMEN FINANCIAL GUARANTY INSURANCE POLICY" for a specimen of the Insurer's policy.

The Insurer's policy unconditionally and irrevocably guarantees the full and complete payment required to be made by or on behalf of the Authority to the Trustee or its successor of an amount equal to (i) the principal of (either at the stated maturity or by an advancement of maturity pursuant to a mandatory sinking fund payment) and interest on, the Insured Bonds as such payments shall become due but shall not be so paid (except that in the event of any acceleration of the due date of such principal by reason of mandatory or optional redemption or acceleration resulting from default or otherwise, other than any advancement of maturity pursuant to a mandatory sinking fund payment, the payments guaranteed by the Insurer's policy shall be made in such amounts and at such times as such payments of principal would have been due had there not been any such acceleration); and (ii) the reimbursement of any such payment which is subsequently recovered from any owner of the Insured Bonds pursuant to a final judgment by a court of competent jurisdiction that such payment constitutes an avoidable preference to such owner within the meaning of any applicable bankruptcy law (a "Preference").

The Insurer's policy does not insure against loss of any prepayment premium which may at any time be payable with respect to any Insured Bond. The Insurer's policy does not, under any circumstance, insure against loss relating to: (i) optional or mandatory redemptions (other than mandatory sinking fund redemptions); (ii) any payments to be made on an accelerated basis; (iii) payments of the purchase price of Insured Bonds upon tender by an owner thereof; or (iv) any Preference relating to (i) through (iii) above. The Insurer's policy also does not insure against nonpayment of principal of or interest on the Insured Bonds resulting from the insolvency, negligence or any other act or omission of the Trustee or any other paying agent for the Insured Bonds.

Upon receipt of telephonic or telegraphic notice, such notice subsequently confirmed in writing by registered or certified mail, or upon receipt of written notice by registered or certified mail, by the Insurer from the Trustee or any owner of an Insured Bond the payment of an insured amount for which is then due, that such required payment has not been made, the Insurer on the due date of such payment or within one business day after receipt of notice of such nonpayment, whichever is later, will make a deposit of funds in an account with State Street Bank and Trust Company, N.A., in New York, New York, or its successor, sufficient for the payment of any such insured amounts which are then due. Upon presentment and surrender of such Insured Bonds or presentment of such other proof of ownership of the Insured Bonds, together with any appropriate instruments of assignment to evidence the assignment of the insured amounts due on the Insured Bonds as are paid by the Insurer, and appropriate instruments to effect the appointment of the Insurer as agent for such owners of the Insured Bonds in any legal proceeding related to payment of insured amounts on the Insured Bonds, such instruments being in a form satisfactory to State Street Bank and Trust Company, N.A., State Street Bank and Trust Company, N.A. shall

disburse to such owners or the Trustee payment of the insured amounts due on such Insured Bonds, less any amount held by the Trustee for the payment of such insured amounts and legally available therefor.

The Insurer is the principal operating subsidiary of MBIA Inc., a New York Stock Exchange listed company. MBIA Inc. is not obligated to apply the debts of or claims against the Insurer. The Insurer is domiciled in the State of New York and licensed to do business in and subject to regulation under the laws of all 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Virgin Islands of the United States and the Territory of Guam. The Insurer has two European branches, one in the Republic of France and the other in the Kingdom of Spain. New York has laws prescribing minimum capital requirements, limiting classes and concentrations of investments and requiring the approval of policy rates and forms. State laws also regulate the amount of both the aggregate and individual risks that may be insured, the payment of dividends by the Insurer, changes in control and transactions among affiliates. Additionally, the Insurer is required to maintain contingency reserves on its liabilities in certain amounts and for certain periods of time.

As of December 31, 1996, the Insurer had admitted assets of \$4.4 billion (audited), total liabilities of \$3.0 billion (audited), and total capital and surplus of \$1.4 billion (audited) determined in accordance with statutory accounting practices prescribed or permitted by insurance regulatory authorities. As of June 30, 1997, the Insurer had admitted assets of \$4.8 billion (unaudited), total liabilities of \$3.2 billion (unaudited), and total capital and surplus of \$1.6 billion (unaudited) determined in accordance with statutory accounting practices prescribed or permitted by insurance regulatory authorities.

Furthermore, copies of the Insurer's year-end financial statements prepared in accordance with statutory accounting practices are available without charge from the Insurer. A copy of the Annual Report on Form 10-K of MBIA Inc. is available from the Insurer or the Securities and Exchange Commission. The address of the Insurer is 113 King Street, Armonk, New York 10504. The telephone number of the Insurer is (914) 273-4545.

Moody's Investors Service, Inc. rates the claims paying ability of the Insurer "Aaa".

Standard & Poor's Ratings Group, a division of the McGraw-Hill Companies, Inc., rates the claims paying ability of the Insurer "AAA".

Fitch Investors Service, L.P. rates the claims paying ability of the Insurer "AAA".

Each rating of the Insurer should be evaluated independently. The ratings reflect the respective rating agency's current assessment of the creditworthiness of the Insurer and its ability to pay claims on its policies of insurance. Any further explanation as to the significance of the above ratings may be obtained only from the applicable rating agency.

The above ratings are not recommendations to buy, sell or hold the Insured Bonds, and such ratings may be subject to revision or withdrawal at any time by the rating agencies. Any downward revision or withdrawal of any of the above ratings may have an adverse effect on the market price of the Insured Bonds. The Insurer does not guaranty the market price of the Insured Bonds nor does it guaranty that the ratings on the Insured Bonds will not be revised or withdrawn.

## **THE METROPOLITAN HIGHWAY SYSTEM**

### **General Description**

Pursuant to the Enabling Act, the Metropolitan Highway System will be an integrated system of tunnels and highways owned and operated by the Authority. The Metropolitan Highway System comprises the Boston Extension, the Sumner Tunnel, the Callahan Tunnel, the Ted Williams Tunnel and, upon completion of construction, the Central Artery and the Central Artery North Area. The Accepted Metropolitan Highway System, as defined in the Metropolitan Highway System Trust Agreement, currently consists of the Boston Extension and the Tunnels. (Certain portions of the Ted Williams Tunnel, as defined in the Enabling Act, are still owned by MHD, although ownership is expected to be transferred as provided in the Tunnel Transfer Agreement (hereinafter defined). See

"Facilities Under Construction-Ted Williams Tunnel.") The Central Artery, upon completion of construction and transfer to the Authority, and CANA (which is complete, but still owned by MHD) are expected to be owned and operated by the Authority as part of the Accepted Metropolitan Highway System under the Metropolitan Highway System Trust Agreement. Such transfer will be subject to satisfaction of certain conditions set forth in the Metropolitan Highway System Trust Agreement. In order to be part of the Accepted Metropolitan Highway System, the Authority must have an Ownership Interest in the Central Artery and CANA and it must determine to accept such facilities for inclusion in the Accepted Metropolitan Highway System. The Authority must also determine, among other matters, that (i) there are no material unmet capital expenditures with respect to such portion of the Metropolitan Highway System and (ii) following the inclusion of such portion, the Authority will meet the test under the Metropolitan Highway System Trust Agreement for incurring \$1 (one dollar) of Additional Senior Bonds and the Authority will be in compliance with the covenant regarding tolls and charges. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Tolls and Charges" and "- Acceptance of Metropolitan Highway System."

The Authority will only derive toll revenues with respect to the Metropolitan Highway System from operation of the Boston Extension and the Tunnels. The Central Artery and CANA are expected to be operated as toll-free facilities. The operating expenses of the Metropolitan Highway System will increase significantly once the Central Artery and CANA are transferred to and operated by the Authority. See "HISTORICAL AND PROJECTED OPERATING RESULTS - Projected Revenues, Expenses and Debt Service."

### **Existing Facilities**

*Boston Extension.* The Boston Extension, which was completed in 1965, extends approximately 12 miles from the end of the Western Turnpike at Route 128 in the Town of Weston to Kneeland Street in Boston. The Authority opened the Boston Extension to the public in two stages in September, 1964 and February, 1965. The Boston Extension, which contains ninety-one bridge structures, was designed as an expressway for interstate and local traffic from the west to downtown Boston. The Boston Extension also includes a tunnel under the Prudential Center and Copley Place, as well as the John Hancock Garage and air rights developments in the Copley Square area of Boston and Newton.

Continuing east from Interchange 15 at Route 128, the Boston Extension varies in width, number of lanes and in shoulder treatment. From the barrier toll plaza in Weston to Interchange 17 and from Interchange 22 to the end of the Boston Extension, each roadway has sections of three 11-foot lanes and two-foot paved inner and outer shoulders. From Interchange 17 to Interchange 22, each roadway has four 11-foot lanes and one-foot paved inner and outer shoulders. The Boston Extension terminates at Interchange 24 at the existing Central Artery (I-93) in Boston with ramps of various widths.

*Sumner Tunnel.* The Sumner Tunnel extends under Boston Harbor from Cross Street, Boston, to a point west of Porter Street between Havre Street and London Street in East Boston. The Sumner Tunnel is approximately 6,150 feet from entrance ramp to exit ramp and 5,654 feet from portal to portal. It has been in operation since 1934. Ramps are located at either end of the Sumner Tunnel for direct connection between tunnel traffic and existing highways.

*Callahan Tunnel.* The Callahan Tunnel is also a two-lane tunnel, located south of the Sumner Tunnel, extending from Cross Street south of North Street, in Boston, to Porter Street, between Havre and London Streets in East Boston. Together the Callahan and Sumner Tunnels provide a four-lane facility joining the Central Artery and the street system of Boston with the McClellan Highway and street system of East Boston. The Callahan Tunnel is approximately 5,047 feet long between portals and 6,371 feet from entrance ramp to exit ramp and has been in operation since 1961.

### **Facilities Under Construction**

*Ted Williams Tunnel.* Construction of the Ted Williams Tunnel began in early 1992. It is the first major segment of the CA/T Project to be opened for vehicular traffic. It is four lanes wide (2 lanes in each direction) and doubles the current cross-harbor traffic capacity of the Sumner and Callahan Tunnels. When fully operational, the

Ted Williams Tunnel will allow Logan Airport-bound drivers from the west and south of Boston (which are estimated to comprise approximately 70% of airport traffic) and north shore-bound drivers to bypass downtown Boston and the Sumner and Callahan Tunnels.

The Ted Williams Tunnel opened for use by commercial vehicles (taxis, buses, airport limousines and other commercial traffic) on December 15, 1995 and is also now open on a limited basis to passenger vehicles. Such vehicles access the tunnel, on the Boston side, using a newly constructed access road from Interstate 93, south of Boston, or local streets in South Boston. The Ted Williams Tunnel is now substantially complete, except for related approaches and the interchange with the Boston Extension and I-93. The Ted Williams Tunnel is expected to be open to full use by all traffic by 2001, when an extension of the Boston Extension under the Fort Point Channel and through South Boston and connecting roadways near Logan Airport are completed. The toll collection facilities for the Ted Williams Tunnel are located on the East Boston side. The tunnel utilizes electronic toll collection as well as conventional toll collection methods.

In accordance with the 1995 Act, the Commonwealth and the Authority entered into an agreement providing for the transfer of the Ted Williams Tunnel from the Commonwealth, acting by and through MHD, to the Authority, effective December 14, 1995, to permit operation of the Ted Williams Tunnel for commercial vehicles and limited use for passenger vehicles. Under the terms of the original agreement, the Authority is fully responsible for operating and maintaining the Ted Williams Tunnel and the Commonwealth granted the Authority a highway easement with respect to all property necessary for such operation and maintenance. MHD and the Authority entered into an amendment of the original transfer agreement effective as of July 1, 1997 (as so amended, the "Tunnel Transfer Agreement"). The Authority expects MHD to transfer a fee simple ownership interest in certain specific components of the Ted Williams Tunnel to the Authority in September, 1997. As other improvements related to the Ted Williams Tunnel are completed, the Commonwealth will transfer the ownership thereof to the Authority by deed or easement, as appropriate, in accordance with the terms of the Tunnel Transfer Agreement.

The Tunnel Transfer Agreement provides that each other Improvement (as defined in the Tunnel Transfer Agreement) related to the Ted Williams Tunnel shall be conveyed to the Authority when the Chief Engineers of both MHD and the Authority have certified that such Improvement can safely be used for its intended purpose and the requirements of certain transfer protocols have been satisfied, although the Authority may at its option defer acceptance of any such Improvement. The Tunnel Transfer Agreement further provides that MHD remains obligated to carry out completion of and to make payment for all work and claims under all contracts related to such transferred Improvements.

The Authority will obtain upon completion of construction all warranty rights under the various contracts pursuant to which the Ted Williams Tunnel was built. The Tunnel Transfer Agreement further provides that the Authority is not liable for claims arising from the design or construction of the Ted Williams Tunnel, although the Authority has agreed to be responsible for fulfilling certain mitigation agreements and commitments related to the Ted Williams Tunnel, in addition to its other operation and maintenance responsibilities. Under the Tunnel Transfer Agreement, notwithstanding the conveyance of any interest in the Ted Williams Tunnel, MHD remains obligated to comply fully with terms of a Memorandum of Understanding between MHD and the Massachusetts Department of Environmental Protection ("DEP") relating to certain remediation activities required to be undertaken by MHD as part of the construction of the Ted Williams Tunnel.

While the Tunnel Transfer Agreement provides that MHD remain fully liable for completing construction of the Ted Williams Tunnel and satisfying all claims related thereto, and that the Authority will only be responsible for operating and maintaining the Ted Williams Tunnel, the Authority may nonetheless expend funds to complete construction or otherwise satisfy some liability arising from the design or construction of the Ted Williams Tunnel. The Tunnel Transfer Agreement provides that if the Authority makes any expenditure pursuant thereto that is MHD's responsibility under the Tunnel Transfer Agreement, the Authority may, subject to certain notice requirements, deduct the amount of such expenditure from any obligation to pay costs of the CA/T Project, including the \$700 million obligation required by Chapter 11 of the Acts of 1997, or as otherwise required under any other agreement with MHD, including the MOU. Any subsequent reimbursement by MHD would reinstate the Authority's obligation by the amount of such reimbursement.

*Central Artery.* The Central Artery is that portion of I-93 that traverses downtown Boston from Kneeland Street to the Charles River crossing, which connects Boston with Cambridge. The Central Artery is the primary means of vehicle access between downtown Boston and the north via I-93 and U.S. Route 1, the south via the Southeast Expressway, the west via the Boston Extension, and Logan Airport via the Sumner and Callahan Tunnels. The Central Artery also provides the only direct link east of State Route 128 between the expressways to the north and south of Boston.

The existing Central Artery was constructed and opened for traffic in the 1950's. It is six lanes wide (three lanes per direction) with no breakdown lanes. Although the existing facility was designed to carry 75,000 vehicles per day, it now carries approximately 190,000 vehicles, with more traffic per lane than any other urban highway in the United States. The new Central Artery will be an 8-to-10 lane underground expressway up to 120 feet below street level. It is being constructed directly beneath the existing 6 lane road, which will be demolished when the underground highway is finished. The estimated date of completion of the underground highway is 2003. The new facility has been designed to carry approximately 245,000 vehicles per day, which level of traffic is expected to be reached in 2010.

When the CA/T Project is complete, the number of on and off ramps in the downtown area will be reduced from 27 to 14, allowing traffic to move faster and more smoothly both on the highway and on city streets. A wide, tree-lined boulevard will replace the existing viaduct, and demolition of the old highway will free up 70 acres of land for parks and other development.

The Enabling Act authorizes the Authority to lease air rights over land owned or held by the Authority in connection with the Western Turnpike and the Boston Extension portion of the Metropolitan Highway System. The Enabling Act does not address the Authority's control over disposition of air rights related to the Central Artery. The planning and implementation process for the development of open spaces and buildings on the Central Artery corridor will be the subject of a report expected to be released in the fall of 1997 by the Boston 2000 Working Group, a representative advisory group including members of the CA/T Project, the Authority, and representatives from the City of Boston and various local businesses as discussed more fully in "THE CENTRAL ARTERY/TUNNEL PROJECT-Air Rights." The Authority recently entered into a Memorandum of Understanding with the City of Boston (the "Boston MOU"), by which the Authority agreed that any air rights developments related to (i) the Central Artery would be subject to the Boston zoning code and (ii) the Boston Extension would be subject to certain review processes conducted by the Boston Redevelopment Authority, as set forth in the Boston MOU.

*Central Artery North Area.* CANA currently consists of two tunnels beneath City Square in the Charlestown section of Boston and a series of temporary ramps that connect the Tobin Bridge to I-93. The construction cost of these tunnels and ramps is not included as part of the total cost of the CA/T Project. Construction of these tunnels was complete in late 1993, and the temporary ramps were completed in the fall of 1994. The permanent connection between I-93 and the Tobin Bridge will be designed and constructed under the CA/T Project as part of the Charles River crossing and the costs of the permanent ramps will be included in the total cost of the CA/T Project.

The Authority expects to enter into one or more other transfer agreements with the Commonwealth to provide for transfer of ownership of the Central Artery and any other component of the Metropolitan Highway System not now owned by the Authority. Such agreements are expected to be on terms similar to those contained in the Tunnel Transfer Agreement. Subject to satisfaction of certain conditions set forth in the Metropolitan Highway System Trust Agreement, such components will become part of the Accepted Metropolitan Highway System. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Acceptance of Metropolitan Highway System."

#### **Condition of Facilities**

*Boston Extension.* In accordance with the terms of the trust agreement pursuant to which the 1993 Bonds were issued, an Independent Engineer, S/PB, has inspected the Boston Extension and submitted a formal report dated June 26, 1997 on the condition of the facilities. S/PB performed a visual inspection of the Authority's facilities covering the pavement, edging and curbing, walls, bridges, roadway lighting, drainage structures, signs

and pavement markings interchanges and toll plazas, utility buildings, ramps, communication towers, pump stations, fan rooms and other facilities. The inspection was limited to facilities accessible to view and did not include detailed inspections or testing of particular items. Generally, S/PB concluded that the Authority continues effective and efficient methods of operation and that the facilities are maintained in safe and good repair. The following is a summary of S/PB's findings:

**Roadways:** The pavement and roadway elements such as drainage, guardrails and fencing are in generally good, serviceable condition. S/PB recommends a detailed inspection of the lighting elements with replacement of older elements.

**Bridges:** The Boston Extension includes 91 bridge structures originally constructed between 1964-1965. The recent bridge reconstruction program has provided for redecking of 20 bridges. The report recommends deck repairs on 5 bridges, substructure repairs on 17 bridges and a general program of paint removal including 19 bridges within the next five years. The continuing program being performed by Authority staff is deemed effective.

**Interchanges and Toll Plazas:** These items are in generally good serviceable condition. Scheduled repairs by Authority staff should continue. Toll equipment is adequate.

**Support Facilities:** These facilities include the Prudential/Copley/Hancock Passageway, fan rooms, pump stations and communication systems. These facilities are in generally good condition with the fan rooms in new condition. The communications system is undergoing several elements of upgrading.

**Sumner/Callahan Tunnels.** S/PB has also inspected the Sumner and Callahan Tunnels and delivered a report dated July 9, 1997. The report notes that an in-depth inspection of the Sumner and Callahan Tunnels was performed in 1990 and 1991. Since that time annual inspections were performed to review items identified in 1990 and 1991 as well as to identify any new deficiencies. The report identifies and prioritizes projects. Two critical elements were noted. First, the ceiling and ceiling hangers in the Sumner Tunnel, identified as priorities in 1990, have not yet been repaired. Design for such repairs is complete and the construction contract was let in early 1996. The work is underway. Additionally the mechanical and electrical equipment in the Sumner Tunnel ventilation buildings is old and requires extensive regular maintenance. Final design for rehabilitation of these systems is underway with repair expected to begin later in 1997.

### **Tobin Bridge**

There are no significant competing facilities for the Metropolitan Highway System, other than the Tobin Bridge, which is owned and operated by Massport. It provides a high-level crossing of the Mystic River and connects Chelsea and points on the North Shore with Charlestown and downtown Boston via the Central Artery. The Tobin Bridge is an alternative harbor crossing to the Tunnels. One-way toll collection was implemented in 1983, concurrent with the conversion of the Sumner/Callahan Tunnels, with tolls collected in the inbound (south) direction. Effective July 1, 1997, round-trip passenger car tolls were increased from \$0.50 to \$1.00 with proportionally higher rates for commercial vehicles. The former toll schedule had been in place since 1953. For the fiscal year ending June 30, 1997, average daily traffic in the toll direction was 34,000 vehicles.

## **HISTORICAL AND PROJECTED OPERATING RESULTS**

The Authority's ability to generate Net Revenues in each Fiscal Year sufficient to meet its obligations under the Metropolitan Highway System Trust Agreement depends on the levels of Revenues and Operating Expenses relating to the Accepted Metropolitan Highway System. There follows in this section a discussion of the factors affecting Revenues and Operating Expenses, historical operating results and assumptions underlying the projections of future Net Revenues and debt service coverage.

## Revenues

Revenues consist primarily of tolls collected for vehicular traffic through the Tunnels and on the Boston Extension and to a lesser extent rental income on certain Authority property, fines levied for traffic violations on the Metropolitan Highway System, and interest earnings on various funds and accounts under the Metropolitan Highway System Trust Agreement. Revenues are affected by many factors which are beyond the Authority's control, including but not limited to (i) traffic volume on the Boston Extension and through the Tunnels, (ii) the level of fines for and the number of traffic violations on the Metropolitan Highway System and (iii) the level of future interest rates. In particular, traffic volume (and therefore toll Revenues) is affected by a wide variety of demographic, economic or technological factors including, but not limited to (i) levels of employment and other factors relating to economic activity in the region, (ii) the price of motor fuel, (iii) population growth, (iv) real estate development surrounding the Metropolitan Highway System, (v) technological changes that affect the economics of and demand for motor vehicle transportation, (vi) the climate in the region, and (vii) the availability of competing highways or competing modes of transportation. See APPENDIX A - "REPORT OF TRAFFIC ENGINEER" for information concerning projected traffic volumes and toll revenues. The Traffic Engineer's historical toll revenue data and its toll revenue projections do not include the effect of volume based discounts afforded to certain commercial users and other miscellaneous adjustments. See "Projected Revenues, Expenses and Debt Service."

The Report of the Traffic Engineer attached hereto as Appendix A assumes construction of the new underground Central Artery and the connection between the Ted Williams Tunnel and the Boston Extension will be completed by 2002 and the full impact of completion of these facilities on traffic will be reflected in 2003. This report also assumes that impacts on traffic resulting from construction activity on the Central Artery will be limited due to various traffic mitigation techniques. However, to the extent the construction activities of the CA/T Project or significant delays in completion of certain portions of the CA/T Project adversely affect traffic on the Metropolitan Highway System, the Revenues securing the Bonds could also be adversely affected. See "THE CENTRAL ARTERY/TUNNEL PROJECT."

Pursuant to Chapter 11 of the Acts of 1997, the Authority is required to permit free passage on the Western Turnpike and Boston Extension for the period from noon on Wednesday, November 26, 1997 until twelve midnight on Thursday, November 27, 1997 (Thanksgiving). The Authority must submit a report to the Legislature by February 1, 1998 reviewing the impact of this toll suspension on revenue and traffic flow. The Authority expects this toll suspension to result in lost toll revenues of less than \$500,000 on the Western Turnpike and less than \$250,000 on the Boston Extension. In preparing the revenue projections contained in this Official Statement, neither the Authority nor the Traffic Engineer have assumed that any toll suspensions are conducted. In the event the Authority is required to conduct additional toll suspensions, the Authority may need to increase tolls to meet its obligations under the Metropolitan Highway System Trust Agreement. See "LEGISLATIVE MATTERS" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Tolls and Charges."

The Authority is not currently subject to any legal restrictions with respect to its ability to raise toll rates, except that it must conduct public hearings in accordance with the Enabling Act. However, there can be no assurance that, subject to constitutional limits, future legislative restrictions will not be imposed that would limit toll increases or require toll discounts for certain users of the Metropolitan Highway System. See also "LEGISLATIVE MATTERS."

## Toll Collections and Rates

For historical information concerning traffic and revenues related to the Boston Extension and the Tunnels, see APPENDIX A - "REPORT OF THE TRAFFIC ENGINEER - Historical Traffic and Revenue Trends." See also "LEGISLATIVE MATTERS" for information concerning potential limitations on the Authority's power to impose tolls for use of the Boston Extension and the Tunnels.

Tolls are collected on the Boston Extension and the Tunnels via a barrier system. Traffic traveling to or from the Western Turnpike pays a toll at the Weston mainline barrier (Interchange 15) and at the entrance/exit ramps from Route 128/I-95. In addition, tolls collected anywhere on the Western Turnpike from users entering

from the Boston Extension include a \$0.50 surcharge (this amount represents the average surcharge per vehicle; the actual surcharge is higher for commercial vehicles than for passenger cars) allocable to the Boston Extension. Additional tolls are collected at ramps other than the West Newton ramp and the mainline barrier at Allston-Brighton (Interchange 19). One-way barrier tolls (originally implemented in August, 1983) are collected inbound to Boston on the Sumner and Ted Williams Tunnels. No tolls are collected on the Callahan Tunnel (outbound from Boston). See APPENDIX A - "REPORT OF THE TRAFFIC ENGINEER - Description of Metropolitan Highway System."

The Authority initially established the toll for commercial vehicles using the Ted Williams Tunnel at \$1.00 for each of the first two axles plus \$0.50 per additional axle. This toll rate also applied to commercial vehicles using the Sumner and Callahan Tunnels. The toll for passenger vehicles using the Sumner and Callahan Tunnels remained at \$1.00 as required by the 1995 Act, which fixed passenger tolls at their then current levels until the later of December 1, 1996 or the date of submission of the Feasibility Study required by the 1995 Act.

As of July 10, 1997, the tolls for all passenger vehicles using the Tunnels was increased to \$2.00 and, in the case of commercial vehicles, \$3.00 (plus, in the case of commercial vehicles \$1.00 for each axle in excess of three). All tolls are collected at the East Boston ends of the Tunnels.

The following table sets forth the current toll rates for selected trips by class of vehicle.

#### SELECTED CURRENT TOLL RATES

	Passenger Cars	2 Axle Dual Tire	<u>Commercial Vehicles</u>					<u>Buses<sup>1</sup></u>
			<u>3 Axle</u>	<u>4 Axle</u>	<u>5 Axle</u>	<u>6 Axle</u>	<u>7 Axle</u>	
Boston Extension <sup>2</sup>	\$1.00	\$1.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50	\$0.50/axle
Sumner Tunnel	2.00	3.00	3.00	4.00	5.00	6.00	7.00	3.00
Callahan Tunnel	2.00	3.00	3.00	4.00	5.00	6.00	7.00	3.00
Ted Williams Tunnel	2.00	3.00	3.00	4.00	5.00	6.00	7.00	3.00

<sup>1</sup> MBTA buses are not charged a toll.

<sup>2</sup> Represents one-way toll for travel on full length of Boston Extension.

No tolls are imposed with respect to the use of the Central Artery or CANA portions of the Metropolitan Highway System.

The Authority established a discount toll program in December, 1995 for the residents of South Boston, which caps tolls at \$0.40. A similar program on the Sumner/Callahan Tunnels had been previously established in July, 1989 for residents of East Boston and in June, 1990 for residents of the North End. The Authority also conducts a carpool program and provides volume discounts to certain commercial users of the Metropolitan Highway System.

URS Greiner Consultants, Inc. prepared a joint study dated July 1, 1997 for the Authority and Massport relating to the feasibility of implementing a commuter discount program for frequent users of the Turnpike, the Metropolitan Highway System and the Tobin Bridge. The study was undertaken pursuant to a legislative mandate under Section 12 of Chapter 3 of the Acts of 1997 and includes an analysis of the impact of such a discount program on the revenues of the Authority and the ability of the Authority to provide financing for the CA/T Project. Based upon assumed discounts ranging from 10% to 50%, the study projects annual net revenue reductions ranging from \$1.6 million to up to \$29.2 million; (ii) a negative impact on the ability of the Authority to operate and maintain the toll facilities in a safe and efficient manner; and (iii) a potential negative impact on the financing ability of the



Authority. The study recommends deferral of any such discount program until, at the earliest, implementation of electronic toll collection, which is projected to reduce the costs of any such program.

The Authority released a request for proposals in September, 1997 to provide a fully-integrated toll collection system for all Authority facilities including the Boston Extension and the Tunnels. The new system is expected to incorporate an electronic toll and traffic management ("ETTM") system. The Authority expects the new ETTM system to be fully operational in 1999. The capital cost is not expected to exceed \$20 million in the aggregate for both the Metropolitan Highway System and the Western Turnpike. The Authority is considering various financial arrangements to implement ETTM.

### **Other Revenues**

The Authority derives revenues from other sources as well as from tolls, including leases of surplus Authority land, leases of air-rights over the Boston Extension, right of way leases, court fines, miscellaneous permit fees and investment earnings. A substantial portion of these amounts has been pledged as Revenues under the Metropolitan Highway System Trust Agreement. The Authority has entered into various leases for land and air rights for terms varying from 8 to 99 years. Leased property has been developed for commercial space and fiber optics lines. The Authority has also entered into other license agreements, generally for short terms and in no case for a term exceeding 5 years, and granted certain easements with 20-year terms. See "Historical Revenues and Expenditures." For a description of Revenues that are pledged under the Metropolitan Highway System Trust Agreement, see APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - The Pledge Effected by the Metropolitan Highway System Trust Agreement."

### **Operating Expenses**

In excess of 80% of the Authority's operating expenses currently consist of employee-related expenses including salaries, overtime compensation, benefits and retirement costs. The majority of such expenses are determined by collective bargaining agreements with the four unions that currently represent 1,170 of the Authority's 1,315 employees. The Authority has already or is about to commence contract negotiations with each of these unions. See "THE AUTHORITY - Employee Relations" and "- Retirement Plans and Other Employee Benefits." Other operating expenses consist principally of rent, utilities, contracted services and insurance. Operating expenses may be affected by factors including but not limited to the age of the facilities, the level of capital reinvestment, inflation rates, regulatory requirements, weather conditions, and volume and composition of traffic.

The Central Artery portion of the Metropolitan Highway System is still under construction and neither it nor the CANA portion of the Metropolitan Highway System have been transferred to the Authority. Accordingly, such portions are not currently part of the Accepted Metropolitan Highway System and are not included in any of the historical financial information presented in this Official Statement. The Authority expects that the Central Artery and CANA will, upon completion of construction of the Central Artery and satisfaction of certain conditions in the Metropolitan Highway System Trust Agreement, become part of the Accepted Metropolitan Highway System and the projections of revenues, expenses and debt service coverage set forth below include expected operating expenses for such portions. See "Projected Revenues, Expenses and Debt Service."

Upon completion and acceptance, the Accepted Metropolitan Highway System will include a network of underground roadways and tunnels in an urban environment requiring highly specialized ventilation, lighting, drainage, security, communication, environmental and emergency monitoring and incident response systems. Certain of the costs associated with these systems may be less predictable than those associated with a surface highway.

In connection with preparation of annual budgets and other financial matters the Metropolitan Highway System Trust Agreement and the Western Turnpike Trust Agreement permit the Authority to allocate costs not directly attributable either to the Metropolitan Highway System or the Western Turnpike, in such manner as the Authority shall determine in its discretion. The Authority currently intends to redeem or defease all debt relating to the Western Turnpike by 2010, if available revenues are sufficient therefor, and to transfer the Western Turnpike

to MHD as a toll-free road. From and after the time of any such transfer, such allocated costs now borne by the Western Turnpike and not eliminated as a result of such transfer would become obligations allocated to the Metropolitan Highway System.

### **Historical Revenues and Expenditures**

Historically, the Authority operated the Massachusetts Turnpike, which included the Western Turnpike and the Boston Extension, as a separate cost center from the Sumner and Callahan Tunnels. Pursuant to the Enabling Act, upon the delivery of the Series C Bonds and the Western Turnpike Bonds, the Authority will reconfigure its operations and its financial reporting systems to reflect two new cost centers, the Accepted Metropolitan Highway System and the Western Turnpike. The information contained in this Official Statement with respect to financial performance of the Accepted Metropolitan Highway System is derived from the Authority's audited financial statements and has been restated to reflect the reconfiguration of the Authority's facilities required by the Enabling Act. Such financial information reflects revenues and expenses related to the Boston Extension, the Sumner and Callahan Tunnels and since December, 1995, the Ted Williams Tunnel.

The Authority's results of operations for the Boston Extension and the Tunnels for the years 1993 through 1996 are derived from the Authority's audited financial statements. The revenues and expenses set forth in the following table are based on the Authority's historical operations and do not necessarily conform to the definitions of Revenues and Operating Expenses set forth in the Metropolitan Highway System Trust Agreement.

**Massachusetts Turnpike Authority  
Metropolitan Highway System  
Statement of Operating Revenues and Expenses**

*Fiscal Year Ending December 31*

*(Dollars in thousands)*

	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Operating revenues				
Toll revenue, net (1)	\$55,848	\$56,609	\$57,892	\$64,683
Restaurant and concessions	—	—	—	—
Service stations	—	—	—	—
Rentals	2,293	2,346	3,803	2,572
Court fines and other	<u>799</u>	<u>810</u>	<u>1,119</u>	<u>1,213</u>
Total operating revenues	\$58,940	\$59,765	\$62,814	\$68,468
Operating expenses				
Operations and public protection	\$23,694	\$17,528	\$20,768	\$28,086
Administrative	5,051	3,320	5,346	8,587
Retirement	<u>1,078</u>	<u>909</u>	<u>1,677</u>	<u>1,642</u>
Operating expenses before repair and reconstruction and depreciation	<u>\$29,823</u>	<u>\$21,757</u>	<u>\$27,791</u>	<u>\$38,316</u>
Operating income before repair and reconstruction and depreciation	\$29,117	\$38,008	\$35,023	\$30,152
Repair and reconstruction	11,973	8,260	17,074	17,511
Depreciation	<u>6,196</u>	<u>7,540</u>	<u>8,442</u>	<u>11,638</u>
Operating income	<u>\$10,948</u>	<u>\$22,208</u>	<u>\$9,507</u>	<u>\$1,003</u>

(1) Toll revenues are from various sources. The table below disaggregates toll revenues received during 1996 by source. See APPENDIX B - "Financial Statements of the Authority - Note 10."

**1996 Toll Revenues of the Metropolitan Highway System**

Sumner and Ted Williams Tunnel	\$23,112,547
Interchanges 16, 18, 19 & 20	24,433,443
Interchange 15	8,378,268
Boston Extension Surcharge (collected at interchanges 1 through 13 and 15)	<u>8,758,427</u>
Total	\$64,682,685

Totals may not add due to rounding.

## **1996 Operating Results**

In September, 1996, the Authority eliminated the \$0.25 toll for all vehicles at Interchange 16 on the Boston Extension in West Newton. This toll had not previously been collected during off-peak traffic hours. The impact on toll revenues of the Boston Extension has not been significant.

In 1996 there were 66.5 million revenue transactions on the Boston Extension generating net toll revenues of \$32.8 million (excluding the Boston Extension surcharge, which totalled approximately \$8.8 million). This represents virtually no growth in the number of transactions and a 1% increase in revenue compared to 1995. According to the Traffic Engineer, the low growth in revenues reflects in part the removal of tolls at Interchange 16 and subsequent shift of traffic from the Newton/Weston ramps (Interchange 15) to the toll-free West Newton ramps. See APPENDIX A - "REPORT OF THE TRAFFIC ENGINEER."

With respect to the Tunnels, aggregate transaction volume for the Sumner, Callahan and Ted Williams Tunnels totaled 18.8 million, an increase of 9.1% over 1995. Corresponding revenues increased \$6.1 million (36.1%) over 1995. The increase in transaction volume and revenues was due to the opening of the Ted Williams Tunnel on December 15, 1995 and the doubling of rates for commercial vehicles at all Tunnels as of that date. Taxis became a separate class of vehicles (for all tunnels) in 1995 with the opening of the Ted Williams Tunnel and became subject to the higher commercial rates (\$2.00). When the Ted Williams Tunnel opened for traffic in 1995, it averaged 4,139 daily transactions. In 1996, with an increase in vehicles eligible to use the Ted Williams Tunnel transaction volume averaged 7,012 daily. Volume to date in 1997 has averaged 9,388 daily transactions.

A discount toll program was extended to the residents of South Boston, East Boston and the North End to use the Ted Williams Tunnel. (A similar program on the Sumner/Callahan Tunnels had been previously established in July, 1989 for the residents of East Boston and the North End.) In 1996 more than 1,000 local residents signed up for this program.

Total operating expenses for 1996 were \$10.5 million or 37.9% higher than for 1995. The largest component of the change is attributable to the first full year of operation for the Ted Williams Tunnel by the Authority. Operations and public protection expenses related to the additional toll collectors and State Police assigned to the Ted Williams Tunnel accounted for \$7.8 million of these increased costs.

Approximately \$3.2 million of the increase in operating expenses is attributable to a one-time, discretionary payment made in 1996 to the Retired Employees Insurance Benefit Trust, which is available to provide for post-retirement healthcare benefits (see "THE AUTHORITY - Retirement Plans and Other Employee Benefits"). Such payment was related, in part, to an early retirement program offered to employees by the Authority prior to July 1, 1996.

Operating results for 1996 also reflect an increase of \$3.3 million in depreciation expense directly attributable to the Ted Williams Tunnel acquired by the Authority in that year.

## **1997 Operating Budget**

The following table sets forth the Authority's 1997 operating budget with respect to the Boston Extension and the Tunnels.

**Massachusetts Turnpike Authority  
Metropolitan Highway System  
Budgeted 1997 Operating Revenues and Expenses**

	Fiscal Year Ending <u>December 31, 1997</u>
Operating revenues	
Boston Extension, net	\$ 36,656,823
Tunnels, net	23,400,000
Rentals and leases	3,024,960
Court fines	1,360,000
Other operating revenue	<u>127,650</u>
Total operating revenues	\$ 64,569,433
Operating expenses	
Operations and public protection	27,132,172
Administrative	8,065,760
Retirement	<u>1,603,039</u>
Total operating expenses	\$ <u>36,800,971</u>
Net revenues	<u>\$ 27,768,462</u>
Repair and reconstruction	<u>\$ 47,080,000<sup>(1)</sup></u>

(1) This amount will be funded from Authority revenues and funds on deposit in the Authority's Capital Improvement Reconstruction, Renewal, Replacement and Rehabilitation Fund established in connection with the 1993 Bonds.

In 1997, the Authority initiated a cost containment program and reduced its total operating budget for 1997 by 11.8% as compared to the 1996 budget. The Tunnels account for \$20.2 million (\$9.8 million for the Sumner/Callahan Tunnels and \$10.4 million for the Ted Williams Tunnel) of 1997 total operating expenses. The Boston Extension accounts for the balance of \$16.6 million.

### **Capital Reinvestment**

The Authority has covenanted in the Metropolitan Highway System Trust Agreement to maintain the Accepted Metropolitan Highway System in good repair, working order and condition. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT." The Authority expects to fund capital improvements principally from Net Revenues deposited to the Capital Reinvestment Fund after payment of Combined Net Debt Service on Bonds. In the Metropolitan Highway System Trust Agreement, the Authority covenants to maintain in each Fiscal Year Revenues sufficient to pay among other things Operating Expenses, plus Aggregate Debt Service, plus the Capital Reinvestment Requirement for such Fiscal Year, which is established by the Authority in its Annual Budget. See "SECURITY FOR THE BONDS - Toll Covenant."

The Authority is currently completing a 5-year capital improvement program originally undertaken with respect to the Western Turnpike and the Boston Extension in 1993. For the period 1993 through 1996, the Authority expended approximately \$431 million under this program, including \$87 million allocable to the Boston Extension. The Authority expects to spend approximately \$47.1 million in 1997 and substantially smaller amounts in 1998 and 1999 on capital improvements for the Boston Extension.

The Authority commenced significant capital improvements to the Sumner and Callahan Tunnels in November, 1990. Since that time, the Authority has expended \$67.3 million on such improvements. The Authority expects to spend an additional \$30.7 million by the end of 1999 on completing capital improvements for the Sumner and Callahan Tunnels.

The only significant capital expenditures expected to be made with respect to the Ted Williams Tunnel through 2002 will be payment of various costs associated with its initial operation. The Authority currently estimates that its capital costs associated with initial operation of the Ted Williams Tunnel, the Central Artery and CANA, will aggregate more than \$60 million through 2004.

In conjunction with the issuance of the Series A and B Bonds and the Series C Bonds, the Authority expects to make approximately \$46 million from remaining proceeds of the 1996 Notes and certain other available moneys of the Authority available for capital expenditures on the Metropolitan Highway System. Approximately \$9.5 million of proceeds of the Series B Bonds and the Series C Bonds will be deposited in the Bond Proceeds Fund and will be available, together with investment earnings thereon and approximately \$33 million of estimated investment earnings on the proceeds of the Series A and B Bonds to be used to fund the \$700 million payment to the Commonwealth, to pay capital expenditures of the Metropolitan Highway System. The Authority believes that these moneys, together with Net Revenues available after payment of Combined Net Debt Service for capital improvements in the future will be sufficient to maintain the Accepted Metropolitan Highway System in good repair, working order and condition. See "Projected Revenues, Expenses and Debt Service" and "APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Capital Reinvestment Fund "and "-Operation and Maintenance of Projects."

#### **Projected Revenues, Expenses and Debt Service**

The following table summarizes the projected revenues, expenses, debt service and coverage with respect to the Accepted Metropolitan Highway System for the period 1998 through 2007. The table was prepared by the Authority based, in part, on information provided by the Traffic Engineer.

In making the projections shown below, the Authority used the toll revenue estimates for the Boston Extension and the Tunnels prepared by the Traffic Engineer and included in APPENDIX A - "REPORT OF THE TRAFFIC ENGINEER." The Authority expects and the Traffic Engineer assumes that in 2002 tolls at the Allston/Brighton/Cambridge Complex on the Boston Extension will double from \$0.50 for passenger cars to \$1.00 and tolls at the Sumner Tunnel and Ted Williams Tunnel will increase by 50 percent from \$2.00 for passenger cars to \$3.00. Tolls on the Tobin Bridge (which is owned and operated by Massport) are assumed to double in fiscal year 2003. In addition, passenger car tolls on the Boston Extension are projected to increase by \$0.25 in 2009 and again in 2015. At the Tunnels, passenger car tolls are projected to increase by \$0.50 in the same years. It is assumed that there will be commensurate increases for other vehicle classes when each of these toll increases is implemented. The Traffic Engineer's historical toll revenue data and its toll revenue projections do not include the effect of volume based discounts afforded to certain commercial users and other miscellaneous adjustments. Such volume based toll discounts and other adjustments totalled 1% or less of the Authority's gross toll revenues in each of the last four full fiscal years. For accounting purposes, the Authority has historically allocated all of such adjustments (including adjustments for Tunnel tolls) to the entire Turnpike. In the future, the Authority expects to allocate such adjustments between the Western Turnpike and the Metropolitan Highway System in accordance with the Enabling Act and the Metropolitan Highway System Trust Agreement and the Western Turnpike Trust Agreement. The Authority's projections in this Official Statement reduce the toll revenue estimates of the Traffic Engineer by 1% to account for these adjustments.

The Authority has made certain assumptions in projecting Revenues from rentals and leases, court fines and other revenues. These projections are based upon projected operating results for 1997, which differ in certain respects from the budgeted results for 1997. Rental and lease revenues are projected by the Authority in each of the years from 1998 through 2005 based upon the terms of existing leases, and assuming that any leases which expire during the projection period are extended at the rental then in effect as of the date of scheduled expiration; after 2005, rental revenues are assumed to remain constant at the 2005 level. Rental and lease revenues for 2003 to 2007 include moneys expected to be released from an escrow established for the Authority's benefit under one

of its lease agreements. Court fines, which represent fines levied for traffic violations on the Metropolitan Highway System, are expected to be \$1,360,000 in 1997 and are assumed to grow at 1.44% annually thereafter (which is slightly below the Traffic Engineer's projected growth in traffic volume). Other miscellaneous revenues of \$131,760 representing certain permit fees are not projected to grow from their level in 1997.

The Authority based its expense projections on its 1997 budget, certain allocations of expenses between the Metropolitan Highway System and the Western Turnpike, and expense projections for the Central Artery and the Ted Williams Tunnel prepared in connection with the Feasibility Study which are based upon estimates originally prepared by engineers for the CA/T Project. The 1997 expense budget for the Boston Extension and the Sumner and Callahan Tunnels is approximately \$36,800,971. These expenses are projected to grow at an annual rate of 3%. The projections assume that the CA/T Project, or portions thereof, are completed on schedule and transferred to the Authority as part of the Accepted Metropolitan Highway System, at which time the Authority will begin to pay the expenses of the transferred components of the CA/T Project. Such expenses of the Central Artery and CANA for 2003, the expected first full year of operation upon completion of the CA/T Project, are projected to be approximately \$26 million and to grow at 3% annually thereafter.

Senior Net Debt Service and Subordinated Net Debt Service are each calculated as Debt Service on Senior Bonds or Subordinated Bonds, as applicable, less capitalized interest held under the Metropolitan Highway System Trust Agreement and investment earnings of the Senior or Subordinated Debt Service Reserve Fund and the Senior or Subordinated Debt Service Fund, as applicable. The Authority intends to enter into forward supply agreements with respect to investment of funds in the Senior Debt Service Reserve Fund, the Subordinated Debt Service Reserve Fund, the Senior Debt Service Fund and the Subordinated Debt Service Fund, and the projections assume that such funds are invested at an interest rate equal to the combined arbitrage yield on the Series A and B Bonds and Series C Bonds, 5.53%.

The Authority's projections of Senior and Subordinated Net Debt Service are based upon projected Net Debt Service on the Series A and B Bonds and Series C Bonds and assume no Additional Bonds are issued.

Although the Authority expects to redeem the 1996 Notes not refunded by the Series A and B Bonds from Net Revenues after payment of Combined Net Debt Service, the Authority may issue Additional Bonds to refund such 1996 Notes. In addition, pursuant to the MOU, the Authority has agreed to pay \$400 million to the Commonwealth by December 31, 2002, subject to execution of an agreement with respect to the MHD Subsidy, which must constitute a binding general obligation of the Commonwealth to pay to the Authority at least \$25 million annually for at least forty (40) years, to compensate the Authority for Metropolitan Highway System operating expenses. The MOU also provides that the payment by the Authority of the \$400 million is contingent upon the Authority's ability to satisfy the conditions under the Metropolitan Highway System Trust Agreement for the issuance of Additional Bonds. Under the terms of the Metropolitan Highway System Trust Agreement, the Authority could elect to designate the MHD Subsidy as Dedicated Payments deposited directly to the appropriate Debt Service Fund to reduce Net Debt Service in each Fiscal Year. See "THE CENTRAL ARTERY/TUNNEL PROJECT - Authority Contributions" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Dedicated Payments."

The following table does not include the effect of issuing Additional Bonds to finance the \$400 million payments to the Commonwealth described in the MOU. The table also does not project receipt of the MHD Subsidy.

The Authority's projections of revenues and expenses are based on assumptions which it believes to be reasonable, but there can be no assurance as to the accuracy of these projections. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Covenants Regarding Calculation of Projected Debt Service and Revenues." The projections are set forth on a cash flow basis in accordance with the Metropolitan Highway System Trust Agreement and are not prepared in accordance with generally accepted accounting principles.

**PROJECTED REVENUES, EXPENSES AND DEBT SERVICE**

Fiscal Year Ending December 31

*(Dollars in thousands)*

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
<b>Revenues</b>										
Boston Extension Toll Revenues <sup>(1)</sup>	\$43,065	\$43,659	\$44,253	\$45,045	\$69,993	\$70,884	\$71,973	\$72,864	\$73,755	\$74,745
Tunnel Toll Revenues	41,778	42,471	43,164	43,857	65,241	68,904	72,666	75,240	76,824	78,507
Rentals and Leases	3,496	3,997	3,821	3,895	4,033	5,834	5,857	5,880	5,880	5,880
Court Fines	1,380	1,399	1,420	1,440	1,461	1,482	1,503	1,525	1,547	1,569
Other Revenues	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>	<u>132</u>
Total Revenues	\$89,850	\$91,659	\$92,790	\$94,369	\$140,860	\$147,236	\$152,131	\$155,641	\$158,138	\$160,833
Operating Expenses	<u>\$38,244</u>	<u>\$39,688</u>	<u>\$41,184</u>	<u>\$47,316</u>	<u>\$60,537</u>	<u>\$70,916</u>	<u>\$73,043</u>	<u>\$75,178</u>	<u>\$77,433</u>	<u>\$79,756</u>
Net Revenues	\$51,606	\$51,970	\$51,605	\$47,053	\$80,323	\$76,320	\$79,087	\$80,463	\$80,705	\$81,077
Debt Service on Senior Bonds	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307	\$57,307
Less: Senior Debt Service Reserve Fund Earnings	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)	(5,548)
Less: Senior Debt Service Fund Earnings	0	0	0	0	0	(678)	(702)	(716)	(716)	(716)
Less: Capitalized Interest on Senior Bonds	<u>(51,759)</u>	<u>(51,759)</u>	<u>(51,759)</u>	<u>(51,759)</u>	<u>(51,759)</u>	<u>(2,722)</u>	<u>(1,003)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Senior Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$48,359	\$50,054	\$51,043	\$51,043	\$51,043
Debt Service on Subordinated Bonds	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046	\$10,046
Less: Subordinated Debt Service Reserve Fund Earnings	(849)	(849)	(849)	(849)	(849)	(849)	(849)	(849)	(849)	(849)
Less: Subordinated Debt Service Fund Earnings	0	0	0	0	0	(120)	(125)	(127)	(127)	(127)
Less: Capitalized Interest on Subordinated Bonds	<u>(9,197)</u>	<u>(9,197)</u>	<u>(9,197)</u>	<u>(9,197)</u>	<u>(9,197)</u>	<u>(502)</u>	<u>(176)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subordinated Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$8,574	\$8,896	\$9,069	\$9,069	\$9,069
Combined Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$56,933	\$58,950	\$60,112	\$60,112	\$60,112
Senior Net Debt Service Coverage	-	-	-	-	-	1.58x	1.58x	1.58x	1.58x	1.59x
Combined Net Debt Service Coverage	-	-	-	-	-	1.34x	1.34x	1.34x	1.34x	1.35x
<b>General Fund Expenses</b>										
- Tourism Grants	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250
- Turnpike Advisory Board	50	50	50	50	50	50	50	50	50	50
Funds Available for Deposit to Capital Reinvestment Fund and General Fund <sup>(2)</sup>	\$51,306	\$51,670	\$51,305	\$46,753	\$80,023	\$19,087	\$19,837	\$20,051	\$20,292	\$20,665

<sup>(1)</sup> Reflects expected toll increases in 2002 and reduction of annual toll revenue estimates of Traffic Engineer by 1% to account for projected toll adjustments. See APPENDIX A - "REPORT OF TRAFFIC ENGINEER."

<sup>(2)</sup> Represents funds available to meet the Capital Reinvestment Requirement, to defease 1996 Notes or Bonds, to pay General Fund Indebtedness, if any, to pay other General Fund Expenses or to be applied to any lawful purpose of the Authority.

Totals may not add due to rounding.



## **THE CENTRAL ARTERY/TUNNEL PROJECT**

### **General**

The Commonwealth developed the CA/T Project as a comprehensive solution to growing traffic congestion in Boston. In particular, the CA/T Project is expected to enhance accessibility to both downtown Boston and Logan Airport. The two highway facilities that currently handle most of the traffic to these locations, the John F. Fitzgerald Expressway, commonly known as the "Central Artery," and the Sumner and Callahan Tunnels, operate at or above peak capacity most of the time. In addition, the Central Artery, which was built in the 1950's, would have required substantial rehabilitation in order to extend its useful life. The CA/T Project involves a depression and widening of the existing elevated Central Artery, the continuation of the Boston Extension to Logan Airport via an extension through South Boston and the new Ted Williams Tunnel and the completion of new interchanges connecting elements of the CA/T Project with other principal highway routes in Boston.

In the aggregate, the CA/T Project is building or reconstructing 7.5 miles of urban highway, reaching from the Interstate 93 Massachusetts Avenue interchange in the south of Boston to Charlestown in the north and from the Massachusetts Turnpike interchange near South Station in Boston to Route 1A in East Boston. The new highway will be 8 to 10 lanes wide, as compared to 6 lanes on the current Central Artery. The number of on ramps and off ramps will be reduced from 27 to 14, thereby helping to separate vehicles passing through Boston from those driving downtown.

### **Status of Construction**

As of June 30, 1997, approximately 92% of the CA/T Project design had been completed; 100% of the CA/T Project's design is expected to be completed in early 1998. Approximately 28% of construction (as measured by the total amount of dollars expected to be expended) had been completed by June 30, 1997, with approximately 40% completion expected by March, 1998. As of June 30, 1997, approximately \$1.8 billion of construction contracts remained to be awarded. The CA/T Project currently is expected to be fully completed in 2004.

Prior to July 1, 1997, all activities relating to the CA/T Project including all planning, design and construction related activities, had been carried out through MHD. As of July 1, 1997, MHD and the Authority entered into the Project Management Agreement whereby the Authority assumed all responsibility for managing and overseeing the remaining construction and other activities related to the CA/T Project. The Authority entered into the Project Management Agreement in anticipation of its ultimate ownership and operation of all of the facilities currently under construction. The Project Management Agreement provides that the Authority is not liable for any CA/T Project costs (other than with respect to any payment required under law or any other payment the Authority agrees to make). Both the Project Management Agreement and the Tunnel Transfer Agreement relating to the Ted Williams Tunnel provide that any expenditures by the Authority that are the responsibility of MHD under either agreement may, subject to certain notice provisions, be deducted from the \$700 million payment due no later than December 31, 1998 or, in the case of the Tunnel Transfer Agreement, any other obligation of the Authority to pay costs of the CA/T Project.

### **CA/T Project Financing**

Approximately \$4.6 billion had been expended on CA/T Project costs as of June 30, 1997. Approximately \$3.9 billion of these costs were funded with federal highway assistance. The remaining costs have been paid by the Commonwealth from the proceeds of general obligation or special obligation bonds and other available funds, including \$100 million from the Authority paid in connection with acquisition by the Authority of the Ted Williams Tunnel from MHD in December, 1995.

The Commonwealth expects to pay the remaining costs of the CA/T Project from a variety of sources including federal highway assistance, proceeds of Commonwealth debt issues, contributions from Massport and

contributions from the Authority. The following table sets forth the Commonwealth's projections with respect to remaining CA/T Project expenditures and federal aid available therefor, assuming Congress adopts the Clinton Administration proposal for reauthorizing ISTEA as described below in "Federal Funds."

### Projected Sources of Funds for Remaining CA/T Project Expenditures

(Dollars in Millions)

Commonwealth Fiscal Year Ending June 30

<u>Sources of Funds</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>TOTAL</u>
Federal Aid <sup>(1)</sup>	\$704.2	\$561.2	\$464.9	\$512.1	\$460.9	\$218.1	\$152.6	\$19.4	\$3,093.4 <sup>1</sup>
Commonwealth Funds <sup>(2)</sup>	723.2	1,038.8	991.2	639.7	219.7	65.9	52.8	19.6	3,750.9
Total Sources	<u>\$1,427.4</u>	<u>\$1,600.0</u>	<u>\$1,456.1</u>	<u>\$1,151.8</u>	<u>\$680.6</u>	<u>\$284.0</u>	<u>\$205.4</u>	<u>\$39.0</u>	<u>\$6,844.3</u>

Source: Executive Office for Administration and Finance of the Commonwealth of Massachusetts and Massachusetts Highway Department.

<sup>(1)</sup> Includes approximately \$763 million previously obligated under ISTEA and prior federal highway authorizations. This amount will be available during the remaining period of construction to the Commonwealth regardless of the terms of the reauthorization of ISTEA.

<sup>(2)</sup> Includes amounts to be paid or reimbursed from the Authority's \$700 million payment to the Commonwealth by December 31, 1998, \$400 million of general obligation bonds or notes of the Commonwealth to be repaid with the Authority's contribution in 2002 and contributions from Massport in amounts and at times set forth in "Massport Contributions."

### Federal Funds

Federal highway funds for the CA/T Project are currently provided through the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA") which expires as of September 30, 1997. While the debate in Congress concerning its reauthorization is underway, it is unlikely that Congress will complete the reauthorization by October 1, 1997.

The amounts of federal aid set forth in the preceding table are based upon the amount of aid projected to be available to Massachusetts under the Clinton Administration proposal for reauthorizing ISTEA. However, Congress is considering various proposals for renewal of ISTEA, each of which differ significantly in the amount of federal aid expected to be available for the CA/T Project. The Authority estimates that under the various competing proposals currently under consideration to replace ISTEA, Massachusetts' average annual Federal highway assistance would range from \$377.8 million to \$655.6 million, as compared to \$830 million under ISTEA. Estimates based on the Clinton Administration's proposal would provide average annual assistance to Massachusetts of \$579.9 million. On September 17, 1997, the Committee on Environment and Public Works of the United States Senate voted to reauthorize ISTEA in a manner that would reduce Massachusetts' average annual federal highway apportionment to approximately \$392 million. This bill will now be considered by the full Senate. The House Committee on Transportation and Infrastructure has not yet voted on a bill to reauthorize ISTEA, but it is expected that any such bill would result in lower average annual federal highway apportionments for Massachusetts than would result under the Clinton Administration proposal. The current State Transportation Improvement Plan assumes that federal highway assistance received by the Commonwealth will be used for costs, including financing costs, of the CA/T Project and the costs of the statewide highway program on a 71%/29% basis, respectively, through 2002 and thereafter on a 50%/50% basis, respectively. Neither the Authority nor the Commonwealth can predict the actual level of federal aid to be available for the remainder of the CA/T Project. The Authority and the Commonwealth are exploring alternate funding options in the event federal funds are less than projected under the Clinton Administration proposal. See "Authority Contributions." ISTEA reauthorization is expected to expire no later than September 30, 2003 and a subsequent, federal highway authorization will be required for the remaining *construction of the CA/T Project after such expiration date.*

A significant portion of the costs of the CA/T Project have been and will be paid with Federal highway assistance funds. Under applicable Federal law, if such moneys are used for a project on which tolls will be collected, the recipient of such funds must enter into a toll agreement pursuant to Section 129(a)(3) of Title 23 of the United States Code ("Title 23"). The Commonwealth and FHWA originally executed such an agreement on February 2, 1990 (the "Original 129(a) Agreement"), with respect to the CA/T Project. The Original 129(a) Agreement, which conformed to the then current law, provided, in part, that all tolls received from the operation of the Ted Williams Tunnel, less the actual cost of operation and maintenance, would be applied to the repayment to the Commonwealth or other public authority of all of the costs of construction or acquisition of the Ted Williams Tunnel, other than costs paid from Federal highway assistance. The Original 129(a) Agreement further provided that after such repayment to the Commonwealth or other public authority, the Ted Williams Tunnel would be operated as a toll-free facility.

Since February, 1990, however, the applicable provisions of Section 129(a) of Title 23 have been modified by ISTEA and subsequent legislation, to provide, in part, that all toll revenues received from operation of toll facilities subject to such agreements will be used first for debt service and for the costs necessary for the proper operation and maintenance of the toll facility, including reconstruction, resurfacing, restoration and rehabilitation. If the Commonwealth certifies annually that the tolled facility is being adequately maintained, the Commonwealth may use any toll revenues in excess of amounts required under the preceding sentence for any purpose for which Federal funds may be obligated under Title 23.

The Authority and MHD intend to enter into an amendment to the Original 129(a) Agreement with FHWA in order to conform the terms of the Original 129(a) Agreement to the provisions of current law, if necessary, and confirm that the Authority is allowed to use any excess toll revenues derived from the operation of the Ted Williams Tunnel, after payment of debt service and operation and maintenance expenses directly allocable to the Ted Williams Tunnel, for any other Title 23 eligible purpose. The Authority does not expect the Original 129(a) Agreement, as amended, to restrict the use of toll revenues derived from the Ted Williams Tunnel in a manner inconsistent with the terms of the Metropolitan Highway System Trust Agreement.

### **Commonwealth Funds**

The Commonwealth expects its contributions to the CA/T Project to be derived or reimbursed primarily from the issuance of bonds and notes of the Commonwealth, contributions from Massport, the disposition of air rights related to the CA/T Project and contributions from the Authority. The timing of the Commonwealth's receipt of funds from these sources does not necessarily correspond to the timing of CA/T Project expenditures, and the Commonwealth expects to issue notes of the Commonwealth to address such timing differences. Information concerning the Commonwealth's overall financial condition is contained in the Commonwealth's most recent Information Statement Supplement dated August 27, 1997, which has been filed with each Nationally Recognized Municipal Securities Information Repository currently recognized by the Securities and Exchange Commission.

### **Massport Contributions**

Chapter 3 requires that Massport pay \$200 million to the Commonwealth in exchange for the transfer to Massport of certain roadways and related improvements connecting to the Ted Williams Tunnel at Logan Airport, plus an additional payment of up to \$100 million, subject to recommendations in a study to be submitted to the Legislature in March 1998.

In July 1997, Massport executed a Memorandum of Understanding (the "Massport MOU") with the Commonwealth, acting through the Secretary of Administration and Finance, which provides that Massport's \$200 million payment will be made in installments in fiscal years 1998, 1999, 2000 and 2003, in the amounts of \$12,115,000, \$30,735,000, \$52,236,000 and \$104,914,000, respectively. The total payments to be made by Massport, the actual timing of such payments, and the assets to be purchased have not yet been finalized and are subject to existing, and possible future, legislation.

## **Disposition of Air Rights**

The current finance plan for the CA/T Project submitted by the Commonwealth to FHWA assumes that \$255 million will be available to reimburse CA/T Project costs from the disposition, by sale or lease, of air rights and other development rights related to the Central Artery. The plan does not assume such amounts are available during the construction period, and such amounts are not expected to be available to pay the remaining CA/T Project costs shown above. None of these funds are currently available and no contractual arrangements currently exist with respect to development of certain portions of the surface areas now occupied by the existing elevated Central Artery. The planning and implementation process for the development of open spaces and building on the Central Artery corridor will be the subject of a report to be released in the fall of 1997 by the Boston 2000 Working Group, a representative advisory group including members of the CA/T Project, the Authority, and representatives from the City of Boston and various local businesses.

## **Authority Contributions**

Chapter 11 of the Acts of 1997 requires the Authority to contribute \$700 million to the CA/T Project no later than December 31, 1998. The Authority has agreed in the MOU to pay \$100 million of this amount to the Commonwealth on June 25, 1998 and the balance on December 31, 1998. A portion of the proceeds of the Series A and B Bonds, together with investment earnings thereon, will be used to fund this contribution. The Authority also agreed in the MOU to pay an additional \$400 million to the Commonwealth by December 31, 2002, which amount will be used by the Commonwealth to pay or reimburse itself for certain expenditures made with respect to the CA/T Project. (The Authority is not required by current law to pay any amount to the Commonwealth with respect to the CA/T Project, other than the \$700 million payment described herein.) The MOU provides that this additional \$400 million payment by the Authority is contingent upon (i) the Authority being able to issue Additional Bonds under the Metropolitan Highway System Trust Agreement (ii) execution of a contract for financial assistance or other agreement with the Commonwealth constituting a binding general obligation of the Commonwealth which provides for payment by the Commonwealth to the Authority of not less than \$25 million per year for a term of at least 40 years for operation and maintenance costs of the Central Artery; and (iii) continued adherence by MHD to the terms and conditions of the Project Management Agreement. The agreement referenced in clause (ii) constitutes the MHD Subsidy. The MOU further provides that all of the agreements on the part of the Commonwealth and the Authority contained therein are made in reliance on the assumptions and findings set forth in the Feasibility Study, including without limitation those relating to traffic projections, revenue and expense projections, the CA/T Project construction schedule, prevailing tax-exempt interest rates, credit ratings and the feasibility of proposed debt structures. The parties acknowledge that the performance of such agreements may not be possible if actual facts and circumstances differ from those assumed in the Feasibility Study.

The MHD Subsidy is not currently authorized under Massachusetts law. The Governor expects to file legislation in September, 1997 to establish the MHD Subsidy. A two-thirds vote of each house of the Legislature will be necessary to establish the MHD Subsidy on the terms contemplated in the MOU.

As described above, the anticipated sources of funding for the CA/T Project are subject to various uncertainties including but not limited to Congressional action with respect to reauthorization of ISTEA, the financial condition of the Commonwealth and its ability to issue bonds or notes in the amounts contemplated. In the event that such other sources of funding are lower than anticipated or CA/T Project costs increase significantly above current estimates, the Authority may contribute or, in any event, could be required by subsequent legislation to contribute additional funds to the Commonwealth. The Authority's ability to finance such additional contributions from the issuance of Additional Bonds would be subject to the provisions of the Metropolitan Highway System Trust Agreement (See "SECURITY FOR THE BONDS - Additional Indebtedness" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Additional Bonds").

## LEGISLATIVE MATTERS

### Initiative Petitions

On August 6, 1997, a citizen's group filed six versions of a voter initiative petition (the "Petitions") with the office of the Attorney General under Article 48 of the Amendments to the Massachusetts Constitution. The Petitions would, among other things, prohibit the Authority, Massport and any other entity in Massachusetts from collecting tolls with respect to use of the Metropolitan Highway System, the Western Turnpike and the Tobin Bridge. The effective date of the prohibition, if enacted into law, varies among the Petitions, but would be either August 15, 1999 or August 15, 2002. Three of the petitions provide that, effective January 1, 1999, there be an interim limit on tolls charged for such facilities equal to the toll rates charged as of June 1, 1997. Two of the Petitions provide an exception to the toll prohibition for the Tunnels and the Tobin Bridge.

Each Petition requires the Authority (together with Massport to the extent affected) to submit a study of the financial implications of the proposed law to the Legislature by March 31, 1999, in order to determine if compensation would need to be paid for the Petition to operate in a constitutional manner. Each Petition states that, if such compensation were necessary, the people expect that the Legislature would appropriate the necessary funds.

As part of the voter initiative petition process, the Attorney General certified on September 3, 1997, that the Petitions do not address any subjects that are constitutionally excluded from the process and are otherwise in proper form for submission to the people. For each Petition, the proponents of the Petitions must now obtain a specified number of voter signatures by December 3, 1997, approximately 65,000, in order for any such Petition to be put before the Legislature. The Legislature would be required to vote on any such Petition by May 6, 1998. If enacted by the Legislature, any Petition would become effective ninety days after passage, unless passed as an emergency law, in which case it would take effect immediately. If the Legislature fails to enact any Petition into law as submitted, the petitioners could place the Petition on the ballot at the next statewide election on November 3, 1998. In order to do so, the petitioners would have to obtain approximately 11,000 additional signatures. If approved by a majority of the voters voting on such law (and at least 30% of all ballots cast), the measure would become law thirty days later.

The Legislature could, among other options, submit to the people a substitute for any of the Petitions and designate such substitute on the ballot as the legislative substitute for any Petition and group it with any Petition as an alternative therefor. In that case, only one such measure could be adopted.

In the opinion of Bond Counsel, if any one of the Petitions is enacted into law, the provisions concerning limiting and prohibiting tolls would conflict with the Authority's covenants concerning tolls and charges in the Metropolitan Highway System Trust Agreement unless the Authority is able to establish and collect charges for use other than tolls for motor vehicle use of the Accepted Metropolitan Highway System, including the real estate and other property associated with it, at levels sufficient to satisfy such covenants. The Authority's currently projected Revenues other than tolls would not be sufficient for that purpose and the Authority does not believe that it could feasibly impose such charges other than tolls at such levels. In the opinion of Bond Counsel, enactment into law of a Petition which effectively prevents the Authority from generating Revenues sufficient to satisfy the covenants concerning tolls and charges with respect to bonds issued prior to such enactment, including the Series A and B Bonds and Series C Bonds, would result in an unconstitutional impairment of contract rights or taking of property rights unless the Bondowners are provided reasonable and adequate compensation. No opinion has been rendered by Bond Counsel as to the precise form such compensation must take.

### Toll Suspension

Pursuant to Section 113 of Chapter 11 of the Acts of 1997, the Authority is required to permit free passage on the Western Turnpike and Boston Extension for the period from noon on Wednesday, November 26, 1997 until twelve midnight on Thursday, November 27, 1997 (Thanksgiving). The Authority must submit a report to the

Legislature by February 1, 1998 reviewing the impact of this toll suspension on revenue and traffic flow. Similar proposals have been made from time to time in the past, and the Authority cannot predict whether and to what extent it may be required by law in the future to permit free or discounted passage on any portion of the Metropolitan Highway System under various circumstances. See "HISTORICAL AND PROJECTED OPERATING RESULTS - Revenues" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT - Tolls and Charges."

## **LITIGATION**

### **General**

There is no threatened or pending litigation seeking to restrain or enjoin the issuance or delivery of the Series A and B Bonds, Series C Bonds or Western Turnpike Bonds or the proceedings and authority under which they are to be issued, or the pledge or application of any moneys or the security provided for the payment of such Series A and B Bonds, Series C Bonds or Western Turnpike Bonds, or the existence or powers of the Authority. There is no threatened or pending litigation which questions or affects the ability of the Authority to establish, own or operate the Accepted Metropolitan Highway System or the validity of, or which seeks to restrain or enjoin the execution, delivery or performance of, the Metropolitan Highway System Trust Agreement, or any other agreements, contracts or legal documents to be executed in connection with the issuance of the Series A and B Bonds, Series C Bonds and Western Turnpike Bonds.

The Authority from time to time is engaged in various matters of routine litigation. These matters include personal injury and property damage claims for which the Authority's liability is covered in whole or in part by insurance. Others include disputes with contractors, subcontractors and others arising from the construction or maintenance of the Boston Extension, the Tunnels and the Western Turnpike. The Authority does not expect that these matters will require any amounts to be paid which, in the aggregate, would materially adversely affect the Authority's ability to fulfill its obligations under the Metropolitan Highway System Trust Agreement.

### **Environmental, Regulatory and Other Matters**

The Authority undertook in 1989 a comprehensive program to upgrade all existing underground fuel storage tank systems at the maintenance depots and State Police Barracks (the "Operational Facilities"). The final portion of the program has been completed with all the tanks either removed, replaced or upgraded. In addition, since 1990, all underground storage tanks at the ten service stations located adjacent to the Turnpike right-of-way have been removed and replaced.

With respect to its Operational Facilities, the Authority, at the direction of the DEP, has completed the environmental assessments at the facilities and is finishing remedial activities that were necessary. The remediation activities are scheduled for completion in 1998.

With respect to the service areas, the Authority and the prior and current operators of the service stations are each subject to an administrative directive from the DEP to undertake assessment and remediation activities at the service areas. The Authority initiated suit against the prior and current operators in state court and prevailed such that present and future costs in remediating the contamination caused by operation of the service stations is borne by the current and prior operators. The remediation of the service areas is scheduled for completion in 2000.

The Authority is defending litigation arising out of alleged environmental contamination at Service Area 6W brought by property owners who reside in or near an abutting subdivision in Charlton, Massachusetts. Fourteen property owners brought claims alleging property damage, personal injury and emotional distress. Of those fourteen claims, four have settled; four are on appeal following entry of judgments favorable to the Authority; one is stayed pending the outcome of those matters on appeal; and the remaining cases are to be scheduled for trial. The

Authority does not expect that the ultimate outcome of all cases will materially adversely affect the ability of the Authority to fulfill its obligations under the Metropolitan Highway System Trust Agreement.

The Authority is planning to construct a series of park and ride facilities containing at least 2,100 spaces (the "Park and Ride Program") at or near certain interchanges serving travelers who would otherwise use the Boston Extension for travel in single occupancy vehicles. Pursuant to DEP regulations adopted in accordance with the Federal Clean Air Act and in furtherance of certain mitigation actions planned in association with the CA/T Project, in June, 1994 the Authority published a feasibility study documenting its findings regarding a dedicated high occupancy vehicle ("HOV") lane on the Boston Extension. The Authority concluded that with respect to air pollution emissions reduction, equal or greater benefits could be achieved with the Park and Ride Program compared to an HOV lane. The DEP has responded favorably to the Authority's petition requesting approval of the Park and Ride Program as a substitute project, and the Authority has no basis for believing that the DEP will not approve the Park and Ride Program. The Authority has agreed in principle that the park and ride spaces must be open for operation by the date of opening of the completed CA/T Project. A memorandum of agreement with DEP is under negotiation.

The Authority is currently a defendant in a suit involving a claim by a property owner relating to premises taken by the Authority by its power of eminent domain for use as a park and ride facility. Based upon an appraisal, the Authority paid \$1.4 million to the owner for the property in May, 1995. To date, the owner has not made a specific demand for additional compensation from the Authority. The potential future liability of the Authority relative to this matter is dependent upon expert assessment of the fair market value of the property.

In a letter dated August 18, 1997, the Office of the Attorney General of the Commonwealth takes the position that the Authority is required to defend and hold harmless the Commonwealth for claims against the State Police for negligence of troopers assigned to the Authority. The Authority disagrees with this position and intends to engage in discussions with the Office of the Attorney General regarding this matter.

### **TAX EXEMPTION**

Bond Counsel is of the opinion that, under existing law, interest on the Series A and B Bonds will not be included in the gross income of holders of the Series A and B Bonds for federal income tax purposes. This opinion is expressly conditioned upon continued compliance with certain requirements imposed by the Internal Revenue Code of 1986, as amended (the "Code"), which must be satisfied subsequent to the date of issuance of the Series A and B Bonds in order to assure that the interest on the Series A and B Bonds is and continues to be excluded from the gross income of the holders of the Series A and B Bonds. Failure to comply with certain of such requirements could cause interest on the Series A and B Bonds to be included in the gross income of holders of the Series A and B Bonds retroactive to the date of issuance of the Series A and B Bonds. In particular, and without limitation, those requirements include restrictions on the use, expenditure and investment of proceeds of the Series A and B Bonds and the payment of rebate, or penalties in lieu of rebate, to the United States, subject to certain exceptions. The Authority has provided covenants and certificates as to its continued compliance with such requirements.

In the opinion of Bond Counsel, under existing law, since the Series A and B Bonds are not "private activity bonds" under the Code, interest on the Series A and B Bonds will not constitute a preference item under Section 57(a)(5) of the Code for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations under Section 55 of the Code. However, interest on the Series A and B Bonds will be included in "adjusted current earnings" of corporate holders of the Series A and B Bonds and therefore will be taken into account under Section 56(g) of the Code in the computation of the alternative minimum tax applicable to certain corporations.

Bond Counsel has not opined as to other federal tax consequences arising with respect to the Series A and B Bonds. However, prospective purchasers should be aware of certain collateral consequences which may result

under federal tax law for certain holders of the Series A and B Bonds: (i) Section 265 of the Code denies a deduction for interest on indebtedness incurred or continued to purchase or carry the Series A and B Bonds or, in the case of a financial institution, that portion of a holder's interest expense allocated to the Series A and B Bonds, (ii) with respect to insurance companies subject to the tax imposed by Section 831 of the Code, Section 832(b)(5)(B)(i) reduces the deduction for losses incurred by 15% of the sum of certain items, including interest on the Series A and B Bonds, (iii) interest on the Series A and B Bonds earned by certain foreign corporations doing business in the United States could be subject to a branch profits tax imposed by Section 884 of the Code, (iv) passive investment income, including interest on the Series A and B Bonds, may be subject to federal income taxation under Section 1375 of the Code for S corporations that have Subchapter S earnings and profits at the close of the taxable year if greater than 25% of the gross receipts of such S corporation is passive investment income, (v) Section 86 of the Code requires recipients of certain Social Security and certain Railroad Retirement benefits to take into account in determining gross income receipts or accruals of interest on the Series A and B Bonds and (vi) receipt of investment income, including interest on the Series A and B Bonds, may disqualify the recipient thereof from obtaining the earned income credit under Section 32(i) of the Code.

In the opinion of Bond Counsel, interest on the Series A and B Bonds and any profit on the sale thereof are exempt from Massachusetts personal income taxes, and the Series A and B Bonds are exempt from Massachusetts personal property taxes. Bond Counsel has not opined as to other Massachusetts tax consequences arising with respect to the Series A and B Bonds. Prospective purchasers should be aware, however, that the Series A and B Bonds are included in the measure of Massachusetts estate and inheritance taxes, and the Series A and B Bonds and the interest thereon are included in the measure of Massachusetts corporate excise and franchise taxes. Bond counsel has not opined as to the taxability of the Series A and B Bonds or the income therefrom under the laws of any state other than Massachusetts.

For federal and Massachusetts tax purposes, interest includes original issue discount, which with respect to a Series A Bond or Series B Bond is equal to the excess, if any, of the stated redemption price at maturity of such Series A Bond or Series B Bond over the initial offering price thereof to the public, excluding underwriters and other intermediaries, at which price a substantial amount of all such Series A and B Bonds within the same maturity was sold. Original issue discount accrues actuarially over the term of a Series A Bond or Series B Bond. Holders should consult their own tax advisers with respect to the computation of original issue discount during the period in which any such Series A Bond or Series B Bond is held.

## **VERIFICATION OF CERTAIN MATHEMATICAL CALCULATIONS**

Ernst & Young LLP, a firm of independent public accountants, will deliver to the Authority, on or before the settlement date of the Series A and B Bonds, its attestation report indicating that it has examined, in accordance with standards established by the American Institute of Certified Public Accountants, the information and assertions provided by the Authority. Included in the scope of its examination will be a verification of the mathematical accuracy of (a) the mathematical computations of the adequacy of the cash and the maturing principal of and interest on, the Government Obligations (as defined in the trust agreement securing the 1996 Notes) to pay, when due, the maturing principal of and interest on the portion of the 1996 Notes being refunded from a portion of the proceeds of the Series A and B Bonds and (b) the mathematical computations supporting the conclusion of Bond Counsel that the Series A and B Bonds are not "arbitrage bonds" under the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

The examination performed by Ernst & Young LLP will be solely based upon data, information and documents provided to Ernst & Young LLP by the Authority. The Ernst & Young LLP report of its examination will state that Ernst & Young LLP has no obligation to update the report because of events occurring, or data or information coming to their attention, subsequent to the date of the report.



## **RATINGS**

Fitch Investors Service, L.P. and Moody's Investors Service have assigned ratings of AAA and Aaa to the Insured Bonds with the understanding that upon delivery of such Insured Bonds, a financial guaranty insurance policy insuring the payment when due of the principal and sinking fund installments of and interest on the Insured Bonds will be issued by the Insurer.

Moody's Investors Service and Fitch Investors Service, L.P. (collectively, the "Rating Agencies") have assigned ratings of A2 and A-, respectively, to the Series A Bonds and A3 and A-, respectively, to the Series B Bonds.

Such ratings reflect only the respective views of such organizations and an explanation of the significance of such ratings may be obtained from Moody's Investors Service and Fitch Investors Service, L.P., respectively. The Authority furnished to each of the Rating Agencies certain information and materials concerning the Series A and B Bonds and the Authority. Generally, rating agencies base their ratings on such information and material and, in addition, on investigations, studies and assumptions made by the rating agencies themselves. There is no assurance that any rating mentioned herein will continue for any period of time or that it will not be revised, either upward or downward, or withdrawn entirely by the appropriate Rating Agency, if in its judgment circumstances so warrant. Any such downward change in or withdrawal of the ratings may have an adverse effect upon the market price of the Series A and B Bonds.

## **UNDERWRITING**

The Underwriters have jointly and severally agreed, subject to certain conditions, to purchase from the Authority the Series A and B Bonds at a discount from the initial offering prices of the Series A and B Bonds equal to .592% of the aggregate principal amount of the Series A and B Bonds, and to reoffer the Series A and B Bonds at no greater than the initial public offering prices or no less than the initial public offering yields set forth on the cover page hereof. The Series A and B Bonds may be offered and sold to certain dealers (including dealers depositing the Series A and B Bonds into investment trusts) at prices lower than or yields higher than such public offering prices or yields, and such prices or yields may be changed from time to time, by the Underwriters. The Underwriters will be obligated to purchase all Series A and B Bonds if any such Series A and B Bonds are purchased.

## **LEGALITY FOR INVESTMENT**

Under the Enabling Act, the Series A and B Bonds are made securities in which all public officers and public bodies of the Commonwealth and its political subdivisions, all Massachusetts insurance companies, and savings banks, co-operative banks and trust companies in their banking departments and within the limits set by Section 14 of Chapter 167E of the General Laws, banking associations, investment companies, executors, trustees and other fiduciaries, and all other persons whatsoever who are now or may hereafter be authorized to invest in bonds or other obligations of a similar nature may properly and legally invest funds in Massachusetts, including capital in their control belonging to them and the Series A and B Bonds are obligations which may properly and legally be made eligible for the investment of savings deposits and the income thereof in the manner provided by Section 15B of Chapter 167 of the General Laws. The Series A and B Bonds are also made securities which may properly and legally be deposited with and received by any state or municipal officer or any agency or political subdivision of the Commonwealth for any purpose for which the deposit of bonds or other obligations of the Commonwealth is now or may hereafter be authorized by law.

## **COMMONWEALTH NOT LIABLE ON BONDS**

The Series A and B Bonds are not general obligations of the Authority and shall not be deemed to constitute a debt or liability of the Commonwealth or any political subdivision thereof, or a pledge of the full faith and credit of the Commonwealth or any such political subdivision, but shall be payable solely from revenues of the Authority pledged therefor and any other funds held under the Metropolitan Highway System Trust Agreement for such purpose. Neither the full faith and credit of the Authority nor the full faith and credit or the taxing power of the Commonwealth or of any political subdivision thereof is pledged to the payment of the principal of, premium, if any, or interest on the Series A and B Bonds. The Authority has no taxing power.

## **CERTAIN LEGAL MATTERS**

Legal matters incident to the authorization, issuance and sale of the Series A and B Bonds are subject to the approval of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Bond Counsel, and Krokidas & Bluestein, Co-Bond Counsel. The approving opinions of Bond Counsel and Co-Bond Counsel in substantially the forms attached hereto as Appendix D will be delivered with the Series A and B Bonds. Certain legal matters will be passed upon for the Authority by its General Counsel, Robert M. Ruzzo, Esq., and for the Underwriters by Palmer & Dodge LLP, Boston, Massachusetts. Palmer & Dodge LLP has represented and continues to represent the Authority as special counsel with respect to various matters concerning the Metropolitan Highway System, including negotiation of the Project Management Agreement and certain related matters.

## **FINANCIAL ADVISORS**

Evensen Dodge Inc. and Columbia Equity Financial Corp. have acted as Financial Advisors to the Authority in connection with the sale of the Series A and B Bonds.

## **FINANCIAL STATEMENTS**

The financial statements of the Authority as of December 31, 1996, 1995, 1994 and 1993 and for each of the years then ended, and included in Appendix B hereto, have been audited by Ernst & Young LLP, independent auditors, as stated in their report appearing therein. The financial statements have been prepared on a consolidated basis. Note 10 to the financial statements includes certain information pertaining to the allocation of revenues and expenses between the Metropolitan Highway System and the Western Turnpike.

## **CONTINUING DISCLOSURE**

In order to assist the Underwriters in complying with Rule 15c2-12(b)(5) promulgated by the Securities and Exchange Commission (the "Rule"), the Authority will enter into a Continuing Disclosure Agreement with the Trustee for the benefit of owners of the Series A and B Bonds setting forth the undertaking of the Authority regarding continuing disclosure with respect to the Series A and B Bonds. The proposed form of the Continuing Disclosure Agreement is set forth in Appendix E. The Authority has not failed to comply with any previous undertaking to provide annual reports or notices of material events in accordance with the Rule.

## MISCELLANEOUS

The foregoing summaries of the provisions of the Enabling Act, the Series A and B Bonds and the Metropolitan Highway System Trust Agreement do not purport to be complete and are made subject to the detailed provisions thereof to which reference is hereby made. Copies of the Enabling Act, the form of the Series A and B Bonds and the Metropolitan Highway System Trust Agreement are available for inspection at the offices of the Authority and the Trustee.

Information relating to DTC and the book-entry system described under the heading "THE SERIES A AND B BONDS - Book-Entry Only System." has been furnished by DTC. Neither the Authority nor the Underwriters make any representations or warranties whatsoever with respect to such information.

The execution and delivery of this Official Statement has been duly authorized by the Authority.

## MASSACHUSETTS TURNPIKE AUTHORITY

By: /s/ James J. Kerasiotes  
Chairman

September 24, 1997

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**APPENDIX A**

**REPORT OF TRAFFIC ENGINEER**

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# **Traffic and Revenue Report**

for the

## **Metropolitan Highway System**

**September 24, 1997**

Prepared for the

## **Massachusetts Turnpike Authority**

by

**URS Greiner Consultants, Inc.**

**38 Chauncy Street**

**Boston, Massachusetts 02111**

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Metropolitan Highway System  
Traffic and Revenue Study

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September 24, 1997

Mr. James Rooney  
Chief Financial Officer  
Massachusetts Turnpike Authority  
State Transportation Building  
10 Park Plaza, Suite 5170  
Boston, MA 02116

Dear Mr. Rooney:

As requested, we have prepared the following traffic and revenue report for the toll facilities of the *Metropolitan Highway System* (MHS) operated by the Massachusetts Turnpike Authority (the Authority) to be used in connection with the Authority's issuance of its Metropolitan Highway System Revenue Bonds, 1997 Series A, Series B and Series C. These toll facilities include the Boston Extension of the Massachusetts Turnpike, the Sumner/Callahan Tunnels and Ted Williams Tunnel. This report presents historical traffic and revenue information, a summary of our methodology and traffic and revenue estimates for the period 1997-2020.

## INTRODUCTION

The Massachusetts Turnpike is an integral part of the transportation network of the Commonwealth and the National Interstate Highway System.

With the signing of enabling legislation in 1952, the Massachusetts Turnpike Authority was created. The Authority was charged with the construction, operation and maintenance of the Massachusetts Turnpike. The 123-mile Western Turnpike from the New York State Line to I-95/Route 128 was completed and opened to traffic in 1957. The Boston Extension became fully operational in 1965. In 1958 the Authority was authorized to acquire the Sumner Tunnel (constructed in 1934) from the City of Boston and to construct and operate the parallel Callahan Tunnel.

In 1995, additional legislation transferred ownership of the new Ted Williams Tunnel to the Authority. The Massachusetts Turnpike Authority Enabling Act of 1997 created the MHS as one of two cost centers to be maintained by the Authority. The Act defined the MHS as I-90 from Route 128 into Boston, and including all components of the Central Artery/Tunnel (CA/T) project as well as the Ted Williams, Sumner and Callahan Tunnels. While not a part of the MHS, the Tobin Memorial Bridge will be the subject of an operational coordination agreement between Massachusetts Port Authority (Massport) as operator of the facility and the Authority.

This report focuses on the MHS toll facilities operated by the Authority.

## **DESCRIPTION OF METROPOLITAN HIGHWAY SYSTEM**

The toll components of the MHS operated by the Authority are the Boston Extension, the Sumner/Callahan Tunnels and the Ted Williams Tunnel. The MHS is shown in Figure 1.

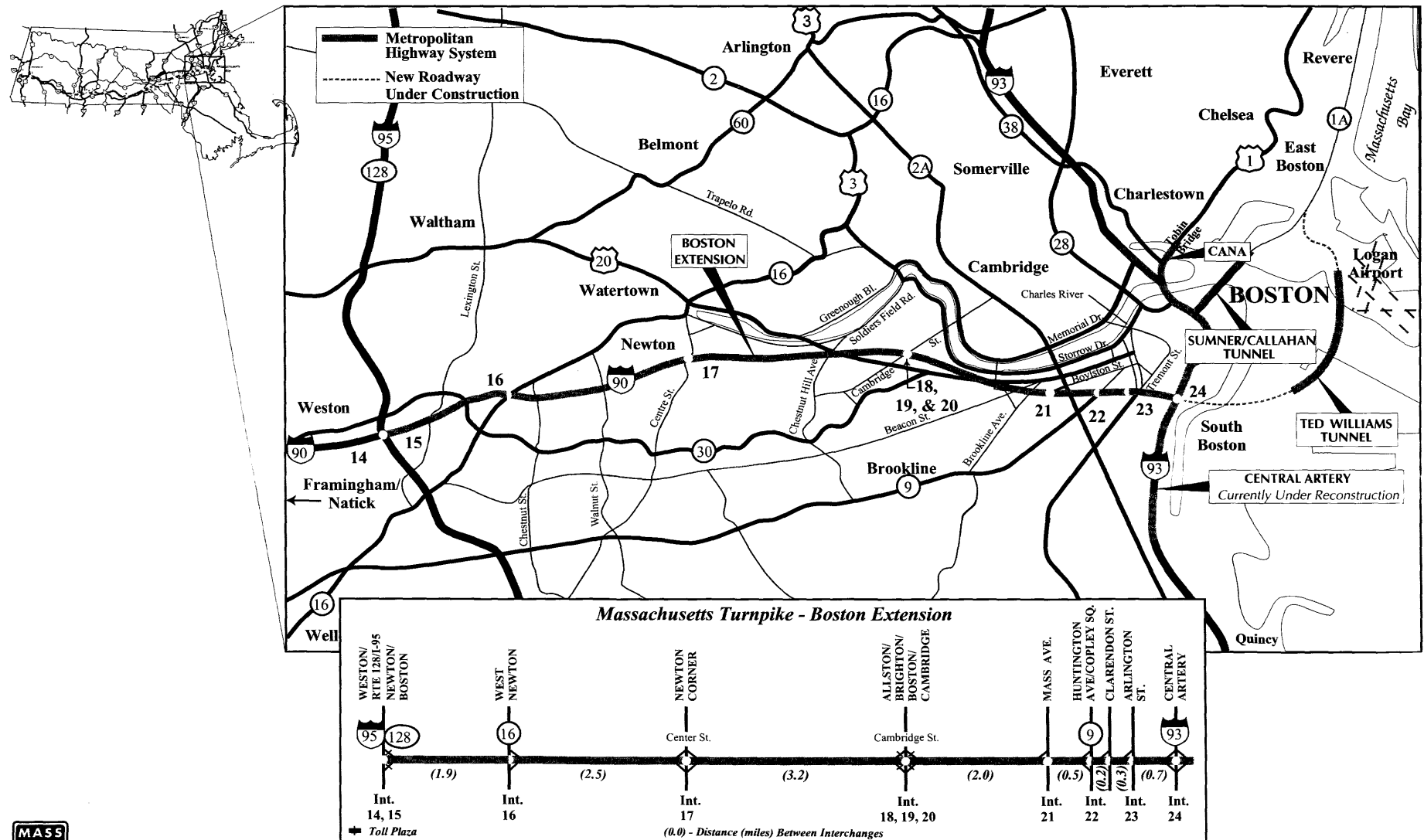
### **Boston Extension**

This section of the Turnpike became fully operational in 1965, connecting the eastern terminus of the Western Turnpike at State Route 128/I-95 eastward through Newton and into the City of Boston via ramps to the Prudential Center/Copley Square area before terminating at the Central Artery (I-93) and Kneeland Street. The opening of the Boston Extension provided a link between the City of Boston and the western suburbs, offering a high-speed alternative route for commuter traffic. The subsequent development of the suburbs around Boston has further increased the base of commuter traffic using the road. Approximately 45 percent of the traffic at the Allston/Brighton/Cambridge toll complex of the Boston Extension is commuters. Tolls on this segment of the Turnpike are collected via a cash barrier toll collection system that is typically used by urban toll facilities.

Vehicles from the Western Turnpike continuing toward Boston via the Boston Extension pay a toll rate of \$0.50 at the Weston mainline barrier (Interchange 15) for travel on the Western Turnpike and the Boston Extension. Passenger cars entering or exiting State Route 128/I-95, State Route 30, or local roads at Interchange 15 via the Boston Extension, are assessed a \$0.50 toll. Additional ramp (Interchanges 18 and 20) and mainline (Interchange 19) toll plazas are at the Allston/Brighton/Cambridge toll complex. Passenger cars are charged \$0.50 to access the ramps or to pass through the mainline plaza. The toll schedule by vehicle class for Interchanges 15, 18, 19 and 20 are shown in Table 1.

As originally constructed, the Boston Extension was built within a restricted railroad right-of-way and provides three lanes in each direction from the Weston mainline plaza at State Route 128 (Interchange 15) to Newton Corner (Interchange 17), a distance of approximately five miles. The Extension widens to four lanes in each direction for the next six miles to the Prudential/Copley Square ramps (Interchange 22). The final mile to the Central Artery or Kneeland Street (I-93, Interchange 24) is three lanes in each direction. The Boston Extension also includes a tunnel under the Prudential Center and the Copley Place and John Hancock Garage air rights developments in the Copley Square area of Boston. Tolls at West Newton (Interchange 16) were eliminated in late September 1996 and the toll plazas removed. This created the only toll-free movement on the Boston Extension. Table 2 is a list of the interchanges on the Boston Extension and the intersecting highways.

# Metropolitan Highway System



Massachusetts Turnpike Authority

URS Greiner

Fig. 1

**Table 1 Boston Extension Current Toll Schedule**

		Vehicle Class								
		1	2	3	4	5	6	7	8	9
Plaza	Inter.	Autos	2-axle, 6-tire	3-axle	4-axle	5-axle	6-axle	7-axle	8-axle	9-axle or more
Weston/Rt. 128/I-95	15	\$0.50	\$0.50	\$0.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25
Allston/Brighton/Cambridge (to/from west)	18	0.50	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25
Boston, Beacon Park Barrier Plaza	19	0.50	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25
Allston/Brighton/Cambridge (to/from east)	20	0.50	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25

**Table 2 Boston Extension Interchanges**

Interchange		Intersecting Highway(s)	Milepost*
Number	Name		
15	Newton/Boston	Western Turnpike, MA Rt. 128 & Rt. I-95, to and from the east.	123.3
16	West Newton	MA Rt. 16	125.2
17	Newton Corner	Center Street	127.7
18/19/20	Allston/Brighton/Cambridge	Cambridge Street	130.9
21	Massachusetts Ave.	Massachusetts Ave.	132.9
22	Huntington Ave./Copley Sq.	MA Rt. 9	133.4
22A	Clarendon Street	Clarendon Street	133.6
23	Arlington Street	Arlington Street	133.9
24	Central Artery	Rt. I-93	134.6

\* Miles from the New York State Line.

## **Sumner/Callahan Tunnels**

The Sumner Tunnel was opened to vehicular traffic in 1934. In 1958, the Commonwealth authorized the Authority to acquire it from the City of Boston and revenue bonds were issued in 1959 to finance the acquisition and repair of the Sumner Tunnel and the construction of the parallel Callahan Tunnel. The Callahan Tunnel was completed and opened to traffic in 1961. During that same year, the Sumner Tunnel was closed for repairs. After renovation, the Sumner Tunnel was reopened to traffic in 1962.

Until the December 1995 opening of the Ted Williams Tunnel, the Tunnels were the primary vehicular harbor crossings connecting Boston with Logan International Airport and in conjunction with the Tobin Memorial Bridge, opened to traffic in 1950, providing access to the North Shore. The Callahan Tunnel serves outbound traffic from downtown Boston to East Boston, while the Sumner Tunnel serves inbound traffic toward downtown Boston. Approximately 35 percent of Tunnel traffic is commuters from the northern suburbs to Boston. Trips to and from Logan Airport make up approximately half of the passenger cars using the Tunnel.

Initially, tolls were collected in both travel directions, however one-way toll collection was implemented in August 1983, with tolls only collected in the inbound direction at the Sumner Tunnel. Non-commercial passenger car tolls were subsequently increased to \$1.00 on August 1, 1989. With the December 1995 opening of the Ted Williams Tunnel, tolls for passenger cars with private plates were not changed from \$1.00; however, the toll for passenger cars with commercial plates and taxis was increased to \$2.00 at both the Sumner and Ted Williams Tunnels with proportionally higher rates for other commercial vehicles. On July 10, 1997, tolls for passenger cars with private plates were doubled to \$2.00, tolls for taxis and other 2-axle, 4-tire vehicles with commercial plates were increased 50 percent to \$3.00 and rates for other commercial vehicles were also increased. In addition, MBTA buses were given toll-free passage through the Tunnels. The current and former toll schedules for the Sumner and Ted Williams Tunnels are shown in Table 3. Non-revenue vehicles include police, fire, ambulances and other emergency vehicles and Authority vehicles.

**Table 3 Sumner and Ted Williams Tunnels - Current and Prior Toll Schedules**

Vehicle Class		Prior to 12/15/95	12/15/95 through 7/9/97	Since 7/9/97
Number	Description			
Non-Com	Any two axle vehicles paying non-commercial rate (except MBTA vehicles)	\$1.00	\$1.00	\$2.00
2	Any commercial two-axle vehicles	1.00	2.00	3.00
3	Any commercial three-axle vehicles	1.25	2.50	3.00
4	Any commercial four-axle vehicles	1.50	3.00	4.00
5	Any commercial five-axle vehicles	1.75	3.50	5.00
6	Any commercial six-axle vehicles	2.00	4.00	6.00
7	Any non-commercial vehicle with extra axles.	NA	1.25 1.50	3.00 4.00
8	Non-commercial buses with 2 or 3 axles	NA	1.00 1.25	3.00 3.00
Commuter	Any East Boston/North End/South Boston* resident with sticker and coupon private passenger car or motorcycle.	0.40	0.40	0.40
NR	Non-Revenue Vehicles			
MBTA	Any MBTA vehicle	Appropriate axle rate	Appropriate axle rate	No Toll

\* Commuter rates were made available to residents of South Boston in December 1995 at the time of the opening of the Ted Williams Tunnel.



## **Ted Williams Tunnel**

The Ted Williams Tunnel opened for use by commercial vehicles on December 15, 1995. Since that time, the Ted Williams Tunnel has also been opened on weekends and holidays to passenger cars. This four-lane tunnel (two lanes in each direction) extends between the South Boston Waterfront and Logan International Airport, enabling vehicles to avoid the congestion of downtown Boston and the existing Central Artery.

As with the other harbor crossings, tolls are only collected in the inbound direction. Toll rates are the same as those charged at the Sumner Tunnel as shown in Table 3. At the time of opening, the toll for taxis and other 2-axle, 4-tire vehicles with commercial plates was \$2.00, with proportionally higher rates for other commercial vehicles. As of July 10, 1997, passenger cars with commercial plates and taxis pay a \$3.00 toll with proportionally higher rates for commercial vehicles, the same rate schedule that is in effect at the Sumner Tunnel. Passenger cars are allowed through the Ted Williams Tunnel on weekends and holidays at the current rate of \$2.00 for a round-trip.

## **Central Artery**

The Central Artery in Boston is generally known as that portion of I-93 that extends from Southamptton Street to north of the Charles River Crossing in Charlestown. This section of I-93 traverses downtown Boston and serves two important functions. Constructed and opened to traffic in the 1950's as a collector-distributor roadway serving the center city, this route is the primary means of vehicle access between downtown Boston and the north via I-93 and US Route 1, the south via the Southeast Expressway, the west via the Boston Extension (I-90), and Logan Airport via the Sumner/Callahan Tunnels. The Central Artery also fulfills a critical role in the broader regional highway network, providing the only direct link east of State Route 128 between the expressways to the north and south of Boston.

The Central Artery is currently a toll-free elevated roadway, generally six-lanes wide, with three lanes in each direction. The original design capacity was 75,000 vehicles per day. The Central Artery has numerous entrance and exit ramps and lacks breakdown lanes. It is functionally substandard and carries traffic volumes far greater than its design capacity for 8 or more hours per day. In 1995, average daily traffic was 186,000 vehicles. As noted below, the Central Artery is currently being replaced by an underground expressway and a new bridge over the Charles River. This project will significantly alleviate congestion in downtown Boston and provide improved access to the Sumner/Callahan and Ted Williams Tunnels, but will have minimal impact on the Boston Extension.

## **Other Transportation Facilities**

Other transportation facilities in the Boston area include the Tobin Memorial Bridge and other modes of travel, including rail transit.

### *Tobin Memorial Bridge*

This bridge, carrying US Route 1, provides a high-level crossing of the Mystic River and connects Chelsea and points on the North Shore with Charlestown and downtown Boston via the Central Artery (I-93) in the south. The Tobin Memorial Bridge is owned and operated by the Massachusetts Port Authority which also owns and operates Logan International Airport. This double-deck bridge with three 12' lanes in each direction opened to traffic on February 27, 1950. Initially, tolls were collected in both travel directions, however one-way toll collection was implemented in 1983, concurrent with the conversion of the Sumner/Callahan Tunnels, with tolls collected in the inbound (South) direction. Effective July 1, 1997, round-trip passenger car tolls were increased from \$0.50 to \$1.00 with proportionally higher rates for commercial vehicles. The former toll schedule had been in place since 1953. For the fiscal year ended June 30, 1997, average daily traffic in the toll direction was 34,000 vehicles.

The Tobin Bridge competes with the Sumner/Callahan and Ted Williams Tunnels for some traffic movements. At the present time, the capacity on the Boston end of the facility is restricted due to the capacity of the one-lane exit ramp to I-93, and during peak periods the Tobin Bridge is currently operating at or near capacity levels. After completion of the CA/T project, the exit ramps to I-93 southbound will have two lanes and will provide some relief to the congestion caused by the current capacity restriction of the one-lane ramp. During off-peak periods, there is available capacity and the Bridge provides an alternative route to the Tunnels for some trips.

### *Other Modes of Travel*

The Boston metropolitan area is served by commuter and long-distance railroads. Commuter service is provided from both North and South Stations in Boston by the Massachusetts Bay Transportation Authority (MBTA). Express rail service between Boston and Worcester via Framingham during peak hours was initiated by MBTA in September 1994. There was no significant impact on Western Turnpike traffic after the initiation of service. Twenty-one scheduled trains per day travel in the corridor which is located immediately adjacent to the Boston Extension for much of its length. The current schedule indicates the average trip takes 24 minutes between Route 128/I-95 and downtown Boston.

The Old Colony commuter rail restoration to the south and the Newburyport Extension of the Ipswich Line to the north are currently under construction; however, they will have no impacts on toll revenues for the MHS.

Intercity service is provided from South Station in Boston by Amtrak. Boston is the northern end of the Northeast Corridor, which begins at Washington D.C., and also connects with the New York to Chicago Lakeshore Limited via an east-west section across the center of the Commonwealth connecting with the main train at Albany, New York. Additional Amtrak service includes service to New York via Springfield (the Inland Route) and the Vermonter

service to Burlington. Limited freight service exists east of the Beacon Park rail yards adjacent to the Allston/Brighton/Cambridge Complex.

In addition, the MBTA provides express bus service in the Boston Extension corridor, with the 300, 301, 302, 304 and 305 buses utilizing the Boston Extension. Several private bus companies use the park and ride lots operated by the Authority to provide express bus service via the Western Turnpike and the Boston Extension to downtown Boston. Intra-city bus service between Boston and cities to the west including Springfield, Pittsfield and Albany, NY, also travel on the Boston Extension.

Scheduled MBTA bus routes 441, 442, 450 and 455, serving the North Shore communities, operate in the Sumner/Callahan Tunnels, and the MBTA's Blue Line subway provides direct access from downtown Boston to Logan Airport and points to the northeast. Supplementing the Blue Line service is a proposed new Airport Intermodal Transit Connector (AITC), a dual-route bus system that will provide one-seat rides from Logan Airport to South Station via the Ted Williams Tunnel.

While the commuter services do compete with the MHS facilities, it is the opinion of URS Greiner that future diversions will be minimal.

## **HISTORICAL TRAFFIC AND REVENUE TRENDS**

### **Boston Extension**

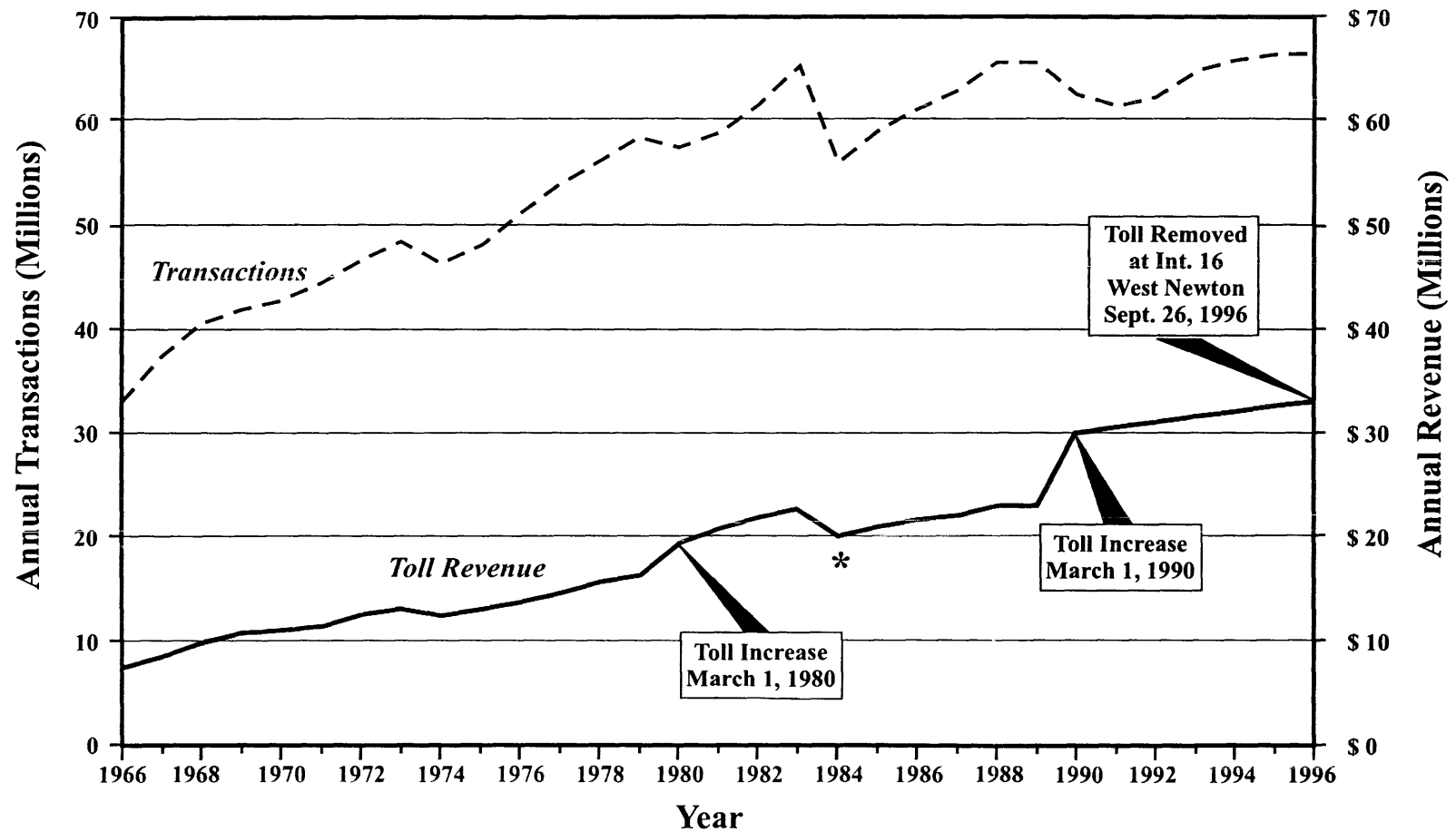
Average daily traffic volumes (2-direction) on the Boston Extension segment between Interchanges 15 and 16 reached 93,000 vehicles in 1995. The maximum traffic load point is between Newton Corner (Interchange 17) and Allston-Brighton (Interchange 18), with 106,000 vehicles per day on average. An average of 77,000 vehicles per day passed through the Allston-Brighton mainline plaza (Interchange 19) in 1996.

Table 4 shows the historical traffic and revenue for the Boston Extension from 1966 to 1996 while Figure 2 shows the growth in transactions simultaneously with the growth in revenues.

For the Boston Extension, the cash barrier section of the MHS, total annual transactions (excluding non-revenue trips) of 33.4 million in 1966, the first full year of operation, reached 66.5 million in 1995, an average annual growth of 2.4 percent. Transactions on the Boston Extension were negatively impacted by the toll increases of 1980 and 1990 and economic recessions. As with many roadways in the Boston area, several segments of the Boston Extension are at or near capacity during peak hours.

Total annual toll revenue of \$7.4 million in 1966, has grown to \$32.9 million in 1995, an average annual increase of 5.3 percent reflecting the positive impacts of the 1980 and 1990 toll increases. It is noted that the decline in toll revenue between 1983 and 1984 on the Boston

# Boston Extension Traffic and Revenue Trends



\* Accounting Adjustment:

Starting in 1984, revenue collected on Western Turnpike for travel on Boston Extension shifted to Western Turnpike Report and traffic no longer included in Boston Extension Report.



Massachusetts Turnpike Authority

**URS Greiner**

Fig. 2

**Table 4 Boston Extension Historical Traffic and Revenue**

Year	Transactions			Toll Revenue		Average Toll
	Annual (Millions)	Daily	Percent Change <sup>(1)</sup>	Annual (Millions)	Percent Change <sup>(1)</sup>	
1966 <sup>(2)</sup>	33.4	91,600		\$7.4		\$0.2217
1967 <sup>(3)</sup>	37.4	102,300	11.7%	8.6	15.4%	0.2290
1968	40.2	109,800	7.6%	10.0	16.8%	0.2486
1969	42.7	117,100	6.3%	10.9	8.7%	0.2542
1970	43.2	118,200	1.0%	11.6	6.9%	0.2691
1971	44.6	122,300	3.4%	12.1	4.0%	0.2706
1972	46.8	127,900	4.9%	12.7	5.4%	0.2719
1973	48.1	131,700	2.7%	13.1	3.0%	0.2728
1974	46.1	126,400	-4.0%	12.6	-3.6%	0.2740
1975	47.9	131,300	3.8%	13.0	3.0%	0.2718
1976	51.1	139,500	6.6%	13.9	6.4%	0.2715
1977	53.8	147,400	5.4%	14.6	5.1%	0.2708
1978	56.7	155,200	5.3%	15.3	5.2%	0.2707
1979	58.4	159,900	3.0%	15.8	3.2%	0.2713
1980 <sup>(4)</sup>	57.4	156,800	-1.7%	19.9	25.6%	0.3467
1981	58.9	161,400	2.7%	21.2	6.7%	0.3604
1982	62.0	169,900	5.3%	22.3	4.8%	0.3589
1983	65.7	180,100	6.0%	23.6	6.1%	0.3589
1984 <sup>(5)</sup>	56.1	153,200	-14.7%	20.1	-14.8%	0.3586
1985	58.9	161,300	5.0%	21.1	4.8%	0.3580
1986	61.6	168,600	4.5%	22.0	4.1%	0.3566
1987	63.5	174,100	3.2%	22.6	3.0%	0.3560
1988	66.1	180,700	4.1%	23.5	3.7%	0.3547
1989	66.1	181,100	-0.1%	23.4	-0.1%	0.3546
1990 <sup>(6)</sup>	63.8	174,800	-3.5%	30.1	28.3%	0.4713
1991	62.1	170,200	-2.6%	30.6	1.8%	0.4929
1992	63.7	174,100	2.6%	31.4	2.6%	0.4928
1993	65.0	178,000	2.0%	32.0	1.9%	0.4926
1994	65.8	180,200	1.2%	32.5	1.4%	0.4936
1995	66.5	182,200	1.1%	32.9	1.2%	0.4940
1996 <sup>(7)</sup>	66.5	181,700	0.0%	33.2	1.0%	0.4989

(1) Based on unrounded total transaction or revenue figures as appropriate.

(2) First full year of operation.

(3) Toll increase October 1, 1967.

(4) Toll Increase March 1, 1980.

(5) Accounting adjustment: prior to 1984 revenue collected at Interchange 15 of the Western Turnpike for travel on the Boston Extension had been included in Boston Extension revenues; since 1984, it has been included in Western Turnpike revenues. Traffic was included in the results for both systems prior to 1984 and in Western Turnpike results only since 1984. If 1984 were adjusted to reflect this change, Boston Extension traffic and revenue would have been 7.7 percent greater than 1983.

(6) Toll increase March 1, 1990.

(7) Tolls removed at West Newton on September 26, 1996.

Extension is due to an accounting change. Prior to 1984, toll revenue collected at Interchange 15 of the Western Turnpike for travel on the Boston Extension had been included in Boston Extension revenues. Since 1984, these revenues have been included in Western Turnpike revenues. Traffic was included in the results for both systems prior to 1984 and in Western Turnpike results only since 1984. (In the future, this traffic and revenue will be included in MHS results only.)

Passenger cars represent 95 percent of the traffic and generate 93 percent of the toll revenue on the Boston Extension.

For the 10-year period 1985-1995, traffic increased at an average annual rate of 1.2 percent and toll revenues increased 4.5 percent on an annual basis reflecting the 1990 toll increase. In 1996, there was a total of 66.5 million revenue transactions on the Boston Extension with revenues of \$33.2 million. The low growth in revenues as compared to 1995 is due to a combination of the removal of tolls at West Newton and a subsequent shift of traffic from the Newton ramps to the now toll-free West Newton ramps.

### **Sumner/Callahan Tunnels**

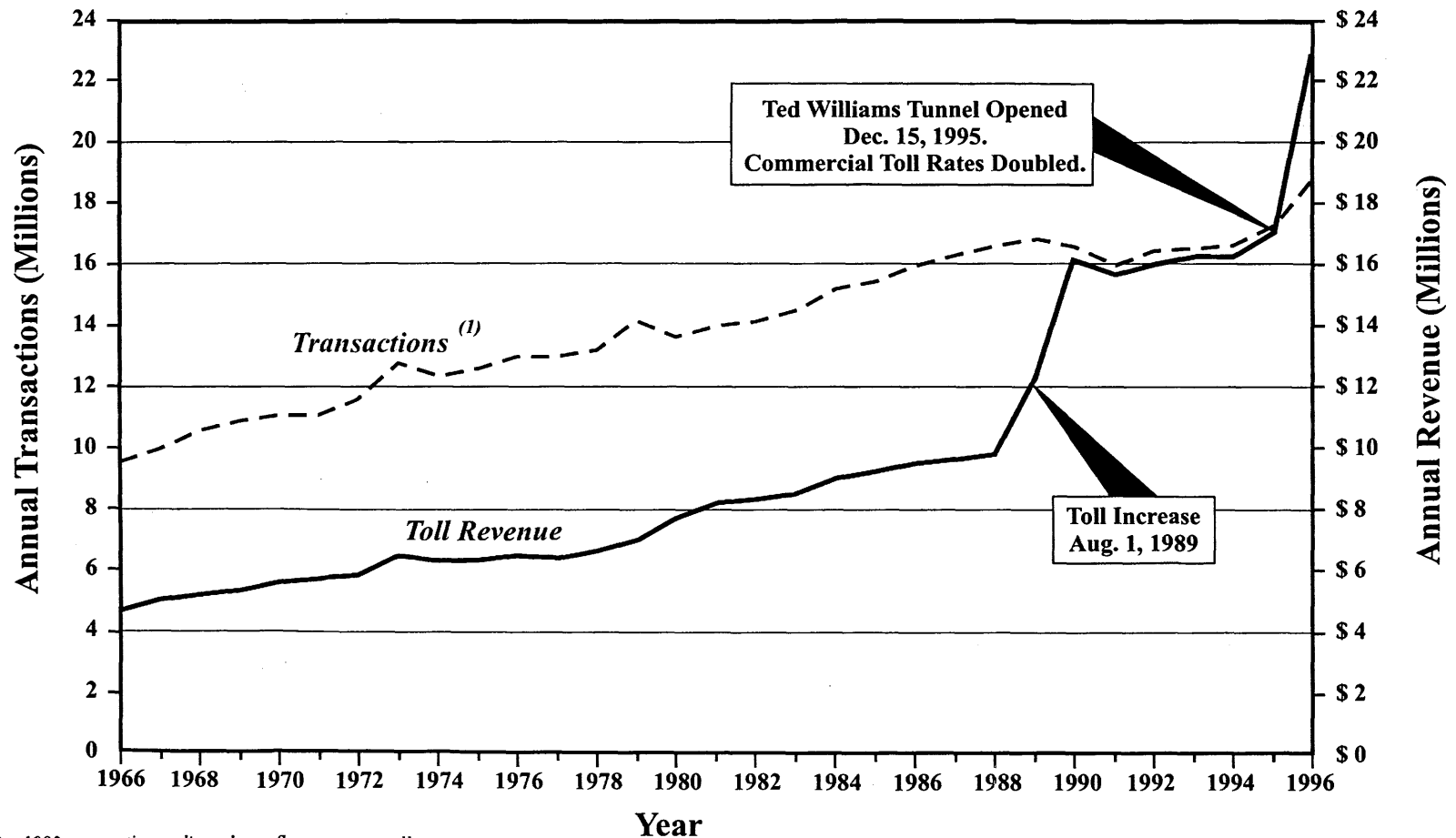
Taken together, the Sumner/Callahan Tunnels provide two travel lanes in each direction between Downtown Boston and East Boston. Vehicular traffic has increased from 9.3 million transactions in 1966 (adjusted to be comparable with the implementation of one-way toll collection in 1983) to 17.3 million transactions in 1995. In December 1995, the Ted Williams Tunnel was opened, providing an additional connection between Logan Airport and downtown Boston for commercial traffic. In 1996, a shift of traffic to the new facility resulted in a decrease in transactions at the Sumner Tunnel to 16.3 million. Revenues increased to \$18.4 million as a result of the revised toll schedule noted above.

### **Ted Williams Tunnel**

The Ted Williams Tunnel opened on December 15, 1995. For the period it was open in 1995, it averaged 4,139 daily transactions and total toll revenues of \$128,625. With more vehicles eligible to use the Tunnel, traffic grew during 1996 to a total of 2.6 million transactions, an average of 7,012 per day. Total revenues for 1996 amounted to \$4.7 million.

Since the Sumner/Callahan Tunnels and the Ted Williams Tunnel serve the same traffic crossing Boston Harbor, they should be considered together as a transportation system. Total transactions in 1996 were 18.8 million, 9.1 percent greater than 1995, and revenues were \$23.1 million. The 36.1 percent increase in revenues reflects the toll revisions noted above as well as the traffic growth that resulted from the additional capacity available as a result of the opening of the Ted Williams Tunnel. Table 5 shows the historical traffic and revenue for the Sumner/Callahan Tunnels for the period 1966 through 1995 and for all three facilities for 1996, the first full year the Ted Williams tunnel was opened. Figure 3 shows these trends graphically.

# Sumner/Callahan and Ted Williams Tunnels Traffic and Revenue Trends



Note: (1) Pre 1983 transactions adjusted to reflect one-way tolls.



Massachusetts Turnpike Authority

URS Greiner

**Table 5 Sumner/Callahan and Ted Williams Tunnels  
Historical Traffic and Revenue**

Year	Transactions <sup>(1)</sup>			Toll Revenue		Average Toll <sup>(1)</sup>
	Annual (Millions)	Daily	Percent Change <sup>(2)</sup>	Annual (Millions)	Percent Change <sup>(2)</sup>	
1966	9.3	25,400		\$4.6		\$0.4924
1967	9.8	26,800	5.4%	4.8	5.6%	0.4933
1968	10.5	28,600	7.2%	5.2	7.3%	0.4937
1969	10.7	29,400	2.6%	5.3	2.7%	0.4942
1970	11.2	30,600	3.9%	5.5	4.1%	0.4951
1971	11.2	30,800	0.8%	5.6	1.2%	0.4975
1972	11.6	31,700	3.3%	5.8	3.1%	0.4967
1973	12.8	35,100	10.3%	6.4	10.6%	0.4978
1974	12.3	33,700	-4.0%	6.1	-4.4%	0.4956
1975	12.4	33,900	0.5%	6.1	0.5%	0.4952
1976	12.9	35,300	4.4%	6.4	4.4%	0.4956
1977	12.8	35,000	-1.0%	6.3	-1.3%	0.4938
1978	13.2	36,200	3.4%	6.6	4.1%	0.4970
1979	14.2	38,800	7.2%	7.0	7.1%	0.4969
1980	13.8	37,800	-2.4%	7.9	12.1%	0.5708
1981	14.0	38,500	1.5%	8.2	4.1%	0.5850
1982	14.1	38,800	0.7%	8.3	1.0%	0.5862
1983 <sup>(3)</sup>	14.6	40,100	3.4%	8.6	3.3%	0.5853
1984	15.3	41,700	4.2%	9.0	4.9%	0.5894
1985	15.6	42,700	2.2%	9.2	2.3%	0.5899
1986	16.0	43,900	2.8%	9.5	2.9%	0.5903
1987	16.3	44,700	1.8%	9.6	1.7%	0.5900
1988	16.6	45,300	1.7%	9.8	1.5%	0.5887
1989 <sup>(4)</sup>	16.7	45,800	0.9%	12.2	25.1%	0.7304
1990	16.5	45,100	-1.5%	16.1	32.1%	0.9799
1991	16.0	43,800	-2.9%	15.7	-3.0%	0.9796
1992	16.3	44,400	1.7%	16.0	1.8%	0.9810
1993	16.5	45,100	1.2%	16.2	1.3%	0.9815
1994	16.5	45,300	0.5%	16.2	0.5%	0.9818
1995 <sup>(5)</sup>	17.3	47,300	4.3%	17.0	4.5%	0.9828
1996	18.8	51,400	9.1%	23.1	36.1%	1.2261

(1) 1966 - 1982 adjusted to be comparable to post-1983 one-way toll collection.

(2) Based on unrounded total transaction or revenue figures as appropriate.

(3) One-way toll collection began May 1, 1983.

(4) Toll increase August 1, 1989.

(5) Ted Williams Tunnel opened December 15, 1995. Taxis became a separate vehicle class in both sets of tunnels. Commercial toll rates doubled.



Table 6 shows a comparison of the traffic, revenues and average toll on the individual components of the MHS for the first six months of 1997 and the same period last year. Data are shown for Interchange 16 and the remainder of the Boston Extension separately.

**Table 6 Metropolitan Highway System  
Comparison of Traffic and Revenue - First Six Months, 1996 and 1997**

Facility	Total Transactions			Revenue			Average Toll		
	1996	1997	% Change	1996	1997	% Change	1996	1997	% Change
Boston Extension									
Inter. 16	1,973,077	—		\$ 491,407	—		\$0.250	—	—
Remainder	31,504,192	31,976,247	+1.5%	15,979,849	\$16,256,807	+1.7%	0.507	\$0.508	+0.2%
Total	33,477,269	31,976,247	-4.5	16,471,256	16,256,807	-1.3	0.492	0.508	3.3
Tunnels									
Sumner	8,083,580	7,963,441	-1.5	\$ 9,206,276	\$ 8,987,072	-2.4	1.139	1.129	-0.9
Ted Williams	1,062,641	1,699,324	59.9	2,016,801	2,930,188	45.3	1.898	1.724	-9.1
Total	9,146,221	9,662,765	5.6	11,223,077	11,917,260	6.2	1.227	1.233	0.5

As can be seen in the table, the removal of tolls from the West Newton ramps has had a negative effect on overall toll transactions and revenues on the Boston Extension. However, if traffic and revenues at Interchange 16 are not included in the comparison, transactions and revenues at the remaining toll ramps and across-the-road barriers have increased. Also, it should be noted that operating costs have decreased as the result of closing the ramp toll plaza at Interchange 16.

The opening of the Ted Williams Tunnel has had a positive effect on total cross harbor tunnel traffic. The average toll at the Ted Williams tunnel is lower in 1997 than it was in 1996 since passenger cars now use the facility on weekends and holidays.

### **Toll Schedule Modifications**

Except for minor revisions to the toll schedule for the Boston Extension in 1959 and in 1964, the toll schedule for the Boston Extension remained substantially unchanged from the opening of the facility until 1967. On October 1 of that year, passenger car rates increased by 5 cents at Interchanges 18 and 19 on the Boston Extension.

In October 1969, passenger car tolls on the Boston Extension increased by 5 cents at Interchanges 16 and 20. Concurrent with this increase, commuter books at 15 cents per trip were eliminated at Interchange 15 and selected increases for commercial vehicles were put into effect.

Tandem trailer tolls were increased in October 1972 and certain volume discounts offered to charge account customers were decreased.

On March 1, 1980, a uniform 30 percent toll increase for both passenger cars and commercial vehicles was applied to the Boston Extension. Mainline plaza toll rates for passenger cars increased from 25 cents to 35 cents on the Boston Extension. A carpool incentive plan was placed into service with reduced rates and bus toll rates were not changed.

On March 1, 1990, toll rates increased on the Boston Extension for passenger cars (except for participants in the carpool program) and commercial vehicles (except for buses). Passenger car rates increased an average of 41 percent on the Boston Extension with commercial vehicle rates increasing an average of 16 percent. Mainline plaza toll rates for passenger cars increased from 35 cents to the current rate of 50 cents on the Boston Extension.

On September 26, 1996 tolls were removed from the West Newton (Interchange 16) ramps.

At the Sumner/Callahan Tunnels, toll rates were increased on August 1, 1989 with passenger car tolls increasing from 60 cents to a rate of \$1.00, a 67 percent increase. Concurrent with the December 1995 opening of the Ted Williams Tunnel, toll rates for passenger cars with commercial plates and taxis were raised to \$2.00 with proportionally higher rates for commercial vehicles.

On July 10, 1997 passenger car tolls were doubled at the Sumner and Ted Williams Tunnels from \$1.00 to \$2.00. Increases in tolls for commercial vehicles ranged from 20 to 50 percent.

Reduced rates for the use of the Tunnels are available to residents of the North End, South Boston and East Boston. A sticker is applied to the windshield and coupon books of 20 tickets, with no expiration date, can be purchased providing for a reduced rate of \$0.40 for passenger cars.

## **FACTORS AFFECTING MHS TRAFFIC AND REVENUE FORECASTS**

The previous section of the report set forth the historical traffic and toll revenue data for the MHS facilities. Before developing projections of traffic and revenue, several factors affecting future traffic were considered, including major transportation improvements, state and regional growth, planned future toll increases and traffic/toll elasticity. Finally, in addition to these various factors, we conclude this section of the report with a summary of the assumptions upon which the traffic and revenue forecasts were based.

### **Major Transportation Improvements**

Based upon a review of pertinent planning documents and discussions with the Authority and other planning agencies in the area served by the MHS facilities, the projects listed in

Table 7 will have an impact on MHS traffic and toll revenues in future years. The review included potential projects either on the Turnpike or in the Turnpike Corridor.

Documents reviewed included the Boston Metropolitan Planning Organization, Transportation Improvement Program (TIP) and Air Quality Conformity Determination, Fiscal Year 1997-1999. In addition, discussions were held with transportation planners and other Planning Commissions in Massachusetts to identify any potential projects that could have an impact on traffic and revenue.

Of the projects listed in the TIP, a vast majority relate to the rehabilitation and/or reconstruction of existing roadways and structures, with little funding dedicated to the construction of new transportation facilities or the construction of additional capacity except as detailed below.

Of the projects noted, the completion of the Central Artery/Tunnel Project in Boston will have the most significant impact on the toll facilities. The completion of the roads connecting the Ted Williams Tunnel to I-93 and the Boston Extension is anticipated to increase the level of total cross-harbor traffic by approximately 10 percent, in addition to normal growth on the facilities.

The South Boston Piers Transitway will connect downtown Boston with the South Boston Piers area. It is the opinion of URS Greiner that this facility will not divert significant traffic from the Tunnels.

The Electronic Toll Collection (ETC) System will help relieve congestion at toll booths at the Tunnels and on the Boston Extension and make driving conditions more comfortable for motorists; however, it is not anticipated to result in additional traffic.

The opening of Interchange 10A in Worcester will provide easier access to the Western Turnpike in that area and will result in additional traffic using the Western Turnpike; however, it is not anticipated that there will be an increase in longer distance trips that would continue from the Western Turnpike to the MHS. Most of the longer distance trips using the new interchange would probably only shift their Western terminus from an existing adjacent interchange to the new Interchange 10A.

**Table 7 Major Transportation Projects**

<u>Project</u>	<u>Description</u>	<u>Status</u>
<i>Central Artery /Tunnel Project, Boston</i>	<p><i>Central Artery</i> Includes the replacement of the 6-lane elevated Central Artery (I-93) with a modern 8 to 10-lane underground expressway, rebuilding 5 major highway interchanges, and constructing a cable-stayed bridge over the Charles River.</p> <p><i>Ted Williams Tunnel</i> Includes a new 4-lane tunnel under Boston Harbor and connecting roadways to I-90 (Western Turnpike) and I-93 on the south and Logan Airport and Route 1A on the north.</p>	<p>1995 - Ted Williams Tunnel opened to commercial traffic.</p> <p>1999 - Initial Leverett Circle Connector connects Storrow Drive to I-93 north of Boston.</p> <p>2002 - Initial I-90 Mainline opening, connecting the Boston Extension to the Ted Williams Tunnel. Open to all traffic.</p> <p>2002 - Initial I-93 opening, first use of the tunnel through downtown Boston.</p> <p>2003 - I-93 Mainline completion. Kneeland St. to Causeway St. tunnel is completed.</p> <p>2004 - Project Completion. The elevated roadway is removed and the surface is restored.</p>
<i>South Boston Piers Transitway</i>	New transit service provided by 60' articulated trolley bus, mostly underground, connecting the Boston financial district at South Station to the South Boston Piers area.	Partially under construction, scheduled for completion in 2002.
<i>Electronic Toll Collection (ETC), Systemwide</i>	The Authority is in the process of instituting an electronic toll collection system on the MHS toll Facilities to reduce congestion and delay, speed traffic and enhance motorists' convenience at toll plazas.	Request for Proposal (RFP) was issued and an ETC system is scheduled to be operational in 1999.
<i>Interchange 10A (Rt. 146/ Rt .20), Worcester/Millbury</i>	The project will provide direct access to Worcester and connect the Blackstone Valley and southern New England to the Western Turnpike via a relocated Rt. 146 and Rt. 20 and includes a Park & Ride lot.	The ramps, toll plaza and Park & Ride lot are under construction and will be completed and open to traffic in the fall of 1998. Temporary at-grade ramp connections (signalized) will open to traffic in the fall of 1998. A high-speed connection is scheduled to open in 2001. Reconstruction of Rt. 146 to Worcester is scheduled to be completed in 2003.

## Planned Toll Increases

Recently implemented or currently anticipated toll increases are:

- ▶ Massport increased tolls at the Tobin Memorial Bridge on July 1, 1997; passenger cars tolls were increased from 50 cents to \$1.00 (one-way) and tolls for other vehicle categories were also increased;
- ▶ Tolls at the Sumner/Callahan and Ted Williams Tunnels were increased on July 10, 1997; passenger car tolls at these facilities were increased from \$1.00 to \$2.00 (one-way) and tolls for trucks and other vehicles were also increased, though somewhat less than the passenger car percent increase since truck tolls were doubled on December 15, 1995 when the Ted Williams Tunnel was opened to commercial traffic;
- ▶ Tolls at the Allston/Brighton/Cambridge Interchanges 18, 19 and 20 of the Boston Extension are anticipated to be doubled on January 1, 2002. At the same time, it is anticipated that passenger car tolls at the Sumner and Ted Williams Tunnels will be increased to \$3.00, with commensurate increases for other vehicle classes. Massport has indicated that they anticipate doubling tolls on the Tobin Bridge in fiscal year 2003.

While additional real dollar toll increases other than those specified are not scheduled at this time, they may occur as funding and thus toll revenue demands upon the Authority increase in coming years. Increases in operating and maintenance costs incurred by the Authority, and inflationary impacts, can also be contributing factors to future toll increases.

It is anticipated that after 2002 there will be toll adjustments consistent with inflation. Based on a cumulative estimated annual inflation rate of 3 percent, passenger car tolls will increase 25 cents on the Boston Extension and 50 cents at the Tunnels in 2009 and again in 2015. Rates for other vehicle classes will increase commensurately.

It is appropriate to compare current and anticipated toll rates on facilities of the Authority with toll rates at other toll roads, bridges and tunnels. The accompanying tables entitled "Comparative Passenger Car Tolls for Selected Toll Roads" and "Comparative Passenger Car Toll Rates for Selected Bridges and Tunnels" provide information for such comparisons.

The barrier system Boston Extension has a full-length passenger car toll of \$1.00 over a length of 12 miles. This results in a mileage rate of 8.3 cents per mile. By comparison, the nearby New Hampshire Turnpike (I-95) charges 6.3 cents per mile and the northern (Lewiston to Augusta) portion of the Maine Turnpike charges 2.7 cents per mile. The lowest per-mile rate for the barrier system roads listed is 2.2 cents per mile on the Garden State Parkway (GSP) while the highest rate is 25 cents per mile on the SR 91/Riverside Freeway express lanes, a public-private toll road in California. Two unique features of the SR 91 toll road are the variable pricing schemes based on time of day and the method of toll collection, which is strictly by transponder,

**Table 8**

**Comparative Passenger Car Tolls  
For Selected Barrier System Toll Roads**

	Max. Rate (in U.S. \$)	Mi	Avg. Toll Cents/Mi
Mass. Turnpike Boston Extension	1.00	12	8.3
Maine Turnpike (Lewiston - Augusta)	0.75	28	2.7
New Hampshire Turnpike	1.00	16	6.3
New York State Thruway (New England Thruway)	0.50	15	3.3
New York State Thruway (Yonkers section)	0.50	13	3.8
New York State Thruway (Spring Valley section)	0.40	14	2.9
New York State Thruway (Buffalo section)	0.50	14	3.6
JFK Memorial Highway (Delaware Tpk)	1.25	11	11.4
JFK Memorial Highway, Maryland	1.00	42	2.4
Garden State Parkway	3.85	173	2.2
Florida's Turnpike (Golden Glades - Boynton Bch)	2.00	44	4.5
Florida's Turnpike (Kissimmee - Wildwood)	3.00	65	4.6
Florida's Turnpike (Homestead Extension)	2.75	46	6.0
Bee Line West, Florida's Turnpike	0.50	8	6.3
Sawgrass Expressway	1.50	23	6.5
OOCEA Holland East-West Expwy	3.00	25	12.0
Tampa Crosstown Expressway	1.25	14	8.9
OOCEA Bee Line and Airport	1.75	22	8.0
E-470, Colorado	0.50	5	10.0
State Route 91, California (A)	2.50	10	25.0
San Joaquin Hills Transportation Corridor	1.00	5	20.0
San Joaquin Hills Transportation Corridor	2.00	15	13.3
Foothill Transportation Corridor	1.00	8	13.3

(A) Toll varies by time of day.

Toll-free for 3-or-more person car pools.

**Table 9**

**Comparative Passenger Car Tolls  
For Selected Bridges and Tunnels**

	<u>Cash Toll Collected</u>	<u>Toll Direction(1)</u>	<u>Roundtrip Toll</u>
<b>Bridges</b>			
Tobin	\$1.00	1	\$1.00
Newburgh - Beacon (New York)	\$0.75	1	\$0.75
George Washington (New Jersey - New York)	\$4.00	1	\$4.00
Verrazano Narrows (New York)	\$7.00	1	\$7.00
Benjamin Franklin (New Jersey - Pennsylvania)	\$2.00	1	\$2.00
Walt Whitman (New Jersey - Pennsylvania)	\$2.00	1	\$2.00
Delaware Memorial (New Jersey - Delaware)	\$2.00	1	\$2.00
Francis Scott Key (Maryland)	\$1.00	2	\$2.00
Golden Gate (California)	\$3.00	1	\$3.00
San Francisco - Oakland Bay (California)	\$1.00	1	\$1.00
Sault Ste. Marie (Michigan - Ontario)	\$1.50	2	\$3.00
<b>Tunnels</b>			
Sumner/Callahan/Ted Williams (2)	\$2.00	1	\$2.00
Baltimore Harbor & Fort McHenry (Maryland)	\$1.00	2	\$2.00
Lincoln & Holland (New Jersey - New York)	\$4.00	1	\$4.00
Queens - Midtown & Brooklyn - Battery (New York City)	\$3.50	2	\$7.00

**Notes:**

- (1) 1 = one direction  
2 = two directions

(2) Callahan Tunnel is one direction inbound. No toll is collected.

hence prohibiting use of the facility by those without a transponder. For those motorists traveling during the late night hours, the toll is \$0.50 or 5 cents per mile, while for those motorists with 3-or-more occupants in their vehicle there is no charge to use the express lanes. The toll road with the highest toll rate is San Joaquin Hills Transportation Corridor at 20 cents per mile financed in 1993 and opened to traffic in 1996. For the barrier toll roads listed, the weighted average toll rate is 5.3 cents per mile, a reflection of the older, more established toll roads.

Passenger car tolls collected on major US bridges and tunnels are listed, as are the number of tolled directions and the round trip toll. For the United States, the highest tolls are found in the New York City area with the Verrazano Narrows Bridge charging a \$7.00 round-trip toll while tolls in the Boston area are among the lowest in the US. One major factor that causes tolls in the New York City area to be relatively high is the use of excess revenues (after debt service, maintenance and operating expenses are paid out) to help subsidize regional mass transit.

### **Toll Elasticity**

The effect on traffic volume (and thus gross toll revenue) attributable to a change in the toll rate is based upon the *elasticity* of traffic with respect to tolls. When considering toll increases, the elasticity factor represents the relative decrease in traffic corresponding to a given increase in toll rates. The higher the factor, which is a negative figure, the more likely a facility is to lose traffic when toll rates are increased. These traffic losses can be due to diversions to competing facilities, switches in travel modes, consolidation of trips, and/or not making a trip at all. The elasticity factor for a particular facility is in part a function of the presence of alternative routes, time or toll penalties for motorists to utilize such alternative routes, the implicit value of time in the motorists route selection/decision-making process, and less quantifiable factors such as the relative attractiveness and driving convenience associated with alternative routes and related driver perceptions.

To estimate the elasticity factors appropriate for the determination of traffic and toll revenue effects as toll rates on the tunnels and Boston Extension of the Authority are increased, two types of analyses were employed. The first is the examination of traffic levels before and after recent toll increases. While this method of analysis, called *revealed preference*, provides a direct measure of elasticity, economic and other factors affecting traffic levels also affect the precision of this approach, and in many instances elasticity effects so measured change over time as the increases become more accepted and less bothersome to many motorists.

The second approach is a *stated-preference survey*; this approach analyzes the degree to which differences in travel time, tolls and other factors affect choice among the available travel alternatives in the Metropolitan Boston. Such surveys are used extensively for travel demand modeling applications of this type.

To maximize the usefulness of stated-preference survey responses, the survey was administered in two different formats. One made use of a computer-assisted telephone interview



system and was administered as a combined phone-mail-phone survey. A second portion of the survey was administered on computers using interactive video interview station survey software developed by the Resource Systems Group. The Resource Systems Group, which carried out the stated-preference survey, is a widely recognized and respected firm in this field.

The survey sample of over 400 Boston area residents included both work and non-work trips and trips using the tunnels and Boston Extension to separately estimate elasticities for each of those segments. A set of attitude questions were included in the survey, in part to identify respondents who had strong anti-toll sentiments and whose stated-preference responses might somehow reflect those feelings rather than their likely travel behavior.

The stated-preference survey and associated statistical modeling determined the following:

- ▶ Work travelers in the Boston area have an average value of time of approximately \$10.00 per hour, while the value for non-work travelers is around \$8.00 per hour;
- ▶ Non-work travelers are much more reluctant to use alternative non-toll routes when all else is equal; work commuters make travel decision based more strictly on time/cost comparisons and will more freely select alternative routes when these routes are available.

Based upon analyses of traffic before and after recent toll increases (*revealed* preferences) and the stated-preference analyses, the elasticity for passenger car traffic using the Sumner/Callahan and Ted Williams Tunnels is estimated to be 4.9 percent. That is, for each 100 percent increase in the toll rate, 4.9 percent of the traffic would be lost. For the Boston Extension, the elasticity factor is estimated to be 3.8 percent traffic loss per 100 percent increase in toll rates for passenger cars. Minimal diversion by commercial vehicles is anticipated.

The foregoing information, and its anticipated effect on future traffic and gross toll revenue levels, are presented on the accompanying graphs entitled "Traffic Loss for Various Toll Rates" and "Ratio of Gross Toll Revenue to Current Level for Various Toll Rates."

Because the elasticity factors for the subject facilities are quite low, only limited amounts of traffic loss will result from future toll increases. This is due to the absence or unattractiveness of alternative routes, primarily. For example, when passenger car tolls on the Tunnels are increased from \$2.00 to \$3.00, the traffic loss will be approximately 2½ percent resulting in a total revenue gain of 46 percent; were a further increase to \$4.00 to be implemented in the future, the aggregate traffic loss from current levels would only be slightly over 4 percent. Even an increase of toll rates in stages to an \$8.00 level would only produce a traffic loss of approximately 8 percent; thus, a 300 percent increase in tolls results in a revenue increase of 268 percent.

Similarly, for the Boston Extension, a 50 percent increase in the passenger car toll rate for a full-length trip to \$1.50 from its current level would only result in a traffic loss of 1.9 percent and a revenue increase of 47 percent. At the end of the curve displayed in the accompanying graph, a toll rate of even \$4.00 for the Boston Extension, implemented in stages, would only produce a traffic loss of slightly over 6 percent from current levels.

To estimate changes in gross toll revenue attributable to higher toll rates, graphs of the ratio of future gross toll revenue to current gross toll revenues for various toll rates are presented. These curves are classically of an “inverted U” shape; but due to the low elasticity factors only the first portion of the “U” is shown. To determine the toll rate that would produce the maximum amount of gross toll revenue for the facilities of the Authority the graph would have to be extended beyond the rates that are being considered within the time frame of the forecasts presented in this report. Since the elasticity factor is as low as it is for the subject facilities, additional revenues can be obtained by increasing the toll rates four to five fold.

As shown on the accompanying graphs, a \$3.00 passenger car toll rate at the Sumner/Callahan/Ted Williams Tunnels would produce 1.46 times current gross toll revenue for that category of vehicle. Were the passenger car toll rates to be increased sequentially to a \$6.00 level, gross toll revenue would be 2.81 times its present level. Since the Boston Extension has a slightly lower elasticity factor, these ratios would be slightly larger for comparable increases in the toll rate on the Boston Extension. A 50 percent increase in passenger car tolls from \$1.00 to \$1.50 would produce a gross toll revenue ratio of 1.47; similarly, a \$3.00 toll rate, implemented in phases, would produce 2.85 times current gross toll revenue levels.

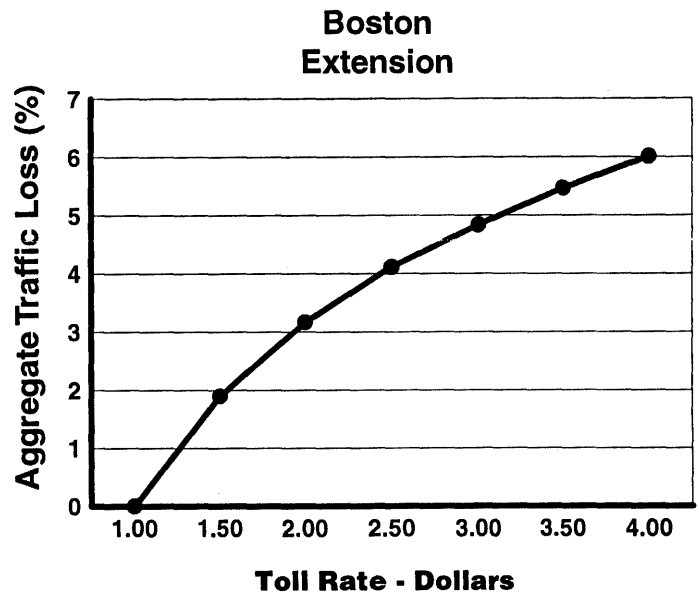
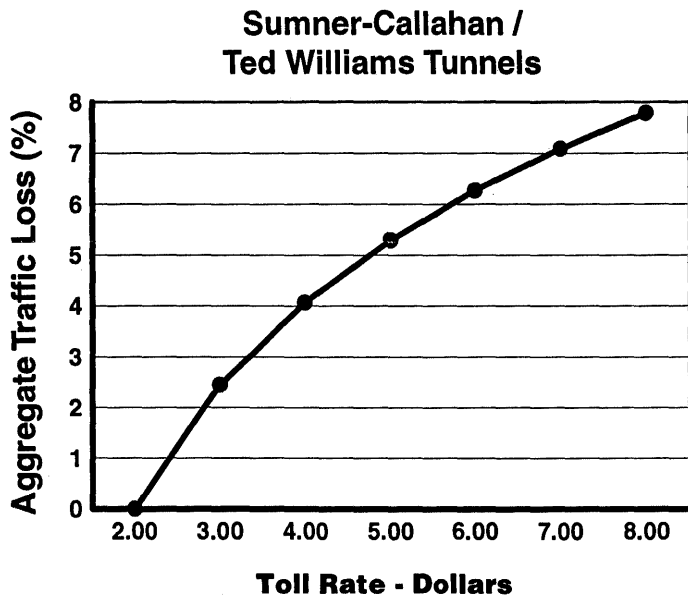
To put this into perspective, tolls are only a portion of the cost of a trip. For example, the charge for parking downtown Boston ranges from approximately \$8.00 to \$25.00 for a weekday. An increase in the toll for a full-length trip on the Boston Extension of 50 percent would be less than 6 percent in out-of-pocket expenses. This does not include gas, maintenance, insurance depreciation and other costs of operating a vehicle.

It is most evident from the foregoing that future toll increases at both the Tunnels and Boston Extension are feasible methods of increasing Authority income. As funding obligations and operating costs increase, toll increases, in reasonable increments and intervals, can produce necessary revenues to meet Authority obligations.

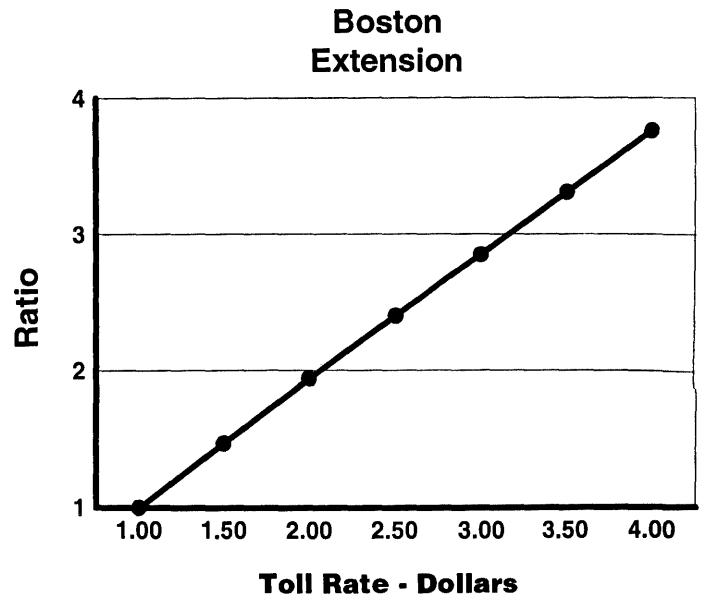
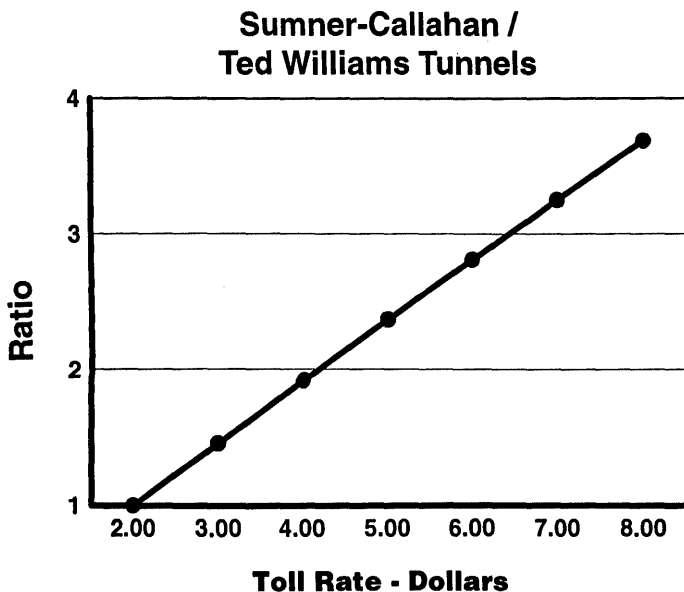
Figure 4

# Impacts of Toll Increases

## Traffic Loss for Various Toll Rates



## Ratio of Gross Toll Revenue to Current Level for Various Toll Rates



## **Commonwealth and Regional Growth**

Traffic volumes on the MHS are directly related to many factors, including changes in population, employment and the overall economic climate in the region served by the MHS. The restructuring of the Commonwealth's economic base and resulting shift in employment and population, new developments, and the expansion of existing developments all serve to influence travel patterns and resulting toll revenues. Information on these factors for use in evaluating future traffic growth was obtained from the Massachusetts Institute for Social Inquiry and Economic Research at the University of Massachusetts - Amherst (MISER), State Department of Employment and Training, Boston Metropolitan Planning Organization, Metropolitan Area Planning Council, Metropolitan Data Center, and other Regional Planning Commissions in the Commonwealth.

Overall, the Commonwealth's economy is improving as a result of the fiscal and economic restructuring the Commonwealth has undergone since the last recession in 1989 - 1992.

Since 1970, three significant national recessions have occurred with impacts on the economy of Massachusetts and New England. The oil embargo and resulting recession of 1973-74, the recession of 1979-83 and the last recession which began in 1989 and lasted until 1992. All three recessions were reflected in traffic trends on Turnpike facilities as either a decline in traffic volume as compared to the previous year, or a slowdown in the rate of traffic growth. The last recession, which marked the downturn in the business cycle, was also noted for the basic restructuring which occurred in the economy of the Commonwealth since the number of high-tech manufacturing and service sector jobs related to the computer industry and defense contractors, such as Digital Equipment Corp. and Wang Laboratories, was reduced as a result of downsizing or closing. The current economic expansion is in its fifth year and is establishing a more diversified economy with employment growth occurring in various sectors of the economy including mutual fund management, higher education, computer software and biotechnology.

Employment Trends - The six-state New England region lost 650,000 jobs in the four years of the last recession with Massachusetts losing 314,000. Since bottoming out in 1992 with an unemployment rate of almost 9 percent, the Commonwealth's economy has rebounded strongly, adding more than 321,000 jobs by April of 1997. As of June 1997, the Commonwealth's unemployment rate of 3.9 percent was much lower than the national rate of 5.0 percent.

While employment is at record levels for the Commonwealth, not all regions of the Commonwealth are performing at the same level. Generally, employment growth in the eastern half of the Commonwealth, particularly the greater Boston region, out performs the remainder of the Commonwealth. Table 8 shows nonagricultural employment for the Boston Primary Metropolitan Statistical Area (PMSA) and the total for the state period 1989 through 1996.

**Table 10 Annual Employment Trends <sup>(1)</sup>**

Year	Boston PMSA		Massachusetts	
	Number (thousands)	Percent Change	Number (thousands)	Percent Change
1989	1,892.2		3,108.6	
1990	1,824.6	-3.6	2,984.8	-4.0
1991	1,719.0	-5.8	2,821.2	-5.5
1992	1,706.0	-0.8	2,795.1	-0.9
1993	1,727.4	+1.3	2,840.7	+1.6
1994	1,768.2	+2.4	2,903.0	+2.2
1995	1,811.4	+2.4	2,976.1	+2.5
1996	1,851.5	+2.2	3,036.4	+2.0

Note: (1) Non-agricultural employment.

At the state level, the period 1988-89 marked the highest employment levels prior to the last recession which began in 1989. Job losses bottomed out at the end of 1991 and the beginning of 1992, with steady increases through mid-1997. The manufacturing sector lost over 117,000 jobs during the 1989 to 1996 period, declining in every year. Government employment levels have also declined in response to both the downsizing of the state and federal government, including base closings. The service sector added 138,000 jobs since 1989 due to rapid growth of mutual fund management, computer software, higher education and biotechnology companies.

Employment in the Boston PMSA was 2 percent below the 1989 level by the end of 1996. While Boston continued to lose manufacturing jobs every year from 1989 to 1996, service sector and government employment continued to grow at a fast pace, averaging almost 4 percent annually.

CA/T Related Employment - Based upon employment projections provided by the CA/T project, an estimated 7,400 jobs in 1996 were directly and indirectly created as a result of the ongoing work efforts related to the design, construction and operation of the CA/T project. In certain labor categories, such as design and engineering, staffing levels have been greatly reduced by mid-1997 as much of the design component of the CA/T project is now completed. Construction employment is forecasted to increase over the next several years, reaching maximum levels during 1999-2000 when the greatest amount of construction work will be underway. Total direct and indirect jobs created by the CA/T project are forecasted to reach a maximum of 15,000 by mid-1999, declining to 3,500 jobs by 2004 when the project is scheduled to be completed.

The economic impact of the elimination of many jobs related to the CA/T project as construction is completed is expected to be minimal as the local economy has generated more than 40,000 jobs during the past year alone. During the height of CA/T activity in mid-1999, the 15,000 jobs related to the CA/T project represents only 0.8 percent to total 1996 employment in the Boston PMSA.

Population Trends and Projections - Historical population data and projections were obtained from MISER with interim year 1996 population estimates obtained from the US Bureau of the Census. Historic data for Suffolk, (which includes Boston and its suburbs), Middlesex and Norfolk Counties and Massachusetts are shown in Table 11. The year 2000 and 2010 projections in Table 12 were released in December 1994 and represent the current official statewide data set.

**Table 11 Population Trends— Selected Counties, 1970-1996**  
(thousands)

County	1970	AAPC <sup>(1)</sup>	1980	AAPC <sup>(1)</sup>	1990	AAPC <sup>(1)</sup>	1996 <sup>(2)</sup>
Middlesex	1,397.3	-0.2	1,367.0	0.2	1,398.5	0.2	1,412.6
Norfolk	605.1	0.0	606.6	0.2	616.1	0.6	637.4
Suffolk	735.2	-1.2	650.1	0.2	663.9	-0.5	645.1
Massachusetts	5,689.4	0.1	5,737.0	0.5	6,016.4	0.2	6,092.4

Note: 1. Average Annual Percent Change.

2. Population Estimates Program, Population Division, US Bureau of the Census, March 20, 1997.

Source: Massachusetts Institute for Social Inquiry and Economic Research, 1994.

On a statewide basis, population increased from 5.7 million in 1970 to 6.1 million in 1996, an average annual growth rate of 0.2 percent, down from the average annual 0.5 percent rate experienced between 1980 and 1990 when the economy was expanding. Similar growth rates are forecasted for the period through 2020 when the population is projected to increase to 6.7 million.

As with employment, population growth in the eastern and central portions of the Commonwealth is expected to exceed the rates experienced in the western portions, as shown in Table 11. Middlesex County, located to the north and west of Boston, is the largest county in the Commonwealth in terms of population. The MISER forecasts indicate that the County will grow at an average rate of 0.4 percent annually between 1990 and 2000, slowing to 0.3 percent by 2010. MISER forecasts Norfolk County, south and west of Boston, to grow 0.3 percent annually between 1990 and 2000 and basically remain at that level to 2010 as the county will essentially be built-out. In comparison, the projections for Suffolk County, which includes all of the City of Boston, is forecasted to grow at an average annual rate of 0.9 percent from 1990 to 2010 after decades of losing population to the outlying suburbs.

**Table 12    Population Projections –Selected Counties  
(thousands)**

County	1990	AAPC <sup>(1)</sup>	2000 Projected	AAPC <sup>(1)</sup>	2010 Projected
Middlesex	1,398.5	0.4	1,459.7	0.3	1,503.6
Norfolk	616.1	0.3	633.2	0.0	635.1
Suffolk	663.9	0.9	726.1	0.9	797.0
Massachusetts	6,016.4	0.6	6,388.9	0.5	6,720.6

Note:    1. Average Annual Percent Change.

Source: Massachusetts Institute for Social Inquiry and Economic Research, 1994.

Proposed Development Projects - Development projects in the Boston Extension Corridor and in the vicinity of the Sumner/Callahan and Ted Williams Tunnels, have the potential to alter the travel patterns and traffic demand on the Turnpike and /or Tunnels, depending upon the intensity and type of development. Recently, the Authority has actively begun soliciting proposals for land and air rights developments over much of the Western Turnpike and Boston Extension right-of-way. While no projects are under construction, several are proposed and expected to undergo the permitting and approval process.

Development officials and planners with the Metropolitan Area Planning Council were contacted to identify the following publicly announced projects listed in Table 13.

Over the past decade, a number of development projects along the Turnpike corridor were completed, including the Genzyme Corp. manufacturing plant in Allston, adjacent to Interchanges 18 and 19, and the Shopper's World Mall expansion in Framingham, near Interchange 13.

The region undergoing the greatest intensity and volume of development is located in South Boston, a 300-acre parcel of underutilized land located directly east of the central business district, adjacent to the Ted Williams Tunnel and I-90 connector (under construction as part of the CA/T project), known as the South Boston Piers/Fort Point Channel Area. This waterfront area suffers from poor transportation access that will be significantly improved once the CA/T project and the South Boston Piers Transitway projects are completed.

Land use projections developed for the CA/T project in December 1992 identified existing development of 9.3 million square feet in South Boston divided into office, retail, cultural/recreational, industrial, hotel, residential and transportation land uses. As noted in the table, major projects under construction in this area include the new Federal Courthouse, World

Trade Center expansion and proposed 600,000 square foot convention center. The forecasts of future traffic and revenue for the Tunnels and Boston Extension include increases that will result from new traffic to be generated from these and other possible developments.

**Table 13 Proposed Development Projects**

Name	Location	Description
Convention Center	Boston	Proposed 600,000 GSF convention center for South Boston.
Federal Courthouse	Boston	New Federal Courthouse under construction in South Boston.
World Trade Center Expansion	Boston	Expansion of World Trade Center and construction of an adjoining 400-room hotel underway in South Boston.
Millennium Partners	Boston	Proposed \$250 million development featuring: entertainment, sports, 400-unit condominium and 250-room hotel.

### Summary of Assumptions

The following key assumptions, which we believe to be reasonable, were used in preparing the traffic and revenue estimates presented in this report:

- ▶ The toll plazas currently in place as of July 10, 1997 on the Western Turnpike, Boston Extension, Sumner Tunnel, Ted Williams Tunnel and Tobin Memorial Bridge will remain in place throughout the duration of the forecast period;
- ▶ In 2002, tolls at the Allston/Brighton/Cambridge Complex on the Boston Extension will double from \$0.50 for passenger cars to \$1.00 and tolls at the Sumner and Ted Williams Tunnel will increase by 50 percent from \$2.00 for passenger cars to \$3.00. Tolls on the Tobin Bridge will double in fiscal year 2003, in accordance with the assumptions set forth by Massport in their 1997 bond offering. After 2002, there will be increases in tolls in line with inflation, which has been assumed to be 3 percent per year. To reflect this, passenger car tolls on the Boston Extension are projected to increase by \$0.25 in 2009 and again in 2015. At the tunnels, passenger car tolls are estimated to increase by \$0.50 in the same years. (At the same time as the increases noted are implemented, there will be commensurate increases for other vehicle classes.) There will be no other changes in toll rates.



- ▶ Prior to full completion of the Ted Williams Tunnel and approach roads in 2002, traffic using the tunnel will be restricted to commercial vehicles and South Boston residents and Massport employees only on weekdays, with passenger cars permitted on weekends;
- ▶ The forecasts do not include the impacts on traffic resulting from potential air rights development over the Boston Extension;
- ▶ Construction of the Central Artery and the connection between the Ted Williams Tunnel and the Boston Extension of the Turnpike is scheduled to be fully completed in 2002; the full impact is reflected in the estimates for the year 2003;
- ▶ Impacts on traffic resulting from construction activity on the Central Artery will be limited due to the implementation of "Maintenance of Traffic" techniques and construction during nighttime hours;
- ▶ The proposed Western Turnpike Interchange 10A with State Route 146 will be opened with at-grade intersections in 1998 with full completion in 2003;
- ▶ There will be no other major improvements to feeder or parallel routes; and
- ▶ Generally, normal economic conditions will prevail in the Boston metropolitan area, Massachusetts and the United States, and there will not occur a major depression or national emergency.

The Authority has adopted a policy of waiving tolls when backups occur at toll plazas. The new policy allows the State Police to authorize toll collectors to wave motorists through when exit ramp traffic builds up at tollbooths and spills back onto the main roadway. For the period July 1996 through June 1997, the Authority estimates that the revenue reduction as a result of waived traffic was \$569,000 for the Western Turnpike, Boston Extension and the tunnels combined. This amounts to 0.4 percent of total gross toll revenues for the same period. For these forecasts it has been assumed that the impacts of the implementation of this policy will not result in a revenue reduction greater than that indicated by actual performance for the period July 1996 – June 1997.

The Authority has also been mandated by the legislature to study the impacts of toll removal during holiday periods. A trial will be done at Thanksgiving time during 1997. The impacts of implementing any program to eliminate tolls during holiday periods have not been reflected in the revenue forecasts.

## TRAFFIC AND REVENUE PROJECTIONS

The projections of traffic and revenue presented in Tables 14 and 15 of this report are based on the historic performance of the toll facilities and the demonstrated relationship between traffic growth and socioeconomic factors, as well as the other factors noted in the preceding section. In addition, the impacts of anticipated land use development projects and improvements to the roadway network were incorporated into the forecasts. Travel demand models developed by Central Transportation Planning Staff (CTPS), the technical and policy-analysis support group for transportation planning in the Boston metropolitan region, were also reviewed as part of the forecasting process.

The forecasts presented in Table 15 are based on traffic flows that can be accommodated by the existing capacity of the tunnels. This report thus assumes that there will be no capacity constraints affecting overall traffic levels during the forecast period for the Sumner and Ted Williams Tunnels. The Boston Extension, as previously mentioned, is operating at or near capacity during peak periods. One section, between Interchange 16 (West Newton) and Interchange 17 (Newton Corner), is currently at Level of Service (LOS) F, which is defined as unstable flow. Therefore, for purposes of these forecasts it is assumed that any additional traffic growth will occur on the Boston Extension during off-peak periods and the length of the peak periods will increase resulting in peak travel conditions for longer periods of the day.

In regard to toll increases, as previously noted it was assumed that tolls would double in 2002 at the Allston/Brighton/Cambridge Complex on the Boston Extension. Since revenues at this complex represent approximately half of total revenues, the overall increase in revenues in 2002 is 55.4 percent. At the tunnels, all tolls are anticipated to increase by 50 percent in 2002 and this is estimated to result in an increase in toll revenues of 49 percent after adjustments for elasticity. (In fiscal year 2003, tolls at the Tobin Bridge are also anticipated to double.) Elasticity factors used for these forecasts were based on the stated-preference survey conducted for this study and the results of past toll increases. It was also assumed that tolls would be increased in line with inflation in 2009 and 2015, assuming a 3 percent annual inflation rate. For these inflation increases, it was assumed that there would be no effect on traffic.

The forecasts include transactions and toll revenue collected at Interchange 15 of the Western Turnpike for travel on the Boston Extension. Since 1984, these transactions and revenues have not been included in Boston Extension revenues. For 1997, this is estimated to be 20.1 million (54,900 daily) transactions and \$9.0 million in toll revenues.

**Table 14 Estimated Average Daily Transactions and Annual Toll Revenue, 1997-2020  
Boston Extension**

Year	Transactions <sup>(1)</sup>			Revenue <sup>(1)</sup>		
	Annual (millions)	Daily	Percent Change	Annual (millions)	Percent Change	Average Toll
1997	84.1	230,500		\$41.6		\$0.4942
1998	85.4	233,900	1.5%	43.5	4.6%	0.5093
1999	86.6	237,200	1.4	44.1	1.4	0.5093
2000	87.9	240,100	1.2	44.7	1.4	0.5093
2001	89.3	244,700	1.9	45.5	1.7	0.5093
2002 <sup>(2)</sup>	88.7	243,100	-0.7	70.7	55.4	0.7968
2003	89.9	246,400	1.4	71.6	1.2	0.7959
2004	91.4	249,700	1.3	72.7	1.6	0.7957
2005	92.6	253,700	1.6	73.6	1.3	0.7955
2006	93.7	256,800	1.2	74.5	1.2	0.7954
2007	94.9	260,000	1.2	75.5	1.2	0.7953
2008	96.1	262,500	1.0	76.4	1.2	0.7952
2009 <sup>(3)</sup>	97.3	266,500	1.5	96.7	26.5	0.9939
2010	98.5	269,700	1.2	97.9	1.2	0.9938
2011	99.6	272,800	1.1	99.0	1.2	0.9939
2012	100.7	275,300	0.9	100.1	1.2	0.9940
2013	101.9	279,100	1.4	101.3	1.2	0.9941
2014	103.0	282,300	1.1	102.4	1.2	0.9943
2015 <sup>(3)</sup>	104.2	285,500	1.1	124.4	21.4	1.1933
2016	105.3	287,900	0.8	125.7	1.1	1.1934
2017	106.5	291,800	1.4	127.1	1.1	1.1935
2018	107.6	294,900	1.1	128.5	1.1	1.1936
2019	108.8	298,100	1.1	129.9	1.1	1.1937
2020	110.0	300,500	0.8	131.3	1.1	1.1938

(1) Includes transactions and toll revenues currently recorded at Interchange 15 of the Western Turnpike for travel on the Boston Extension. For 1997, this is estimated to be 20.1 million (54,900 daily) transactions and \$9.0 million in toll revenues.

(2) Increase in tolls at Allston/Brighton/Cambridge Complex.

(3) Increase in tolls for passenger cars of \$0.25 and commensurate rates for other vehicles classes in line with cumulative assumed annual inflation rate of 3 percent.

**Table 15 Estimated Average Daily Transactions and Annual Toll Revenue, 1997-2020  
Sumner/Ted Williams Tunnels**


Year	Transactions			Revenue		
	Annual (millions)	Daily	Percent Change	Annual (millions)	Percent Change	Average Toll
1997	19.3	52,900		\$ 32.6		\$1.6896
1998	19.3	52,800	-0.2%	42.2	29.6%	2.1939
1999	19.6	53,600	1.5	42.9	1.6	2.1943
2000	19.9	54,300	1.3	43.6	1.6	2.1947
2001	20.2	55,300	1.8	44.3	1.6	2.1951
2002 <sup>(1)</sup>	20.0	54,700	-1.1	65.9	48.7	3.2933
2003	21.1	57,800	5.7	69.6	5.6	3.2940
2004	22.3	60,900	5.4	73.4	5.5	3.2929
2005	23.1	63,100	3.6	76.0	3.4	3.2950
2006	23.5	64,500	2.2	77.6	2.2	3.2965
2007	24.0	65,900	2.2	79.3	2.2	3.2979
2008	24.5	67,000	1.7	81.0	2.1	3.2993
2009 <sup>(2)</sup>	25.1	68,600	2.4	103.4	27.7	4.1258
2010	25.6	70,000	2.0	105.5	2.0	4.1273
2011	26.1	71,400	2.0	107.6	2.0	4.1286
2012	26.6	72,600	1.7	109.7	1.9	4.1301
2013	27.0	74,100	2.1	111.8	1.9	4.1314
2014	27.5	75,500	1.9	113.8	1.8	4.1327
2015 <sup>(2)</sup>	28.0	76,800	1.7	139.1	22.2	4.9607
2016	28.5	78,000	1.6	141.5	1.8	4.9621
2017	29.0	79,500	1.9	144.0	1.7	4.9633
2018	29.5	80,800	1.6	146.4	1.7	4.9646
2019	30.0	82,100	1.6	148.8	1.6	4.9658
2020	30.4	83,200	1.3	151.2	1.6	4.9671

(1) Year 2002 toll increase effects.

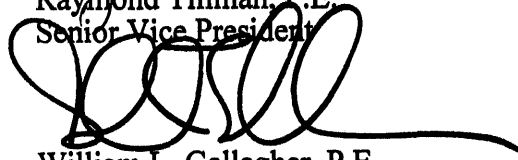
(2) Increase in tolls of \$0.50 for passenger cars and commensurate rates for other vehicles classes in line with cumulative assumed annual inflation rate of 3 percent.

Very truly yours,

**URS Greiner Consultants, Inc.**



Raymond Tillman, P.E.  
Senior Vice President



William L. Gallagher, P.E.  
Vice President



Kathleen Massarelli, AICP  
Vice President

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**FINANCIAL STATEMENTS OF THE AUTHORITY**

**For the Years Ended December 31, 1996, 1995, 1994 and 1993**

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**Audited Financial Statements**

**Massachusetts Turnpike  
Authority**

Years ended December 31,  
1996, 1995, 1994 and 1993

Massachusetts Turnpike Authority

Audited Financial Statements

Years ended December 31, 1996, 1995, 1994 and 1993

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## Report of Independent Auditors

Members of the Board of Directors  
Massachusetts Turnpike Authority  
Boston, Massachusetts

We have audited the accompanying balance sheets of the Massachusetts Turnpike Authority (the Authority) as of December 31, 1996, 1995, 1994 and 1993 and the related statements of revenues, expenses and changes in fund equity, and cash flows for the years then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Massachusetts Turnpike Authority at December 31, 1996, 1995, 1994 and 1993, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Boston, Massachusetts  
March 7, 1997  
except for Note 2, as to which the date is  
March 20, 1997



# Massachusetts Turnpike Authority

## Balance Sheets

	December 31,			
	1996	1995	1994	1993
<b>Assets</b>				
Cash ( <i>Note 4</i> )	\$ 28,209,075	\$ 13,781,024	\$ 11,576,804	\$ 14,816,712
Restricted investments ( <i>Note 4</i> )	214,397,116	242,512,553	330,600,614	399,179,993
Investments of deferred compensation plan	15,047,325	12,683,432	9,961,382	8,730,833
Receivables	4,375,444	4,418,753	4,124,396	3,937,505
Inventories	1,286,012	1,294,592	1,149,989	937,853
Fixed assets, net ( <i>Note 5</i> )	751,872,183	649,579,399	451,261,167	360,312,830
Other assets	5,027,506	8,114,691	5,181,271	4,054,057
<b>Total assets</b>	<b>\$1,020,214,661</b>	<b>\$932,384,444</b>	<b>\$813,855,623</b>	<b>\$791,969,783</b>
<b>Liabilities and fund balance</b>				
<b>Liabilities:</b>				
Accounts payable	\$ 10,235,693	\$ 15,762,682	\$ 9,737,548	\$ 6,857,753
Accrued payroll	845,037	649,960	2,313,883	3,544,471
Other accrued expenses, deferred credits and other liabilities	26,868,054	26,803,076	20,680,749	21,361,624
Compensated absences	5,650,824	7,697,864	6,579,866	8,253,183
Due to Commonwealth of Massachusetts ( <i>Note 2</i> )	-	100,000,000	-	-
Deferred compensation benefits payable	15,047,325	12,683,432	9,961,382	8,730,833
Bonds and note payable	604,186,089	410,884,846	418,208,523	439,456,573
<b>Total liabilities</b>	<b>662,833,022</b>	<b>574,481,860</b>	<b>467,481,951</b>	<b>488,204,437</b>
<b>Fund Balances:</b>				
Fund equity	357,381,639	357,902,584	346,373,672	303,765,346
<b>Total fund balances</b>	<b>357,381,639</b>	<b>357,902,584</b>	<b>346,373,672</b>	<b>303,765,346</b>
<b>Total liabilities and fund balance</b>	<b>\$1,020,214,661</b>	<b>\$932,384,444</b>	<b>\$813,855,623</b>	<b>\$791,969,783</b>

See accompanying notes.

# Massachusetts Turnpike Authority

## Statements of Revenues, Expenses and Changes in Fund Equity

	Year Ended December 31,			
	1996	1995	1994	1993
Operating revenues ( <i>Note 3</i> ):				
Toll revenue, net	\$157,680,842	\$153,425,561	\$149,517,133	\$145,978,223
Other operating revenue	16,045,852	18,081,532	14,090,287	13,689,961
Total operating revenues	173,726,694	171,507,093	163,607,420	159,668,184
Operating expenses:				
Operations and public protection	78,272,437	66,911,764	66,122,112	63,674,087
Repair and reconstruction	40,035,922	57,432,168	27,063,471	37,347,113
Administrative	26,255,375	16,152,478	8,782,052	22,354,540
Retirement	5,563,437	5,954,170	4,626,796	5,388,542
Cost of services and administration	150,127,171	146,450,580	106,594,431	128,764,282
Depreciation	28,114,977	21,982,308	19,004,124	15,703,319
Total operating expenses	178,242,148	168,432,888	125,598,555	144,467,601
Operating (loss) income	(4,515,454)	3,074,205	38,008,865	15,200,583
Nonoperating revenues (expenses):				
Interest income	9,407,391	10,105,992	8,294,899	6,663,368
Interest expense	(4,465,368)	(1,345,753)	(2,667,403)	(5,154,927)
Total nonoperating revenues, net	4,942,023	8,760,239	5,627,496	1,508,441
Income before extraordinary item	426,569	11,834,444	43,636,361	16,709,024
Extraordinary loss on early extinguishment of debt ( <i>Note 6</i> )	(947,514)	(305,532)	(1,028,035)	(1,389,061)
Net (loss) income	(520,945)	11,528,912	42,608,326	15,319,963
Fund equity at beginning of year	357,902,584	346,373,672	303,765,346	288,445,383
Fund equity at end of year	\$357,381,639	\$357,902,584	\$346,373,672	\$303,765,346

See accompanying notes.

# Massachusetts Turnpike Authority

## Statements of Cash Flows

	Year Ended December 31,			
	1996	1995	1994	1993
<b>Cash flows from operating activities</b>				
Operating (loss) income	\$ (4,515,454)	\$ 3,074,205	\$ 38,008,865	\$ 15,200,583
Adjustments to reconcile operating income to net cash provided by operating activities:				
Depreciation	28,114,977	21,982,308	19,004,124	15,703,319
Changes in operating assets and liabilities				
Receivables	43,309	(294,357)	(186,891)	(228,208)
Inventories	8,580	(144,603)	(212,136)	378,033
Other assets	3,087,185	(2,933,420)	(1,267,015)	(3,096,764)
Accounts payable	(5,526,989)	6,025,134	2,879,795	1,328,662
Accrued payroll	(195,077)	(1,663,923)	(1,230,588)	924,160
Other accrued expenses, deferred credits and other liabilities	(64,978)	6,122,327	(680,875)	15,091,495
Compensated absences	(2,047,040)	1,117,998	(1,673,317)	4,912,688
Net cash provided by operating activities	18,904,513	33,285,669	54,641,962	50,213,968
<b>Cash flows from capital and related financing activities</b>				
Acquisition and construction of capital assets	(207,212,333)	(101,533,106)	(95,423,847)	(40,810,931)
Interest on bonds and notes	(24,417,302)	(18,841,864)	(15,702,266)	(18,812,021)
Proceeds from debt issuance	264,770,459	-	-	346,783,072
Defeasance of debt	(56,572,964)	-	-	-
Principal payments on bonds and note	(18,567,150)	(8,900,532)	(23,630,035)	(60,125,061)
Net cash used for capital and related financing activities	(41,999,290)	(129,275,502)	(134,756,148)	227,035,059
<b>Cash flows from investing activities</b>				
Purchases of investments	(6,869,280,307)	(1,191,705,503)	-	-
Sales and maturities of investments	6,897,395,744	1,279,793,564	-	-
Purchases, sales and maturities of investments, net	-	-	68,579,379	(279,813,918)
Interest income	9,407,391	10,105,992	8,294,899	6,663,368
Net cash provided by investing activities	37,522,828	98,194,053	76,874,278	(273,150,550)
Net increase in cash	14,428,051	2,204,220	(3,239,908)	4,098,477
Cash at beginning of year	13,781,024	11,576,804	14,816,712	10,718,235
Cash at end of year	\$ 28,209,075	\$ 13,781,024	\$ 11,576,804	\$ 14,816,712

See accompanying notes.

# Massachusetts Turnpike Authority

## Notes to Financial Statements

December 31, 1996

### **1. Financial Reporting Entity**

The Massachusetts Turnpike Authority (the Authority) operates two separate and financially distinct facilities: the Massachusetts Turnpike (the Turnpike) and the Sumner–Callahan–Williams Tunnels (the Tunnels). The acquisition, construction, and reconstruction of the Turnpike and the Sumner–Callahan–Williams Tunnels and related facilities were financed by revenue bonds. The Authority does not receive any federal or state funding. Principal and interest payments on the Authority's bonds and the funds providing for the maintenance, operation, and policing of the Massachusetts Turnpike and Sumner–Callahan–Williams Tunnels are derived solely from tolls and other revenues.

As discussed further in Notes 2 and 6, in January 1996, the Authority issued \$259,315,000 Guaranteed Bond Anticipation Notes to finance the acquisition, opening and operation of the Ted Williams Tunnel, as well as to advance refund certain debt and to finance certain repairs and improvements to the Sumner and Callahan Tunnels. The Notes are unconditionally guaranteed by the Commonwealth. As such, the Authority is a component unit of the Commonwealth and is included in the Comprehensive Annual Financial Report of the Commonwealth.

### **2. The Enabling Acts**

By Chapter 354 of the Acts of 1952 of the Commonwealth, the Authority was duly created as a body politic and corporate and a public instrumentality of the Commonwealth and was authorized and empowered to construct, maintain, repair, and operate a toll express highway, known as the Massachusetts Turnpike. Chapter 598 of the Acts of 1958 authorized and empowered the Massachusetts Turnpike Authority to acquire, from the city of Boston, the Sumner Tunnel and to construct an additional vehicular tunnel between Boston proper and East Boston (known as the Callahan Tunnel), and to operate and maintain both facilities. The Authority is directed by a Board of three members who are appointed by the Governor of the Commonwealth.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### **2. The Enabling Acts (continued)**

Chapter 102, as amended by Chapter 273, of the Acts of 1995, authorized the transfer of ownership of the Ted Williams Tunnel from the Commonwealth to the Authority. The 1995 Acts also authorized the Authority to issue up to \$300,000,000 of notes to finance an initial \$100,000,000 partial payment to the Commonwealth toward the acquisition cost of the Ted Williams Tunnel and other purposes outlined below. As of December 15, 1995, the Commonwealth granted the authority an easement to operate and maintain the tunnel. The Ted Williams Tunnel opened for commercial traffic on December 15, 1995, and its operations have been included in the accompanying financial statements since December 15, 1995. The \$100,000,000 payment has been included in fixed assets in the accompanying financial statements. As the Commonwealth completes the Central Artery/Third Harbor Tunnel project and as title is transferred, additional acquisition costs are expected to be assessed to the Authority relating to the Ted Williams Tunnel.

On January 15, 1996, the Authority issued \$259,315,000 Guaranteed Bond Anticipation Notes to finance the \$100,000,000 payment for the acquisition of the Ted Williams Tunnel, as well as to advance refund the outstanding Massachusetts Industrial Finance Agency (MIFA) Tunnel Revenue Bonds (see Note 6), to finance a portion of the cost of certain repairs and improvements to the Sumner and Callahan Tunnels and to fund certain start-up costs associated with opening and operating the Ted Williams Tunnel.

On March 20, 1997, legislation was enacted which created the Metropolitan Highway System under which the Authority will be restructured into two distinct cost centers: the Western Cost Center (WCC) and the Metropolitan Highway System (MHS). The Western Cost Center includes that portion of the Turnpike west of Route 128 (the Original Turnpike) while the Metropolitan Highway System includes the portion of the Turnpike east of Route 128 (the Boston Extension) and the Callahan, Sumner and Williams Tunnels.



# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 3. Summary of Significant Accounting Policies

#### Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting in accordance with generally accepted accounting principles. The underlying records of the Authority are maintained in accordance with accounting practices consistent with the provisions of the Supplemental Trust Agreement dated January 1, 1962, the 1993 Trust Agreement dated March 1, 1993, the First Supplemental Trust Agreement dated March 1, 1993, and the Loan and Trust Agreement dated October 1, 1990. Consequently, the financial statements reflect certain adjustments necessary to conform the underlying records to generally accepted accounting principles. The Authority has not presented financial statements prepared in accordance with generally accepted accounting principles for years prior to 1993.

As permitted by Statement No. 20 of the Governmental Accounting Standards Board (GASB), "Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities that Use Proprietary Fund Accounting," the Authority elected not to adopt Financial Accounting Standards Board (FASB) statements and interpretations issued after November 30, 1989, unless the GASB specifically adopts such FASB statement or interpretation.

#### Fiscal Year

The Authority's fiscal year is the calendar year.

#### Investments

Investments are stated at amortized cost which approximates market value. The cost of securities sold is based upon the specific identification method.

#### Inventories

Inventories consist primarily of sodium chloride, calcium chloride, sand, bulk gasoline, highway guardrail, and printed toll tickets. Inventories are valued at cost, determined by the first-in, first-out method.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 3. Summary of Significant Accounting Policies (continued)

#### Fixed Assets

Fixed assets are stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the corresponding assets which are as follows:

Infrastructure	50 years
Buildings	30 years
Improvements to Turnpike and Tunnels	30 years
Maintenance equipment	12 years

Infrastructure consists of highways, structures, pavement, shoulders, service areas and other similar costs. Improvements to Turnpike and Tunnels consist of reconditioning of the highway structure, improvements to protection devices, improvements to the lighting system and signage, and other similar costs.

The costs of normal maintenance and repairs are not capitalized. In addition, the cost of certain equipment used in the administration and maintenance of the Massachusetts Turnpike and Tunnels such as police and other light vehicles and office equipment have not been capitalized since the replacement cost of such items is materially consistent from year to year and the estimated useful lives are short.

In accordance with Statement of Financial Accounting Standard No. 62, interest is capitalized on fixed assets acquired with tax-exempt debt. The amount of interest to be capitalized is calculated by offsetting interest expense incurred from the date of the borrowing until completion of the project with interest earned on invested proceeds over the same period. The following summarizes capitalized interest for the periods ending December 31:

	1996	1995	1994	1993
Interest Expense	\$ 30,121,742	\$ 23,365,292	\$ 23,406,244	\$ 11,227,357
Interest Income	6,926,314	5,735,812	10,231,580	7,921,578
Net Interest Cost Capitalized	\$ 23,195,428	\$ 17,629,480	\$ 13,174,664	\$ 3,305,779

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 3. Summary of Significant Accounting Policies (continued)

#### Revenue Bond Discounts and Issuance Costs

Revenue bond discounts and issuance costs are deferred and amortized on a straight-line basis over the term of the bonds. Bond discounts are presented as a reduction of the face amount of bonds payable.

#### Revenue

All cash tolls received by the Massachusetts Turnpike and Sumner-Callahan-Williams Tunnels are deposited with a depository bank. On a monthly basis, these monies are transferred to the Trustee and allocated among the various funds in accordance with the provisions of the Trust Agreements. All other revenues are deposited with the Trustee directly. All revenues deposited with the Trustee are continuously secured for the benefit of the Authority and bondholders by marketable securities deemed eligible as collateral.

Other revenues in 1996, 1995, 1994 and 1993 consist of the following:

	1996	1995	1994	1993
Restaurants and concessions	\$ 2,707,212	\$ 2,670,573	\$ 2,716,869	\$ 2,748,003
Service stations	2,932,000	2,792,767	2,729,158	2,484,566
Rentals	4,764,426	7,138,509	4,339,350	4,218,482
Court fines and other	5,642,214	5,479,683	4,304,910	4,238,910
	<u>\$ 16,045,852</u>	<u>\$ 18,081,532</u>	<u>\$ 14,090,287</u>	<u>\$ 13,689,961</u>

#### Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

#### Reclassifications

Certain amounts from prior years have been reclassified to conform with the current year presentation.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 4. Cash and Investments

Cash represents balances on deposit with banks. Cash and investments are restricted to the specific purposes cited by the Trust Agreements including administration, operations and public protection, payment of bond principal and interest, and costs of turnpike and tunnel repair, resurfacing, and reconstruction projects. The following summarizes the Authority's cash balances as of December 31:

	1996	1995	1994	1993
Carrying Amount of the Authority's Cash Deposits	\$ 28,209,075	\$ 13,781,024	\$ 11,576,804	\$ 14,816,712
Bank Balance:				
Amount Covered by Federal Depository Insurance	\$ 14,202,654	\$ 9,720,094	\$ 10,443,692	\$ 10,446,293
Amount Uninsured and Uncollateralized	13,510,331	6,430,985	3,824,888	8,414,572
Total Bank Balance:	\$ 27,712,985	\$ 16,151,079	\$ 14,268,580	\$ 18,860,865

Reconciling items between the carrying amount and the bank balance consisted principally of outstanding checks which had not cleared at year-end and deposits in-transit.

The following summary categorizes restricted investments held as of December 31 at amortized cost:

	1996	1995	1994	1993
U.S. Treasury Securities	\$ 60,316,714	\$ 73,654,860	\$122,439,673	\$90,908,951
Money Market Accounts	10,855,962	43,932,487	34,327,948	59,540,194
Repurchase Agreements	143,124,440	29,166,000	10,364,677	10,803,518
Certificates of Deposit	100,000	100,000	100,000	100,000
Direct Investments	-	95,659,206	163,368,316	237,827,330
Total Investments	\$214,397,116	\$242,512,553	\$330,600,614	\$399,179,993

Market value of restricted investments approximates cost for each of the security categories listed.

## Massachusetts Turnpike Authority

### Notes to Financial Statements (continued)

#### 4. Cash and Investments (continued)

U.S. Treasury Securities are held by the bond Trustees pursuant to the terms of the Trust Agreements. U.S. Treasury Securities are generally held to maturity and typically mature within two years. Money market funds are managed by Fidelity Investments and investments are made only in debt obligations issued or guaranteed as to principal and interest by the U.S. Government. Repurchase agreements are collateralized with securities held by the pledging financial institution's trust department in the Authority's name. Direct investments consisted of two Investment Agreements with Qualified Financial Institutions as defined in the 1993 Trust Agreement. The Investment Agreements paid interest at a fixed rate and had initial maturity dates of December 1, 1997 and April 14, 1998. The Authority had the right to withdraw funds prior to the maturity date subject to the terms of the Investment Agreement. These funds were fully withdrawn in 1996.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 4. Cash and Investments (continued)

The following summarizes cash and investments as of December 31 by the various funds and accounts established and restricted under the Trust Agreements:

	1996	1995	1994	1993
Revenue Fund	\$ 21,182,885	\$ 18,775,702	\$ 15,478,323	\$ 14,906,233
Sinking Fund:				
Bond Interest Account	-	63,026,399	78,318,476	93,789,181
Debt Service Account	36,918,962	6,223,342	6,028,282	6,479,295
General Reserve				
Account	27,914,535	8,222,472	8,692,468	7,951,029
Redemption Account	-	20,647,231	6,064,553	6,542,554
General Fund	24,406,842	-	-	-
Repair and				
Reconstruction Fund	32,572,925	57,223,499	70,479,682	35,246,985
Toll Rate Stabilization				
Fund	2,227,382	-	-	-
1996 BAN Fund	69,376,975	-	-	-
1996 BAN Construction				
Fund	1,082,451	-	-	-
1986 Series A				
Construction Fund	-	6,000,585	6,305,860	6,253,889
1993 Series A				
Construction Fund	22,368,166	71,026,134	138,433,333	216,602,115
1990 MIFA Construction				
Fund	-	100,558	8,580,949	22,450,653
Insurance Fund	2,551,776	222,212	252,565	439,855
Current Expense Fund	-	888,483	588,915	514,673
Operating Reserve Fund	-	2,722,076	2,954,012	2,820,243
Ted Williams Tunnel:				
Transition Fund	236,545	1,109,461	-	-
Revenue Fund	1,766,747	105,423	-	-
Totals	\$242,606,191	\$256,293,577	\$342,177,418	\$413,996,705

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 5. Fixed Assets

The following is a summary of changes in fixed assets during 1996, 1995, 1994 and 1993:

	Balance January 1, 1996	Additions	Balance December 31, 1996
Land	\$ 76,232,550	\$ 3,388,360	\$ 79,620,910
Infrastructure	593,427,812	37,013,692	630,441,504
Improvements to Massachusetts Turnpike and Tunnels	300,383,098	75,857,823	376,240,921
Buildings	36,062,959	5,558,996	41,621,955
Equipment	17,134,587	8,588,890	25,723,477
Less: Accumulated Depreciation	(373,661,607)	(28,114,977)	(401,776,584)
Net Fixed Assets	<u>\$ 649,579,399</u>	<u>\$102,292,784</u>	<u>\$ 751,872,183</u>

	Balance January 1, 1995	Additions	Balance December 31, 1995
Land	\$ 71,129,313	\$ 5,103,237	\$ 76,232,550
Infrastructure	440,787,656	152,640,156	593,427,812
Improvements to Massachusetts Turnpike and Tunnels	249,657,896	50,725,202	300,383,098
Buildings	27,030,236	9,032,723	36,062,959
Equipment	14,335,365	2,799,222	17,134,587
Less: Accumulated Depreciation	(351,679,299)	(21,982,308)	(373,661,607)
Net Fixed Assets	<u>\$ 451,261,167</u>	<u>\$198,318,232</u>	<u>\$ 649,579,399</u>

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 5. Fixed Assets (continued)

	Balance January 1, 1994	Additions	Balance December 31, 1994
Land	\$ 69,985,325	\$ 1,143,988	\$ 71,129,313
Infrastructure	409,224,365	31,563,291	440,787,656
Improvements to Massachusetts Turnpike and Tunnels	183,042,114	66,615,782	249,657,896
Buildings	19,395,690	7,634,546	27,030,236
Equipment	11,340,511	2,994,854	14,335,365
Less: Accumulated Depreciation	(332,675,175)	(19,004,124)	(351,679,299)
Net Fixed Assets	<u>\$ 360,312,830</u>	<u>\$ 90,948,337</u>	<u>\$ 451,261,167</u>

	Balance January 1, 1993	Additions	Balance December 31, 1993
Land	\$ 68,692,524	\$ 1,292,801	\$ 69,985,325
Infrastructure	395,023,252	14,201,113	409,224,365
Improvements to Massachusetts Turnpike and Tunnels	156,789,946	26,252,168	183,042,114
Buildings	18,066,599	1,329,091	19,395,690
Equipment	10,298,974	1,041,537	11,340,511
Less: Accumulated Depreciation	(316,971,856)	(15,703,319)	(332,675,175)
Net Fixed Assets	<u>\$ 331,899,439</u>	<u>\$ 28,413,391</u>	<u>\$ 360,312,830</u>

In 1993, the Massachusetts Turnpike initiated a \$500,000,000 five-year reconstruction and improvement program. In connection with this program, the Massachusetts Turnpike has entered into construction contracts with various construction and engineering companies. The Authority also enters into construction contracts for the Sumner and Callahan Tunnels with various construction and engineering companies. Construction contracts outstanding at December 31, 1996 approximated \$74.9 million. Projected construction expenditures for 1997 approximate \$55 million.



# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 6. Bonds and Notes Payable

Bond anticipation notes, revenue bonds outstanding and notes payable as of December 31 are as follows:

	1996	1995	1994	1993
1996 Guaranteed Bond Anticipation Notes	\$259,315,000			
Add unamortized premium	3,955,208			
	<u>\$263,270,208</u>			
1993 Revenue Bonds				
Series A—Serial Bonds <sup>1</sup>	102,200,000	\$102,200,000	\$102,200,000	\$102,200,000
Series A—Term Bonds <sup>2</sup>	263,355,000	263,355,000	263,355,000	263,355,000
1962 Revenue Bonds				
Series A—4.75 percent <sup>3</sup>		12,571,000	18,625,000	34,412,000
Series A—4.15 percent <sup>4</sup>		5,112,000	7,153,000	13,568,000
		<u></u>	<u></u>	<u></u>
Total Revenue Bonds	365,555,000	383,238,000	391,333,000	413,535,000
Less unamortized discount	(14,466,209)	(15,634,040)	(16,786,537)	(18,016,710)
Total Revenue Bonds, net	351,088,791	367,603,960	374,546,463	395,518,290
Note Payable-MIFA		44,900,000	45,400,000	45,800,000
Less unamortized discount		(1,619,114)	(1,737,940)	(1,861,717)
		<u></u>	<u></u>	<u></u>
Note Payable-MIFA, net		43,280,886	43,662,060	43,938,283
Less unamortized deferred amount on refunding of Note Payable - MIFA		(10,172,910)		
		<u></u>		
Total Bond Anticipation Notes, Revenue Bonds and Note Payable	<u>\$604,186,089</u>	<u>\$410,884,846</u>	<u>\$418,208,523</u>	<u>\$439,456,573</u>

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 6. Bonds and Notes Payable (continued)

<sup>1</sup> Series A-Serial Bonds with interest rates ranging from 4% to 5.10%, issued \$102,200,000; due January 1, 1998 through January 1, 2008.

<sup>2</sup> Series A-Term Bonds with interest rates ranging from 5% to 5.125%, issued \$263,355,000; due in increments January 1, 2013 through January 1, 2023.

<sup>3</sup> Series A-4.75%, issued \$100,000,000; due January 1, 2002.

<sup>4</sup> Series A-4.15%, issued \$38,000,000; due January 1, 2002.

On January 1, 1962, the Authority issued \$218,000,000 in Turnpike Revenue Bonds—1962 Series A and Series B, to pay for the cost of the Boston Extension. In 1984, the Authority advance refunded the entire \$80,000,000 in 1962 Series B Revenue Bonds. The 1962 Series A Revenue Bonds were redeemable prior to maturity at the principal amount of the bonds, with interest accrued to the date fixed for redemption, plus a premium ranging from 1% to 6% over a prescribed period of 10 to 21 years after the redemption of the 1962 Series B Revenue Bonds and at par thereafter. The 1962 Series A Revenue Bonds were secured by a pledge of all Massachusetts Turnpike tolls and revenues, subject only to the payment of operating expenses.

During the years ended December 31, 1996, 1995, 1994 and 1993, the Authority retired \$12,571,000, \$8,095,000, \$22,202,000 and \$29,606,000, respectively, of the 1962 Series A Revenue Bonds and recognized an extraordinary loss of \$947,514, \$305,532, \$1,028,035 and \$1,389,061, respectively, representing the premium paid in each year to redeem the bonds.

On July 16, 1986, the Authority issued \$40,000,000 in Turnpike Improvement Revenue Bonds—1986 Series A for turnpike improvements. The 1986 Series A Revenue Bonds were refunded in full on March 1, 1993 in connection with the issuance of the Turnpike Revenue Bonds—1993 Series A. The 1986 Series A Revenue Bonds had a carrying value of \$23,210,000 at March 1, 1993, and were refunded at a premium of \$360,000 along with accrued interest of \$503,870. This advance refunding reduced the aggregate debt service payments by approximately \$400,000 per year before giving effect to early redemptions.

## Massachusetts Turnpike Authority

### Notes to Financial Statements (continued)

#### 6. Bonds and Notes Payable (continued)

On March 1, 1993, the Authority issued \$365,555,000 in Turnpike Revenue Bonds—1993 Series A, to refund the Turnpike Improvement Revenue Bonds—1986 Series A, as previously discussed, as well as to finance a portion of the cost of certain repairs and improvements to the Massachusetts Turnpike to be undertaken by the Authority in connection with its proposed five-year reconstruction and improvement program.

The Turnpike Revenue Bonds—1993 Series A are redeemable prior to maturity as follows:

- The 1993 Series A Serial Bonds maturing on or before January 1, 2003, in the aggregate amount of \$49,385,000, are not subject to redemption prior to maturity.
- The 1993 Series A Serial Bonds maturing after January 1, 2003, in the aggregate amount of \$52,815,000, will be subject to redemption at the option of the Authority at a redemption price of 102% in 2003, 101% in 2004, and 100% thereafter, plus accrued interest to date of redemption.
- The 1993 Series A Term Bonds maturing January 1, 2013, and January 1, 2020, in the aggregate amount of \$194,195,000, are subject to redemption at the option of the Authority on or after January 1, 2003, at the price of 100% of principal, plus accrued interest to the date of redemption.
- The 1993 Series A Revenue Bonds maturing January 1, 2013, January 1, 2020, and January 1, 2023, are subject to mandatory sinking fund redemption, requiring payment of 100 % of the principal amount of the 1993 Series A Revenue Bonds called for redemption, plus interest accrued to the fixed redemption dates ranging from 2009 through 2023.

On January 15, 1996, the Authority issued \$259,315,000 in Guaranteed Bond Anticipation Notes. The Notes are unconditionally guaranteed by the Commonwealth. The Notes mature on June 1, 1999, and are anticipated to be repaid by the Authority with the proceeds from bonds secured by the revenues of the Sumner-Callahan-Williams Tunnels to be issued in the future.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 6. Bonds and Notes Payable (continued)

Debt service requirements on bond anticipation notes and revenue bonds subsequent to December 31, 1996 are as follows:

Year Ending December 31	Principal	Interest	Total
1997	\$ -	\$ 31,021,778	\$ 31,021,778
1998	7,400,000	30,873,778	38,273,778
1999	267,010,000	24,081,308	291,091,308
2000	8,020,000	17,260,398	25,280,398
2001	8,370,000	16,895,633	25,265,633
Thereafter	<u>334,070,000</u>	<u>217,584,222</u>	<u>551,654,222</u>
Total	<u>\$624,870,000</u>	<u>\$337,717,117</u>	<u>\$962,587,117</u>

Pursuant to the Loan and Trust Agreement dated October 1, 1990, the Authority was obligated under a note payable to the Massachusetts Industrial Finance Agency (MIFA) for the loaned proceeds resulting from the sale of MIFA Tunnel Revenue Bonds—Massachusetts Turnpike Authority Issue, Series 1990–9%. The bonds were due October 1, 2020. Principal sinking fund payments of \$500,000, \$400,000 and \$400,000 were made in 1995, 1994 and 1993, respectively.

In January 1996, approximately \$56,573,000 of the net proceeds from the issuance of the Guaranteed Bond Anticipation Notes was used to purchase U.S. Government securities which were then deposited in an irrevocable trust with an escrow agent to provide all future debt service payments on the MIFA Tunnel Revenue Bonds. As a result, the MIFA Tunnel Revenue Bonds were considered to be defeased and the liability for those bonds has been removed from the balance sheet. The advance refunding resulted in a difference between the reacquisition price and the net carrying amount of the old debt of approximately \$14.2 million. This difference, reported in the accompanying financial statements as a deduction from Bonds and Notes Payable, is being charged to operations through June 1, 1999 using the straight-line method. The Authority completed the advance refunding to reduce its debt service payments over the next 25 years by approximately \$48 million and to obtain an economic gain of approximately \$13 million.

## Massachusetts Turnpike Authority

### Notes to Financial Statements (continued)

#### **7. Employee Benefit Plans**

By enactment of Chapter 597 of the Acts of 1967 and acceptance thereof by the Authority, the Massachusetts Turnpike Authority Employees' Retirement System (the Retirement System) was created. The Retirement System is a funded defined benefit pension plan by which, effective July 1, 1968, substantially all employees of the Authority are entitled to retirement benefits in accordance with the provisions of the Massachusetts Contributory Retirement Law (Chapter 32 of the General Laws, Sections 1-28).

Employees with 10 or more years of service are entitled to annual pension benefits beginning at retirement age 55, and earlier retirement is allowed upon completion of 20 years of service. The benefit is based upon compensation levels, age, and years of service. If a member dies in service, the surviving spouse, dependent children, or other beneficiaries may be entitled to receive benefits. The covered employees are required to contribute 5 percent to 11 percent (dependent upon date of hire) of their salary to the Retirement System.

The payroll for Authority employees covered by the Retirement System was approximately \$49,311,000 for the year ended December 31, 1996 (\$49,722,000 in 1995, \$45,461,124 in 1994, and \$42,838,770 in 1993). The Authority's total payroll for the same period was approximately \$58,369,000 (\$69,387,000 in 1995, \$50,690,000 in 1994, and \$48,219,000 in 1993).

Pursuant to Section 22 (7)(e), as amended, the Authority is required to pay annually to the Massachusetts Turnpike Authority Employees' Retirement System, amounts determined by the Division of Public Employees' Retirement Administration (PERA) as necessary for payment of pension benefits to retired employees of the Authority and their beneficiaries and for the expenses of said system. Under the enactment of Chapter 566 of the Acts of 1978, the Authority is required to fund and pay the Retirement System the sum of (a) the normal pension cost for the current year and (b) an amount sufficient to amortize any unfunded past service liability prior to the dissolution of the Authority.

Accumulated Plan Benefits are those future periodic payments that are attributable under the Retirement System's provisions to the services employees have rendered. Accumulated Plan Benefits include benefits expected to be paid to retired or terminated employees or their beneficiaries, beneficiaries of employees who have died, and present employees or their beneficiaries. Benefits payable under all circumstances are included to the extent they are deemed attributable to employee service rendered to the valuation date.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 7. Employee Benefit Plans (continued)

The actuarial present value of Accumulated Plan Benefits as last determined by an independent actuary at January 1, 1996 was as follows:

Current Employees	\$ 79,084,826
Inactive Participants	41,602,131
Total Pension Benefit Obligation	<u>120,686,957</u>
Market Value of Retirement System Assets	119,114,644
Unfunded Pension Benefit Obligation	<u>\$ 1,572,313</u>

Inactive participants include retirees, disabled individuals, beneficiaries currently receiving benefits and employees not yet receiving benefits.

Information regarding the actuarial present value of Accumulated Plan Benefits applicable to current employees allocated among employee contributions, Authority-financed vested contributions and Authority-financed non-vested contributions as of January 1, 1996 is not available. As of January 1, 1995, the most recent date for which such information was available, the amounts were as follows:

Employee Contributions	\$27,951,497
Authority-financed, Vested	15,016,410
Authority-financed, Non-vested	25,661,693
	<u>\$68,629,600</u>

The present value of Accumulated Plan Benefits is determined by applying actuarial assumptions to adjust the Accumulated Plan Benefits to reflect the time value of money and the probability of payment between the valuation date and the expected date of payment. The significant assumptions used in the actuarial valuation of the Retirement System were (a) the life expectancy of the participants using the 1971 Group Annuity Mortality Table, (b) retirement age assumptions, (c) investment return rate (8.5% per annum), (d) rate of inflation (4.5% per annum), (e) projected salary increases (6.0% per annum, of which 4.5% represents inflation and 1.5% represents longevity, productivity, and merit increases) and (f) annual cost of living increases for payments following retirement (2.0%).

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 7. Employee Benefit Plans (continued)

As a condition of participation, employees are required to contribute 5% of their salary if hired prior to January 1, 1975, 7% if hired after January 1, 1975 and before January 1, 1984, 8% if hired after January 1, 1984 and before July 1, 1996, and 9% if hired after July 1, 1996. Employees hired after January 1, 1979 contribute an additional 2% of earnings in excess of \$30,000 per year. Overtime and extra pay are not subject to these assessments. Total employee contributions for 1996, 1995, 1994 and 1993 were approximately \$4,371,000, \$3,868,000, \$3,632,932 and \$3,283,168, respectively, which represent approximately 8.9%, 8.0%, 8.0% and 7.7%, respectively, of covered payroll.

The Authority's required contribution is determined by an independent actuary in accordance with the funding plan approved by the Commonwealth of Massachusetts Division of Public Employee Retirement Administration and using the same assumptions as those used to determine the Pension Benefit Obligation. The Authority's required contribution for 1996 was \$2,443,952 (\$2,182,803 in 1995 and \$1,919,738 in 1994) of which \$2,018,457 represented the employer normal cost and \$425,495 represented the amortization of the expected unfunded actuarial accrued liability. There was no required contribution in 1993.

The Authority's actual contribution in 1996 was \$5,619,856 (\$2,285,331 in 1995, \$2,201,383 in 1994 and \$2,657,990 in 1993). Authority contributions for the years ended December 31, 1996, 1995, 1994 and 1993, represented 11.4%, 4.7%, 4.8%, and 6.2%, respectively, of the annual covered payroll.

At January 1, 1996, 1995, 1994 and 1993, assets were available to fund approximately 99%, 90%, 98% and 97%, respectively of the pension benefit obligation. The unfunded pension benefit obligation at January 1, 1996, 1995, 1994 and 1993 represented approximately 3%, 24%, 4% and 7%, respectively, of the annual covered payroll of the preceding year.

Multi-year trend information as to the progress made in accumulating assets to pay benefits may be found in the publicly available annual report of the Retirement System.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### **7. Employee Benefit Plans (continued)**

In November 1994, the GASB issued its Statement No. 27, "Accounting for Pensions by State and Local Governmental Employers," which establishes standards for the measurement, recognition, and display of pension expenditures/expense and related liabilities, assets, note disclosures, and, if applicable, required supplementary information in the financial reports of state and local governmental employers. The Authority is required to adopt the provisions of Statement No. 27 in 1998. Management has not performed an analysis to assess the impact that adoption of Statement No. 27 will have on the Authority's financial statements.

#### **Retirees Group Medical Benefits**

The Authority provides certain health care benefits for its retired employees. Currently, approximately 570 retirees or retiree spouses meet the eligibility requirements. The cost of retiree health care benefits is recognized as an expense when paid. The expense recognized in 1996, 1995, 1994 and 1993 was approximately \$1,312,000, \$1,171,000, \$1,400,000 and \$2,522,220, respectively. As of January 1, 1997, 1995, 1994 and 1993, the Authority's actuarial advisor estimated the present value of the cost of the unfunded retiree health benefits program to be \$7,683,000, \$21,833,000, \$29,483,000 and \$27,289,807, respectively. The Authority has adopted a funding plan to provide for the amortization of the unfunded retiree benefits.

#### **Deferred Compensation Plan**

In 1981, the Authority adopted the Massachusetts Turnpike Authority Deferred Compensation Plan (the Plan) whereby an employee who elects to participate may defer the receipt of a specified amount of compensation. Such deferred compensation is payable to the participant on retirement, death, disability, or financial hardship. The Authority maintains agreements, principally with Aetna Life Insurance and Annuity Company, for certain administrative functions of the Plan. For accounting purposes, the Plan's assets and liabilities are recorded on the books and records of the Authority at market value. As of December 31, 1996, 1995, 1994 and 1993, the market value of the Plan was \$15,047,325, \$12,683,432, \$9,961,382 and \$8,730,833, respectively. Plan assets are invested principally in various Aetna funds. All amounts of compensation deferred under the Plan, all property and rights purchased with those amounts, and all income amounts are solely the property and rights of the Authority, subject only to the claims of the Authority's bondholders and other creditors. The Authority believes that it is unlikely that it will use the assets to satisfy the claims of creditors in the future.



# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 7. Employee Benefit Plans (continued)

#### Compensated Absences

Certain employees of the Authority can accumulate unused vacation and sick time which can be used at a later date or paid in cash upon termination and/or retirement from the Authority. The expense related to this accrual is included in administrative expense in the accompanying financial statements.

### 8. Leases

The Authority has commitments under operating leases for administrative office space and automatic toll collection equipment. These operating leases expire on various dates through June 2000 and are generally expected to be renewed or replaced by similar leases. Lease expense charged to the Massachusetts Turnpike and Sumner-Callahan-Williams Tunnels in 1996, 1995, 1994 and 1993 was \$873,380, \$1,012,638, \$965,680 and \$927,426, respectively, of which \$554,207, \$440,921, \$520,460 and \$476,917, respectively, was paid to the Commonwealth for office space in a state owned building.

Future minimum lease payments under the above leases are as follows:

1997	\$ 852,809
1998	654,705
1999	582,790
2000	<u>295,878</u>
Total	<u>\$2,386,182</u>

The Authority leases property and air rights to others. During 1996, 1995, 1994 and 1993, the Authority earned \$4,566,813, \$6,949,372, \$4,151,804 and \$4,031,792, respectively, in rental income. Rental income for the next five years is expected to approximate \$4 million per year based on leases currently in effect.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 9. Contingent Liabilities

The Authority from time to time is engaged in various matters of routine litigation. These matters include personal injury and property damage claims for which the Authority's liability is covered in whole or in part by insurance. Others include disputes with contractors, subcontractors, and others arising from the construction or maintenance of the tunnels and turnpike. The Authority does not expect that these matters will require any amounts to be paid which in the aggregate would materially affect the financial statements.

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to and illnesses of employees; and natural disasters. Certain risks are self-insured while others are covered by commercial insurance. The Authority has obtained health coverage for most employees through various commercial health maintenance organizations.

The health coverage for certain other employees as well as coverage for job-related injuries to all employees is self-insured by the Authority, with the risks managed internally. During 1996, 1995, 1994 and 1993, the Authority incurred costs of approximately \$2,284,000, \$5,873,000, \$2,418,809 and \$2,510,370, respectively, for health claims and job-related injuries and paid claims of approximately \$2,807,000, \$4,220,000, \$1,868,240 and \$2,131,158, respectively, under these self-insurance programs. At December 31, 1996, 1995, 1994 and 1993, the accrual for outstanding claims under these programs, including claims incurred but not reported, was approximately \$14.0 million, \$16.6 million, \$ 13.4 million and \$11.4 million, respectively, and is included in other accrued expense, deferred credits and other liabilities in the accompanying balance sheets.

The Authority has obtained insurance coverage from various commercial insurers for all other risks of loss. Settled claims resulting from these risks have not exceeded commercial insurance coverage in any of the past four fiscal years.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 10. Segment Information

Prior to the creation of the Metropolitan Highway System, the Authority maintained separate accounting records for the Massachusetts Turnpike and for the Tunnels, but did not distinguish between the Initial Turnpike and the Boston Extension. In order to present the Authority's historical financial statements in conformity with the Western Turnpike and Metropolitan Highway System structure, management has made allocations of certain revenues, expenses, assets and liabilities between the WT and the MHS portions of the Massachusetts Turnpike. These allocations represent management's best estimate of what the actual amounts applicable to the WT and the MHS would have been had the current structure been in place as of January 1, 1993 and were based on various criteria, as appropriate and as applicable, including the number of miles and traffic lanes operated by each cost center, the volume of vehicles using the respective portions of the Massachusetts Turnpike, revenues received at the various interchanges, physical location of maintenance and other facilities and the estimated time spent by management on issues specific to the respective portions of the Massachusetts Turnpike. Statements of operating revenues and expenses for the Western Turnpike and Metropolitan Highway System for the years ended December 31, 1993 to 1996 follow.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 10. Segment Information (continued)

#### Western Turnpike and Metropolitan Highway System Statement of Operating Revenues and Expenses Year ended December 31, 1996

	Western Turnpike	Metropolitan Highway System	Total
Operating revenues			
Toll revenue, net	\$ 92,998,157	\$ 64,682,685 <sup>1</sup>	\$157,680,842
Restaurants and concessions	2,707,212	-	2,707,212
Service stations	2,932,000	-	2,932,000
Rentals	2,192,070	2,572,356	4,764,426
Court fines and other	4,429,500	1,212,714	5,642,214
Total operating revenues	105,258,939	68,467,755	173,726,694
Operating expenses			
Operations and public protection	50,185,999	28,086,438	78,272,437
Administrative	17,668,297	8,587,078	26,255,375
Retirement	3,921,271	1,642,166	5,563,437
Operating expenses before repair and reconstruction and depreciation	71,775,567	38,315,682	110,091,249
Operating income before repair and reconstruction and depreciation	33,483,372	30,152,073	63,635,445
Repair and reconstruction	22,524,654	17,511,268	40,035,922
Depreciation	16,476,765	11,638,212	28,114,977
Operating income(loss)	\$ (5,518,047)	\$ 1,002,593	\$ (4,515,454)

1. Toll revenues, net, for the Metropolitan Highway System include all tolls collected at (i) the Sumner and Williams tunnels, (ii) at interchanges 16, 18, 19, and 20 and (iii) at interchange 15 for westbound vehicles exiting Interstate 90 and eastbound vehicles entering Interstate 90. For 1996, these amounts were \$23,112,547, \$24,433,443 and \$8,378,268, respectively. Toll revenues, net, for the Metropolitan Highway System also include a portion of tolls collected at interchange 15 for eastbound vehicles entering Interstate 90 west of interchange 14 and tolls collected at interchanges 1-13 for westbound vehicles entering interstate 90 east of interchange 14. (Interchange 14 is the entry point for westbound vehicles entering Interstate 90 from Interstate 95 and the exit point for eastbound vehicles exiting Interstate 90 to enter Interstate 95.) For 1996, this amount was \$8,758,427.

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 10. Segment Information (continued)

#### Western Turnpike and Metropolitan Highway System Statement of Operating Revenues and Expenses Year ended December 31, 1995

	Western Turnpike	Metropolitan Highway System	Total
Operating revenues			
Toll revenue, net	\$ 95,533,448	\$ 57,892,113	\$153,425,561
Restaurants and concessions	2,670,573	-	2,670,573
Service stations	2,792,767	-	2,792,767
Rentals	3,335,699	3,802,810	7,138,509
Court fines and other	4,360,713	1,118,970	5,479,683
Total operating revenues	108,693,200	62,813,893	171,507,093
Operating expenses			
Operations and public protection	46,143,528	20,768,236	66,911,764
Administrative	10,805,997	5,346,481	16,152,478
Retirement	4,277,583	1,676,587	5,954,170
Operating expenses before repair and reconstruction and depreciation	61,227,108	27,791,304	89,018,412
Operating income before repair and reconstruction and depreciation	47,466,092	35,022,589	82,488,681
Repair and reconstruction	40,358,134	17,074,034	57,432,168
Depreciation	13,540,786	8,441,522	21,982,308
Operating income(loss)	\$ (6,432,828)	\$ 9,507,033	\$ 3,074,205

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 10. Segment Information (continued)

#### Western Turnpike and Metropolitan Highway System Statement of Operating Revenues and Expenses Year ended December 31, 1994

	Western Turnpike	Metropolitan Highway System	Total
Operating revenues			
Toll revenue, net	\$ 92,908,244	\$ 56,608,889	\$ 149,517,133
Restaurants and concessions	2,716,869	-	2,716,869
Service stations	2,729,158	-	2,729,158
Rentals	1,992,866	2,346,484	4,339,350
Court fines and other	3,494,991	809,919	4,304,910
Total operating revenues	103,842,128	59,765,292	163,607,420
Operating expenses			
Operations and public protection	48,594,109	17,528,003	66,122,112
Administrative	5,461,940	3,320,112	8,782,052
Retirement	3,717,459	909,337	4,626,796
Operating expenses before repair and reconstruction and depreciation	57,773,508	21,757,452	79,530,960
Operating income before repair and reconstruction and depreciation	46,068,620	38,007,840	84,076,460
Repair and reconstruction	18,803,886	8,259,585	27,063,471
Depreciation	11,463,817	7,540,307	19,004,124
Operating income	\$ 15,800,917	\$ 22,207,948	\$ 38,008,865

# Massachusetts Turnpike Authority

## Notes to Financial Statements (continued)

### 10. Segment Information (continued)

#### Western Turnpike and Metropolitan Highway System Statement of Operating Revenues and Expenses Year ended December 31, 1993

	Western Turnpike	Metropolitan Highway System	Total
Operating revenues			
Toll revenue, net	\$ 90,130,051	\$ 55,848,172	\$145,978,223
Restaurants and concessions	2,748,003	-	2,748,003
Service stations	2,484,566	-	2,484,566
Rentals	1,925,146	2,293,336	4,218,482
Court fines and other	3,440,251	798,659	4,238,910
Total operating revenues	100,728,017	58,940,167	159,668,184
Operating expenses			
Operations and public protection	39,980,493	23,693,594	63,674,087
Administrative	17,303,082	5,051,458	22,354,540
Retirement	4,310,834	1,077,708	5,388,542
Operating expenses before repair and reconstruction and depreciation	61,594,409	29,822,760	91,417,169
Operating income before repair and reconstruction and depreciation	39,133,608	29,117,407	68,251,015
Repair and reconstruction	25,373,901	11,973,212	37,347,113
Depreciation	9,507,178	6,196,141	15,703,319
Operating income	\$ 4,252,529	\$ 10,948,054	\$ 15,200,583

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**SUMMARY OF CERTAIN PROVISIONS OF THE  
METROPOLITAN HIGHWAY SYSTEM TRUST AGREEMENT**

*The following is a summary of certain provisions of the Metropolitan Highway System Trust Agreement including certain terms used in the Metropolitan Highway System Trust Agreement not elsewhere defined in this Official Statement. This summary does not purport to be complete and reference is made to the Metropolitan Highway System Trust Agreement for full and complete statements of its terms and provisions.*

**Definitions**

The following are definitions in summary form of certain terms contained in the Metropolitan Highway System Trust Agreement and used in this Official Statement:

*Accepted Metropolitan Highway System* shall mean the Boston Extension and the portions of the Tunnels and any other portions of the Metropolitan Highway System in which the Authority has an Ownership Interest as of the date of issuance of the Initial Bonds together with any other portions of the Metropolitan Highway System in which the Authority hereafter acquires an Ownership Interest and which it determines to accept for inclusion in the Accepted Metropolitan Highway System pursuant to the Metropolitan Highway System Trust Agreement, and upon satisfaction of the requirements of the Metropolitan Highway System Trust Agreement including without limitation the Central Artery and the Central Artery North Area.

*Accreted Value* shall mean with respect to any Capital Appreciation Bond (i) as of any Valuation Date, the amount set forth for such date in the Metropolitan Highway System Trust Agreement with respect to an Initial Bond or the Supplemental Trust Agreement with respect to an Additional Bond and (ii) as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates. For purposes of this definition, the number of days having elapsed from the preceding Valuation Date and the number of days from the preceding Valuation Date to the next succeeding Valuation Date shall be calculated on the basis of a three hundred sixty (360) day year of twelve (12) thirty (30) day months.

*Act* shall mean Chapter 81A of the Massachusetts General Laws, as amended and supplemented to the date of the Metropolitan Highway System Trust Agreement and from time to time.

*Additional Bonds* shall mean Additional Senior Bonds, Additional Subordinated Bonds and Bonds issued to refund Bonds all pursuant to the Metropolitan Highway System Trust Agreement.

*Aggregate Debt Service* for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all Outstanding Senior Bonds and all Outstanding Subordinated Bonds, provided, however, that for purposes of estimating Aggregate Debt Service for any future period, (i) any Variable Interest Rate Bonds shall be deemed to bear at all times (for which the interest rate is not yet determined) to the maturity thereof the Estimated Average Interest Rate applicable thereto; and (ii) any Put Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof, unless the Credit Facility or Liquidity Facility securing such Put Bonds expires within three months or less of the date of calculation and has not been renewed or replaced in which case such Put Bonds shall be assumed to mature on the expiration date of such Credit Facility or Liquidity Facility. For purposes of this definition, the principal and interest portions of the Accreted Value of any Capital Appreciation Bonds becoming due at maturity or by virtue of a Sinking Fund Installment and the principal and interest portions of the Appreciated Value of any Deferred Income Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments only during the year such amounts become due for payment unless

otherwise provided in the Supplemental Trust Agreement authorizing Additional Bonds which are Capital Appreciation Bonds or Deferred Income Bonds, as the case may be.

*Amortized Value*, when used with respect to Investment Obligations purchased at a premium above or a discount below par, shall mean the value as of any given time obtained by dividing the total premium or discount at which such Investment Obligation was purchased by the number of months remaining between the purchase date and the maturity date of such Investment Obligation and deducting the amount thus calculated on the first day of each month after such purchase from the purchase price in the case of an Investment Obligation purchased at a premium or adding the amount thus calculated on the first day of each month after such purchase to the purchase price in the case of an Investment Obligation purchased at a discount.

*Annual Budget* shall mean the annual budget, as amended or supplemented, adopted or in effect for a particular Fiscal Year as described under the heading "Annual Budget."

*Appreciated Value* shall mean with respect to any Deferred Income Bond (i) as of any Valuation Date, the amount set forth for such date in the Supplemental Trust Agreement authorizing such Deferred Income Bond, (ii) as of any date prior to the Interest Commencement Date, other than a Valuation Date, the sum of (a) the Appreciated Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Appreciated Values for such Valuation Dates, and (iii) as of any date on and after the Interest Commencement Date, the Appreciated Value on the Interest Commencement Date. For purposes of this definition, the number of days having elapsed from the preceding Valuation Date and the number of days from the preceding Valuation Date to the next succeeding Valuation Date shall be calculated on the basis of a three hundred sixty (360) day year of twelve (12) thirty (30) day months.

*Authority* shall mean the Massachusetts Turnpike Authority, a body politic and corporate and a public instrumentality of the Commonwealth organized and existing under the Act.

*Authorized Officer* shall mean the Chairman, the Chief Financial Officer or the General Counsel of the Authority, and when used with reference to an act or document of the Authority also means any other person authorized by resolution of the Authority to perform the act or sign the document in question.

*Bank Bonds* shall mean any Bonds issued to or acquired or held by any bank, insurance company or other provider of credit and/or liquidity support or any designee thereof for any Bonds or for any Bond Anticipation Notes as evidence of the obligations of the Authority arising under any letter of credit, revolving credit agreement, insurance policy, reimbursement agreement or any other agreement, instrument or document relating to such credit and/or liquidity support; provided, however, that Bank Bonds do not include any Bonds issued to or held by any such party or its designee in any other capacity.

*Bond or Bonds* shall mean any bond or bonds, including Initial Bonds and Additional Bonds, whether issued as Senior Bonds or Subordinated Bonds, and any Bond Anticipation Notes authenticated and delivered under the Metropolitan Highway System Trust Agreement, but not including General Fund Indebtedness.

*Bond Counsel* shall mean Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. or Krokidas & Bluestein or any other lawyer or firm of lawyers nationally recognized in the field of municipal finance and satisfactory to the Authority.

*Bondowner or Owner, or Owner of Bonds*, or any similar terms, shall mean any person who shall be the registered owner of any Outstanding Bond or Bonds.

*Boston Extension* shall mean all roadways and tunnels for vehicular traffic that constitute that portion of interstate highway route 90 beginning at and including the interchange of interstate highway route 90 and state

highway 128 in the Town of Weston and ending in the City at the interchange of interstate highway route 90 and interstate highway route 93.

*Business Day* shall mean any day that is not a Saturday, Sunday or legal holiday in the Commonwealth or a day on which banks in the City are authorized or required by law or executive order to close.

*Capital Appreciation Bond* shall mean any Bond as to which interest is payable only at the maturity or prior redemption of such Bond. For the purposes of (i) receiving payment of the Redemption Price if a Capital Appreciation Bond is redeemed prior to maturity or (ii) computing the principal amount of Bonds held by the registered owner of a Capital Appreciation Bond in giving to the Authority or the Trustee any notice, consent, request, or demand pursuant to the Metropolitan Highway System Trust Agreement for any purpose whatsoever, unless otherwise provided in the Supplemental Trust Agreement authorizing such Capital Appreciation Bonds, the principal amount of a Capital Appreciation Bond shall be deemed to be its Accreted Value.

*Capital Reinvestment Requirement* shall mean the amount established by the Authority in its sole discretion to be deposited in the Capital Reinvestment Fund during the then current Fiscal Year to provide for capital improvements for the Accepted Metropolitan Highway System in accordance with the current Annual Budget.

*Central Artery* shall mean all roadways and tunnels for vehicular traffic that constitute that portion of interstate highway route 93 beginning at a point immediately south of the Southampton Street interchange and continuing to and including the interchange of interstate highway route 93 and Massachusetts Avenue in the South End section of the City and continuing and including the interchange of interstate highway route 90 and interstate highway route 93 in the South Bay section of the City and continuing to and including the interchange of State highway route 1 and interstate highway route 93 in the Charlestown section of the City including but not limited to the Charles River crossing portion of interstate highway route 93.

*Central Artery North Area* shall mean all roadways and tunnels for vehicular traffic consisting of a portion of state highway route 1 beginning at, but not including, the southern boundary of the Tobin Memorial Bridge and continuing to the interchange of interstate highway 93 and state highway route 1.

*City* shall mean the City of Boston in the Commonwealth.

*Code* shall mean the Internal Revenue Code of 1986, as amended to the date of adoption of the Metropolitan Highway System Trust Agreement, unless a later day shall be specified in a Supplemental Trust Agreement to be applicable to one or more Series of Bonds, and the applicable regulations thereunder, and any reference to the provisions of the Metropolitan Highway System Trust Agreement shall, to the extent the provisions of the Internal Revenue Code of 1986, as amended to the date of adoption of the Metropolitan Highway System Trust Agreement.

*Combined Net Debt Service* shall mean Subordinated Net Debt Service plus Senior Net Debt Service.

*Commonwealth* shall mean The Commonwealth of Massachusetts.

*Counsel's Opinion or Opinion of Counsel* shall mean an opinion signed by Bond Counsel or an attorney or firm of attorneys of recognized standing (who may be counsel to the Authority) selected by the Authority.

*Credit Facility* shall mean an irrevocable letter of credit, surety bond, loan agreement, Standby Purchase Agreement or other agreement, facility or insurance or guaranty arrangement issued or extended by a Qualified Institution, pursuant to which the Authority is entitled to obtain moneys to pay the principal, purchase price or Redemption Price of Bonds due in accordance with their terms or tendered for purchase or redemption, plus accrued interest thereon to the date of payment, purchase or redemption thereof, in accordance with the Metropolitan Highway System Trust Agreement, whether or not the Authority is in default under the Metropolitan Highway System Trust Agreement.

*Date of Completion* shall mean (i) in the case of the construction of any vehicular road, bridge or tunnel, the date on which such road, bridge or tunnel is opened to vehicular traffic (as evidenced by a certificate of an Authorized Officer filed with the Trustee), and (ii) in the case of any other work, building or improvement, the date on which the acquisition, construction, improvement, reconstruction or rehabilitation thereof is completed (as evidenced by a certificate of an Authorized Officer filed with the Trustee).

*Debt Service* for any period shall mean, as of any date of calculation and with respect to the Outstanding Bonds of any Series, an amount equal to the sum of (i) interest accruing during such period on Outstanding Bonds of such Series and (ii) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series or, if (a) there shall be no such preceding Principal Installment due date or (b) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the date of issuance of the Bonds of such Series, whichever date is later. Such interest and Principal Installments for such Series shall be calculated on the assumption that (1) no Bonds (except for Put Bonds actually tendered for payment and not purchased in lieu of redemption prior to the redemption date thereof) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof and (2) the principal amount of Put Bonds tendered for payment and not purchased in lieu of redemption prior to the redemption date thereof shall be deemed to accrue on the date required to be paid pursuant to such tender. For purposes of this definition, the principal and interest portions of the Accreted Value of a Capital Appreciation Bond and the Appreciated Value of a Deferred Income Bond becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments only during the year such amounts become due for payment unless otherwise provided in the Supplemental Trust Agreement authorizing Additional Bonds which are Capital Appreciation Bonds or Deferred Income Bonds. Debt Service on Senior Bonds and Subordinated Bonds with respect to which there is a Qualified Hedge Agreement shall be calculated consistent with the Metropolitan Highway System Trust Agreement. Debt Service shall include costs of Credit Facilities and Liquidity Facilities and reimbursement to Providers of Credit Enhancement, in each case if and to the extent payable from the applicable Debt Service Fund. Debt Service on Bond Anticipation Notes shall not include any Principal Installments thereon.

*Dedicated Payments* shall mean any revenues of the Authority which are not Revenues as defined in the Metropolitan Highway System Trust Agreement as initially adopted which the Authority subsequently pledges as additional security for its payment obligations on the Bonds pursuant to a Supplemental Trust Agreement, in each case which are specifically designated as Dedicated Payments by the Authority in accordance with the limitations of the Metropolitan Highway System Trust Agreement and, accordingly, are to be deposited in the Senior Debt Service Fund or the Subordinated Debt Service Fund upon receipt, including without limitation certain revenues described in clauses (iv), (v) or (vi) of the second sentence of the definition of "Revenues."

*Deferred Income Bond* shall mean any Bond (i) as to which interest accruing thereon prior to the Interest Commencement Date of such Bond is (a) compounded on each Valuation Date for such Deferred Income Bond and (b) payable only at the maturity or prior redemption of such Bonds and (ii) as to which interest accruing after the Interest Commencement Date is payable on the first interest payment date immediately succeeding the Interest Commencement Date and periodically thereafter on the dates set forth in the Supplemental Trust Agreement authorizing such Deferred Income Bond. For the purposes of (i) receiving payment of the Redemption Price if a Deferred Income Bond is redeemed prior to maturity or (ii) computing the principal amount of Bonds held by the registered owner of a Deferred Income Bond in giving to the Authority or the Trustee any notice, consent, request, or demand pursuant to the Metropolitan Highway System Trust Agreement for any purposes whatsoever, unless otherwise provided in the Supplemental Trust Agreement authorizing such Deferred Income Bond, the principal amount of a Deferred Income Bond shall be deemed to be its Appreciated Value.

*Determination Date* shall have the meaning set forth under the heading "Extensions."

*Estimated Average Interest Rate* shall mean, as to any Variable Interest Rate Bond and as of any date of calculation, the "25-year revenue bond index" most recently published in The Bond Buyer or, if such index is no longer published, such other substantially comparable index as determined by the Authority.

*Extension* shall mean:

(1) An acquisition, improvement, betterment, enlargement or capital addition within the Commonwealth of any roadway, bridge, tunnel, overpass, interchange, parking facility or other similar facility, including any approaches, entrances, exits, acceleration and deceleration lanes relating thereto, whether or not connecting to the Accepted Metropolitan Highway System, which upon acquisition of an Ownership Interest therein or construction thereof is to be subject to a toll, rental or other charge for the use thereof within the control of the Authority or for which a Dedicated Payment not constituting on the Determination Date Dedicated Payments or Revenues is made available to or for the account of the Authority; and

(2) An acquisition, improvement, betterment, enlargement or capital addition within the Commonwealth of any roadway, bridge, tunnel, overpass, interchange, parking facility or other similar facility, including any approaches, entrances, exits, acceleration and deceleration lanes relating thereto, whether or not connecting to the Accepted Metropolitan Highway System, which upon acquisition of an Ownership Interest therein meets a necessary traffic management or safety purpose of the Metropolitan Highway System, in the determination of the Authority;

provided, however, that on the Determination Date the expenditure of Revenues with respect to the Extension complies with the provisions of the Metropolitan Highway System Trust Agreement.

*Fiduciary or Fiduciaries* shall mean the Trustee, any Paying Agent, or any or all of them, as may be appropriate, or any person appointed to act as a Fiduciary in a Supplemental Trust Agreement adopted pursuant to the Metropolitan Highway System Trust Agreement.

*Fiscal Year* shall mean that period beginning on the first day of January of any year and ending on the last day of December of that year or, at the option of the Authority, any other period of twelve consecutive calendar months selected by the Authority in a written instrument delivered to the Trustee as the Fiscal Year of the Authority.

*General Fund Expenses* shall mean, to the extent such expenses shall not have been otherwise provided for, (i) tourism grants payable by the Authority to the Commonwealth allocable, in the Authority's determination, to the Metropolitan Highway System; (ii) the costs and expenses of the Metropolitan Highway System Advisory Board payable by the Authority pursuant to the Act; (iii) the costs of assistance programs for communities or neighborhoods which abut the Metropolitan Highway System; (iv) the net costs of any Hedge Agreements payable from the General Fund pursuant to the Metropolitan Highway System Trust Agreement; (v) all costs incurred under the Project Management Agreement and Transfer Agreements which are by the terms thereof or of any exhibit thereto to be reimbursed by the Commonwealth, including without limitation costs attributable to project management staff; and (vi) with respect to portions of the Metropolitan Highway System other than the Accepted Metropolitan Highway System, (a) the Authority's expenses incurred in the normal course of business for administration, operation, maintenance, repair, ordinary replacements and ordinary reconstruction of such portions of the Metropolitan Highway System or any part thereof and shall include, without limiting the generality of the foregoing: administrative expenses as determined by the Authority in its discretion, including the payment of a private operator or management company, insurance premiums, legal and engineering expenses, health and hospitalization payments, expenditures relating to advertisements or promotions by or for the Authority to promote or increase use of such portions of the Metropolitan Highway System, and any other expenses required to be paid by the Authority, all to the extent properly and directly attributable to the operation of such portions of the Metropolitan Highway System payable by the Authority, and (b) any extraordinary costs or expenses for reconstruction, rehabilitation, improvement or new construction.

*General Fund Indebtedness* shall mean any bond, note or other evidence of indebtedness issued by the Authority in accordance with the Metropolitan Highway System Trust Agreement which is secured by or payable from the Revenues and other amounts on deposit from time to time in the General Fund, provided that any such pledge shall not be prior or equal to the pledge thereof made for the benefit of Senior Bonds or Subordinated Bonds.

*Hedge Agreement* shall mean a payment exchange agreement, swap agreement, forward purchase agreement or any other hedge agreement entered into by the Authority providing for payments between the parties based on levels of, or changes in interest rates, stock or other indices or contracts to exchange cash flows or a series of payments or contracts, including without limitation, interest rate floors, or caps, options, puts or calls, which allows the Authority to manage or hedge payment, rate, spread or similar risk with respect to any Series of Bonds.

*Indebtedness* shall mean Bonds, Bond Anticipation Notes and General Fund Indebtedness.

*Independent Consultant* shall mean a consultant or consulting firm or corporation, financial or otherwise, or an engineer or engineering firm or corporation, of national reputation retained by the Authority to perform the acts and carry out the duties provided for such consultant in the Metropolitan Highway System Trust Agreement.

*Initial Bonds* shall mean the Authority's \$1,183,046,617 Metropolitan Highway System Revenue Bonds, 1997 Series A (Senior), the Authority's \$194,680,000 Metropolitan Highway System Revenue Bonds, 1997 Series B (Subordinated) and the Authority's \$89,136,005.95 Metropolitan Highway System Revenue Bonds, 1997 Series C (Senior), each issued pursuant to the Metropolitan Highway System Trust Agreement.

*Insurance Consultant* shall mean an insurance consultant of national reputation retained by the Authority to perform the acts and carry out the duties provided for such Insurance Consultant in the Metropolitan Highway System Trust Agreement.

*Insurer* shall mean any nationally recognized company engaged in the business of insuring municipal bonds which may from time to time insure the payment of the principal of and interest on all or any portion of the Bonds of any Series.

*Interest Commencement Date* shall mean, with respect to any particular Deferred Income Bond, the date prior to the maturity date thereof specified in the Supplemental Trust Agreement authorizing such Deferred Income Bond after which interest accruing on such Bond shall be payable on the first interest payment date immediately succeeding such Interest Commencement Date and periodically thereafter on the dates specified in the Supplemental Trust Agreement authorizing such Deferred Income Bond.

*Investment Agreement* shall mean an agreement for the investment of moneys with, or unconditionally guaranteed by, a Qualified Institution but shall not mean an obligation of the type described in clause (x) of the definition of Investment Obligation herein.

*Investment Income* shall mean income from Investment Obligations held in the Funds and Accounts established in the Metropolitan Highway System Trust Agreement, other than (i) with respect to the Initial Bonds and, if so determined in a Supplemental Trust Agreement authorizing the issuance of a Series of Additional Bonds, with respect to such Additional Bonds, income from Investment Obligations purchased from the proceeds of such Bonds held in the Bond Proceeds Fund and (ii) income from Investment Obligations held in the Rebate Fund.

*Investment Obligation* shall mean and include any of the following securities, to the extent investment in such securities by the Authority is authorized under applicable law:

- (i) a bond or other obligation which as to principal and interest constitutes a direct obligation of, or is unconditionally guaranteed by, the United States of America, including an obligation of any of the Federal Agencies described in clause (iv) below to the extent unconditionally guaranteed by the United States of America;

(ii) a bond or other obligation of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (a) which is not callable prior to maturity or as to which irrevocable instructions have been given to the trustee of such bond or other obligation by the obligor to give due notice of redemption and to call such bond or other obligation for redemption on the date or dates specified in such instructions, (b) which is secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (i) hereof which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bond or other obligation on the maturity date thereof or the redemption date specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate, and (c) as to which the principal of and interest on the bonds and obligations of the character described in clause (i) hereof which have been deposited in such fund, together with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bond or other obligation described in this clause (ii) on the maturity date thereof or on the redemption date specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate;

(iii) general obligations of the Commonwealth or obligations unconditionally guaranteed by the Commonwealth;

(iv) a bond, debenture, or other evidence of indebtedness issued or guaranteed at the time of the investment by the Student Loan Marketing Association, Federal Land Banks, Federal Intermediate Credit Banks, Banks for Cooperatives, Federal Home Loan Banks, the Tennessee Valley Authority, the United States Postal Service, Federal Farm Credit System Obligations, the Export Import Bank, the World Bank, the International Bank for Reconstruction and Developments and the Inter-American Development Bank or any other agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America;

(v) an obligation of any state of the United States of America or any political subdivision thereof or any agency, instrumentality or local government unit of any such state or political subdivision other than obligations described in clause (iii) above which shall be rated at the time of the investment in any of the three highest rating categories by any Rating Agency, without regard to any refinement or gradation of such rating;

(vi) a certificate or other instrument that evidences ownership of the right to payment of the principal of or interest on obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision, provided that such obligations shall be held in trust by a bank or trust company or a national banking association meeting the requirements for a successor Trustee under the Metropolitan Highway System Trust Agreement, and provided further that the payment of all principal of and interest on such certificate or such instrument shall be fully insured or unconditionally guaranteed by, or otherwise unconditionally payable pursuant to a credit support arrangement provided by, one or more financial institutions or insurance companies or associations which at the date of investment shall have an outstanding, unsecured, uninsured and unguaranteed debt issue rated in the three highest rating categories by any Rating Agency, without regard to any refinement or gradation of such rating, or, in the case of an Insurer providing municipal bond insurance policies insuring the payment, when due, of the principal of and interest on municipal bonds, such insurance policy shall result in such municipal bonds being rated in the highest rating category by any Rating Agency, without regard to any refinement or gradation of such rating;

(vii) time deposits, certificates of deposit or any other deposit with a bank, trust company, national banking association, savings bank, federal mutual savings bank, savings and loan association, federal savings and loan association or any other institution chartered or licensed by any state or the U.S. Comptroller of the Currency to accept deposits in such state (as used herein, "deposits" shall mean obligations evidencing deposit liability which rank at least on a parity with the claims of general creditors in liquidation), which are (a) fully secured, to the extent not insured by the Federal Deposit Insurance Corporation, by any of the obligations described in clauses (i) or (iv) above having a market value (exclusive of accrued interest) of not less than the uninsured amount of such deposit or (b) (1) unsecured or (2) secured to the extent, if any, required by the Authority and in either case made with a Qualified Institution;

(viii) a certificate that evidences ownership of the right to payments of principal of or interest on obligations described in clause (i), provided that such obligations shall be held in trust by a bank or trust company or a national banking association meeting the requirements for a successor Trustee under the Metropolitan Highway System Trust Agreement;

(ix) a time deposit, certificate of deposit, whether negotiable or non-negotiable, and a banker's acceptance of one or more of the 50 largest banks in the United States or commercial paper issued by the parent holding company of any such bank which at the time of investment has an outstanding unsecured, uninsured and unguaranteed debt issue rated in either of the two highest rating categories by any Rating Agency, without regard to any refinement or gradation of such rating (including the Trustee and its parent holding company, if any, if it otherwise qualifies);

(x) any repurchase agreement with any bank or trust company organized under the laws of any state of the United States of America or any national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York which at the time of investment has an outstanding unsecured, uninsured and unguaranteed long-term debt issue or commercial paper issue rated at least in any of the three highest rating categories, without regard to refinement or gradation of such rating, by any Rating Agency (including the Trustee and its parent holding company, if any, if it otherwise qualifies), which agreement is secured by any one or more of the securities described in clause (i), (iv) or (viii) above which securities shall at all times have a market value (exclusive of accrued interest) of not less than the full amount of the repurchase agreement and be delivered to another bank or trust company organized under the laws of any state of the United States of America or any national banking association, as custodian;

(xi) an Investment Agreement;

(xii) money market funds registered under the Federal Investment Company Act of 1940, as amended, whose shares are registered under the Federal Securities Act of 1933, and having a rating in any of the two highest rating categories by any Rating Agency, without regard to refinement or gradation of such rating;

(xiii) commercial paper, notes, bonds or other obligations of any corporation rated, at the time of investment, in the two highest rating categories by any Rating Agency, without regard to refinement or gradation of such rating; and

(xiv) any other investment in which moneys of the Authority may be legally invested provided that at the time of such investment the Authority obtains written confirmation from each Rating Agency that such investment will not result in the reduction or suspension of the then existing rating on the Bonds by each such Rating Agency.

For the purposes of the provisions of the Metropolitan Highway System Trust Agreement summarized under the heading "Defeasance," Investment Obligations shall mean and include only (x) such securities as are described in clauses (i), (v) (to the extent rated at the time of investment in the highest rating category, without regard to any refinement or gradation of such rating, by any Rating Agency), (vi) and (viii) of the definition of "Investment Obligations" which shall not be subject to redemption prior to their maturity other than at the option of the Owner thereof, (y) such securities as are described in clause (ii) of the definition of Investment Obligations which shall not be subject to redemption prior to their maturity other than at the option of the Owner thereof or as to which an irrevocable notice of redemption of such securities on a specified redemption date has been given and such securities are not otherwise subject to redemption prior to such specified date other than at the option of the Owner thereof, or (z) upon compliance with the provisions under this heading, such securities as are described in clauses (i), (v) to the extent rated at the time of investment in the highest rating category, without regard to any refinement or gradation of such rating, by any Rating Agency, (vi) or (viii) of the definition of Investment Obligations which are subject to redemption prior to maturity at the option of the issuer thereof on a specified date or dates, all in accordance with the Metropolitan Highway System Trust Agreement.



*Liquidity Facility* shall mean an irrevocable letter of credit, surety bond, loan agreement, Standby Purchase Agreement, line of credit or other agreement or arrangement issued or extended by a Qualified Institution, pursuant to which the Authority is entitled to obtain moneys upon the terms and conditions contained therein for the purchase or redemption of Bonds tendered for purchase or redemption in accordance with the terms of the Metropolitan Highway System Trust Agreement.

*Metropolitan Highway System* shall mean the integrated system of roadways, bridges, tunnels, overpasses, interchanges, parking facilities, entrance plazas, approaches, connecting highways, service stations, restaurants, tourist information centers and administration, storage, maintenance and other buildings that the Authority owns, constructs or operates and maintains pursuant to the Act which consists of the Boston Extension, the Tunnels, the Central Artery, the Central Artery North Area and including in each case such real property and any improvements thereon, personal property, equipment, licenses, appurtenances and interests in land acquired or leased in connection with or incident to the construction, ownership, operation, rehabilitation, reconstruction, improvement, repair, maintenance or administration of such roadways and tunnels as are necessary for their safe and efficient operation and maintenance or which are otherwise convenient or desirable to carry out the purpose of the Act.

*Metropolitan Highway System Advisory Board* shall mean that advisory board created pursuant to section 28 of the Act.

*Net Revenues* shall mean, as of any date of calculation and for any period, the actual Revenues for any such past period or the projected Revenues for any such future period and any other amounts deposited or to be deposited in the Revenue Fund, less the actual Operating Expenses for any such past period or the projected Operating Expenses for any such future period; provided that in both cases the following shall be excluded from Revenues for this purpose: (i) Investment Income from the Senior Debt Service Reserve Fund and the Senior Debt Service Fund to the extent deposited or to be deposited or retained or to be retained, respectively, in the Senior Debt Service Fund and (ii) Investment Income from the Subordinated Debt Service Reserve Fund and the Subordinated Debt Service Fund to the extent deposited or to be deposited or retained or to be retained, respectively, in the Subordinated Debt Service Fund.

*1997 Series A Bonds* means the Authority's \$1,183,046,617 Metropolitan Highway System Revenue Bonds, 1997 Series A (Senior), issued pursuant to the Metropolitan Highway System Trust Agreement.

*1997 Series B Bonds* means the Authority's \$194,680,000 Metropolitan Highway System Revenue Bonds, 1997 Series B (Subordinated), issued pursuant to the Metropolitan Highway System Trust Agreement.

*1997 Series C Bonds* means the Authority's \$89,136,005.95 Metropolitan Highway System Revenue Bonds, 1997 Series C (Senior), issued pursuant to the Metropolitan Highway System Trust Agreement.

*1996 Notes* means the Authority's Guaranteed Bond Anticipation Notes, 1996 Series A dated January 15, 1996 and issued pursuant to the Guaranteed Bond Anticipation Note Resolution and the First Supplemental Guaranteed Bond Anticipation Note Resolution, each adopted by the Authority on January 5, 1996.

*1993 Bonds* means the Authority's Turnpike Revenue Bonds, 1993 Series A dated March 1, 1993 and issued pursuant to the Trust Agreement and First Supplemental Trust Agreement, both dated as of March 1, 1993.

*Operating Expenses* shall mean the Authority's expenses (including deposits to the Operating and Maintenance Reserve Account for such expenses) incurred in the normal course of business for administration, operation, maintenance, repair, ordinary replacements and ordinary reconstruction of the Accepted Metropolitan Highway System or any part of it or any Extension or part of it and shall include, without limiting the generality of the foregoing: allocable overhead and administrative expenses as determined by the Authority in its discretion, including the payment of a private operator or management company, insurance premiums, legal and engineering expenses, pension, retirement, health and hospitalization payments, expenditures relating to advertisements or

promotions by or for the Authority to promote or increase use of the Accepted Metropolitan Highway System or any Extension and any other expenses required to be paid by the Authority, all to the extent properly and directly attributable to the operation of the Accepted Metropolitan Highway System and any Extension and payable by the Authority, and the expenses, liabilities and compensation of the Fiduciaries required to be paid under the Metropolitan Highway System Trust Agreement. Operating Expenses shall not include (i) any extraordinary costs or expenses for reconstruction, rehabilitation, improvement or new construction, (ii) any provision for depreciation, amortization or similar charges, (iii) General Fund Expenses, or (iv) any costs or expenses in connection with any project which is not part of the Accepted Metropolitan Highway System or any Extension.

*Opinion of Bond Counsel* shall mean a legal opinion signed by Bond Counsel.

*Outstanding*, when used with reference to Bonds of a Series, shall mean, as of any date, Bonds or Bonds of such Series, theretofore or thereupon being authenticated and delivered, issued under the Metropolitan Highway System Trust Agreement except:

(i) any Bonds canceled by any Fiduciary at or prior to such date,

(ii) Bonds (or portions of Bonds) for the payment or redemption of which moneys, equal to the principal amount or Redemption Price thereof, as the case may be, with interest to the date of maturity or redemption date, shall be held in trust under the Metropolitan Highway System Trust Agreement and set aside for such payment or redemption (whether at or prior to the maturity or redemption date), provided that if such Bonds (or portions of Bonds) are to be redeemed, notice of such redemption shall have been given or provision satisfactory to the Trustee shall have been made for the giving of such notice as provided in Article IV of the Metropolitan Highway System Trust Agreement;

(iii) Bonds in lieu of or in substitution for which other Bonds shall have been authenticated and delivered pursuant to the Metropolitan Highway System Trust Agreement unless proof satisfactory to the Trustee is presented that any such Bonds are held by a bona fide purchaser in due course;

(iv) Bonds deemed to have been paid as provided under the heading "Defeasance;" and

*Ownership Interest* shall mean either fee title to any real property or a leasehold interest therein, a highway easement or other comparable easement thereupon provided that such leasehold interest or easement will not by the terms of the instrument creating the same terminate prior to the latest maturity date of Bonds then Outstanding.

*Paying Agent* shall mean any paying agent for the Bonds of any Series, and its successor or successors and any other corporation which may at any time be substituted in its place pursuant to the Metropolitan Highway System Trust Agreement.

*Principal Installment* shall mean, as of any date of calculation and with respect to the Bonds of any Series, so long as any Bonds thereof are Outstanding, (i) the principal amount of Bonds (including the principal amount of any Put Bonds tendered for payment and not purchased in lieu of redemption prior to the redemption date thereof) of such Series due on a future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance (determined as provided in the Metropolitan Highway System Trust Agreement) of any Sinking Fund Installments due on a future date for Bonds of such Series, plus the amount of the premium, if any, which would be applicable upon redemption of such Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (iii) if such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date, plus such applicable redemption premium, if any.

*Project* shall mean and be limited to the Metropolitan Highway System, any Extension or any part thereof.

*Project Cost*, with respect to any Project, shall include among other things (i) the costs incurred or to be incurred by the Authority in connection with the acquisition, design, construction, improvement, or reconstruction of such Project except to the extent such costs are funded from the proceeds of any indebtedness of the Authority, the payment of which is included as a Project Cost under clause (iii) below, (ii) amounts, if any, required by the Metropolitan Highway System Trust Agreement to be paid into any Fund or Account upon the issuance of any Series, (iii) payments when due on any indebtedness of the Authority (other than the Bonds) incurred for such Project, (iv) costs of equipment and supplies and initial working capital and reserves required by the Authority for the commencement of operation of such Project, (v) costs of acquisition by the Authority of real or personal property or any interest therein, and (vi) any other costs properly attributable to the acquisition, design, construction, improvement, or reconstruction of such Project.

*Project Management Agreement* shall mean the Central Artery/Ted Williams Tunnel Project Management Agreement dated as of July 1, 1997 by and between the Commonwealth, acting by and through the Massachusetts Department of Highways, and the Authority, as amended from time to time.

*Provider* shall mean any person or entity providing a Credit Facility, a Liquidity Facility or a Qualified Hedge Agreement with respect to any one or more Series of Bonds, pursuant to agreement with or upon the request of the Authority.

*Put Bond* shall mean a Bond which by its terms may be tendered by and at the option of the Owner thereof for payment by the Authority prior to the stated maturity or redemption date thereof.

*Qualified Hedge Agreement* shall have the meaning set forth under the heading "Hedging Transactions."

*Qualified Institution* shall mean (i) a bank, a trust company, a national banking association, a federal branch pursuant to the International Banking Act of 1978 or any successor provisions of law, a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America, a savings bank, a savings and loan association, or an insurance company or association chartered or organized under the laws of any state of the United States of America, a corporation, a trust, a partnership, an unincorporated organization, or a government or an agency, instrumentality, program, account, fund, political subdivision or corporation thereof, in each case the unsecured or uncollateralized long-term debt obligations of which, or obligations secured or supported by a letter of credit, contract, agreement or surety bond issued by any such organization, at the time an Investment Agreement, Qualified Hedge Agreement, Credit Facility or Liquidity Facility is entered into by the Authority are rated, without regard to any refinement or gradation of such ratings, in the three highest categories of each Rating Agency which rates such obligations or (ii) the Government National Mortgage Association or any successor thereto, the Federal National Mortgage Association or any successor thereto, or any other federal agency or instrumentality.

*Rating Agency* shall mean each recognized rating service which maintains a rating on any Outstanding Bonds at the request of the Authority.

*Redemption Price* shall mean, with respect to any Bond, the principal amount thereof plus the applicable premium, if any, payable upon redemption thereof pursuant to the Metropolitan Highway System Trust Agreement, but excluding accrued interest.

*Revenues* shall mean all (i) all rates, fees, tolls, rentals or other charges and other earned income and receipts as derived in cash by or for the account of the Authority from the Accepted Metropolitan Highway System or any Extension, (ii) Investment Income, (iii) any Supplemental Revenues, (iv) the proceeds of use and occupancy insurance on any portion of the Accepted Metropolitan Highway System or any Extension and of any other insurance which insures against loss of revenues therefrom payable to or for the account of the Authority, and (v) all amounts received by the Trustee for the account of the Authority under a Hedge Agreement. Notwithstanding the preceding sentence, however, Revenues shall not include (i) Dedicated Payments, (ii) amounts received under a Qualified Hedge Agreement which are deposited in a Debt Service Fund and have been relied upon in calculating

Debt Service in accordance with the Metropolitan Highway System Trust Agreement, (iii) receipts from extraordinary, non-recurring events or sources attributable to the Accepted Metropolitan Highway System or any Extension, such as sale of property or air rights, (iv) rental income from leases of or licenses to use property or air rights attributable to the Accepted Metropolitan Highway System or any Extension unless pledged by the Authority pursuant to Schedule 501 to the Metropolitan Highway System Trust Agreement or, in the Authority's discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement, (v) operating assistance, subsidy or other similar funding received from a governmental or other entity which is attributable to the Accepted Metropolitan Highway System or any Extension, unless pledged by the Authority, in its discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement, or (vi)(a) all rates, fees, tolls, rentals or other charges and other earned income and receipts as derived in cash by or for the account of the Authority, (b) operating assistance, subsidy or other similar funding received from a governmental or other entity, and (c) the proceeds of use and occupancy insurance and of any other insurance which insures against loss of revenues therefrom payable to or for the account of the Authority, in each case with respect to portions of the Metropolitan Highway System other than the Accepted Metropolitan Highway System and unless pledged by the Authority, in its discretion, as Supplemental Revenues pursuant to a Supplemental Trust Agreement.

*Senior Debt Service Reserve Requirement* shall mean as of any date of calculation, with respect to Senior Bonds, an amount equal to the sum of the following amounts for the 1997 Series A Bonds, the 1997 Series C Bonds and any Series of Additional Senior Bonds: the least of (i) 10% of the original net proceeds from the sale of such Series, (ii) 125% of average annual Debt Service for such Series and (iii) the maximum amount of Debt Service due on the Bonds of such Series in any future Fiscal Year; provided that in the case that two or more Series of Bonds are treated as one issue for federal tax purposes, (a) the aggregate Senior and Subordinated Debt Service Reserve Requirements for such Series shall not exceed the amount which would be applicable if such Series were treated as a single Series for purposes of calculating such Requirements and (b) any reduction in the aggregate Senior and Subordinated Debt Service Reserve Requirements resulting from the limitation in clause (a) of this proviso shall be allocated pro rata among the affected Series in accordance with the ratio of the Senior and Subordinated Debt Service Reserve Requirements which would have applied but for such clause (a). The Estimated Average Interest Rate as of the date of issue for any Senior Variable Interest Rate Bonds shall be used to establish Debt Service on such Bonds for the purpose of the Senior Debt Service Reserve Requirement.

*Senior Net Debt Service* shall mean Debt Service payable on Senior Bonds less (i) the sum of (a) interest accrued or to accrue on such Bonds which is to be paid from deposits in the Senior Debt Service Fund made from the proceeds of Bonds (including amounts, if any, transferred to the Senior Debt Service Fund from the Bond Proceeds Fund) in accordance with a certificate of an Authorized Officer to the Trustee, (b) amounts transferred to the Senior Debt Service Fund from the General Fund at the Authority's direction, (c) Investment Income from the Senior Debt Service Reserve Fund and the Senior Debt Service Fund transferred to or retained in the Senior Debt Service Fund and (d) Dedicated Payments deposited in the Senior Debt Service Fund pursuant to the Metropolitan Highway System Trust Agreement plus (ii) Debt Service payable on Bond Anticipation Notes issued in anticipation of Senior Bonds net of any amounts deposited from the proceeds of such notes available in the Senior Debt Service Fund or in another account established in connection with the issuance of such notes for the payment of such Debt Service.

*Series* shall mean all of the Bonds authenticated and delivered on original issuance and designated as such by the Authority in a simultaneous transaction pursuant to the Metropolitan Highway System Trust Agreement and any Bonds thereafter authenticated and delivered in lieu of or in substitution therefor pursuant to the Metropolitan Highway System Trust Agreement, regardless of variations in maturity, interest rate, sinking fund, or other provisions.

*Sinking Fund Installment* shall mean, as of any date of calculation and with respect to any Bonds of a Series, so long as any Bonds thereof are Outstanding, the amount of money required by the Metropolitan Highway System Trust Agreement or a Supplemental Trust Agreement, to be paid on a single future date for the retirement of any Outstanding Bonds of said Series (or of another Series, if authorized by each applicable Supplemental Trust Agreement) which mature after said date, but does not include any amount payable by the Authority by reason only of the maturity of a Bond.

*Standby Purchase Agreement* shall mean an agreement by and between the Authority and another entity pursuant to which such entity is obligated to purchase Put Bonds tendered for purchase or redeemed in lieu of purchase upon such tender.

*Subordinated Debt Service Reserve Requirement* shall mean as of any date of calculation, with respect to Subordinated Bonds, an amount equal to the sum of the following amounts for the 1997 Series B Bonds and any Series of Additional Subordinated Bonds: the least of (i) 10% of the original net proceeds from the sale of such Series, (ii) 125% of average annual Debt Service for such Series and (iii) the maximum amount of Debt Service due on the Bonds of such Series in any future Fiscal Year; provided that in the case that two or more Series of Bonds are treated as one issue for federal tax purposes, (a) the aggregate Senior and Subordinated Debt Service Reserve Requirements for such Series shall not exceed the amount which would be applicable if such Series were treated as a single Series for purposes of calculating such Requirements and (b) any reduction in the aggregate Senior and Subordinated Debt Service Reserve Requirements resulting from the limitation in clause (a) of this proviso shall be allocated pro rata among the affected Series in accordance with the ratio of the Senior and Subordinated Debt Service Reserve Requirements which would have applied but for such clause (a). The Estimated Average Interest Rate as of the date of issue for any Subordinated Variable Interest Rate Bonds shall be used to establish Debt Service on such Bonds for the purpose of the Subordinated Debt Service Reserve Requirement.

*Subordinated Net Debt Service* shall mean Debt Service payable on Subordinated Bonds less (i) the sum of (a) interest accrued or to accrue on such Bonds which is to be paid from Deposits in the Subordinated Debt Service Fund made from the proceeds of Bonds (including amounts, if any, transferred to the Subordinated Debt Service Fund from the Bond Proceeds Fund) in accordance with a certificate of an Authorized Officer to the Trustee, (b) amounts transferred to the Subordinated Debt Service Fund from the General Fund at the Authority's direction, (c) Investment Income from the Subordinated Debt Service Reserve Fund and the Subordinated Debt Service Fund transferred to or retained in the Subordinated Debt Service Fund and (d) Dedicated Payments deposited in the Subordinated Debt Service Fund pursuant to the Metropolitan Highway System Trust Agreement plus (ii) Debt Service payable on Bond Anticipation Notes issued in anticipation of Subordinated Bonds net of any amounts deposited from the proceeds of such notes available in the Subordinated Debt Service Fund or in another account established in connection with the issuance of such notes for the payment of such Debt Service.

*Supplemental Revenues* shall mean any revenues of the Authority which are not Revenues as defined in the Trust Agreement as initially adopted which the Authority, in its discretion, subsequently pledges as additional security for its obligations under the Metropolitan Highway System Trust Agreement pursuant to a Supplemental Trust Agreement, including without limitation revenues described in clauses (iv), (v) or (vi) of the second sentence of the definition of Revenues.

*Supplemental Trust Agreement* shall mean any trust agreement supplemental to or amendatory of the Metropolitan Highway System Trust Agreement, adopted by the Authority in accordance with Article VIII of the Metropolitan Highway System Trust Agreement.

*Ted Williams Tunnel* shall mean all or any segments of the roadways, bridges, viaducts and tunnels for vehicular traffic that constitute the interstate highway route 90 extension and its connecting roadways and tunnels including (i) the harbor tunnel crossing beneath Boston Harbor, beginning at and including the interchange of State highway route 1A and the Logan Airport access and egress roadways with interstate highway route 90 and continuing beneath Boston Harbor to and including the interchange of interstate highway route 90 and South Boston Bypass road but excluding the Logan Airport access and egress roadways owned or to be owned by the Massachusetts Port Authority, (ii) the seaport access highway beginning at the interchange of interstate highway routes 90 and 93 and continuing to the interchange of interstate highway route 90 and South Boston Bypass Road, and (iii) South Boston Bypass Road, a portion of which is also known as the South Boston Haul Road, beginning at the interchange of interstate highway route 93 and South Boston Bypass Road and continuing to the interchange of the seaport access highway in the South Boston section of the City.

*Transfer Agreements* shall mean the Third Harbor Tunnel Transfer Agreement dated December 13, 1995, as amended, by and between the Commonwealth acting by and through the Massachusetts Department of Highways and the Authority and any transfer agreement entered into by the Commonwealth and the Authority with respect to the transfer to the Authority of an Ownership Interest in the Central Artery, the Central Artery North Area or any other portion of the Metropolitan Highway System.

*Trustee* shall mean the trustee appointed under the Metropolitan Highway System Trust Agreement, and its successor or successors and any other corporation which may at any time be substituted in its place pursuant to the Metropolitan Highway System Trust Agreement.

*Tunnels* shall mean the Sumner Tunnel, the Callahan Tunnel and the Ted Williams Tunnel.

*Valuation Date* shall mean with respect to any Capital Appreciation Bond the date or dates set forth in the Metropolitan Highway System Trust Agreement with respect to the 1997 Series A Bonds and the 1997 Series C Bonds or in the Supplemental Trust Agreement authorizing such Bond on which specific Accreted Values are assigned to the Capital Appreciation Bond and (ii) with respect to any Deferred Income Bond, the date or dates on or prior to the Interest Commencement Date set forth in the Supplemental Trust Agreement authorizing such Bond on which specific Appreciated Values are assigned to the Deferred Income Bond.

*Variable Interest Rate* shall mean a variable interest rate to be borne by any Bond. The method of computing such variable interest rate shall be specified in the Supplemental Trust Agreement authorizing such Bond. Such Supplemental Trust Agreement shall also specify either (i) the particular period or periods of time for which each value of such variable interest rate shall remain in effect or (ii) the time or times upon which any change in such variable interest rate shall become effective.

*Variable Interest Rate Bond* shall mean a Bond which bears interest at a Variable Interest Rate.

#### **The Pledge Effected by the Metropolitan Highway System Trust Agreement**

The Bonds are special obligations of the Authority payable solely from the items pledged to the payment thereof pursuant to the terms of the Metropolitan Highway System Trust Agreement.

The Metropolitan Highway System Trust Agreement provides that there is irrevocably pledged for the payment of the principal and Redemption Price of, interest on, and Sinking Fund Installments for Senior Bonds, in accordance with their terms and the provisions of the Metropolitan Highway System Trust Agreement, subject only to the provisions of the Metropolitan Highway System Trust Agreement permitting the application thereof for the purposes and on the terms and conditions set forth in the Metropolitan Highway System Trust Agreement: (i) the proceeds of the sale of the Senior Bonds, (ii) the Revenues, (iii) Dedicated Payments allocated to Senior Bonds and interest earnings thereon, (iv) the rental income from certain leases between the Authority and certain third parties specifically listed in Schedule 501 to the Metropolitan Highway System Trust Agreement or added by any Supplemental Trust Agreement and (v) all Funds and Accounts established by the Metropolitan Highway System Trust Agreement (other than the Rebate Fund, the Subordinated Debt Service Fund and the Subordinated Debt Service Reserve Fund), including the investments, if any, thereof.

Subject only to the prior pledge created for the payment of Senior Bonds above, and on the terms and conditions set forth therein with respect to such prior pledge, the property described in clauses (ii), (iv) and (v) above (except moneys or Investment Obligations in the Senior Debt Service Fund or the Senior Debt Service Reserve Fund) are further pledged, and the proceeds of the sale of Subordinated Bonds, Dedicated Payments allocated to Subordinated Bonds and interest earnings thereon, the Subordinated Debt Service Fund and the Subordinated Debt Service Reserve Fund are further pledged, to the payment of the Subordinated Bonds. (*Sections 201, 501*).

## Provisions for Issuance of Bonds

Bonds of one or more Series may at any time or from time to time be authenticated and delivered upon original issuance (i) to pay or provide for the payment of the 1996 Notes, the portion of the 1993 Bonds allocable to the Metropolitan Highway System in accordance with the Act, or any other Authority bonds, notes or other obligations issued in connection with the Metropolitan Highway System, (ii) to refund Outstanding Bonds, (iii) to make payments to the Commonwealth related to the transfer to the Authority of all or a portion of the Metropolitan Highway System, (iv) to pay Project Costs, (v) to make a deposit to the Bond Proceeds Fund, the Operating Fund, the Senior Debt Service Fund, the Senior Debt Service Reserve Fund, the Subordinated Debt Service Fund, the Subordinated Debt Service Reserve Fund, the Capital Reinvestment Fund or the General Fund, including any Accounts therein, and (vi) to pay or provide for the payment of the costs incurred in connection with the issuance of Bonds.

The Bonds of a Series authorized to be issued shall be executed by the Authority and delivered to the Trustee. Such Bonds shall from time to time and in such amounts as directed by the Authority be authenticated and delivered by the Trustee to or upon the order of the Authority upon receipt of the consideration therefor and upon delivery to the Trustee of:

(1) An Opinion of Bond Counsel to the effect that (i) the Authority has the right and power under the Act to enter into the Metropolitan Highway System Trust Agreement, and the Metropolitan Highway System Trust Agreement has been duly and lawfully approved by the Authority, and, assuming due authorization, execution and delivery by the Trustee, is in full force and effect and is valid and binding upon the Authority and enforceable in accordance with its terms, and no other authorization for the Metropolitan Highway System Trust Agreement is required; (ii) the Metropolitan Highway System Trust Agreement creates the valid pledge of the items which it purports to pledge to the payment of the Bonds pursuant to the Metropolitan Highway System Trust Agreement, subject to the application of certain provisions of the Metropolitan Highway System Trust Agreement to the purposes and on the conditions permitted by the Trust Agreement; and (iii) the Bonds of such Series are valid and binding special obligations of the Authority as provided in the Metropolitan Highway System Trust Agreement, enforceable in accordance with their terms and the terms of the Trust Agreement, and entitled to the benefit of the Trust Agreement and of the Act and such Bonds have been duly and validly authorized and issued in accordance with law, including the Act, and in accordance with the Metropolitan Highway System Trust Agreement; provided, that such Opinion may take exception as to the effect of, or for restrictions or limitations imposed by or resulting from, bankruptcy, insolvency, debt adjustment, moratorium, reorganization or other similar laws affecting creditors' rights generally and judicial discretion and may state that no opinion is being rendered as to the availability of any particular remedy;

(2) A written order as to the delivery of the Bonds of such Series, signed by an Authorized Officer;

(3) Copies of the Metropolitan Highway System Trust Agreement as amended and supplemented and of the Supplemental Trust Agreement authorizing such Series if such Series are Additional Bonds, each certified by an Authorized Officer;

(4) If any Bonds of such Series are Put Bonds, a Credit Facility or Liquidity Facility in such an amount as would provide sufficient moneys for the purchase or redemption of all Put Bonds of such Series if Owners thereof elected to tender for purchase or redemption the entire aggregate Outstanding principal amount of the Put Bonds of such Series;

(5) A certificate of an Authorized Officer setting forth (i) the aggregate principal amount of all Bonds of all Series to be Outstanding immediately after such authentication and delivery, (ii) the Debt Service for such Bonds for the then current and each future Fiscal Year, and (iii) the greatest amount of Debt Service for the then current or any future Fiscal Year; and stating that the amount on deposit in the applicable Debt Service Reserve Fund (after taking into account any surety bond, insurance policy, letter of credit or other similar obligation on

deposit therein) immediately after the authentication and delivery of the Bonds of such Series (and in the event that any Outstanding Bonds are then being redeemed, after such redemption) will be at least equal to the applicable Debt Service Reserve Requirement;

(6) A certificate of an Authorized Officer to the effect that, upon the authentication and delivery of the Bonds of such Series, the Authority will not be in default in the performance of the terms and provisions of the Metropolitan Highway System Trust Agreement or of any of the Bonds. (*Section 202*).

#### **Additional Senior Bonds**

One or more Series of Additional Senior Bonds may be authenticated and delivered upon original issue for any of the purposes set forth in the provisions to the Metropolitan Highway System Trust Agreement.

The Additional Senior Bonds of such Series shall be authenticated only upon receipt by the Trustee of one of the following (in addition to the documents required by the provisions of the Metropolitan Highway System Trust Agreement): (i) a certificate of an Independent Consultant estimating that in each of the Fiscal Years following the issuance of the Additional Senior Bonds during which Senior Bonds will be Outstanding, Net Revenues will be at least equal to 1.20 times Senior Net Debt Service and 1.15 times Combined Net Debt Service; or (ii) a certificate of an Authorized Officer estimating that for at least 12 consecutive months during the last 18 months, assuming that such Additional Senior Bonds had been issued, Net Revenues would have been at least equal to 1.20 times the maximum amount of Senior Net Debt Service and 1.15 times the maximum amount of Combined Net Debt Service in the then current or any future Fiscal Year; or (iii) a certificate of an Independent Consultant that (a) in each of the Fiscal Years following the issuance of the Additional Senior Bonds preceding a particular future Fiscal Year designated for the purpose by the Authority, Net Revenues will be at least equal to 1.20 times the amount of Senior Net Debt Service and 1.15 times the amount of Combined Net Debt Service in each such Fiscal Year and (b) in such designated future Fiscal Year, Net Revenues will be at least equal to 1.20 times the maximum amount of Senior Net Debt Service and 1.15 times the maximum amount of Combined Net Debt Service in the then current or any subsequent Fiscal Year. For purposes of any projections in any such certificate, the Independent Consultant or the Authority may include estimated toll increases and Operating Expenses which are projected by the Authority to occur during the applicable period of projection, which projections are reasonable in the opinion of the Independent Consultant and projections of Debt Service and Revenues which shall be consistent with the provisions of the Metropolitan Highway System Trust Agreement (see "Covenants Regarding Calculation of Projected Debt Service and Revenues"). (*Section 205*).

#### **Additional Subordinated Bonds**

One or more Series of Additional Subordinated Bonds may be authenticated and delivered upon original issue for the same purposes set forth in the provisions to the Metropolitan Highway System Trust Agreement.

The Additional Subordinated Bonds of such Series shall be authenticated only upon receipt by the Trustee of one of the following (in addition to the documents required by the provisions of the Metropolitan Highway System Trust Agreement): (i) a certificate of an Independent Consultant estimating that in each of the Fiscal Years following the issuance of the Additional Subordinated Bonds, Net Revenues will be at least equal to 1.15 times Combined Net Debt Service; or (ii) a certificate of an Authorized Officer estimating that for at least 12 consecutive months during the last 18 months, assuming that such Additional Subordinated Bonds had been issued, Net Revenues would have been at least equal to 1.15 times the maximum amount of Combined Net Debt Service in the then current or any future Fiscal Year; or (iii) a certificate of an Independent Consultant that (a) in each of the Fiscal Years following the issuance of the Additional Subordinated Bonds preceding a particular future Fiscal Year designated for the purpose by the Authority, Net Revenues will be at least equal to 1.15 times the amount of Combined Net Debt Service in each such Fiscal Year and (b) in such designated future Fiscal Year, Net Revenues will be at least equal to 1.15 times the maximum amount of Combined Net Debt Service in the then current or any subsequent Fiscal Year. For purposes of any projections in any such certificate, the Independent Consultant or the Authority may include estimated toll increases and Operating Expenses which are projected by the Authority to occur during the applicable period of projection, which projections are reasonable in the opinion of the Independent Consultant and projections of Debt Service and Revenues which shall



be consistent with the requirements of the provisions of the Metropolitan Highway System Trust Agreement (see "Covenants Regarding Calculation of Projected Debt Service and Revenues"). (Section 206).

### **Special Provisions for Refunding Bonds**

One or more Series of Refunding Bonds may be authenticated and delivered upon original issuance to refund all or any portion of the Outstanding Bonds of a Series, in an aggregate principal amount which will provide funds, together with other moneys available therefor, to accomplish such refunding.

The Refunding Bonds of such Series shall be authenticated and delivered by the Trustee only upon receipt by the Trustee (in addition to the documents required the provisions of the Metropolitan Highway System Trust Agreement) of:

(1) If the Bonds to be refunded are to be redeemed, instructions to the Trustee, satisfactory to it, to give due notice of redemption of all the Bonds so to be refunded on a redemption date specified in such instructions;

(2) If the Bonds to be refunded are to be deemed paid within the meaning and with the effect expressed in the Metropolitan Highway System Trust Agreement relating to defeasance of Bonds, instructions to the Trustee, satisfactory to it; and

(3) If the Bonds to be refunded are to be deemed paid within the meaning and with the effect expressed in the provisions of the Metropolitan Highway System Trust Agreement relating to defeasance of Bonds, (i) moneys and/or (ii) Investment Obligations as shall be necessary to comply with the Metropolitan Highway System Trust Agreement, which Investment Obligations and moneys shall be held in trust and used only as provided in the Metropolitan Highway System Trust Agreement;

(4) If the proceeds of such Series of Refunding Bonds are to be utilized by the Authority to purchase Bonds to be delivered to the Trustee in satisfaction of a Sinking Fund Installment or to defease a portion of the Bonds which are the subject of a Sinking Fund Installment in accordance with the Metropolitan Highway System Trust Agreement, a certificate of an Authorized Officer of the Authority specifying (i) the principal amount, Series, maturity, interest rate and number of the Bonds to be so delivered, (ii) the date and Series of the Sinking Fund Installment in satisfaction of which such Bonds are to be so delivered, (iii) the aggregate principal amount of the Bonds to be so delivered, and (iv) the unsatisfied balance of each such Sinking Fund Installment after giving effect to the delivery of the Bonds to be so delivered; and

(5) Either (a) a certificate of an Authorized Officer of the Authority stating that (i) the final maturity of the Refunding Bonds is no later than the final maturity of the Bonds to be refunded and (ii) as a result of the issuance of the Refunding Bonds there shall be no increase in the amount of Senior Net Debt Service in any Fiscal Year and there shall be no increase in the amount of Combined Net Debt Service in any Fiscal Year; or (b) the certificates provided for in the Metropolitan Highway System Trust Agreement with respect to such Series of Refunding Bonds, considering for all purposes of such certificate that (i) such Series of Refunding Bonds is a Series of Senior Bonds issued pursuant to the Metropolitan Highway System Trust Agreement or Subordinated Bonds issued pursuant to the Metropolitan Highway System Trust Agreement, as applicable, and (ii) that the Bonds to be refunded are no longer Outstanding. (Section 207).

## **Bond Anticipation Notes**

Whenever the Authority shall have, by Supplemental Trust Agreement, authorized the issuance of a Series of Bonds, the Authority may by trust agreement, resolution or other action authorize the issuance of Bond Anticipation Notes in anticipation of the sale of such authorized Series of Bonds in a principal amount not exceeding the principal amount of the Bonds of such Series so authorized. No such Bond Anticipation Notes shall be issued unless at the time of issuance the Authority satisfies the requirements for the issuance of a Series of Bonds set forth in the provisions of the Metropolitan Highway System Trust Agreement assuming for the purposes of such requirements that (i) on the date of issuance of such Bond Anticipation Notes the Authority issues Bonds in an amount sufficient to pay the principal of and interest on such Bond Anticipation Notes, (ii) such Bonds were issued on the date of calculation, (iii) no such Bond matures later than the maturity date next preceding the fortieth anniversary of the assumed date of issuance, (iv) such Bonds bear interest at such rates as an Authorized Officer shall determine to be required to have sold such Bonds at a price equal to the principal amount thereof, (v) interest on such Bonds is payable on the interest payment date, commencing on the first such date next succeeding the assumed date of issuance and (vi) the principal, Sinking Fund Installments and interest payable during any Fiscal Year after the assumed date of issuance is substantially equal to the principal, Sinking Fund Installments and interest payable during any other such Fiscal Year.

The principal of and interest on such Bond Anticipation Notes and any renewals of such Notes shall be payable only (i) from the proceeds of any renewals of such Bond Anticipation Notes issued to repay such Bond Anticipation Notes, (ii) from the proceeds of the sale of the Series of Bonds in anticipation of which such Notes are issued, (iii) from the proceeds of such Bond Anticipation Notes deposited in the Bond Proceeds Fund, (iv) from amounts available in the General Fund or (v) from any moneys of the Authority available therefor and not pledged under the Metropolitan Highway System Trust Agreement. Such proceeds set forth in clauses (ii) and (iii) may be pledged for the payment of the principal of and interest on such Bond Anticipation Notes and any such pledge shall have priority over any other pledge created by the Metropolitan Highway System Trust Agreement. In any case, such Bond Anticipation Notes shall be retired or defeased not later than the date of authentication and delivery of the Bonds in anticipation of which they are issued.

The proceeds of the sale of Bond Anticipation Notes other than any renewals thereof shall be applied to the purposes for which the Bonds anticipated by such Bond Anticipation Notes are authorized and shall be deposited in the appropriate Fund or Account established by the Metropolitan Highway System Trust Agreement for such purposes and, if so provided in the trust agreement, resolution or other action authorizing the issuance of Bond Anticipation Notes to pay outstanding Bond Anticipation Notes, applied directly to such payment. (*Section 208*).

## **Additional Obligations**

The Authority reserves the right to issue bonds, notes or any other obligations or otherwise incur indebtedness pursuant to other and separate resolutions or agreements of the Authority, including without limitation General Fund Indebtedness, so long as such bonds, notes or other obligations are not, or such other indebtedness is not, except as provided in the Metropolitan Highway System Trust Agreement, entitled to a charge or lien or right with respect to the Revenues or the Funds and Accounts created under the Metropolitan Highway System Trust Agreement or pursuant thereto. (*Section 209*).

## **Hedging Transactions**

Under the Metropolitan Highway System Trust Agreement, a Hedge Agreement is a Qualified Hedge Agreement if (i) the Provider of the Hedge Agreement is a Qualified Institution or the Provider's obligations under the Hedge Agreement are unconditionally guaranteed by a Qualified Institution and (ii) the Authority designates it as such by Certificate of an Authorized Officer.

If the Authority shall enter into any Qualified Hedge Agreement with respect to any Bonds and the Authority has made a determination that the Qualified Hedge Agreement was entered into for the purpose of

hedging or managing the interest due with respect to those Bonds then during the term of the Qualified Hedge Agreement and so long as the Provider of the Qualified Hedge Agreement is not in default:

(1) for purposes of any calculation of Debt Service, the interest rate on the Bonds with respect to which the Qualified Hedge Agreement applies shall be determined as if such Bonds had interest payments equal to the interest payable on those Bonds less any payments reasonably expected to be made to the Authority by the Provider and plus any payments reasonably expected to be made by the Authority to the Provider in accordance with the terms of the Qualified Hedge Agreement (other than fees or termination payments payable to such Provider for providing the Qualified Hedge Agreement);

(2) any such payments (other than fees and termination payments) required to be made by the Authority to the Provider pursuant to such Qualified Hedge Agreement shall be made from amounts on deposit in the Senior Debt Service Fund or Subordinated Debt Service Fund, as applicable;

(3) any such payments received by or for the account of the Authority from the Provider pursuant to such Qualified Hedge Agreement shall be deposited in the Senior Debt Service Fund or Subordinated Debt Service Fund, as applicable; and

(4) fees and termination payments, if any, payable to the Provider may be deemed to be Debt Service and paid from amounts on deposit in the Senior Debt Service Fund or the Subordinated Debt Service Fund if and to the extent expressly provided in the Qualified Hedge Agreement (otherwise such fees and termination payments shall be payable solely from amounts on deposit in the General Fund).

If the Authority shall enter into a Hedge Agreement that is not a Qualified Hedge Agreement, then:

(1) the interest rate adjustments or assumptions referred to in clause (1) under this heading shall not be made;

(2) any and all payments required to be made by the Authority to the Provider pursuant to such Hedge Agreement (including any fee and termination payments) shall be made only from amounts on deposit in the General Fund; and

(3) any payments received by the Authority from the Provider pursuant to such Hedge Agreement shall be treated as Revenues and shall be deposited in the Revenue Fund. (*Section 104*).

### **Redemption of Bonds**

Additional Bonds subject to redemption prior to maturity pursuant to a Supplemental Trust Agreement shall be redeemable, upon notice as provided in the Metropolitan Highway System Trust Agreement, at such times, at such Redemption Prices and upon such terms in addition to and consistent with the terms contained in the Metropolitan Highway System Trust Agreement as may be specified in the Metropolitan Highway System Trust Agreement or in the Supplemental Trust Agreement authorizing such Series.

In the case of any redemption of Bonds otherwise than out of any Sinking Fund Installments, the Authority shall give written notice to the Trustee of its election so to redeem, of the redemption date, of the Series, and of the principal amounts of the Bonds of each maturity of such Series to be redeemed (which Series, maturities and principal amounts thereof to be redeemed shall be determined by the Authority in its sole discretion, subject to any limitations with respect thereto contained in the Metropolitan Highway System Trust Agreement or any Supplemental Trust Agreement).

In the case of any redemption of Bonds out of Sinking Fund Installments, the Authority shall, in the case of each Sinking Fund Installment, give written notice to the Trustee of the date of such Sinking Fund Installment, the unsatisfied balance of such Sinking Fund Installment, as provided in the Metropolitan Highway System Trust

Agreement, the particular Series and maturity of the Bonds entitled to such Sinking Fund Installment, and the principal amount of such Bonds to be redeemed out of such Sinking Fund Installment. Such notice shall be given at least 45 days prior to the date of such Sinking Fund Installment, or such shorter period as shall be acceptable to the Trustee. The Authority covenants that it will, prior to the date of such Sinking Fund Installment, pay to the appropriate Paying Agent an amount in cash which will be sufficient to redeem all of the Bonds which are to be redeemed out of such Sinking Fund Installment, at the Redemption Price thereof, plus interest accrued and unpaid to the date of the Sinking Fund Installment.

Except as otherwise provided in a certificate of an Authorized Officer with respect to the Initial Bonds or in a Supplemental Trust Agreement authorizing the issuance of the Series of Additional Bonds, if fewer than all of the Bonds of like maturity of any Series shall be called for prior redemption, the particular Bonds or portions of Bonds to be redeemed shall be selected by the Trustee in such manner as the Trustee in its discretion may deem fair and appropriate subject to any limitation with respect thereto contained in any Supplemental Trust Agreement.

The Trustee shall give notice, in the name of the Authority, of the redemption of such Bonds, which shall specify the Series and maturities of the Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the Bonds of any like Series and maturity are to be redeemed, the letters and numbers or other distinguishing marks of such Bonds so to be redeemed and the respective portions of the principal amount thereof to be redeemed. The notice shall further state that on the redemption date there shall become due and payable upon each Bond to be redeemed the Redemption Price thereof, or the Redemption Price of the specified portions of the principal thereof in the case of registered Bonds to be redeemed in part only, together with interest accrued to the redemption date, and that from and after such date interest thereon shall cease to accrue and be payable. The Trustee shall mail a copy of such notice not less than thirty (30) days nor more than sixty (60) days before the redemption date, to the registered owners of any Bonds or portions of Bonds which are to be redeemed. In addition, at the request of the Authority, the Trustee shall also mail a copy of any such notice of election to redeem pursuant to the Metropolitan Highway System Trust Agreement to the registered owners of the Bonds in the manner described in the preceding sentence on such earlier date or dates prior to the redemption date as the Authority may specify, which earlier notice may be conditional as specified by the Authority; provided that notice in accordance with the preceding sentence shall still be given when due. Failure of the registered Owner of Bonds which are to be redeemed to receive any such notice shall not affect the validity of the proceedings for the redemption of Bonds. If, at the time of mailing of the notice of optional redemption, moneys have not been deposited with the Trustee in an amount sufficient to redeem all of the Bonds called for redemption, such notice may state that it is conditional, i.e., subject to the deposit of sufficient moneys not later than the opening of business on the redemption date, and any such notice shall be of no effect unless such moneys are deposited. (*Article IV*).

#### **Establishment of Funds and Accounts**

The Metropolitan Highway System Trust Agreement establishes the following Funds and Accounts, which shall be held and administered by the Trustee:

- (1) Revenue Fund;
- (2) Senior Debt Service Fund;
- (3) Senior Debt Service Reserve Fund;
- (4) Subordinated Debt Service Fund; and
- (5) Subordinated Debt Service Reserve Fund.

The Metropolitan Highway System Trust Agreement establishes the following Funds and Accounts, which shall be held and administered by the Authority:

(1) Bond Proceeds Fund, which shall include a Metropolitan Highway System Capital Account, a Commonwealth Payment Account, an Extension Account and such other Accounts as the Authority may create by Supplemental Trust Agreement;

(2) Operating Fund, which shall include an Operations and Maintenance Account and an Operating and Maintenance Reserve Account;

(3) Rebate Fund;

(4) Capital Reinvestment Fund; and

(5) General Fund.

*(Section 502)*

#### **Bond Proceeds Fund**

The Authority shall deposit into the Metropolitan Highway System Capital Account the net proceeds of all Bonds, other than Refunding Bonds, issued for direct expenditures to be made by the Authority other than for Extensions, which net proceeds shall be in the amount and applied as set forth in the Metropolitan Highway System Trust Agreement with respect to the Initial Bonds or in the applicable Supplemental Trust Agreement authorizing the issuance of a Series of Additional Bonds.

The Authority shall deposit into the Commonwealth Payment Account the net proceeds of all Bonds, other than Refunding Bonds, issued for payments to be made to the Commonwealth under the Act or other law, which net proceeds shall be in the amount and applied as set forth in the Metropolitan Highway System Trust Agreement with respect to the Initial Bonds or in the applicable Supplemental Trust Agreement authorizing the issuance of a Series of Additional Bonds.

The Authority shall deposit into the Extension Account the net proceeds of all Bonds issued for Extensions, which net proceeds shall be in the amount set forth in the applicable Supplemental Trust Agreement. Sub-accounts for each Series of Bonds may be established by the Authority within the Extension Account. Amounts on deposit in the Extension Account shall be applied to the payment of the Project Cost of the Extension for which such deposit was made in the manner and upon such conditions as the Authority may provide in such Supplemental Trust Agreement. Amounts remaining on deposit in the Extension Account upon the Date of Completion of the Extension or Extensions for which such deposit was made or if the acquisition, design, construction, improvement, reconstruction, renewal, rehabilitation or improvement of such Extension or Extensions is abandoned prior to completion, shall, at the discretion of the Authority (i) be transferred to the applicable Debt Service Fund and applied toward the purchase or redemption of Bonds, or (ii) be deposited in any other Account established within the Bond Proceeds Fund.

*(Section 503).*

#### **Revenue Fund and Application Thereof**

The Authority shall, immediately following the issuance and delivery of any Bonds under the Metropolitan Highway System Trust Agreement, transfer to the Trustee for payment into the Revenue Fund all Revenues as received, except Investment Income required by the terms of the Metropolitan Highway System Trust Agreement to be deposited in another Fund or Account. Amounts in the Revenue Fund shall be deposited in, or credited to, as appropriate, on the last Business Day of the month in which the first such amounts are deposited in the Revenue Fund and on or before the twenty-fifth (25th) day of each month thereafter, the following Funds and Accounts, in the amounts and in the order and priority, as follows:

(1) To the Authority for deposit into the Operating Fund, (i) for credit to the Operating and Maintenance Account, such amount as the Authority shall estimate is required consistent with the Annual Budget, together with amounts then on deposit therein, to provide for the payment of Operating Expenses (other than Operating Expenses for credit to the Operating and Maintenance Reserve Account) estimated to be paid through the next month and (ii) for credit to the Operating and Maintenance Reserve Account, such amount, if any, as shall be required to bring the amount on deposit therein to the level required therefor by the then current Annual Budget;

(2) Into the Senior Debt Service Fund, the amount, if any, required so that the balance in said Fund shall equal the Debt Service for Senior Bonds and the fees and charges related to Credit Facilities, Liquidity Facilities, and Qualified Hedge Agreements entered into in connection with Senior Bonds accruing prior to the twenty-fifth day of the next succeeding month; provided that, for the purposes of computing the amount to be deposited in said Fund, there shall be excluded from the balance of said Fund the amount, if any, set aside in said Fund from the proceeds of Senior Bonds (including amounts, if any, transferred thereto from the Bond Proceeds Fund) or otherwise for the payment of interest on Senior Bonds which is to be applied in accordance with the instructions set forth in a certificate of an Authorized Officer of the Authority delivered to the Trustee to the payment of interest to accrue on Senior Bonds on or after the twenty-fifth day of the next succeeding month;

(3) Into the Senior Debt Service Reserve Fund, the amount, if any, required for such Fund, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in such Fund pursuant to the Metropolitan Highway System Trust Agreement and subject to the provisions thereto, to equal the Senior Debt Service Reserve Requirement as of the last day of the then current month (provided, however, that the provisions described under "Senior Debt Service Reserve Fund" shall govern any restoration required after a withdrawal from such Fund or as a result of a valuation of such Fund);

(4) Into the Subordinated Debt Service Fund, the amount, if any, required so that the balance in said Fund shall equal the Debt Service for Subordinated Bonds and the fees and charges related to Credit Facilities, Liquidity Facilities and Qualified Hedge Agreements entered into in connection with Subordinated Bonds accruing prior to the twenty-fifth day of the next succeeding month; provided that, for the purposes of computing the amount to be deposited in said Fund, there shall be excluded from the balance of said Fund the amount, if any, set aside in said Fund from the proceeds of Subordinated Bonds (including amounts, if any, transferred thereto from the Bond Proceeds Fund) or otherwise for the payment of interest on Subordinated Bonds which is to be applied in accordance with the instructions set forth in a certificate of an Authorized Officer of the Authority delivered to the Trustee to the payment of interest to accrue on Subordinated Bonds on or after the twenty-fifth day of the next succeeding month;

(5) Into the Subordinated Debt Service Reserve Fund, the amounts, if any, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in such Fund pursuant to the Metropolitan Highway System Trust Agreement and subject to the provisions thereto, to equal the Subordinated Debt Service Reserve Requirement as of the last day of the then current month (provided, however, that the provisions described under "Subordinated Debt Service Reserve Fund" shall govern any replenishment required after a withdrawal from such Fund);

(6) To the Authority for credit to the Rebate Fund, notwithstanding any other provisions of Article V of the Metropolitan Highway System Trust Agreement, such Revenues at such times and in such amounts as shall be set forth in a certificate of an Authorized Officer;

(7) To the Authority for deposit into the Capital Reinvestment Fund, one-twelfth of the Capital Reinvestment Requirement established by the Authority for the Fiscal Year in the Authority's then current Annual Budget, or such greater portion of such Requirement as the Trustee may be directed to so deposit by a certificate of an Authorized Officer; and

(8) To the Authority for deposit into the General Fund, the moneys remaining on deposit in the Revenue Fund after making the foregoing deposits.

(Section 504).

### **Operating Fund**

Amounts credited to the Operating and Maintenance Account shall be applied from time to time by the Authority to the payment of Operating Expenses of the Accepted Metropolitan Highway System and any Extensions.

Amounts credited to the Operating and Maintenance Account which the Authority at any time determines to be in excess of the requirements of such Account shall be applied to make up any deficiencies in the following Funds and Accounts in the order stated: Senior Debt Service Fund; Senior Debt Service Reserve Fund; Subordinated Debt Service Fund; Subordinated Debt Service Reserve Fund; Rebate Fund and Capital Reinvestment Fund. Any balance of such excess not so applied shall be credited to any Fund or Account specified by the Authority.

Amounts credited to the Operating and Maintenance Reserve Account shall, at the direction of the Authority, be applied to the payment of Operations Expenses to the extent unavailable from the Operating Fund.

Amounts credited to the Operating and Maintenance Reserve Account which the Authority at any time determines to be in excess of the requirements of such Account shall be applied to make up any deficiencies in the following Funds and Accounts in the order stated: Senior Debt Service Fund; Senior Debt Service Reserve Fund; Subordinated Debt Service Fund; Subordinated Debt Service Reserve Fund; Rebate Fund; and Capital Reinvestment Fund. Any balance of such excess shall be credited to any Fund or Account specified by the Authority. (Section 505).

### **Senior Debt Service Fund**

The Trustee shall pay out of the Senior Debt Service Fund to the respective Paying Agents (i) on or before each interest payment date for any of the Senior Bonds, the amount required for the interest payable on such date; (ii) on or before each Principal Installment due date, the amount required for the Principal Installment for Senior Bonds payable on such due date; and (iii) on or before any redemption date for the Senior Bonds, the amount required for the payment of the Redemption Price of and interest on the Senior Bonds then to be redeemed.

In the event of the refunding of any Senior Bonds, the Authority may direct the Trustee to withdraw from the Senior Debt Service Fund all, or any portion of, the amounts accumulated therein with respect to Debt Service on the Senior Bonds being refunded and deposit such amounts in a separate account with the Trustee to be held for the payment of the principal or Redemption Price, if applicable, of and interest on the Senior Bonds being refunded; provided that such withdrawal shall not be made unless (a) immediately thereafter Senior Bonds being refunded shall be deemed to have been paid pursuant to the Metropolitan Highway System Trust Agreement, and (b) the amount remaining in the Senior Debt Service Fund, after giving effect to the issuance of Refunding Bonds and the disposition of the proceeds thereof, shall not be less than the requirement of such Fund pursuant to the Metropolitan Highway System Trust Agreement. In the event of such refunding, the Authority may also direct the Trustee to withdraw from the Senior Debt Service Fund all, or any portion of, the amounts accumulated therein with respect to Debt Service on the Senior Bonds being refunded and deposit such amounts in any Fund or Account under the Metropolitan Highway System Trust Agreement; provided, however, that such withdrawal shall not be made unless clauses (a) and (b) referred to hereinabove have been satisfied and provided, further, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the Metropolitan Highway System Trust Agreement (other than the Fund or Account into which such amount is being transferred). (Section 507).

## **Senior Debt Service Reserve Fund**

If on the last Business Day of any month the amount in the Senior Debt Service Fund shall be less than the amount required to be in such Fund pursuant paragraph (2) under the heading "Revenue Fund and Application Thereof," the Trustee shall transfer to the Senior Debt Service Fund (in such order) amounts from the General Fund, the Senior Debt Service Reserve and the Capital Reinvestment Fund equal to the deficiency.

In lieu of the required deposits and transfers to the Senior Debt Service Reserve Fund or as a replacement or substitution for any moneys or Investment Obligations then on deposit in the Senior Debt Service Reserve Fund, the Authority may at any time cause to be deposited into the Senior Debt Service Reserve Fund for the benefit of the Owners of the Senior Bonds a surety bond, an insurance policy, a letter of credit or other similar obligation (and may replace such surety bond, insurance policy, letter of credit or similar obligation from time to time) providing for payments in an amount equal to the difference between the Senior Debt Service Reserve Requirement and the sums, if any, then on deposit in the Senior Debt Service Reserve Fund or being deposited in the Senior Debt Service Reserve Fund concurrently with such surety bond, insurance policy, letter of credit or other similar obligation.

In the event of the refunding of any Senior Bonds, the Authority may direct the Trustee to withdraw from the Senior Debt Service Reserve Fund all, or any portion of, the amounts accumulated therein with respect to the Senior Bonds being refunded and deposit such amounts with the Trustee in a separate account to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Senior Bonds being refunded, subject to continued satisfaction of the Debt Service Reserve Requirement.

Regardless of any other provisions of the Metropolitan Highway System Trust Agreement, in the event that at any time the amount on deposit in the Senior Debt Service Reserve Fund, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in such Fund under this heading, shall be less than the Senior Debt Service Reserve Requirement as a result of any withdrawal from said Fund or as a result of the valuation of such fund performed in accordance with the Metropolitan Highway System Trust Agreement, the Authority shall restore the amount on deposit in the Senior Debt Service Reserve Fund, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in said Fund under this heading, to the Senior Debt Service Reserve Requirement, in the case of restoration after withdrawal in twelve (12) equal monthly installments commencing within ninety (90) days of such withdrawal, and in the case of restoration as a result of valuation in six (6) equal monthly installments commencing thirty (30) days after such valuation. (*Section 508*).

## **Subordinated Debt Service Fund**

The Trustee shall pay out of the Subordinated Debt Service Fund to the respective Paying Agents (i) on or before each interest payment date for any of the Subordinated Bonds, the amount required for the interest payable on such date; (ii) on or before each Principal Installment due date, the amount required for the Principal Installment for Subordinated Bonds payable on such due date; and (iii) on or before any redemption date for the Subordinated Bonds, the amount required for the payment of the Redemption Price of and interest on the Subordinated Bonds then to be redeemed.

In the event of the refunding of any Subordinated Bonds, the Authority may direct the Trustee to withdraw from the Subordinated Debt Service Fund all, or any portion of, the amounts accumulated therein with respect to Subordinated Debt Service on the Subordinated Bonds being refunded and deposit such amounts in a separate account with the Trustee to be held for the payment of the principal or Redemption Price, if applicable, of and interest on the Subordinated Bonds being refunded; provided that such withdrawal shall not be made unless (a) immediately thereafter Subordinated Bonds being refunded shall be deemed to have been paid pursuant to the Metropolitan Highway System Trust Agreement, and (b) the amount remaining in the Subordinated Debt Service Fund, after giving effect to the issuance of Refunding Bonds and the disposition of the proceeds thereof, shall not be less than the requirement of such Fund pursuant to the Metropolitan Highway System Trust Agreement. In the event of such refunding, the Authority may also direct the Trustee to withdraw from the Subordinated Debt Service



Fund all, or any portion of, the amounts accumulated therein with respect to Debt Service on the Subordinated Bonds being refunded and deposit such amounts in any Fund or Account under the Metropolitan Highway System Trust Agreement; provided, however, that such withdrawal shall not be made unless clauses (a) and (b) referred to hereinabove have been satisfied and provided, further, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the Metropolitan Highway System Trust Agreement (other than the Fund or Account into which such amount is being transferred). (Section 509).

#### **Subordinated Debt Service Reserve Fund**

If on the last Business Day of any month the amount in the Subordinated Debt Service Fund shall be less than the amount required to be in such Fund, the Trustee shall transfer to the Subordinated Debt Service Fund (in such order) amounts from the General Fund, the Subordinated Debt Service Reserve Fund and the Capital Reinvestment Fund equal to the deficiency.

In lieu of the required deposits and transfers to the Subordinated Debt Service Reserve Fund or as a replacement or substitution for any moneys or Investment Obligations then on deposit in the Subordinated Debt Service Reserve Fund, the Authority may at any time cause to be deposited into the Subordinated Debt Service Reserve Fund for the benefit of the Owners of the Subordinated Bonds a surety bond, an insurance policy, a letter of credit or other similar obligation (and may replace such surety bond, insurance policy, letter of credit or similar obligation from time to time) providing for payments in an amount equal to the difference between the Subordinated Debt Service Reserve Requirement and the sums, if any, then on deposit in the Subordinated Debt Service Reserve Fund or being deposited in the Subordinated Debt Service Reserve Fund concurrently with such surety bond, insurance policy, letter of credit or other similar obligation.

In the event of the refunding of any Subordinated Bonds, the Authority may direct the Trustee to withdraw from the Subordinated Debt Service Reserve Fund all, or any portion of, the amounts accumulated therein with respect to the Subordinated Bonds being refunded and deposit such amounts with the Trustee in a separate account to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Subordinated Bonds being refunded, subject to continued satisfaction of the Debt Service Reserve Requirement.

Regardless of the provisions of the Metropolitan Highway System Trust Agreement, in the event that at any time the amount on deposit in the Subordinated Debt Service Reserve Fund, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in such Fund under this heading, shall be less than the Subordinated Debt Service Reserve Requirement as a result of any withdrawal from said Fund or as a result of the valuation of such Fund performed in accordance with the Metropolitan Highway System Trust Agreement, the Authority shall restore the amount on deposit in the Subordinated Debt Service Reserve Fund, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation deposited in said Fund under this heading, to the Subordinated Debt Service Reserve Requirement, in the case of restoration after withdrawal in twelve (12) equal monthly installments commencing within ninety (90) days of such withdrawal, and in the case of restoration as a result of valuation in six (6) monthly installments commencing thirty (30) days after such valuation. (Section 510).

#### **Capital Reinvestment Fund**

Amounts in the Capital Reinvestment Fund shall be applied to payment of the costs of equipment, major renewals, replacements, repairs, rehabilitation, additions, betterments and improvements with respect to the Accepted Metropolitan Highway System and any Extensions necessary to keep the same in good operating condition or to prevent a loss of Revenues therefrom, or required by any governmental agency having jurisdiction over the Projects or any part thereof, including the prevention or correction of any unusual loss or damage, in connection with the Accepted Metropolitan Highway System and any Extensions, to the extent not provided from the proceeds of Bonds.

If and to the extent provided in the Metropolitan Highway System Trust Agreement with respect to the Initial Bonds or in a Supplemental Trust Agreement authorizing Additional Bonds, amounts from the proceeds of such Bonds may be credited to the Capital Reinvestment Fund and applied as specified in the Metropolitan Highway System Trust Agreement or the Supplemental Trust Agreement, as applicable, for any purpose of such Fund.

If at any time, the amount in the Senior Debt Service Fund shall be less than the amount then required to be on deposit in such Fund, the amount in the Senior Debt Service Reserve Fund shall be less than the Senior Debt Service Reserve Requirement, the amount in the Subordinated Debt Service Fund shall be less than the amount then required to be on deposit in such Fund, or the amount in the Subordinated Debt Service Reserve Fund shall be less than the Subordinated Debt Service Reserve Requirement, the Authority shall transfer from the Capital Reinvestment Fund to the credit of the respective Funds (in the order set forth in the Metropolitan Highway System Trust Agreement) the amount necessary (or all the moneys credited to the Capital Reinvestment Fund if less than the amount necessary) to make up such deficiency. (*Section 511*).

#### **Application of General Fund**

If, on the last Business Day of any month, the amount in the Senior Debt Service Fund shall be less than the amount required to be deposited therein on such date, the amount in the Senior Debt Service Reserve Fund shall be less than the Senior Debt Service Reserve Requirement; the amount in the Subordinated Debt Service Fund shall be less than the amount then required to be on deposit in such Fund, or the amount in the Subordinated Debt Service Reserve Fund shall be less than the Subordinated Debt Service Reserve Requirement, the Authority shall transfer from any or all accounts within the General Fund to the credit of the respective Funds the amount necessary (or all the moneys credited to the General Fund if less than the amount necessary) to make up such deficiency.

To the extent not required to make up any deficiency as required above, amounts in the General Fund may, upon the direction of an Authorized Officer of the Authority, be transferred to any Fund or Account, transferred to the Authority free and clear of the lien of the Metropolitan Highway System Trust Agreement for any of its corporate purposes consistent with the Act, or applied to the payment of debt service on General Fund Indebtedness or the payment of any General Fund Expenses. (*Section 512*).

#### **Investment of Funds**

Amounts in the Funds and Accounts established by the Metropolitan Highway System Trust Agreement may be invested by the Trustee at the direction of the Authority or by the Authority, as the case may be, only in Investment Obligations; except that (i) no moneys in the Revenue Fund, the Senior Debt Service Fund, the Subordinated Debt Service Fund, the Senior Debt Service Reserve Fund or the Subordinated Debt Service Reserve Fund shall be invested in any Investment Obligation described in clause (xiv) of the definition of Investment Obligations and (ii) no moneys in the Senior Debt Service Reserve Fund and Subordinated Debt Service Reserve Fund shall be invested in Investment Obligations of greater than a five year maturity, except for Investment Obligations described in clauses (x), (xi) or (xiv) of such definition which, if any Insured Bonds are outstanding, have been approved by the Insurer. To the extent not used to meet the requirement of such Funds and Accounts, income from such Investment Obligations shall be paid to the Trustee as received for deposit in the Revenue Fund; provided that (i) the income from any Investment Obligations in the Rebate Fund and in the Bond Proceeds Fund or in a separate account or sub-account therein, except as may be provided in a Supplemental Trust Agreement with respect to Additional Bonds, shall be held in such Fund, Account or sub-account for the purposes thereof, (ii) the income from any Investment Obligations in the Senior Debt Service Fund or the Subordinated Debt Service Fund shall be held in such Funds for the purposes thereof and (iii) the income from any Investment Obligations in the Senior Debt Service Reserve Fund and the Subordinated Debt Service Reserve Fund shall be credited to the Senior Debt Service Fund and the Subordinated Debt Service Fund, respectively. The Trustee and the Authority shall sell any Investment Obligations held in any Fund or Account to the extent required for payments from such Fund or Account. The proceeds of such sales, and of all payments at maturity or upon redemption of such investments, shall be held in the applicable Fund or Account to the extent required to meet the requirements of such Fund or Account. *In computing the amount of such Funds and Accounts, investments shall be valued at par, or if purchased at other*

than par, shall be valued at Amortized Value; except that seventy-five percent (75%) of the investments in the Senior Debt Service Reserve Fund and Subordinated Debt Service Reserve Fund shall be valued at market annually on each January 1 beginning January 1, 1999. Accrued interest received upon the sale of any Investment Obligation shall be treated as income from such Investment Obligation. Each investment of any moneys in any Fund or Account established under the Metropolitan Highway System Trust Agreement shall permit the moneys so deposited or invested to be available for use at the times at which the Authority reasonably believes such moneys will be required for the purposes above. (*Section 513*).

#### **Satisfaction of Sinking Fund Installments**

Any amount accumulated in the Senior Debt Service Fund or Subordinated Debt Service Fund up to the unsatisfied balance of each respective Sinking Fund Installment may be applied (together with amounts accumulated in the Senior Debt Service Fund or Subordinated Debt Service Fund with respect to interest on the Bonds for which such Sinking Fund Installment was established) by the Trustee at the direction of the Authority prior to the forty-fifth day preceding the due date of such Sinking Fund Installment to the purchase or the redemption of Bonds to be redeemed from such Sinking Fund Installment at prices (including any brokerage and other charges) not exceeding the principal amount of such Bonds plus unpaid interest accrued to the date of purchase.

Upon the purchase or redemption of any Series of Bonds for which Sinking Fund Installments shall have been established, an amount equal to the principal amount of the Bonds so purchased or redeemed shall be credited toward future Sinking Fund Installments in such order as the Authority shall determine. In satisfaction, in whole or in part, of any Sinking Fund Installment, the Authority may deliver to the Trustee at least forty-five days prior to the date of such Sinking Fund Installment, for cancellation, Bonds purchased or redeemed, except Bonds purchased or redeemed pursuant to the first paragraph under this heading, of the Series and maturity entitled to such Sinking Fund Installment. All Bonds so delivered to the Trustee in satisfaction of a Sinking Fund Installment shall reduce the amount thereof by the amount of the aggregate principal amount of such Bonds.

The Trustee shall pay out of the Senior Debt Service Fund or Subordinated Debt Service Funds as applicable, to the appropriate Paying Agents, on or before such redemption date (or maturity date), the amount required for the redemption of the Bonds so called for redemption (or for the payment of such Bonds then maturing), and such amount shall be applied by such Paying Agents to such redemption (or payment). (*Section 514*).

#### **Particular Covenants of the Authority:**

##### **Payment of Bonds**

The Authority shall duly and punctually pay or cause to be paid the principal or Redemption Price of every Bond and the interest thereon, at the dates and places and in the manner mentioned in the Bonds, according to the true intent and meaning thereof, and shall duly and punctually satisfy all Sinking Fund Installments which may be established for any Series. Except as otherwise provided in the Metropolitan Highway System Trust Agreement, the principal or Redemption Price of such Bonds and the interest thereon are payable solely from Revenues which Revenues are pledged under the Metropolitan Highway System Trust Agreement to the payment thereof in the manner and to the extent particularly specified under this heading, and nothing in the Bonds or in the Metropolitan Highway System Trust Agreement shall be construed as obligating the Commonwealth or any political subdivision thereof to pay the Bonds or the interest thereon except from such Revenues or as pledging the faith and credit or taxing power of the Commonwealth or of any such political subdivision. (*Section 601*).

##### **Power to Construct and Operate Projects and Collect Tolls and Charges**

Pursuant to the Act, the Authority has and continues to have good right and lawful power to construct, reconstruct, maintain, repair and operate the Accepted Metropolitan Highway System, any Extension and any other

Project for which it expends Revenues or incurs Indebtedness under the Metropolitan Highway System Trust Agreement, and to fix and revise from time to time and charge and collect tolls, fees, rates, rents, or other charges for the use thereof as provided in the Metropolitan Highway System Trust Agreement and its covenants shall run to the Bondowners for so long as any Bonds are Outstanding. (*Section 605*).

### **Dedicated Payments**

In the Authority's discretion, revenues of the Authority which are not Revenues as defined in the Metropolitan Highway System Trust Agreement as initially adopted may be pledged and designated as Dedicated Payments by Supplemental Trust Agreement, provided the conditions in one of the three following sentences of this paragraph are satisfied. If such Dedicated Payments are to be received from the United States of America, (a) they must automatically recur without appropriation, approval or other similar action by the United States of America or any agency or instrumentality thereof for so long as the Authority is relying thereon for the purpose of issuing Bonds or demonstrating compliance with covenants of the Metropolitan Highway System Trust Agreement and (b) the manner of determining the amounts to be derived therefrom must not be subject to change or revision during such period. If such Dedicated Payments are to be received from the Commonwealth, they must consist of a payment obligation payable to the Authority pursuant to a statutory or contractual arrangement with the Commonwealth which, in the opinion of Bond Counsel, constitutes a general obligation of the Commonwealth; provided that at the time of entering into such arrangement (a) such arrangement, by its terms, will not terminate so long as the Authority is relying thereon for the purpose of issuing Bonds or demonstrating compliance with covenants under the Metropolitan Highway System Trust Agreement and (b) the manner of determining the amounts to be derived from such arrangement is not subject to change or revision during such period. Notwithstanding the source of funding, if the Authority has received a written confirmation from each Rating Agency that its rating of Outstanding Bonds will not be adversely affected, the Authority may, in its sole discretion, designate any revenues which are not Revenues, as defined in the Metropolitan Highway System Trust Agreement as initially adopted, described prior to the proviso in the first sentence of this paragraph as Dedicated Payments.

Any Supplemental Trust Agreement pledging and designating Dedicated Payments shall be supported by a Certificate of an Authorized Officer, demonstrating satisfaction of the requirements of the paragraph above. All Dedicated Payments shall be deposited upon receipt in the Senior Debt Service Fund or the Subordinated Debt Service Fund, as determined by such Certificate of an Authorized Officer. The Authority may in its discretion reverse or modify any pledge and designation of Dedicated Revenues by a further Supplemental Trust Agreement and any determination to deposit Dedicated Payments in a particular Debt Service Fund may be reversed or modified by Certificate of an Authorized Officer, in each case provided that a Certificate of an Authorized Officer shall establish that following any such reversal or modification the Authority will meet the test for incurring \$1 (one dollar) of Additional Senior Bonds and the Authority will be in compliance with the provisions of the Metropolitan Highway System Trust Agreement. (*Section 606*).

### **Creation of Liens; Sale, Lease and Transfer of Property**

Until the pledge of the Metropolitan Highway System Trust Agreement shall be discharged and satisfied, as described under the heading "Defeasance," the Authority shall not, except as provided below, (i) issue any bonds or other evidences of indebtedness, other than Bonds secured by a pledge of the Revenues or other moneys, securities or funds and accounts held or set aside by the Authority or by the Fiduciaries under the Metropolitan Highway System Trust Agreement, nor create or cause to be created any lien or charge on the Revenues, or such moneys, securities or funds and accounts, (ii) at any time when the Authority is in default in making any payment required to be made under the Metropolitan Highway System Trust Agreement or maintaining any Fund or Account required to be maintained in the amount required therefor by the Metropolitan Highway System Trust Agreement, set apart or appropriate and pay any amount out of the General Fund except as required by the Metropolitan Highway System Trust Agreement, or (iii) issue any bonds or other evidences of indebtedness, other than Bonds secured by a pledge of any tolls, revenues, rates, fees, charges, rentals (other than rental payments or license payments not pledged as Revenues under the Metropolitan Highway System Trust Agreement) or other earned income or receipts, as derived in cash by or for the account of the Authority, from the Accepted Metropolitan

Highway System; provided, however, that nothing contained in the Metropolitan Highway System Trust Agreement shall prevent the Authority from at any time issuing Bond Anticipation Notes secured as provided in the Metropolitan Highway System Trust Agreement; provided further, however, that this heading shall not apply to, and shall not be construed to apply to, any right or interest of the Authority in any project which is not part of the Accepted Metropolitan Highway System unless and until the Authority designates such project as part of the Accepted Metropolitan Highway System in accordance with the terms of the Metropolitan Highway System Trust Agreement.

No part of the Accepted Metropolitan Highway System or any Extension shall be sold, mortgaged, leased or otherwise disposed of or encumbered, except that the Authority may (i) sell, exchange or otherwise dispose of at any time and from time to time any property or facilities constituting part of the Accepted Metropolitan Highway System or any Extension (a) not useful or no longer needed, in the opinion of the Authority, in the construction, maintenance or operation thereof or (b) if the Authority shall certify that following such sale exchange or disposition, the Authority will meet the test for incurring \$1 (one dollar) of Additional Senior Bonds and the Authority will be in compliance with the toll covenant described under the heading "Tolls and Charges"; (ii) lease or make contracts or grant licenses for the operation of, or grant easements or other rights, including, without limitation, air rights with respect to, any part of the Accepted Metropolitan Highway System or any Extension, if such lease, contract, license, easement or right does not, in the opinion of the Authority (a) impede or restrict the operation by the Authority of the Accepted Metropolitan Highway System or (b) materially adversely affect the ability of the Authority to comply with the covenants described under the heading "Tolls and Charges" or (c) otherwise run contrary to the best interests of the Authority; or (iii) sell or transfer to the Massachusetts Port Authority in furtherance of such authority's traffic management or safety purposes, at any time and from time to time, a portion of the Accepted Metropolitan Highway System which is not subject to a toll, rental or other charge for the use thereof.

The net proceeds of any award, condemnation or taking by eminent domain which are not deposited in the Capital Reinvestment Fund to be used for the repair and improvement of the applicable Project shall be deposited in the discretion of an Authorized Officer in the Senior Debt Service Fund or the Subordinated Debt Service Fund and applied to the purchase or redemption of Senior Bonds or Subordinated Bonds, respectively, or in the Revenue Fund.

Nothing contained in the Metropolitan Highway System Trust Agreement shall be used to prohibit the Authority from (i) entering into a purchase money mortgage, lease-purchase agreement or capitalized lease with respect to its property or equipment or (ii) creating or permitting to be created a lien, mortgage or other security interest in its property or equipment in connection with such purchase money mortgage, lease-purchase agreement or capitalized lease provided that such lien, mortgage or other security interest shall not be equal or prior to the pledge created by the Metropolitan Highway System Trust Agreement. (*Section 607*).

#### **Acceptance of Metropolitan Highway System**

The Authority shall not accept additional portions of the Metropolitan Highway System for inclusion in the Accepted Metropolitan Highway System unless there has been submitted to the Trustee the following certificates:

(1) a certificate of an Authorized Officer setting forth (i) that the Authority has determined to accept for inclusion in the Accepted Metropolitan Highway System such portion of the Metropolitan Highway System, (ii) that, in the determination of the Authority, such portion of the Metropolitan Highway System meets the standards for travel as specified in the Act, (iii) that there are no material unmet capital expenditures with respect to such portion of the Metropolitan Highway System and (iv) that the Authority has an Ownership Interest in such portion of the Metropolitan Highway System; and

(2) a certificate of the Authority that following the inclusion of such portion of the Metropolitan Highway System in the Accepted Metropolitan Highway System, the Authority will meet the test for incurring \$1

(one dollar) of Additional Senior Bonds and the Authority will be in compliance with the provisions under the heading "Tolls and Charges" below. (Section 607).

### **Operation and Maintenance of Projects**

The Authority shall at all times operate or cause to be operated the Accepted Metropolitan Highway System, any Extension and any other Project, to the extent subject to the control of the Authority, properly and in a safe, sound and economical manner and shall maintain, preserve, reconstruct and keep the same or cause the same to be so maintained, preserved, reconstructed and kept, with the appurtenances and every part and parcel thereof, in good repair, working order and condition, and shall from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that at all times the operation of such Projects may be properly and efficiently conducted. Neither the Revenues nor the amounts in the Operating Fund shall be applied to the payment of any operating or maintenance expenses other than as permitted by the terms of the Metropolitan Highway System Trust Agreement. (Section 609).

### **Tolls and Charges**

The Authority shall at all times establish, levy, maintain and collect such tolls, rentals and other charges in connection with the Accepted Metropolitan Highway System, any Extension and other Projects as shall always be sufficient in the aggregate to provide Revenues in each Fiscal Year to satisfy the following requirements of paragraphs (1) and (2) below:

- (1) Revenues for each Fiscal Year shall be at least sufficient for the payment of the sum of:
  - (a) Operating Expenses for such Fiscal Year;
  - (b) An amount equal to the Aggregate Debt Service for such Fiscal Year;
  - (c) The amount, if any, to be paid during such Fiscal Year into the Senior Debt Service Reserve Fund (other than amounts required to be paid into such Fund out of the proceeds of Senior Bonds);
  - (d) The amount, if any, to be paid during such Fiscal Year into the Subordinated Debt Service Reserve Fund (other than amounts required to be paid into such Fund out of the proceeds of Subordinated Bonds);
  - (e) The Capital Reinvestment Requirement for such Fiscal Year; and
  - (f) To the extent not otherwise provided for, the amount which, together with any other lawfully available funds received by the Authority, shall be sufficient to provide for the payment of all other obligations of the Authority allocable to the Accepted Metropolitan Highway System, or any Extension.
- (2) Net Revenues for such Fiscal Year shall equal at least the greater of (i) 1.20 times the Senior Net Debt Service for such Fiscal Year, (ii) 1.15 times the Combined Net Debt Service for such Fiscal Year and (iii) 1.00 times the Combined Net Debt Service plus the Capital Reinvestment Requirement for the Fiscal Year.

The Authority may, to the extent permitted by law, with respect to Accepted Metropolitan Highway System, any Extension or any portion of the Metropolitan Highway System which is not part of the Accepted Metropolitan Highway System, at any time convert to methods of toll collection other than those presently utilized, provided that it shall comply with the above; provided that prior to instituting any commuter discount program or toll suspension during holidays (other than the toll suspension on Wednesday, November 26 and Thursday, November 27, 1997 as required pursuant to Chapter 11 of the Acts of 1997 of the Commonwealth), the Authority shall deliver to the Trustee a certificate of an Independent Consultant estimating that in each of the Fiscal Years following the implementation of such discount program or toll suspension during which Senior Bonds will be Outstanding, Net Revenues will be at least equal to 1.20 times Senior Net Debt Service and 1.15 times Combined Net Debt Service; or (ii) a certificate of an Independent Consultant that (a) in each of the Fiscal Years following the implementation of the discount program or toll suspension preceding a particular future Fiscal Year designated for the purpose by the Authority, Net Revenues will be at least equal to 1.20 times the amount of Senior Net Debt Service and 1.15 times the amount of Combined Net Debt Service in each such Fiscal Year and (b) in such designated future Fiscal Year, Net Revenues will be at least equal to 1.20 times the maximum amount of Senior Net Debt Service and 1.15 times the maximum amount of Combined Net Debt Service in the then current or any subsequent Fiscal Year. For purposes of any projections in any such certificate, the Independent Consultant or the Authority may include estimated toll increases and Operating Expenses which are projected by the Authority to occur during the applicable period of projection, which projections are reasonable in the opinion of the Independent Consultant and projections of Debt Service and Revenues shall be consistent with the requirements of the covenant regarding projected calculations of Debt Service and Revenues under the Metropolitan Highway System Trust Agreement.

On or before the 180<sup>th</sup> and the 360<sup>th</sup> day of each Fiscal Year, the Authority shall determine whether the calculations required above (on an annualized basis) indicate that Revenues are reasonably expected to be at or above the required levels at such time. In the event that Revenues are not at or reasonably expected to be at or above the required levels, the Authority shall within 30 days retain an Independent Consultant for the purpose of estimating whether the Revenues in each of the two subsequent Fiscal Years will be sufficient, together with other moneys available therefor, to meet all requirements as specified above. Such review shall be evidenced by a certificate of an Independent Consultant which shall be filed with the Trustee on or before the 60<sup>th</sup> day after retention of the Independent Consultant and shall set forth a reasonably detailed statement of the actual and estimated Revenues, Operating Expenses, and other pertinent information for such year upon which such determination was made. If any such statement shows that such Revenues may not be sufficient to meet the requirements above, the Independent Consultant shall recommend and the Authority shall promptly fix and establish such tolls, rentals and other charges and take such other action as shall be necessary and sufficient to comply as nearly as practicable with the covenants above, as evidenced by a certificate of an Authorized Officer filed with the Trustee. Failure to comply with the above will not constitute a default if the Independent Consultant is of the opinion that a schedule of tolls, rentals and other charges which will comply with such covenants is impracticable at that time and the Authority establishes a schedule of tolls, rentals and other charges which is recommended by the Independent Consultant to comply as nearly as practicable with such covenants; for purposes of such opinion, "impracticable" shall mean that in the view of the Independent Consultant providing such opinion the level of tolls, rentals and other charges which will comply with such covenants would likely produce a lesser amount of collections than the level of tolls, rentals and other charges being recommended by such Independent Consultant. (Section 610).

#### **Extensions**

The Authority may expend Revenues on the Operating Expenses or incur any Indebtedness to finance the Project Cost of:

(1) an Extension then subject to a toll, rent or other charge for the use thereof, upon the earliest of the date the Authority (a) acquires an Ownership Interest in, (b) incurs any Indebtedness with respect to or (c) enters in to a binding agreement for the acquisition, design, construction, improvement, reconstruction, renewal or rehabilitation with respect to such Extension; or

(2) an Extension not then, but expected to be, subject to a toll, rent or other charge for the use thereof, upon the earlier of (a) 12 months after the date the Authority acquires an Ownership Interest in, incurs any Indebtedness with respect to or enters into a binding agreement for the acquisition, design, construction, improvement, reconstruction, renewal or rehabilitation with respect to such Extension or (b) the Date of Completion of all work necessary to impose a toll, rent or other charge with respect to such Extension;

Each of the above dates is referred to as a "Determination Date."

Notwithstanding the foregoing, the Authority shall not expend any Revenues on the Operating Expenses or incur any Indebtedness to finance the Project Cost of any Extension unless there has been submitted to the Trustee the following certificates and opinion:

(1) A certificate of an Independent Consultant setting forth that, in the opinion of such Independent Consultant, for each of two successive 12-month periods, the earliest of which begins on a quarterly date not more than 60 days immediately following the Determination Date, the revenues to be derived from the operation of such Extension, including revenues to be derived from any Dedicated Payments which are dedicated at the time of, but not earlier than, the Determination Date, will exceed the sum of the projected operating expenses and the projected renewal and replacement costs, if any, for such Extension during such period;

(2) A certificate of an Independent Consultant setting forth (A) the projected total Revenues and Operating Expenses of the Authority for the two 12-month periods described in paragraph (1); provided that in such certificate (a) the Revenues and Operating Expenses, respectively, shall be increased by the projected revenues and Operating Expenses of such Extension for such 12-month period, (b) if on the Determination Date the toll rate for any classification of vehicles using any vehicular toll Project shall be less than it was during any part of the periods covered by such certificate, the Revenues for such part of such period shall be decreased by an amount equal to the difference in such toll rate multiplied by the number of such vehicles which used such Project during such part of such period, and (c) the Revenues shall be increased to reflect any toll increase scheduled to be imposed during such periods and any increase in the number of vehicles using the Accepted Metropolitan Highway System projected for such periods and (B) that for each such 12-month period the Net Revenues, as calculated pursuant to clause (A) of this paragraph (2), are at least sufficient to comply with the requirement of the toll covenant described under the heading "Tolls and Charges" during each such period;

(3) A certificate of an Independent Consultant setting forth (A) the Revenues of the Authority for the two 12-month periods set forth in paragraph (1) calculated in the manner set forth in paragraph (2), (B) the sum of the amounts set forth in clauses (a) through (f), inclusive, of paragraph (1) under the heading "Tolls and Charges" above for each such 12-month period and (C) that for each such 12-month period the Revenues, as calculated pursuant to clause (A) of this paragraph (3), are at least equal to the amounts calculated pursuant to clause (B) of this paragraph (3).

(4) a certificate of the Authority that the Authority will meet the test for incurring \$1 (one dollar) of Additional Senior Bonds and the Authority will be in compliance with the toll covenant described under "Tolls and Charges" above. (*Section 611*).

#### **Accounts and Reports**

The Authority shall keep proper books of record and account (separate from all other records and accounts) in which complete and correct entries shall be made of its transactions relating to the Accepted Metropolitan Highway System, any Extensions and any other Project undertaken under the Metropolitan Highway System Trust Agreement, Funds established by the Metropolitan Highway System Trust Agreement, and which, together with all other books and papers of the Authority, including insurance policies, relating to such property and such Funds, shall at all times be subject to the inspection of the Trustee and the Owners of an aggregate of not less than twenty-five percent (25%) in principal amount of the Senior Bonds then Outstanding and/or the Owners of an aggregate of



not less than twenty-five percent (25%) in principal amount of Subordinated Bonds Outstanding or their respective representatives duly authorized in writing. The Authority shall cause such books and accounts to be audited annually after the end of its Fiscal Year by an independent public accountant selected by the Authority. Annually within thirty (30) days after receipt by the Authority of the report of such audit, a signed copy of such report shall be furnished to the Trustee.

The Authority shall annually, within one hundred twenty days (120) after the close of each Fiscal Year, deliver a Certificate of an Authorized Officer setting forth (i) a description in reasonable detail of the insurance then in effect pursuant to the requirements described under the heading "Insurance" below and that the Authority has complied in all material respects with the requirements described under said heading and (ii) whether or not to the knowledge of the signer, the Authority is in default with respect to any of the covenants, agreements or conditions on its part contained in the Metropolitan Highway System Trust Agreement and, if so, the nature of such default. (Section 612).

### **Insurance**

The Authority shall maintain or cause to be maintained with responsible insurers all required and reasonably obtainable insurance in such amount or amounts, if any, as shall be recommended by the Insurance Consultant to provide, with respect to the Metropolitan Highway System, any Extension and its interest in any other Projects, against (i) loss or damage and loss of revenues and (ii) public liability to the extent necessary to protect the interest of the Authority and the Bondowners.

No provision under this heading shall be construed to prohibit the Authority from self-insuring against any risk at the recommendation or approval of the Insurance Consultant; provided, however, that the Authority shall provide adequate funding of such self-insurance if and to the extent recommended by the Insurance Consultant. (Section 613).

### **Independent Consultant**

The Authority shall employ one or more independent consultants or consulting firms, financial or otherwise, independent engineers or engineering firms or corporations having favorable reputations for skill and experience in such work for the purposes of performing services of an Independent Consultant, intended under the Metropolitan Highway System Trust Agreement until the Bonds and the interest thereon shall have been paid or provision for such payment shall have been made. In rendering any report, certificate or opinion required pursuant to the Metropolitan Highway System Trust Agreement, an Independent Consultant may rely upon information, certificates, opinions or reports required to be provided by others pursuant to the Metropolitan Highway System Trust Agreement, and upon other sources which an Independent Consultant considers reliable, and other considerations and assumptions as deemed appropriate by the Independent Consultant, respectively.

The Authority shall cause an Independent Consultant, among such other duties as may be imposed upon them by the Authority or by the Metropolitan Highway System Trust Agreement, to make an inspection of the Accepted Metropolitan Highway System and any Extension at least every three Fiscal Years, or more frequently, if required by law, on or before the first day of October in each Fiscal Year, to submit to the Authority a report setting forth (i) their findings whether the Accepted Metropolitan Highway System and any Extension have been maintained in safe and good repair, working order and condition and (ii) their recommendations as to the proper maintenance, repair and operation of the Accepted Metropolitan Highway System during the ensuing three Fiscal Years and an estimate of the amount of money necessary for such purposes.

The Authority shall, promptly after the receipt of each such report, file copies thereof with the Trustee. If any such report shall set forth that the Accepted Metropolitan Highway System or any Extension, or any part thereof, has not been maintained in safe and good repair, working order and condition, the Authority shall promptly restore the same to safe and good repair, working order and condition with all expedition practicable in accordance with the recommendations of an Independent Consultant. (Section 614).

## **Annual Budget**

No later than the beginning of each Fiscal Year, the Authority shall prepare and file with the Trustee an Annual Budget for such Fiscal Year which shall set forth in reasonable detail the estimated Revenues and Operating Expenses, capital expenditures and other expenditures of the Authority for such Fiscal Year and shall establish the Capital Reinvestment Requirement for such Fiscal Year. Such Annual Budget also may set forth such additional material as the Authority may determine. Following the end of the first half of its Fiscal Year, the Authority shall review its estimates set forth in the Annual Budget for such Fiscal Year, and in the event such estimates do not substantially correspond with actual Revenues, Operating Expenses, capital expenditures or other requirements, or if there are at any time during any such Fiscal Year extraordinary receipts or payments of unusual costs, the Authority shall, to the extent necessary or appropriate to assure compliance with the requirement of the rate covenant summarized under the heading "Tolls and Charges," prepare an amended Annual Budget for the remainder of such Fiscal Year. The Authority also may at any time adopt an amended Annual Budget for the remainder of the then current Fiscal Year. Any amended Annual Budget shall be filed with the Trustee promptly upon its adoption. *(Section 615).*

## **Covenants Regarding Calculation of Projected Debt Service and Revenues**

In making any calculation required under the Metropolitan Highway System Trust Agreement relating to certain Additional Bonds:

1. Debt Service shall include:

(1) in the case of Projects funded from Bond proceeds which do or are projected to produce Revenues, the principal and Sinking Fund Installments of and interest on an aggregate principal amount of Bonds equal to the difference between (a) the total capital expenditures or costs projected to be made by the Authority from the proceeds of Bonds, and (b) the principal amount of Bonds issued to finance such expenditures or costs assuming that (i) such Bonds were issued on the date of calculation, (ii) no such Bond matures later than the maturity date calculated from the assumed date of issuance to the latest maturity date permitted under the Act, (iii) such Bonds bear interest at such rates as an Authorized Officer shall determine to be required to have sold such Bonds at a price equal to the principal amount thereof, (iv) interest on such Bonds is payable on interest payment dates of each year commencing on the first such date next succeeding the assumed date of issuance and (v) the principal, Sinking Fund Installments and interest payable during any Fiscal Year after the assumed date of issuance is substantially equal to the principal, Sinking Fund Installments and interest payable during any other such Fiscal Year;

(2) the principal and Sinking Fund Installments of and interest on an aggregate principal amount of Bonds issued or expected to be issued in an amount sufficient to pay the principal of and interest on any Bond Anticipation Notes then Outstanding assuming with respect to such Bonds the assumptions set forth in the Metropolitan Highway System Trust Agreement;

(3) if at the time of calculation the Authority then has Outstanding any Variable Interest Rate Bonds secured by a Credit Facility the reimbursement obligation under which is payable on a subordinate basis to Debt Service on Bonds, Debt Service on such Variable Interest Rate Bonds assuming such Bonds bear interest at the Estimated Average Interest Rate; and

(4) if at the time of calculation the Authority then has Outstanding any Bank Bonds, Debt Service on such Bank Bonds assuming the principal amount of such Bonds is equal to the reimbursement obligation under the Credit Facility from which such Bonds are payable, the interest rate on such Bonds is the interest rate set forth in, or determined in the manner set forth in, such Credit Facility, and the principal

of such Bonds will be payable at the time the reimbursement obligation comes due under such Credit Facility.

2. Projected Revenues shall not include:

(1) any operating assistance, subsidy and other similar funding from a governmental or other entity which may be pledged and designated as Supplemental Revenues after the date of adoption of the Metropolitan Highway System Trust Agreement unless such Supplemental Revenues have been received at the time of the projection or satisfy the conditions set forth in the Metropolitan Highway System Trust Agreement even though the Authority has not designated such Supplemental Revenues as Dedicated Payments. Any such Supplemental Revenues, together with any Dedicated Payments, may be projected to be available in accordance with the terms of any arrangements governing the same or, if applicable, the terms, if any, of each written confirmation from each Rating Agency received pursuant to the conditions set forth in the Metropolitan Highway System Trust Agreement (see "Dedicated Payments" above).

(2) any Revenues from leases, licenses or other similar agreements with third parties other than those required by the terms of written agreements which are in full force and effect; provided that in the case of any such agreements which expire during the period of the projection the Authority or an Independent Consultant may project continued Revenues (i) at the level in effect immediately prior to such expiration if the Authority certifies that it reasonably expects it will be able to achieve such Revenues under renewal or replacement agreements under then current market conditions or (ii) at such higher level as the Authority certifies that it expects and an Independent Consultant provides its opinion that the Authority's expectation is reasonable.  
(Section 617).

#### **Certain Lease Payments**

Pursuant to the Metropolitan Highway System Trust Agreement, the rental payments under a certain Lease Agreement dated December 22, 1978, amended and restated as of January 1, 1980, as amended from time to time between the Authority and Urban Investment and Development Company (the "Copley Lease") are pledged as Revenues. Under the terms of the Copley Lease, certain amounts held in escrow for the benefit of the Authority in the principal amount of \$15,800,000 (the "Copley Lease Escrow") will become available to the Authority for any lawful purpose on and after February 15, 2002.

Unless the moneys in the Copley Lease Escrow are otherwise required to meet the Authority's obligations under the Metropolitan Highway System Trust Agreement, the Authority covenants to reinvest such moneys in Investment Obligations on or about February 15, 2002, in such manner as to provide, as nearly as practicable, level annual payments which will constitute Revenues in each of the Fiscal Years from and including 2003 through and including 2008. At all times, the Authority shall invest the Copley Lease Escrow in such manner, and make such payments to the Internal Revenue Service on account of such investment income as may be required under the Code, if any, to preserve the exclusion from gross income for federal income tax purposes of the interest on the Initial Bonds and any Additional Bonds. (Section 618).

#### **Tax Covenant**

The Authority shall take, or require to be taken, such action as may from time to time be required to assure the continued exclusion from the federal gross income of holders of any Series of Bonds, the interest on which is not includable in the gross income of the holder thereof for Federal income tax purposes. The Authority shall not permit the investment or application of the proceeds of any Series of Bonds, the interest on which is not includable in the gross income of the holder thereof for Federal income tax purposes, including any funds considered proceeds

within the meaning of section 148 of the Code, to be used to acquire any investment property the acquisition of which would cause such Bonds to be "arbitrage bonds" within the meaning of said section 148.

### **Trustee and Paying Agents**

The Metropolitan Highway System Trust Agreement appoints United States Trust Company of New York, New York, New York as Trustee under the Metropolitan Highway System Trust Agreement. United States Trust Company of New York, New York, New York is appointed Paying Agent for the Initial Bonds. The Authority shall appoint one or more Paying Agents for Additional Bonds of any Series in the Supplemental Trust Agreement authorizing such Bonds, and may at any time or from time to time appoint one or more other Paying Agents having the qualifications set forth in the Metropolitan Highway System Trust Agreement for a successor Paying Agent. The Trustee may be appointed as Paying Agent. The Trustee may at any time resign and be discharged of the duties and obligations created by the Metropolitan Highway System Trust Agreement by giving not less than 30 days written notice. The Trustee may be removed at any time by an instrument signed by the Owners of a majority in principal amount of the Senior Bonds and the Subordinated Bonds then Outstanding and the Trustee may also be removed at any time, other than during the continuance of an event of default under the Metropolitan Highway System Trust Agreement, by the Authority, by an instrument in writing signed and acknowledged by an Authorized Officer of the Authority. Any successor shall be a bank or trust company organized under the laws of any state of the United States or a national banking association having a capital and surplus aggregating at least \$50,000,000. (*Sections 701, 702, 707, 708, 709*).

### **Supplemental Trust Agreements**

The Authority may adopt without the consent of the Trustee or Bondowners Supplemental Trust Agreements for, among other things:

- (1) To authorize Additional Bonds of a Series;
- (2) To designate or confirm the designation of any Project as part of the Accepted Metropolitan Highway System permitted under the Metropolitan Highway System Trust Agreement;
- (3) To pledge and designate any revenues of the Authority which are not Revenues as defined in the Metropolitan Highway System Trust Agreement as initially adopted as Supplemental Revenues or as Dedicated Payments and to reverse or modify any such pledge and designation of Dedicated Payments; provided that any such pledge and designation of Dedicated Payments, or reversal or modification thereof, shall be subject to the provisions of the Metropolitan Highway System Trust Agreement;
- (4) To establish for any Series of Additional Bonds a separate account in the Senior Debt Service Reserve Fund or Subordinated Debt Service Reserve Fund, as applicable, which shall be permitted to be applied solely to the payment of Senior Bonds or Subordinated Bonds, as applicable, of such Series provided that (i) the Bonds of such Series shall have no claim or lien on nor be payable from any other amounts in the Senior Debt Service Reserve Fund or Subordinated Debt Service Reserve Fund, as applicable, (ii) the Bonds of such Series shall be excluded from the calculation of the Senior Debt Service Reserve Requirement or Subordinated Debt Service Reserve Requirement, as applicable, and (iii) the amount required to be on deposit in such account shall be specified in the Supplemental Trust Agreement authorizing the Bonds of such Series; and
- (5) To add to the Metropolitan Highway System Trust Agreement any provisions relating to the application of interest earnings in any Fund or account under the Metropolitan Highway System Trust Agreement required by law to preserve the exclusion from gross income for Federal income tax purposes of interest received on the Bonds then Outstanding or to be issued or the exemption of interest received on such Bonds from Commonwealth income taxation;

(6) To modify any of the provisions of the Metropolitan Highway System Trust Agreement in any respect whatsoever, provided that (i) such modification shall be, and be expressed to be, effective only after all Bonds of any Series Outstanding at the date of the adoption of such Supplemental Trust Agreement shall cease to be Outstanding and (ii) such Supplemental Trust Agreement shall be specifically referred to in the text of all Bonds of any Series authenticated and delivered after the date of the adoption of such Supplemental Trust Agreement and of Bonds issued in exchange therefor or in place thereof.

The Authority may adopt with the consent of the Trustee a Supplemental Trust Agreement:

(1) To cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Metropolitan Highway System Trust Agreement;

(2) To insert such provisions clarifying matters or questions arising under the Metropolitan Highway System Trust Agreement as are necessary or desirable and are not contrary to or inconsistent with the Metropolitan Highway System Trust Agreement as theretofore in effect; or

(3) To make any other modification or amendment of the Metropolitan Highway System Trust Agreement which the Trustee shall in its sole discretion determine will not have a material adverse affect on the interest of Bondowners. (*Sections 801, 802*).

#### **Amendments**

Any modification or amendment of the Metropolitan Highway System Trust Agreement and of the rights and obligations of the Authority and of the Owners of the Bonds and coupons thereunder may be made by a Supplemental Trust Agreement, with the written consent given as provided in the Metropolitan Highway System Trust Agreement, (i) of the Owners of at least a majority in principal amount of the Senior Bonds Outstanding or, if no Senior Bonds are Outstanding, at least a majority in principal amount of the Subordinated Bonds Outstanding at the time such consent is given, and (ii) in case less than all of the Senior Bonds, or if no Senior Bonds are Outstanding, less than all of the Subordinated Bonds, then Outstanding are affected by the modification or amendment, of the Owners of at least a majority in principal amount of the Senior Bonds, or if no Senior Bonds are Outstanding, Subordinated Bonds, of each Series so affected and Outstanding at the time such consent is given; provided, however, that if such modification or amendment will, by its terms, not take effect so long as any Bonds remain Outstanding, the consent of the Owners of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under this heading. No such modification or amendment shall (a) permit a change in the terms of redemption or maturity of the principal of any Outstanding Senior Bond or any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the Owner of such Bond, (b) permit the creation of any pledge, lien, charge or encumbrance of or upon any of the items purported to be pledged pursuant to the Metropolitan Highway System Trust Agreement, which pledge, lien, charge or encumbrance would be prior to, or of equal rank with, the pledge or source of payment for the Bonds created by the Metropolitan Highway System Trust Agreement, without the consent of the Owners of all Outstanding Bonds affected by such change, or deprive any Owner of any Outstanding Bond of the benefit of such pledge or source of payment for the Bonds, without the consent of such Owner, (c) create, with respect to the pledge of the Metropolitan Highway System Trust Agreement, a preference or priority of any Senior Bond over any other Senior Bond without the consent of each Owner of a Senior Bond affected by such change, (d) reduce the percentages or otherwise affect the classes of Bonds the consent of the Owners of which is required to effect any such modification or amendment, or (e) change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. (*Section 902*).

#### **Events of Default**

Each of the following events are declared an "Event of Default" with respect to Senior Bonds and Subordinated Bonds under the Metropolitan Highway System Trust Agreement.

(1) Payment of the principal and redemption premium, if any, of any of the Bonds shall not be made when the same shall become due and payable, either at maturity or by proceedings for redemption or otherwise; or

(2) Payment of any installment of interest on any of the Bonds shall not be made within five (5) days after the same shall become due and payable; or

(3) Any part of the Accepted Metropolitan Highway System or any Extension shall be destroyed or damaged to the extent of impairing its efficient operation and materially adversely affecting the Revenues and the Authority shall not have taken reasonable steps to promptly repair, replace, reconstruct, or provide a reasonable substitute for the damaged or destroyed part of the Accepted Metropolitan Highway System or Extensions (whether such failure promptly to repair, replace or reconstruct or provide a substitute for the same be due to the impracticability of such repair, replacement, reconstruction or substitution or to lack of funds therefor or for any other reason); or

(4) an order or decree shall be entered, with the consent or acquiescence of the Authority, appointing a receiver or receivers of all or any portion of the Accepted Metropolitan Highway System or any Extension or of the tolls or other revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the Authority, shall not be vacated or discharged or stayed on appeal within sixty (60) days after the entry thereof; or

(5) any proceeding shall be instituted, with the consent or acquiescence of the Authority, for the purpose of effecting a composition between the Authority and its creditors or for the purpose of adjusting the claims of such creditors, pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from the revenues of the Accepted Metropolitan Highway System or any Extension; or

(6) the Authority shall default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in the Metropolitan Highway System Trust Agreement on the part of the Authority to be performed, and such default shall continue for sixty (60) days after written notice specifying such default and requiring the same to be remedied shall have been given to the Authority by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Owners of not less than twenty-five percent (25%) in aggregate principal amount of the Bonds then Outstanding. (*Section 1001*).

## **Remedies**

Upon the happening of any Event of Default, then and in every such case the Trustee may proceed, and upon the written request of the Owners of not less than twenty-five percent (25%) in aggregate principal amount of Senior Bonds or Subordinated Bonds then Outstanding under the Metropolitan Highway System Trust Agreement shall proceed to protect and enforce its rights and the rights of the Bondowners under the laws of the Commonwealth or under the Metropolitan Highway System Trust Agreement by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board of officer having jurisdiction, either for the specific performance of any covenant or agreement contained in the Metropolitan Highway System Trust Agreement or in aid or execution of any power granted or for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights. The Trustee shall not be required to take any remedial action (other than the giving of notice) unless indemnity satisfactory to the Trustee is furnished for any liability to be incurred thereby. (*Section 1002*).

## **Trustee for Subordinated Bondowners**

During any period in which an Event of Default shall have occurred and is continuing if there are Outstanding Subordinated Bonds and Senior Bonds, the registered owners of the Subordinated Bonds shall be entitled to the appointment of a trustee to act on their behalf in any suit, action or proceeding and to otherwise

exercise on their behalf any of their rights under the Metropolitan Highway System Trust Agreement; provided, however, that such trustee shall not be entitled to hold any Funds or Accounts which shall continue to be held under the Metropolitan Highway System Trust Agreement by the Trustee. During such period the Trustee shall then act exclusively on behalf of the registered owners of Senior Bonds Outstanding; provided, however, the Trustee shall continue to bear its fiduciary obligation to all Bondowners as provided in the Metropolitan Highway System Trust Agreement with respect to any Funds or Accounts or any other amounts held in trust. Any such trustee may be appointed with the consent of a majority in principal amount Outstanding of Subordinated Bonds. Notice of the appointment of any such trustee shall be given to the Trustee and the Authority promptly upon such appointment and to all registered owners of Subordinated Bonds. To the extent applicable, such trustee's duties shall be governed by Article VII of the Metropolitan Highway System Trust Agreement. (*Section 1003*).

#### **Priority of Payments After Default**

If the funds held by the Fiduciaries are insufficient for the payment of interest and principal or Redemption Price then due on the Bonds, such funds (excluding funds held for the payment or redemption of particular Bonds which have theretofore become due at maturity or by call for redemption) and any other moneys received or collected by the Fiduciaries after making provision for the payment of any expenses necessary in the opinion of the Trustee to preserve the continuity of the Revenues, or otherwise to protect the interests of the Owners of the Bonds, and for the payment of the charges and expenses and liabilities incurred and advances made by the Fiduciaries in the performance of their duties under the Metropolitan Highway System Trust Agreement, shall be in the following order: (i) to the payment to the persons entitled thereto of all installments of interest then due on any Senior Bonds in the order of the maturity of such installments; (ii) to the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Senior Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates; (iii) to the payment to the persons entitled thereto of all installments of interest then due on Subordinated Bonds in the order of the maturity of such installments; and (iv) to the payment to the persons entitled thereto of unpaid principal or Redemption Price of any Subordinated Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates. (*Section 1004*).

#### **Defeasance**

If the Authority shall pay or cause to be paid, or there shall otherwise be paid, to the Owners of all Bonds then Outstanding, the principal and interest and Redemption Price to become due thereon, at the times and in the manner stipulated therein and in the Metropolitan Highway System Trust Agreement, then, at the option of the Authority, expressed in an instrument in writing signed by an Authorized Officer and delivered to the Trustee, the covenants, agreements and other obligations of the Authority to the Bondowners shall be discharged and satisfied. In such event, the Fiduciaries shall pay over or deliver to the Authority all money, securities and funds held by them pursuant to the Metropolitan Highway System Trust Agreement which are not required for the payment or redemption of Bonds not theretofore surrendered for such payment or redemption. If the Authority shall pay or cause to be paid, to the Owners of any Outstanding Bonds the principal or Redemption Price and interest due or to become due thereon, at the times and in the manner stipulated therein and in the Metropolitan Highway System Trust Agreement, such Bonds shall cease to be entitled to any lien, benefit or security under the Metropolitan Highway System Trust Agreement, and all covenants, agreements and obligations of the Authority to the Owners of such Bonds shall thereupon cease, terminate and become void and be discharged and satisfied. Notwithstanding any other provisions of the Metropolitan Highway System Trust Agreement, certain provisions, including those related to the redemption of Bonds, execution and authentication of Bonds, negotiability, transfer and registry of Bonds, satisfaction of Sinking Fund Installments, appointment of Trustee and Paying Agents, appointment of successor Trustee and Paying Agents and compensation of Fiduciaries, shall, within limits, survive the defeasance of the Bonds.

Bonds or interest installments for the payment or redemption of which moneys shall have been set aside and shall be held in trust by the Paying Agents (through deposit by the Authority of funds for such payment or redemption or otherwise) at the maturity or redemption date thereof shall be defeased. Subject to the provisions of

the fifth and ninth paragraphs under this heading, any Outstanding Bond shall prior to the maturity or redemption date thereof be defeased if (a) in case any of said Bonds are to be redeemed on any date prior to their maturity, the Authority shall have given to the Trustee instructions accepted in writing by the Trustee to mail notice of redemption of such Bonds (other than Bonds which have been purchased by the Trustee at the direction of the Authority or purchased or otherwise acquired by the Authority and delivered to the Trustee as hereinafter provided prior to the mailing of such notice of redemption) on said date, (b) there shall have been deposited with the Trustee either moneys in an amount which shall be sufficient, or Investment Obligations the principal of and interest on which when due will provide moneys which, together with the moneys, if any, deposited with the Trustee at the same time, shall be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on said Bonds on and prior to the redemption date or maturity date thereof, as the case may be, and (c) in the event said Bonds are not by their terms subject to redemption within the next succeeding sixty (60) days, the Authority shall have given the Trustee irrevocable instructions to mail, as soon as practicable, a notice to the Owners of such Bonds at their last addresses appearing upon the registry books at the close of business on the last Business Day on the month preceding the month for which notice is mailed that the deposit required by (b) above has been made with the Trustee and that said Bonds are defeased and stating such maturity or redemption date upon which moneys are expected, subject to the provisions under this heading, to be available for the payment of the principal or Redemption Price, if applicable, on said Bonds (other than Bonds which have been purchased by the Trustee at the direction of the Authority or purchased or otherwise acquired by the Authority and delivered to the Trustee as hereinafter provided prior to the mailing of the notice of redemption referred to in clause (a) under this paragraph). The Trustee shall, as and to the extent necessary, apply moneys held by it under this heading to the retirement of said Bonds in amounts equal to the unsatisfied balances of any Sinking Fund Installments with respect to such Bonds, all in the manner provided in the Metropolitan Highway System Trust Agreement. The Trustee shall, if so directed by the Authority (i) prior to the maturity date of defeased Bonds which are not to be redeemed prior to their maturity date or (ii) prior to the time of the mailing of the notice referred to in clause (a) above with respect to any defeased Bonds which are to be redeemed on any date prior to their maturity, apply moneys deposited with the Trustee in respect to such Bonds and redeem or sell Investment Obligations so deposited with the Trustee and apply the proceeds thereof to the purchase of such Bonds as arranged and directed by the Authority and the Trustee shall immediately thereafter cancel all such Bonds so purchased; provided, however, that the moneys and Investment Obligations remaining on deposit with the Trustee after the purchase and cancellation of such Bonds shall be sufficient to pay when due the Principal Installment or Redemption Price, if applicable, and interest due or to become due on all remaining Bonds, in respect of which such moneys and Investment Obligations are being held by the Trustee on or prior to the redemption date or maturity date thereof, as the case may be.

If, at any time (i) prior to the maturity date of defeased Bonds which are not to be redeemed prior to their maturity date or (ii) prior to the mailing of the notice of redemption referred to in clause (a) with respect to any defeased Bonds which are to be redeemed on any date prior to their maturity, the Authority shall purchase or otherwise acquire any such Bonds and deliver such Bonds to the Trustee prior to their maturity date or redemption date, as the case may be, the Trustee shall immediately cancel all such Bonds so delivered; such delivery of Bonds to the Trustee shall be accompanied by directions from the Authority to the Trustee as to the manner in which such Bonds are to be applied against the obligation of the Trustee to pay or redeem defeased Bonds; all in accordance with the Metropolitan Highway System Trust Agreement.

In the event that on any date as a result of any purchases, acquisitions and cancellations of Bonds, the total amount of moneys and Investment Obligations remaining on deposit with the Trustee is in excess of the total amount which would have been required to be deposited with the Trustee on such date in respect of the remaining Bonds in order to defease such Bonds, the Trustee shall, if requested by the Authority, pay the amount of such excess to the Authority free and clear of any trust, lien, security, interest, pledge or assignment securing said Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement. Except as otherwise provided under this heading, neither Investment Obligations nor moneys deposited with the Trustee pursuant to the provisions described under this heading nor principal or interest payments on any such Investment Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal or Redemption Price, if applicable, and interest on said Bonds; provided that any cash received from such principal or interest payment on such Investment Obligations deposited with the Trustee, (A) to the extent such cash will not be



required at any time for such purpose, shall be paid over to the Authority as received by the Trustee, free and clear of any trust, lien or pledge securing said Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement, and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Investment Obligations maturing at times and in amounts sufficient to pay when due the principal or Redemption Price, if applicable, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestment shall be paid over to the Authority, as received by the Trustee, free and clear of any trust, lien, security interest, pledge or assignment securing said Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement. For purposes of determining whether Variable Interest Rate Bonds are defeased, the interest to come due on such Variable Interest Rate Bonds on or prior to the maturity or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; provided, however, in accordance with the Metropolitan Highway System Trust Agreement if such Variable Interest Rate Bonds have borne interest at less than such maximum rate for any period, the excess amount deposited with the Trustee in order to defease such Bonds for such period shall, if requested, by the Authority, be paid to the Authority free and clear of any trust, lien, security interest, pledge or assignment securing the Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement.

For purposes of determining whether Variable Interest Rate Bonds are defeased, the interest to come due on such Variable Interest Rate Bonds on or prior to the maturity or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; provided, however, that in accordance with the Metropolitan Highway System Trust Agreement if such Variable Interest Rate Bonds have borne interest at less than such maximum rate for any period, the excess amount deposited with the Trustee in order to defease such Bonds for such period shall, if requested by the Authority, be paid to the Authority free and clear of any trust, lien, security interest, pledge or assignment securing the Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement.

Put Bonds shall be deemed to have been defeased only if, in addition to satisfying the other requirements, there shall have been deposited with the Trustee moneys in an amount which shall be sufficient to pay when due the maximum amount of principal of and premium, if any, and interest on such Bonds which could become payable to the Owners of such Bonds upon the exercise of any options provided to the Owner of such Bonds unless the options originally exercisable by the Owner of a Put Bond are no longer exercisable. If any portion of the moneys deposited with the Trustee for the payment of the principal of and premium, if any, and interest on Put Bonds is not required for such purpose, the Trustee shall, if requested by the Authority, pay the amount of such excess to the Authority free and clear of any trust, lien, security interest, pledge or assignment securing said Bonds or otherwise existing under the Metropolitan Highway System Trust Agreement.

In the event that after compliance with the provisions under this heading the Investment Obligations described under this heading are included in the Investment Obligations deposited with the Trustee in order to satisfy the requirements of the provisions under this heading, then any notice of redemption to be mailed by the Trustee and any set of instructions relating to a notice of redemption given to the Trustee may provide, at the option of the Authority, that any redemption date or dates in respect of all or any portion of the Bonds to be redeemed on such date or dates may at the option of the Authority be changed to any other permissible redemption date or dates and that redemption dates may be established for any Bonds deemed to have been paid in accordance with the provisions under this heading upon their maturity date or dates at any time prior to the actual mailing of any applicable notice of redemption in the event that all or any portion of any Investment Obligations described in the provisions under this heading have been called for redemption pursuant to an irrevocable notice of redemption or have been redeemed by the issuer thereof prior to the maturity date thereof; no such change of redemption date or dates or establishment of redemption date or dates may be made unless taking into account such changed redemption date or dates or newly established redemption date or dates the moneys and Investment Obligations on deposit with the Trustee including any Investment Obligations deposited with the Trustee in connection with any reinvestment of redemption proceeds in accordance with the provisions under this heading would be sufficient to pay when due the principal and Redemption Price, if applicable, and interest on all Bonds deemed to have been paid in accordance with the provisions under this heading which have not as yet been paid.

Unless waived by the Authority at the time Bonds are defeased at any time prior to the actual mailing of any applicable notice of redemption any redemption date or dates, in respect of all or any portion of the Bonds to be redeemed on such date or dates may at the option of the Authority be changed to any other permissible redemption date or dates and redemption dates may be established for any Bonds deemed to have been defeased upon their maturity date or dates, in both cases in accordance with the Metropolitan Highway System Trust Agreement.

The Authority agrees that it will take no action in connection with any of the transactions referred to under this heading which will cause any Bonds to be "Arbitrage Bonds."

Any moneys held by a Fiduciary in trust for the payment and discharge of any of the Bonds which remain unclaimed for three years (or such other period as may from time to time be prescribed by the laws of the Commonwealth) after the date when such Bonds have become due and payable, either at their stated maturity dates or by call for earlier redemption, if such moneys were held by the Fiduciary at such date, or for three years after the date of deposit of such moneys if deposited with the Fiduciary after the said date when such Bonds became due and payable, shall automatically revert from the Fiduciary to the Commonwealth once the Fiduciary has complied with the publication and reporting requirements as prescribed in accordance with the laws of the Commonwealth; provided, however, if no provision of Commonwealth law shall require that such funds be paid to the Commonwealth, such moneys shall, at the written request of the Authority, be repaid by the Fiduciary to the Authority, as its absolute property and free from trust, and the Fiduciary shall thereupon be released and discharged with respect thereto and the Bondowners shall look only to the Commonwealth, if paid to the Commonwealth, or the Authority, if paid to the Authority, for the payment of such Bonds; provided, however, that before being required to make any such payment to the Authority, the Fiduciary shall cause to be published at least twice, at an interval of not less than 7 days between publications, in an Authorized Newspaper, a notice that said moneys remain unclaimed and that, after a date named in said notice, which date shall be not less than 30 days after the date of the first publication of such notice, the balance of such moneys then unclaimed will be returned to the Authority. *(Section 1005).*

### **Bond Insurance**

In the event that, on the second Business Day, and again on the Business Day, prior to any payment date on the Insured Bonds (defined as the 1997 Series A Bonds, the 1997 Series B Bonds and the 1997 Series C Bonds except for the 1997 Series A Bonds maturing January 1, 2010, January 1, 2011 and January 1, 2012), the Trustee has not received sufficient moneys to pay all principal of and interest on the Insured Bonds due on the second following or following, as the case may be, Business Day, the Trustee shall immediately notify the Insurer (defined as MBIA Insurance Corporation) or its designee on the same Business Day by telephone or telegraph, confirmed in writing by registered or certified mail, of the amount of the deficiency.

If the deficiency is made up in whole or in part prior to or on the payment date, the Trustee shall so notify the Insurer or its designee.

In addition, if the Trustee has notice that any Bondowner has been required to disgorge payments of principal or interest on the Insured Bonds to a trustee in bankruptcy or creditors or others pursuant to a final judgment by a court of competent jurisdiction that such payment constitutes an avoidable preference to such Bondowner within the meaning of any applicable bankruptcy laws, then the Trustee shall notify the Insurer or its designee of such fact by telephone or telegraphic notice, confirmed in writing by registered or certified mail.

The Trustee is hereby irrevocably designated, appointed, directed and authorized to act as attorney-in-fact for Bondowners as follows:

- (1) If and to the extent there is a deficiency in amounts required to pay interest on the Insured Bonds, the Trustee shall (a) execute and deliver to State Street Bank and Trust Company, N.A., or its successors under the Policy (defined as the municipal insurance policy or policies insuring the payment

on the Insured Bonds) (the "Insurance Paying Agent"), in form satisfactory to the Insurance Paying Agent, an instrument appointing the Insurer as agent for such Owners in any legal proceeding related to the payment of such interest and an assignment to the Insurer of the claims for interest to which such deficiency relates and which are paid by the Insurer, (b) receive as designee of the respective Owners (and not as Trustee) in accordance with the tenor of the Policy payment from the Insurance Paying Agent with respect to the claims for interest so assigned, and (c) disburse the same to such respective Owners; and

(2) If and to the extent of a deficiency in amounts required to pay principal of the Insured Bonds, the Trustee shall (a) execute and deliver to the Insurance Paying Agent in form satisfactory to the Insurance Paying Agent an instrument appointing the Insurer as agent for such Owner in any legal proceeding relating to the payment of such principal and an assignment to the Insurer of any of the Insured Bonds surrendered to the Insurance Paying Agent of so much of the principal amount thereof as has not previously been paid or for which moneys are not held by the Trustee and available for such payment (but such assignment shall be delivered only if payment from the Insurance Paying Agent is received), (b) receive as designee of the respective Owners (and not as Trustee) in accordance with the tenor of the Policy payment therefor from the Insurance Paying Agent, and (c) disburse the same to such Owners.

Payments with respect to claims for interest on and principal of Insured Bonds disbursed by the Trustee from proceeds of the Policy shall not be considered to discharge the obligation of the Authority with respect to such Insured Bonds, and the Insurer shall become the owner of such unpaid Insured Bonds and claims for the interest in accordance with the tenor of the assignment made to it under this heading or otherwise.

Irrespective of whether any such assignment is executed and delivered, the Authority and the Trustee hereby agree for the benefit of the Insurer that:

(1) They recognize that to the extent the Insurer makes payments, directly or indirectly (as by paying through the Trustee), on account of principal of or interest on the Insured Bonds, the Insurer will be subrogated to the rights of such Owners to receive the amount of such principal and interest from the Authority, with interest thereon as provided and solely from the sources stated in this Trust Agreement and the Insured Bonds; and

(2) They will accordingly pay to the Insurer the amount of such principal and interest (including principal and interest recovered under subparagraph (ii) of the first paragraph of the Policy, which principal and interest shall be deemed past due and not to have been paid), with interest thereon as provided in the Metropolitan Highway System Trust Agreement and the Insured Bonds, but only from the sources and in the manner provided herein for the payment of principal of and interest on the Insured Bonds to Owners, and will otherwise treat the Insurer as the owner of such rights to the amount of such principal and interest.

The Insurer shall receive notice of any Supplemental Trust Agreement adopted pursuant to the Metropolitan Highway System Trust Agreement at least fourteen (14) days prior to its effective date. The Insurer's consent shall be required for any Supplemental Trust Agreement requiring the consent of the Trustee or the consent of the Bondowners. The Insurer shall receive copies of all notices required to be delivered to Bondowners and, on an annual basis, copies of the Authority's audited financial statements and Annual Budget. (*Article XI*).

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PROPOSED FORM OF OPINION OF BOND COUNSEL

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

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Massachusetts Turnpike Authority  
Ten Park Plaza, Suite 5170  
Boston, Massachusetts 02116

Re: Massachusetts Turnpike Authority (the "Authority") Metropolitan Highway System Revenue Bonds, 1997 Series A (Senior) and 1997 Series B (Subordinated) dated September 1, 1997\* (the "Bonds")

We have acted as Bond Counsel to the Authority in connection with the issuance by the Authority of the Bonds pursuant to Chapter 81A of the Massachusetts General Laws, as amended (the "Act"), the Metropolitan Highway System Trust Agreement dated as of September 1, 1997 by and between the Authority and United States Trust Company of New York, as Trustee (the "Trust Agreement") and the Issuance Resolution adopted by the Authority on September 9, 1997. We have examined the law and such certified proceedings and other papers as we have deemed necessary to render this opinion.

The Bonds are being issued by means of a book entry system, with bond certificates immobilized at The Depository Trust Company, New York, New York ("DTC"), and not available for distribution to the public, evidencing ownership of the Bonds in denominations (in the case of Capital Appreciation Bonds, Maturity Amounts (each as defined in the Trust Agreement)) of \$5,000 or integral multiples thereof, with transfers of beneficial ownership effected on the records of DTC and its participants pursuant to rules and procedures established by DTC and its participants.

The Bonds are payable on January 1 in the years and principal amounts, bear interest at the rates and are subject to redemption prior to maturity, all as provided therein pursuant to the Trust Agreement.

As to questions of fact material to our opinion, we have relied upon the representations of the Authority contained in the Trust Agreement and in the certified proceedings and other certifications of public officials furnished to us without undertaking to verify the same by independent investigation.

Based upon the foregoing, we are of opinion that, under existing law:

(a) The Authority is duly created and validly existing as a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts, with the right and power to adopt the Trust Agreement, perform the agreements on its part contained therein and issue the Bonds.

(b) The Bonds have been duly authorized, executed and delivered by the Authority and are valid and binding special obligations of the Authority enforceable in accordance with their terms. The Bonds are

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\* The Capital Appreciation Bonds (as defined in the Trust Agreement) are dated the date of original delivery.

secured by the Trust Agreement and a pledge of the Revenues (as defined therein) received by or for the account of the Authority and moneys on deposit in the funds and accounts pledged as security therefor under the Trust Agreement. The Trust Agreement creates the valid pledge and lien which it purports to create for the benefit of the holders of the Bonds, subject to the application of such pledged Revenues and moneys to the purposes and on the conditions permitted by the Trust Agreement.

(c) The Trust Agreement has been duly and lawfully authorized, executed and delivered by the Authority, is in full force and effect and is a valid and binding agreement of the Authority enforceable in accordance with its terms.

(d) Interest on the Bonds will not be included in the gross income of holders of the Bonds for federal income tax purposes. This opinion is rendered subject to compliance with various requirements of the Internal Revenue Code of 1986, as amended, which must be satisfied subsequent to the issuance of the Bonds in order that interest thereon is and continues to be excluded from gross income for federal income tax purposes. Failure to comply with certain of such requirements could cause interest on the Bonds to be included in the gross income of holders of the Bonds retroactive to the date of issuance of the Bonds. While interest on the Bonds will not constitute a preference item for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations, interest on the Bonds will be included in the "adjusted current earnings" of corporate holders of the Bonds and therefore will be taken into account in the computation of the alternative minimum tax applicable to certain corporations. We express no opinion as to other federal tax consequences resulting from holding the Bonds.

(e) Interest on the Bonds and any profit made on the sale thereof are exempt from Massachusetts personal income taxes, and the Bonds are exempt from Massachusetts personal property taxes. We express no opinion as to other Massachusetts tax consequences arising with respect to the Bonds nor as to the taxability of the Bonds or the income therefrom under the laws of any state other than Massachusetts.

(f) For federal and Massachusetts tax purposes, interest includes original issue discount. Original issue discount with respect to a Bond is equal to the excess, if any, of the stated redemption price at maturity of such Bond over the initial offering price thereof to the public, excluding underwriters and other intermediaries, at which price a substantial amount of all Bonds with the same maturity were sold. Original issue discount accrues actuarially over the term of a Bond. Holders should consult their own tax advisors with respect to the computation of original issue discount on such accruals of interest during the period in which any such Bond is held.

It is to be understood that the rights of the holders of the Bonds, and the enforceability of the Bonds and the Trust Agreement may be subject to bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights heretofore or hereafter enacted to the extent constitutionally applicable and that their enforcement may also be subject to the exercise of judicial discretion in appropriate cases.

Very truly yours,

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

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*[PROPOSED FORM OF OPINION OF CO-BOND COUNSEL]*

Massachusetts Turnpike Authority  
Ten Park Plaza, Suite 5170  
Boston, MA 02116

RE: Massachusetts Turnpike Authority (the "Authority") Metropolitan Highway System Revenue Bonds, 1997 Series A dated September 1, 1997\* and 1997 Series B (Subordinated) dated September 1, 1997 (the "Bonds")

We have acted as Co-Bond Counsel to the Authority in connection with the issuance by the Authority of the Bonds pursuant to Chapter 81A of the Massachusetts General Laws, as amended (the "Act"), the Metropolitan Highway System Trust Agreement dated as of September 1, 1997 by and between the Authority and United States Trust Company of New York, as Trustee (the "Trust Agreement") and the Issuance Resolution adopted by the Authority on September 9, 1997. We have examined the law and such certified proceedings and other papers as we have deemed necessary to render this opinion.

The Bonds are being issued by means of a book entry system, with bond certificates immobilized at The Depository Trust Company, New York, New York ("DTC"), and not available for distribution to the public, evidencing ownership of the Bonds in denominations (in the case of the Capital Appreciation Bonds, Maturity Amounts (each as defined in the Trust Agreement)) of \$5,000 or integral multiples thereof, with transfers of beneficial ownership effected on the records of DTC and its participants pursuant to rules and procedures established by DTC and its participants.

The Bonds are payable on January 1 in the years and principal amounts, bear interest at the rates and are subject to redemption prior to maturity, all as provided therein pursuant to the Trust Agreement.

\*The Capital Appreciation Bonds (as defined in the Trust Agreement) are dated the date of original delivery.

As to questions of fact material to our opinion, we have relied upon the representations of the Authority contained in the Trust Agreement and in the certified proceedings and other certifications of public officials furnished to us without undertaking to verify the same by independent investigation.

Based upon the foregoing, we are of opinion that, under existing law:

(a) The Authority is duly created and validly existing as a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts, with the right and power to adopt the Trust Agreement, perform the agreements on its part contained therein and issue the Bonds.

(b) The Bonds have been duly authorized, executed and delivered by the Authority and are valid and binding special obligations of the Authority enforceable in accordance with their terms. The Bonds are secured by the Trust Agreement and a pledge of the Revenues (as defined therein) received by or for the account of the Authority and moneys on deposit in the funds and accounts pledged as security therefor under the Trust Agreement. The Trust Agreement creates the valid pledge and lien which it purports to create for the benefit of the holders of the Bonds, subject to the application of such pledged Revenues and moneys to the purposes and on the conditions permitted by the Trust Agreement.

(c) The Trust Agreement has been duly and lawfully authorized, executed and delivered by the Authority, is in full force and effect and is a valid and binding agreement of the Authority enforceable in accordance with its terms.

It is to be understood that the rights of the holders of the Bonds, and the enforceability of the Bonds and the Trust Agreement may be subject to bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights heretofore or hereafter enacted to the extent constitutionally applicable and that their enforcement may also be subject to the exercise of judicial discretion in appropriate cases.

Very truly yours,

Krokidas & Bluestein

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Massachusetts Turnpike Authority  
Metropolitan Highway System Revenue Bonds  
1997 Series A (Senior) and 1997 Series B (Subordinated) (the "Bonds")

Continuing Disclosure Undertaking

Prior to the issuance of the Bonds, the Authority and the Trustee will enter into a continuing disclosure agreement (the "Authority Disclosure Agreement") setting forth the undertakings of the Authority regarding continuing disclosure with respect to the Bonds. In the Authority Disclosure Agreement, the Authority will undertake for the benefit of the registered owners and Beneficial Owners (the "owners") of the Bonds to provide to each nationally recognized municipal securities information repository (each, a "NRMSIR") within the meaning of Rule 15c2-12 of the Securities and Exchange Commission (the "Rule") and to the state information depository for the Commonwealth, if any (the "SID"), within the meaning of the Rule, no later than 270 days after the end of each fiscal year of the Authority (i) the annual financial information described below relating to such fiscal year, together with audited financial statements of the Authority for such fiscal year if audited financial statements are then available, provided, however, that if audited financial statements of the Authority are not then available, such audited financial statements shall be delivered to each NRMSIR and the SID when they become available (but in no event later than 350 days after the end of such fiscal year) or (ii) notice of the Authority's failure, if any, to provide any such information. The annual financial information to be provided as aforesaid shall include financial information and operating data, in each case updated through the last day of such fiscal year unless otherwise noted, relating to the following information contained in this Official Statement relating to the Bonds, in each case substantially in the same level of detail as is found in the referenced section of the Official Statement:

Financial Information and Operating Data Category	Reference to Official Statement for Level of Detail
Amount of the unfunded accrued actuarial liability with respect to the Authority's retirement system as of the date of the most recently available actuarial valuation	"THE AUTHORITY - Retirement Plans and Other Employee Benefits"
Amount of the estimated aggregate present value of the cost of the unfunded retiree health benefits program as of the first day of the current fiscal year	"THE AUTHORITY - Retirement Plans and Other Employee Benefits"
Summary presentation of current toll rates in effect for vehicles using the Accepted Metropolitan Highway System and an updated description of the Authority's toll discount program, if any	"HISTORICAL AND PROJECTED OPERATING RESULTS - Toll Collections and Rates -- Selected Current Toll Rates"
Summary presentation for two most-recently completed fiscal years of actual operating revenues and expenses of the Metropolitan Highway System	"HISTORICAL AND PROJECTED OPERATING RESULTS - Historical Revenues and Expenditures -- Massachusetts Turnpike Authority Metropolitan Highway System Statement of Operating Revenues and Expenses"
Discussion of selected key operating results of the Metropolitan Highway System for the prior fiscal year	"HISTORICAL AND PROJECTED OPERATING RESULTS - 1996 Operating Results"
Summary presentation of the operating budget for the Metropolitan Highway System for the current fiscal year	"HISTORICAL AND PROJECTED OPERATING RESULTS - 1997 Operating Budget"
Description of the current capital program of the Metropolitan Highway System	"HISTORICAL AND PROJECTED OPERATING RESULTS - Capital Reinvestment"
Summary presentation of actual results for prior fiscal year's revenues, expenses and debt service	"HISTORICAL AND PROJECTED OPERATING RESULTS - Projected Revenues, Expenses and Debt Service"

<b>Financial Information and Operating Data Category</b>	<b>Reference to Official Statement for Level of Detail</b>
Updated description of the status of completion of the Central Artery/Tunnel Project, if applicable	"THE CENTRAL ARTERY/TUNNEL PROJECT - Status of Construction"
Updated description of the status of actual financing in place for the Central Artery/Tunnel Project (but not projections), if applicable	"THE CENTRAL ARTERY/TUNNEL PROJECT - CA/T Project Financing" (first paragraph)
Updated description of the Authority's contributions as of the end of the prior fiscal year for the Central Artery/Tunnel Project	"THE CENTRAL ARTERY/TUNNEL PROJECT - Authority Contributions"

Any or all of the items listed above may be included by reference to other documents, including official statements pertaining to debt issued by the Authority, which have been submitted to each NRMSIR. If the document incorporated by reference is a Final Official Statement within the meaning of the Rule, it will also be available from the Municipal Securities Rulemaking Board ("MSRB"). The Authority's annual financial statements for each fiscal year shall consist of the balance sheet of the Authority and the related statements of revenue and cost of service and cash flows prepared in accordance with generally accepted accounting principles in effect from time to time. Such financial statements shall be audited by a firm of certified public accountants appointed by the Authority.

In the Authority Disclosure Agreement, the Authority also will undertake for the benefit of the owners of the Bonds to provide in a timely manner to the MSRB and to the SID notice of any of the following events with respect to the Bonds (numbered in accordance with the provisions of the Rule), if material:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;
- (vi) adverse tax opinions or events affecting the tax-exempt status of the security;
- (vii) modifications to rights of security holders;
- (viii) bond calls;
- (ix) defeasances;
- (x) release, substitution or sale of property securing repayment of the securities; and
- (xi) rating changes.

Nothing in the Authority Disclosure Agreement shall preclude the Authority from disseminating any information in addition to that required under the Authority Disclosure Agreement. If the Authority disseminates any such additional information, nothing in the Authority Disclosure Agreement shall obligate the Authority to update such information or include it in any future materials disseminated.

To the extent permitted by law, the provisions of the Authority Disclosure Agreement shall be enforceable against the Authority in accordance with the terms thereof by any owner of a Bond, including any beneficial owner acting as a third-party beneficiary (upon proof of its status as a beneficial owner reasonably satisfactory to the Authority). To the extent permitted by law, any such owner shall have the right, for the equal benefit and protection of all owners of the Bonds, by mandamus or other suit or proceeding at law or in equity, to enforce its rights against the Authority and to compel the Authority and any of its officers, agents or employees to perform

and carry out their duties under the foregoing provisions as aforesaid, provided, however, that the sole remedy in connection with such undertakings shall be limited to an action to compel specific performance of the obligations of the Authority in connection with such undertakings and shall not include any rights to monetary damages. The Authority's obligations in respect of the Authority Disclosure Agreement shall terminate if no Bonds remain outstanding (without regard to an economic defeasance) or if the provisions of the Rule concerning continuing disclosure are no longer effective, whichever occurs first. The provisions of the Authority Disclosure Agreement may be amended by the Authority and the Trustee, without the consent of, or notice to, any owners of the Bonds, (a) to comply with or conform to the provisions of the Rule or any amendments thereto or authoritative interpretations thereof by the Securities and Exchange Commission or its staff (whether required or optional), (b) to add a dissemination agent for the information required to be provided by such undertakings and to make any necessary or desirable provisions with respect thereto, (c) to add to the covenants of the Authority for the benefit of the owners of the Bonds, (d) to modify the contents, presentation and format of the annual financial information from time to time as a result of a change in circumstances that arises from a change in legal requirements, or (e) to otherwise modify the undertakings in a manner consistent with the provisions of state legislation establishing the SID or otherwise responding to the requirements of the Rule concerning continuing disclosure; provided, however, that in the case of any amendment pursuant to clause (d) or (e), (i) the undertaking, as amended, would have complied with the requirements of the Rule at the time of the offering of the Bonds, after taking into account any amendments or authoritative interpretations of the Rule, as well as any change in circumstances, and (ii) the amendment does not materially impair the interests of the owners of the Bonds, as determined either by a party unaffiliated with the Authority (such as Authority bond counsel or co-bond counsel) or by the vote or consent of owners of a majority in outstanding principal amount of the Bonds affected thereby at or prior to the time of such amendment.

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## FINANCIAL GUARANTY INSURANCE POLICY

MBIA Insurance Corporation  
Armonk, New York 10504

Policy No. [NUMBER]

MBIA Insurance Corporation (the "Insurer"), in consideration of the payment of the premium and subject to the terms of this policy, hereby unconditionally and irrevocably guarantees to any owner, as hereinafter defined, of the following described obligations, the full and complete payment required to be made by or on behalf of the Issuer to [PAYING AGENT/TRUSTEE] or its successor (the "Paying Agent") of an amount equal to (i) the principal of (either at the stated maturity or by any advancement of maturity pursuant to a mandatory sinking fund payment) and interest on, the Obligations (as that term is defined below) as such payments shall become due but shall not be so paid (except that in the event of any acceleration of the due date of such principal by reason of mandatory or optional redemption or acceleration resulting from default or otherwise, other than any advancement of maturity pursuant to a mandatory sinking fund payment, the payments guaranteed hereby shall be made in such amounts and at such times as such payments of principal would have been due had there not been any such acceleration); and (ii) the reimbursement of any such payment which is subsequently recovered from any owner pursuant to a final judgment by a court of competent jurisdiction that such payment constitutes an avoidable preference to such owner within the meaning of any applicable bankruptcy law. The amounts referred to in clauses (i) and (ii) of the preceding sentence shall be referred to herein collectively as the "Insured Amounts." "Obligations" shall mean:

[PAR]  
[LEGAL NAME OF ISSUE]

Upon receipt of telephonic or telegraphic notice, such notice subsequently confirmed in writing by registered or certified mail, or upon receipt of written notice by registered or certified mail, by the Insurer from the Paying Agent or any owner of an Obligation the payment of an Insured Amount for which is then due, that such required payment has not been made, the Insurer on the due date of such payment or within one business day after receipt of notice of such nonpayment, whichever is later, will make a deposit of funds, in an account with State Street Bank and Trust Company, N.A., in New York, New York, or its successor, sufficient for the payment of any such Insured Amounts which are then due. Upon presentment and surrender of such Obligations or presentment of such other proof of ownership of the Obligations, together with any appropriate instruments of assignment to evidence the assignment of the Insured Amounts due on the Obligations as are paid by the Insurer, and appropriate instruments to effect the appointment of the Insurer as agent for such owners of the Obligations in any legal proceeding related to payment of Insured Amounts on the Obligations, such instruments being in a form satisfactory to State Street Bank and Trust Company, N.A., State Street Bank and Trust Company, N.A. shall disburse to such owners, or the Paying Agent payment of the Insured Amounts due on such Obligations, less any amount held by the Paying Agent for the payment of such Insured Amounts and legally available therefor. This policy does not insure against loss of any prepayment premium which may at any time be payable with respect to any Obligation.

As used herein, the term "owner" shall mean the registered owner of any Obligation as indicated in the books maintained by the Paying Agent, the Issuer, or any designee of the Issuer for such purpose. The term owner shall not include the Issuer or any party whose agreement with the Issuer constitutes the underlying security for the Obligations.

Any service of process on the Insurer may be made to the Insurer at its offices located at 113 King Street, Armonk, New York 10504 and such service of process shall be valid and binding.

This policy is non-cancellable for any reason. The premium on this policy is not refundable for any reason including the payment prior to maturity of the Obligations.

IN WITNESS WHEREOF, the Insurer has caused this policy to be executed in facsimile on its behalf by its duly authorized officers, this \_\_\_\_\_ day of \_\_\_\_\_

MBIA Insurance Corporation

\_\_\_\_\_  
Resident Licensed Agent

\_\_\_\_\_  
City, State

STD-RCS-6  
495

Attest:

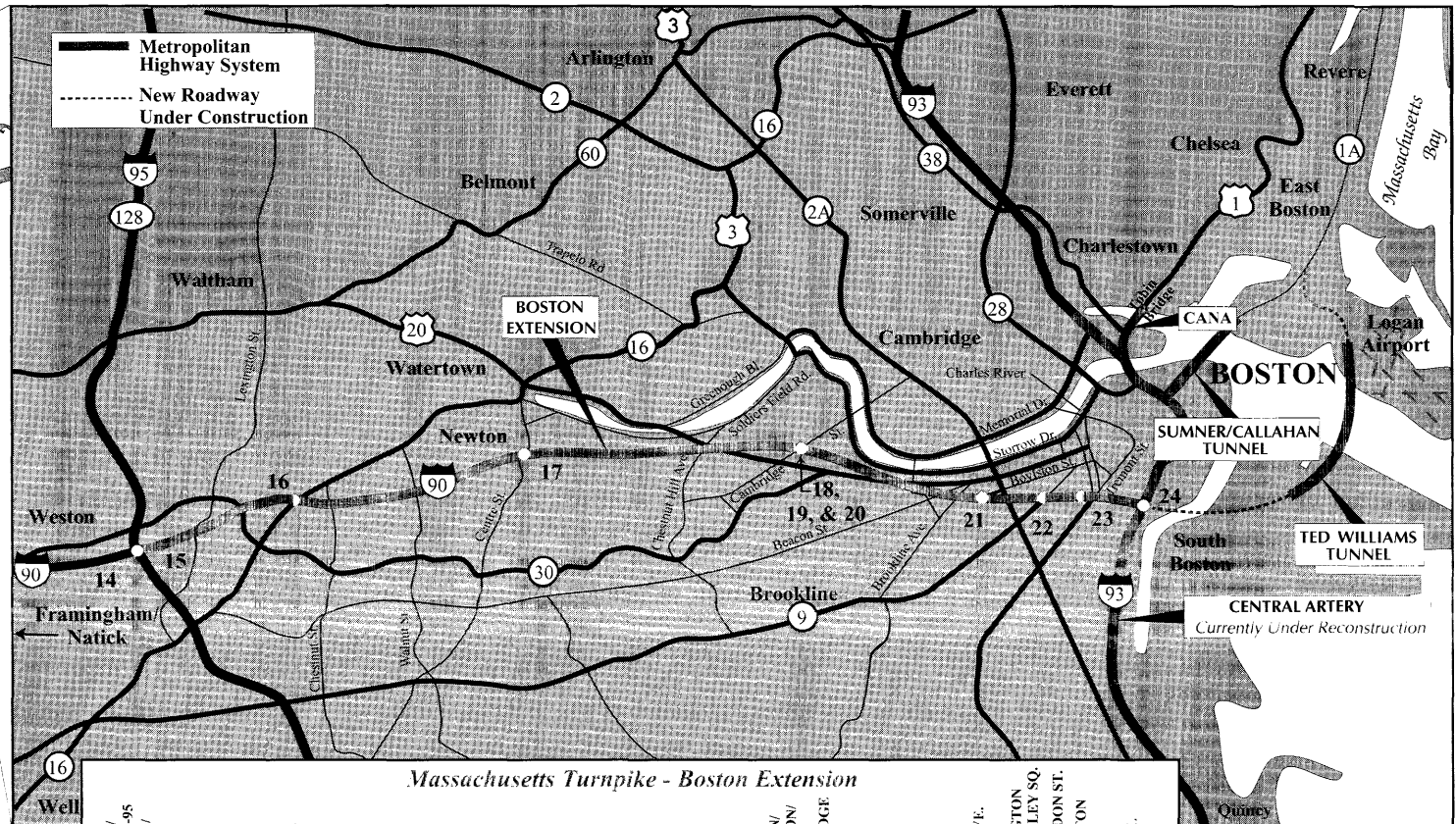
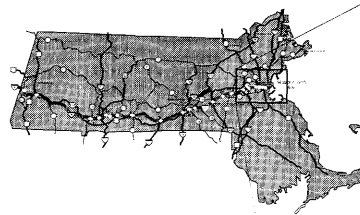
\_\_\_\_\_  
President

\_\_\_\_\_  
Assistant Secretary

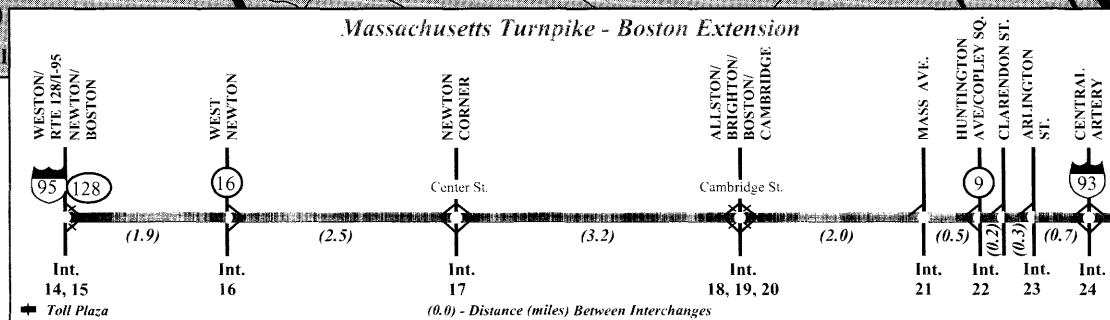
**SPECIMEN**

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# Metropolitan Highway System



Massachusetts Turnpike - Boston Extension



Massachusetts Turnpike Authority

URS Greiner



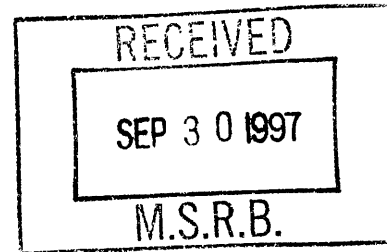


81409

- 1-2. NAME OF ISSUER AND DESCRIPTION OF ISSUE : MASSACHUSETTS TURNPIKE AUTHORITY  
METROPOLITAN HIGHWAY SYSTEM REVENUE BONDS  
SERIES A (SENIOR) AND SERIES B (SUBORDINATED)
3. STATE : A: MA,B: MA
4. DATED DATE : A: 09/01/1997,B: 09/01/1997
5. DATE OF FINAL MATURITY OF OFFERING : 01/01/2037B 6. DATE OF SALE : A: 09/24/1997,B: 09/24/1997
7. PAR VALUE OF OFFERING : \$ 1,377,726,617
8. PAR AMOUNT UNDERWRITTEN (if there is no underwriting syndicate): \$
9. AMENDED OR STICKERED OS? NO NUMBER OF SERIES IN OS : 2  
(Enter Y or N) (Fill out one form for each series)
10. CHECK ALL THAT APPLY:
- a. ☐ At the option of the holder thereof, all securities in this offering may be tendered to the issuer of such securities or its designated agent for redemption or purchase at par value of more at least as frequently as every nine months until maturity, earlier redemption, or purchase by the issuer or its designated agent.
- b. ☐ At the option of the holder thereof, all securities in this offering may be tendered to the issuer of such securities or its designated agent for redemption or purchase at par value of more at least as frequently as every two years until maturity, earlier redemption, or purchase by the issuer or its designated agent.
- c. ☐ This offering is exempt from SEC rule 15c2-12 under section (c)(1) of that rule. Section (c)(1) of SEC rule 15c2-12 states that an offering is exempt from the requirements of the rule if the securities offered have authorized denominations of \$100,000 or more and or sold to no more than 35 persons each of whom the participating underwriter believes: (1) has the knowledge and expertise necessary to evaluate the merits and risks of the investment; and (2) is not purchasing for more than one account, with a view toward distributing the securities.
11. MANAGING UNDERWRITER : PaineWebber Incorporated

16. CUSIP NUMBERS (and corresponding maturity dates)

01/01/2010A	576018AA3	01/01/2011A	576018AB1
01/01/2012A	576018AC9	01/01/2013A	576018AD7
01/01/2017A	576018AE5	01/01/2023A	576018AF2
01/01/2024A	576018AG0	01/01/2025A	576018AH8
01/01/2027A	576018AJ4	01/01/2028A	576018AK1
01/01/2029A	576018AL9	01/01/2037A	576018AM7
01/01/2010B	576018AN5	01/01/2011B	576018AP0
01/01/2012B	576018AQ8	01/01/2013B	576018AR6
01/01/2017B	576018AS4	01/01/2023B	576018AT2
01/01/2029B	576018AU9	01/01/2037B	576018AV7



17. MSRB rule G-34 requires that CUSIP numbers be assigned to each new issue of municipal securities unless the issue is ineligible for CUSIP number assignment under the eligibility criteria of the CUSIP Service Bureau.

☐ Check here if the issue is ineligible for CUSIP number assignment.

State the reason why the issue is ineligible for CUSIP number assignment:

18. Submit two copies of the completed form along with the official statement to: Municipal Securities Rulemaking Board, 1640 King Street, Suite 300, Alexandria, VA 22314. Incomplete submissions will be returned for correction.