

NEW YORK STATE BRIDGE AUTHORITY

STATEMENT OF ESTIMATED CAPITAL NEEDS

The *Capital Improvement Program* adopted by the New York State Bridge Authority for the years 2011-2015 reflects the Authority's continuing commitment to providing the Hudson Valley, its residents, businesses and visitors, with traffic arteries of impeccable structural integrity, operated and maintained with regard to the highest standards of public safety.

The Authority designs maintenance programs to address critical issues before they become problems. Using the philosophy that "maintenance deferred is maintenance denied" – the Authority has demonstrated that preventative maintenance is far less costly in the long run than either chasing repairs or replacing infrastructure.

It is important to note that this process is more cost effective and results in safer structures, however, it does require consistent application and a dedicated closed-system revenue stream. NYSBA achieves its objectives and operates under these principals while maintaining one of the lowest tolls in the nation for a self-supporting entity.

Each year, each bridge is subjected to a detailed physical inspection by an independent firm of structural and civil engineers. The results of these inspections drive the annual work program for the in-house maintenance forces at each bridge. They also produce recommendations for additional research or study, specific project recommendations for the *Capital Improvement Program* and a long-term capital needs projection for financial planning purposes.

The final version of the *Capital Improvement Program* incorporates the recommendations of both the outside engineers and the Authority's own engineering staff. In addition, input is sought from the heads of those Authority departments involved in functions other than Engineering and Maintenance. The program is then recommended to be the Board of the Authority by the Executive Director after close consultation with the Authority's Chief Engineer and Chief Financial Officer.

This program addresses all those currently identified problem areas that might otherwise be expected to interfere with the safe and reliable operation of the bridges during the projected five (5) year period. In addition, it identifies and, in some cases, funds initial work on problems that will be required to be addressed with greater dedication of resources in subsequent years.

The proposed program includes the following elements:

- **Preventive Maintenance** activities over and above the skill and/or staffing capability of in-house maintenance forces. The removal of toxic lead coatings on the older bridge structures and replacement coating to preserve the integrity of steel bridge

members in compliance with current federal environmental and worker health and safety regulations, is a primary example of this type of activity.

- **Facility Improvements** are projects intended to enhance safety, efficiency or capacity of the bridges or the operations that support and maintain them.
- **Equipment** includes purchase and installation of major equipment necessary for the maintenance and operation of the bridges. Mobile inspection platforms, emergency generators and electronic data processing systems are examples of this category.
- **Extraordinary Maintenance** projects, including remedial actions or preservation related repairs identified in the course of the Authority's annual inspection program which are above the skill and/or staffing levels of in-house maintenance forces. These are typically concrete deck and electrical repairs, roadway shoulder and drainage restoration, and asphalt restoration.
- **Facility Rehabilitation** projects, designed to restore deteriorated components of the bridges to their original condition and extend the useful life of the facilities at present operating capacity. Bridge deck replacement, roadway resurfacing and suspension bridge cable restoration are typical examples of projects in this category.
- **Investigations**, pre-design or engineering research studies, necessary to determine the nature and scope of future facility needs.

The program proposed for the coming five (5) years is a logical development of those proposed in recent past years, reflecting both work accomplished to date and new needs developing in the outer years.



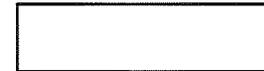
**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**

May 18, 2011

FACILITY	2011	PROGRAM YEARS					FIVE YEAR TOTAL
		2012	2013	2014	2015	2016	
Rip Van Winkle Bridge	\$0.000	\$0.000	\$0.000	\$1.000	\$4.000	\$0.000	\$5.000
Kingston-Rhinecliff Bridge	\$0.000	\$0.000	\$1.600	\$0.000	\$0.000	\$0.000	\$1.600
Mid-Hudson Bridge	\$0.803	\$1.194	\$1.000	\$0.000	\$4.000	\$5.000	\$11.194
Newburgh-Beacon Bridge	\$9.424	\$3.000	\$23.000	\$26.000	\$39.000	\$10.500	\$101.500
Bear Mountain Bridge	\$0.009	\$0.045	\$0.000	\$0.000	\$2.000	\$0.000	\$2.045
Walkway over the Hudson	\$0.708	\$0.525	\$5.700	\$0.025	\$0.400	\$6.500	\$13.150
Systemwide (Engineering)	\$2.391	\$2.734	\$4.638	\$2.256	\$2.415	\$2.430	\$14.473
Systemwide (IT Dept.)	\$3.729	\$0.608	\$0.737	\$1.415	\$0.817	\$0.500	\$4.077
Systemwide (Adm. & Ops.)	\$0.670	\$0.295	\$0.545	\$4.045	\$0.045	\$1.800	\$6.730
Capital Program Totals.....	\$17.734	\$8.401	\$37.220	\$34.741	\$52.677	\$26.730	\$159.769



**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**



May 18, 2011
Page 3 - MHB

Project I.D.	Project Type	Project Title/Description	Phase	Program Years						TOTAL	Remarks
				2011	2012	2013	2014	2015	2016		
M0001 2010	Facility Rehab	BA2010-RE-107: Mid-Hudson, E. Approach Roadway Deck and Joint repairs, Waterproofing asphalt overlay	CONST	0.089	0.800					0.800	Design assignment initiated 2010, with schedule bid opening Spring 2012
			OTHER						0.000		
			TOTAL	0.089	0.800	0.000	0.000	0.000	0.000	0.800	
M0002 2010	Preventive Maintenance	Mid-Hudson, Maintenance Painting Power tool clean and spot paint stiffening truss & towers	CONST					1.000	1.000	2.000	
			OTHER						0.000		
			TOTAL	0.000	0.000	0.000	0.000	1.000	1.000	2.000	
M0003 2008	Facility Rehab	Mid-Hudson, Main Span Overlay Mill and fill main span overlay with asphalt waterproofing membrane. Replace asphaltic plug joints	CONST			1.000				1.000	
			OTHER						0.000		
			TOTAL	0.000	0.000	1.000	0.000	0.000	0.000	1.000	
M0004	Facility Improvement	Mid-Hudson, Building Renovations Traffic management command center completed 2011 Administration building roof, HVAC, windows, doors, 2012	CONST	0.426	0.394					0.394	2012 - Building Renovations & Asbestos Removal 2012 - Administration Roof
			OTHER						0.000		
			TOTAL	0.426	0.394	0.000	0.000	0.000	0.000	0.394	
M0005 2010	Facility Rehab	Mid-Hudson, East Approach Viaduct Spans Lead abatement of approach spans including arch truss over the Metro-North rail line.	CONST					3.000		3.000	
			OTHER						0.000		
			TOTAL	0.000	0.000	0.000	0.000	3.000	0.000	3.000	



**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**

Engineering

May 18, 2011
Page 5 - NBB

Project I.D.	Project Type	Project Title/Description	Phase	Program Years						TOTAL	Remarks	
				2011	2012	2013	2014	2015	2016			
N0001 2007	Facility Rehab	Newburgh-Beacon, South Span Deck Replacement Replace deck, upgrade electrical system, install waterproofing overlay, seismic retro-fit and and select painting of weathering steel.	CONST			22.000	25.000	30.000		77.000	2012 - Design Services 2013 - 2014; Construction & Inspection	
			ENGR		1.000	1.000	1.000	1.000		4.000		
			TOTAL	0.000	1.000	23.000	26.000	31.000	0.000	81.000		
N0002 2008	Preventive Maintenance	BA2009-RE-104: NBB, North Span Painting Full structure coating in compliance with lead abatement regulations, including girder spans, deck trusses, thru truss, beam spans and floor system. Paint program over 5 years.	CONST	9.024				7.500	8.000	15.500	Metro-North Flagman Service paid \$40K 2010, existing BA2009-RE-101MNRR Contract Balance from 2010 carried over to 2010, \$224K Phase II postponed till 2015 with \$8.5 mil paint continues 2017	
			INSPECT	0.400				0.500	0.500	1.000		
			TOTAL	9.424	0.000	0.000	0.000	8.000	8.500	16.500		
N0003 2009	Preventive Maintenance	Newburgh-Beacon, North Span Overlay BA2010-RE-103 - Design Services, M&M Remove existing concrete overlay and install a "Rosphalt" asphaltic waterproofing membrane.	CONST		2.000					2.000		
			OTHER							0.000		
			TOTAL	0.000	2.000	0.000	0.000	0.000	0.000	2.000		
N0005 2000	Facility Improvement	Newburgh-Beacon, Approach Interchanges Replace I-84 structure over Rte. 9W, west approach Revised 5/18/11 - \$10 mil postponed from 2014 to 2018	CONST							0.000	1) Federation Project, \$35 mil, post 2016 for "All electronic tolling" (AET) requirements. 2) In 2000, our General Consultant indicated that this structure is nearing its useful service life due to low fatigue capacity and low clearance. Federation Project, \$10 mil, 2014 postponed 2018	
			OTHER									0.000
			TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
N0006 2011	Facility Improvement	Newburgh-Beacon, East & West Approach Paving Approach highway resurfacing I-84, maintenance jurisdiction between east approach Rte. 9D and west approach Rte, 9W, excluding bridge surface.	CONST						2.000	2.000		
			OTHER									0.000
			TOTAL	0.000	0.000	0.000	0.000	0.000	2.000	2.000		



**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**

Engineering

May 18, 2011
Page 9 - SYS

Project I.D.	Project Type	Project Title/Description	Phase	Program Years						TOTAL	Remarks
				2011	2012	2013	2014	2015	2016		
S0001	Investigation	BA2011-RE-101: General Consultant and Inspections Annual detailed inspection of each bridge facility with hands on inspection of all fracture critical members. Odd year biennial inspection: KRB & NBB (N&S spans) Even year biennial inspection: RVWB, KRB & BMB	INSP	0.390	0.260	0.410	0.275	0.430	0.445	1.820	Other - Biennial Inspection support, Authority personnel and equipment, UB 60 & UB 30.
			NYSBA	0.070	0.074	0.078	0.081	0.085	0.085	0.403	
			TOTAL	0.460	0.334	0.488	0.356	0.515	0.530	2.223	
S0002 2007	Investigation	Periodic Underwater Bridge Inspections Diver hands-on inspection and video tape inspections of all Authority in-water piers below the water surface. Work include observation and recommendation by professional engineers, 5 yr. cycle.	INSP		0.100					0.100	
			OTHER							0.000	
			TOTAL	0.000	0.100	0.000	0.000	0.000	0.000	0.100	
S0003	Extra Maintenance	BA20XX-RE-102: In-House Capital Projects In-House construction activities	CONST	1.400	1.400	1.000	1.000	1.000	1.000	5.400	
			ENGR	0.250	0.250	0.250	0.250	0.250	0.250	1.250	
			TOTAL	1.650	1.650	1.250	1.250	1.250	1.250	6.650	
S0004	Extra Maintenance	BA2010-RE-101: Capital Maintenance Projects Standby readiness contract for urgent bridge and highway repairs.	CONST	0.155	0.150	0.150	0.150	0.150	0.150	0.750	
			OTHER							0.000	
			TOTAL	0.155	0.150	0.150	0.150	0.150	0.150	0.750	
S0005 2008	Preventive Maintenance	Systemwide, River Pier Base Repairs Masonry pier pointing, concrete repairs and rip-rap placement as recommended from underwater and visual inspections.	CONST			1.250				1.250	RVWB - \$0.250 KRB - \$0.250 MHB - \$0.250 NBB - \$0.500
			OTHER							0.000	
			TOTAL	0.000	0.000	1.250	0.000	0.000	0.000	1.250	



**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**

IT - Dept.

May 18, 2011
Page 11 - SYS

Project I.D.	Project Type	Project Title/Description		Program Years						TOTAL	Remarks
				2011	2012	2013	2014	2015	2016		
SI-0001	IT	<u>BA2010-RO-006-IT.1</u> Systemwide - Office Equipment Purchases, Copier, Printers, plotter, ID card system	TOTAL	0.030	0.008	0.010	0.010	0.010	0.010	0.048	
SI-0002	IT	<u>BA2010-RO-006-IT.1</u> Systemwide - PC Upgrade (System Hardware)	TOTAL	0.030	0.030	0.030	0.030	0.030	0.030	0.150	
SI-0003	IT	Mid-Hudson - Necklace Lights	TOTAL	0.125	0.010	0.010	0.010	0.010	0.010	0.050	
SI-0004	IT	Systemwide - Gasboy (Fuel Dispensing Upgrade)	TOTAL	0.000	0.010	0.010	0.010	0.010	0.010	0.050	
SI-0005	IT	<u>BA2010-RO-006-IT.1</u> Systemwide - Card Access	TOTAL		0.020	0.020	0.020	0.020	0.013	0.093	
SI-0006	IT	<u>BA2010-RE-110-AC</u> Mid-Hudson - Command Center, ITS Equip.	TOTAL	0.330	0.010	0.010	0.010	0.010	0.010	0.050	
SI-0007	IT	<u>BA2010-RO-006-IT.1</u> Lane Use Signals, Replacement	TOTAL	0.010	0.015	0.017	0.020	0.022	0.022	0.096	
SI-0008	IT	<u>BA2010-RO-006-IT.1</u> Cameras (New replacements)	TOTAL	0.045	0.055	0.100	0.100	0.100	0.075	0.430	
SI-0010	IT	<u>BA2010-RO-006-IT.1</u> ITS Components - Multiplexer, modems, cabinet	TOTAL	0.010	0.010	0.010	0.010	0.010	0.010	0.050	
SI-0011	IT	<u>BA2010-RO-006-IT.1</u> UPS (Un-interruptible Power System) - Batteries	TOTAL	0.050	0.010	0.010	0.010	0.100	0.010	0.140	
SI-0012	IT	<u>BA2010-RO-006-IT.3</u> Suicide Call Boxes - 2011 Upgrade \ Replacement	TOTAL	0.123	0.005	0.005	0.005	0.010	0.010	0.035	
SI-0013	IT	<u>BA2010-RO-006-IT.2</u> Windows File server(s) and Web Filter	TOTAL	0.035	0.015	0.060	0.035	0.015	0.015	0.140	
SI-0014	IT	<u>BA2010-RO-001-ES</u> ITS Consultant for Electronic Data Processing	TOTAL	0.125	0.125	0.125	0.125	0.125	0.100	0.600	
SI-0015	IT	Data Cabling	TOTAL	0.020	0.020	0.020	0.020	0.020	0.020	0.100	
SI-0016	IT	<u>BA2010-RO-006-IT.5</u> Toll System Enhancements - Open road tolling (ORT), All electronic tolling (AET) - Design & Programming	TOTAL	0.000	0.135	0.135	0.135	0.135	0.125	0.665	2012 ORT or EZ Pass readers & antennas \$0.200 re-assigned to SO-002, 3/23/11



**New York State Bridge Authority
Capital Improvement Program
2012 - 2016
(\$ 000,000's)**

Administration & Operations

May 18, 2011
Page 13 - SYS

Project I.D.	Project Type	Project Title/Description	Item	Program Years						TOTAL	Remarks
				2011	2012	2013	2014	2015	2016		
SA-001	Admin	Systemwide - Equipment Purchases, Administration 1) Equipment purchases (furniture, etc.)	(1)	0.020	0.020	0.020	0.020	0.020	0.025	0.105	
									0.000		
			TOTAL	0.020	0.020	0.020	0.020	0.020	0.025	0.105	
SA-002	Admin	Systemwide - Business Application Enhancement		0.150	0.025	0.025	0.025	0.025	0.025	0.125	
									0.000		
			TOTAL	0.150	0.025	0.025	0.025	0.025	0.025	0.125	
SO-001	ADM / OPS	Systemwide - E-Z PASS 1) Hardware, Possible MARK IV change in 2013 Note: Tag Purchases through Operating Budget 2) Cash-less Tolling Feasibility Study in 2012 AET (All Electronic Tolls)	(1)			0.500				0.500	
			(2)		0.250				0.250		
			TOTAL	0.000	0.250	0.500	0.000	0.000	0.000	0.750	
SO-002	ADM / OPS	Systemwide - Pilot Program, All Electronic Tolling 2011 - "Pilot Program", A.T.P.M. collection midnight shift at Bear Mtn., Kingston-Rhinecliff and Rip Van Winkle	CONST							0.000	
			PILOT	0.500					0.000		
			TOTAL	0.500	0.000	0.000	0.000	0.000	0.000	0.000	
SO-003 2009 SO-004 2011	ADM / OPS	Systemwide - All Electronic Tolling (AET) 2009 - Conversion to AET with electronic tolling hardware and plaza modifications, eliminate toll plaza, 2014 2011- Toll system upgrade, 2016	CONST				4.000		1.750	5.750	
			OTHER							0.000	
			TOTAL	0.000	0.000	0.000	4.000	0.000	1.750	5.750	