

Planning, Development and Real Estate Committee

Board Information Item III-B

March 27, 2008

Briefing on Urgent Unfunded Capital Needs

Washington Metropolitan Area Transportation Authority Board Action/Information Summary

Action	MEAD Number:	Resolution:

PURPOSE

To provide the Committee a briefing on the urgent unfunded capital needs currently affecting the safe and effective operation and maintenance of the Metro System – Metrorail, Metrobus and MetroAccess.

DESCRIPTION

As a result of outside and internal review of operations and maintenance issues currently affecting the Metro System, a list of urgent unfunded capital needs was prepared to initiate awareness and seek funding solutions. The issues are in eight specific areas: water related, National Transportation Safety Board (NTSB)/ rail cars, bus cameras, MetroAccess, truncated domes, bus facilities, passenger facilities and information technology.

FUNDING IMPACT

Total of \$489M identified with \$244M needed in 24 months. \$51M of the \$489M is identified in the Metro Matters FY11-24

RECOMMENDATION

None

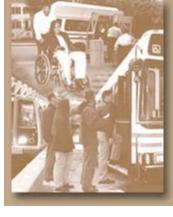
Briefing on Urgent Unfunded Capital Needs

Presented to the Board of Directors:

Planning Development and Real Estate Committee

March 27, 2008







Purpose

To provide the Planning, Development and Real Estate Committee a briefing on the Urgent Unfunded Capital Needs currently affecting the safe and effective operation and maintenance of the Metro System - Metrorail, Metrobus and MetroAccess.



Background

As a result of outside and internal review of operations and maintenance issues currently affecting the Metro System, a list of Urgent Unfunded Capital Needs was prepared to initiate awareness and seek funding solutions.

Issues:

- I. Water Related
- II. NTSB / Rail Cars
- III. Bus Cameras
- IV. MetroAccess
- V. Truncated Domes
- VI. Bus Facilities
- VII. Passenger Facilities
- VIII. Information Technology



Issue I. - Water Related



Deterioration of Shady Grove Station platform slab structural concrete



Issue I. - Water Related



• Deteriorated insulator replacement





Continuous wet conditions



• Moisture and stray current damaged track fasteners



Issue I. - Water Related





• New MCM traction power cable alongside moisture damaged cable, Traction power cable installation at West Falls Church Station

\$88M 24 Month Interim Capital Projects

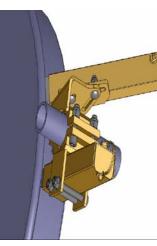
- <u>\$55M</u> Next Capital Program Beyond 24 Months
- \$143M Total



Issue II. - NTSB / Rail Cars



- W120T air supply
- \$45M 24 Month Interim Capital Projects
 - <u>\$9M</u> Next Capital Program Beyond 24 Months
- \$54M Total



• Kelsan wheel lubricator



• Rohr fleet structural repair



Issue III. - Bus Camera

• Bus with side cameras shown



- **\$6M 24 Month Interim Capital Projects**
- <u>\$7M</u> Next Capital Program Beyond 24 Months
- \$13M Total



Issue IV. - Metro Access

• Metro Access van with wheel chair lift



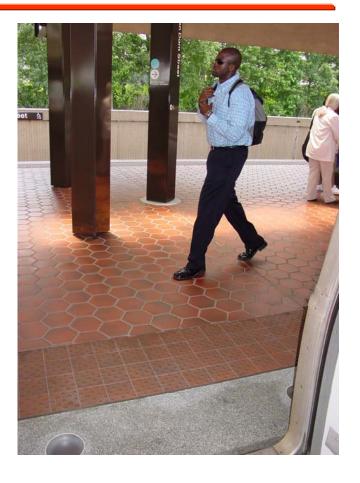
- **\$7M 24 Month Interim Capital Projects**
- <u>\$9M</u> Next Capital Program Beyond 24 Months
- \$16M Total



Issue V. - Truncated Domes



- Truncated Dome Tiles installed at Van Dorn and Franconia - Springfield Stations
 - **\$4M 24 Month Interim Capital Projects**
 - <u>\$6M</u> Next Capital Program Beyond 24 Months



\$10M Total



Issue VI. - Bus Facilities





- Western Bus Garage shower area, Northern Garage parking deck and ventilation system
- **\$19M 24 Month Interim Capital Projects**
- <u>\$109M</u> Next Capital Program Beyond 24 Months
- \$128M Total



Issue VII. - Passenger Facilities



• Deteriorated Station platform paver tile

Weathered Kiss and Ride parking lot pavement







- \$40M 24 Month Interim Capital Projects
- **<u>\$50M</u>** Next Capital Program Beyond 24 Months
- \$90M Total

• Old chiller plant and replacement





Issue VIII. – Information Technology

- **\$35M 24 Month Interim Capital Projects**
 - **<u>\$0M</u>** Next Capital Program Beyond 24 Months
- \$35M Total





Urgent Unfunded Capital Needs Summary

	Tatal	Veen 1		Delever
(\$ in Millions)	Total	Year 1	Year 2	Balance
I. Water Related	\$143.0	\$35.0	\$53.0	\$55.0
II. NTSB / Rail Cars	\$54.0	\$15.0	\$30.0	\$9.0
III. Bus Camera	\$13.0	\$3.0	\$3.0	\$7.0
VI. Metro Access	\$16.0	\$4.0	\$3.0	\$9.0
V. Truncated Domes	\$10.0	\$2.0	\$2.0	\$6.0
VI. Bus Facilities	\$128.0	\$8.0	\$11.0	\$109.0
VII. Passenger Facilities	\$90.0	\$14.0	\$26.0	\$50.0
VIII. Information Technology	\$35.0	\$29.0	\$6.0	\$0.0
Total	\$489.0*	\$110M	\$134.0	\$245.0
* \$489.0 includes \$51.0 in deferred projects				
	\$24	44M in 2	4 month	S
]



Next Steps

- Explore strategies such as:
 - Additional federal funding through the next transportation authorization bill and direct appropriations
 - Reprogramming of current Metro Matters funds and project deferrals to FY2011 and beyond
- Return to the Board in April/May with possible options



APPENDIX

Subject	Description	In-depth Explanation of What & Why	Total Cost	1 year	2 years	3 years	4 years	5 year	6 years
Subject	Description	Detector will have a series of LCD displays on the	Total Cost	i yeai	2 years	5 years	4 years	5 year	0 years
		handle that will show relative voltage i.e. between							
		75 to 100. Received prototype; will order 24 to							
		test and ensure that they will meet our needs							
oltage Detector/ Hot Stick	New hot stick to indicate level and types of voltages	5	\$500,000	\$500,000					
onage Detectory not otick	New not stick to indicate level and types of voltages	WMATA has multiple types of transformers - these	\$300,000	\$300,000					
	Four - Spare universal transformers in case	spare universal transformers can be installed in							
ransformer	catastrophic failure of existing transformers	any of WMATA's traction power substations.	\$1,500,000	\$1,500,000					
Tanatorner		Complete system testing to identify areas of	\$1,500,000	\$1,500,000					
		potential stray current to allow corrective work by							
	Analyze entire system for stray current and	replacing fasteners and bolts and to minimize							
tray Current Mitigation	implement repairs.	potential fires.	\$14,000,000	\$2,000,000	\$2,000,000	\$5,000,000	\$5,000,000		
tray current witigation		Existing fasteners were installed during initial	\$14,000,000	\$2,000,000	\$2,000,000	\$3,000,000	\$3,000,000		
		construction of the system and are old technology.							
		Current generation of fasteners provides more							
	Replacement of 120,000 track fasteners to prevent	extensive isolation of metal thereby providing less							
rack Fasteners	fires.	pathways for stray currents.	¢20,000,000	¢ 4,000,000	¢4,000,000	¢4,000,000	¢4,000,000	\$4,000,000	
Tack Fasteriers	nies.	Deterioration of structural concrete platform slabs	\$20,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	
		beneath station paver and granite edging has							
		resulted from water and deicing infiltration. To							
	Phase I Replacement of station platform structural	ensure continued structural integrity platforms	***	* 4 500 000	A7 500 000	#F 000 000	A4 500 000		
tation Platform	slabs at three above-ground stations (\$6M each)	must be replaced – urgently at three locations.	\$18,000,000	\$4,500,000	\$7,500,000	\$5,000,000	\$1,500,000		
		Emergency door release on the entire fleet of							
		railcars. Currently we only have a door release							
		from inside the railcar; this would add an							
		emergency release on the outside of the railcar so							
	Commitment to NTSB – manual emergency door	that emergency personnel, etc. could open the							
ailcar Safety Enhancement	exterior release	door.	\$5,000,000	\$1,750,000	\$1,750,000	\$1,500,000			
	Commitments FTA/TOC to prevent derailments –	Car-borne flange lubrication on 50% of the total							
	Wheel/rail interface, condition assessment, wheel	fleet to help with noise, wear, & further reduce							
ailcar Safety Enhancement	profile and lubrication	potential derailments.	\$2,600,000	\$1,300,000	\$1,300,000				
-	Modifications – doors opening on wrong side of	Modify doors to prevent doors automatically							
ailcar Safety Enhancement	train, 1-2-3-5-6K series railcar, 4K not needed.	opening on the wrong side.	\$7,500,000	\$3,000,000	\$3,000,000	\$1,500,000			
	Modifications – Roll-back prevention on 1-4-5K	To ensure all railcars regardless of fleet type have							
aicar Safety Enhancement	fleets	this protection in place.	\$3,000,000	\$1,000,000	\$2,000,000				
		1K fleet shells to meet extended life-cycle will							
ailcar Safety Enhancement	1K Structural Reinforcement	require additional welding and reinforcements	\$3,000,000	\$1,000,000	\$2,000,000				
		Replace existing compressors on the 2-3K series							
	Reliability improvement – equipment	railcars with oil-less compressors to reduce high							
	modification/replacement of current equipment with								
ailcar Reliability	oil-less compressors.	of service.	\$6,500,000	\$2,750,000	\$3,750,000				
5	Replace existing bond cables with new negative	The running rails provide a path for return current							
	return cables system-wide	through the negative cables to the traction power							
		sub-stations. These cables have deteriorated over							
ond Cable Replacement		the years and are in need of replacement.	\$6,000,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000		
	Complete cable replacement in the remainder of	The positive cables provide traction power to the	+=/===/===	+ - 1 1	+ . / /	+ . / /	+ .		
	traction power substations and tiebreaker stations.	3^{rd} rail for operation of the railcars. These cables							
	This is needed because of water infiltration and	have deteriorated over the years and are in need							
rack Feeder Cable	deterioration of old, worn-out cables.	of replacement.	\$10,000,000	\$4,750,000	\$1,750,000	\$1,750,000	\$1,750,000		
		Rehabilitate the D & G aerial structure - Final	\$10,000,000	\$4,750,000	\$1,750,000	\$1,750,000	\$1,750,000		
	Capital funding is needed beyond what is currently programmed to complete the final design for the	design contract (HP-9) will be completed in FY08.							
		This project will rehabilitate of the D & G aerial							
	D&G aerial structure.	structure by replacing 52 deteriorated elastomeric							
		bearing pads at five piers, painting steel girders at decks joints and rerouting high voltage electrical							
		, , , , , , , , , , , , , , , , , , , ,							
		conduits from inside the girder to outside.							
		Deteriorated bearings are causing track anchor							
		wear and failure. Electrical conduits are arcing							
OW Structural Rehabilitation		inside the steel girder causing safety concerns.	\$2,500,000		\$2,500,000				
	Capital funding is needed beyond what is currently	Originally installed special trackwork has wood							
	programmed to complete track rehabilitation	ties. To reduce the occurrence of fires it is							
rack Rehabilitation	program for concrete ties.	necessary to replace all above grade wood ties	\$25,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	

Subject	Description	In-depth Explanation of What & Why	Total Cost	1 year	2 years	3 years	4 years	5 year	6 years
		In long continuous sections of the 3 rd rail between							
		traction power sub-stations expansion joints were							
		Installed in the 3 rd rail. Movement of the 3 rd rail							
	Third Rail expansion joints are causing the loss of	has caused irregularity in the expansion joint							
Track Cable for 3 rd Rail Expansion Joints		resulting in the damage of railcar shoes which							
cross-over/ transition	replacement for crossovers and transition areas.	affects power to the train and reliability.	\$13,000,000	\$3,500,000	\$3,500,000	\$3,000,000	\$3,000,000		
		Rehabilation of Silver Spring Train Control Room							
Mid-Life Rehabilation Automatic Train		which was damaged by a flood a couple of years							
Control (ATC)	Rehabilation of Silver Spring Train Control Room	ago.	\$6,000,000	\$6,000,000					
	Capital funding is needed beyond the current								
Right of Way (ROW) Structural	program for the Right of Way (ROW) Structural	Rehabilitation of five underground station vaults							
Rehabilitation	Rehabilitation for underground station vaults	(Farragut North to Union Station)	\$3,000,000		\$3,000,000				
		To reduce the possibility of failure and/or fires							
		replacement of Traction Power Switchgear at 40							
		locations and at 44 tie breaker substations.							
	Traction Power Switchgear replacement is needed	Replacement of prioritized cabling by the track							
Fraction Power Switchgear	along with traction power cabling	department is included in this project.	\$12,000,000		\$12,000,000				
	Un-Interruptable Power (UPS) System Replacement								
Un-Interruptable Power (UPS) System	needed to ensure emergency backup of power is	Replacement of UPS at 76 locations and							
Replacement	consistent.	replacement of batteries at 16 locations.	\$4,000,000	\$2,000,000	\$2,000,000				
		ROW electrical system rehabiiltation and MCC and							
Electrical System Rehabilitation	Electrical System Rehabilation for ROW	AVR.	\$4,000,000		\$4,000,000				
Mid-Life Rehabilitation AC/TPSS/TBS	Mid-Life Rehabilitation AC/TPSS/TBS for 48 locations	Replacement of AC switchgear at 48 locations.	\$4,000,000		\$4,000,000				
		In FY08, Montgomery Bus Garage "mini-rehab"							
		using Job Order Contract and Bladensburg (T05)							
		"major-rehab" using Job Order Contract. In FY09,							
		Northern Bus Garage "minor-rehab" using Job							
		Order Contract and Royal Street Bus Garage							
		"major-rehab" using Job Order Contract. In FY10,							
		Brentwood "minor-rehab" using Job Order Contract							
Rail/Bus Structures Field Offices and		and Greenbelt refurbish Rail Car Painting facility							
Yards	Rehabilitation needed for bus and rail facilities.	using Job Order Contract.	\$4,000,000	\$2,000,000	\$2,000,000				
		The increase in fleet size requires an increase in							
		traction power, rail car storage and maintenance							
		facilities. Without these facilities rail cars are							
		stored on tail tracks and maintenance intervals are							
	Design for all associated infrastructure for 75% 8-	increased resulting in operational inefficiencies due							
Infrastructure Requirements for 75% 8-		to storage tie ups, breakdowns and decreased car							
car train operation	railcars and additional maintenance space in shops	availability. This will complete the design.	\$6,000,000		\$6,000,000				
		Investment in bus facilities through the years has							
	Renovation of employee facilities, upgrade of bus	been lacking. Recommended upgrades badly							
APTA Bus Peer Review	repair equipment including limited facilities for	needed to provide a better work environment and							
Recommendations	painting at divisions.	improve service reliability.	\$33,700,000	\$3,000,000	\$3,000,000	\$11,700,000	\$11,000,000	\$5,000,000	
	Onboard surveillance systems on buses to improve	This system will support safety and security							
	safety of passengers and pedestrians	initiatives by providing high quality, technologically							
		advanced onboard surveillance and recording							
		systems. Onboard bus camera systems can							
		reduce the frequency and detrimental impact of							
		fraudulent claims, reduce or eliminate vandalism							
		and graffiti, protect patrons by deterring crime,							
		effectively prosecute perpetrators when crimes are							
		committed and effectively handle customer			10 (10 (10 6		
Cameras on Buses		concerns and/or complaints.	\$12,900,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,900,000		
	Replacement of MetroAccess vehicles for disabled	To ensure we continue to provide safe and reliable							
MetroAccess Fleet	customers which have exceeded their useful life	MetroAccess vehicles.	\$16,500,000	\$4,000,000	\$3,000,000	\$5,500,000	\$4,000,000		
	Replace equipment for track and systems								
	maintenance, including self-propelled rail borne	Project funds the rehabilitation and replacement of							
	vacum equipment, production tampers, cross-tie	self propelled rail work equipment; i.e.							
ocomotives-Prime Movers-Heavy Duty	replacers, speed-swings, flat cars, locomotives, 100-	iocomotives, prime movers, flat railcars, deicer			***				
Rail Borne Equipment	ton crane, & ballast buggies.	railcars, and specialty equipment.	\$20,000,000	\$4,000,000	\$10,000,000	\$6,000,000			

Subject	Description	In-depth Explanation of What & Why	Total Cost	1 year	2 years	3 years	4 years	5 year	6 years
		The current status of Southern and Western bus				-			
		garages requires immediate attention to correct							
		deficiencies. A complete reconstruction of							
		Southern is required due to age and condition of							
	3	the structure. A major rehabilitation is required for							
Rehab Bus Garages	current locations.	Western to bring facility up to today's standards.	\$90,000,000	\$3,000,000	\$6,000,000	\$30,000,000	\$30,000,000	\$21,000,000	
	Installation of ADA compliant truncated domes at	To make all Station platforms ADA compliant and							
Bumpy Tiles	remaining 20 Metrorail stations.	safe for Metro's blind customers.	\$10,000,000	\$2,000,000	\$2,500,000	\$3,000,000	\$2,500,000		
		Kiss & Ride: Branch Ave, Southern Ave, Naylor							
		Rd, Glenmont East, Suitland, New Carrollton East,							
		New Carrollton West and Franconia Springfield.							
		Bus Loop: Southern Ave, Suitland, Medical							
		Center, West Falls Church, Naylor Rd, Branch Ave,							
		Shady Grove East, Greenbelt West, New Carrollton							
		West, New Carrollton East and Deanwood.							
		Parking: Southern Ave (asphalt area only), Naylor							
		Rd, Branch Ave Lot 'A'/ 'B'/ 'C', Landover East,							
	All paving of surface lots using Job Order Contract	New Carrollton East (P#3) and Landover North.							
Parking Lot Rehabilitation	at the following locations:	Access Road: Suitland and Glenmont – access to	\$6,000,000	\$3,000,000	\$3,000,000				
		Replacement of Air Handling 8Units in Metrorail							
		Stations on 8 Routes - Final design contract (JM-2)							
		to be completed by FY08. The project would							
		replace chilled water air handling units at 56							
Station Chiller Rehabilitation	Station Chiller Rehabilitation	stations and under platform duct work in 14	\$16,000,000	\$4,000,000	\$12,000,000				
		Chronic problems exist with quarry tile. Installation							
		of stamped concrete will improve slip resistance,							
	Replacement of above-ground platform station	maintainability and result in cost savings over the							
Replacement Paver Tiles	paver tiles with stamped concrete (\$1M per station).	life of the rail system.	\$36,000,000	\$1,000,000	\$3,000,000	\$7,200,000	\$9,000,000	\$8,600,000	\$7,200,000
		Ceiling systems in most stations are 20 to 30 years	,		, ,				
	Replacement of ceiling tile in underground stations	old. Ceiling grid has corroded and must be							
Ceiling Tile Replacement	(\$650K per station).	replaced.	\$32,000,000	\$6,000,000	\$8,000,000	\$5,200,000	\$6,400,000	\$6,400,000	
									\$7,200,000
		Totals		\$81,050,000		\$99,850,000	\$88,550,000	\$50,000,000	\$7,200,000
~ •			\$454,200,000	\$81,050,000					\$7,200,000
· · ·									\$7,200,000
· · ·			\$454,200,000	\$81,050,000	\$128,050,000				\$7,200,000
Information Technology Level 1			\$454,200,000 Year 1 Totals	\$81,050,000 \$81,050,000	\$128,050,000				\$7,200,000
			\$454,200,000 Year 1 Totals	\$81,050,000 \$81,050,000	\$128,050,000				\$7,200,000
Information Technology Level 1		Totals	\$454,200,000 Year 1 Totals Year 2 Totals Total	\$81,050,000 \$81,050,000 \$128,050,000	\$128,050,000				\$7,200,000
Information Technology Level 1	Multiple aspects of data center infrastructure	Totals Authority highly vulnerable to data and system	\$454,200,000 Year 1 Totals Year 2 Totals Total	\$81,050,000 \$81,050,000 \$128,050,000	\$128,050,000				\$7,200,000
Information Technology Level 1		Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster.	\$454,200,000 Year 1 Totals Year 2 Totals Total	\$81,050,000 \$81,050,000 \$128,050,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items	Multiple aspects of data center infrastructure	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup	\$454,200,000 Year 1 Totals Year 2 Totals Total	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items	Multiple aspects of data center infrastructure inadequate to support operational needs	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems.	\$454,200,000 Year 1 Totals Year 2 Totals Total	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented.	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re-	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions.	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality	Totals Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced.	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000	\$128,050,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000 \$8,000,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster nadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects.	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000 \$500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe Enable Business Process Reengineering	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring Procurement unable to locate and manage executed	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects. Procurement has no system in place to	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000 \$500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000 \$660,000 \$6,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000 \$2,295,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects. Procurement has no system in place to manage/monitor executed contracts.	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000 \$500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000 \$8,000,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe Enable Business Process Reengineering Enable Peoplesoft Contracts System	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring Procurement unable to locate and manage executed contracts	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects. Procurement has no system in place to manage/monitor executed contracts. Finance/Payroll unable to access or perform	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$10,295,000 \$10,295,000 \$500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$8,400,000 \$3,600,000 \$3,160,000 \$660,000 \$660,000 \$6,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000 \$2,295,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe Enable Business Process Reengineering Enable Peoplesoft Contracts System Enable Finance /Payroll Reporting	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring Procurement unable to locate and manage executed contracts Finance, payroll groups have limited ability to	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects. Procurement has no system in place to manage/monitor executed contracts. Finance/Payroll unable to access or perform analyses on payroll/financial data; software	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$1,000,000 \$10,295,000 \$500,000 \$2,000,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$3,400,000 \$3,600,000 \$3,160,000 \$660,000 \$660,000 \$500,000 \$1,320,000	\$128,050,000 \$1,800,000 \$1,800,000 \$340,000 \$340,000 \$2,295,000 \$680,000				\$7,200,000
Information Technology Level 1 Items Stabilize Data Center Remediate IT Security IT Peoplesoft Remediation Remediate/Stabilize Major Operational Systems Migrate All Systems Off The Mainframe Enable Business Process Reengineering Enable Peoplesoft Contracts System	Multiple aspects of data center infrastructure inadequate to support operational needs IT Security program nonexistent; reflected in multiple recurring financial system audit findings Remediate Peoplesoft Budget, Finance and Fixed Assets Several major systems not utilizing full functionality Migrate remaining systems off the aging mainframe onto alternative client-server platforms Aurthority has several areas requiring major business analysis and restructuring Procurement unable to locate and manage executed contracts	Authority highly vulnerable to data and system loss, with no reduncancy in event of disaster. Inadequate power, cooling and backup Authority highly vulnerable to professional hacking into financial and operating systems. Currently all HR data must be manually integrated with budget data; all actual expense data must be manually integrated to budget data; cannot get basic financial data from system; fixed Assets unable to be managed - software purchased but not implemented. Trapeze, Maximo, Orbcad not configured nor re- engineered for many basic functions. The migration is crucial to the stability of several applications. Reduces cost by eliminating the support of the mainframe environment; both hardware and software maintenance reduced. Business process reengineering is critical to the success of the remediation projects. Procurement has no system in place to manage/monitor executed contracts. Finance/Payroll unable to access or perform	\$454,200,000 Year 1 Totals Year 2 Totals Total \$8,400,000 \$5,400,000 \$3,500,000 \$10,295,000 \$10,295,000 \$500,000	\$81,050,000 \$81,050,000 \$128,050,000 \$209,100,000 \$3,400,000 \$3,600,000 \$3,160,000 \$660,000 \$660,000 \$6,0000 \$1,320,000	\$128,050,000 \$1,800,000 \$340,000 \$340,000 \$2,295,000				\$7,200,000

							_		_
Subject	Description	In-depth Explanation of What & Why	Total Cost	1 year	2 years	3 years	4 years	5 year	6 years
		MTPD unable to map crime statistics; rail, bus, and							
		plant maintenance unable to map Metro facilities							
Enable Enterpise Geographic	Authority does not have a comprehensive GIS	for maintenance tracking; Metro unable to map							
Information System	system to service Authority-wide requirements	authoritive bus stop inventory.	\$1,100,000	\$1,100,000					
		Subtotal IT	\$35,195,000	\$28,940,000	\$6,255,000				
			Year 1 Totals	\$28,940,000					
			Year 2 Totals	\$6,255,000					
			Total IT	\$35,195,000					
			Grand Total	\$244,295,000					