

Metrorail Communications Study: Implementation Status October 20, 2015

Radio Communication Infrastructure and Systems

Recommendation	Time*	Status	Actions	Lead
New Cable - Prioritize new leaky coaxial cable installation in tunnels with known radio performance issues before other areas.	Long	Installation begins 01/2016.	Priority locations are identified. WMATA will use existing radio performance as a factor to prioritize of DAS work locations. Installation will start Glenmont and progress along the red line.	WMATA
BDA Install - Replace existing fiber-optic PSRS bi directional amplifiers (BDA) head-ends in Metrorail with new remote controlled units with real-time monitoring.	Near	Location assessment and cost 11/2015. Procurement 04/2015. Installation begins 01/2016	WMATA will use existing fiber optic cables and replace existing bi-directional amplifiers (BDAs) with equipment capable of remote monitoring and adjustment on both cable ends. Procurement documents to be developed. Funding requirements and sources to be identified.	WMATA
PSRS/CSRS Install - Replace existing PSRS radio system at the same time the CRCS radio system is replaced.	Long	Location assessment and cost 11/2015. Vendor responses 01/2016. Contract awarded 07/2016.	WMATA will bid the new CSRS 700 MHz radio system with an option to replace the existing PSRS 800 MHz radio system and perform incremental startup of the new 800 MHz BDAs.	WMATA
PA System - Explore direct ROCC transmission to the train PA system for emergencies.	Near	Assessment and review completed 10/2015.	WMATA assessed feasibility and cost relative to priority for other infrastructure replacement. Project deferred in consultation with study group.	WMATA

Operations and Maintenance

Recommendation	Time*	Status	Actions	Lead
Radio Testing - Conduct routine detailed uplink, downlink, and noise signal-level testing throughout Metrorail tunnels. Daily tests recommended, minimum weekly.	Near	Procurement 12/2015 Installation 04/2016	WMATA to install prototype automated radio testing on train which transits the entire system daily. Procurement documents to be developed. Costs and funding sources to be identified. Metrorail jurisdictions continuing weekly/bi-weekly tests.	WMATA
ROD Map - Enhance online radio outage display (ROD Map) to provide information on known problem areas.	Near	ROD Map implemented 04/2015. Next upgrade 11/2015.	WMATA implemented a Radio Outage Display map for the ROCC and first responders. Displays outages in real time radio based on reports. ROD MAP will be evaluated and revised as required.	WMATA
Maintenance Records - Develop a testing system to record and track communication systems adjustments: e.g. signal levels, BDA parameters.	Long	Evaluation of current maintenance system and feasibility assessment in process	WMATA to research and develop a system to track radio adjustments and repairs.	WMATA
Inventory - Maintain sufficient parts inventory to avoid outages and track repair delays by equipment shortages.	Near	Inventory purchase 08/2015. Reliability analysis, repair tech decision 03/2016.	WMATA increased PSRS spare parts inventory. Monitoring inventory levels to procure spares as needed. WMATA tracking radio outages and maintenance workloads to determine need for additional radio repair technicians.	WMATA

*Near Term: Existing Systems & Procedures Long Term: New Systems & Procedures

Cellular Service

Recommendation	Time *	Status	Actions	Lead
<p>Verizon Legacy – Verizon Wireless should repair and maintain existing system to restore 9-1-1 service for Verizon/Sprint customers.</p> <p>Work with the Cellular Carrier Team to correct 9-1-1 calling capabilities while building Neutral Host.</p>	Near	<p>MWCOG & 9-1-1 Committee to send letter to Verizon requesting action.</p> <p>WMATA/Cellular Carrier Team Neutral Host installation agreement in principle 09-10/2015.</p>	<p>WMATA negotiating with Cellular Carrier Team as component of Neutral Host installation.</p>	<p>Verizon Wireless WMATA 9-1-1 Directors Metrorail Jurisdictions</p>
<p>Neutral Host - Prioritize cable support installation in areas with poor Verizon Wireless service. Request Cellular Carrier Team to build in priority areas first.</p>	Long	<p>Procurement in process. Cable support installation begins 01/2015.</p>	<p>WMATA negotiating with Cellular Carrier Team, part of Neutral host installation efforts. Priority locations are identified.</p>	<p>Cellular Carrier Team¹ WMATA, MWCOG² and Metrorail Jurisdictions³</p>
<p>Cable for Cellular Service - Work with the Cellular Carrier Team to pursue rapid reinstatement and an accelerated build of the Neutral Host system.</p>	Long	<p>Cellular equipment support installation begins 01/2015.</p>	<p>WMATA will install cellular service support infrastructure with cable Installation hang cellular equipment supports. Project will start Glenmont and progress along the red line.</p>	<p>Cellular Carrier Team WMATA</p>
<p>Monitor the Federal Communications Commission (FCC) proceedings on location accuracy.</p>	Long	<p>MWCOG 9-1-1 Directors Committee monitoring relevant FCC rule-making.</p>	<p>MWCOG 9-1-1 Directors will continue to monitor and act where appropriate.</p>	<p>MWCOG 9-1-1 Directors</p>
<p>Next Gen 9-1-1 - Review with the Cellular Carrier Team all possibilities in the Metrorail system to support Next Generation 9-1-1 features, including text-to-9-1-1.</p>	Long	<p>WMATA/Cellular Carrier Team Neutral Host installation agreement in principle 09-10/2015. Fairfax County text-to-9-1-1 implemented 09/2015 9-1-1 Directors request to meet with Cellular Carrier Group 10/2015</p>	<p>MWCOG 9-1-1 Directors will continue to implement Next Generation 9-1-1 and coordinate with WMATA.</p>	<p>Cellular Carrier Team MWCOG 9-1-1 Directors</p>

¹ Cellular Carrier Team - the four primary cellular carriers: AT&T, Sprint, T-Mobile and Verizon

² MWCOG – COG public safety committees and staff

³ Metrorail Jurisdictions – Public Safety agencies in City of Alexandria, Arlington County, District of Columbia, Fairfax County, Loudoun County, Montgomery County and Prince Georges County

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9-1-1 Service and Dispatch

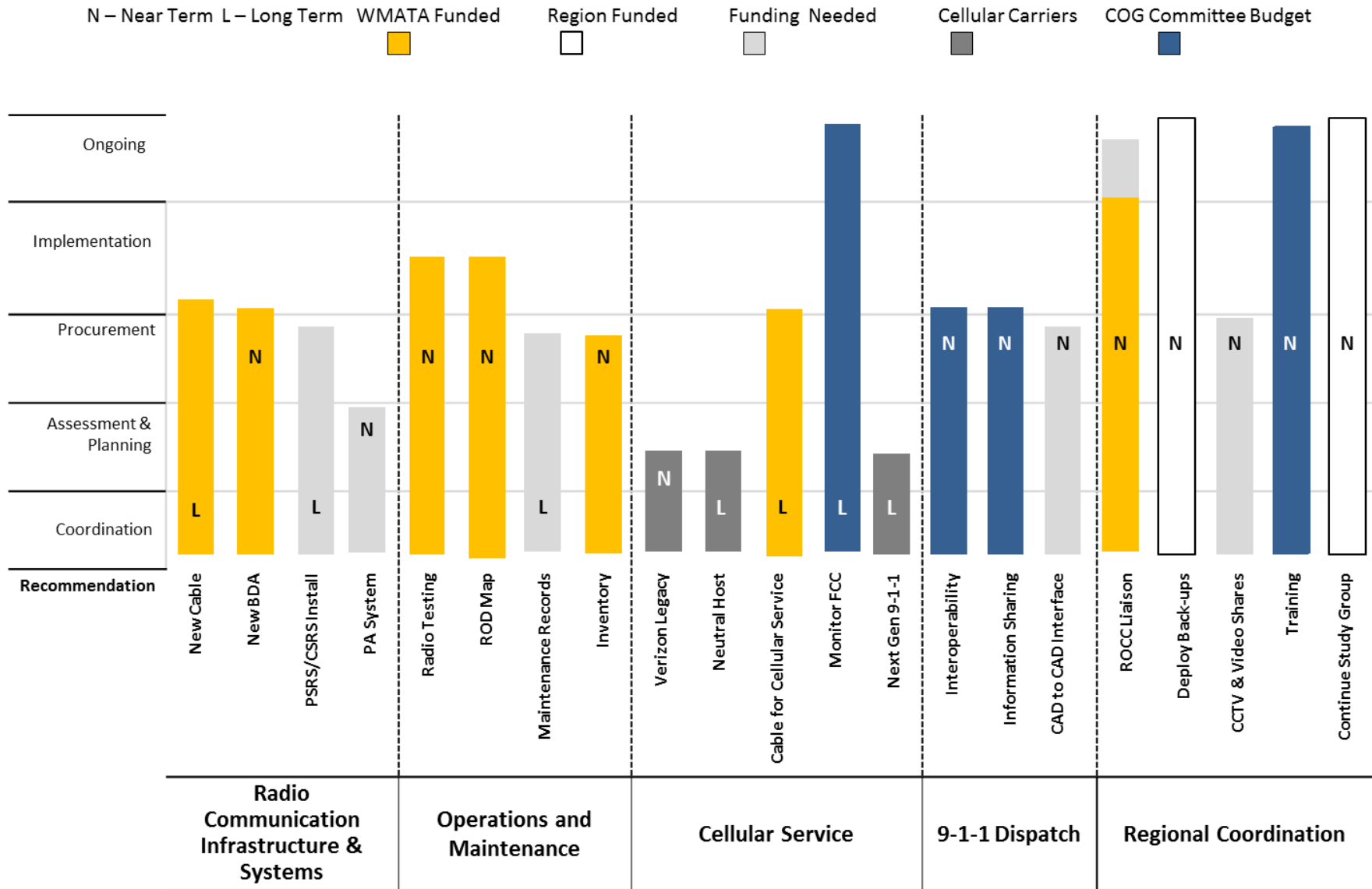
Recommendation	Time *	Status	Action	Lead
Interoperability - Enhance law enforcement interoperability technology and protocols and determine if other communication sharing capabilities are more efficient.	Near	Regional interoperability agreements, review September – 11/2015.	Fire/EMS and Police Communications Subcommittees will continue to develop interoperability work plans and protocols. The Metro Communications Study Committee to incorporate interoperability into ongoing regional discussions and additional actions.	Metrorail Jurisdictions, MWCOG, WMATA
CAD-to-CAD - Initiate a study on the feasibility of a CAD-to-CAD interface to facilitate information flow for Metrorail incidents.	Near	MWCOG public safety committees discussed 09-10/2015.	Committees are working on protocols and identifying technology options	9-1-1 Directors
Information Sharing - Adopt a standard protocol for interagency information sharing during Metrorail emergency response	Near	Draft protocol for committees' review 09-10/2015.	9-1-1 Directors Committee has draft protocol and check list in committee review.	9-1-1 Directors

Regional Coordination

Recommendation	Time *	Status	Action	Lead
ROCC Liaison - Staff a permanent public safety liaison during all operating hours at the ROCC. WMATA should integrate this liaison into its emergency operations.	Near	Liaison in place 5 days/week 8/hours/day. Identifying sustainable funding options to expand hours.	ROCC liaison position initiated in June 2015. Current liaison working to refine position description. MWCOG and jurisdictions working to identify options to expand position to 24/7 coverage.	Metrorail Jurisdictions, MWCOG, WMATA
Deploy Back-ups - Anticipate radio problems for Metrorail emergency response, deploy backup strategies such as tactical BDAs.	Near	Back-up strategies consistently used by Metrorail jurisdictions. Funds in place to purchase more tactical BDAs.	Metrorail jurisdictions currently use multiple back-up strategies. Funds are in place to purchase additional tactical BDAs for regional radio caches.	Metrorail Jurisdictions
CCTV - Collaborate to increase tunnel video feeds (CCTV) monitoring and provide first responder agencies with real-time access.	Near	WMATA agreed to expand CCTV sharing 09/2015.	Regional public safety agencies and WMATA coordinating sharing options and protocols.	Metrorail Jurisdictions, MWCOG, WMATA
Training - Engage in systematic preparedness planning including a comprehensive training and exercise program.	Near	Fire/EMS Metrorail training protocols updated 06/2015. Regional Metrorail training manual developed and approved 09/2015.	Manual will provide consistent regional training. Jurisdictions, WMATA tracking and reporting training hours. Will incorporate communication system deployment into training and functional exercises.	Metrorail Jurisdictions, MWCOG, WMATA
Continue Study Group - Sponsor the Metro Communications Study Committee to provide implementation oversight.	Near	Meet monthly to review status and identify actions.	Coordinate actions across MWCOG committees. Reviewing progress and proposals in consultation with WMATA.	MWCOG

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Study Recommendation Status and Funding



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