

FTA-24-3-010 Action Plan and Implementation Schedule Evaluation Matrix
Special Directive 24-3: Safety Issues Contributing to Safety Events at SEPTA

Action Plan and Implementation Schedule Evaluation Matrix: Special Directive 24 3: Safety Issues Contributing to Safety Events at SEPTA

Finding 10: SEPTA Faces Numerous Challenges with the Performance of its Radio System

Required Action FTA-24-3-010: Within 120 days of issuance of this report, SEPTA must develop an action plan and schedule for radio enhancements to improve and monitor radio performance. This plan must include all intended capital projects to replace, repair, or upgrade radio system components. SEPTA must submit this plan and implementation schedule to FTA for review, approval, and implementation monitoring.

Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
FTA-24-3-010-01	Utilize available 450 MHz channel on Norristown High Speed Line and Media-Sharon Hill Line to improve and enhance right of way work zone coverage and to mitigate atmospheric interference.	Communications and Signals (C&S)	Coverage Test Documentation Site Acceptance Test	10/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Coverage Test Documentation and Site Acceptance Test. Interview Qualified Protection Employees (QPE), C&S representatives, and/or Operations Control Center (OCC) dispatchers to confirm improvements.
FTA-24-3-010-02	Identify options to mitigate atmospheric ducting conditions.	C&S	Consultant Report on Options to Mitigate Atmospheric Ducting Conditions	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review consultant report. Monitor SEPTA activities to execute option(s) selected by SEPTA leadership, as applicable.
FTA-24-3-010-03	Update firmware on Trolley Advanced Mobile Data Terminal to minimize time to transition to fallback.	C&S and Rail Equipment Engineering & Maintenance	Vehicle Acceptance Test	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Vehicle Acceptance Test. Review firmware installation documentation to confirm deployment to the entire relevant fleet.

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
					<ul style="list-style-type: none"> Interview QPEs, C&S representatives, and/or OCC dispatchers to confirm reduction in time to transition to fallback.
FTA-24-3-010-04	Analyze current operating and capital staffing requirements, including third-party support, to execute capital projects, maintain the radio communications system, and support and manage FTA workstream.	C&S	Notice to Proceed (NTP) Project Management Plan (PMP) Schedule	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP, PMP, and schedule. Review documents produced as stated in the PMP.
FTA-24-3-010-05			Documentation of completion	9/1/2028	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Documentation of completion.
FTA-24-3-010-06	Bring existing radio system to baseline through preventive maintenance for 500Mhz radio system specifications.	C&S	NTP	7/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP and Final Test/Preventive Maintenance Documentation. Review C&S preventive maintenance records and interview C&S representatives to confirm work to bring system to baseline.
FTA-24-3-010-07			Final Test/Preventive Maintenance Documentation	3/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum:

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					<ul style="list-style-type: none"> Review NTP and Final Test/Preventive Maintenance Documentation. Review C&S preventive maintenance records to confirm work to bring system to baseline.
FTA-24-3-010-08	Establish a maintenance contract for existing radio sites and equipment until implementation of new Computer Aided Radio Dispatch (CARD) 2.0 radio system (<i>see FTA-24-3-010-24 below</i>).	C&S	NTP Feasibility Letter	9/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review maintenance records to confirm performance to contract. Interview C&S representatives to confirm work is performed to contract.
FTA-24-3-010-09			Documentation of completion	9/1/2028	
FTA-24-3-010-10	Evaluate feasibility and funding for Voice Over Internet Protocol (VOIP) coverage to allow supervisors to communicate through cell phones on portable radio channels.	C&S	NTP	7/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review documents produced as stated in the NTP. Interview C&S representatives to confirm work is performed to contract.

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
FTA-24-3-010-11			Site Acceptance Test ¹	6/30/2028	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review Site Acceptance Test. • Interview C&S representatives and/or supervisors to confirm use and suitability of VOIP for this purpose.
FTA-24-3-010-12	Identify available 450 MHz channels to augment existing coverage.	C&S	NTP	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review NTP. • Review documents produced as stated in the NTP.
FTA-24-3-010-13			Channels Identified Site Acceptance Test	3/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review Site Acceptance Test. • Interview C&S representatives, OCC dispatchers, and/or operators to confirm coverage augmentation.

¹ FTA acknowledges that SEPTA may determine that use of VOIP is not feasible or effective for use in this capacity. If SEPTA determines that it will not pursue VOIP for these action items, it must notify FTA of that fact in writing within 15 business days of making that determination. This notification must include any new considerations SEPTA has identified to address this issue.

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
FTA-24-3-010-14	Explore deployment of 450Mhz conventional back up radio on vehicles to reduce interference.	C&S	NTP	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review NTP. • Review documents produced as stated in the NTP.
FTA-24-3-010-15			Site Acceptance Test ²	3/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review Site Acceptance Test. • Review radio distribution documentation to confirm deployment to relevant fleet. • Conduct spot checks to confirm presence of backup radio. • Interview operators to confirm presence of backup radio and their understanding of how to use the system.
FTA-24-3-010-16	Utilize available 450 MHz channels to mitigate atmospheric interference for supervisors.	C&S	NTP	10/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review NTP.

² FTA acknowledges that SEPTA may determine that deployment of 450Mhz conventional backup radio may not be feasible or effective for use in this capacity. If SEPTA determines that it will not pursue this back up, it must notify FTA of that fact in writing within 15 business days of making that determination. This notification must include any new considerations SEPTA has identified to address this issue.

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					<ul style="list-style-type: none"> Review documents produced as stated in the NTP.
FTA-24-3-010-17			Site Acceptance Test	10/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Site Acceptance Test. Interview C&S representatives and/or supervisors to confirm improvement in atmospheric interference.
FTA-24-3-010-18	Work with cell modem vendor to geo-fence tunnel area to force system into fallback for duration of tunnel trip.	C&S	NTP	8/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review documents produced as stated in the NTP.
FTA-24-3-010-19			Site Acceptance Test	8/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Site Acceptance Test. Interview C&S representatives, operations supervisors, and/or operators to confirm operation of forced fallback.
FTA-24-3-010-20	Explore deployment	C&S	NTP	4/1/2025	Action Item Approved

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
	of 450Mhz conventional back up radio on vehicles to address loss of CAD data channel.				To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review documents produced as stated in the NTP.
FTA-24-3-010-21			Site Acceptance Test ³	4/1/2026	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Site Acceptance Test. Interview C&S representatives and/or supervisors to confirm improvement in atmospheric interference.
FTA-24-3-010-22	Analyze trouble ticket workflow to identify opportunities for process improvement. Create centralized radio trouble ticket database and SharePoint site to consolidate radio trouble ticket tracking.	IT and C&S	Process flow chart Database implementation and testing documentation Notice of policy change for trouble reporting	11/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review process flow chart, database implementation and testing documentation, and notice of policy change for trouble reporting. Interview C&S representatives on use of the centralized trouble ticket database.

³ FTA acknowledges that SEPTA may determine that deployment of 450Mhz conventional backup radio may not be feasible or effective for use in this capacity. If SEPTA determines that it will not pursue this back up, it must notify FTA of that fact in writing within 15 business days of making that determination. This notification must include any new considerations SEPTA has identified to address this issue.

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
					<ul style="list-style-type: none"> Review data in the database to confirm use.
FTA-24-3-010-23	Implement CARD 2.0.	C&S	NTP	4/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review documents produced as stated in the NTP.
FTA-24-3-010-24			Site Acceptance Test	8/31/2028	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review Site Acceptance Test. Interview C&S representatives, operations supervisors, and/or operators to confirm operation of CARD 2.0.
FTA-24-3-010-25	Explore implementation of wide distribution of LTE capable radios.	C&S	NTP	9/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Review NTP. Review documents produced as stated in the NTP.

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FTA-24-3-010-26			Site Acceptance Test ⁴	9/1/2028	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review Site Acceptance Test. • Interview C&S representatives, operations supervisors, and/or operators to confirm distribution of radios and function of system.
FTA-24-3-010-27	Explore centralizing radio trouble ticket reporting and tracking with other processes being developed in parallel workstreams.	IT and C&S	Process flow chart Feasibility analysis Database implementation and testing documentation Notice of policy change for trouble reporting	12/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> • Review process flow chart, database implementation and testing documentation, and notice of policy change for trouble reporting. • Interview C&S representatives on use of the centralized trouble ticket database. • Review data in the database to confirm use.

AT&T Collaboration⁵

⁴ FTA acknowledges that SEPTA may determine that deployment of LTE capable radios may not be feasible or effective for use in this capacity. If SEPTA determines that it will not pursue this action, it must notify FTA of that fact in writing within 15 business days of making that determination. This notification must include any new considerations SEPTA has identified to address this issue.

⁵ Improved cellular service in Action Items 28 through 33 is performed through AT&T and not under SEPTA's direct control. Should any change to the improvements (ex.: a determination by AT&T that the site should not be improved or the deadline for a fully operational site is extended), SEPTA must notify FTA in writing within 14 business days of becoming aware of the change.

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Action Item Tracking No.	SEPTA Action Item	SEPTA Owner	SEPTA Deliverable	SEPTA Due Date	FTA Response
FTA-24-3-010-28	Improved cellular service at Subway-surface Line (SSL) 37 th St Station.	C&S	Documentation of fully operational site	9/1/2025	Action Item Approved To verify implementation, FTA will, at a minimum: <ul style="list-style-type: none"> Interview C&S representatives, operations supervisors, and/or operators to confirm improved cellular service.
FTA-24-3-010-29	Improved cellular service at SSL 33rd St Station.	C&S	Documentation of fully operational site	9/1/2025	
FTA-24-3-010-30	Improved cellular service at SSL 36th St Station.	C&S	Documentation of fully operational site	9/1/2025	
FTA-24-3-010-31	Improved cellular service at Market-Frankford Line 13 th Street/Juniper Station.	C&S	Documentation of fully operational site	9/1/2025	
FTA-24-3-010-32	Improved cellular service at SSL 19 th St Station.	C&S	Documentation of fully operational site	10/1/2025	
FTA-24-3-010-33	Improved cellular service at SSL 40 th St. Portal.	C&S	Documentation of fully operational site	10/1/2025	