

FINAL REPORT

11/23/2021

PATCO Transit System

**Roadway Worker Protection Safety Audit
April – August 2021**

**Prepared for:
New Jersey Department of Transportation
(NJDOT)**



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2021 PATCO Roadway Worker Protection Audit, R1

Introduction

During the 2020 PATCO Triennial Safety Audit performed by the NJ DOT SSO program, a finding of Non-Compliance was documented that consisted of a list of eight (8) issues associated with Roadway Worker Protection (RWP). This list was based on several RWP-related events [Accident, Incidents, & Occurrences (rule infractions)] that occurred during the Triennial Audit period (2017 to 2020) and subsequent actions taken by PATCO Management to improve the RWP program and prevent recurrence. Recommendations were made in the 2020 PATCO Triennial Safety Audit Report for PATCO Management to conduct an audit on specific aspects of the PATCO RWP program. PATCO Management completed their audit in April 2020, and there were zero (0) findings of non-compliance.

The objective of this audit was to evaluate the implementation of PATCO's RWP program, to address some of the aspects of the triennial audit findings, and other associated RWP issues. The Audit Scope was limited to the six (6) areas outlined below. Therefore, not all aspects of PATCO's RWP Program were reviewed.

- I. Review Job Safety Briefing (JSB) Forms used by the Track & Facilities and Power & Signals Departments to determine compliance with the current Right-Of-Way (ROW) Safety Plan (dated February 12, 2021), including form usage (consistency), and ways PATCO can improve effectiveness.
- II. Employee interviews to evaluate employee understanding and familiarization of the ROW Safety Plan, as well as their perspectives on the RWP program.
- III. Review RWP-related Bulletins implemented by PATCO Management after the PATCO Employee Fatality on July 26, 2020, and inclusion into the ROW Safety Plan.
- IV. Review RWP-related Corrective Action Plans (CAPs) to identify any high priority outstanding items.
- V. Training Documentation Review
- VI. Review of Jack Arch obstruction issues identified in several Philadelphia stations, by NJDOT SSO program staff.

Participants

NJDOT SSO Program Audit Team: Michael Clemmons, Edward Zubrzycki Jr., Mina Yacoub

PATCO Participants: See **Attachment 3** – Table 1: Employees Interviewed

Executive Summary of Audit Results

The **Action Item List** (Attachment 1) contains **Fourteen (14)** Actions items that were identified in this Audit. These Actions are highlighted, in **yellow**, throughout the attachments. Significant Findings are identified below, by audit area.

- I. The audit team reviewed Job Safety Briefing (JSB) Forms used by the two (2) departments responsible for the majority of the PATCO on-track activities, Track & Facilities (T&F) and Power & Signal (P&S), to determine compliance with the current ROW Safety Plan, form usage (consistency), and ways to improve effectiveness. **Significant findings are as follows:**
 - a. **Several issues were identified with JSB forms not meeting all the requirements outlined in Section 10.1 (Items A – J) of the ROW Safety Plan, dated February 12, 2021.**

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- b. Forms reviewed were improperly pre-filled, incomplete (missing pertinent information), and/or information recorded was not accurate.*
- c. Several form fields do not have adequate space to provide a detailed description.*
- d. Forms require Configuration Control [The T&F department is using more than one (1) form version/variation; at least three were submitted/reviewed, and the forms do not contain adequate version control.].*

The audit team recommends that PATCO perform a major revision of the Job Safety Briefing Forms. See **Attachment 2** for detailed findings.

- II. The audit team conducted interviews with six (6) PATCO employees from various departments and job duties, at the Lindenwold Facility, on June 21, 2021, to evaluate their understanding and perspective of on-track safety, and familiarization with the ROW Safety Plan. **Significant findings are as follows:**
- a. None of the employees interviewed were familiar with the ROW Safety Plan except the EIC, and some employees were not aware that they could access documents through Power DMS.*
 - b. The EIC informed the Audit Team that she doesn't reference the ROW Safety Plan, or have it available when providing job safety briefings (required by the plan).*
 - c. Employees communicated concerns about Blue Light illumination without flag person present in contradiction to Transit Services Procedure C.-37.*
 - d. Some Hotspot locations (Philadelphia Tunnel) require painting.*
 - e. The audit process outlined in PATCO's "Working On and About Tracks" Procedure does not appear to have been implemented.*
 - f. Employee concern about inadequate ROW worker protection between Haddonfield and Westmont prompted a request by DOT for hazard documentation and risk mitigation plans.*

[NOTE: As part of the interviews, the audit team inquired if any of the employees were familiar with the NJDOT's "RailSafe" Hotline for reporting Safety issues. None of employees had any knowledge of the hotline, and one employee mentioned that they would not use the hotline, and would report safety issues internally. Posters were observed by the audit team throughout the PATCO Lindenwold Facility. The NJDOT SSO will distribute coordinate with PATCO Management in September 2021, to help facilitate additional awareness of the hotline.]

See **Attachment 3** for a summary of the interview statements and detailed findings.

- III. The audit team reviewed RWP-related Bulletins implemented by PATCO Management after the PATCO Employee Fatality on July 26, 2020, and the current ROW Safety Plan. This review was initiated to identify areas of the ROW Safety Plan that need to be revised during the next scheduled update. A separate review of ROW Safety Plan must be made at that time to identify any additional areas that need to be revised. See **Attachment 4** for the review findings.

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- IV. The audit team reviewed RWP-related Corrective Action Plans (CAPs) to identify any high priority CAPs that require immediate action to resolve and close. See **Attachment 5** for a list of the open pertinent CAPS.
- V. The NJDOT SSO program requested various training documentation (RWS Flagger Presentation, RWS Flagger Test, PATCO RWS EIC/Flagger modules and tests and field performance outlines, Flagger ROW Safety Training Program, Work Equipment Pilot Training Test) from PATCO Management, on May 18, 2021. A response was received from PATCO Management on May 21, 2021; ***however, the requested training documentation was not provided.***
- VI. In 2021, a representative from the NJDOT SSO identified jack arches with obstructions (locations where employees clear up along the Right-of-Way) in Philadelphia stations, which were subsequently addressed by PATCO Management. This item was included in the Audit to demonstrate that an RWP concern (consecutively obstructed jack arches) that was identified by the NJDOT SSO Program and communicated to PATCO Management, was addressed by PATCO Management. ***PATCO Management informed the NJDOT SSO that they (PATCO) limit the number of consecutive Jack Arches that may have obstructions; however, the NJDOT SSO was unable to identify where this requirement/rule is formalized.*** See **Attachment 6** for a summary of this activity.

Action Item List

Attachment 1, R1

#	Actions	Audit Area
1	The Job Safety Briefing Forms used by T&F & P&S need to be revised/updated to align with the ROW Safety Plan Section 10.1 (Items A-J), and address issues identified in Attachment 2 .	I
2	Implement a configuration control process to prevent the misuse/modification of JSB Forms, and remove any outdated forms from circulation.	I
3	Take appropriate action to address pre-filled, incomplete, and inaccurate forms.	I
4	Ensure pertinent employees review the Right-Of-Way (ROW) Safety Plan, and EIC's have it available when providing JSB (as required by the ROW Safety Plan)	II
5	Publicize Power DMS availability and capability to access documents.	II
6	PATCO to investigate reports of illuminated Blue Lights without ROW workers present	II
7	Provide documentation on coverboard safety including: <ul style="list-style-type: none"> • Status of coverboard painting plan • Identified and assessed hazard of missing coverboards (Locations were identified during the 6/24 observation) including contributing factors such as poor visibility, tripping and slipping. Should also include possible engineering solutions such as custom coverboard and support brackets. 	II
8	Implement the Safety Department's audit process outlined in the "Working On and About Tracks" procedure and/or submit evidence demonstrating that the audit process has been implemented.	II/IV
9	Provide documentation of the ROW hazard between Haddonfield and Westmont and the plans to add a railing on top of the retaining wall.	II
10	Revise the ROW Safety Plan during the next revision to: <ol style="list-style-type: none"> Show the # of cars that can be stored east and west of yard walkway and accurately reflect diagram (Re: Bulletin No. 11-20 and L-37 Yard Diagram Sample) State that the horn must be sounded when approaching walkway in the yard. (Re: Bulletin No. 12-20) State that Operators must come to a complete stop and sound horn before operating across walkway. (Re: Bulletin No. 13-20) Accurately show walkway diagram/explanation (Re: Procedure Notice #108-20) State that a second flag person may be used. (Re: Dispatchers Procedure C-24) Explain Clearance Card significance (Re: Dispatchers Procedure C-11) Consider/Include items identified in Attachment 3 - Table 2. <p>(NOTE: Since the audit scope did not include the entire ROW Safety Plan, a separate review of the ROW safety Plan will need to be performed by PATCO Management to identify any additional areas that need to be revised/updated.)</p>	III/IV
11	Revise Training Material to reflect ROW Safety Plan revisions, recent Bulletins and changes to Job Safety Briefing Forms, as well as specific Flagperson duties & locations ("ROW Initial" and "Annual ROW Recertification" Training)	IV
12	Establish specific "EIC Training" and "Annual EIC Recertification" courses. (Audit Team could not identify courses to train EICs.)	IV
13	Submit/make available any outstanding training documentation to the SSO program	V
14	Identify where the Jack Arch obstruction rule is established, and if needed, add an appropriate rule.	VI

Job Safety Briefing (JSB) Form Review

RWP Safety Plan: Section 10.1 Job Safety Briefing and other plan requirements.

	RWP Safety Plan JSB Requirements	T&F Form REF. (c)	P&S Form REF. (d)
a	Personal Protective Equipment (PPE)	Recommend that standard PPE (vest, shoes, glasses) are embedded in form and specialized PPE (flashlight, leather gloves, etc.) added depending on Job Assignment.	Recommend that standard PPE (vest, shoes, glasses) are embedded in form and specialized PPE (flashlight, leather gloves, etc.) added depending on Job Assignment.
b	ROW Worker Certification Verification	Need to add space on form to address this.	Need to add space on form to address this.
c	The nature of the work to be performed	“Job Assignment” block needs to have sufficient space to provide detailed description of work performed. See “JSB Form Usage”, Note 3 below.	“Job Assignment” block needs to have sufficient space to provide detailed description of work performed. See “JSB Form Usage”, Note 3 below.
d	Operational and safety hazards known to be present or that may be encountered relative to the tasks to be performed	<ul style="list-style-type: none"> • Safety hazards specific to the work being performed need to be identified and not just generic hazards. • Need to add space on form to address this. • See “JSB Form Usage”, Notes 4 & 5 below. 	<ul style="list-style-type: none"> • Safety hazards specific to the work being performed need to be identified and not just generic hazards. • Need to add space on form to address this. • See “JSB Form Usage”, Notes 4 & 5 below.
e	Current information on Bulletin Orders or other Notices that could affect safety.	<ul style="list-style-type: none"> • Only addressed on Form A, below, under “Review Safety Procedures” • Need to add space on Form B to address this. • Suggest EIC keep a binder with Bulletins and Notices or use Power DMS app on cellphone for quick reference 	<ul style="list-style-type: none"> • Not addressed at all • Need to add space on form to address this. • Suggest EIC keep a binder with Bulletins and Notices or use Power DMS app on cellphone for quick reference
f	The means by which on-track protection is to be provided, including any necessary protection on adjacent tracks	<ul style="list-style-type: none"> • Need to add space on form to address this. • See REF. (1), Section 9.6. for different means of protection. • Add Blue Light and Hotspots 	<ul style="list-style-type: none"> • Need to add space on form to address this. • See REF. (1), Section 9.6. for different means of protection. • Add Blue Light.
g	The means of communication to be used between ROW Workers	Must include the means of communication (airhorn, whistle, other) in the same space on form.	Must include the means of communication (airhorn, whistle, other) in the same space on form.
h	The location where employees will clear the track, when required	Need to add space on form to address this.	Need to add space on form to address this.
i	Identification and location of key personnel, including the Employee in Charge (EIC), flagperson, watchperson / lookout	<ul style="list-style-type: none"> • Need to add space on form for “location of key personnel”. • Need to identify EIC • Need to identify flagperson on Form B 	<ul style="list-style-type: none"> • Need to add space on form for “location of key personnel”. • Need to identify EIC

	RWP Safety Plan JSB Requirements	T&F Form REF. (c)	P&S Form REF. (d)
j	Any known special operating conditions	<ul style="list-style-type: none"> • Need to add space on form to address this. • Need to add space to address Hotspots on Form B. 	<ul style="list-style-type: none"> • Need to add space on form to address this.
Additional review Items			
-	ROW Workers acknowledgement of information conveyed	<ul style="list-style-type: none"> • “Assignment Understood” confirmation must not be pre-inserted into Form A before personnel sign it. • Need to add space on Form A for employee’s written name and/or #. • Form B needs to state that “personnel confirm understanding of assignment”. • Need to add a prompt for the flagperson to sign Form B. 	
-	Section 6, item (e), p. 9 states that “The EIC must have a copy of the ROW Safety Plan readily accessible for ref. at job sites.”	<ul style="list-style-type: none"> • Ensure that all EICs have a copy of ROW Safety Plan • Add a note on the form that ROW Safety Plan is available for reference. 	<ul style="list-style-type: none"> • Ensure that all EICs have a copy of ROW Safety Plan • Add a note on the form that ROW Safety Plan is available for reference.

General Review Comments

1. Purpose of Job Safety Briefing is to:
 - a. Facilitate a verbal review of work to be performed.
 - b. Facilitate a verbal review of safety procedures between employees performing task, flagperson and EIC.
 - c. Allow employees to question work and safety procedures, to obtain full understanding
 - d. Enable written confirmation of understanding of these work and safety procedures
2. Recommend that a single form (with checkboxes for dept.) be used. Review of recent JSB Forms has shown that a single JSB Form can be used by both departments; although the current forms currently lack the required JSB information as specified in the ROW Safety Plan.
3. Recommend that forms make better use of space and be limited to a single sheet.
4. Forms should be designed to prompt EIC to review required information. Suggest use of checkboxes.
5. Form should provide a space to include the time of the meeting.
6. Forms need configuration control and any old forms should be removed from circulation. See Note 1 below.
7. Forms must conform to APTA requirement: “RT-OP-S-016-11 Rev. 1” and FRA requirement: “49 CFR Part 214.315”, as per requirement in REF. (a) ROW Safety Plan.

JSB Form Usage Comments

1. T&F used 2 different forms on the same date (See “T&F Form Variations” below). There was evidence that employees used both forms within a 1-month period, and that a 3rd form was also used during this time. See Note 6 above.


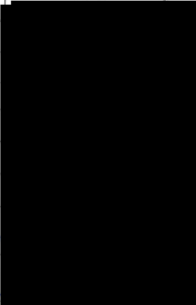
2. Job Location description needs to be accurate. During observations, actual tasks performed were different from location identified on JSB Form. “Various Locations” is not acceptable.
3. Job Assignment descriptions should provide sufficient details to identify specific tasks performed. Avoid vague statements.
4. Recommend that Job Hazard Analysis be conducted for work in specific areas. For example, in tunnels to identify specific hazards such as overhead spalling concrete, falling syringes from street level air vents (which may require additional PPE such as head protection) or exposure to particulates (which may require mask usage).
5. Need to identify hazard mitigations.
6. After reviewing several T&F forms, it appears those employees may have one or more prefilled JSB Forms used for similar jobs, where partial information is adjusted accordingly. If PATCO Management chooses to do this, it is recommended that these forms be specific to a job task, and better organized and detailed to promote safety within Safety Management System (SMS).
7. Avoid vague statements like “Wear all PPE...”, and be specific.

P&S JSB Form

Notes:

- Below is the latest P&S JSB form provided to the NJDOT SSO. The NJDOT SSO requested a copy of the updated form (post 2/12/2021); *however, it was not provided*. Therefore, the audit team was unable to review compliance with the Post 2/12/21 ROW Safety Plan job safety briefing form.

P&S Form

 Power & Signals Department Pre-Job Assignment Briefing			
Date	11/30 - 12/01/2020		
Job Location	Ferry		
Job Assignment	Clear ghost train at East and West Ferry		
PPE Required	Safety vest, safety shoes, safety glasses, flash light, protective gloves.		
Tools /Equipment Required	Company issued tools, radio, 3 rd rail tester, multi meter		
Work Hazards	Shock hazard, pinch points, train movements, switch movement, tripping hazard, eye hazards		
Hot Spots Designations	Hot Spot Designations are in the process of being determined.		
Personnel Assigned	Name (Print)	Employee #	Assignment Understood (Sign)
	Paul Lawrence	1263	
	Turgay Ackguz	3103549	
	Christopher Ippoliti	3100747	
Watchman Assigned (Main Line Track Area)	Paul Lawrence	1263	
Manager, Foreman or Assigned Work Leader	Keith McLeod	1611	

11/30/2020

Table 1: Employees Interviewed

	Time	Name	Org	Title	Years w/PATCO
1	8:10	Ruth Keller	Track & Facilities	Foreman	27
2	9:30	Carnell Bolling	Track & Facilities	M01 Operator	40
3	9:30	James Dutton	Track & Facilities	Track Mechanic	3
4	10:35	Phil Decarlo	Transit Services	Train Operator	12
5	11:15	Ryan Major	Transit Services	Train Operator	21
6	12:45	Joe Spangler	Equipment	Train Mechanic	14.5

Summary:

The Audit Team interviewed six (6) PATCO employees to get impressions of employee understanding of RWP. Three (3) different but similar questionnaires were used- ROW Worker, Train Operator, Equipment Mechanic. Below is a summary of their responses. Their comments are considered representative (but not definitive) of some PATCO employee opinions.

- 1) All employees were familiar with **Power DMS** and use it successfully to access courseware to meet training requirements. All employees were not aware that it is available on their cellphones. In addition, most employees were not aware that it could be used to access documents such as the ROW Safety Plan or Bulletins. **The capabilities and availability of Power DMS should be publicized more.**
- 2) All employees have been through appropriate level of **RWP Training** for their positions. They are notified by e-mail or paper mail of any upcoming training requirements (deadlines).
- 3) Roadway Workers were all familiar with **Job Safety Briefings** and were able to explain how and why they are performed. **However, it did not appear that the RWP Safety Plan is available during Job Safety Briefings (as required) and not everyone was familiar with the ROW Safety Plan. Employees must be required to read the ROW Safety Plan.**
- 4) **Blue Lights** were recently incorporated by PATCO to identify to Train Operators when someone is working on the tracks, near a station. Even though there were no specific questions concerning Blue Lights, Train Operators have noticed that they have passed through several stations with Blue Lights that did not have personnel working on the tracks.

Transit Services Procedure C.-37, “When to Illuminate Station Blue Lights” states:

“Station Blue Lights will be illuminated whenever any personnel are working on or about the PATCO track area under the protection of a flag person.”

This excerpt implies that for every illuminated Blue Light encountered by a Train Operator there should be a flag person visible. If they do not see a flag person on numerous occasions, it is human nature to reduce their vigilance. Their perception of a falsely illuminated Blue Light, is their reality. If a flag person is not required because personnel are not working on or about the track area, should the Blue Light be illuminated? **PATCO to investigate reports of illuminated Blue Lights without ROW workers present to determine if this is a common opinion among Train**

Operators and respond accordingly (briefings, supplemental training, revision of Blue Light SOP, etc.).

- 5) Based on the interview responses, the Audit Team believes that all **Hotspots** have been identified on the Hotspot list, but orange painting of coverboards is in work. **Provide status of coverboard painting plan.**

- 6) All employees were comfortable going up the **Management** chain with safety issues and questions. Employees with all levels of experience believed that management properly promotes safety of employees. More experienced employees have seen management promotion of safety evolve with safety developments in the industry. They also worked well with the **Safety Department** in general and on specific issues. In one instance an employee discussed a specific potentially fatal hazard (Stinger) where the root cause was properly addressed by the Safety Department. However, none of the employees recalled of an instance where the safety department performed an observation of on track safety. **The Safety Department needs to implement the audit process outlined in the “Working On and About Tracks” procedure.**

- 7) **Center and Yard Towers** provide adequate protection to Equipment personnel who walk on the Mainline and Yard tracks to access rail cars that are disabled or in need of minor maintenance. One (1) employee **recommended** that additional risk mitigation actions be taken between Haddonfield and Westmont, where Roadway Workers have to seek refuge from passing trains between PATCO and NJ Transit trains. It came to the Audit Team’s attention that **PATCO has documented this hazard and developed plans to add a railing on top of the retaining wall. Please provide documentation of the hazard and risk mitigation plans to DOT.**

- 8) No one knew about **RailSafe**. **DOT needs to increase publicization of RailSafe to NJ RTA employees.** One (1) employee stated that they would never use it to go over the head of their supervisor. Other employees did not provide comment.

Table 1: RWP Related Bulletins Review & ROW Safety Plan

	Title	Dated	Org	ROW Safety Plan	Notes
1	Bulletin No. 10-20 Clearance Point of Track (RWP related)	8/4/20	Transit Serv.	Refers to “paved walkways” [plural]. Bulletin refers to “Lindenwold Yard walkway” [specific]	Consider ROW Safety Plan revision.
2	Bulletin No. 11-20 Lindenwold Yard Tracks (RWP related)	8/4/20	Transit Serv.	The “number of cars that can be stored east and west of the Yard walkway” is not properly identified in the diagram in Section 22, on page 22.	<ul style="list-style-type: none"> • ROW Safety Plan must be revised. • See Item 15 below
3	Bulletin No. 12-20 Car Horns (RWP related)	8/12/20	Transit Serv.	Does not state that horn must be sounded when approaching “Lindenwold Yard walkway” in Section 12.2 Table, on page 17.	ROW Safety Plan must be revised.
4	Bulletin No. 13-20 Clearance Point of Track (RWP related)	8/12/20	Transit Serv.	Does not state that “Operators must come to a complete stop and properly sound the car horn before operating across Lindenwold Yard walkway on any track.” See Section 22, on page 22 and possibly Section 12.2 Table, on page 17.	ROW Safety Plan must be revised.
5	Bulletin No. 14-20 Yard Movement and Lindenwold Yard Procedures	8/12/20	Transit Serv.	Does not state 25 mph speed limit for trains involved in wheel grinding on tracks (5) and (12).	<ul style="list-style-type: none"> • Consider ROW Safety Plan revision. • Do workers need to be aware of higher speed limit on these two tracks?
6	Bulletin No. 15-20 Safety Rule (RWP related)	8/19/20	Transit Serv.	Section 22 does not specify alertness of workers using walkway.	Consider ROW Safety Plan revision.
7	Bulletin No. 18-20 Rule 559 Coupling & Uncoupling of Cars (RWP related)	9/17/20	Transit Serv.		
8	Notice E-20-19 Horn Sounds (RWP related)	8/19/19	Transit Serv.	Section 12.2 does not ref. specific Rule Book rule numbers. Instead, uses 1.2.#. Meaning is unclear.	Consider ROW Safety Plan revision.

Audit Item: III - RWP Related Bulletins & ROW Safety Plan Review Summary

	Title	Dated	Org	ROW Safety Plan	Notes
9	Procedure Notice #108-20 Pedestrian Walkway #2 (RWP related)	8/4/20	Transit Serv.	1. Section 22 states: “The paved walkways are the only authorized route to access trains and equipment stored in the yard.” 2. Section 22 does not provide adequate explanation or diagram of walkway location.	1. Acceptable 2. ROW Safety Plan must be revised.
10	Procedure Notice #111-20 Personnel in Yard (RWP related)	10/6/20	Transit Serv.	Section 7, item 7 states that “Authorization from Tower Supervisor is required prior to entering yard”. However, other requirements in this Procedure Notice are not included.	Consider ROW Safety Plan revision.
11	Dispatchers Procedure C-24 Protection for Employees/Outside Emergency Responders in the Track Area (RWP related)	4/23/19	Transit Serv.	1. There are several specific instructions that may not be included in RWP Plan. 2. For example, it does not specify that “If deemed necessary... a second Flag person will accompany the group to provide Reverse protection.”	1. ROW Safety Plan needs to be reviewed to determine if specific C-24 procedures must be included. 2. Second Flag person procedure must be included in ROW Safety Plan.
12	Dispatcher Procedure C-11 PATCO Clearance Card (RWP related)	8/14/20	Transit Serv.	Does not explain the relevance of a Clearance Card with regards to RWP.	ROW Safety Plan must be revised or Clearance Card removed from RWP Plan.
13	Dispatcher Procedure C-27 Work Area Protection (RWP related)	5/24/21	Transit Serv.	This Dispatcher Procedure was recently revised.	ROW Safety Plan needs to be reviewed to determine if specific C-27 procedures must be included.
14	Dispatcher Procedure C-37	5/18/21	Transit Serv.	This Dispatcher Procedure was recently revised.	Suggest ROW Safety Plan be reviewed to determine if specific C-37 procedures must be included.
15	L-37 Yard Diagram Sample	8/10/20	Transit Serv.	Section 22 Yard Diagram must properly reflect L-37 location of walkways with respect to number of cars on East and West Ends.	<ul style="list-style-type: none"> ROW Safety Plan must be revised See Item 2 above

	Title	Dated	Org	ROW Safety Plan	Notes
1 6	Employee Vigilance through the Power of Hello	5/20/21	Transit Serv.	Is there anything about what to do if suspicious people are seen in the yard?	Consider ROW Safety Plan revision.

Table 2: ROW Safety Plan Review Comments:

Section	Items to Add
3. Key Terms and Definitions	(a) Safe Zone; (b) Work Zone; (c) Working Limits (& how delineated); (d) Clearance Card; (f) Safety Briefing Card;
5. ROW Worker Position Functions and Training	- identify type of training for PD/EMT/FD etc. - identify EIC training, or change EIC training to whatever training an EIC receives (some kind of foreman/supervisor training?)
7. PATCO ROW Worker Protection Primary Rules	- formalize Contractor requirements (they must have PATCO rep. with them to enter ROW).
8. PPE	-Add PPE and summary of when to use as noted in Safety Rules 30-44 -identify Flagman PPE – signs/flags, Whistle, airhorn, etc. -SOP 74-001 W&P Track Inspection/Maintenance; section 1.6.5 Prot. Equip. states PPE required, including, Safety Vest, Safety Boots, Hardhat, Eyewear; additional PPE may be required depending on equipment used; gloves/face shields, etc. //1.9.1 Definitions: PPE, provides more examples.
8.1 ROW Worker	-formalize how multiple work gangs operate
8.4 Prohibited Electronic Devices	- add portion about cell phones and cite relevant rules
9.0 Methods of ROW Safety Protection	- Add/reference hot spot table
9.6 ROW Safety Protection Table	(a) add follow up section on Safety Dept. observing employees in ROW; refer to SOPs.
10.1 JSB	(a) Refer to Hot Spot SOP with part [d]
12.1 ROW Worker Hand Signals (Op. Manual Section C)	- required to use hand signals or flashlight while in low visibility (cite rule): currently says “may use”
12.3 Flag Person	-prohibited from any other duty while flagging unless emergency (cite rule)
23. Emergency Protocols	a. Summarize when/how to report emergencies/hazards; Refer to the procedure.

Audit Item: IV - RWP Corrective Action Plan Review

	CAP #/Category	CAP Title	Responsible	Date	Comment
1	24/ Activities	Establish metrics for evaluating effectiveness of RWP Safety Program	Dave Fullerton	4/30/20	The PATCO “On-Track Safety Observation Procedure” has not been implemented.
2	19/ Training- Retraining	Rework Training material to reflect new procedure	Bill Shaw	2/28/20	Audit Team was unable to identify revisions to RWP Training material to reflect the following: <ul style="list-style-type: none"> • ROW Safety Plan, which was last updated on 2/12/21. • RWP related Bulletins that were recently established. (see Attachment 4 to this report) • Changes to Job Safety Briefing Forms • Audit Team was unable to identify adequate level of Flagperson training in “ROW Initial” or “Annual ROW Recertification” Training.
3	13/ Changing- Adding Procedures	Watchman duties and locations	Bill Shaw	2/28/20	The ROW Safety Plan needs to be updated to include all Watchman duties.
4	12/ Changing- Adding Procedures	Develop an integrated Way & Power procedure for RWP	Bill Shaw	2/28/20	Changes to the existing “ROW Safety Plan” suggested in Attachment 2 to this report should be adequate to close this item.
5	6/ Activities	Follow-up meetings to re-emphasize, report additional actions, move the cultural needle	John Rink	12/31/19	<ul style="list-style-type: none"> • Closed • Suggest that Leadership continue to communicate RWP Safety updates to employees through things like briefings, Daily Rules and posters. This is ongoing Leadership responsibility.

Audit Item: VI - Jack Arch Obstructions

Jack Arches in underground stations (and tunnels) are used by ROW Workers when seeking refuge from oncoming trains. As per PATCO Management, they permit temporary storage of objects in Jack Arches (maintenance equipment and supplies). However, they (PATCO) limit the number of consecutive Jack Arches that may have obstructions (objects and fixed piping). The audit team was unable to identify a specific rule in PATCO's Rulebook limiting the number of consecutive Jack Arches that can be used to store objects. **Please identify where the Jack Arch obstruction rule is established and if needed add an appropriate rule.**

- **2/16/2021 Inspection:** Inspected Jack Arches at 9th and Locust St. Station and they were clear of any objects. Additional inspection at 8th and Market St. Station identified obstructions in 4 consecutive Jack Arches in two different locations at the east end of Track #1 and Track #2.



- **4/22/21 Inspection:** Inspected Jack Arches at 15th and 16th St. Station and identified obstructions in two areas on Track #2. One area had objects or pipes in 5 consecutive Jack Arches the other had 6 consecutive Jack Arches with obstructions. Both areas had objects in areas clearly marked "NO STORAGE".

Audit Item: VI - Jack Arch Obstructions



- **6/21/21 Inspection:** Inspected Jack Arches in City Hall Station and 8th & Market St. Station. The vast majority of the Jack Arches were clear of objects. No more than one contained an object. All conditions were acceptable.