

Greater Cleveland Regional Transit Authority



Summary of Proposed Award Occupied Zone Warning System

Presented to: Operational Planning &
Infrastructure Committee
November 9, 2021

Right of Way Worker Protection Program

- Warning System Alerts Track Workers & Train Operators On Approach
- Uses Proprietary Technology
- History of Success at GCRTA Since 2014

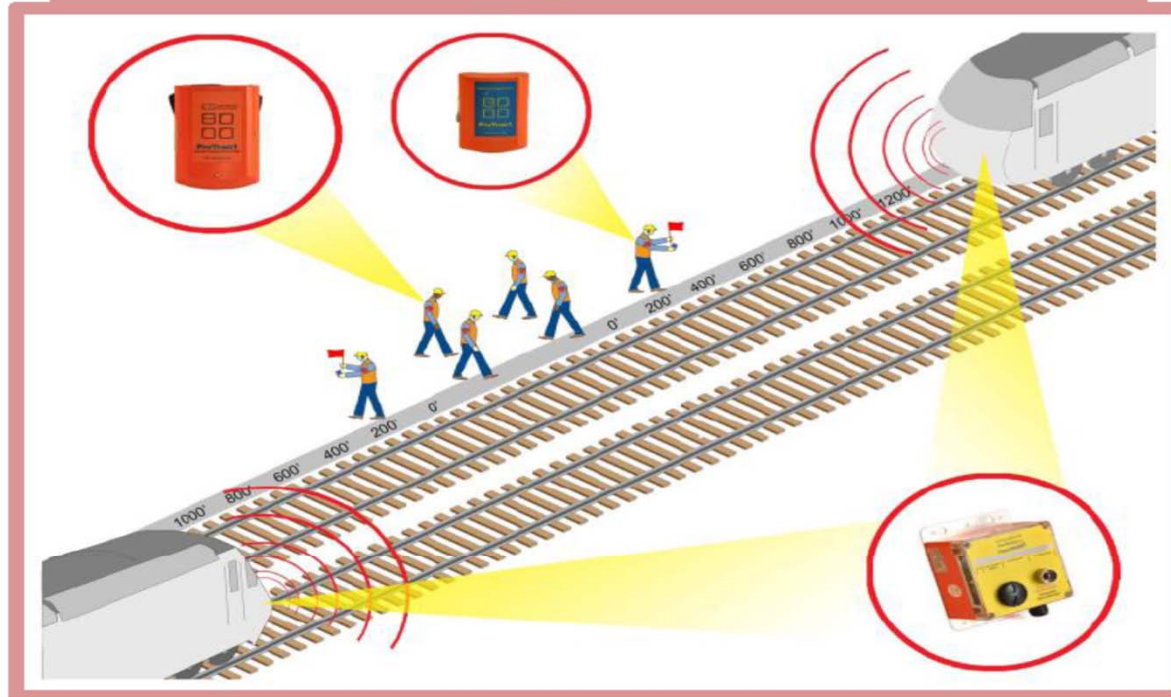
Composition

- Train Mounted Transmitter/Receiver – Audio & Visual Alarm
- Portable Light & Horn Warning Device
- Track Worker Vibrating Arm Bands (P.A.D.)

Train Mounted Device



Train Mounted Worker Advance Warning System





System Improvement

- Leverage Existing Technology
- Improve Command and Control of Shaker Junction to Avoid Conflicting Train Movements
- Completion of an ODOT Adopted & Approved Corrective Action

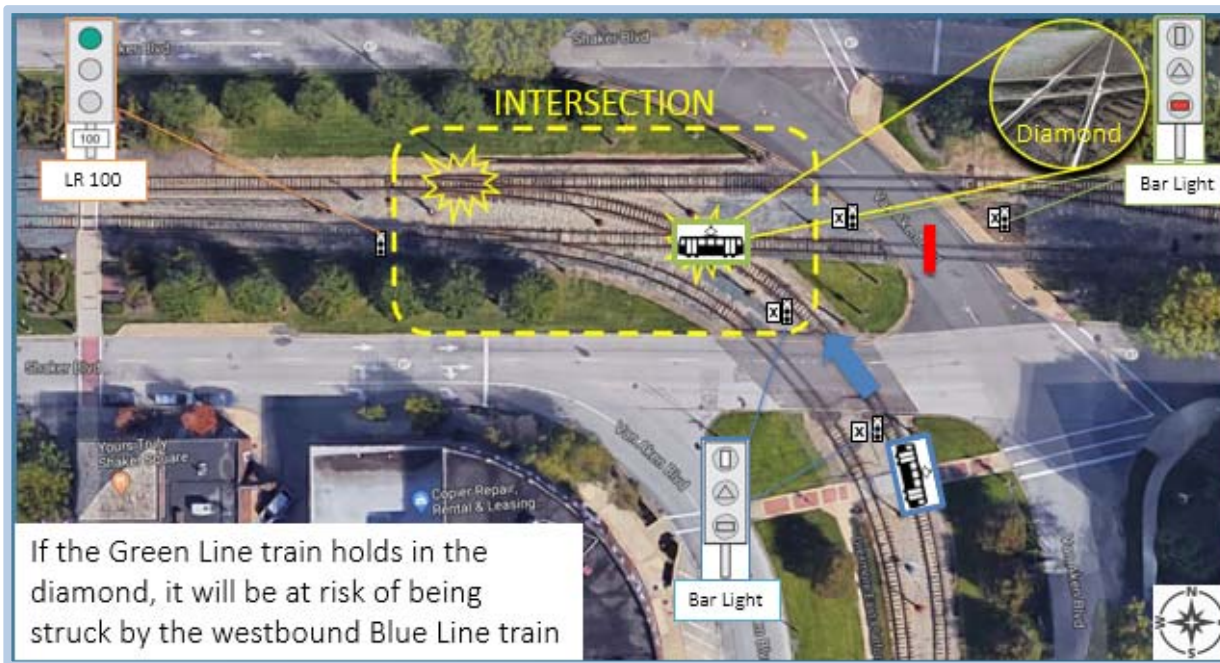
Occupied Zone Warning System

- Shaker Junction has wayside signals that do not communicate with the Integrated Communications Center (ICC) Supervisors.
- There is no interlocking – “an arrangement of signal apparatus that prevents conflicting movements through...tracks such as junctions or crossings” - at Shaker Junction.

Shaker Junction Improvement

Installation of a Protran system that shows train movements through the junction to the ICC and notifies train operators “Train at Shaker Junction”.

Shaker Junction – Current Operation



- All Trains must stop at LR 100 box and manually select destination.
- Trains must wait for the signal to proceed.
- Blue and Green Lines operate under the End of Block (EOB) Operation requiring them to stop within half the range of vision.
- Trains are operating prepared to STOP at restricted speed (15 MPH Max.)

Shaker Junction –Wayside System

- Protran can help prevent accidents at Shaker Junction by an “Occupied Zone System”
- Use the existing on-train ProTracker system and add wayside units to alert train operators when a train is stopped at or approaching the occupied zone.



Wayside Unit PT-0309

Mounted along wayside
7.19" x 8.72" x 10.49"
(182.5 mm x 221.5 mm x 266.5 mm)
8.5 lbs (3.83 Kg)

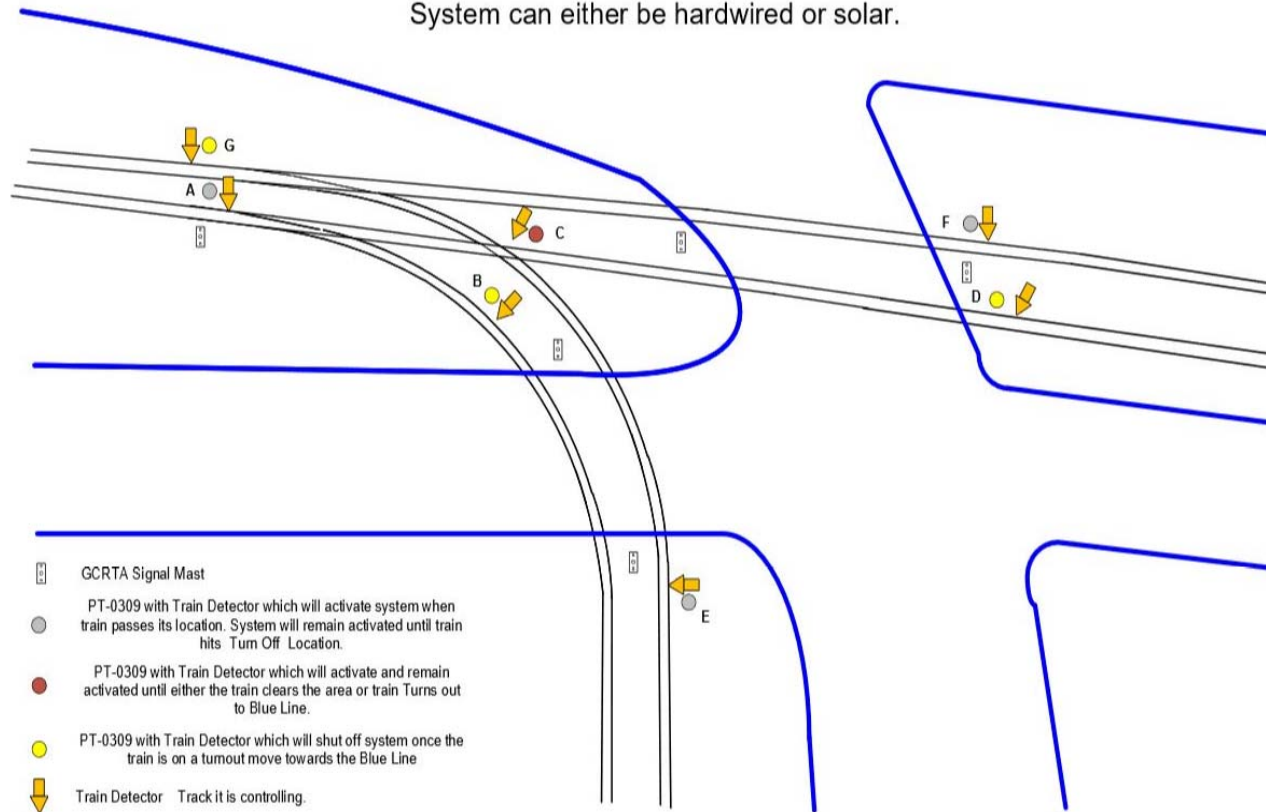
Unit comes with batteries for
emergency backup power



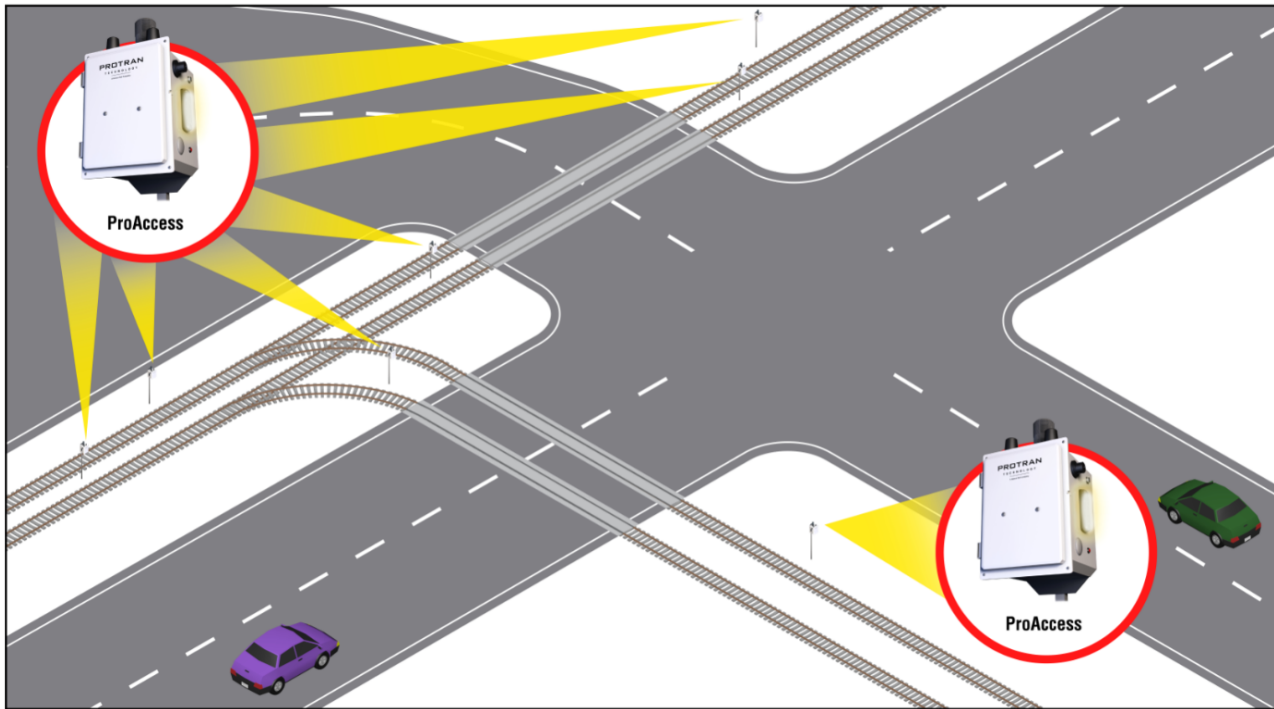
PT-0201

Shaker Junction Wayside System

System can either be hardwired or solar.



Shaker Junction – Wayside System



Shaker Junction ICC Display

- Protran will provide software to run at the ICC, Tower City, RDHB and Woodhill District.
- Events will be logged.
- Will show a schematic of Shaker Junction with indications of current activity.



Occupied Zone Warning System Procurement Overview

Sole Source with Harsco Rail, LLC

- Ohio Revised Code 306.43 (H)(3)
 - Original installer and provider of Protran ProTracker on-board detection system
 - New system will communicate with existing equipment
- Ohio Revised Code 306.43 (H)(6)
 - Proprietary equipment and software

Occupied Zone Warning System Procurement Overview

- Procurement requested a proposal August 20, 2021
- A proposal was received September 8, 2021
- Proposal was reviewed by representatives of Engineering, Safety, Power & Way and Procurement
- After several rounds of negotiation, a final proposal was received on October 18, 2021
- A 0% DBE Participation goal was assigned due to the proprietary nature of the equipment and software.

Occupied Zone Warning System Procurement Overview

Firm's Experience:

- Established in 1909
- Global leader in track maintenance and construction
- Global customer base of >125 railways
- Protran Technology – leader in Secondary Advanced Warning Technology
- Protran ProTracker technology currently on all GCRTA trains

Occupied Zone Warning System Procurement Overview

Clients include:

- GCRTA, Port Authority Pittsburgh, PA, ETS Edmonton Transit Canada, VTA, SACRT, RTD Denver, SEPTA, LAC Metro, MDOT MTA, Metro North, CSX, Alstom OEM, Siemens, among others

Occupied Zone Warning System Procurement Overview

Recommendation:

- Staff requests that the Operational, Planning & Infrastructure Committee recommend an award to Harsco Rail, LLC to provide an Occupied Zone Warning System in a negotiated amount not to exceed \$335,000.00. This purchase will be funded by a FTA Capital Grant.

Occupied Zone Warning System

Questions?