Kroy Railway Group:
Technology & Rail Safety

Barry Carta
Co-Founder | Kroy Railway Group

Connor Polomsky
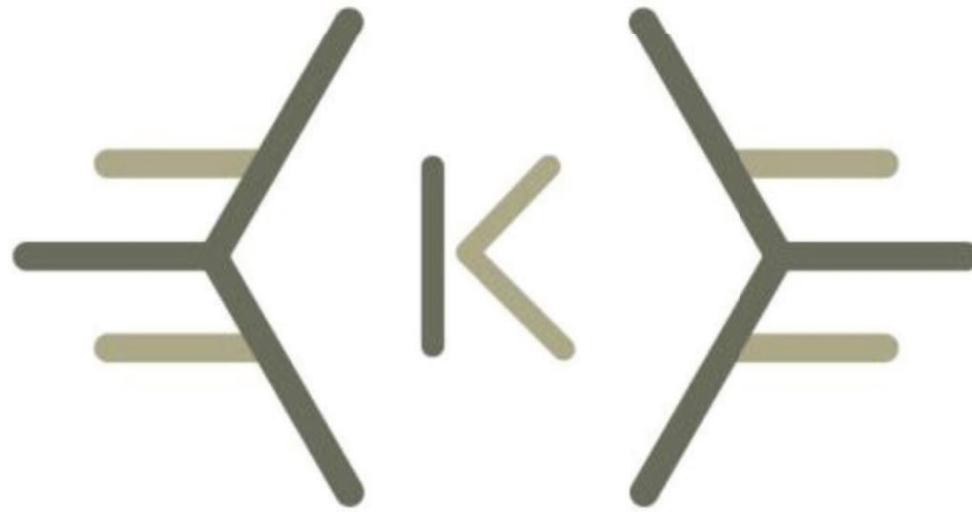Co-Founder | Kroy Railway Group

Chris Markuson
Co-Founder | Kroy Railway Group

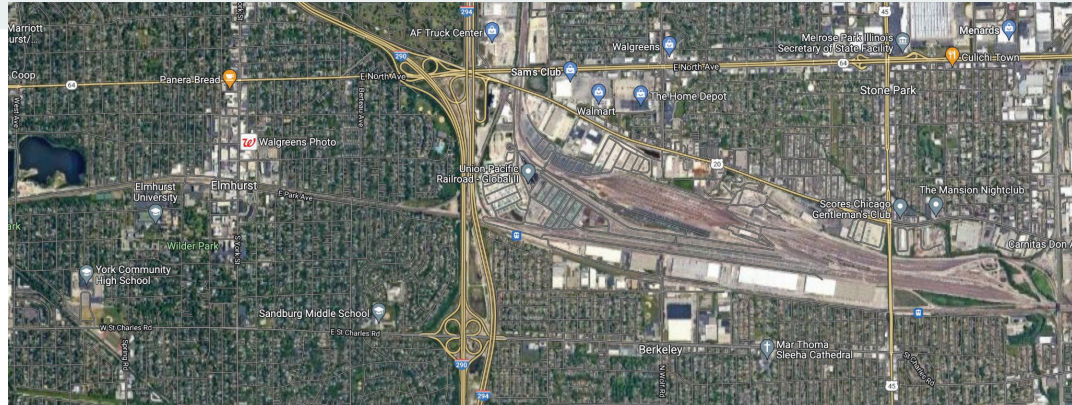# Kroy Railway Group

Technology & Rail Safety

Community Rail Issues

- Delays at highway-rail crossings

  - First responder response delays

  - Commuter traffic congestion

- Trespasser Prevention

- Suicide Prevention

- Unsafe rail condition detection

LiDAR/Camera Sensor Testing

Our Story

- York High School (Elmhurst IL) student project

- Filed as an LLC on July 29th, 2020

- Relationship with the DRSC

  - Recognized how we could use our technology to help combat pedestrian safety issues along
    rail lines

Train & Commuter Traffic Identification

- Map expected blockages 10+ minutes in advance
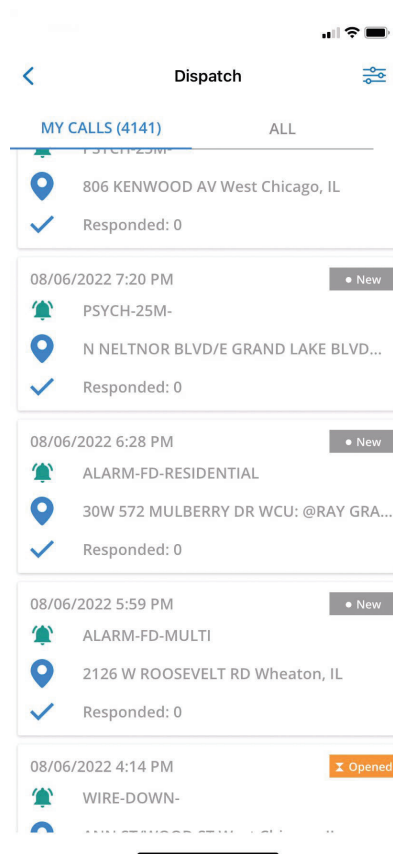
- Map expected clearing times

```
Device: West Chicago 5M-South Demo
Direction: Northbound
Speed of train (MPH): 11.24
Expected Arrival to Ann St.: 09:20:52
Expected Arrival to Church St.: 09:22:02
Expected Arrival to Washington St.: 09:22:46
Expected Arrival to W Hawthorne Ln.: 09:28:59
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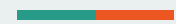
Train Blockage Data (West Chicago Demo unit)

Elmhurst IL Quarry Grade Crossing Commuter Traffic
1-min interval timelapse

First Responder Train & Commuter Traffic Identification

- Real-time data directly into CAD

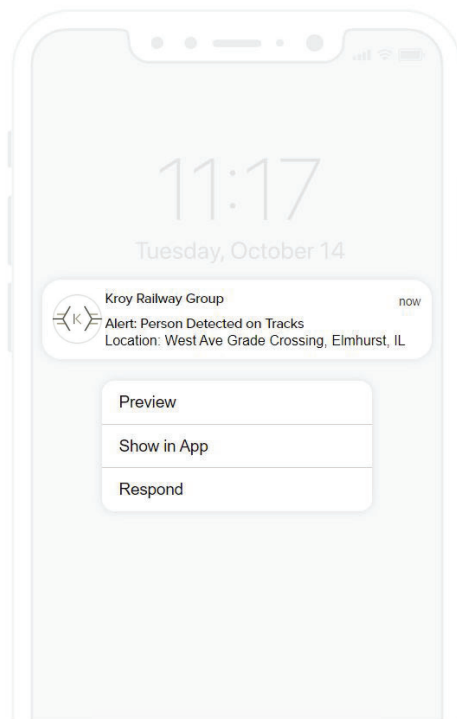- Dynamic dispatch
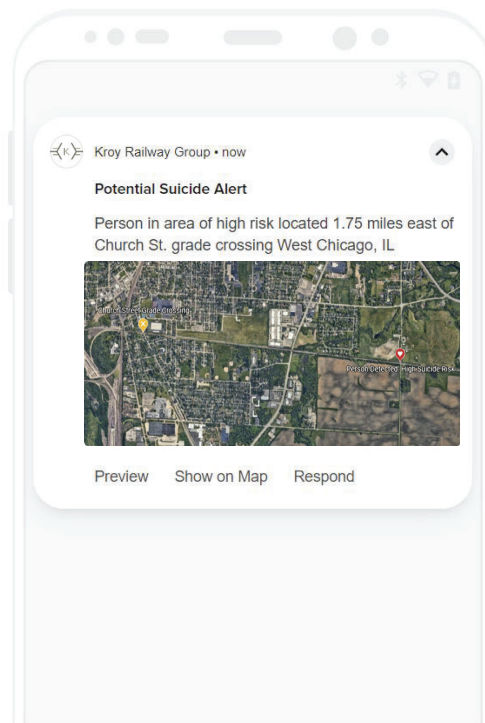
- FirstNet Mobile Network

Trespasser Detection

Trespasser Alerts

Kroy Railway Group   now

Alert: Person Detected on Tracks
Location: West Ave Grade Crossing, Elmhurst, IL

Preview

Show in App

Respond

Kroy Railway Group • now   ︿

Potential Suicide Alert

Person in area of high risk located 1.75 miles east of
Church St. grade crossing West Chicago, IL

Preview   Show on Map   Respond

Kroy Railway Group   now

Alert: Unsafe rail condition detected
1/2 mile south of Seegers Road, Des Plaines IL

Preview

Show on Map
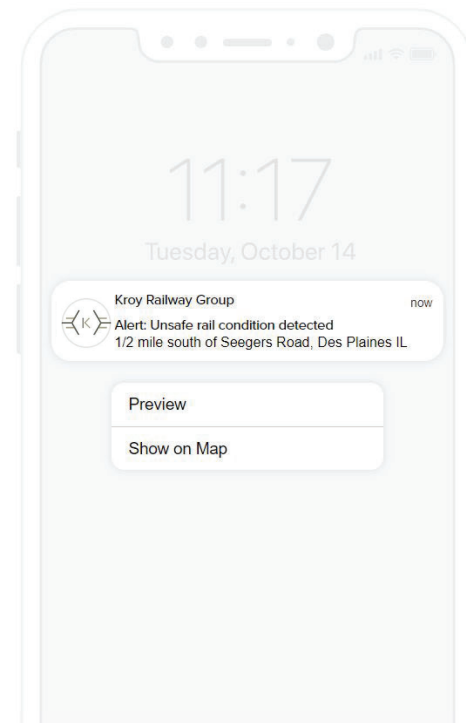
Trespasser Alert   Potential Suicide Alert   Unsafe rail condition Alert

Version 1 - Camera + LiDAR

Version 2 - Dual LiDAR
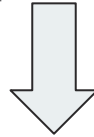
How Our Sensors Work

- Dual Lidar
  - Continuous predictive analytics when scaled
- Camera and Lidar
  - Camera and Lidar work together to determine what object is obstructing the lidar and if that object will block a railroad crossing
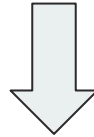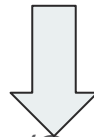- Installation

Future Steps

Scaling sensor infrastructure (emphasis on Predictive Analytics network)

Beta Testing Trespassing Alerts (multi-system)

Trespassing Alerts offered as a Kroy Service/Built into 3rd party CAD

CAD Systems/Commuter Tools