

OCULUS  **RAIL**

What is Oculus Rail?

A technology company addressing blocked rail crossings with real-time data and app for municipalities, public safety departments, railroads, and motorists.



The Problem

Traffic Delays
Emergency Response Disruptions
Safety Concerns



The Oculus Rail Story

From Local Frustration to National Opportunity

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TRAFFIC

'A national problem' | City of Norfolk encourages people to report blocked railroad crossings

Virginia Code prohibits a train from blocking a crossing for longer than 5 minutes, but due to the federal nature of the railway system, state code is unenforceable.



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ANN ARBOR

1-mile train blocking streets in downtown Ann Arbor

Updated: Feb. 18, 2025, 10:13 p.m. | Published: Feb. 18, 2025, 8:16 a.m.



The Ann Arbor Railroad crossing at Madison Street by The Yard, a new resort-style, luxury apartment building off South Main Street in Ann Arbor, on Feb. 14, 2019. (Ryan Stanton | The Ann Arbor News)

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Ohio congressman tries again to stop trains from blocking crossings

By J.D. Davidson | The Center Square Jan 14, 2025



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Tracking an ongoing issue: A look on train blockages and their lasting impact on emergency response

Published 10:22 am Sunday, September 25, 2022

By Meg Herndon

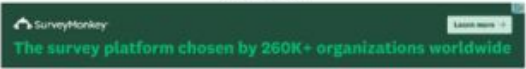


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Blocked railroad crossings in Calera spark safety concerns, frustration



Blocked railroad crossings causing issues in Calera

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The Impact

125K public,
at-grade crossings in
the United States

Source: FRA Rail Crossing Inventory

In 2024, 26K+ reported
instances of crossings
being blocked

<https://www.fra.dot.gov/blockedcrossings/incidents>

24% of reports were
from first responders
who were unable to
cross the tracks.

<https://www.fra.dot.gov/blockedcrossings/incidents>

Grade crossing
separations often
cost between \$5M
and \$100M

Source: Texas A&M Transportation
Policy Institute

More than 2000
accidents and 200
fatalities happen at rail
crossings annually.

Source: FRA, Highway Rail Crossing
Safety 2025



The Solution

Deploy a reliable **nationwide sensor network** providing actionable, **real-time, and predictive rail data** for:

- Local governments & transportation planners
- Emergency responders and transit systems
- Frustrated motorists and high-frequency drivers
 - Railroads who need to respond to growing citizen/USDOT outcry



How it Works

Solar-Powered, Wireless Computer-Vision Sensor

Rapid deployment on poles mounted in the municipal right-of-way—
avoiding reliance on railroad permissions
or expensive and time-consuming
telecommunication wiring or power connectivity



How it Works

Edge Computing & Machine Learning

Self-contained sensor package processes data locally to detect trains, blockages, and clearances with high accuracy, sending details and time-stamped images to the cloud



Customizable dashboards for municipalities

The screenshot shows the OCULUS RAIL website. At the top, there is a navigation bar with links: Home, Network Map, Mobility Tracking, and a search bar. The main heading is 'Suffolk Rail Crossings'. Below this is a map of Suffolk showing rail lines and crossings. The map includes a legend with 'Active' and 'Proposed' categories, and a 'Map' button. Below the map is a table with the following columns: Station, Location, System, and Transport. The table lists four crossings: 'Suffolk Railway', 'Suffolk Railway', 'Suffolk Railway', and 'Suffolk Railway'. Each row has a 'Details' button. The table is filtered by 'Active' status, as indicated by the 'Active' button being highlighted in the legend.

Station	Location	System	Transport	Details
Suffolk Railway	Suffolk Railway	1	Not Crossing	Details
Suffolk Railway	Suffolk Railway	2	Not Crossing	Details
Suffolk Railway	Suffolk Railway	3	Not Crossing	Details
Suffolk Railway	Suffolk Railway	4	Not Crossing	Details



Use Cases: The Dashboard

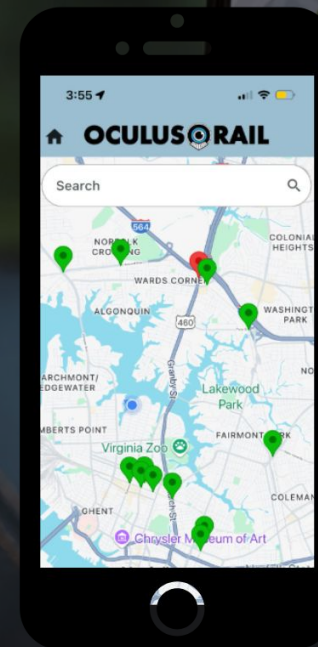
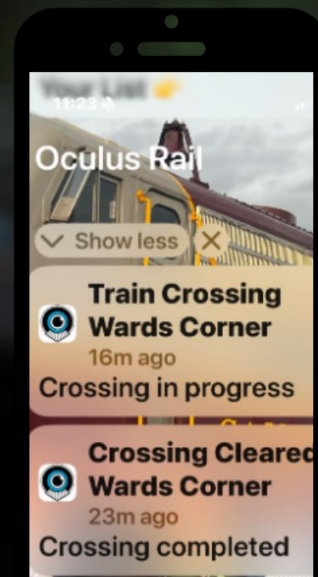
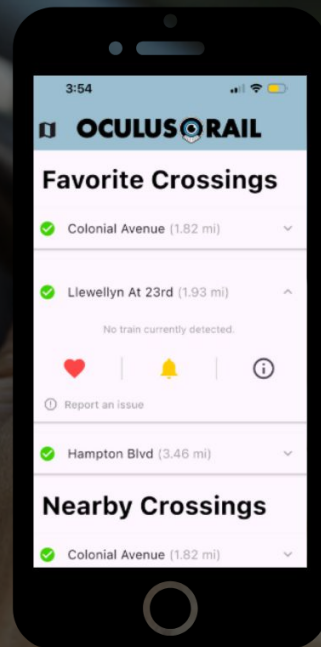
➤ Municipality:

- API integration into CAD systems for public safety (911 and Real Time Crime Centers) for faster routing in emergency response
- Data integration in *Intelligent Transportation System (ITS)* to adjust signalization, increase flow of traffic away from blocked crossings
- Use data to support USDOT RCE (rail crossing elimination) grants



User Tools: The App

Free Oculus Rail App for motorists with push notifications



Use Cases: The App

➤ Municipality:

- Mitigate constituent complaints with free app/notifications of blocked crossings for motorists
- Expedite emergency response, app used in the field by public safety officials en route to scene



The Oculus Rail Advantage

Data Subscription-Based Model

Affordable, low-risk solution with:

- One-time installation fee (\$500)
- Low cost annual data subscription (\$5K/year)

(No capital infrastructure cost or ongoing maintenance burden for cities/railroads)



The Oculus Rail Advantage

Cutting-Edge Tech

Edge-computing sensors which use machine learning to determine presence of train (vs. car, truck or pedestrian) in partnership with Port Solution Integrators



The Oculus Rail Advantage

Ease and Speed of Deployment

**Solar-powered, wireless sensors enable fast setup in the municipality's right-of-way—
*no railroad permissions required***



The Oculus Rail Advantage



Public-Facing Tools

Free app delivers timely notifications of blocked and cleared crossings* to motorists

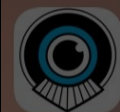
(*for all crossings to which a municipality subscribes)

Oculus Rail

✓ Show less ✕



Crossing in progress



Crossing Cleared

Wards Corner

23m ago

Crossing completed

11:57



OCULUS RAIL

Favorite Crossings

✓ Llewellyn Avenue (1.60 mi) ▼

Wards Corner (4.66 mi)
Currently blocked for 8 minutes,
since 11:48 AM.

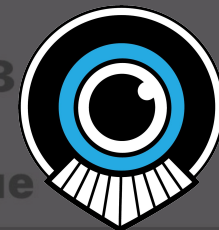
**Blocked for 1 minute, 51
minutes ago.**

11:06 AM - 11:07 AM

**Blocked for 7 minutes, 1
hour ago.**

10:01 AM - 10:08

ⓘ Report an Issue



Current Status

- Successful pilot program deployed
 - 2025: 40 sensors deployed across 4 cities (Chesapeake, Norfolk, Portsmouth, Suffolk, VA)
 - App for motorists launched
 - Dashboard for municipalities
- 4Q'25 National Launch



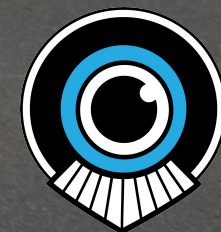
The Oculus Rail Team: Experience, Knowledge & Connections

- Andria McClellan (founder): former Norfolk (VA) City Councilmember (2016–2024); former chair, Hampton Roads Transit, Hampton Roads Planning District Commission; extensive relationships with local, state and federal elected officials; entrepreneur (757 Angels; Chair, Virginia Small Business Advisory Board)
- Port Solution Integrators, Inc. (tech partner): decades of experience providing railroads and ports with technology solutions
- Advisors: Mike McClellan, Chief Strategy Officer (28 years with Norfolk Southern); Jerri Parks, former NS IT Director (25+ years RR executive); Kaleo Legal (former NS attorneys); Evan Wessel (former USDOT Deputy Asst. Secretary; former Deputy Director, Democratic Mayors Association)



The Vision

- Become the **WAZE of rail crossings**
- Provide real-time rail data to everyone – from motorists to cities to railroads
- Help cities and the federal government avoid spending **millions of dollars** (\$5M-\$100M) with easy-to-install, low cost sensors (\$5K/year)



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