

TRAINFO CONGESTION ANALYTICS



Understand Traffic Impacts Of Blocked Railroad Crossings

THE PROBLEM

Public agencies have difficulty understanding the traffic impacts caused by blocked railroad crossings.

THE SOLUTION

TRAINFO Congestion Analytics is the most accurate method to measure traffic delays at railroad crossings.

FEATURES

- 4 months of 24/7 data collection

PERFORMANCE METRICS PRODUCED:

- Crossing Blockage Frequency & Duration
- Travel Time With and Without a Crossing Blockage
- Vehicle Delay Caused by Crossing Blockages

APPLICATIONS

- Rank and prioritize railway crossings for improvements
- Evaluate options to mitigate traffic impacts
- Apply for funding support to implement mitigative measures

HOW IT WORKS



Bluetooth sensors are installed on either side of the railway crossing. They measure travel time with and without a crossing blockage.



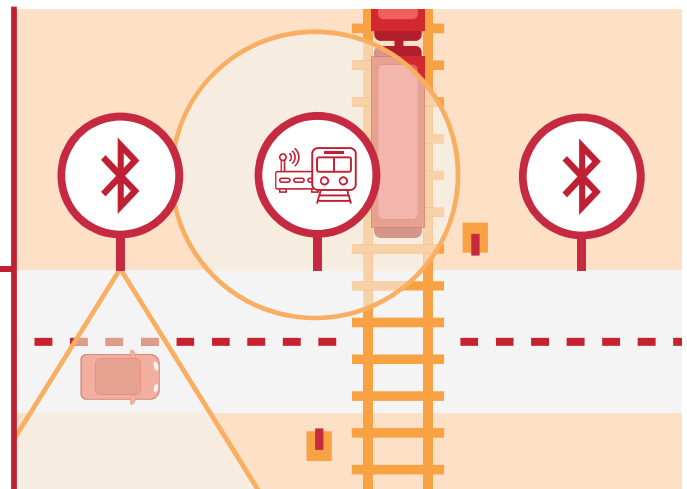
Train sensors are installed at the railway crossing. It measures when crossings are blocked.



TRAINFO's proprietary software analyzes data from Bluetooth and train detection sensors.



TRAINFO produces a detailed traffic congestion report.





QUANTIFYING TRAFFIC DELAY AT RAILROAD CROSSINGS:

TRAINFO Congestion Analytics Versus Conventional Methods

When comparing the TRAINFO method to the conventional method we consistently find that the conventional method underestimates delays by up to 500%.

Why is this? It's the difference between measuring and modeling delay.

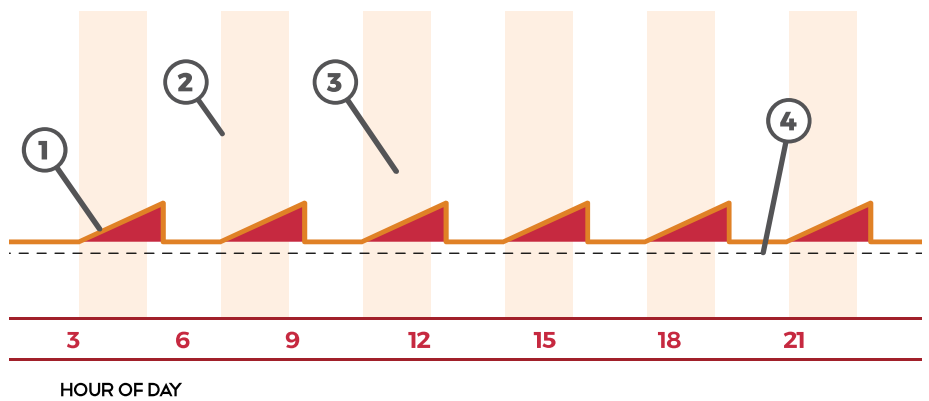


CONVENTIONAL METHODS

MODELING APPROACH

Conventional methods model delays at railroad crossings rather than measure them like TRAINFO Congestion Analytics.

This figure illustrates how conventional methods conceptualize traffic delay at a crossing with six trains per day and highlights major assumptions and limitations.



1 Unable to account for vehicles that re-route due to the blockage.

2 Incorrectly assumes that crossings are blocked at equal times throughout the day.

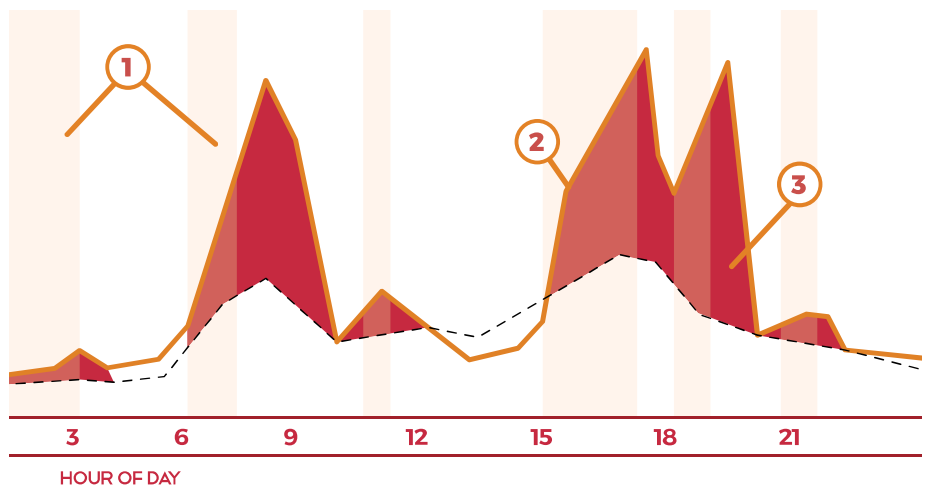
3 Incorrectly assumes that each blockage is the same duration.

4 Incorrectly assumes that travel time is constant throughout the day.

TRAINFO CONGESTION INSIGHTS

MEASUREMENT APPROACH

TRAINFO Congestion Analytics measures traffic delay at a crossing using real-time data. The figure to the right illustrates how the TRAINFO method conceptualizes the same crossing as above with six trains and how it addresses the major limitations of conventional methods.



1 Train detection sensors measure the exact time a crossing is blocked.

2 Bluetooth sensors measure the exact travel time when there's a train.

3 Traffic delay is calculated by comparing travel time with a train to expected travel time without a train.