TRAINFO

The source for live and predictive railway crossing information

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US Federal Railroad Administration
2017 Grade Crossing Research Needs Workshop
August 15-17, 2017
St. Louis, Missouri

What is TRAINFO?

(in 140 characters or less)

TRAINFO
@TRAINFOcorp

TRAINFO is an information system for railway crossings. It provides train crossing information to help measure and mitigate congestion.

2017-08-16, 10:30 AM

VIEW TWEET ACTIVITY

Information shared within 2 seconds

Any type of blockage

Source for live and predictive railway crossing information

Notification when blocked or cleared

Data collected using our trackside sensors

Basis for understanding and action

TRB
TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

Best Application of a New Data Source

"Recognized as providing an innovative, practical, broadly applicable solution that addresses a critical data gap"

TRAINFO

We believe in a world with

seamless mobility

and

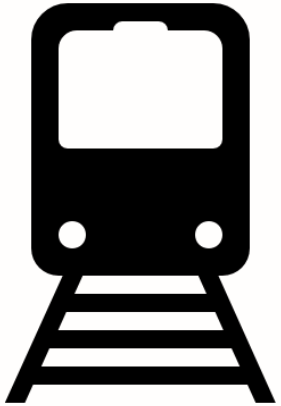
no railway crossing fatalities

“Why can’t anyone tell me when a railway crossing is blocked?”

Analyze

Patented, machine learning algorithms

Detect



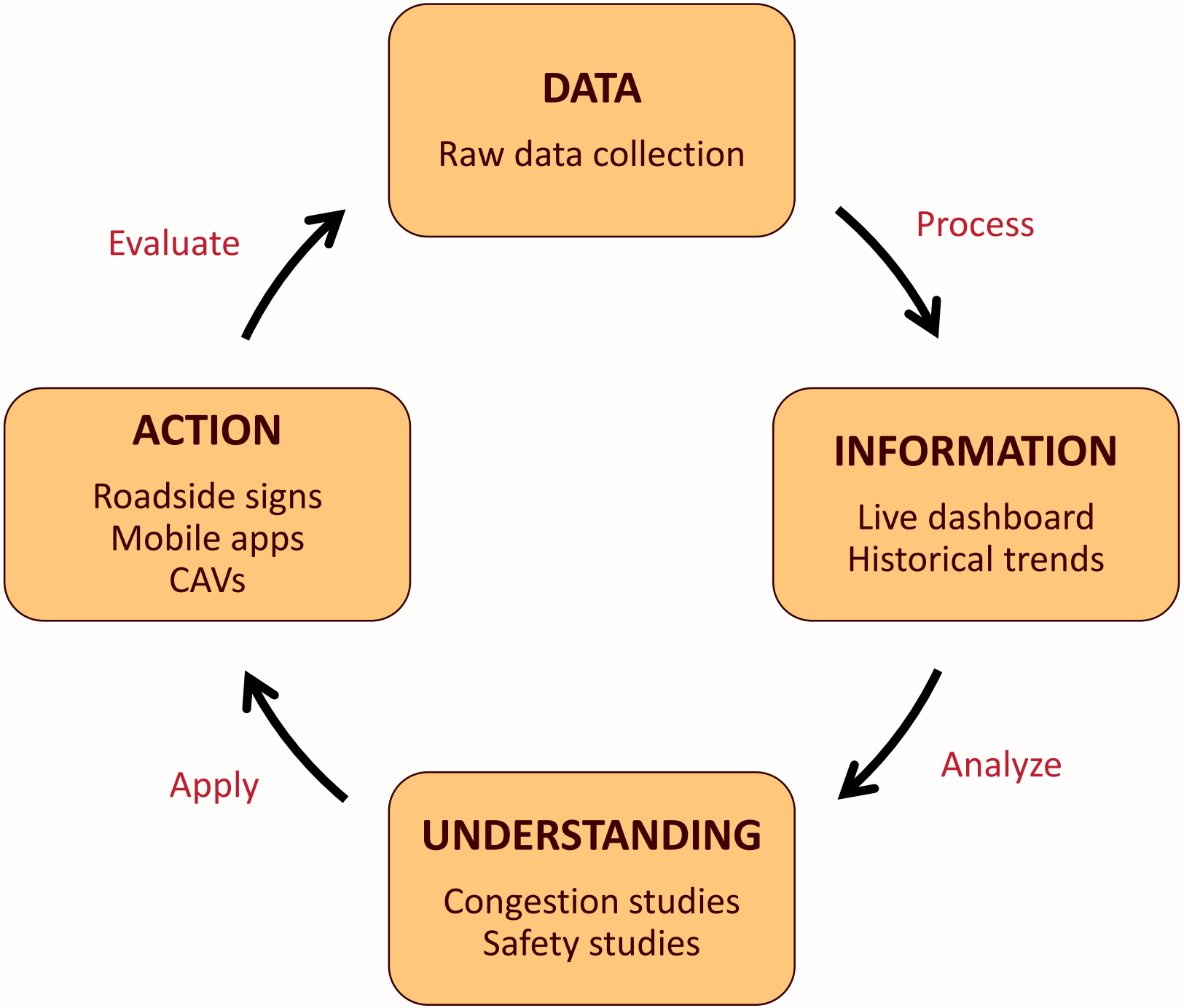
Proprietary trackside sensors

<2 seconds

Share

Smartphone, web map, database, TMC, CAVs

CN
www.cn.ca


DATA
Raw data collection
Process
INFORMATION
Live dashboard
Historical trends
Analyze
UNDERSTANDING
Congestion studies
Safety studies
Apply
ACTION
Roadside signs
Mobile apps
CAVs
Evaluate

TRAINFO

DATA

Raw data collection

Process

INFORMATION

Live dashboard
Historical trends

Analyze

UNDERSTANDING

Congestion studies
Safety studies

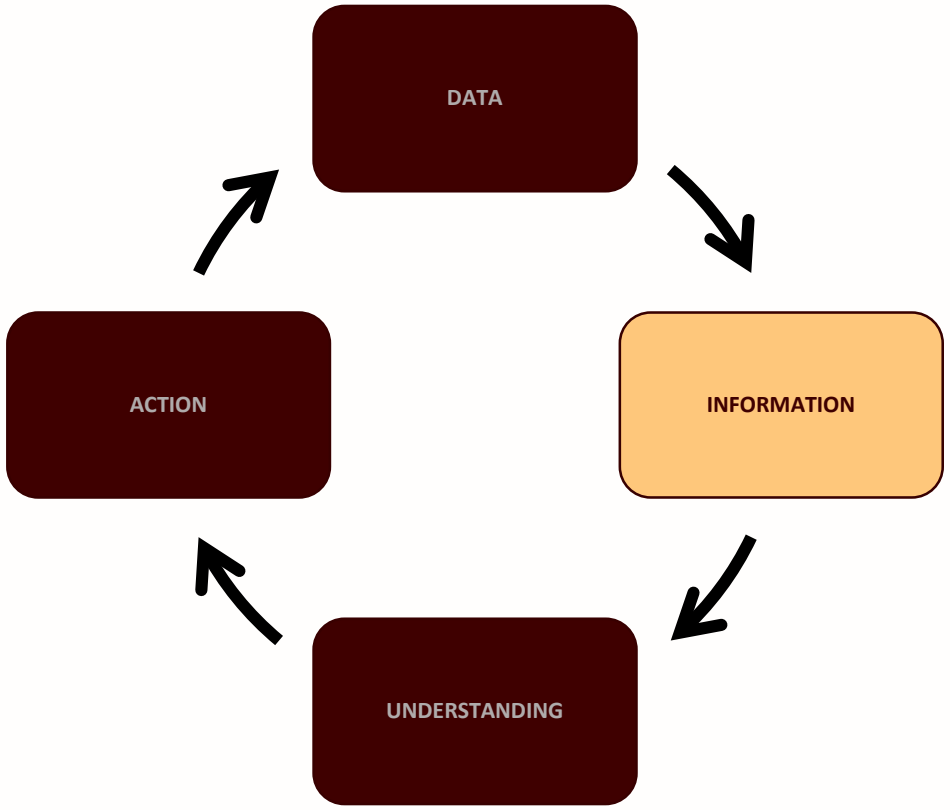
Apply

ACTION

Roadside signs
Mobile apps
CAVs

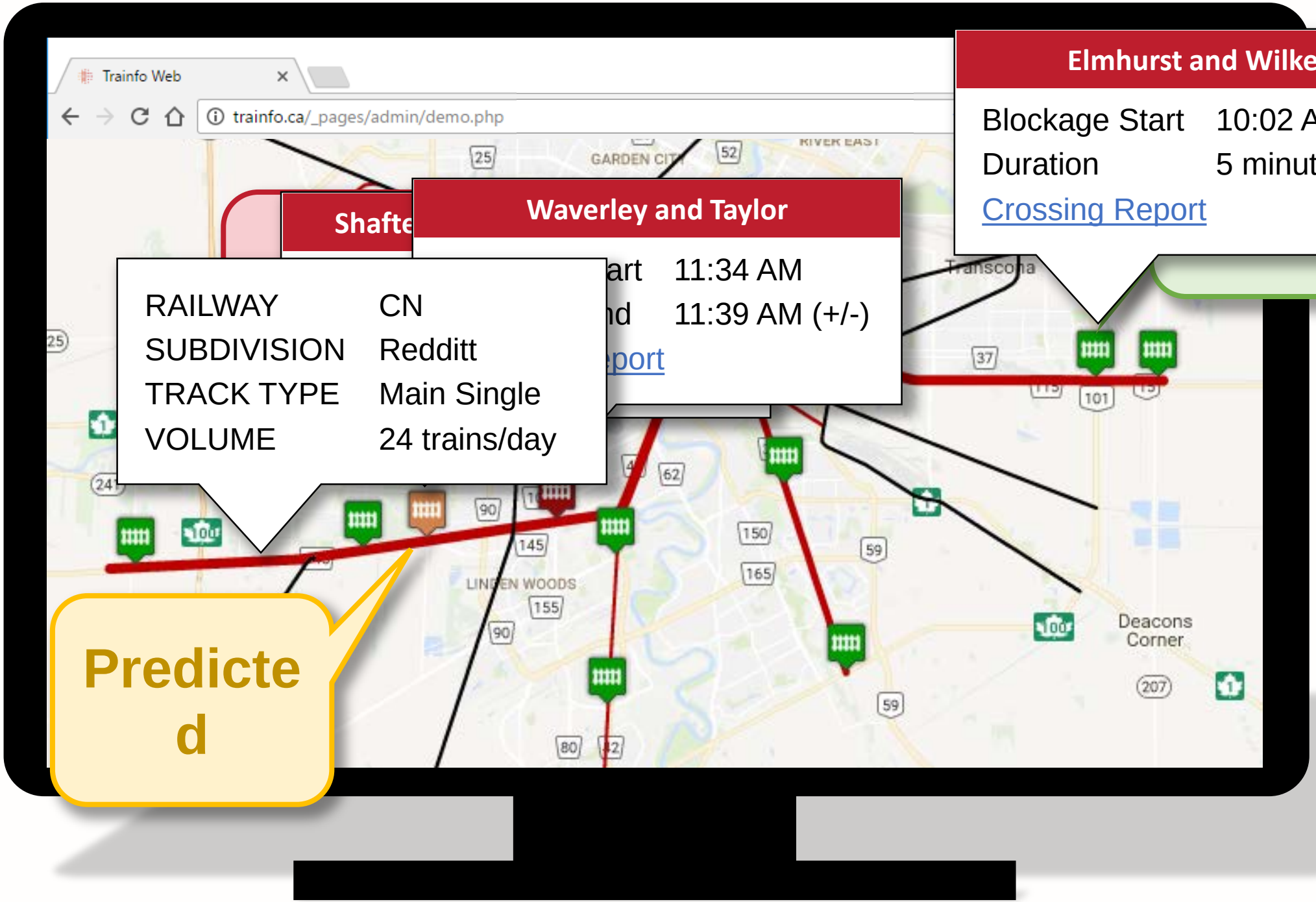
Evaluate

PARTNERS



INFORMATION

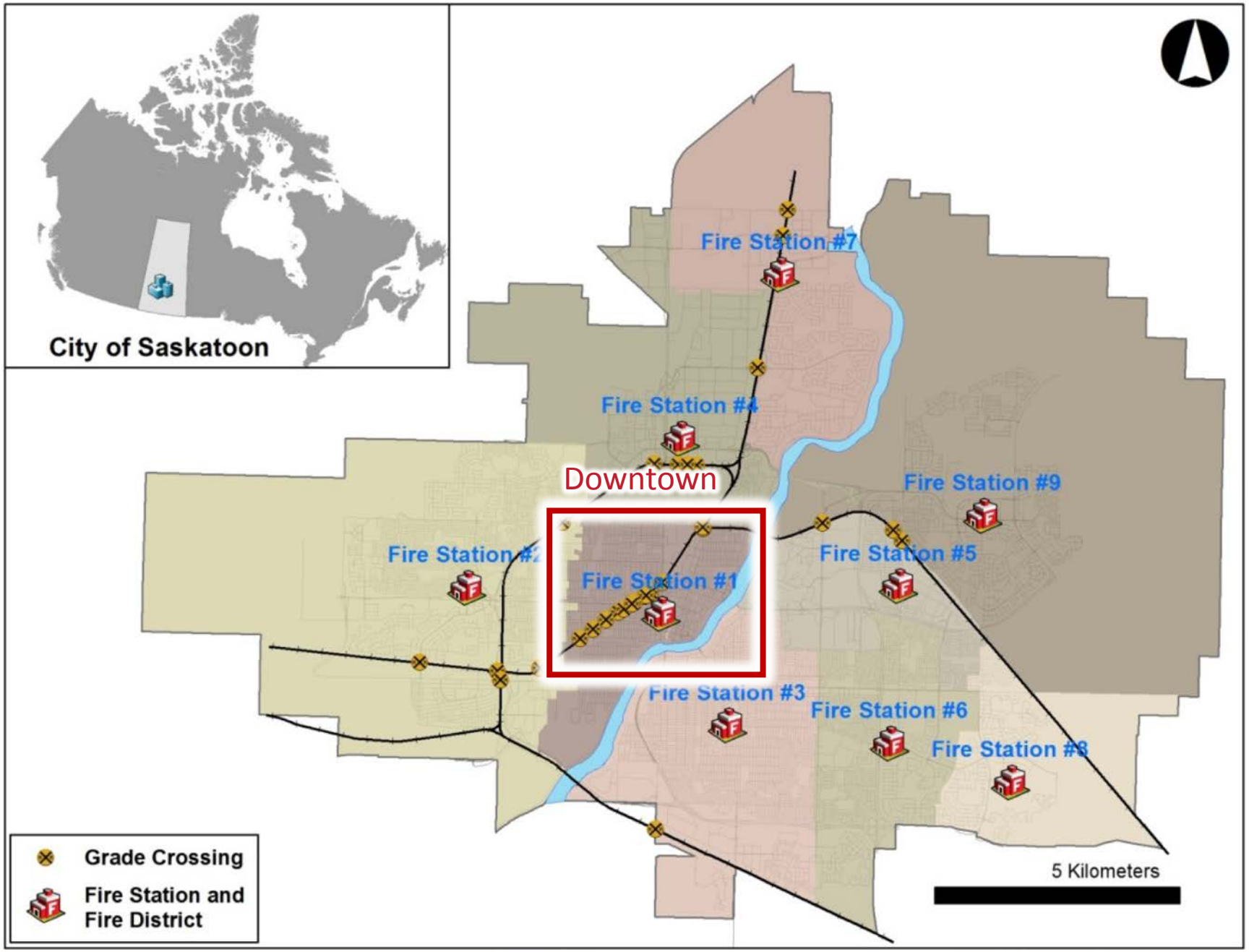
- Live webmap
- Traffic management center
- First responders

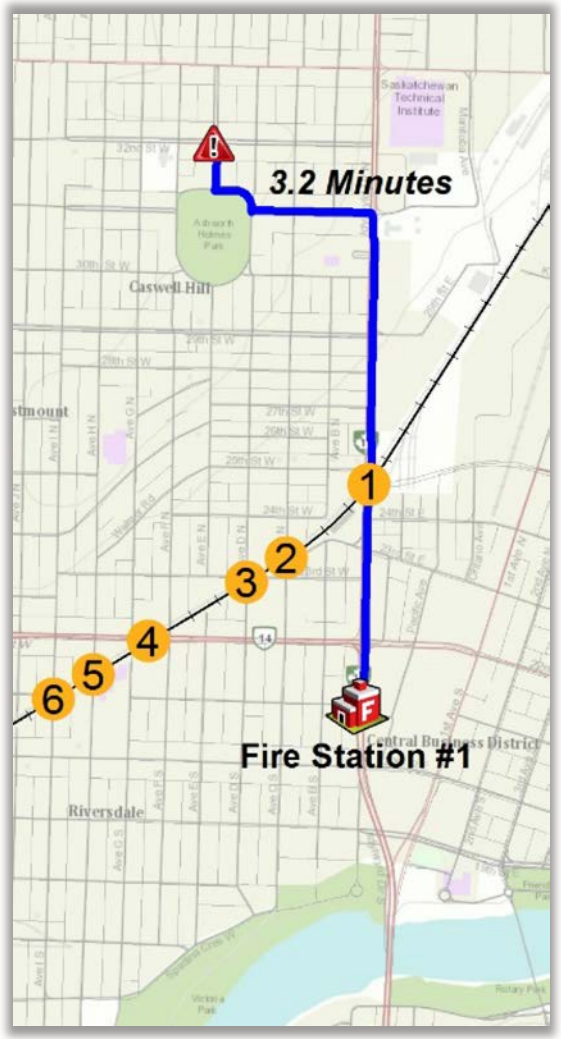

Trainfo Web
trainfo.ca/_pages/admin/demo.php
GARDEN CITY
RIVER EAST
Transcona
LINDEN WOODS
Deacons Corner
Shafte
RAILWAY CN
SUBDIVISION Redditt
TRACK TYPE Main Single
VOLUME 24 trains/day
Waverley and Taylor
art 11:34 AM
nd 11:39 AM (+/-)
eport
Elmhurst and Wilkes
Blockage Start 10:02 AM
Duration 5 minutes
Crossing Report
Predicte
d

City of Winnipeg
Traffic Management Center

TRAINFO

City of Winnipeg
Traffic Management Center

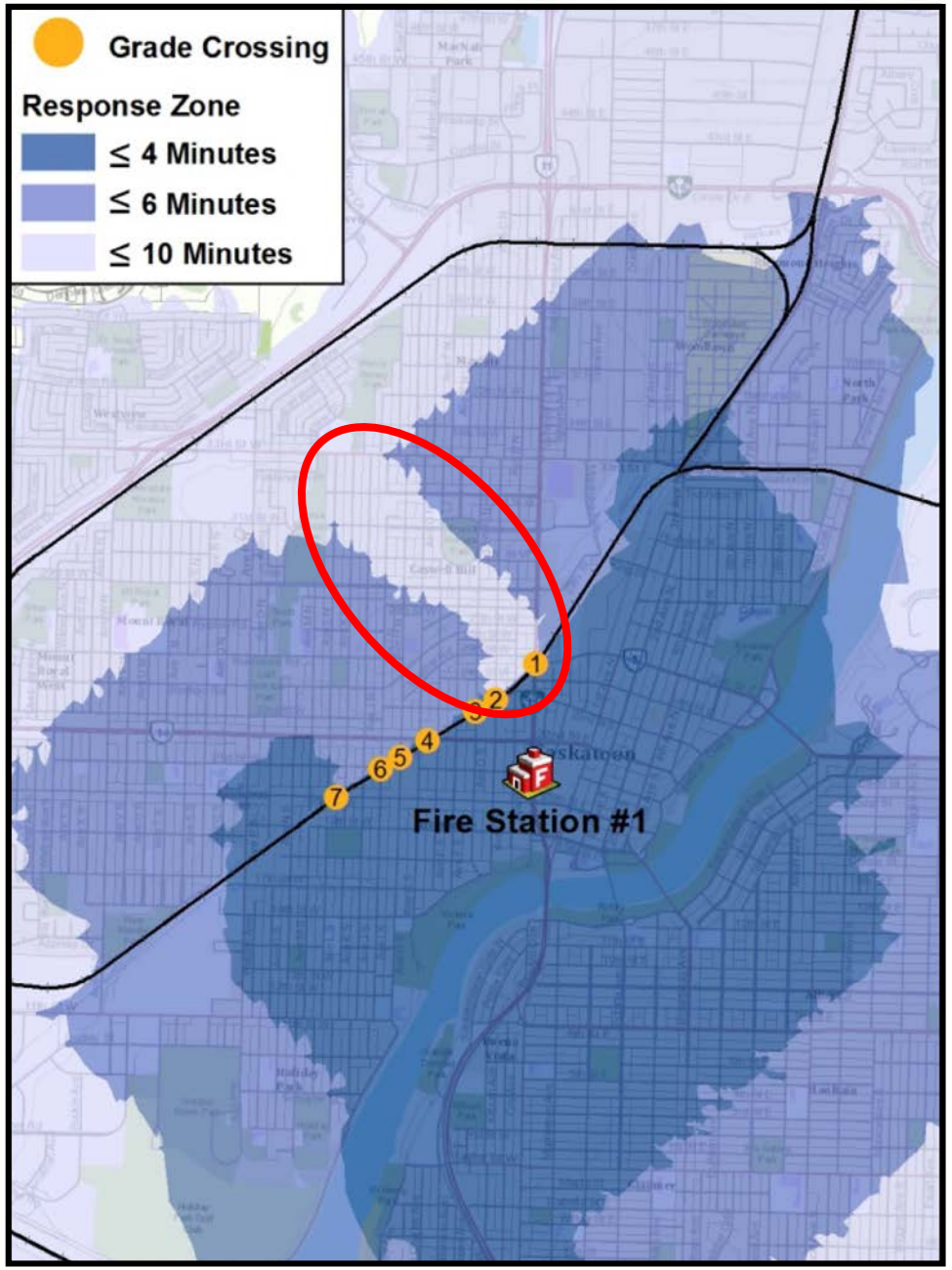

City of Saskatoon
Fire Station #7
Fire Station #4
Downtown
Fire Station #9
Fire Station #2
Fire Station #1
Fire Station #5
Fire Station #3
Fire Station #6
Fire Station #8
Grade Crossing
Fire Station and Fire District
5 Kilometers



Red Path
Train blockage
No blockage information
6.0 minute response time

Green Path
Train blockage
Blockage information
4.2 minute response time

Blue Path
No train
3.2 minute response time



City of Saskatoon

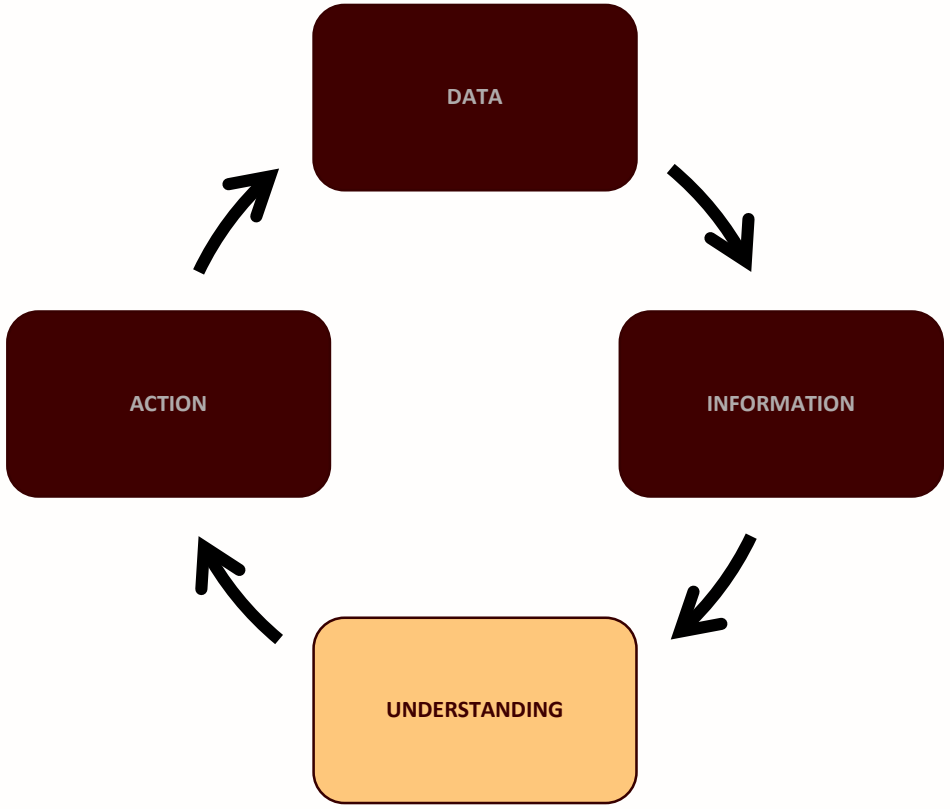
Train? Yes

TRAINFO? Yes

Cardiac arrest survival rate decreases 10% per minute*

Chance of survival: 90%

***Source: American Heart & Stroke Associat**

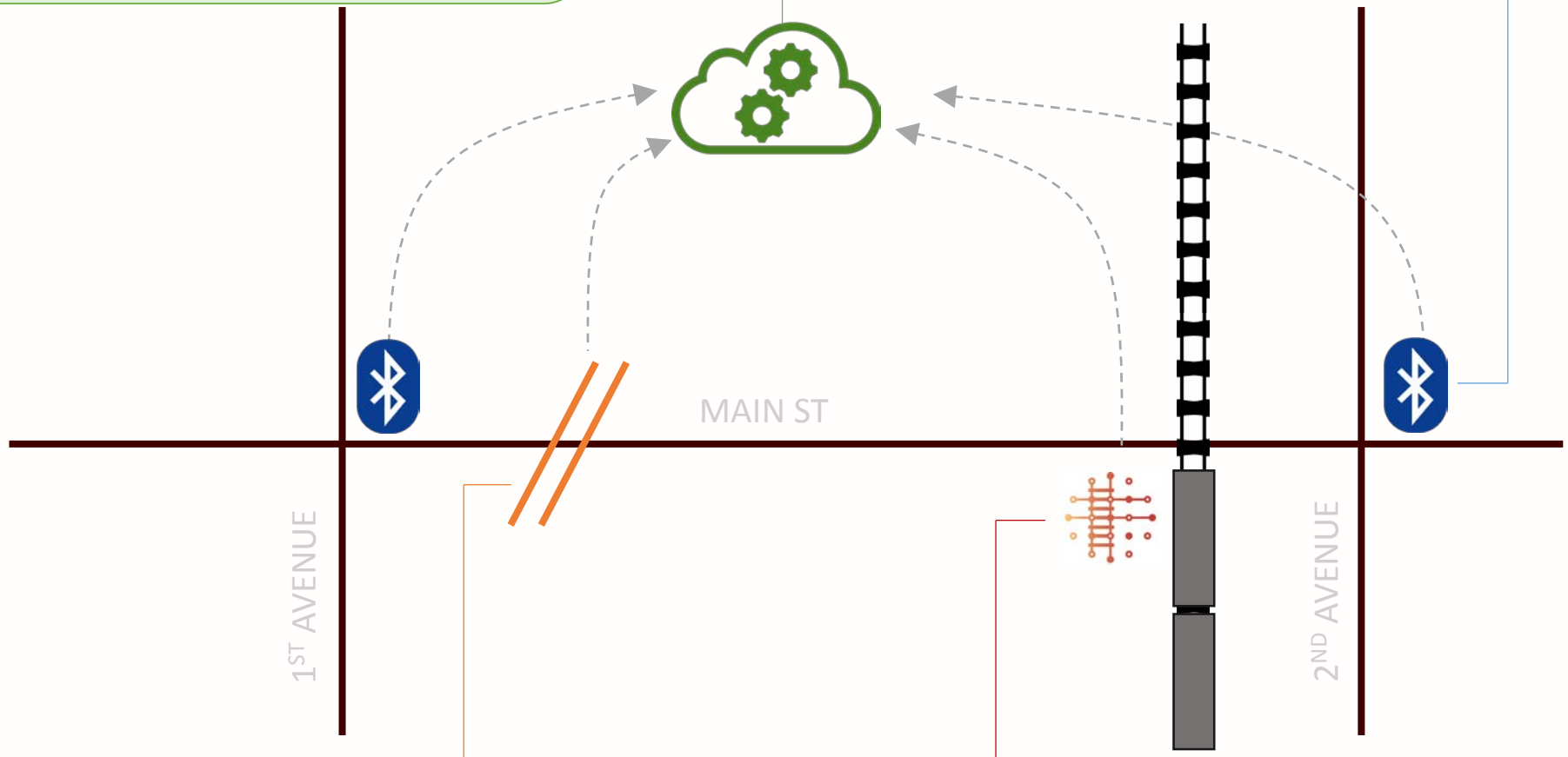


UNDERSTANDING

- Congestion study

Cloud Server
Determines delay using patented, machine-learning algorithms

Bluetooth Sensors
Collect travel time data

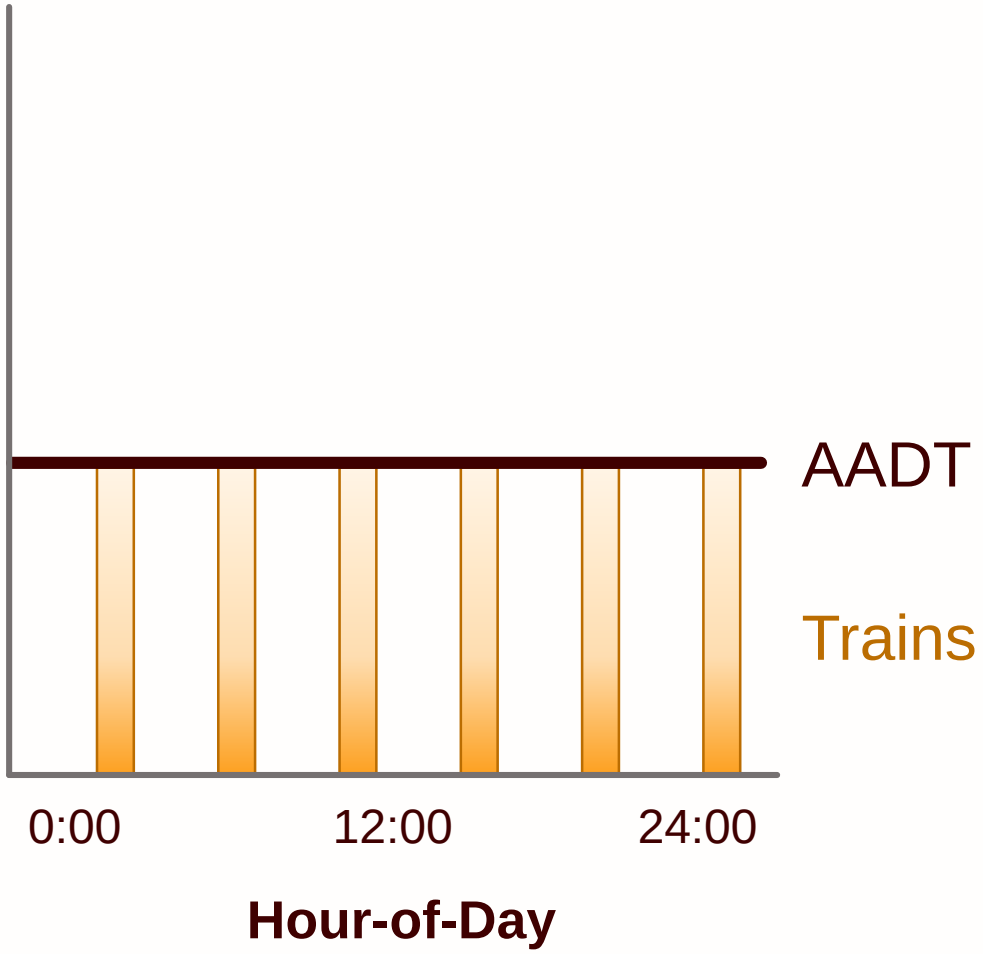


Road Tubes (or other technology)
Collects traffic volume data

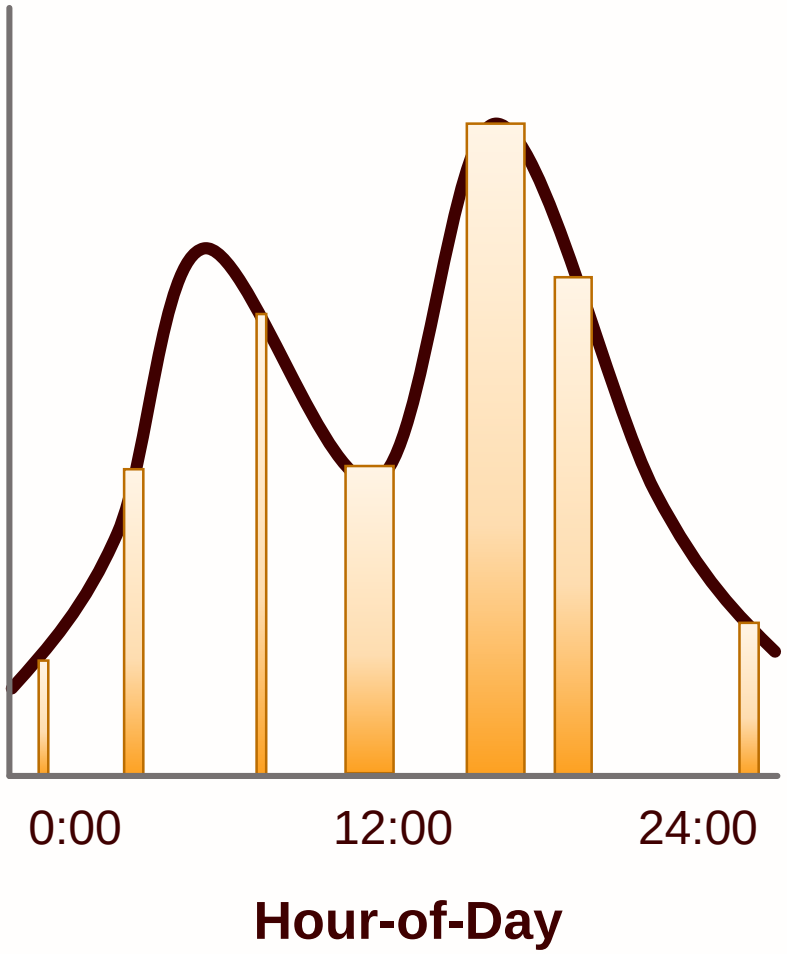
TRAINFO Sensor
Collects crossing blockage data

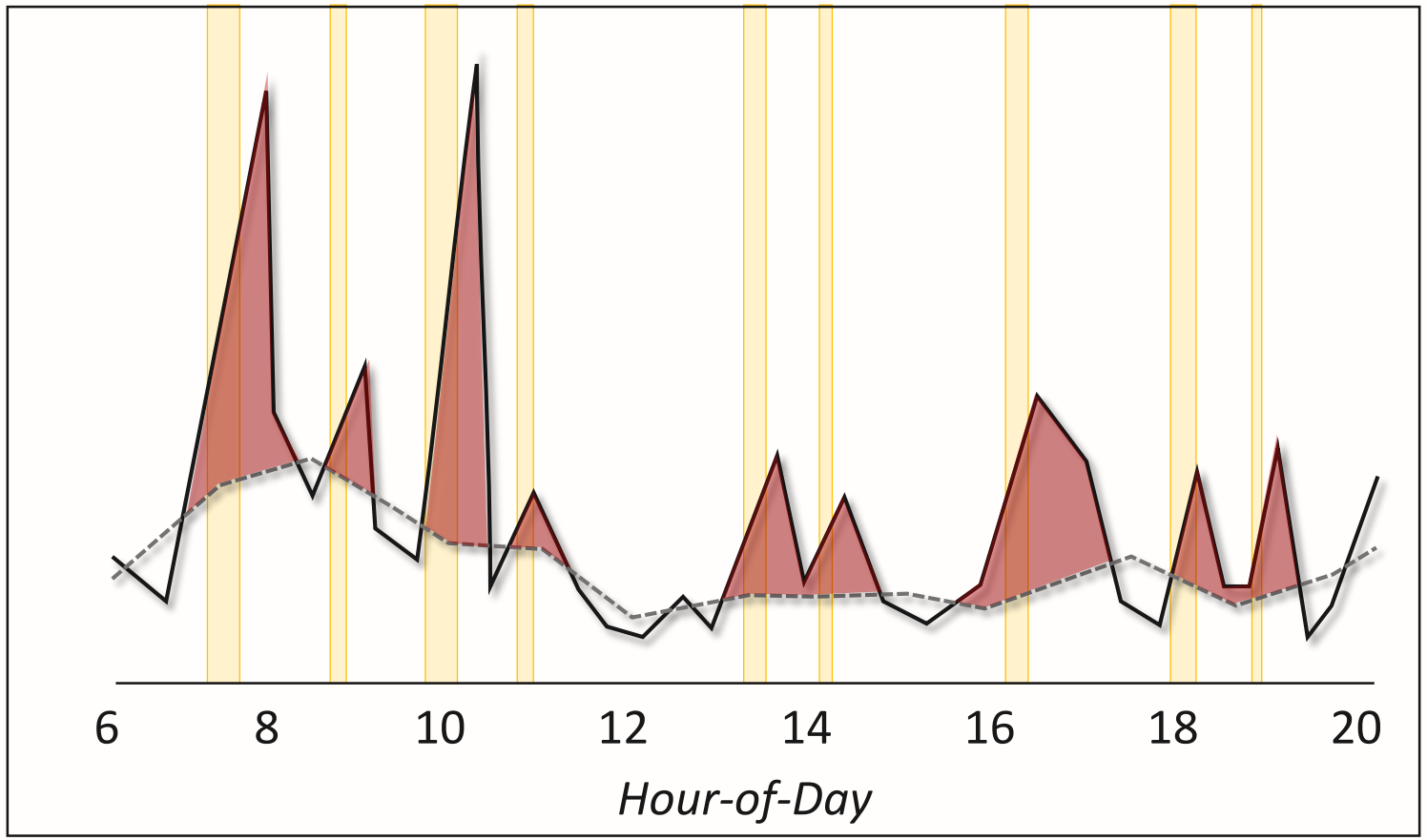
Congestion studies

Conventional Method



TRAINFO Method





Expected travel time without a train (Bluetooth)

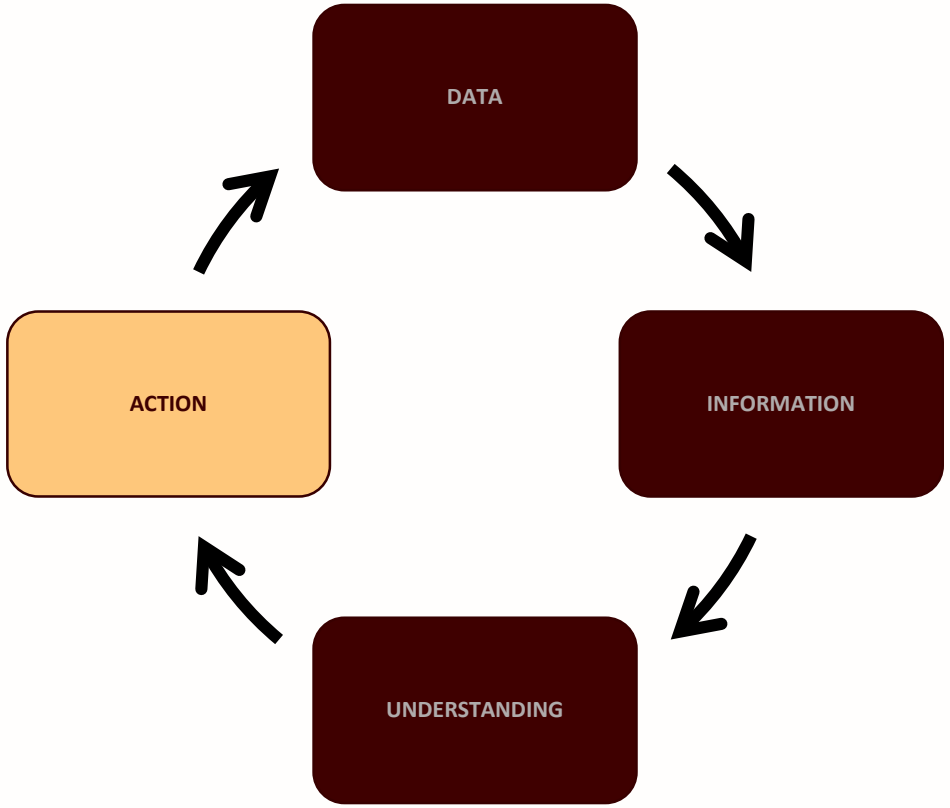
Train crossing blockage and duration (TRAINFO)

Actual travel time with a train (Bluetooth)

Delay caused by train (Measured)

Congestion studies

	CN @ Waverley St		
Metric	**Old**	**TRAINFO**	**Diff.**
Hours of delay per day	53.2	286.6	**+437%**
[illegible]	[illegible]	0	



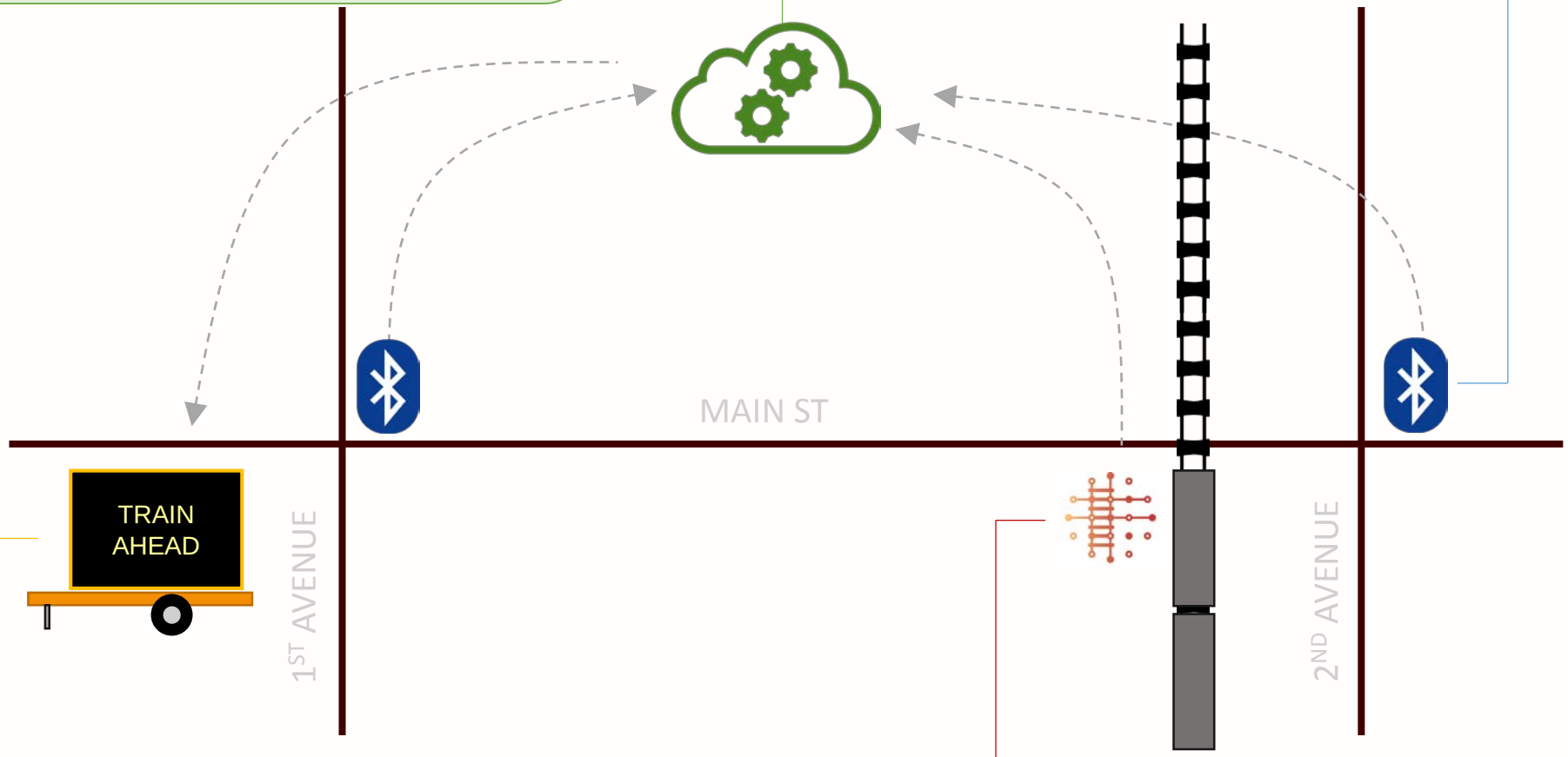
ACTION

- Roadside VMS
- Mobile app
- Connected & Automated Vehicles

The safest grade crossing is the one that doesn’t exist

Cloud Server
Determines delay using patented, machine-learning algorithms

Bluetooth Sensors
Collect travel time data



Variable Message Sign
Warns drivers about a blocked crossing

TRAINFO Sensor
Collects crossing blockage data

City of Winnipeg @cityofwinnipeg · 3h

Travel time info system to help drivers anticipate & avoid delays during Waverley Underpass construction winnipeg.ca/waverleyunderp...

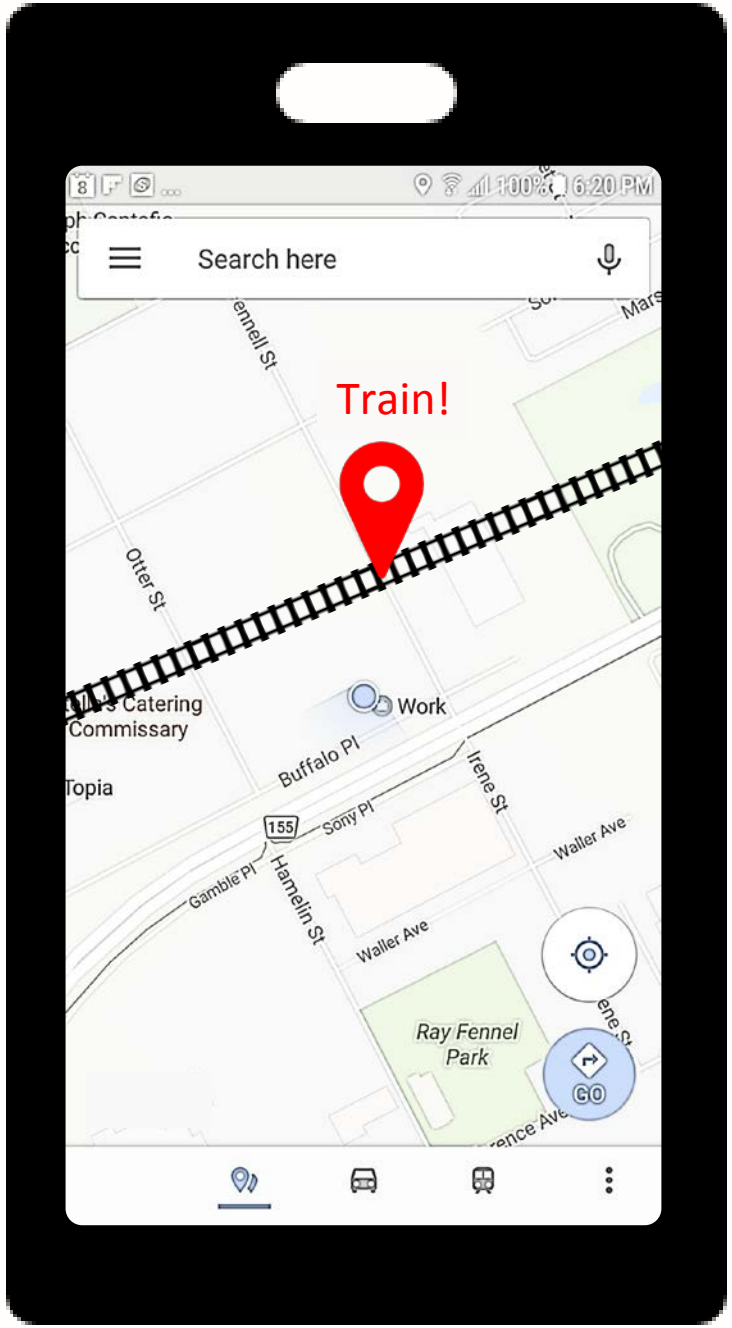
1 4 6

waze

OUTSMARTING TRAFFIC, TOGETHER

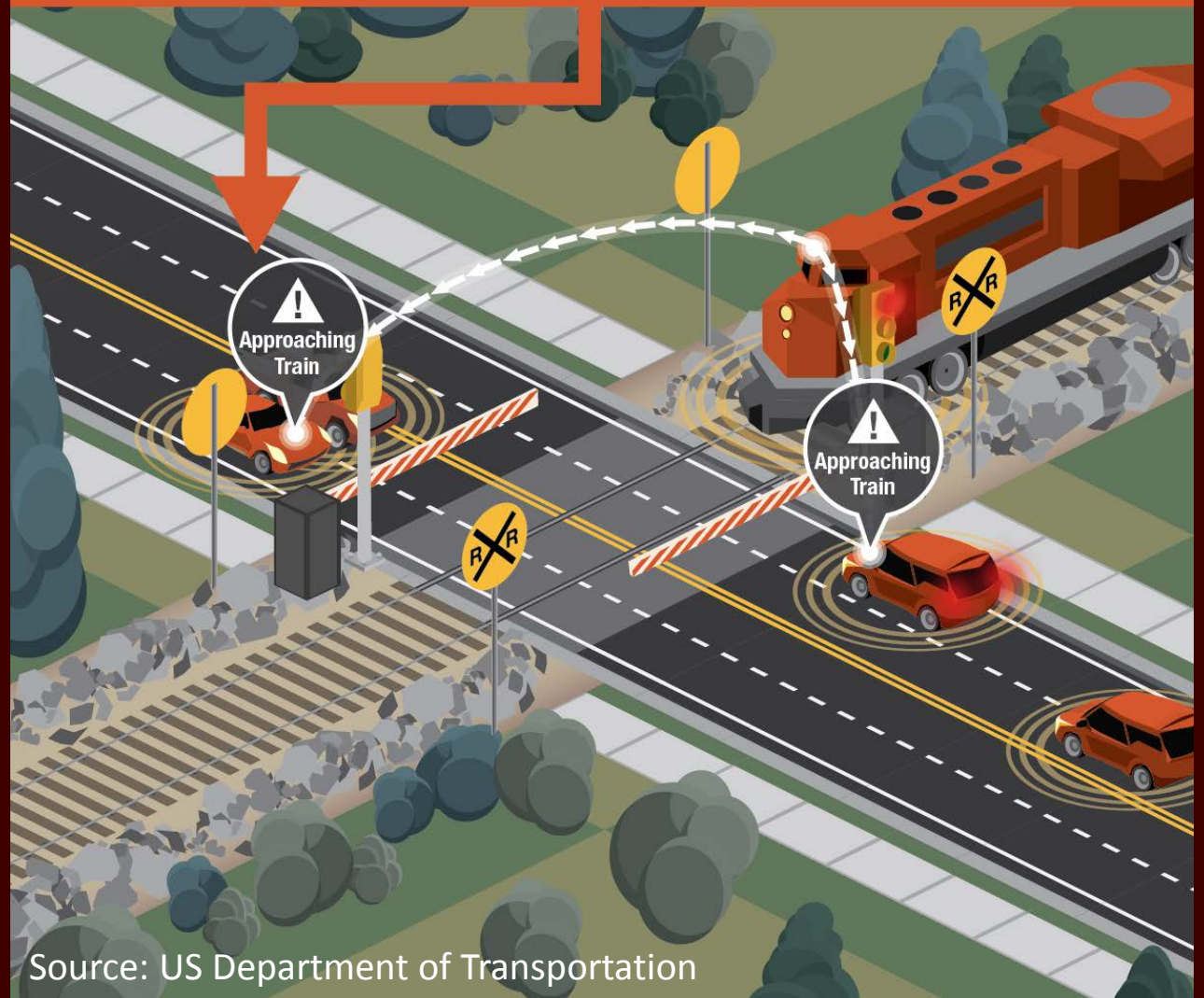
+

TRAINFO



Connected Vehicle Safety for Rail

Warns drivers if there is a train approaching and if there is a potential risk of collision, as well as provides drivers with information on the estimated amount of time until the train clears the intersection



Source: US Department of Transportation

TRAINFO

- Live ystem
- Prop
- Pate
- Help oney

Join us in creating a world with

seamless mobility

and

no railway crossing fatalities

Garreth.Rempel@TRAINFO.ca