

# Enabling Connected Roadways

Fernando Ribeiro

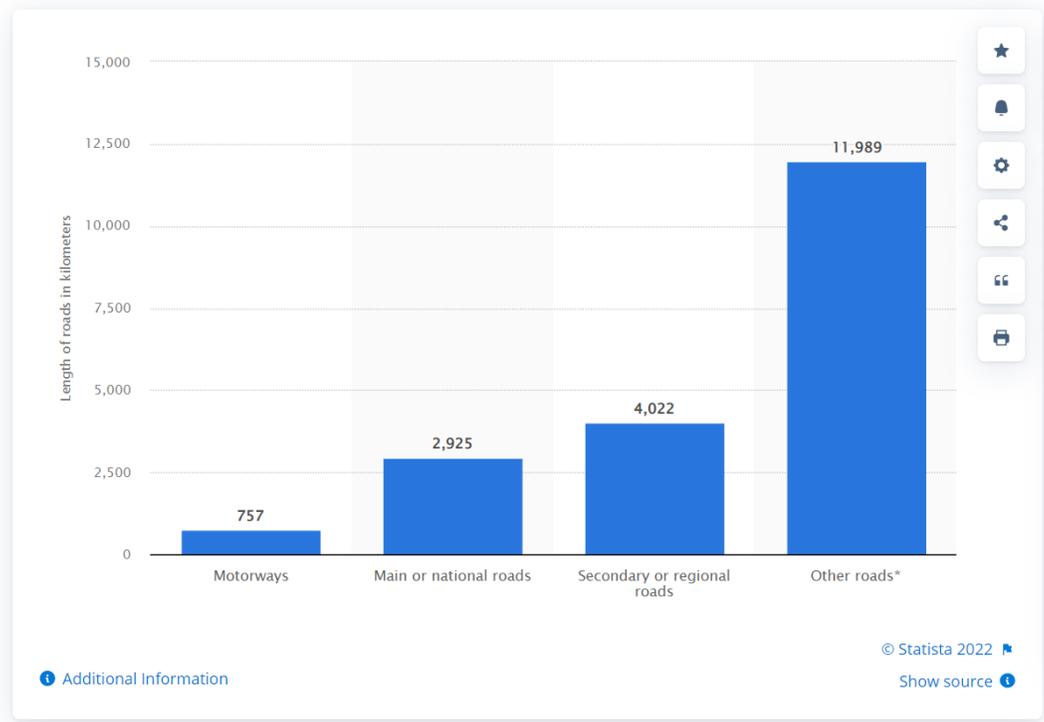
Director of Sales

Lindsay Transportation Solution

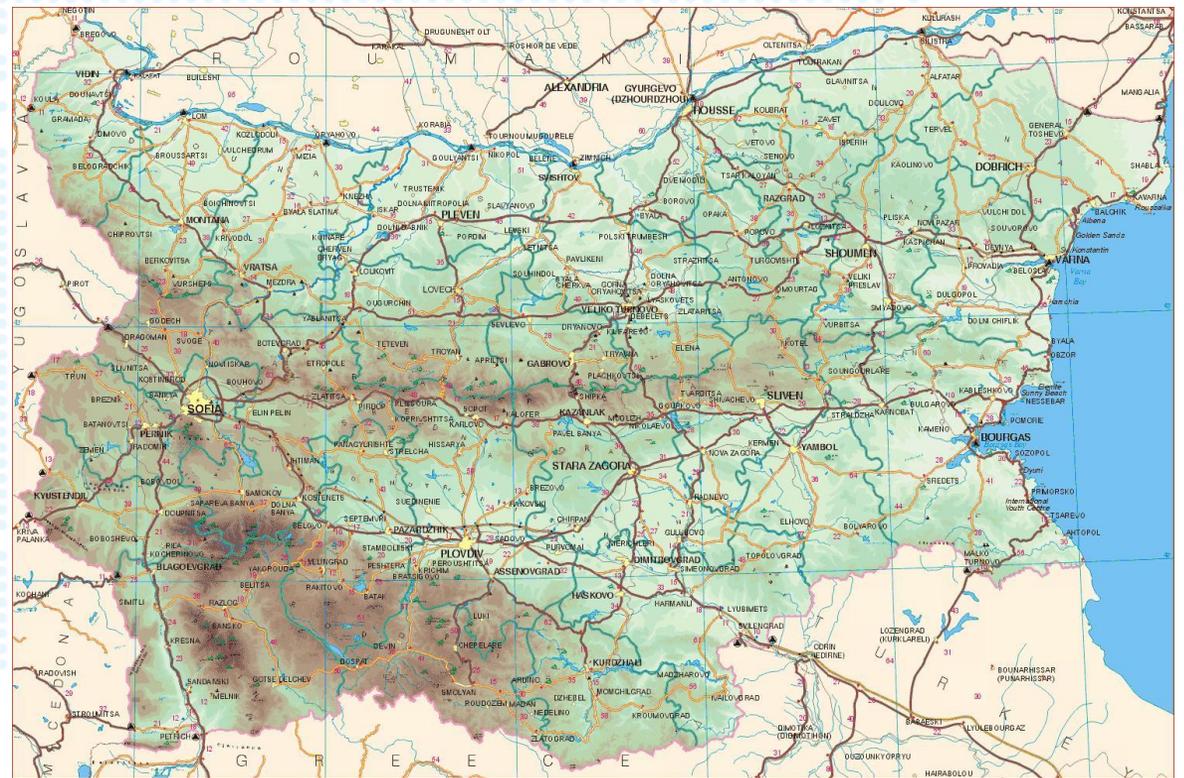
# The Problem

Transportation & Logistics › Vehicles & Road Traffic

Total length of the road network in Bulgaria in 2018, by road type  
(in kilometers)



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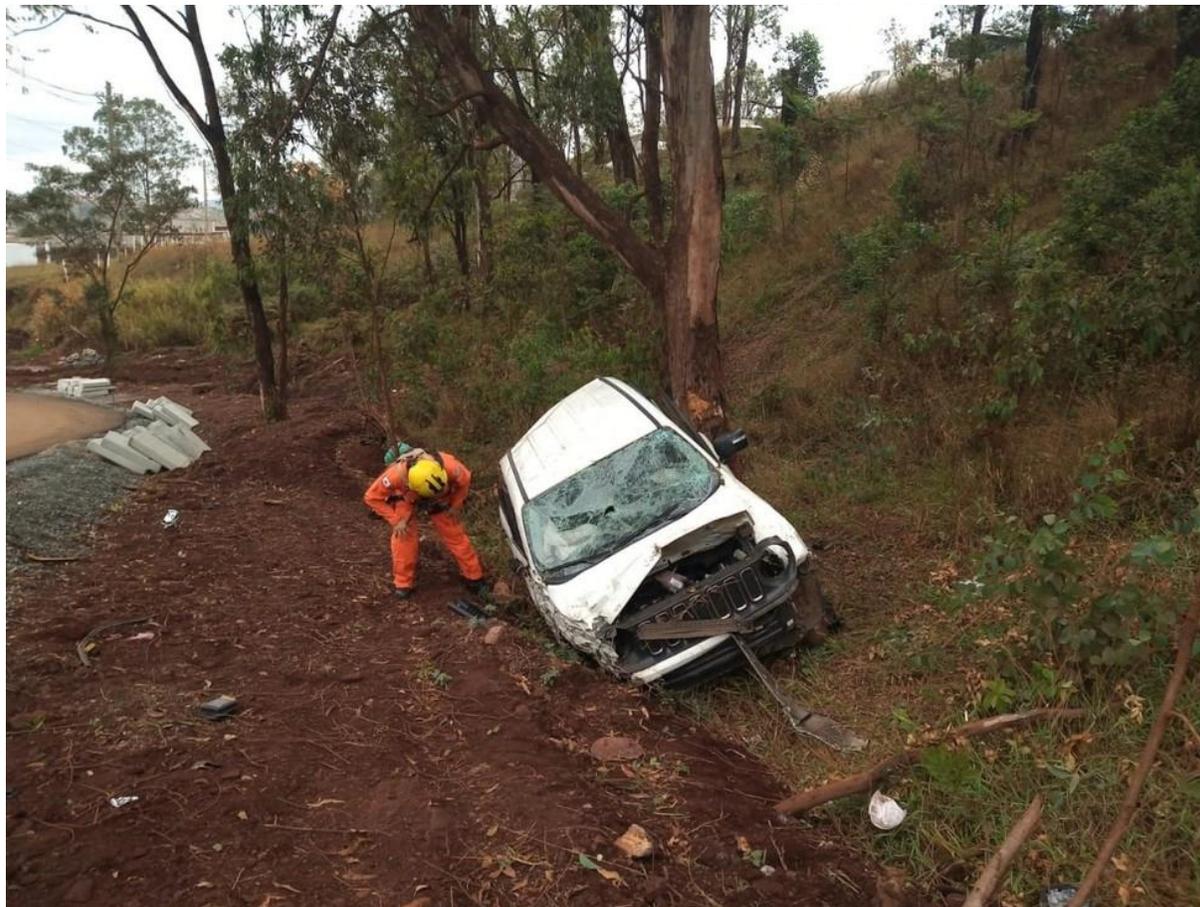
# The problem



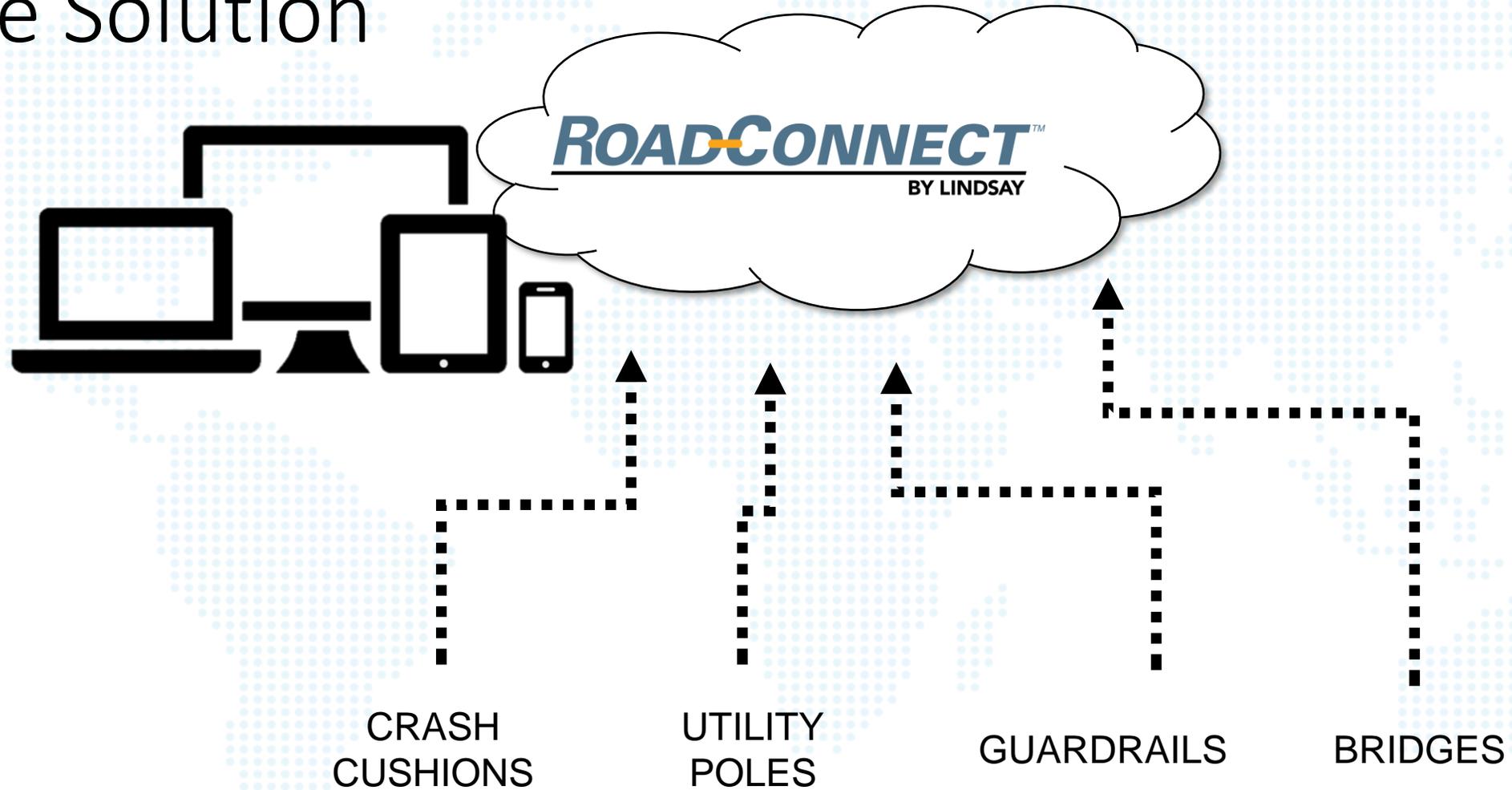
# The problem



# The consequences



# The Solution



# Remotely Monitor Roadside Assets

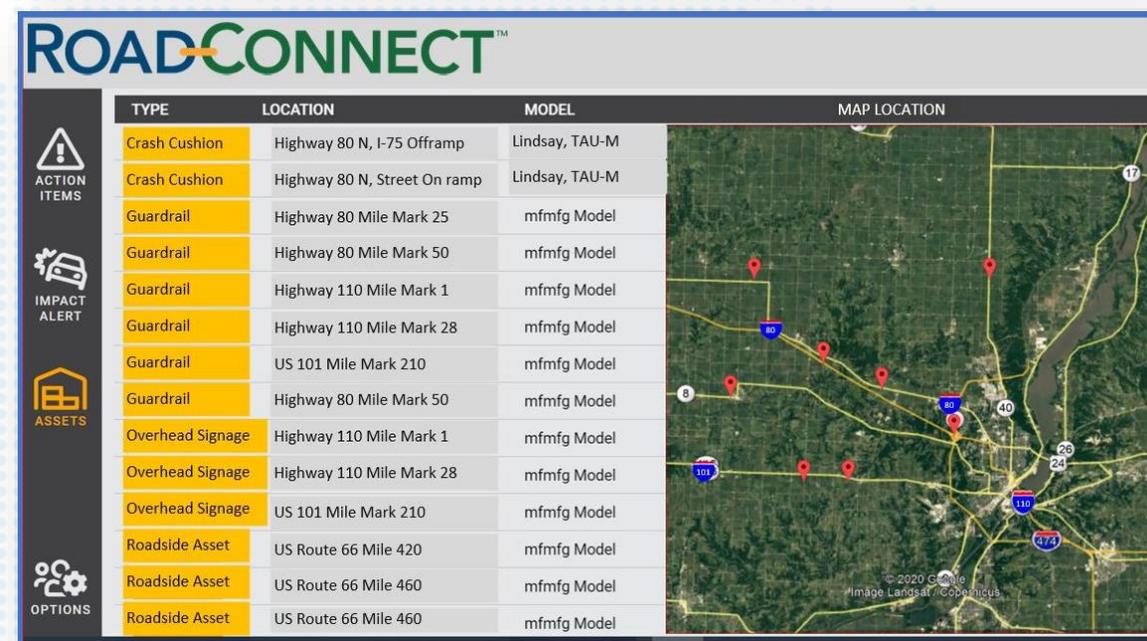
**Cloud-based** platform, access anywhere

**Fast, reliable, user-friendly dashboard** display with real-time activity

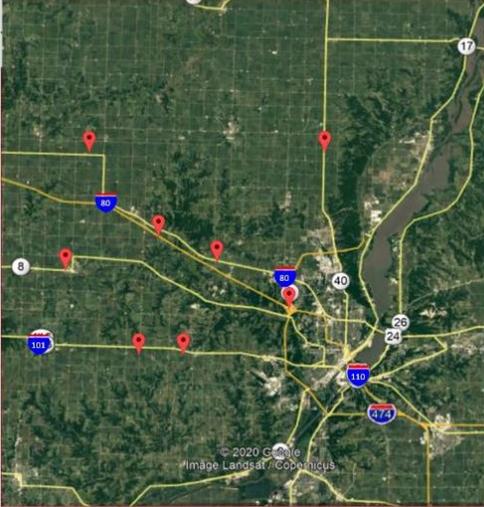
**Single-source** of data consolidating details from virtually unlimited number of assets

**Visibility** into asset details, location and status, including device batter health

**Alert notifications** from vehicle impacts

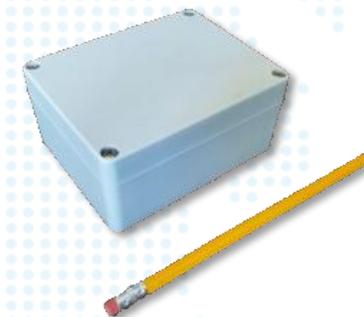


**ROADCONNECT™**

	TYPE	LOCATION	MODEL	MAP LOCATION
ACTION ITEMS	Crash Cushion	Highway 80 N, I-75 Offramp	Lindsay, TAU-M	
	Crash Cushion	Highway 80 N, Street On ramp	Lindsay, TAU-M	
IMPACT ALERT	Guardrail	Highway 80 Mile Mark 25	mfmfg Model	
	Guardrail	Highway 80 Mile Mark 50	mfmfg Model	
	Guardrail	Highway 110 Mile Mark 1	mfmfg Model	
	Guardrail	Highway 110 Mile Mark 28	mfmfg Model	
	Guardrail	US 101 Mile Mark 210	mfmfg Model	
	Guardrail	Highway 80 Mile Mark 50	mfmfg Model	
ASSETS	Overhead Signage	Highway 110 Mile Mark 1	mfmfg Model	
	Overhead Signage	Highway 110 Mile Mark 28	mfmfg Model	
	Overhead Signage	US 101 Mile Mark 210	mfmfg Model	
OPTIONS	Roadside Asset	US Route 66 Mile 420	mfmfg Model	
	Roadside Asset	US Route 66 Mile 460	mfmfg Model	
	Roadside Asset	US Route 66 Mile 460	mfmfg Model	

# Remote Impact Detection

- Compact, self-contained device
  - Rugged, waterproof enclosure
  - Simple, fast, nondestructive installation
  - 5-year battery life expectancy
  - Internal cellular modem on each device
- 
- ✓ Improve repair/replacement time
  - ✓ Decrease liability
  - ✓ Enhance worker and motorist safety
  - ✓ Save time/labor scouting roadways for impacted assets



**Monitoring device attaches to backstop**



# Street Lights

- Detect outages and damage to systems
- Pedestal-based installation and cost-effective hardware
- Flexible for use with LED, HPS and mixed lighting circuits

Connected monitoring device attaches to pedestals

- ✓ Reduce energy and labor costs
- ✓ Increase lamp life
- ✓ Reduce outage time
- ✓ Save time
- ✓ Improve operational efficiency



# Device Location



Impact Alert can be placed on a variety of assets in different ways depending on the environment





# Overview

- Global provider of **infrastructure solutions**.
- Presence in **70 different countries** through distributors, agents, and reps.
- **Three operations in Europe**, with plants in Italy and Turkey, and one sales office in The Netherlands.
- **Market leader** on Road Safety and Road Marking.
- Premier provider of **innovative and customizable solutions**.



# Thanks for your time!

## **Fernando Ribeiro**

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