

Driving Events



Road network level abnormal driving behaviour

Overview

Driving Events by Vianova is a data product that leverages sensor data from connected cars, trucks, vans, and buses to provide valuable insights into driving behavior. By tapping into the sensor technology embedded in modern vehicles, our product captures real-time data on driving events like harsh braking, aggressive

acceleration, sharp turns, and speeding incidents. This data enables road authorities, Departments of Transportation (DOTs), Metropolitan Planning Organizations (MPOs), and cities to better understand road dynamics and driver actions for improved road safety and traffic management

Key Features

- **Comprehensive Data Insights:** Utilize driving behavior data from millions of anonymized connected vehicles (US/EU) for informed infrastructure planning.
- **Distilled Events:** Achieve data minimization by focusing only on exceptional events rather than all observations
- **Accurate Risk Assessment:** Identify high-risk areas based on extensive vehicle data to prioritize infrastructure investments and safety measures.
- **Exceptional Aggregability:** Using Vianova's Query API, events can be aggregated to the road segment, intersection, or custom geographic area

Key Attributes

Dimension	Type (format)	Example	Notes
event_id	string		Unique ID of the event generated as a random function
timestamp	datetime		Date and time at which the event occurred
latitude	float	42.516693	Latitude of the event location
longitude	float	-74.230331	Longitude of the event location
heading	Integer (degrees)	45	The heading of the vehicle travel in degrees
speed	Integer (kph/mph)	77	Speed of the vehicle at the time of the event
event	string	HardBrake, HardAcceleration, SpeedOverLimit, OverSteering	Hard Braking defined as $< -4 \text{ m/s}^2$ Hard Acceleration defined as $> 2.6 \text{ m/s}^2$ Speeding defined as current speed $>$ speed limit

Coverage

- 📍 Austria
- 📍 Belgium
- 📍 France
- 📍 Germany
- 📍 Italy
- 📍 Netherlands
- 📍 Spain
- 📍 United Kingdom
- 📍 Sweden
- 📍 Denmark

- 📍 United States

Data Sources

Europe - 30 Million connected vehicles (cars, trucks, vans, buses)

United States - 40 Million connected vehicles (cars, trucks, vans)

Characteristics

Latency - 1 day, 1 month, 3 months

Frequency of Data Collection - 1 per event

Delivery

- Vianova Intelligence Platform
- REST API

Use Cases

- **Strategic Road Safety Initiatives:** Driving Events by Vianova informs the development and implementation of targeted road safety initiatives by identifying high-risk areas based on driving behavior analytics.
- **Data-Driven Policy Decisions:** Public sector organizations leverage our product to make evidence-based policy decisions, enhancing traffic management strategies and infrastructure investments.
- **Collaborative Planning:** Metropolitan Planning Organizations (MPOs) utilize driving behavior insights to collaborate with cities and DOTs in designing safer transportation systems and optimizing urban mobility.
- **Performance Benchmarking:** Road authorities benchmark driving behavior metrics over time to evaluate the effectiveness of road safety programs and monitor progress towards established goals.