



Speed Distribution Profiles

Quantify speeding risk across your entire road network—no hardware or fieldwork required.

Understanding how fast (or slow) vehicles are actually traveling—not just on average, but across the full spectrum—is crucial for both public safety and transportation efficiency.

Traditional speed studies require costly equipment or fieldwork that only captures data for a snapshot in time or for specific roads—often missing the full picture of real-world driver behavior.

The **INRIX Speed Distribution Profiles API** unlocks a deeper understanding of how fast people actually drive—across every hour, every road, and in both directions—using connected vehicle data. With granular percentile distributions and threshold exceedance rates, transportation professionals can identify systemic speeding, analyze policy impact, and target interventions more precisely.

Whether you're optimizing enforcement, evaluating projects, or prioritizing safety, the API makes it easy to integrate high-resolution speed behavior into your tools, dashboards, and workflows—at scale.

The result: smarter decisions, safer roads, and more efficient operations—powered by real-world speed behavior data.

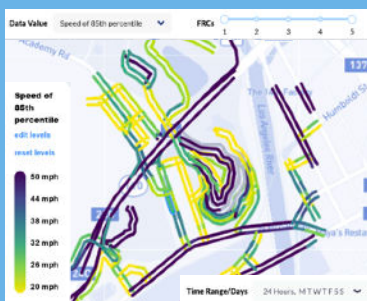
Key Benefits

- ▶ **Systemwide Speed Intelligence:**
Move beyond spot studies, averages, and crash reports with continuous, network-wide observed speeds.
- ▶ **Pinpoint Risk Zones**
Identify corridors or time periods where unsafe speeds are common.
- ▶ **Back Policy with Data**
Justify policy changes with percentile-based speed evidence.

Key Use Cases

- ▶ Evaluate the impact of speed limit changes or enforcement efforts.
- ▶ Prioritize road safety projects based on percentile speed and speeding thresholds.
- ▶ Support grant applications with quantified speeding metrics and threshold exceedance data.

Get Speeds for All Roads



See how fast drivers actually go across every road segment.

Analyze by Time & Day



Understand when speeding happens by hour or day.

Road Segment-Level Detail



Get a statistical distribution of speeds for individual segments

Analyze speeding behavior, evaluate policy impacts, and improve road safety with statistically accurate, real-world data.

Metrics Available:

- ▶ Average Speed – Mean vehicle speed per time bin, used to measure congestion, & overall network performance.
- ▶ Median Speed – Central tendency of observed speeds, providing a stable baseline less affected by outliers.
- ▶ Speed Percentiles (e.g., 85th, 50th) – Speeds at specified percentiles to assess free-flow versus typical operating conditions.
- ▶ Speed Band Percentages – Distribution of observed speeds across 16 defined speed bands (e.g., 0–5 mph, 35–40 mph, 65–70 mph) for detailed flow characterization.
- ▶ Sample Size – Number of speed observations per time bin, indicating statistical confidence and data reliability.
- ▶ Standard Deviation – Measure of variability in observed speeds, useful for detecting unstable or inconsistent flow conditions.
- ▶ Speeding Metrics – Hourly breakdown of vehicles over, within, and under the posted speed limit (percentages and total counts).
- ▶ Total Time Bins & Temporal Patterns – Number of hourly records available per segment, enabling analysis of daily, weekly, and seasonal traffic behavior.

Key API Features:

- ▶ Speeds returned per segment and direction to spot one-way issues.
- ▶ Speeds in 15-min increments for precise AM/PM, school, or weekend analysis.
- ▶ Clean JSON with stable IDs—easy joins to your GIS, dashboards, and reports.
- ▶ Query by segment IDs or select a corridor/area for network-wide pulls.

Find out how Speed Distribution Profiles can help you uncover speeding patterns using trustworthy, network-wide insights—no hardware required.



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