VERALYTIX
PULSE

Proactive Traffic Safety Management

Advanced AI-powered analytics platform

TRANSOFT SOLUTIONS

Predict Collisions Before they Happen

Elevate your road safety efforts with VERALYTIX Pulse, the industry-leading advanced proactive traffic safety management platform. Through a comprehensive set of conflict analytics and crash prediction models, transportation engineers, planners, and other stakeholders can effectively prioritize high-risk locations, identify key crash factors, and assess the efficacy of countermeasures before crashes occur, all in a fraction of the time required for traditional crash analysis. All analytics are conveniently provided on a user-friendly, dynamic, web-enabled platform.

VERALYTIX—combining **veracity** (truth), the Latin **ver** (to see) and **analytics**—delivers reliable insights, empowering informed decisions that enhance traffic safety outcomes and help support Safe Systems and achieve Vision Zero targets.

Why Proactive Analytics Matter

Traditional Methods Can't Keep Pace

Transportation networks are evolving rapidly, with a growing diversity of vulnerable road users and an increased number of vehicles with self-driving capabilities. While traditional crash-based methods remain vital and continue to evolve in managing network risk, they have limitations, as crash data is often inaccurate or incomplete, fails to generate sufficient statistically significant data on vulnerable road users for identifying reliable trends. Because crash data is inherently retrospective, relying solely on it can delay proactive safety measures. As a result, new approaches are needed to supplement and complement crash-based methods, enabling more comprehensive and forward-looking risk management to better protect all road users.

Proactive Analytics Is the Future

Proactive analytics based on critical conflicts offer an effective enhancement to relying only on reactive methods. Conflict data is more plentiful, enabling the identification of reliable trends, quantification of safety risk, and accurate predictions of future crashes. These insights are proactive and do not depend on actual harm occurring before action can be taken. Extensively validated predictive analytics lead to better outcomes for transportation system owners, operators, and users, supporting progress toward Vision Zero goals.

Benefits

Scalable

VERALYTIX Pulse scales across any number of sites and is applicable to all types of locations—including intersections, midblock crossings, school and work zones, arterial segments, traffic corridors, and entire networks.

Data-Driven, 100% Sample

Collected video data is based on 100% sampling, delivering reliable, evidence-based insights. Analytics and outputs are grounded in real road user data, capturing detailed information on user types, the location and intensity of critical conflicts, violations, flows, speeds, and behavioral patterns.

Proactive

Transform from reactive crash analysis to predictive safety intelligence. Leverage advanced conflict metrics and crash prediction models to identify and mitigate safety risks before collisions occur, enabling proactive interventions that save lives and support Vision Zero initiatives.

Automated

Automated processing of road user conflicts and other safety analytics ensures reliability, consistency, and efficiency to support objective, repeatable insights into network safety and operations.

Versatile

VERALYTIX works with nearly any video source, including existing CCTV infrastructure and temporary deployments, enabling easier and more flexible deployment. It automatically corrects lens distortion, compensates for camera movement of up to 20% of the field of view, and supports thermal imagery for enhanced low-light monitoring.

Comprehensive

Every road user in a monitored area is reliably detected, classified across 14+ types—including FHWA classes 1–13—and analyzed to ensure vulnerable users are fully considered in Vision Zero decision-making. VERALYTIX provides industry-leading analytics to support these decisions, capturing key metrics like flows, turning movements, speeds, trajectories, conflicts, and crash severity.

Applications

Efficiently Manage Safety and Risk at Both Site and Network Levels

Using embedded tools, VERALYTIX enables network-level safety activities including:

- Hotspot identification and network screening
- Detailed safety investigations
- Countermeasure selection and evaluation
- Local and global safety performance benchmarking

Reveal Previously Unknown Safety Concerns

Evaluate intersections, mid-blocks, school zones, and other locations to identify existing safety risks beyond crash history, such as:

- Conflicts
- High speeds
- Violations

Validate Safety Improvements Quickly

Conduct before-and-after conflict analysis to justify Vision Zero investments without waiting years for crash data:

- Quantify impact of countermeasures
- Validate safety improvements

Prioritize Safety Investments

Use predictive crash risk analysis to identify high-risk locations and prioritize investments for various safety programs:

- Vision Zero
- Road Safety Audits
- Safe Routes to School

Enhance Planning & Design Processes

Use conflict analysis and crash prediction to unlock actionable insights and incorporate Vision Zero principles into decision-making:

- Roadway design optimization
- Corridor safety studies
- Vision Zero network planning
- Safe Systems countermeasure selection
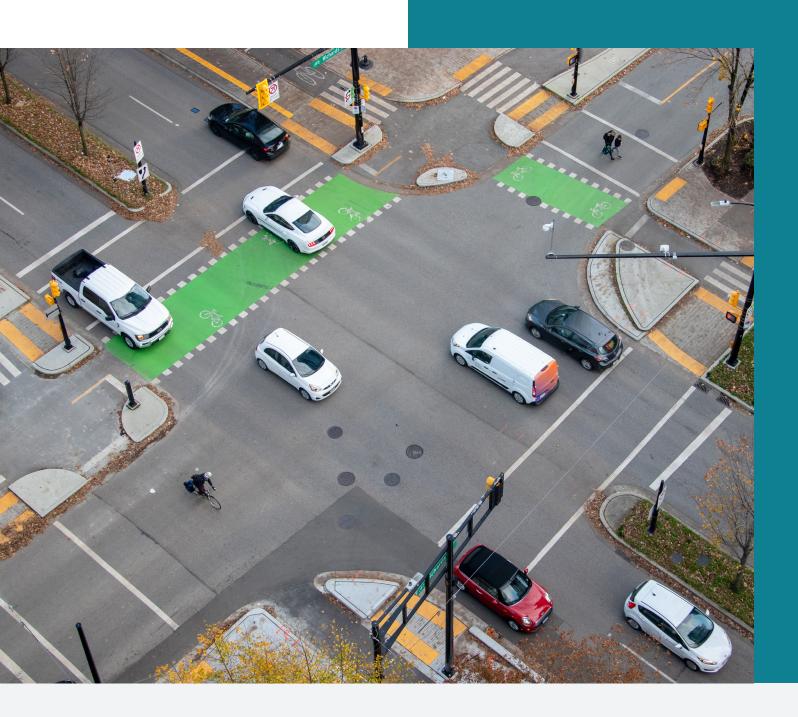
Support Grant Applications

Strengthen funding applications with comprehensive data and evidence-based justifications for Vision Zero and safety improvement projects:

- Provide robust conflict and crash prediction data
- Demonstrate measurable safety benefits
- Support project need documentation
- Validate expected outcomes

Supported Browsers
& System Requirements

For details on supported browsers and system requirements, please visit the product compatibility section using the QR code below.

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Phone (US & Canada)
1.888.244.8387

Email
sales@transoftsolutions.com

Web
www.transoftsolutions.com

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