

The Transoft Solutions Industry-Leading Six-Point Validation Process

Ensuring Precision, Accuracy, and Reliability in Traffic Analytics

Why Validation Matters

In the world of traffic analytics, data is only valuable if it is accurate and reliable. Our solution combines cutting-edge video technology with advanced AI to deliver insights our customers can trust.

What differentiates our solution? A rigorous six-point validation methodology applied to every site to ensure that Transoft analytics meet the highest standards of accuracy and reliability.

Our Six-Point Validation Process



1. Road-User Spatial Accuracy Validation

Transoft employs proprietary camera calibration technology to precisely transform video into accurate 3D spatial coordinates. This foundational step ensures that derivative measurements—position, speed, acceleration, and road user heading—are accurate and reliable under a variety of video collection conditions.

2. Road-User Detection Accuracy Validation

Our advanced AI recognizes and reliably classifies 21 different road user types (13 types on road segments and intersections and 8 types on shared use paths) across various infrastructure types. Each installation undergoes rigorous validation with annotated video samples from peak traffic periods with target overall detection accuracy of 95% or better overall, and 90% or better within road user classes under favorable conditions.

3. Road-User Trajectory Quality Validation

Our solution meticulously tracks road user movement paths using our proprietary Trajectory Reliability Index (TRI). We validate trajectory quality through multi-layered checks that identify and filter anomalies, ensuring that authentic movement data produces our safety analytics.

4. Road-User Flow Validation

Traffic volume measurements by direction, movement type, and user class are independently verified through manual validation samples, confirming the accuracy of our AI-generated traffic counts across all installation environments.

5. Road-User Speed Validation

Speed calculations—critical for safety analysis—undergo systematic verification through randomized sampling. Our manual validation confirms that Transoft's solution for automated speed measurements precisely reflects actual road conditions across different vehicle classes and movements.

6. Critical Conflict Validation

The pinnacle of our validation process ensures that identified critical conflicts or near-miss events and potential collision scenarios represent genuine safety concerns. Our specialized algorithms filter out random trajectory variations (i.e. false positive conflicts) while capturing authentic conflict situations leading to actionable safety insights validated by trained engineers.



The Transoft Difference

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Why Industry-Leading Quality Assurance Matters

- **Confidence in Decision Making**
Select and implement infrastructure investments based on valid, reliable data.
- **Defendable Analysis**
Support safety initiatives with thoroughly validated metrics.
- **Consistent Performance**
Analytics that maintains accuracy over time and varying conditions.
- **Comprehensive Coverage**
Access to validated data across all road user types and movement patterns.



Phone (US & Canada)

1.888.244.8387

Email

sales@transoftsolutions.com

Web

www.transoftsolutions.com

Scan the code
to learn more

