



KITTELSON LLC

FORENSIC TRANSPORTATION ENGINEERING

KITTELSON LLC – PROVIDING FORENSIC TRANSPORTATION ENGINEERING EXPERTISE FOR CLIENTS NATIONWIDE

Since 1975, our staff members have provided research, technical analysis, and expert witness testimony and declaration to client motions before the court. Our team of forensic transportation engineering consultants includes some of the industry's leading experts available to assist you with a variety of legal services.

We have a wealth of experience in crash investigations, reconstructions, and expert witness testimony, and utilize the latest technologies to collect more data and document more perspectives, helping our clients understand more objectively what took place at the scene of a crash.

Our staff members are engaged with the planning and design of transportation facilities, strengthening our expert consultation and testimony through ongoing participation in transportation planning, operations, design, and research.

AREAS OF EXPERTISE

Alternative Dispute Resolution

- Arbitration, Mediation, and Other Means of Dispute Resolution

Asphalt and Concrete Pavement

Commercial Vehicle Compliance and Inspection

- Carrier Safety Programs
- Compliance Training
- Driver Activities and Compliance
- Hours of Service Compliance
- Heavy Vehicle Post-Crash Forensic Mechanical Inspection
- Mock DOT Audits
- Risk Management Training

Crash Investigation and Reconstruction

- Driver Behavior
- Electronic Control Module/Event Data Recorder Downloads
- Forensic Examination of Driver
- Sight Distance

Eminent Domain

- Parking and Circulation Impacts
- Access and Driveway Impacts

Human Factors and Driver Performance/Behavior

- Driver attention, workload, and decision-making
- Driver distraction, sleepiness, and impairment
- Driver-vehicle interface design and use
- Teen, inexperienced, and older driver behavior

On-Premise Commercial Signing

- Planning and Zoning Regulations
- Sign Size, Color, Illumination, and Placement

Parking Lot Design and Operations

Railroad and Transit Crossings

Research and Emerging Technologies

Roadway and Intersection Design

- Highways and Streets
- Pedestrian, Bicycle, and ADA Facilities
- Lighting
- Roundabouts and Other Intersections

Safety

- Highway Safety Manual
- Roadway Safety Audits
- Tire Safety

Traffic Control

- Manual on Uniform Traffic Control Devices (MUTCD)
- Signs, Pavement Markings, and Traffic Signals
- Temporary Traffic Control and Work Zones

Traffic Operations

- Bicyclists and Pedestrians
- Land Use and Transportation Integration
- Traffic Signals



RESEARCH

Kittelson LLC staff members conduct nationally and internationally applied research that defines industry practice and performance standards. A wealth of ongoing field experience throughout the country—as well as our research activities for the Strategic Highway Research Program, the Federal Highway Administration, and the National Academy of Sciences—provides a unique foundation upon which our technical analyses and interpretations are based, using relevant and state-of-the-art transportation theory and practice. The following is a list of publications involving our staff:

American Association of State Highway and Transportation Officials (AASHTO)

Highway Safety Manual (1st Edition)	▲	●
A Policy on Geometric Design of Highways & Streets (Green Book)	■	

Federal Highway Administration (FHWA)

Guidebook for Developing Pedestrian & Bicycle Performance Measures	▲	
Road Safety Audit Guidebook	■	
NCHRP Research Report 1043: Guide for Roundabouts	▲	●
Signalized Intersections Informational Guide (1st and 2nd Editions)	■	
Traffic Signal Timing Manual (1st and 2nd Editions)	▲	●
Use of Technology and Data for Effective Work Zone Management: Work Zone ITS Implementation Guide (FHWA-HOP-14-008)	▲	

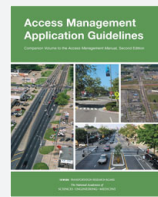
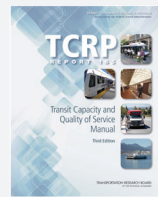
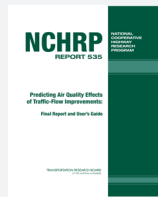
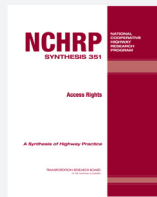
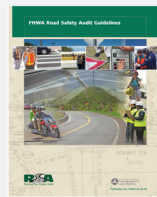
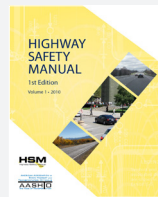
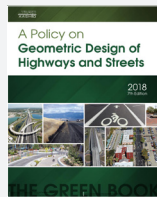
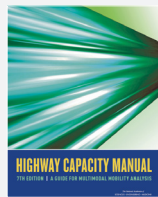
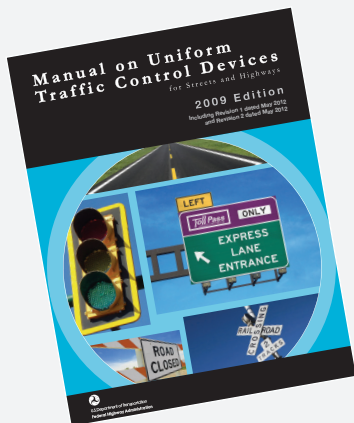
Transportation Research Board/National Cooperative Highway Research Program (TRB/NCHRP)

Access Management Application Guidelines	▲	●
Highway Capacity Manual (2000, 2010, 6th Edition, 7th Edition)	▲	●
NCHRP Project 3-72: Lane Widths, Channelized Right Turns & Right-Turn Deceleration Lanes in Urban & Suburban Areas	■	
NCHRP Project 3-75: Analysis of Freeway Weaving Sections	■	
NCHRP Project 3-106: Traffic Control Device Guidelines for Curves	■	
NCHRP Project 3-109: Potential MUTCD Criteria for Selecting the Type of Control for Unsignalized Intersections	■	
NCHRP Report 581: Design of Construction Work Zones on High-Speed Highways	▲	●
NCHRP Report 613: Guidelines for Selection of Speed Reduction Treatments at High-Speed Intersections	▲	●
NCHRP Report 627: Traffic Safety Evaluation of Nighttime and Daytime Work Zones	▲	
NCHRP Report 687: Guidelines for Ramp and Interchange Spacing	▲	●
NCHRP Report 785: Performance-Based Analysis of Geometric Design of Highways & Streets	▲	●
NCHRP Report 834: Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities: A Guidebook		
NCHRP Report 1085: Guidelines for Vehicle and Equipment Marking and Lighting	▲	
NCHRP Synthesis 316: Design Exception Practices	▲	●
NCHRP Synthesis 351: Access Rights: A Synthesis of Highway Practice	▲	●

Other Industry References

Manual on Uniform Traffic Control Devices	■	●
Transit Capacity and Quality of Service	▲	
Qualification of Joint Sealant Effectiveness Regarding Jointed Concrete Pavement Performance	▲	
Design Methodology for Subgrades and Bases Under Concrete Roads and Parking Lots, Engineering Report	▲	
Urban Bikeway Design Guide	■	

▲ Principal Investigator/Author ■ Supporting Review/Contributor ● Implementing Committee Participation



PRODUCT LIABILITY

Kittelson LLC provides specialized analysis for product liability cases involving collision reconstruction. We evaluate how vehicles, components, or mechanical systems may have contributed to crash dynamics using accepted reconstruction methods, peer-reviewed research, vehicle inspections, EDR/ECM data, and physical evidence. Our objective findings help attorneys understand technical factors and support informed liability decisions.

Areas of Product Liability we have assisted:

- Tire Failure
- Suspension Failure
- Seatback Failure
- Child Safety Seats
- Seatbelt
- Roof Crush
- Airbag Systems
- ADAS Systems

TECHNOLOGICAL CAPABILITIES

DRONE AERIAL MAPPING

We use drones to survey sites and document crash evidence from an overhead perspective, capturing critical details such as skid marks, off-pavement travel paths, and pavement markings. Collected data can be shared from the field and used to create layouts and animations illustrating crash scenarios.



VIRTUAL AND AUGMENTED REALITY

Virtual and augmented reality offer immersive 3D experiences that let users explore environments from multiple perspectives, rather than a fixed video viewpoint. Kittelson's growing expertise in these tools creates new opportunities for communicating information and recreating crash scenes.



FARO LASER SCANNING

Our FARO 3D laser scanners precisely measure crash scenes and vehicles, rapidly capturing millions of data points to create point clouds for analysis and long-term digital storage. Scanning also improves safety by allowing data collection from the roadside.

HEAVY VEHICLE AND PASSENGER VEHICLE DOWNLOADS

Kittelson LLC experts use specialized training and advanced tools to extract and analyze crash-related data from heavy vehicle ECMs and passenger vehicle EDRs ("black boxes"), including speed, braking, engine RPM, and seat belt usage.

DIAGRAMMING, ANIMATIONS, AND FLY THROUGHS

Using crash reconstruction animation tools and professional expertise, we develop animations that illustrate the sequence of events in single-vehicle, multi-vehicle, or rail-crossing crashes, including the driver's perspective.



OUR EXPERTS

Kittelson LLC team members provide expertise to legal counsel, transportation agencies, engineering consulting firms, trucking companies, insurance companies, private companies, and individuals, among many others. Our team includes skilled researchers, investigators, writers, and speakers who regularly serve as expert witnesses for both plaintiff and defense cases. Kittelson LLC is supported by the broader expertise and resources of Kittelson & Associates, Inc., a nationally recognized transportation consulting firm.



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