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The need for Measurement, Not Conjecture!

Forensic reconstruction of vehicle accidents begins and ends with data. The accuracy, fidelity and ultimate validity of the reconstruction is limited primarily by the quality of the data available.

Less data = More conjecture, which in turn leads to More opportunities for effective cross examination and Less effective presentation before the jury. Conversely, the More high quality data, the More accurate, valid and defensible the analysis, and as will be shown, the More compelling and persuasive the presentation before the jury. Quite simply, the best reconstructions rely on Measurement, not Conjecture.

PSI has been a pioneer in bringing solid technical foundation to reconstruction analysis, beginning with introducing 3D Laser Scanning Technology to the forensic community.

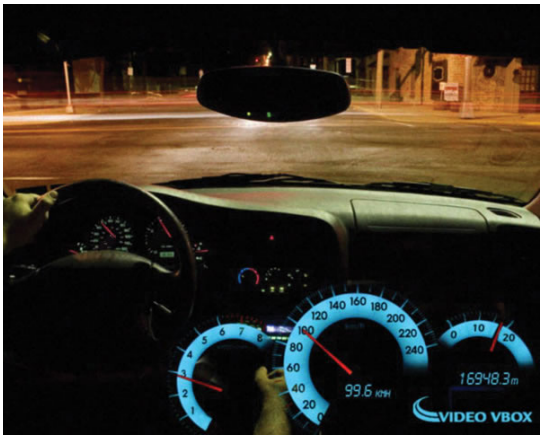
Now, in our continuing pursuit of Engineering Excellence, PSI has added a new tool – the Racelogic VBOX vehicle dynamics measurement system.

The VBOX system advances reconstruction by providing a method to measure vehicle dynamics directly, rather than relying on nominal values from literature and general calculations.

With VBOX, PSI can measure dynamic variables directly, under real-world driving conditions, using the same vehicle involved in the accident, or an exemplar, thereby providing the highest fidelity to the actual conditions:

- Velocity
- Acceleration, both longitudinal and lateral
- Roll, Pitch and Yaw
- Slip angle
- Position, both relative and geographic
- Onset of braking

RACELOGIC VIDEO VBOX

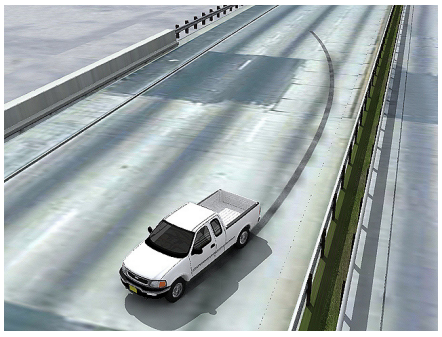


Sample Situations

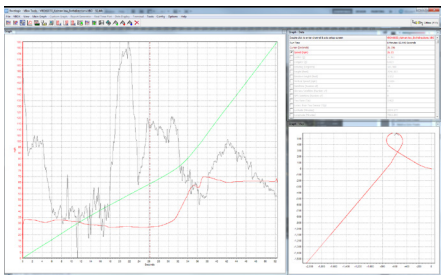
PSI is using the VBOX technology to acquire powerful and specific data under many real-world conditions common to vehicle accident litigation:

Brake Testing – One of the most common and critical variables in vehicle reconstruction. Typically, the reconstruction expert works backwards from impact to determine the behavior of the vehicle during the crucial phase leading up to impact. When pre-impact braking is present, measuring this value with accuracy is critical, as errors in this step will propagate throughout the rest of the analysis. Potentially providing results that change sensitive aspects of the analysis. Measuring this variable directly provides the most solid foundation for accurate analysis of pre-impact speed and position.

Analysis of forces upon Impact – Often the reconstructionist wishes to know the amount of force transferred at impact. This is used both to determine pre-impact speed and positions, as well as post-impact damages and dynamics. For instance, in a vehicle vs. pedestrian scenario, working back from the known point of rest of the pedestrian, it is possible to determine the point of impact using common throw-distance calculations. This data can be critical, such as in a case where the pedestrian's location relative to a crosswalk is a critical issue. These calculations are very sensitive to the forces present at the time of impact. Using the VBOX system, PSI can measure the forces, both laterally and longitudinally, providing a solid technical foundation for the results.



Slip Angle Testing – At what point during a turning maneuver does the vehicle begin to lose traction and enter lateral slide? Knowing this value is often critical component to reconstruction of an emergency avoidance maneuver, or solo vehicle loss of control case. PSI measures this value directly, and can calibrate the result to any point on the vehicle, providing unparalleled flexibility in post-testing analysis.



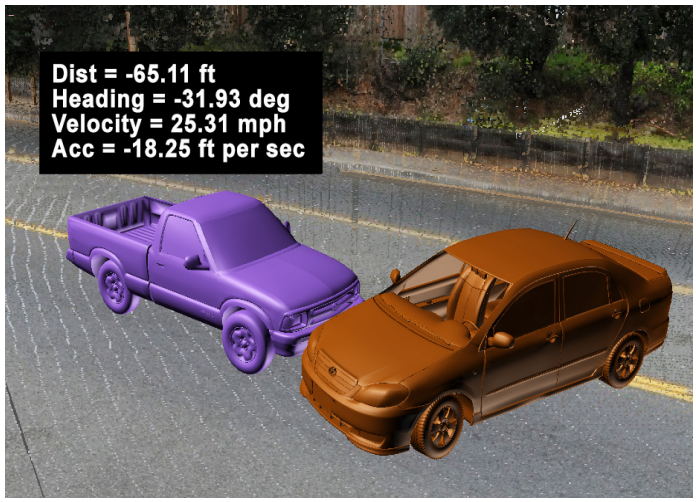
Off-tracking Analysis – In cases involving articulated vehicles with multiple axles – tractor/trailer combinations, articulated buses – the degree to which the rear wheels track inside of the front during a turn is often an important foundational issue. If there is no physical evidence left at scene upon which to base an analysis of the wheel locations, then live testing of the vehicle can be used to fill in these gaps. Using the VBOX system, PSI can derive the location of any wheel over time, providing a history of the wheel paths relative to critical locations, such as point of impact.

3D Working Model & 3D Animations

One of the most powerful uses for the type of data PSI collects is the creation of a 3D Working Model. The 3D Working Model allows exceptionally powerful analysis, as every physical aspect of the scene as well as the vehicle dynamics are now resident in the model. The ability to combine the accuracy and realism of the real-world physical evidence and data with the power of advance computer software analysis and visualization, results in the most comprehensive reconstruction toolset ever made available.

***3D Working Model* Interactive Testing**
What-if / Effects of:

- Speed ranges
- Braking rates
- Witness testimony
- Line of sight issues
- Testing of opposition analysis
- Determination of last chance to avoid
- Determination of critical response times



3D Animation

After the critical issues have been analyzed, the results must be communicated to the trier of fact in a clear, compelling manner. 3D Animation uses the power of Visual Communication to ensure your points are well understood. Two factors come to the forefront in this phase - Accuracy and Realism.

Accuracy is required to ensure that the Animations will pass Judicial scrutiny and that of today's sophisticated jurors.

Realism is necessary to overcome the jury's need for CSI-style visually stimulating delivery of information.

PSI's VBOX system provides the precision data required to ensure our complex 3D Animations are accurate and allow us to maintain our 100% admissions rate at trial.

The VBOX system also derives the hi-resolution, dynamic data necessary to maintain fidelity to even the most complicated vehicle dynamics. This ensures that every movement, every impact and all resultant forces are there to allow you to provide the jury with visualizations so real, it ***Turns Them Into Witnesses.***

Current Areas of Use

PSI's clients have expressed both a need for this specific, measured data, as well as an interest in having PSI perform the on-site testing to capture it. Although the list of potential uses is growing as we gain further experience with the system, a sample shows the wide ranging desire to move from Conjecture to Measurement.

Municipalities / Counties / State Agencies:

Testing of Transportation Fleet Vehicles

- Buses
- LRV
- Trains
- Cable cars
- Fleet vehicles

Police Departments/Fire Departments

- Patrol vehicles
- Fire vehicles
- Ambulances / EMT vehicles

Private Attorneys

- Specific case data

Accident Reconstruction Experts

- Analysis of incident vehicle dynamics
- Testing of opposition theory/testimony
- Educational testing