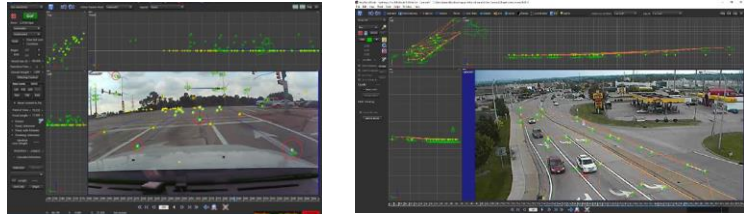


# Velocity Analysis from Traffic, Dash, and Witness Cameras

Aim: To provide the tools for basic traffic camera analysis and introduce fundamentals for more advanced video analysis



## Training event

**Overview of video analysis** - Background on development of video analysis, types of video that can be analyzed, overview of workflow fundamentals, suggested tools.

**Geolocation fundamentals** - Survey methods that support video analysis, Google Earth basics and advanced capabilities, Google Earth accuracy determination, Google Earth 2D and 3D, Google kmz files, GPS and Total Station surveys.

**Accident site photography for photogrammetry** - Required equipment, photography plan, onsite workflow, image review, survey images, common feature tracking, camera solve, scaling and orientation, survey point extraction, photogrammetric 3D tools.

**Velocity comparison and velocity testing** - Vehicle preparation, radar and GPS test setup, speed reconciliation, sample rates, graphing, video comparison, frame overlay.

**Matchmoving fundamentals** - Tools, automatic tracking, camera solve, residual error, coordinate alignment, scaling, object tracking.

**Traffic camera video analysis** - Location identification, preliminary camera estimate, prominent point identification, importing coordinates, lens distortion, camera solve, camera validation, ground plane, vehicle tracking, tire projection, vehicle model import, validation

**Video temporal analysis** - Frame rate timings, on screen display timings, security camera timings, GPS time validation, true frame rate calculation, frame time logging, time reconciliation, cubic spline interpolation.

**Dash/witness camera analysis** - Location identification, preliminary camera estimate, prominent point identification, importing coordinates, lens distortion, camera solve, camera validation, ground plane, vehicle tracking, tire projection, vehicle model import, validation

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