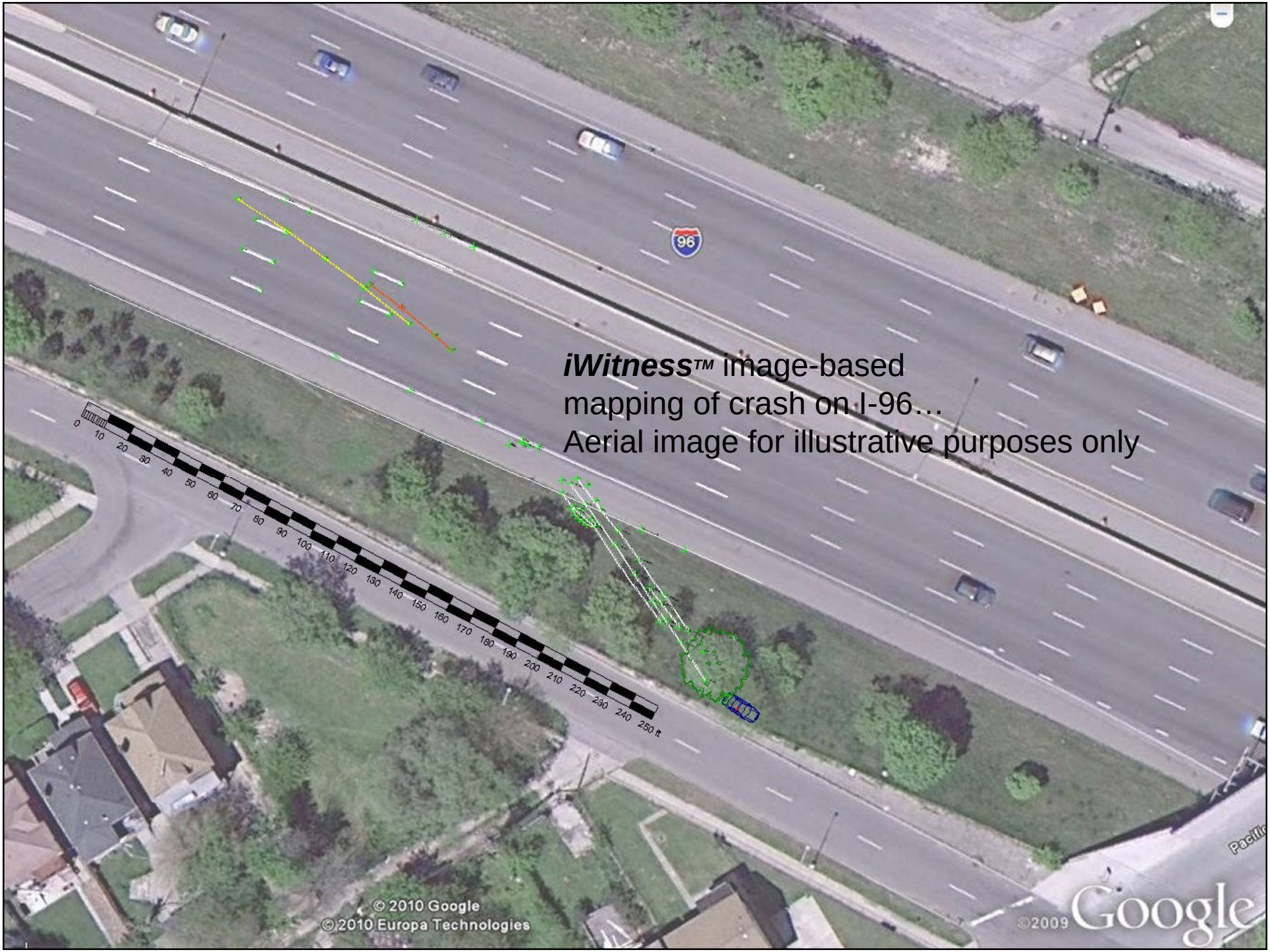
**Background:**

A vehicle crash occurred on I-96 in Detroit during a **DCS *iWitness* (photogrammetry) workshop** with numerous police departments.

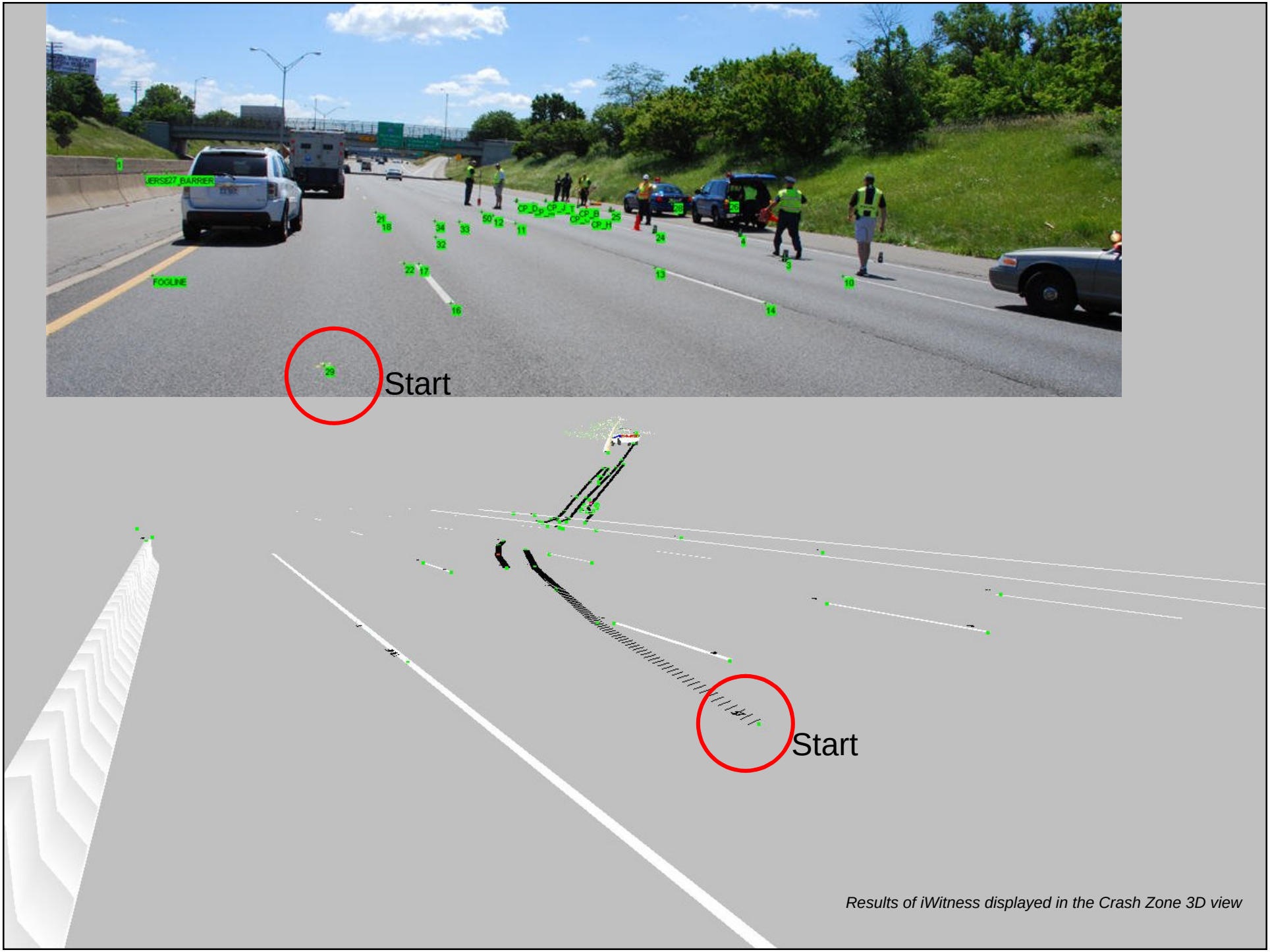
For comparative purposes, the total station was used at the crash, as well as a Nikon DSLR camera and DCS photogrammetric markers – both were used to survey the crash scene.

First, the four lanes of traffic were closed for nine minutes in order for the total station to "map" the lane evidence. The total station was operated by two L.E. Officers.

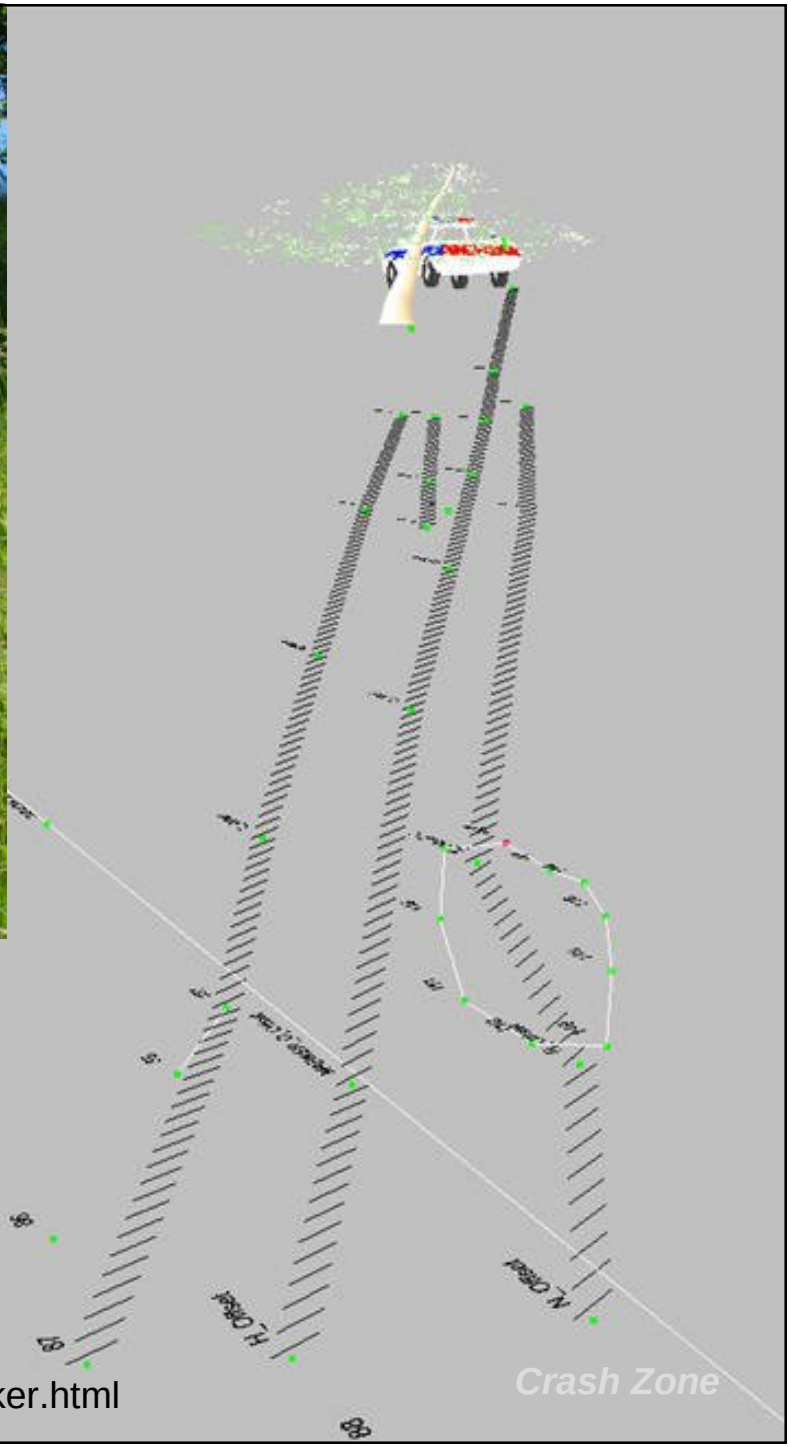
Next, the four lanes of traffic were closed for three minutes to do the *iWitness* (Photogrammetry Imaging) – by one person. There were no "photogrammetric markers" placed in 3 of the 4 traffic lanes. Once imaging was complete, the markers were removed from the number one lane.


***iWitness***™ image-based
mapping of crash on I-96…
Aerial image for illustrative purposes only
96
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 ft
© 2010 Google
©2010 Europa Technologies
©2009 Google


Expanded Aerial View
DRAIN
RUT measured by iWitness
(but not total station)
110
120
130
140
150
160
170
180
190
200
210
220

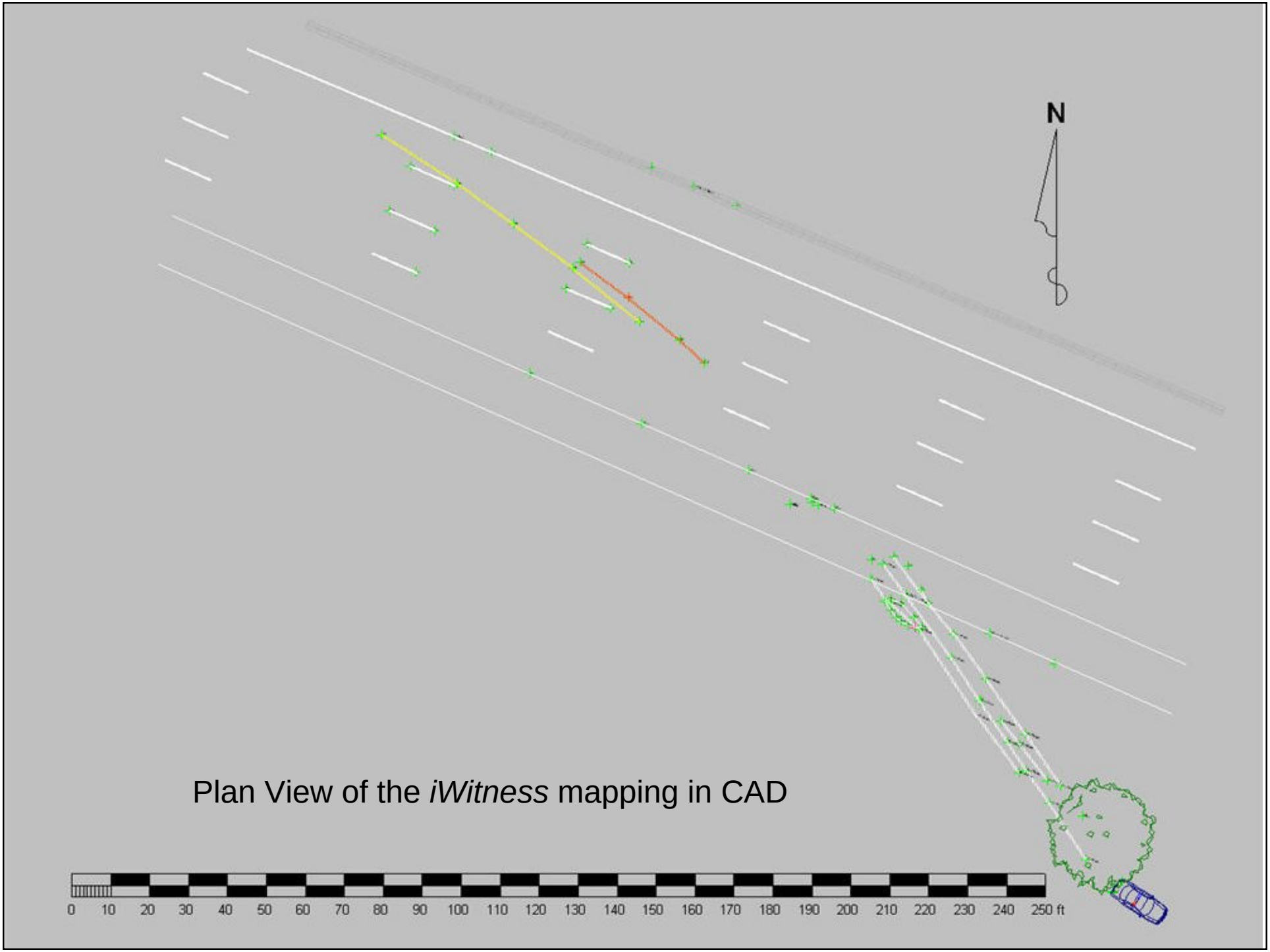



*Results of iWitness displayed in the Crash Zone 3D view*


Traffic cones were improvised for **Field Marker Targets**. The tops of the cones were **offset to the ground** and "line-connected" (*new feature*) in ***iWitness V2***. The result is an **Accurate 3D Diagram** of the freeway evidence, hill (ruts) and final rest of the "crash vehicle".

**Reference Info** FMTs: www.iwitnessphoto.com/products/field_marker.html




Plan View of the *iWitness* mapping in CAD

I-96 (Eastbound)

*Results of iWitness displayed in the Crash Zone 3D view*

**Summary:**

The XYZ measurement results of the photogrammetry and total station were transformed into the same coordinate system for comparative purposes. The results were the same, better than 1% of each other.

It took one person approximately 2 ½ hours to do the *iWitness computer measurement work* on a notebook computer – long after leaving the crash scene.

The *iWitness* method yielded a more comprehensive scene diagram Vs. the total station for the "time-on-scene".

Traffic was "idle" 67% less time when using the *iWitness* measurement approach Vs the total station. Using a digital camera, the scene-imaging time was less than half of the total station's field requirements.

The digital camera images provide a permanent archive, and more 3D data information can be gathered anytime in the future using *iWitness*.

The *iWitness* software system, digital camera, and photogrammetric markers are one-third the cost of a total station.

 *visit www.iwitnessphoto.com*