St. Louis Traffic Accident Reconstruction

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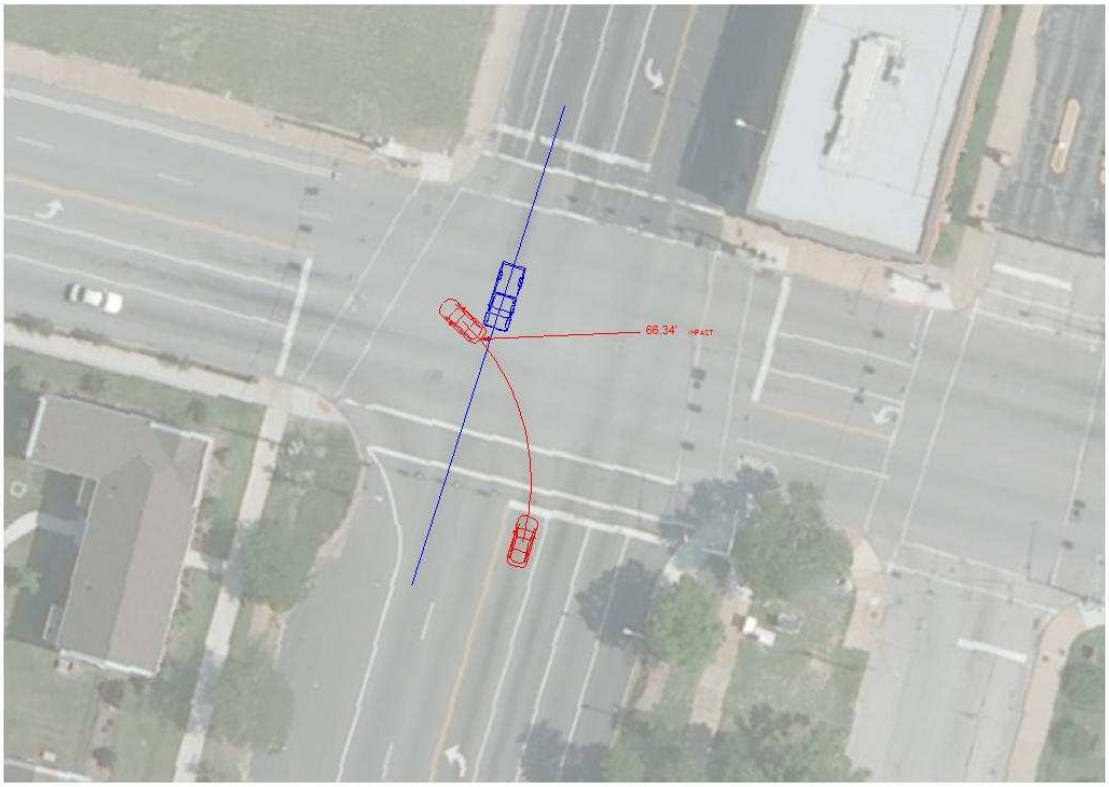
Monte Carlo Analysis - Left Turn Demo

Synopsis

Vehicle #1 is stopped in the northbound left turn lane waiting to turn left to proceed westbound on a solid green. There is no protected left arrow. After observing what was believed to be a safe gap in southbound traffic, Vehicle #1 accelerated from a stop and proceeded with the left turn. Vehicle #2 was southbound in the right lane traveling between 40 and 45 mph. The posted speed limit was 35mph. Vehicle #2 stated there wasn't sufficient time to take any evasive action. Vehicle #2 struck Vehicle #1 in the right quarter panel behind the rear tire.

Diagram



Results

Percentage of drivers who would have attempted to turn left in front of Vehicle #2:
66%

Percentage of drivers who would have attempted to turn left in front of Vehicle #2 if Vehicle #2 would have been traveling at the posted speed limit:
38%

Percentage of drivers who would have responded quicker than Vehicle #1:
82%

Percentage of drivers who would have collided with Vehicle #1 after braking:
54%

Percentage of drivers who would have braked
75%

Percentage of drivers who would have collided with Vehicle #1 by steering left
43%

Percentage of drivers who would have steered left :
0.4%

Percentage of drivers who would have collided with Vehicle #1 by steering right:
86%

Percentage of drivers who would have steered right:
23.6%

Probability of a collision with no response:
99%

Percentage of drivers who would have done nothing:
1%

Overall probability that a random southbound driver in the right lane would have struck Vehicle #1:
64%

Conclusions

- The collision was more likely than not.
- Vehicle #2's admitted unlawful speed made it more likely than not that a driver would have attempted the left turn.
- Vehicle #2's response was in the bottom 10% of all drivers
- Vehicle #2's response (or absence thereof) made the collision 35% more likely.
- The most effective evasive maneuver (left steer) would have made the collision less likely than not.
- Vehicle #2's decision to travel between 5 and 10 mph above the posted limit made it 28% more likely that Vehicle #1 would attempt a left turn and also made it more likely than not.

Diagram