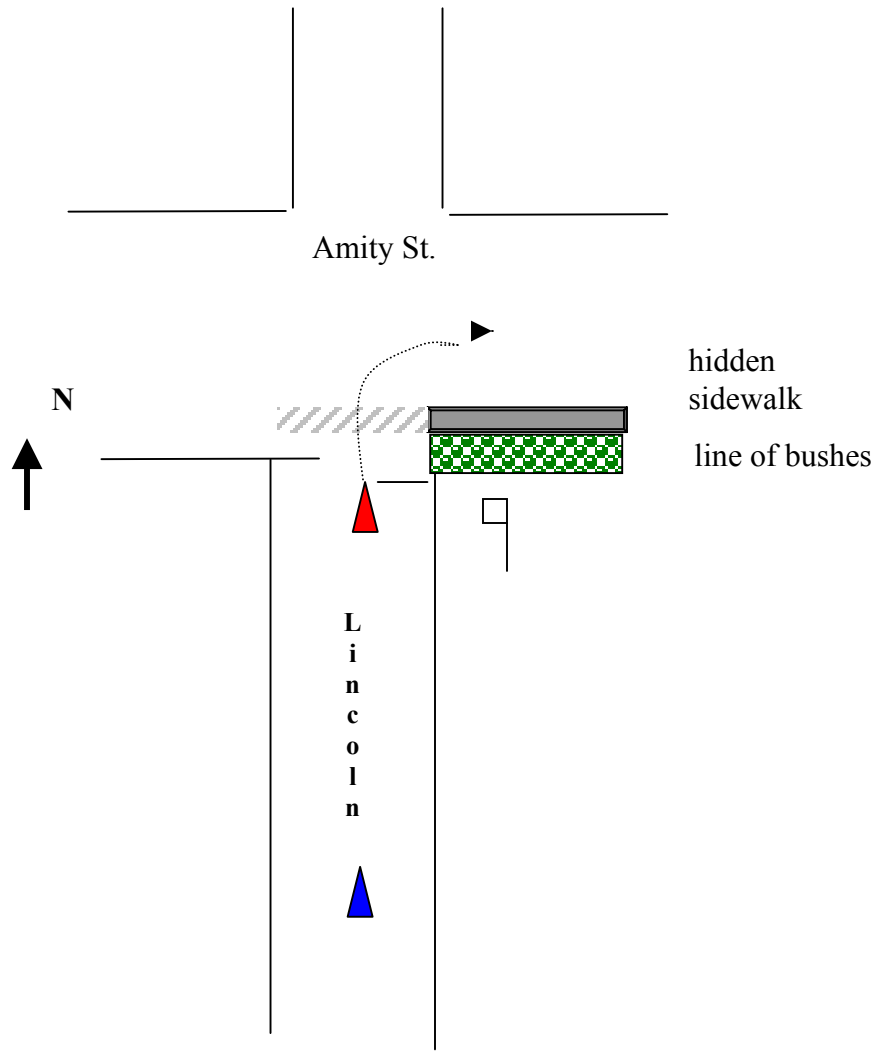


AMITY AND LINCOLN INTERSECTION (STOP) – NV:1A

In this scenario, an attempt is made to determine whether drivers predict the presence of pedestrians or bicyclists that are hidden by vegetation. The scenario developed represents a real world situation in the town of Amherst at the corner of Lincoln and Amity streets for drivers heading northbound on Lincoln (Figure 1). As these drivers approach the intersection with Amity St., a sidewalk on the right side of Amity St. near the stop line is hidden for the most part by a wall of tall bushes. Drivers could easily fail to notice the stop line, stop sign and crosswalk hatching (they are each badly faded) and fail to miss the sidewalk as well. Actual observations of behavior at the intersection have been made. It was found that 10 out of 10 drivers failed to stop at the stop line, but instead did not stop until they had nosed out onto Lincoln St. This is very dangerous because a bicyclist could easily appear from behind the bushes and collide with a driver that was not aware of the crosswalk.

In the scenario, a lead vehicle (red) is ahead of the driver (blue). The lead vehicle does not stop at the stop line, pulls to the edge of Lincoln, stops quickly to let a vehicle from the left pass by, and then turns right onto Amity. It is hypothesized that less experienced drivers will brake before the stop line less frequently because they do not scan the roadway to the right and therefore fail to draw the inference that pedestrians or bicyclists may emerge from behind the bushes.

Figure 1: NV:1A



Note. The stop sign was made a "dirty" red and the pavement markings were made "dirty" white so that they were less likely to attract the driver's attention.

Material Risks. In the scenario where a risk materializes (where the risk becomes visible after initially being hidden), a bicyclist will emerge from behind the bushes just when the participant driver moves across the stop line. In the scenario where no risk materializes, nothing will emerge from behind the bushes.

Dependent Variables. The number of drivers who bring the vehicle to a complete stop before the stop line, the first point at which the brakes are applied, and the speed with which the driver travels over the crosswalk will be analyzed. With the eye tracker, the number of drivers that drivers glance to the right, near the bushes, as they pass over the crosswalk, can be analyzed. The time of the first fixation on the area behind the bushes can also be evaluated.

