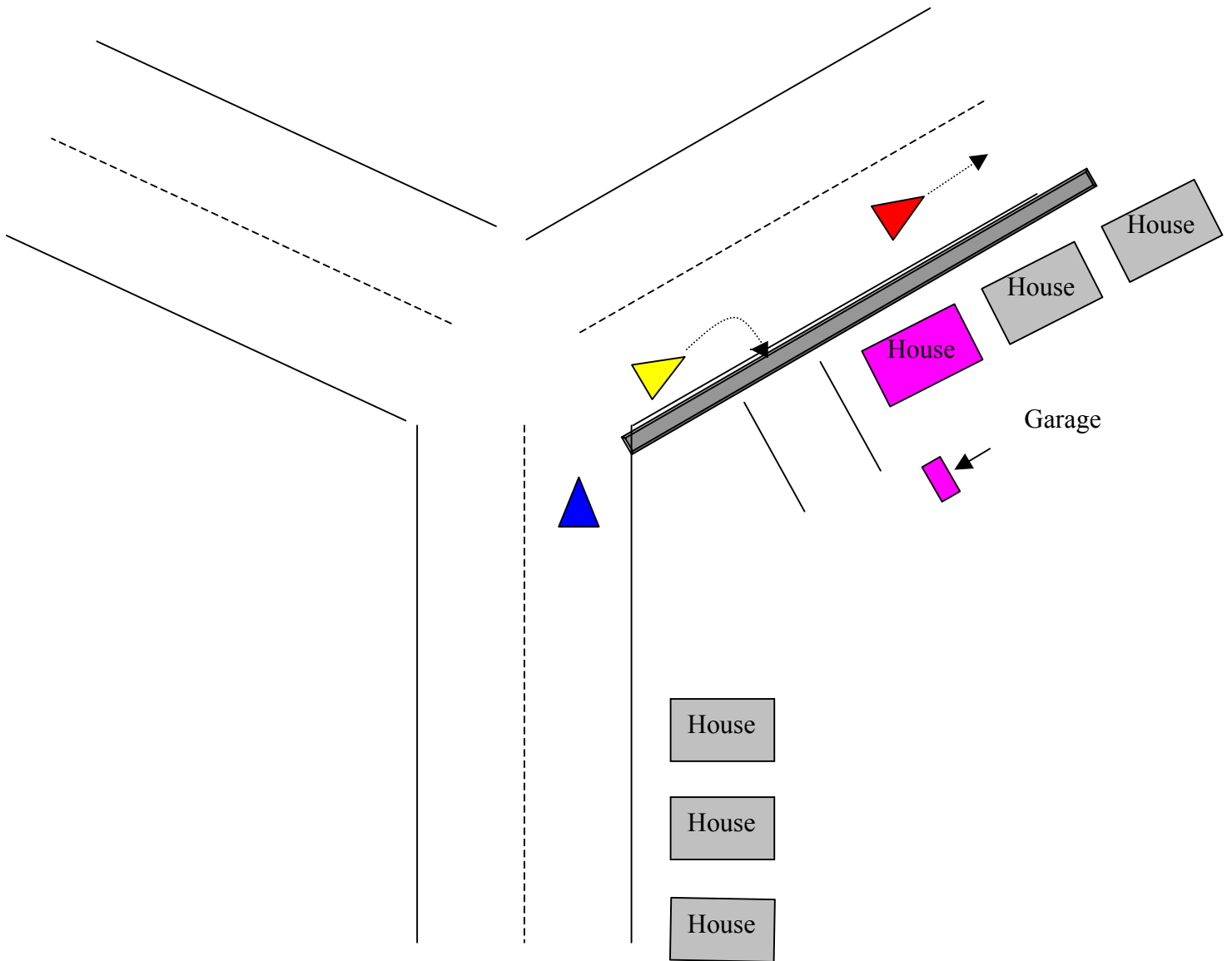


Y INTERSECTION (MAINTAIN FOLLOWING DISTANCE) – V3B

Here, again an attempt will be made to determine whether the participant driver will recognize that a turn signal can indicate one of several different movements and, in particular, whether the driver can recognize the more unlikely of several movements. This scenario was also included in the AAA research where the driver approached a Y intersection (Fisher et al., in press). This scenario is based on the results of that research. Specifically, a two-lane highway becomes a four-lane highway at a Y intersection (Figure 1). A row of houses is located on the right side of the road, just before and after the split. A decoy vehicle (yellow) is in front of the driver (blue) and a lead vehicle (red) in front of the decoy vehicle. The lead vehicle puts on its right turn signal, in this case simply indicating that the lead driver is reacting to the right branching of the road. The decoy vehicle directly ahead of the driver also puts on the right turn signal, indicating now that the decoy driver was pulling into the driveway of the house right after the split. A sidewalk is placed across the driveway. The decoy vehicle would slow suddenly at this point. It is hypothesized that an inexperienced driver will be less likely to predict that the signal indicates that the decoy vehicle is turning into a driveway.

Figure 1: V: 3b



Note. In the AAA scenario the house into which the decoy vehicle turns was located immediately before the split. The participant driver naturally slows at this point and so the decoy vehicle slowing does not cause the participant driver to slow unnecessarily. However, by placing the house into which the decoy vehicle turns after the split, the participant driver should be accelerating as he or she enters the four-lane highway just as the decoy vehicle slows unexpectedly.

Material Risks. When the risk materializes, the pedestrian would cross the driveway into which the decoy vehicle was turning and the decoy vehicle comes to a very quick stop and stays put. When a risk does not materialize, the pedestrian stops before crossing the driveway, allowing the decoy vehicle to enter. The decoy vehicle in this case would slow suddenly before making the turn (showing recognition of the potential pedestrian

threat), but then would accelerate quickly into the driveway (showing recognition that other vehicles are traveling behind it.

Dependent Variables. Behaviors of the driver's vehicle that will be measured include the distance between the vehicles driven by the participant and decoy drivers when the decoy vehicle makes a right turn into the driveway and how quickly the participant driver slows after the decoy vehicle puts on its turn signal. If when the risk materializes, the decoy vehicle actually blocks the path of the participant driver, the distance between the participant driver and decoy vehicle when the participant driver comes to a stop can be measured. Analyses will be undertaken of the eye movement data, which will be used to determine the percentage of experienced and inexperienced drivers that fixate the risky elements (here the pedestrians, driveway and back of the decoy vehicle) as well as the time at which they complete the fixation of all three elements.