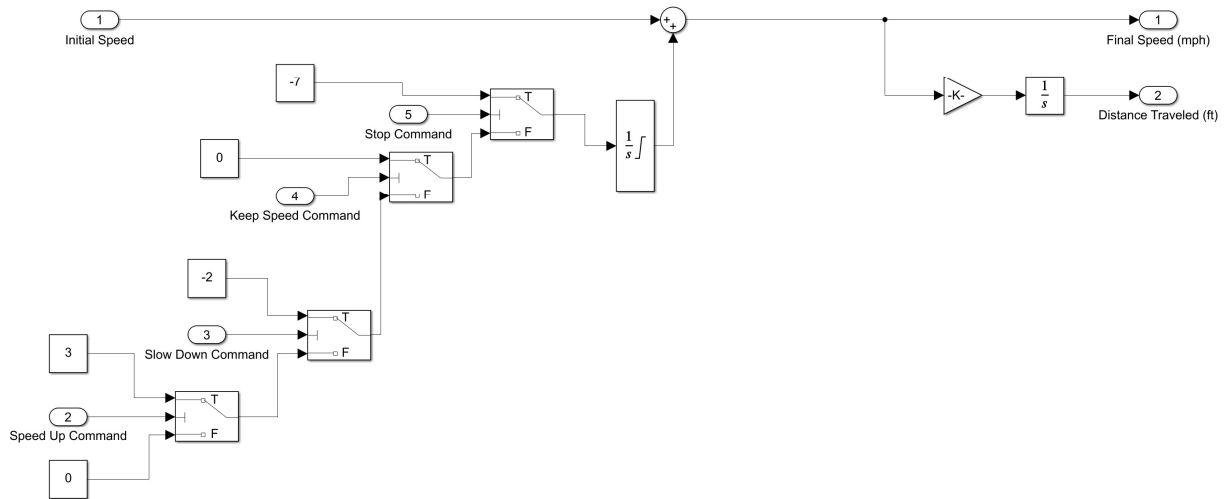


Simulink Model & Subsystems

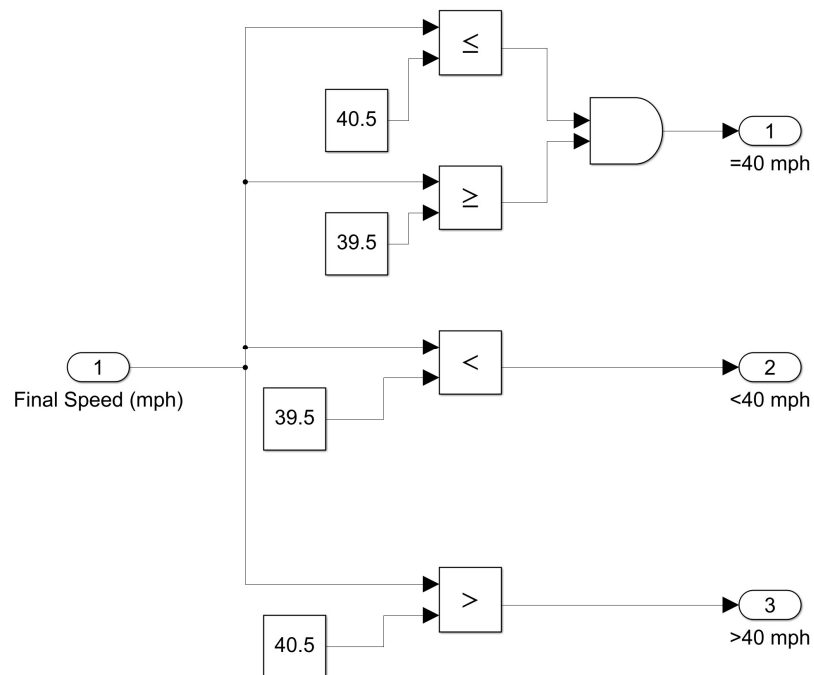
Speed Calculation:

(Uses accelerations based on logic commands to determine the velocity of the car by taking the integral over time. The integral of the velocity is also taken to determine the distance traveled)



Speed Relational Operations:

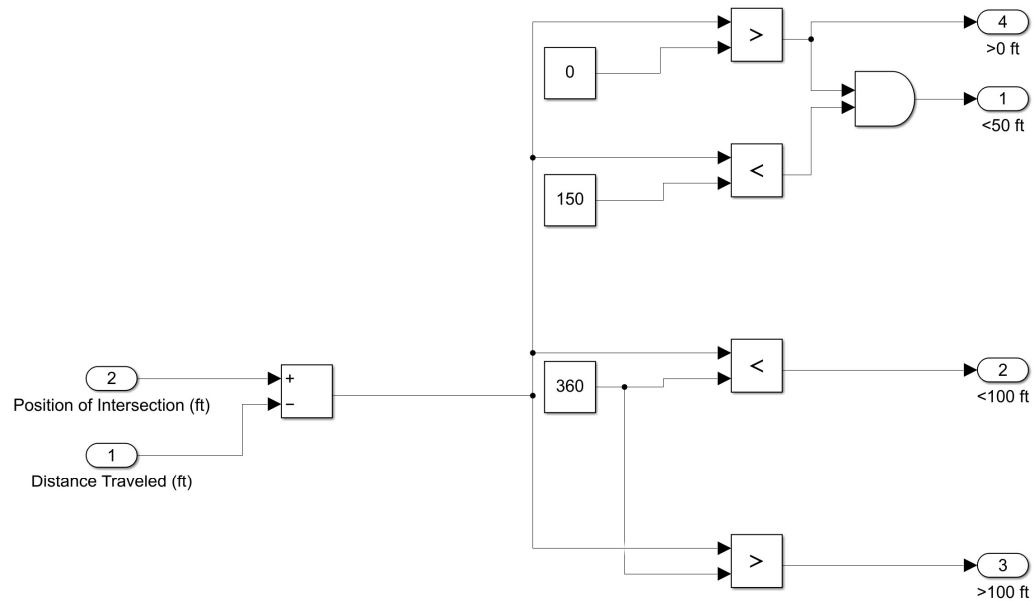
(Compares the speed of the car to 40 mph, or the set speed limit. 40.5 and 39.5 were used as conditions because it is impossible for the car to be going exactly 40 miles per hour, so a small interval was used)



Distance Relational Operations:

(Subtracts the distance the car has traveled from the position of the intersection, which is how far the car is from the intersection. The distance is also compared to zero, since if this difference is negative, then the car has passed the intersection and some of the logic does not apply.)

****Note the numbers used for the comparisons were changed to model reality more closely, but the output names have stayed the same for simplicity's sake****



Logic Diagrams:

****These diagrams can be seen in their own, separate document****