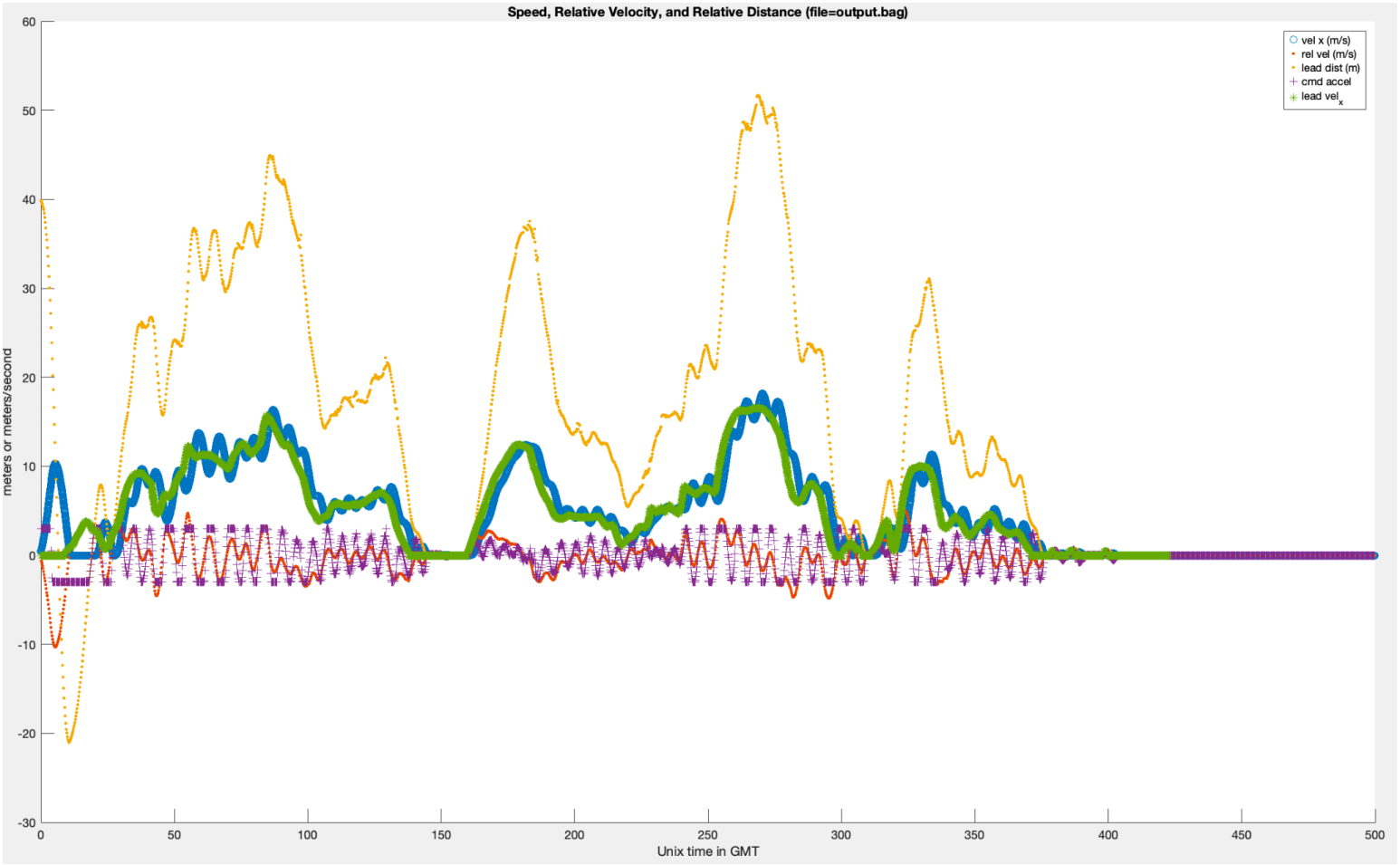
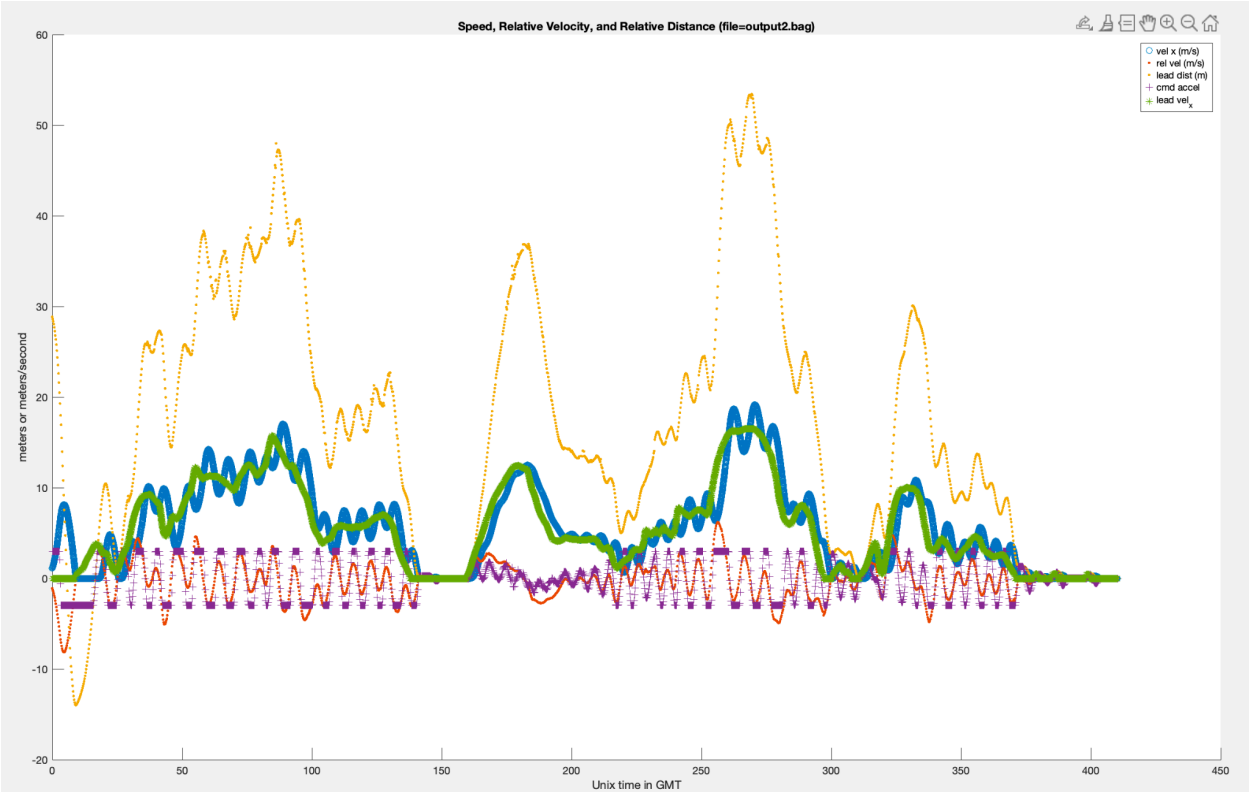
TeamDuo Controller Results

Lead car position: 40.0 m
Ego Car position: 0.0 m
Ego Car Velocity: 0.0 m/s



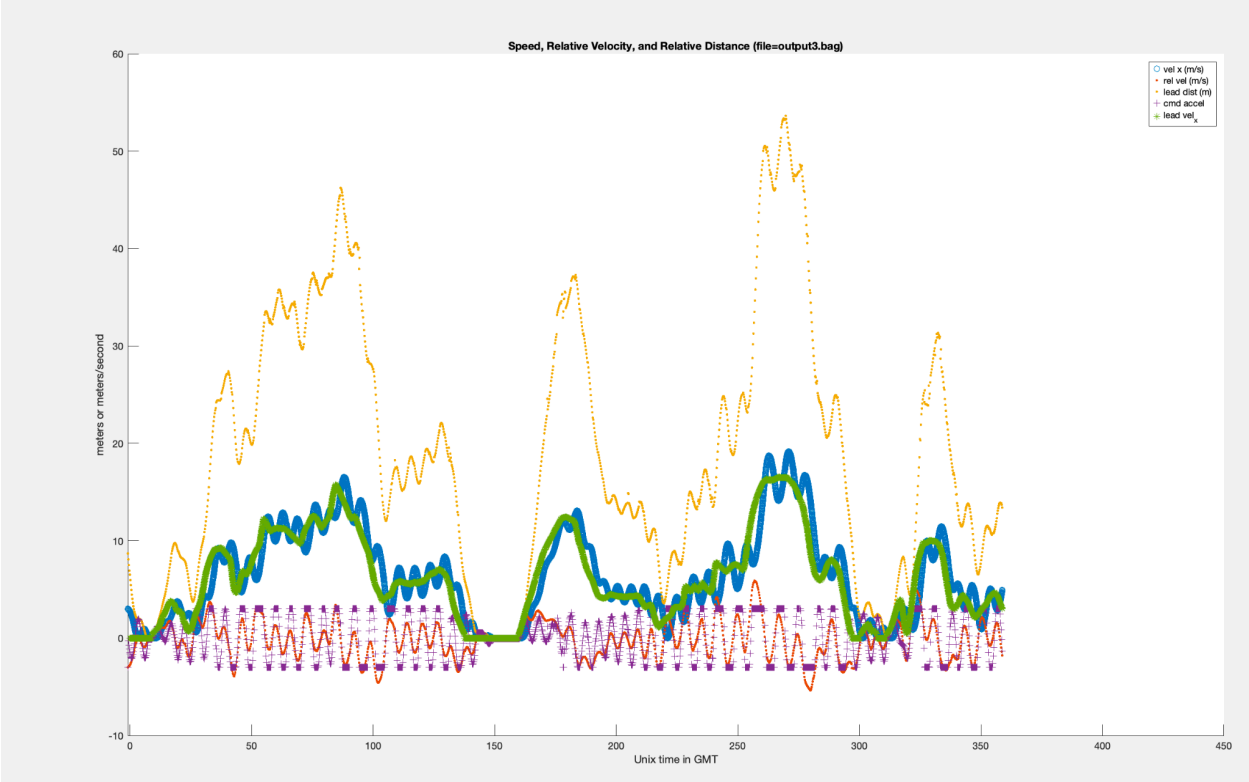
Rel_vel (red) initially oscillates but then smooths out and trends around 0. Lead_dist initially starts negative which is unwanted behavior but we believe this is due to initial mismatch issues with initial positions or velocities of the ego/lead car in this simulation, as the lead_dist is maintained above 0 for the rest of the simulation and changes very smoothly over time, and dips down as conditions change such as stop lights. Cmd_accel oscillates around -3 - 3 m /s^2 which is expected.

Lead car position: 30.0 m
Ego Car position: 0.0 m
Ego Car Velocity: 1.0 m/s



We see similar results here, with smooth distance maintenance, rel_vel staying around 0 and cmd_accel oscillating from -3 to 3 m / s^2. One thing to note is that although distance is maintained well in the majority of the simulation, there are some points where it gets quite close and could be smoother.

Lead car position: 10.0 m
Ego Car position: 0.0 m
Ego Car Velocity: 3.0 m/s



Again we see relatively consistent behavior with the key metrics we aimed for (rel_vel and cmd_accel) both in red and purple.