Test Matrix

The following table illustrates the test matrix used for the simulation scenarios described in the paper. It includes both JAMA and additional parameters relevant to the simulation setup.

Test Case No.	JAMA Scenario No.	JAMA Parameter					Additional Parameter							
							Ego car			NPC car				
		Road Geometry	Vehicle behavior	Position of NPC	Motion of NPC	Traffic Lanes	Starting Position	Max Accelerate, Decelerate Rate (m/s²)	Max speed (m/s)	Types of NPC	Starting Position	Max Accelerate, Decelerate Rate (m/s²)	Target Speed (m/s)	Goal
Case No. 1	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.112"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}	(-447.51, -3.07, -24.21)	1, 2.5	16.67	Taxi	("TrafficLane.112", 0f)	1, 1	{"TrafficLane.112", 0.5f}, {"TrafficLane.114", 0.5f}, {"TrafficLane.278", 0f}, {"TrafficLane.122", 0f}	("TrafficLane.122", 0f)
Case No. 2	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.112"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}, {"TrafficLane.282"}, {"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}, {"TrafficLane.335"}	(-444.56, -3.35, -23.87)	1, 2.5	13.89	Taxi	("TrafficLane.112", 0f)	1, 1	{"TrafficLane.112", 10f}, {"TrafficLane.114", 5f}, {"TrafficLane.278", 0.5f}, {"TrafficLane.122", 5f}, {"TrafficLane.282", 10f}, {"TrafficLane.514", 10f}, {"TrafficLane.515", 5f}, {"TrafficLane.516", 5f}, {"TrafficLane.124", 0.2f}, {"TrafficLane.335", 0f}	("TrafficLane.335", 0f)
Case No. 3	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.112"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}	(-444.56, -3.35, -23.87)	1, 2.5	13.89	Taxi	("TrafficLane.112", 0f)	1, 1	{"TrafficLane.112", 2f}, {"TrafficLane.114", 1f}, {"TrafficLane.278", 0f}, {"TrafficLane.122", 0.2f}	("TrafficLane.122", 0.2f)
Case No. 4	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Stop	{"TrafficLane.282"}, {"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}	(-444.56, -3.44, -23.87)	1, 2.5	16.67	Taxi	("TrafficLane.282", 15f)	1, 1	{"TrafficLane.282", 0f}, {"TrafficLane.514", 0f}, {"TrafficLane.515", 0f}, {"TrafficLane.516", 0f}, {"TrafficLane.124", 0f}	("TrafficLane.124", 60f)
Case No. 5	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate and stop	{"TrafficLane.282"}, {"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}	(-165.85, -1.63, -27.47)	1, 2.5	16.67	Taxi	("TrafficLane.282", 15f)	1, 1	{"TrafficLane.282", 10f}, {"TrafficLane.514", 10f}, {"TrafficLane.515", 10f}, {"TrafficLane.516", 10f}, {"TrafficLane.124", 10f}	("TrafficLane.124", 60f)
Case No. 6	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.282"}, {"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}	(-164.9, -1.63, -27.73)	1, 2.5	16.67	Taxi	("TrafficLane.282", 15f)	1, 1	{"TrafficLane.282", 10f}, {"TrafficLane.514", 10f}, {"TrafficLane.515", 10f}, {"TrafficLane.516", 10f}, {"TrafficLane.124", 0f}	("TrafficLane.124", 60f)
Case No. 7	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.282"}, {"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}	(-168.87, -1.52, -27.18)	1, 2.5	16.67	Taxi	("TrafficLane.282", 15f)	0.5, 0.5	{"TrafficLane.282", 0f}, {"TrafficLane.514", 0f}, {"TrafficLane.515", 0f}, {"TrafficLane.516", 0f}, {"TrafficLane.124", 0f}	("TrafficLane.124", 60f)
Case No. 8	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.15"}, {"TrafficLane.17"}, {"TrafficLane.29"}, {"TrafficLane.286"}, {"TrafficLane.33"}	(-20.41, -1.57, -176.22)	1, 2.5	16.67	Taxi	("TrafficLane.15", 15f)	2, 2	{"TrafficLane.15", 0f}, {"TrafficLane.17", 0f}, {"TrafficLane.29", 0f}, {"TrafficLane.286", 0f}, {"TrafficLane.33", 0f}	("TrafficLane.33", 0f)
Case No. 9	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.514"}, {"TrafficLane.515"}, {"TrafficLane.516"}, {"TrafficLane.124"}	(-147.40, -1.70, 153.02)	1, 2.5	16.67	Taxi	("TrafficLane.514", 10f)	1, 1	{"TrafficLane.514", 5f}, {"TrafficLane.515", 5f}, {"TrafficLane.516", 5f}, {"TrafficLane.124", 5f}	("TrafficLane.124", 0f)
Case No. 10	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Decelerate	{"TrafficLane.264"}, {"TrafficLane.354"}, {"TrafficLane.210"}, {"TrafficLane.333"}	(-173.82, -0.82, -214.52)	1, 2.5	16.67	Taxi	("TrafficLane.264", 15f)	2, 2	{"TrafficLane.264", 0f}, {"TrafficLane.354", 0f}, {"TrafficLane.210", 0f}, {"TrafficLane.333", 0f}	("TrafficLane.333", 0f)
Case No. 11	Scenario No. 2	Non-intersection	Going Straight	Lead (L)	Stop	{"TrafficLane.15"}, {"TrafficLane.17"}, {"TrafficLane.29"}, {"TrafficLane.286"}, {"TrafficLane.33"}	(-20.41, -1.57, -176.22)	1, 2.5	4.17	Taxi	("TrafficLane.282", 0f)	2, 2	{"TrafficLane.15", 0f}, {"TrafficLane.17", 0f}, {"TrafficLane.289", 0f}, {"TrafficLane.29", 0f}, {"TrafficLane.286", 0f}, {"TrafficLane.33", 0f}	("TrafficLane.33", 0f)

Test Matrix Table

Test Case No.	JAMA Scenario No.	JAMA Parameter				Additional Parameter								
		Road Geometry	Vehicle behavior	Position of NPC	Motion of NPC	Traffic Lanes	Ego car			NPC car				
							Starting Position	Max Accelerate, Decelerate Rate (m/s²)	Max speed (m/s)	Types of NPC	Starting Position	Max Accelerate, Decelerate Rate (m/s²)	Target Speed (m/s)	Goal
Case No. 12	Scenario No. 4	Non-intersection	Going Straight	Parallel (Pl-f)	Cut-in	{"TrafficLane.111"}, {"TrafficLane.113"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}, {"TrafficLane.282"}	(-427.18, -3.46, -20.51)	1, 2.5	16.67	Taxi	("TrafficLane.111", 10f)	1, 1	{"TrafficLane.111", 10f}, {"TrafficLane.113", 8f}, {"TrafficLane.114", 5f}, {"TrafficLane.278", 5f}, {"TrafficLane.122", 5f}, {"TrafficLane.282", 0f}	("TrafficLane.282", 20f)
Case No. 13	Scenario No. 4	Non-intersection	Going Straight	Parallel (Pl-f)	Cut-in	{"TrafficLane.111"}, {"TrafficLane.113"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}, {"TrafficLane.282"}	(-425.02, -3.47, -20.16)	1, 2.5	16.67	Taxi	("TrafficLane.111", 10f)	1, 1	{"TrafficLane.111", 10f}, {"TrafficLane.113", 7f}, {"TrafficLane.114", 5f}, {"TrafficLane.278", 5f}, {"TrafficLane.122", 5f}, {"TrafficLane.282", 0f}	("TrafficLane.282", 20f)
Case No. 14	Scenario No. 4	Non-intersection	Going Straight	Parallel (Pl-f)	Cut-in	{"TrafficLane.111"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}, {"TrafficLane.282"}	(-436.60, -3.39, -22.44)	1, 2.5	16.67	Taxi	("TrafficLane.111", 0f)	1, 1	{"TrafficLane.111", 5f}, {"TrafficLane.114", 5f}, {"TrafficLane.278", 5f}, {"TrafficLane.122", 5f}, {"TrafficLane.282", 0f}	("TrafficLane.282", 20f)
Case No. 15	Scenario No. 4	Non-intersection	Going Straight	Parallel (Pl-f)	Cut-in	{"TrafficLane.111"}, {"TrafficLane.114"}, {"TrafficLane.278"}, {"TrafficLane.122"}, {"TrafficLane.282"}	(-381.54, -2.63, -12.26)	1, 2.5	16.67	Taxi	("TrafficLane.111", 0f)	1, 1	{"TrafficLane.111", 5f}, {"TrafficLane.114", 5f}, {"TrafficLane.278", 5f}, {"TrafficLane.122", 0f}, {"TrafficLane.282", 0f}	("TrafficLane.282", 20f)

Test Matrix Table (cont.)