Multi Lane Maneuver State Table

	External	Cannot complete	Internal	Start maneuver	Abort requested	Lane change in progress	Success	Lane changed	Already there
Context states									
CHANGING DRIVING LANE		Unsuccessful multi lane maneuver		CH-BSG	CH-BSG	CH-BSG	CH-BSG	Initialize next maneuver	CH-BSG
Transitory states									
Set maneuver direction		CH-BEE		Initialize next maneuver	CH-BSG	CH-BSG	CH-BSG	CH-BSG	Successful multi lane maneuver
Initialize next maneuver		CH-BEE		CH-BSG	Unsuccessful multi lane maneuver	CHANGING DRIVING LANE	Successful multi lane maneuver	CH-BSG	CH-BSG
Final Deletion states									
Unsuccessful multi lane maneuver		CH-DEL		CH-DEL	CH-DEL	CH-DEL	CH-DEL	CH-DEL	CH-DEL
Successful multi lane maneuver		CH-DEL		CH-DEL	CH-DEL	CH-DEL	CH-DEL	CH-DEL	CH-DEL

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State Activities

Name	What's going on in this state	Informal action taken
Set maneuver direction	Figure out which direction to go to get to the target lane. Is it to the inside or outside?	We compare the Ego's current inside lane division position with the target inside lane division position. Since the outermost position is 0, increasing in distance toward the inside, we are changing toward the inside if the number is greater, otherwise to the outside. If they are equal then we just quit and declare success.
Initialize next maneuver	Choose the nearest inner or outer driving lane as the target of a single driving lane change. If there are no more lane changes to perform, complete this maneuver	First we check to see if we are now in the target lane. If so, we end the maneuver. Otherwise, we check to see if there is a request to abort the maneuver. If so, we declare an unsuccessful maneuver and quit. Otherwise, we request the next Driving Lane Change and wait for it to complete.
CHANGING DRIVING LANE	A Driving Lane Change is in progress	We wait here for the lane change to complete, successfully or unsuccessfully
Successful multi lane maneuver	All the necessary Driving Lane Changes have completed successfully and we are now in the target lane. We set the final turn signal condition as requested at the beginning of this multi-lane maneuver.	When the MLM was first requested, a desired end condition turn signal was requested. This may mean that we cancel the signal upon completion or that we leave it on in the direction of an intersection turn. (Which may or may not match the direction of the MLM! Consider shifting into the left most right turn lane, for example)
Unsuccessful multi lane maneuver	We did not make it into the target lane and we've given up	The ELA (Entrance Lane Approach) is notified that the MLM has failed. NOTE: ELA = Entrance Lane Approach which is a relationship/class in the intersection subsystem, not yet but soon to be released.

Comments

Comment	Description
IGN-1	
CH-1	
CH-BSG	*Can't happen (Blind to Self Generated event from other state) Self generated event in other state cannot be seen here.*
CH-DEL	*Can't happen, the instance is deleted in this state as soon as the state's activity has completed*
CH-BEE	*Blind to External Events. This transient state reacts to its own self generated event only. So it should never see a non-self generated event.*

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