# PRE-ALGORITHM ANALYSIS

1. Lane Change desire command to leader Truck.
2. Desirability Check.
3. If desirability=mandatory, Accept.
4. Else Decline.
5. Marking the current lane as i and the target lane as j.
6. Command to last vehicle for Lane-Change.
7. Retrieving speed of following vehicles in j and i via speed sensors.
8. Retrieving distance of vehicles in j and i lane w.r.t platoon position via cameras.
9. Selection of Gap for Last Truck: If gap in j $\not\asymp$ platoon length.
10. Decline and Wait.
11. Repeat Step 9 until gap in j=platoon length.
12. Check Speed of vehicles in current lane.
13. If Decelerating Speed matches following vehicle speed, execute Deceleration.
14. Else, continue and wait until Step 13 executes.
15. Check Speed of Vehicles in Target Lane i.e., j.
16. Check speed of following vehicle < platoon speed.
17. If speed of following vehicles in j > platoon speed, Wait for Step 16=True.
18. When Step 16=True, activate Lane-Change for Last Truck.
19. Last Truck: Turn Blinkers on.
20. Perform Lane Change.
21. Command Last Truck successful lane-change.
22. Middle Truck: Turn Blinkers on.
23. Perform Lane Change.
24. Command Middle Truck successful lane-change.
25. Leader Truck: Turn Blinkers on.
26. Perform Lane Change.
27. Command Successful Platoon Lane-Change.