Truck Lifecycle Tracking

Overview:
Analyse the Truck lifecycle within the Depots and Factories to reduce demurrage and detention cost

Background:
Unilever has factories and warehouses across the country for which the transportation is managed by mix of large and small transportation partners. Unilever executes around 2000 shipment per day which would mean 2000 trucks traverse through the depot or the factory every day.

The lifecycle of the truck begins when they report to our security gate (doesn't necessarily mean that they are inside the premises) and then they wait outside till they are allowed inside the premises. The clock starts ticking once the truck has reported at the gate. Once the truck is allowed inside, they are navigated to different locations within the premises based on the movement type. It could be the different dock doors for loading unloading etc. The truck leaves the premises only if physical loading/unloading is completed along with the document handover. Documentation could be one of the reasons for the delay.

Currently there is visibility only on gate in and gate out timings and not on the complete journey of the truck. Unilever wants to leverage the fasttag RFID tags that is mandated for vehicles for crossing the toll plazas. If the truck is weighed any time after it leaves the premises, in transit weighbridge data to be captured and shared with Unilever.

Business Requirements:
1. Come up with a RFID based system to track the lifecycle of the truck once they have reported at the security gate.
2. Harness the data captured at toll plazas or weighbridges in transit to understand the journey of the truck
2. Derive the reasons for delay and come up with insights of what factors are contributing for the demurrage and detention costs
3. Algorithms to reduce the demurrage and detention cost and optimize the truck movements within the factory/warehouse.
Refer: https://www.fastag.org/fasttag
https://en.wikipedia.org/wiki/Demurrage