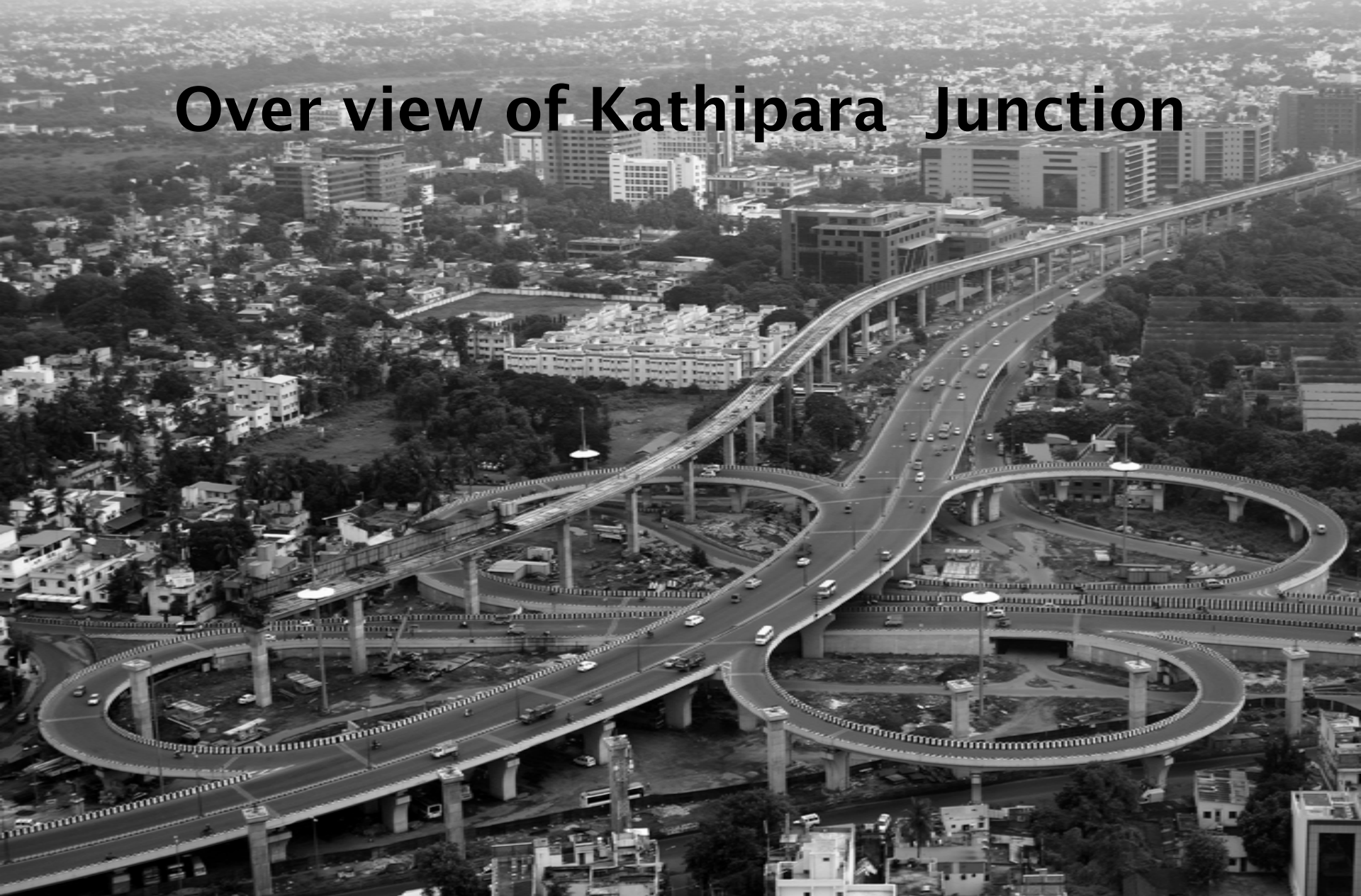


# Project- Development of Intermodal Transport Circle at Kathipara Junction/ Alandur

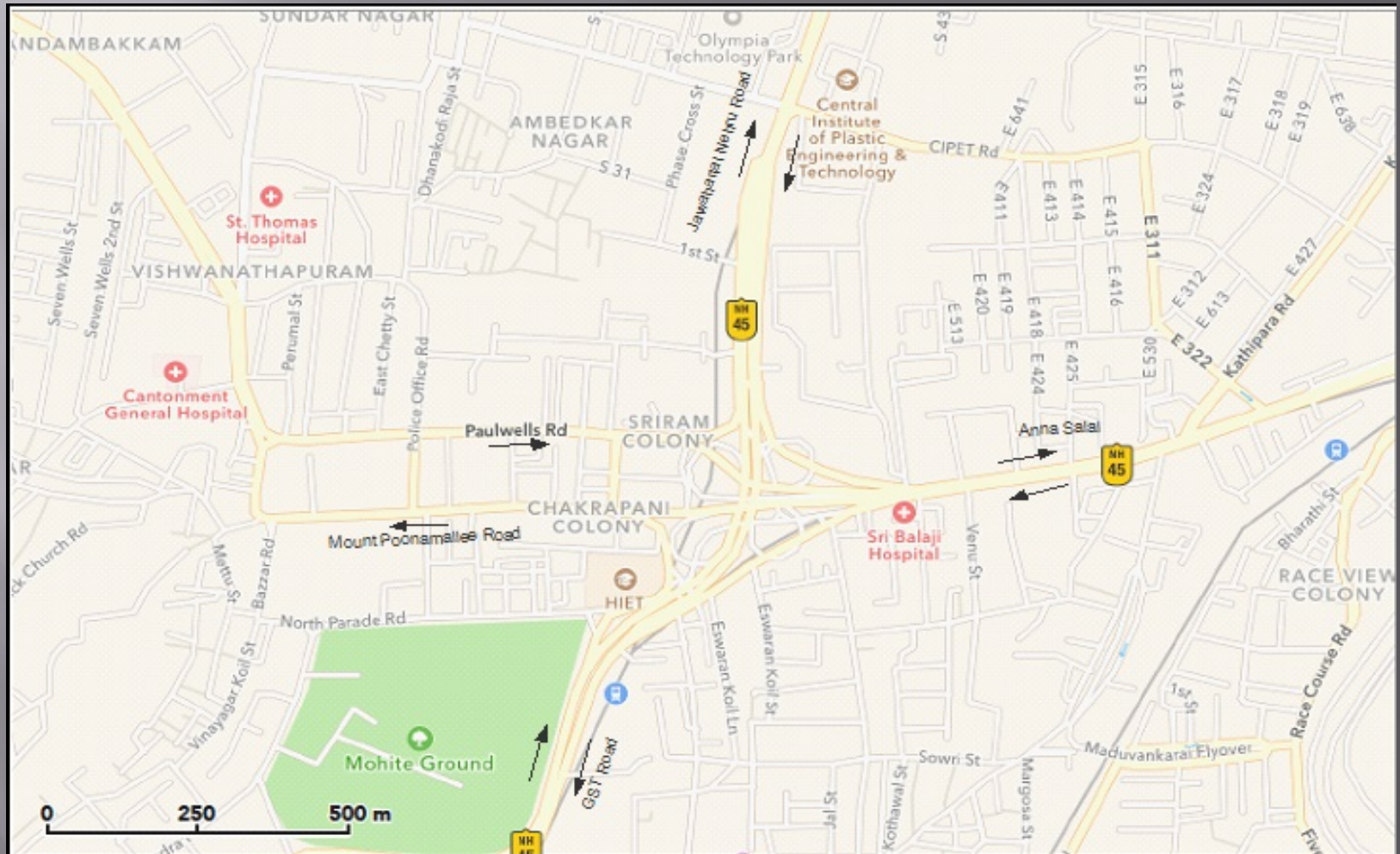
N.Saravanan  
and  
Vijaya Basker

CHENNAI METRO RAIL LTD

# Over view of Kathipara Junction



# View of Kathipara Junction and Approach roads



Clover Leaf Interchange with exclusive entry and exit for Mount Ponamallee approach

# Background and need of the Project

- Kathipara junction is an important road junction at Alandur/ Chennai
- It is a cloverleaf intersection constructed in 2008 to ease severe traffic congestion.
- This junction serves as an important transfer point for the passengers from Central , western and southern part of Tamilnadu.
- A metro rail station connecting two corridors , one from Airport to Washermenpet and another from St. Thomos mount to Chennai Central
- The purpose and need of the project is to develop the area beneath the intersection and pull commuters to the Alandur Metro Station.

# Review of the existing Literature

- Long distance travellers prefer MTC busses , para transport facilities to reach their destination from the location and vice-versa
- Alandur metro station located in the southern part of intersection with two corridors meeting at this point
- Alandur metro connects important destinations like Chennai central, Egmore, and Koyambedu intercity bus terminus

# Traffic flow pattern on the interchange

- Vehicles from southern part of the city enters Koyambedu side through the third level of the clover leaf intersection directly.
- Vehicles from southern part of the city enters Porur side through the third level of the clover leaf intersection directly.
- Vehicles from Southern side to Anna salai pickup the clover leaf at third level and makes a circular left turn and picks up second level and make exit to anna salai.

- Vehicles from Koyambedu side enter into porur side by entering into third level and making a circular left motion and picks up second level and exit
- Vehicle movement from Koyambedu to anna salai happens at ground level
- Vehicle movement from Koyambedu to Tambarm happens at third level by entering and exiting at same level

- Vehicles movements from Tambaram side to Porur side happens at ground level
- Vehicle movements from tambaram side to Koyambedu happens at third level
- Vehicle movements from Tambaram to anna salai happens by entering into third level , take left circular turn and pickup second level and exiting

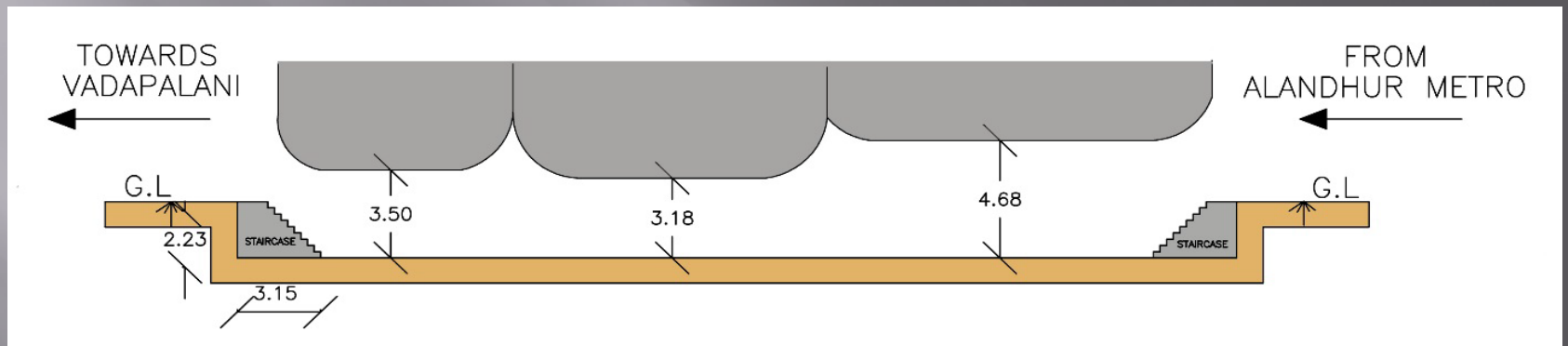
- Vehicle movements from Porur to Tambaram side happens by entering into second level take circular left turn then enters third level and exit to GST road
- Vehicles from Porur side to Koyambedu happens at ground level
- Vehicle movement from Porur side to Anna salai happens at second level

- Vehicle movements from Anna salai to Porur happens at the second level, both entry and exit
- Vehicle movements from Anna salai to Tambaram happens at ground level
- Vehicle movement from anna salai to koyambedu happens by taking second level , making left circular turn and pickup third level then exits

# Vehicular Underpass

- ▣ There are two underpasses
- ▣ These underpasses facilitates movements across the second level
- ▣ VUP 1 has not got sufficient clearance for vehicle movement
- ▣ VUP 1 is meant for small vehicle movements from Porur side to North Alandur side
- ▣ VUP 2 has got 3.15 vertical clearance, and used by LCV, LMV, and two wheelers

# Cross Sectional View of Vehicular Underpass 2



## Existing Scenario

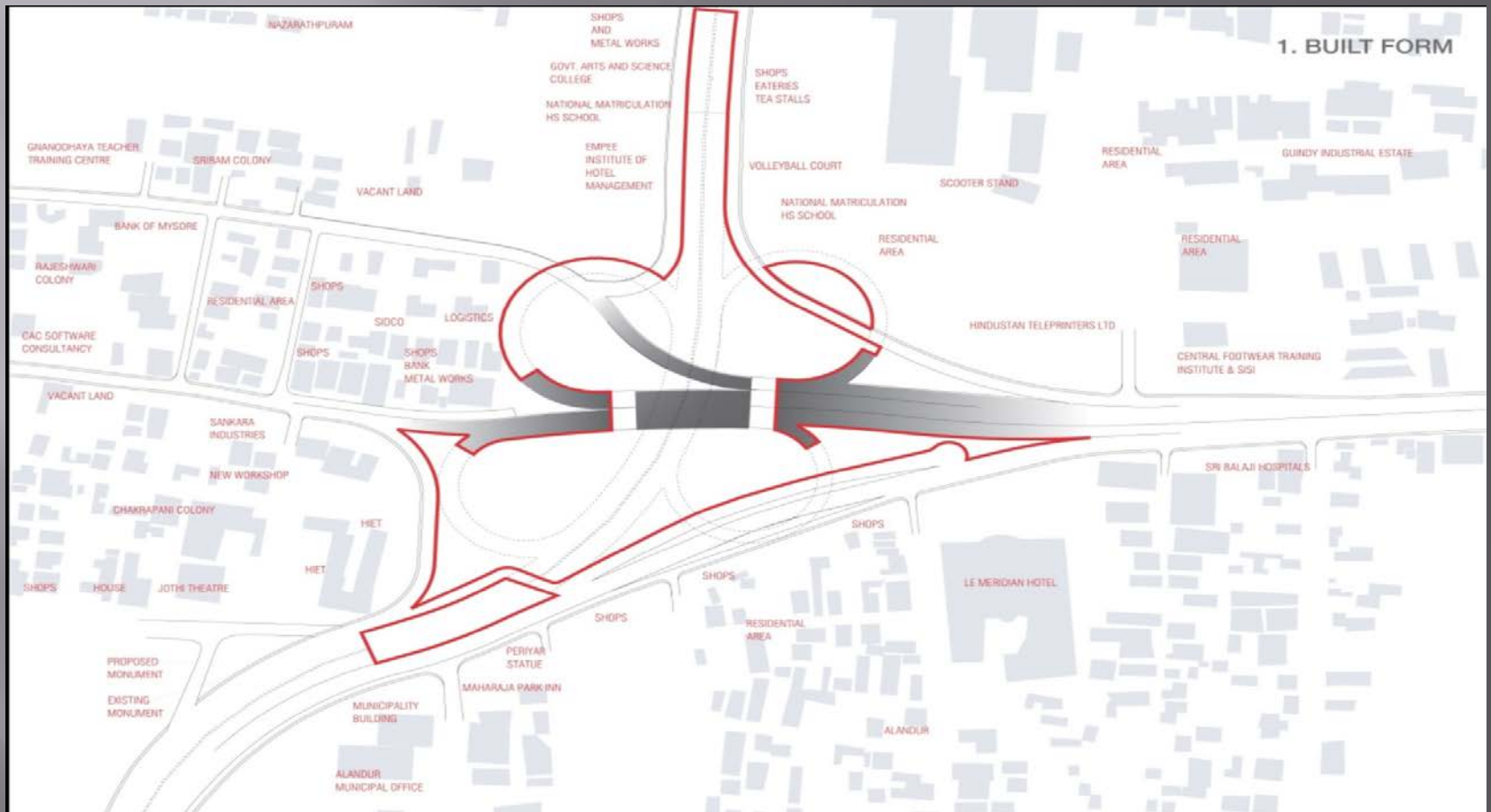
### View of Traffic before Vehicular Under pass 2



# Area at ground level

- ▣ The area available at ground level beneath the interchange is 54,437 sq.m
- ▣ Anna salai – Mount Ponnammalle road approach divide the available area into three portions (Southern part, North western part and north eastern part
- ▣ Pedestrian movement is possible from southern part to north western part via VUP 1.
- ▣ Pedestrian movement and small vehicle movement is possible from southern part to north western part via VUP 1

# Land Available beneath the Grade Separator



# Existing Situation

- ▣ The traffic flow at ground level beneath the interchange is increasing.
- ▣ Vehicles from north alandur cross anna salai to reach their destination and return.
- ▣ There is a possibility of conflict between the vehicle crossing and the vehicle from guindy to Airport on Anna salai
- ▣ There are 3 entries from Anna salai and 2 exits from Anna salai from the land beneath the interchange

# Existing situation

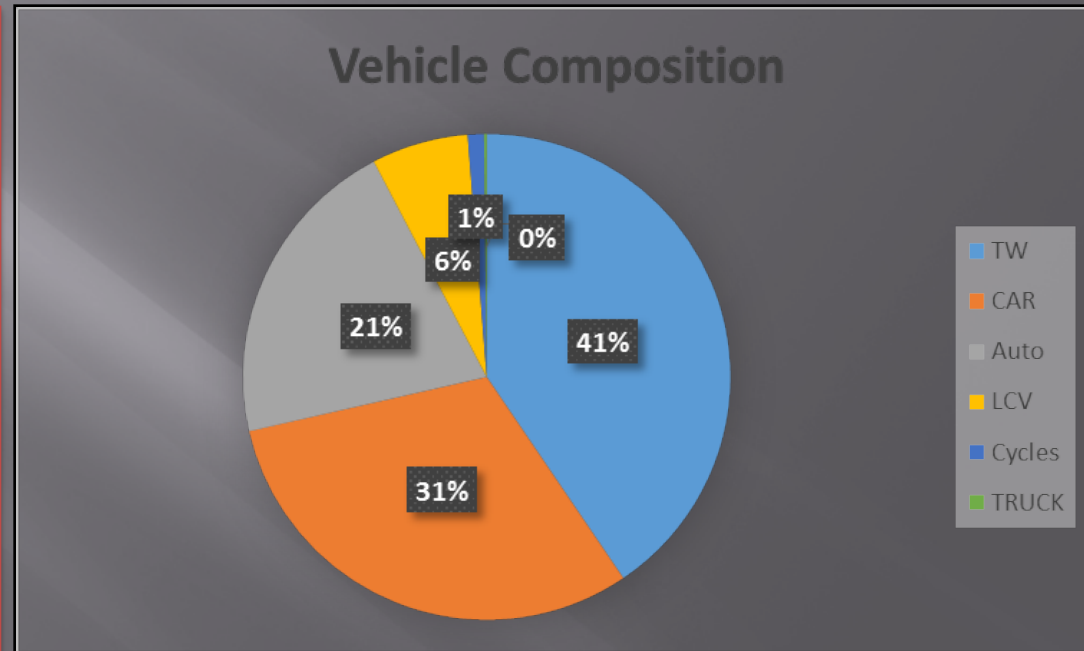
- ▣ Except the entry adjoining the guindy –Porur ramp all the movements are to cross anna salai perpendicularly and have the risk of being involved in a major conflict
- ▣ The vehicle from porur and Ashok pillar criss cross with vehicles to Ashik pillar and to Guindy
- ▣ The space available below the interchange is used for parking taxis waiting for customer calls

# Existing situation

- ▣ Small vehicles from anna salai to Ashok pillar prefer ground level movement through VUP2, though there is possibility of using the interchange
- ▣ Vehicles from Airport to Alandur,
- ▣ Vehicles from Porur to Alandur
- ▣ Vehicles from Ashok pillar to Alandur use VUP 2 for movement at ground level

# Traffic flow at Ground Level

- Nearly 4000 PCUs flow observed at Ground level during Peak hour
- 41% Two wheelers, 31 Cars, 21 % Autorickshaws, 6% LCV and 1 % cycles are observed
- Major flow of vehicles are from Anna Salai - Vadapalani, Alandur - Vadapalani, Airport - Alandur and Vadapalani -Alandur



Two wheelers, Cars & Autorickshaw from Anna Salai travelling towards Vadapalani prefer to travel beneath the flyover.

Movements from and to Alandur are to happen beneath the flyover

# Details of MTC busses pass through the junction

- ▶ Number of MTC buses pass through the junction- 695
- ▶ Number of Trips- 8379
- ▶ Bus stops are at On GST road, Guindy on Anna salai, Kathippara bus stop on Binny road (Mount poonamallee road) and Olimpia tech park bus stop on inner ring road(100 feet road)

# Distance between bus stops and intersection

- ▣ Bus stop on Mount poonamalle road- 250 m
- ▣ Bus stop on GST road – 400 m
- ▣ Bus stop on Anna salai – 800 m
- ▣ Bus stop on Inner ring road - 800 m

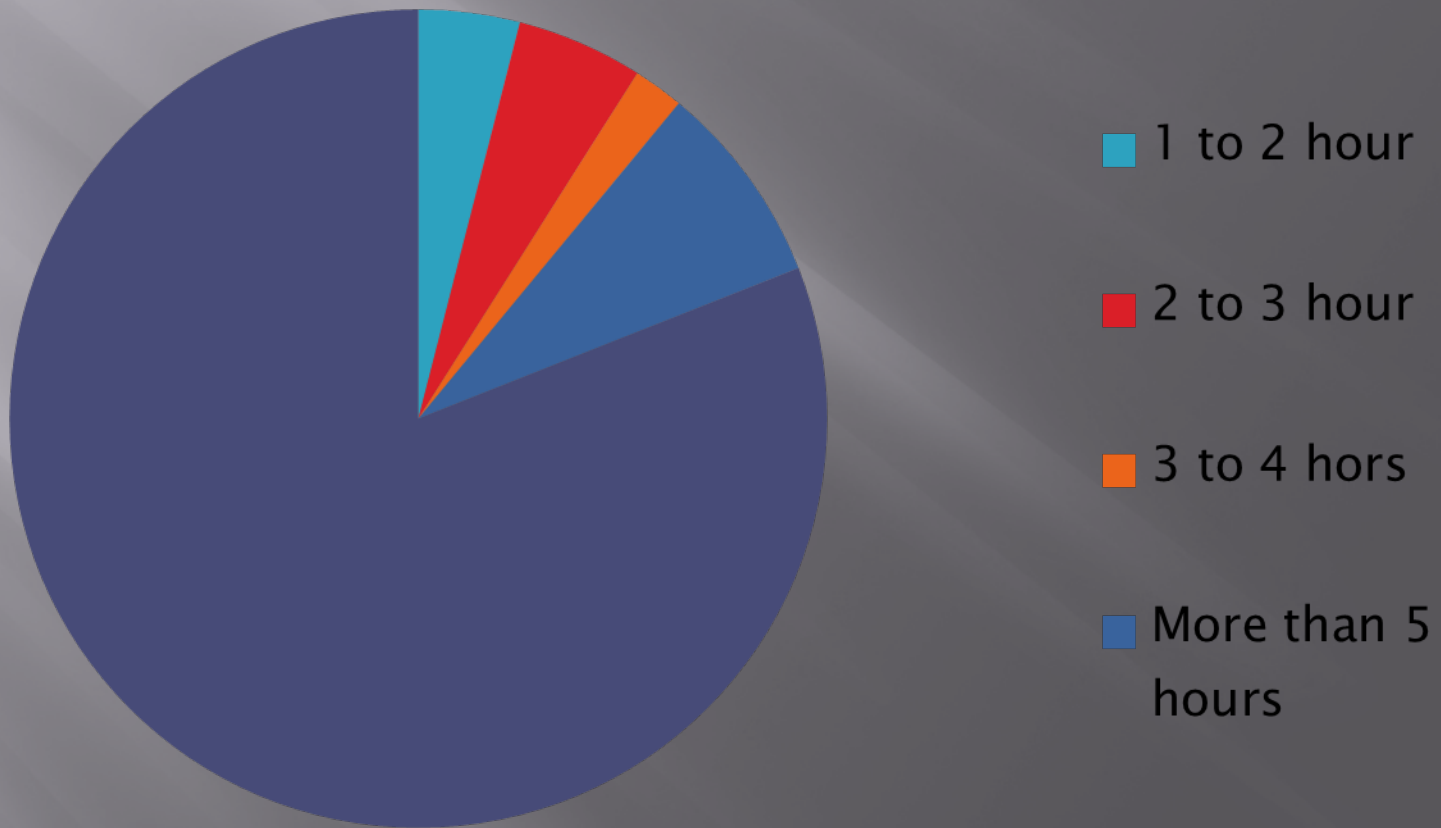
- ▣ Bus passenger transfer from one bus route to another at Guindy and Asarkana on GST road
- ▣ Guindy bus stop has 14 bus routes as the trip end and hence the location is congested and does not facilitate convenient transfer form one route to another
- ▣ Busses from Broadway, Kannagi nagar, Siruseri, Kelambakkam etc having trip end at Guindy industrial estate.

# Parking survey beneath the interchange

- ▣ 40 cars
- ▣ 6 LCV
- ▣ 20 Two wheelers
- ▣ 7 auto rickshaws
- ▣ 80 % of parking demand is less than 1 hour
- ▣ 20 % of parking demand is more than one hour

# Parking Survey

Parking Duration



# Conceptual Proposal

- Developing parking lots beneath the intersection so that people from Porur side and southern part of city will be pulled towards metro
- Developing bus turn over facility beneath the intersection so that the buses makes a cut service at this point and there by reducing the trip length
- Increasing the foot fall at Metro station ( currently 2500 per day avg).

# Bus turn over facility

- ▣ Bus turn over facility under the intersection will benefit in the following ways
- ▣ Busses from Broadway, Kannagi nagar, Siruseri, Kelambakkam having trip end at Guindy industrial estate bus stop would prefer to stop at the turn over facility
- ▣ Busses to CMBT from other areas would prefer to stop at the turn over facility
- ▣ Busses from southern side to Broadway would prefer to curtail the trip at the intersection

# Benefits of the Turn over facility

- ▣ Congestion at the bus stops at Kathipara, and Guindy industrial bus stop would be avoided
- ▣ Travel by Metro from Alandur to Broadway on Anna salai, and Alandur to CMBT, Vadapalani would be encouraged

# Benefits of having Parking lots

- ▣ Vehicles crossing the interchange from one part of the city to the other would prefer to park the vehicle and use public transport especially metro rail
- ▣ Number of vehicles entering the city will come down and will leave less carbon foot print
- ▣ It would eliminate congestion in Anna salai and 100 feet road(Jawaharlal nehru salai)

# Stake Holders

- ▣ Chennai Metro Rail
- ▣ MTC
- ▣ Highways
- ▣ Chennai Corporation
- ▣ Traffic Police department

# Approach , Methodology and Data collected

- ▣ Topographic survey - Completed
- ▣ Survey of commuters using Metro service- Under Way
- ▣ Parking survey- Under Way
- ▣ Survey of MTC busses crossing the intersection- Under Way

# Way Forward

- ▣ Survey of commuters using Metro service- To be completed
- ▣ Parking survey- completed
- ▣ Survey of MTC busses crossing the intersection- Completed
- ▣ Developing plan for a parking lot and bus turn over facility
- ▣ Economic Analysis- to be completed