

# Corridor Improvement Plan For a Two Lane Two Way Undivided Urban Road

**P.ANJALIAH**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**SREE CHAITANYA COLLEGE OF**  
**ENGINEERING**

**B. SRAVANTHI**  
**ASSISTANT PROFESSOR**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**SREE CHAITANYA COLLEGE OF**  
**ENGINEERING**

## **ABSTRACT**

Access management plans to modify or retrofit developed urban corridors typically outline changes to both public facilities and privately owned accesses. Plans to modify private access points on developed urban corridors can be efficiently accomplished if implemented concurrently with redevelopment of lands adjacent to the corridor.

If the urban corridor is experiencing a high rate redevelopment or site modification, revising or consolidated private access points as directed in an access management plan can occur naturally through enforced land redevelopment regulations within site plan review. Modifying access on the public street system via corridor redesign simultaneous to the private access modifications can not only control access problems with older development or site designs, but also complement the updated private access designs.

However, while the public street improvement needs can be addressed in a relatively straight forward manner, improvements for privately owned property, particularly commercial properties, can pose problems for planners and engineers with access management and corridor safety as their forefront concern.

## **INTRODUCTION:**

In India, the road network of planning is lacking in providing the basic infrastructure that has to be provided for the safe and orderly movement of the vehicles. The carriage way has most often infected with hawking activities and traffic flow of vehicles.

Due to the negligence in providing of basic infrastructure is leads to pouring of commercial activities on the footpath and ultimately on the carriage way. Vehicle population in Hyderabad city has been increasing at the rate of 12% per annum. The lack of well-organized and authorized off street parking facility causes illegal parking on the carriageway thus resulting in traffic chaos, on part with the increase in demand

## **AIM:**

Corridor improvement plan for an existing two-lane two way carriageway

## **Case study corridor:**

Usha mullapudi cardiac centre road

(south india shopping mall - hp petrol bunk)

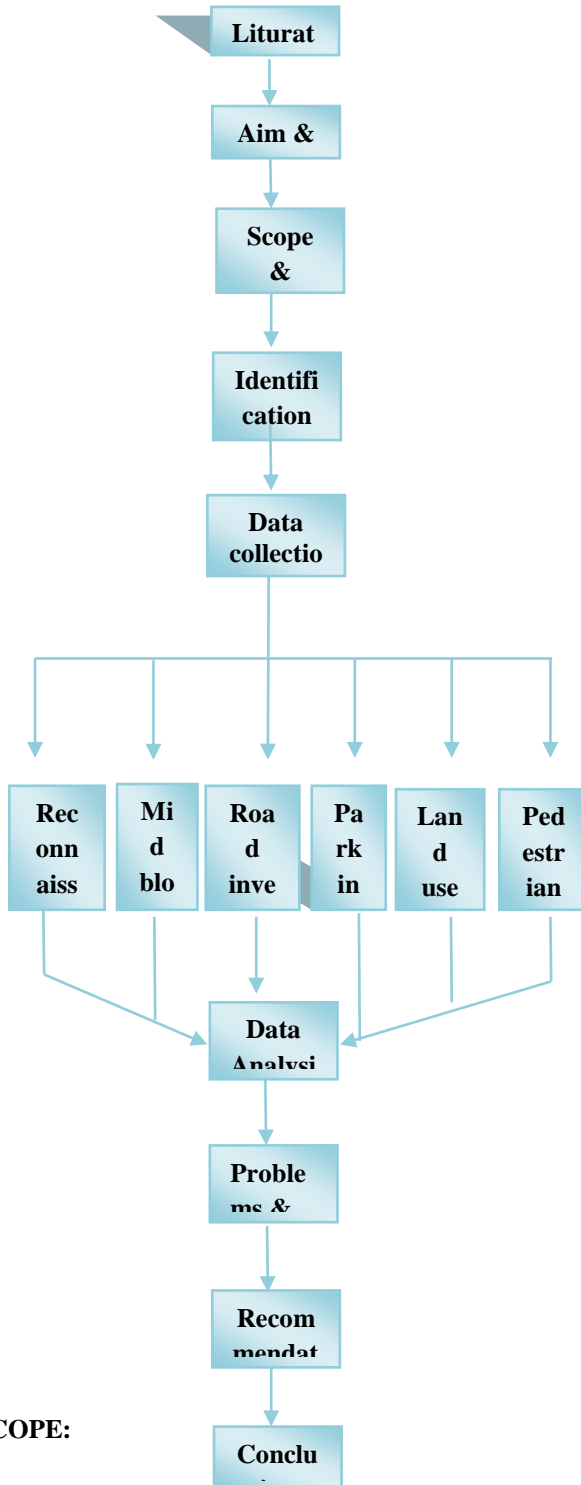
## **OBJECTIVES:**

The objectives of the study corridor are

- To improve the existing traffic conditions and road conditions of the corridor.
- To assess the traffic characteristics including corridor plan and accumulation.
- To assess the relevance of existing strategy, identify the consequences of pursuing the corridor plan and recommend corridor improvement plan for the study corridor.

- To study and identify the traffic characteristics and issues in the central area.

**METHODOLOGY:**



**SCOPE:**

The scope of the study corridor is as follows

- Delineation of the area for the study of corridor improvement
- Conduct road network inventory including average existing ROW on primary network within study area
- Review present traffic circulation pattern in the study area
- Identify suitable locations and conduct traffic volume surveys at mid blocks for 11 hours, ( overall 15 locations for mid blocks are identified)
- Submit report including corridor and propose future network requirements

**LIMITATIONS:**

The limitations of the study corridor are as followed

- Intersection in the corridor is not considered.
- Due to lack of time and man power pedestrian resources analysis are not done.

Speed & delays surveys are not prepared due to lack of equipment's

**LITERATURE REVIEW**

Traffic engineering is that phase of engineering which deals with planning and geometric design of streets, high ways abutting lands and with traffic operations there on, as their use is related to the safe, convenient and economic transportation of persons and goods.

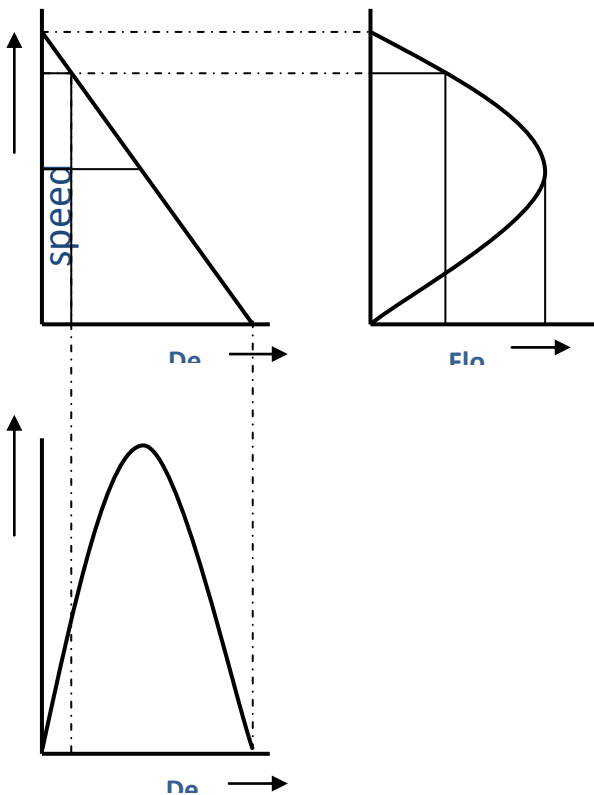
**TYPES OF SPEEDS.**

- Spot speed
- Running speed
- Journey speed
- Time mean speed
- Space mean speed

**CAPACITY**

Capacity refers to the rate of flow during a specified period; and any change in the prevailing conditions result in a change in the capacity of the facility. Also, capacity is assumed to be stochastic in nature because of difference in individual driver behavior and changing roadway and weather conditions

The maximum flow that is a capable of being accommodated in a road is the capacity of the road.



**PASSENGER CAR UNIT (PCU):**

Different classes of vehicles such as cars, vans, buses, trucks, auto rickshaw, motor cycles, pedal cycles, bullock carts, etc. are found to use the common roadway facilities without segregation on most of the roads in developing countries like India.

**PARKING:**

Parking is the act of stopping and disengaging a vehicle and leaving it unoccupied. Parking on one or both sides of a road is often permitted, though sometimes with restrictions. Parking facilities are constructed in combination with some buildings to facilitate the coming and going of the buildings' users.

*parking duration*

$$= \frac{\text{total vehicle hours}}{\text{No. vehicles parked}}$$

$$\text{parking index} = \frac{\text{parking load}}{\text{parking capacity}} \times 100$$

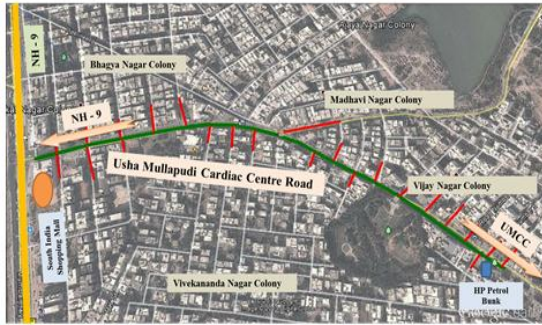
$$\text{parking turnover} = \frac{\text{traffic volume}}{\text{No. bays available}}$$

**IDENTIFICATION OF STUDY CORRIDOR:**

The study corridor is located in the Kukatpally housing board area. It leads to jagadgirigutta from NH-9. The study corridor is a major road distributing the traffic from NH-9 to all residential areas and commercial areas surrounding the corridor. The study corridor is called Usha Mullapudi Cardiac Centre road (UMCC). It leads to UMCC which is one of the largest cardiac hospitals in Hyderabad

The study corridor is selected from Seetharam raju statue at South India Shopping Mall near NH-9 to HP Petrol Bunk on the corridor.

Land use distribution in study area is mostly covered with commercial, residential buildings and obligatory structures on both sides of the corridor.



**Image showing the study corridor**



**DATA ANALYSIS:**

Below mentioned are the locations of the traffic surveys conducted in the study corridor.

Based on the data that has been collected from different traffic surveys conducted at the different Locations in the study corridor brief results with their inference are mentioned in this chapter.

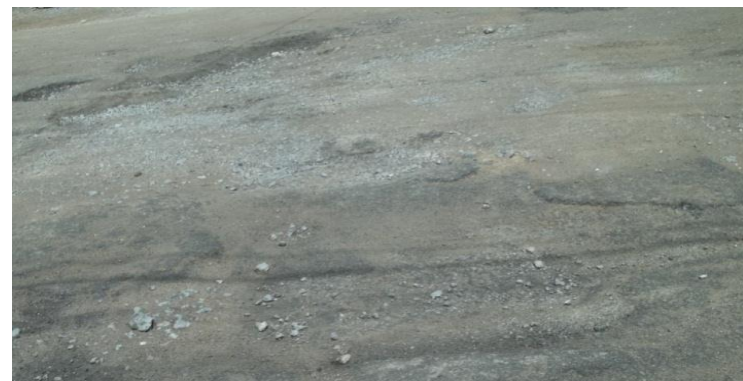
The level of service depends on volume and capacity the data analysis required for the design service volume is explained below. Therefore the hourly volume data analysis sheets are prepared below.

**Volume/Capacity (V/C) ratio:**

Volume/Capacity (V/C) ratio at the survey locations for the road stretches are developed from the traffic volumes that are analyzed in the study with IRC : 106:1990 .

(Guidelines for capacity of Undivided Urban Roads in Plain Areas) are mentioned below :

**PROBLEMS AND ISSUES:-**



**RECOMMEDATIONS:**

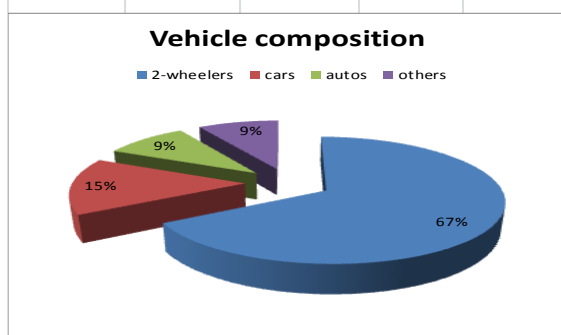
After working on detailed traffic survey analysis, we can recommend the following information for corridor improvement.

**From volume counts survey:**

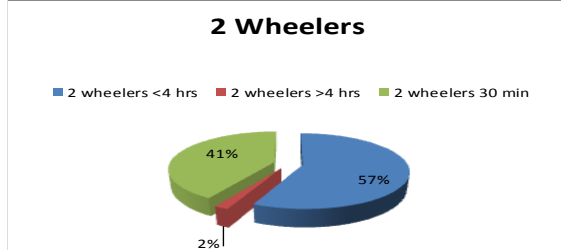
- From the road inventory survey, we can know that carriageway and ROW varies from the places to places so it is important to improve the existing corridor.
- We can know that pedestrian traffic is huge along the corridor by pedestrian volume count, so it's must and need improvement in the corridor for footpath facilities.
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**PARKING VEHICULAR**

	vehicles			
modes	2-wheelers	cars	autos	others
grand totals	1562	348	217	208



time	2 wheelers		
	<4 hrs	>4 hrs	30 min
grand totals	1513	49	1100



**CONCLUSIONS:**

- By providing the clear carriageway the capacity of the corridor can be improved.
- By providing the clear footpath the pedestrian along the corridor can be safely travel.
- Road marking (lane marking) has to be painted along the carriageway.
- Traffic signs has to be clearly installed only the corridor.
- Zebra crossing at the corridor has to be marked or painted.
- Intersections has to be improved.
- Traffic regulated like no parking has to be implemented.
- Obligatory structures (religious structures) should be shifted from the carriageway.
- Electric poles, transformer should be shifted from the carriageway.

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