



AMITY SCHOOL OF ARCHITECTURE AND PLANNING

AMITY UNIVERSITY – HARYANA

Studio External Jury – 10th July, 2020

**ASSESSMENT OF TRAFFIC MANAGEMENT SYSTEMS IN CENTRAL
BUSINESS DISTRICT AREAS : CASE STUDY, RAJAHMUNDRY, A.P**

PURPOSE OF THE STUDY

- Roads are considered as sign of socioeconomic development of any community.
- Safe, efficient and convenient circulation system is necessary for development of the community

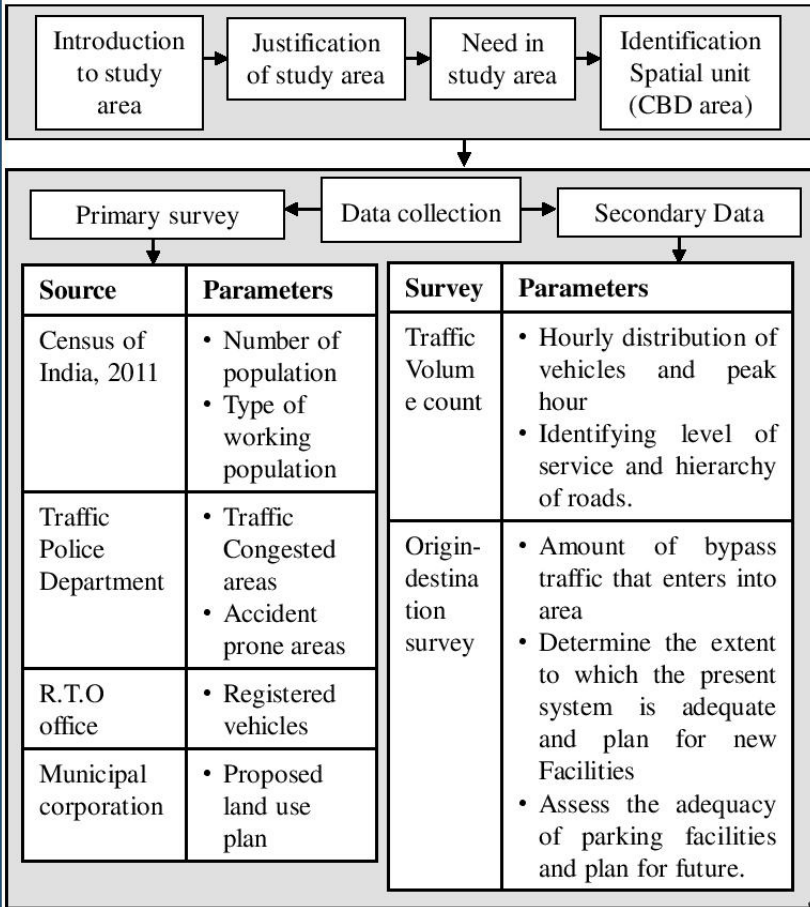
AIM OF THE STUDY

Analyzing and suggesting effective traffic management system in CBD area.

OBJECTIVES OF THE STUDY

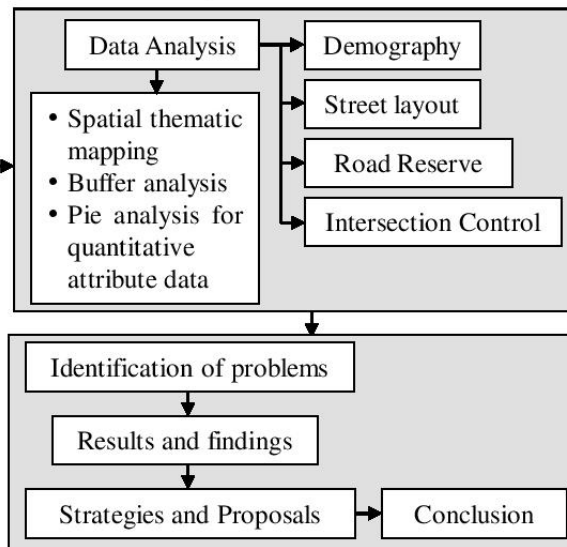
- To study existing the traffic scenario and land use of CBD area of Rajahmundry
- To analyze the traffic pattern through different transportation survey
- To propose suggestive measures for free flow of traffic in CBD area

RESEARCH METHODOLOGY

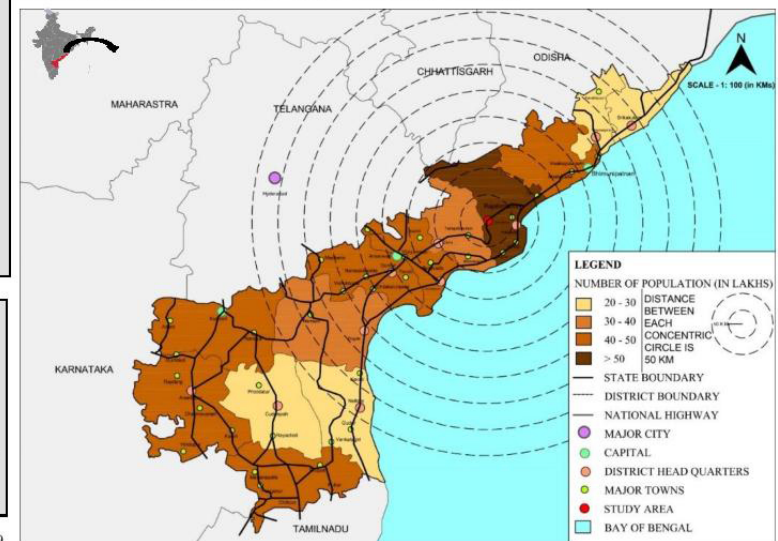


CASE STUDIES

ASPECTS	SARDARPURA, JODHPUR, RAJASTHAN	SADASHIVANAGAR AND BELLARY ROAD, BANGALORE
Aim	Evaluating Traffic Circulation System: Possibilities and Practicalities in the area	Traffic management plan - Sadashivanagar and Bellary road, Bangalore
Objectives	<ul style="list-style-type: none"> • Circulation system of a spatial unit and focuses on unit form and its functionality • To identify to what extent future development responds to the existing context, contributes to the visual image of the area • To addresses functional requirements, such as safe and efficient circulation, and is discussed under three design categories street layout, road reserve and intersection control. 	<ul style="list-style-type: none"> • To identify and address the Parking related traffic issues of Sadashivanagar and Bellary Road • To identify and address the Traffic related issues of Sadashivanagar and Bellary Road • To identify and address the Junction and intersection related traffic issues of Sadashivanagar and Bellary Road.
Technique implemented	<ul style="list-style-type: none"> • ArcGIS, AutoCAD and temporal satellite Imagery 2016, Google earth platform were used for data analysis • The perception study is developed, which was canvassed for securing necessary information regarding the circulation system of spatial unit • Field verification was carried out and summary tables, graphs and maps were generated to arrive at certain conclusions. • Safe and efficient circulation is categorized into street layout, road reserve and intersection control. 	<ul style="list-style-type: none"> • Collected existing data reports and maps • Data collected from different stakeholders (Traffic police station which comes in that study area jurisdiction) • Parking survey • Traffic volume count • Road side Interviews • Bus boarding and alighting

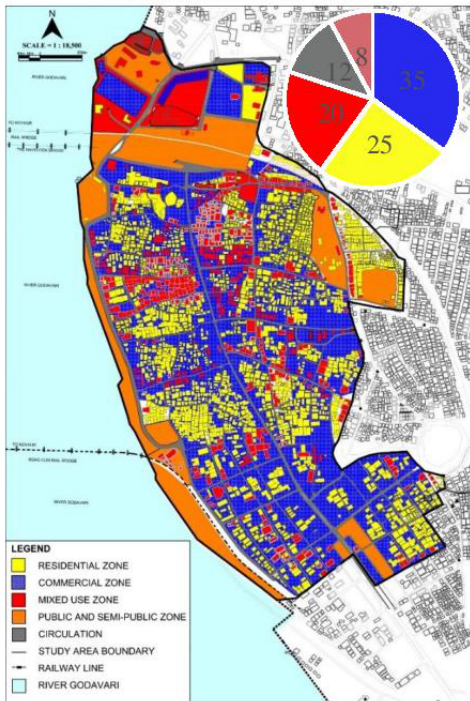


INTRODUCTION TO THE STUDY AREA



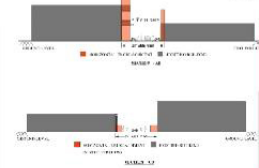
Source: East Godavari District handbook, 2011 and based on Google image, 2020

EXISTING LAND USE



EXISTING PCU OF ROADS

Type of road	Length of road	PCU value
Arterial road	60'	660
Sub - Arterial road	24'	1080
Collector road	20'	422
Local street	10'	356



As per standards Sub Arterial Road should have width of 30-50meters

- Commercial zone is dominating that is 35%.
- Residential and mixed zones also occupied 25% and 20% respectively
- There are 225 junctions in this area.
- Buffer zone is 80 feet
- 40% covered by public and semi public space and 10% mixed zone on arterial roads
- 40% covered by commercial and 5 % public and semi public on sub arterial road
- Collector roads connects communities to the major sub arterial roads and arterial roads.
- These collector roads are collecting traffic from local streets

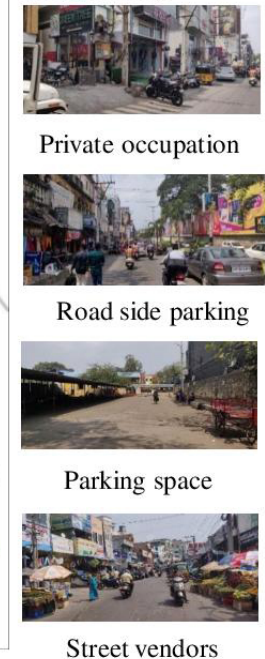
INFERENCE

- Arterial and sub arterial are the major connecting roads
- Sub arterial roads are the roads with goods, services and different activates.

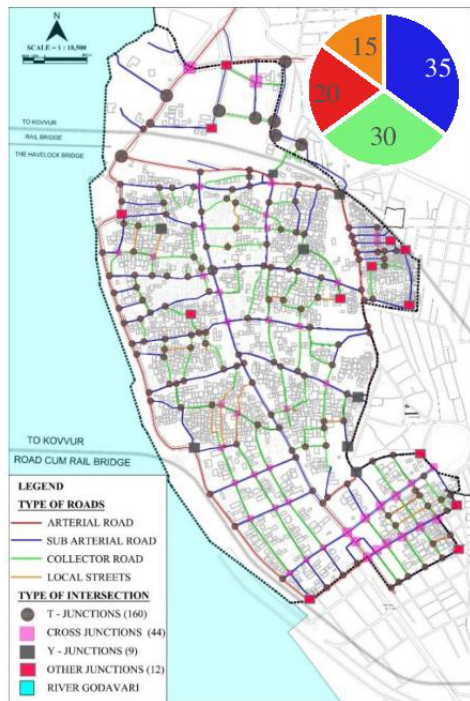
LANDUSE ALONG SUB - ARTERIAL ROADS



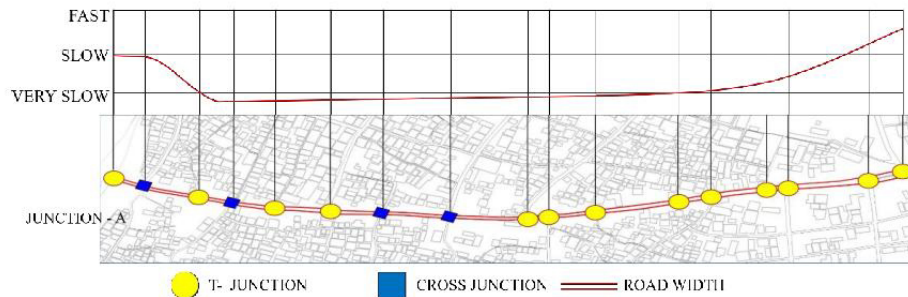
PROBLEMS IDENTIFIED



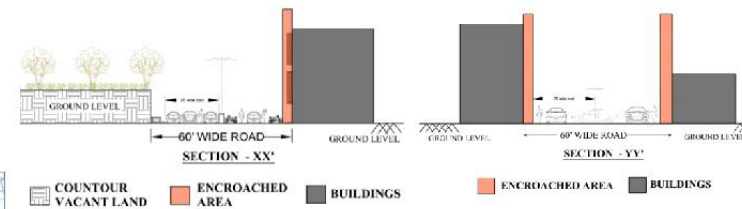
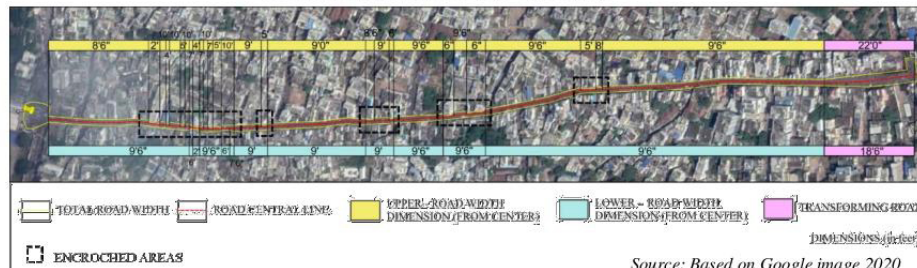
CIRCULATION LAYOUT PLAN



ROAD WIDTH AND TRAFFIC SPEED GRAPHICAL ANALYSIS OF COMMERCIALIZED ROADS



ENCROACHMENTS AND WIDTH DEDUCTION OF COMMERCIALIZED ROADS



As per standards Arterial Road should have width of 50 – 80 mts

INFERENCE

- As the width of the lane increased, the speed on the roadway increased
- Due to street obstructions and no adequate road width at various places vehicular speed is decreasing.
- Speed choice seems to depend on the amount of road available
- Speed is affected by the lane width, number of lanes, shoulder width, presence of parked cars on the road edge.

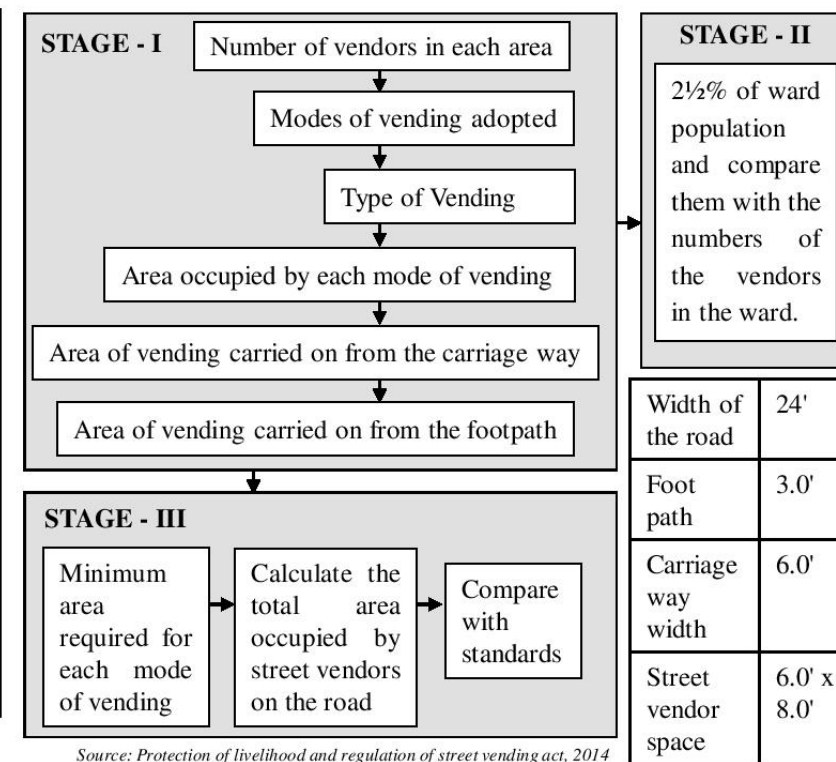
Source:

- Based on Google images 2020 and Godavari Urban Development Authority
- Source: Primary survey, 28th, 29th February, 2020
- URDPFI guidelines, volume 2, Design Consideration of Urban Roads

FINDINGS FROM DATA ANALYSIS

BACKGROUND OF THE STUDY	DEMOGRAPHY	STREET LAYOUT	LAND USE	ROAD RESERVE
<ul style="list-style-type: none"> Street design decides the dynamics and form of the city All type of roads in which arterial roads and sub arterial roads plays as important role. 	<ul style="list-style-type: none"> Due to increased population and vehicular growth the well defined planned hierarchy of roads is disturbed. 	<ul style="list-style-type: none"> In this study emphasis is given upon connectivity, amenity and intersection to achieve safe and attractive street networks 	<ul style="list-style-type: none"> There is a strong correlation between transportation planning and land use planning, so land use policy should be closely reviewed and monitored in terms of its impacts on the road network and its functional classification. Concerned authorities should work towards its integration. This will reduce potential conflicts between land use and the capacity and the function of the abutting roadway. 	<ul style="list-style-type: none"> Though pedestrian sidewalks, non – motorized vehicles, utilities, shaded bus stops are essential components of all streets that cannot be visualized here due to road space encroachments. Most of the central road space is occupied by street vendors

STRATEGY TO SOLVE STREET VENDORS ENCROACHMENT



RESULTS

- Rajahmundry CBD area is having narrow roads, further the roads are encroached small business establishments by extending their constructions.
- Occupation of roads by street vendors and pushcart vendors.
- No sufficient parking places to park the vehicles at commercial areas.
- Lack of city bus service in the town resulting in increasing of other private transport system thus leading to congestion.

SWOT ANALYSIS

Strength	Weakness	Opportunity	Threat/challenges
<ul style="list-style-type: none"> It is center for activities Ease of access 	<ul style="list-style-type: none"> High population density Lack of infrastructure facilities and parking space Increments in commercial spaces leads to development 	<ul style="list-style-type: none"> Increment in revenue generation Convenient access to shopping places for residents and commuters 	<ul style="list-style-type: none"> Over crowding area Increasing encroachments

Source : Based on data analysis

Source: Protection of livelihood and regulation of street vending act, 2014

- Distribution of identity cards to street vendors and scheduled them in systematic manner is a strategy to create free flow of traffic.

PROPOSALS

- Identification of number of street vendors (ward wise) and systematized and this can initiated by integrating local self government and urban development authorities.
- Unused Parking spaces should be utilized properly
- Two wheeler parking and allocation of street vendors should be provided in center of the road with regular intervals.
- Encroached buildings should be inspected by building inspectors.
- Initiations like one way flow of traffic and four wheeler vehicle entries into commercial areas should be strictly inspected.

CONCLUSION

- It is having strong development pressure as it is mixed development zone.
- This assessment is prepared to provide a detailed evaluation of transportation circulation conditions
- It is recognized that it is not possible to implement all optimum design features due to limited land availability.
- Though some initiatives are taken to control traffic like controlling four wheelers, heavy loaded vehicles during peak hours, one way vehicular movement still traffic can be seen due to failure in implementation.
- To avoid congestion and to provide smooth flow of traffic adequate planning and design along with specific traffic management strategies should be implemented.

PROPOSAL

