



Identification of Truck Transportation Issues at a Junction: a case study of Sarkhej Area

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ABSTRACT

in road based freight movement trucks are major mode for mass movement of goods and hence it is occupying major road area. Trucks are slow moving vehicle compare to other passenger vehicle and there for it plays major role in congestion of roads, in any highway which is connecting urban area there is always conflict between urban traffic and regional traffic, where highway is mainly designed to cater regional traffic but urban agglomeration growing in outskirts gives additional pressure on existing highway. They have to carry traffic of population staying in near urban area and their activity. But in supply chain urban area is end point for delivering any product and hence its loading and unloading activities has to be done somewhere near by urban area, because of need of large parcel of land for carrying out these activities in inner area is not possible and generally it takes place nearby urban area where due to many local problems and mismanagement traffic issues occur.

This study will mainly focus on understanding traffic movement in similar kind of area its operation and parameter affecting for its smooth function.

Keywords : slow moving vehicle, regional traffic, outskirts, loading & unloading activity.

INTRODUCTION

The performance of the transportation infrastructure affects where businesses are located as well as the competitiveness of firms and the economic health of communities. The Goods Transportation Activity in urban area is developed in different location in urban city. This goods Transportation Activity doing with the Goods transport Companies. The Transport companies are handling the goods transportation within the urban area. Trucks are comes at the Transport companies to loading unloading the goods. After the loading and unloading operation trucks are parked in different location near to the transport companies. The unauthorised truck parking on service road caused many problems & issues related Transportation & Traffic. The encroachment in this area caused congestion on urban roads. There are many issues of truck drivers & transport operator co-related with each other. These activities perform the goods distribution process and hence congest urban roads severely. It also influences heterogeneously on high intensity traffic flows.

There is no any kind of facility developed for trucking transport industry in Gujarat e.g. truck terminal, refreshment point, and basic facility for truck drivers, parking area, ware houses, cold storages, food, medical, lodging, boarding, rest house. In presently they are parking their truck on service roads and on ring road, other places near the company, they are causing traffic congestion by un- authorised parking. But there is mainly due to lack of such parking facility. Truck driver is also part of social life. Many accidents are caused due to Fatigue. It causes a loss of alertness in a driver, which is accompanied by poor judgment, slower reaction time and decreased skill levels. In addition, a driver's ability to concentrate and make critical decisions is reduced, and it takes longer to interpret and understand a traffic situation. It is a significant problem in the road transport sector in terms of the health and quality of life of drivers, as well as in the potential for accidents. Therefore it is an important health and safety issue for the road transport sector.

Issues at junction

• Understanding Issues

There are the many issues related to the transportation is the wide subject. In particular issues related trucking industry are the traffic issues, Goods transportation issues, security issues, corruption issues, transport operator issues, truck driver issues, basic facility issues, parking issues

• Traffic issues

Traffic issues due to the Truck Transportation Activity are the very general in all over. The traffic issues include the following:



• Congestion

Congestion problem creating due to the unauthorised parking of the heavy vehicles on urban roads. It reduces the capacity of roadway by truck transportation activity during heavy traffic flow.

• Encroachment

Trucks make encroachment on the urban roads due to non availability of such parking facility. Due to lack of the space to the Transport industry the trucks have only parking option are service road, ring road, hotels, petrol pump.

Transport Operator issues

• Other concerns like non-availability of parking spaces for trucks, lack of security (rising cases of theft of fuel and goods) have also been highlighted. There is large number of small

players operating in an unorganized manner which creates communication problem, results in longer waiting time to get the consignment during the return journey.

1) Lack of organised parking spaces in the city and surrounding industrial areas

- With the extended boundary of Ahmedabad Municipal Corporation especially for the operators in Narol, Sarkhej, Isanpur area are faced with restrictions on the movements of trucks. This in the short run is likely to affect the transport operation in these areas in a big way. Other concerns like non-availability of parking spaces for trucks, lack of security (rising cases of theft of fuel and goods) have also been highlighted. There is large number of small players operating in an unorganized manner which creates communication problem, results in longer waiting time to get the consignment during the return journey.

- This situation results in a conflict for drivers between complying with federal hours-of-service regulations (which limit the number of hours per day that truck drivers can drive) or parking in illegal, possibly dangerous locations such as ramps and shoulders. The parking shortage also affects congestion since drivers with early morning deliveries typically stay overnight just outside the metropolitan region and stage their deliveries by driving in before rush hour.



Figure-1

There are inadequate facilities for this system to work effectively in Massachusetts.

Truck Driver issues

- Security
- Lodging
- A Lack of Modern Rest Area Facilities and Adequate

Space for Trucks

The trucking community has identified the shortage of highway rest stop facilities for trucks as a key factor in addressing goods movement to and from the Commonwealth. Truck stops along the Commonwealth's highway network are generally inadequate in size and scope – lacking adequate space and amenities. Facilities at such truck stops should provide adequate parking, plug in power to avoid long term idling, and sanitary facilities.

• Parking



Figure-2

Many transport operators have no space to park their trucks so all the trucks are parked at different area in the vicinity of the urban road near to the transport company. This cause environmental and safety concern with the truck parking in residential area, and many municipalities have banned overnight on-street truck parking. The result is that trucks are often parked anywhere near by road to urban area

• Health

The long distance truck drivers are under the influence of health problem due to overnight driving & lack of rest. Truck driver do not have healthy food to eat from the hotel.

Identifying the issues

The issues of Truck transportation Activity to be find out by doing Surveys & Data Collection in the study area. This is the next chapter of the study.

Objectives

- Understand Truck Transportation Activity issues & its influence on regular Traffic flow at junction by traffic surveys.
- Identify the issues of Truck Transportation Activity Holders of the selected study area by adopting interview survey.
- Give the possible solution for issues related Truck Transportation Activity.

Methodology steps

1. Study issues of Transportation at junction
2. Understanding Traffic operation and travel behaviour
3. Delineation and analysis of Study Area
4. Data collection
5. Analysis
6. Remedial measures

Area/ Location Description:-

Image showing study area (sarkhej)

The highway passing from sarkhej which connecting the regional traffic of different regions e.g; saurashtra, Ahmedabad, north Gujarat, south Gujarat. There is always conflict between urban traffic and regional traffic, so sarkhej is the considering as junction of different regional traffic.



Figure -3

Data Collection & Analysis

Traffic Volume Count

Traffic Volume Count Survey held at four sections of study Area. The study area divided in four road sections. The sections are described below:

Section-A Sanand Circle to Ujala Circle Section-B Ujala Circle to Sanathal Circle Section-C Sanathal Circle to Shantipura Circle

Section-D Shantipura Circle to Sanand Circle.

SECTION	Peak hour	Capacity	V/C ratio
A	2843.55	3600	0.789
B	2399.45	3600	0.666
C	2070.3	3600	0.575
D	1732.4	3600	0.481

The above table showing that the V/C Ratio is satisfied at each section the capacity of the road is sufficient for traffic flow. It causing the problem of traffic during peak hour congestion & forced flow condition.

Table-1 showing v/c ratio at different section from raffic volume count at mid section

Travel Time and Delay Study

Travel Time and Delay study conducted in circular direction of section A-B-C-D.

Speed of the each section to be found out from the A- B-C-D travel route. Total eight trips are made for travel time study survey. Four trips in morning & another four trips travelled in evening. The direction of trip is alternate fist clockwise second anticlockwise one after another. Speed survey shows that the speed of the vehicle on the section- A is 15.84 km/hr the lowest speed of all the sections. The entire table is big in size so it can't adjust in this form of format.

The result of the delay shows the sped is restricted due to the major cause of the location of the toll plaza on ring road t section-C. Another reason is the railway crossing on the ring road is also caused delay in travel time. The reason for speed reduction at section A, B, & D due to the trucks are parking on the urban roads. This tendency of encroachment on urban road is causing the traffic problems.

It is recommended that the transport activity encroachment from the urban roads is required to remove or shift to another place. There is a need of such kind of transportation facility for the truck transportation industry. To identifying the need of truck transportation facility other survey to be carried out to the facility. The next step includes survey in detail.

Interview Survey

For identifying the need of truck transportation facility other survey to be carried out. The pre-formed questionnaire sheet prepared for conducting survey. Two interview surveys carried out of the truck drivers and transport operators.

•Transport operator's Survey

Here in the interview 60 registered transport companies selected from total number of 111 in the study area. The detail of total number of transport companies collected from the directory of the Transportation

1- In state, 2- neighbouring state, 3- all over India Association of Ahmedabad.

Outcomes of the survey

- Figure showing number of trucks operated by transport operator
- Parking fees paid by transport operators

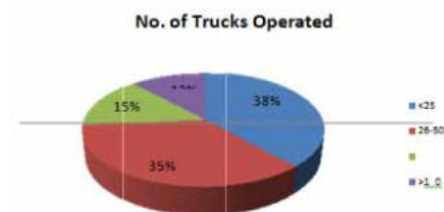


Figure-4



Figure-5



Figure-6

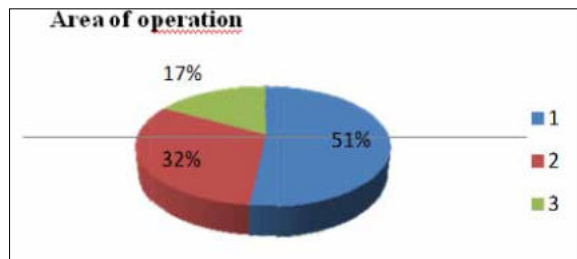


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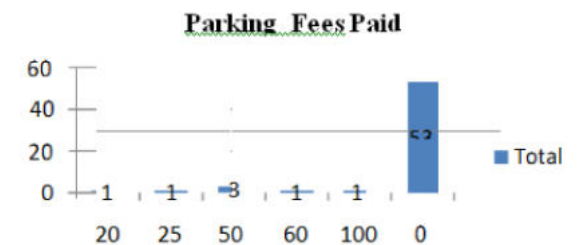


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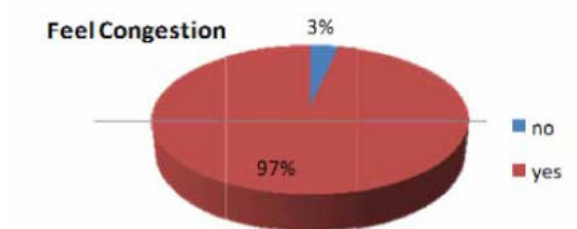


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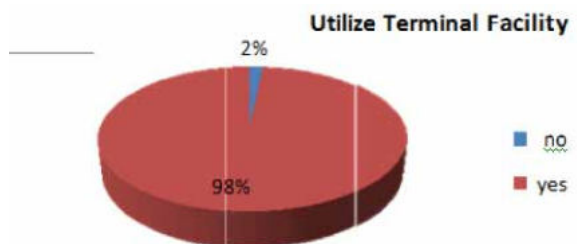


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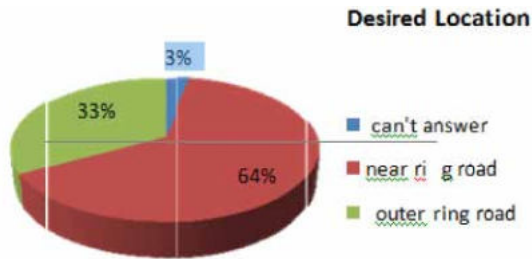


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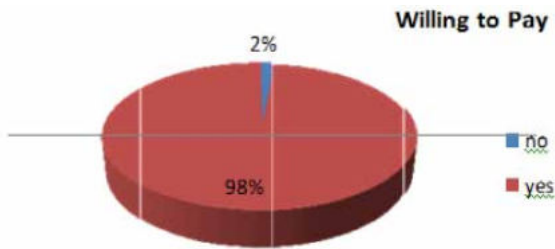


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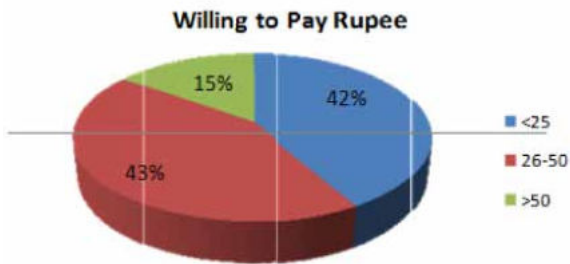
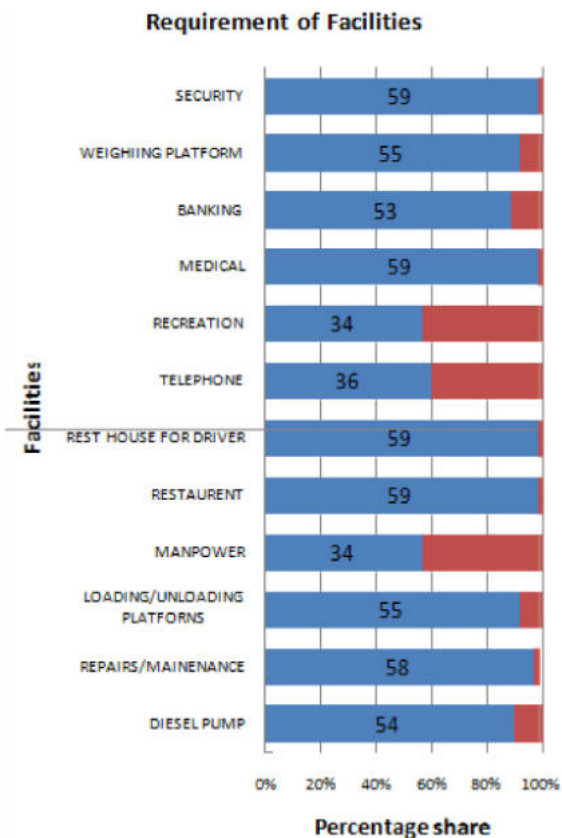


Figure-12



Truck Driver Interview Survey Questionnaire outcomes

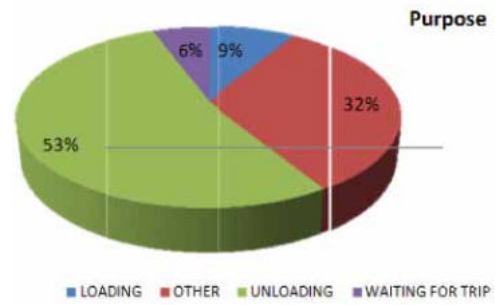


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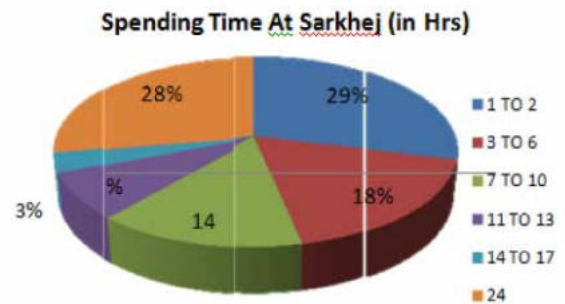


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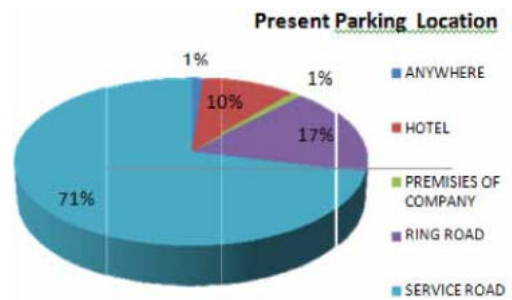


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Figure-17



Figure-18

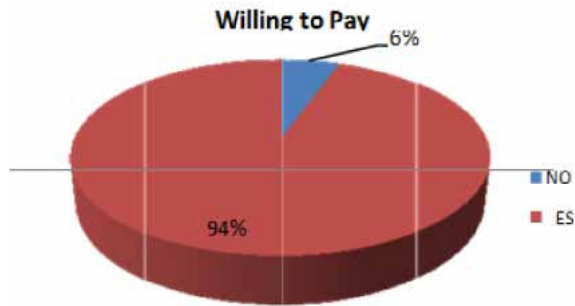


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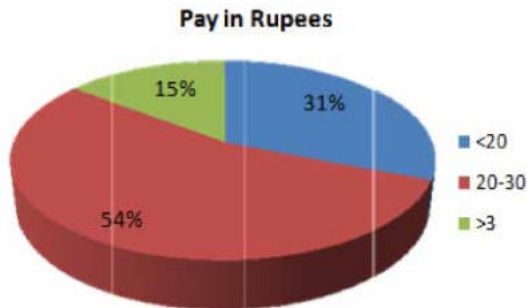


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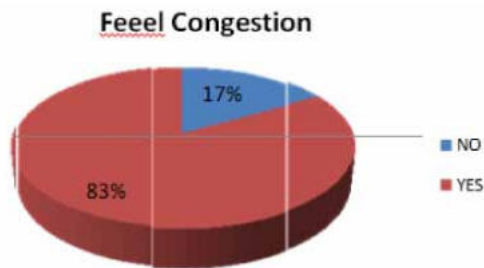


Figure-21

Requirement of facility in terminal

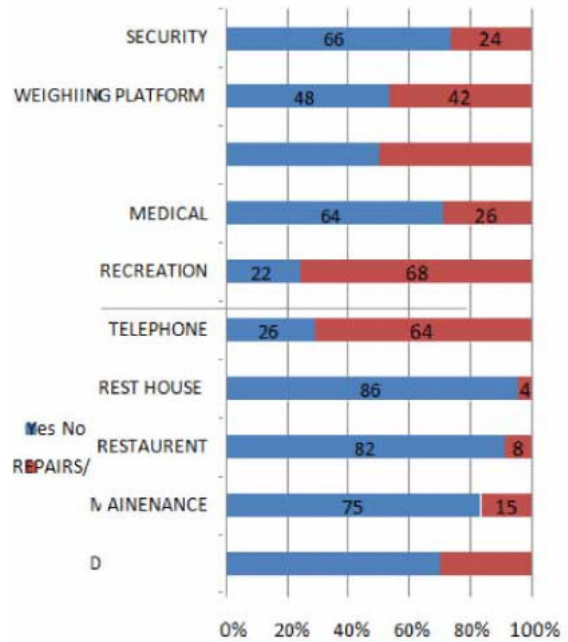


Figure-22

Suggestions

From the comment and the review of the transport operator & truck driver requirement of specialized driver's demand the basic facility will fulfill by terminal facility to nearest desired location. The transportation hub is only the best option for overcome all the issues by truck transport activity.

All the issues of traffic, truck drivers, and transport operators should be solved by the development of transportation hub for truck transportation activity. It will remove the trucks encroachment at junction so the traffic issue at junction will be overcome. The demand of transport operators & truck drivers for terminal facility is quiet remarkable for advanced development in truck transportation sector.

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