

Para-Transit A Panacea for Public Transportation

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ABSTRACT

Para-transit system is flexible transport system in medium sized cities of India like Vadodara, due to various reasons. Size, pattern, structure, socio-economic conditions and network characteristics of these cities and service flexibility of PTS make it a vital transport system. This paper show the feasibility of Para transit as public transportation by conducting a commuter survey, frequency of the mode will be considered as 15 min, economic analysis and level of service of it.

Keywords: Para transit, City bus.

I. INTRODUCTION

Transport mix is one of the important characteristics of Indian cities, under the given size, structure and socio-economic characteristics, there are three set of urban transport system found in india cities.

1. A system with large emphasis on public transportation with some Para transit.
2. A system with emphasis of Para transit
3. A system with both and none be dominant

In all the above Para transit play a vital role, but the improper use of it make a problem , so we have tried to use the Para transit as a public transportation on the road which are congested during traffic and city bus take more time to travel, in this Para transit is a 7 seater van which can be used as public transportation.

II. METHODS AND MATERIAL

A. Study Area

Vadodara District is a district in the eastern part of the state of Gujarat in western India. The city of Vadodara (Baroda), in the western part of the district, is the administrative headquarters. Vadodara District covers an area of 7,794 km². It had a population of 3,641,802 of which 45.20% were urban as of 2001

census. As of 2011 it is the third most populous district of Gujarat (out of 26), after Ahmadabad and Surat.

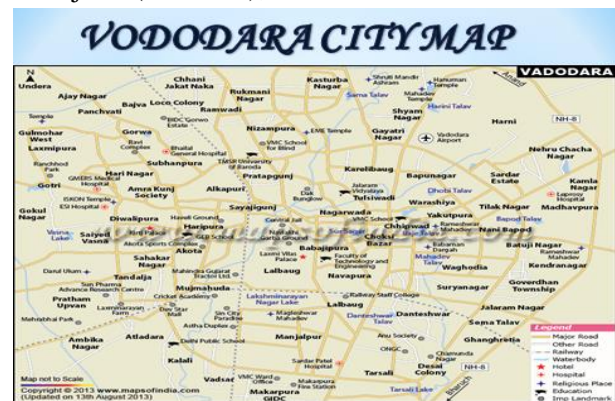


Figure 1. vadodara city map

Study area:- Station to Ayurvedic

The distance between these routes is 6 km and average time travel through city bus is 15 min but due to traffic the time is 20 to 30 min. This route is route number 9 and frequency of bus is 20 min.

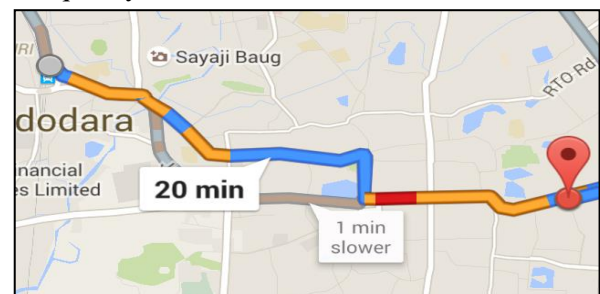


Figure 2. Station to ayurvedic

B. Commuter Survey Analysis

1-Gender and Age Distribution of respondents

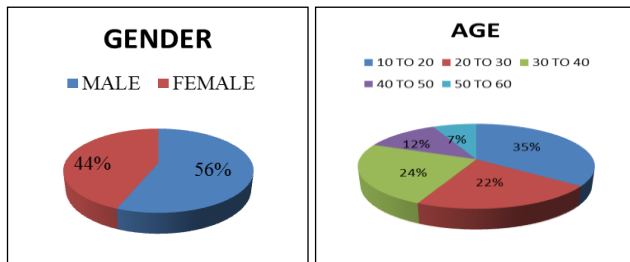


Figure 3. Gender and age analysis

2- Marital Status and occupation distribution of respondents.

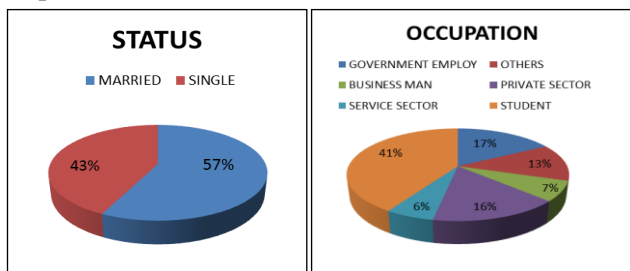


Figure 4. Status and occupation analysis

3- Vehicle ownership and monthly income of respondent

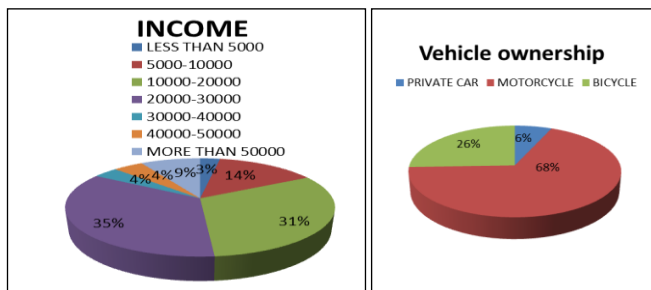


Figure 5. Income and vehicle ownership analysis

4-Rank to mode as per Frequency and cost

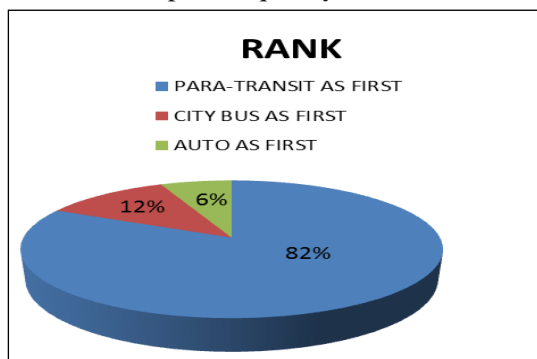


Figure 6. Rank analysis

As per the evaluation of the data from commuter survey, the majority of people travelling in public transportation are of age group 10-30 year, hence it proved that the older citizen do not find existing public transportation preferable for travelling, and data clearly show that most of people traveling in city bus prefer to use Para-transit as public transportation if they are provided so.

III. RESULTS AND DISCUSSION

A. Analysis of Benefit /COST Ratio

a)Benefit while implementing Para transit

Reduced-travel time(rupees/person)	Fair-charges (rupees)	Overhead charges (conductor) (rupees)	Total benefit (rupees)
364	94,500	6000	1,00,864

b) Cost while implementing Para transit

Maintenance cost	Operating cost	Driver payment	Extra overhead charges	Total cost rupees
1200	11,250	8000	10000	30,450

c) Benefit and cost ratio

Benefit	Cost	Benefit /cost
1,03,020	30,450	3.31

B. V Level Of Service

1-According to the headway Los as per headway

Source transit capacity and quality of service manual

Los	Avg headway	Veh/ hr
A	<10	>6
B	10-14	5-6
C	15-20	3-4
D	21-30	2
E	31-60	1
F	>60	<1

2-According to Service Provided

Los as per headway

Source transit capacity and quality of service manual

Los	Hours of service
A	19-24
B	17-18
C	14-16
D	12-13
E	4-11
F	0-3

C. Result

The economic analysis of Para-transit on Route Station to Ayurvedic is 3.31 which is greater than 1, according to the Transit capacity and quality of service manual the level of service provided by the Para transit in way of headway and service provider is C level of service.

IV. CONCLUSION

As per the Commuter survey, the commuter are interested to travel through a Para transit, and the economic analysis benefit and cost ratio is also greater than one, so it is feasible to provide a Para transit as a public transportation, it is best suitable for the Station to ayurvedic route and the level of service provided by the mode will be C. The city bus which runs on this route can be used for the outer ring road so the frequency of bus on that route can be increased and these route which are congested and city bus take more time to travel ,can use the Para-transit as a public transportation.

V. REFERENCES

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