CHAPTER 5.0

SOCIO-ECONOMIC AND TRAVEL CHARACTERISTICS

5.1 Household Interview Surveys

Extensive Household Interview Survey (HIS) was carried out covering 4252 households, distributed over all the TAZs. The households were selected on a random sampling basis from the updated electoral list. HIS has revealed interesting information about the socio-economic and travel characteristics of the people of Vijayawada. They help in formulation of appropriate policies and programmes to meet the travel needs of the people. The IR presents a detailed analysis of HIS data. Some salient facts are presented here.

5.2 Socio-Economic Characteristics

Age Group

Vijayawada is a city of young people. Nearly 50% are below 25 years of age. This indicates the potential high travel demand. Also major efforts need to be made to provide attractive public mass transport service to restrain them to go for private modes, particularly 2-wheelers. **Table 5.1** presents the population distribution by age group.

Table 5.1: Population Distribution by Age Group

Age Group (years)	Population (%)
0--6	08.43
7--16	17.55
17--24	23.56
25--59	46.17
Above 60	04.29
Total	100.00

Source: CES VHIS 2006

Occupation

'Students' (32%) and 'Housewife' (Home makers) (28%) account for a major share of the population. This indicates the high potential for public mass transport service but the need for fare levels to be low at affordable levels.

Table 5.2 presents the distribution of Population by Occupation.

Table 5.2: Distribution of Population by Occupation

Sl. No	Occupation	Population (%)
1	Service	14.9
2	Business	8.3
3	Daily wages	15.5
4	Housewife	28
5	Student	32
6	Retired	0.8
7	Others	0.5
Total		100.0

Source: CES HIS, 2006

Household Income

Income affects the ability to pay for travel and hence the choice of mode for travel. A large number of households belong to low income group and below. The average monthly household income is only Rs. 5347. This indicates the low level of affordability for travel service. This, on the one hand, emphasizes the importance of public mass transport to meet the travel needs of the people and, on the other, presents a challenge for formulating the fare policy.

Table 5.3 presents the distribution of households by major income groups.

Table 5.3: Distribution of Households by Income Group

Sl No.	Category	Monthly Income (Rs.)	Household (%)
1	Economically Weaker Group	Upto 2500	11.10
2	Low Income Group (LIG	2501-5500	57.71
3	Middle Income Group (MIG)	5501-10000	25.92
4	High Income Group (HIG)	Above 10000	5.27

Source: CES HIS, 2006

Household Expenditure

Household expenditure pattern is important in assessing the expenditure of a person incurred on his travel. In Vijayawada, 'Food' (36.9%) and Housing (13.82%) account for a major share of the household monthly expenditure. Expenditure on 'transport' is high at 12.74%. An All India Survey of 25,000 respondents in 500 cities by the Knowledge Co., on Indian Consumer Trends –2006, indicated the Urban India Expenditure Pattern on 'Fuel & Transport' as only 6.2% (ref: Economic Times, 21/09/2006). This indicates the high cost of travel in Vijayawada and the need to bring it to more affordable levels.

5.3 Travel Characteristics

Trip Generation

A total of 12.61 lakh trips were generated by the residents of Vijayawada on an average day (2006).

Per Capita Trip Rate

The Per Capita Trip Rate (PCTR), which may be called as the mobility rate, at city level, including persons in all age groups, was 1.36 including 'Walk' trips and 1.02 excluding 'walk' trips. Amongst the sectors, the PCTR ranged between a low of 1.14 and a high of 1.53 with 'walk' trips (0.72 and 1.29 without 'walk')

Mobility by Income Groups

The mobility rates were observed to increase with increase in income levels. At city level the range was 1.17 for EWS category to 1.55 for High Income Group.

Modal Share

'Walk' trips accounted for a major share of 25% of all the trips. 'Bus' and '2-wheelers' accounted for 22% each. Share of 'Cycles' was about 15%. This indicates the low level of share by public mass transport and the urgent need to improve the capacity and quality of PMT service to attract higher shares. **Table 5.4** details the modal share at city level.

Table 5.4: Modal Share of Trips

Sl No.	Mode	Share of Trips (%)
1	Walk	25.05
2	Cycle	14.68
3	Cycle Rickshaw	1.57
4	Scooter/ Motor Cycle	22.17
5	Auto Rickshaw	12.66
6	Car/Van	1.12
7	Taxi/ Jeep	0.06
8	Mini Bus	0.25
9	Standard Bus	22.32
10	Rail	0.11
All		100

Source: CES - HIS

Figure 5.1 depicts the modal share

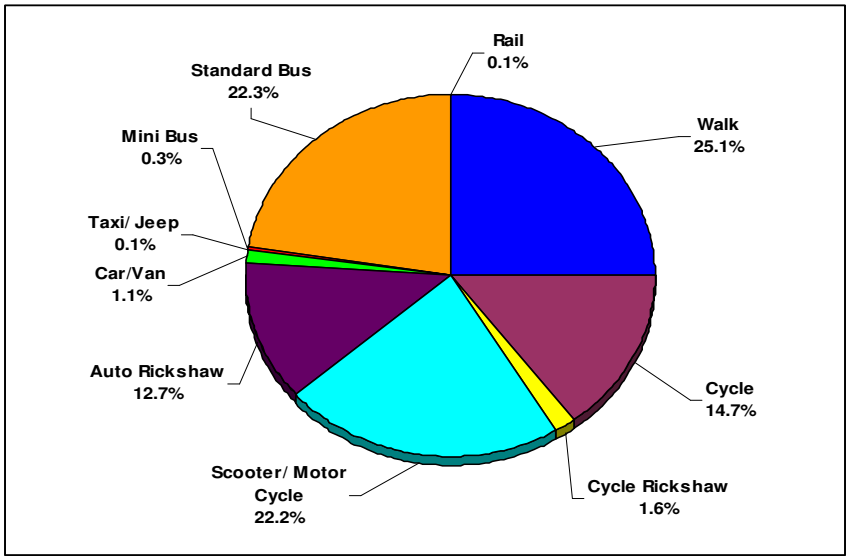

Figure 5.1: Modal Share of Trips

Trip Length

The overall trip length of all trips, including 'walk' trips, was a moderate 4.21 km. This indicates the compactness of the city. Only about 3.7% of trips had a trip length of more than 10 km.

'Walk' trips had a length of 1.09 km. 'Bus' trips had a length of 5.89 km. The average trip lengths by different modes is presented in **Table 5.5**.

Table 5.5: Average Trip Length by Mode

Sector	Average Trip Length (km)
Walk	1.09
Cycle	3.78
Cycle Rickshaw	3.02
Scooter/ Motor Cycle	5.71
Auto Rickshaw	3.95
Car/ Van	10.67
Taxi/ Jeep	4.88
Mini Bus	4.18
Standard Bus	5.89
Rail	108.07
All	4.21

Source: CES VHIS, 2006

Trip Purpose

'Work' and 'Education' trips accounted for 70.64% of all trips. This indicates the potential captive trips for PMT service. **Table 5.6** presents the distribution of trips by purpose.

Table 5.6: Distribution of Trips by Purpose

Sl No.	Trip Purpose	Share (%)
1	Work	39.6
2	Business	4.02
3	Education	31.04
4	Social	1.02
5	Shopping	14.41
6	Recreation/ Tourism	2.47
7	Religious	3.89
8	Health/ Hospital	2.41
9	Other Purpose	1.14
10	All	100

Source: CES VHIS, 2006

Gender Mobility

The overall mobility rate of females was 1.21 as against 1.51 of males. Females account for 43.67% of all trips. They have a high share of 'walk' trip (54.78%). Share of 'Bus' trips is almost equal by both the genders. Females have a higher share of IPT (Auto Rickshaw) trips (65.73%).

Table 5.7 presents the share of trips by mode by gender.

Table 5.7: Share of Trips by Mode by Gender

%

Sl No.	Mode	Male	Female	Total
1	Walk	45.22	54.78	100
2	Cycle	73.33	26.67	100
3	Cycle Rickshaw	42.12	57.88	100
4	Scooter/Motor Cycle	77.98	22.02	100
5	Auto Rickshaw	34.27	65.73	100
6	Car/Van	60.70	39.30	100
7	Taxi/Jeep	43.84	56.16	100
8	Mini Bus	53.43	46.57	100
9	Standard Bus	49.33	50.67	100
10	Rail	92.01	7.99	100
11	All	56.33	43.67	100

Source: CES VHIS, 2006

The mobility pattern indicates the potential of more trips by females in the future years and the preference of females for PMT system (including IPT) service.

5.4 Self Containment

The degree of self-containment of the sectors was observed to be low. It ranged between 22.69% and 47.43%. One reason could be the small size of sectors. However it also indicates the need for concerted planning and development efforts to establish more rational relationship between 'activities' and 'home' to minimize travel demand.

Figure 5.2 depicts the desire line for all trips.

5.5 General

The study of traffic and travel characteristics of Vijayawada indicates that:

- The road network pattern is obsolete and capacity poor
- A number of natural and man made physical features impose constraints on the smooth movement of traffic
- The prevailing level of service on the roads is low
- There is a large volume of floating traffic to and from the region
- The socio-economic characteristics indicate a high potential for increased travel demand
- The income levels are low and calls for care and consideration in providing affordable transport service
- The present share of PMT modes is not high. This calls for concerted efforts in their development
- The potential for PMT services is high and needs to carefully exploited
- Females are handicapped by lower mobility as compared to males. Their development in terms of education, access to economic opportunities and participation in economic activities indicate a potential explosion in travel demand, particularly for PMT services.