Project: Comprehensive Traffic & Transportation Study for Vijayawada City
Document: 2006042/TT/Rep-03/Chap-6
Travel Demand Forecast

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CHAPTER 6.0

TRAVEL DEMAND FORECAST

An understanding of the future levels of travel demand, in terms of size and other dimensions, is important to plan the transport system development. The CTTS proposes to construct, calibrate and validate travel demand models, estimate future levels of travel demand by mode type and time period and formulate policies, plans and programmes to provide transport service. This will be discussed and presented in the Final Report. However, at this stage, it is proposed to estimate indicative travel demand by quick response technique and general assumptions.

Population Size

The ZDP (Draft) for Vijayawada has estimated the Population size of Vijayawada to be 16.40 lakh by 2021. Of this it has been proposed to accommodate 12.078 lakh within the present limits of the city. The balance of 4.328 lakh population is proposed to be housed outside city limits (present) in zones of Nunna, Gollapadi, Kanuru, Tadepally and Nidamanuru. For the transport study these areas are considered as part of city area functionally and physically integrated with other parts. Possibly the municipal limits would be extended to bring these areas and population under the jurisdiction of VMC management and services.

Income

With the overall economic development, the per capita income is expected to double over the next decade or so. Income levels of cities would more than double. However, a doubling of income levels by the end of the study period is assumed.

Mobility

With rise in income, the mobility rate will increase. It is assumed that each category will move into the next higher category and will achieve the mobility rate of that category. With this the PCTR, by 2021, is estimated to be 1.48.

Travel Demand

With a population size of 16.4 lakhs and a PCTR of 1.48, the travel demand works out to 24.27 lakh trips. This indicates a doubling of trip generation by the residents of the city.

In addition to trips by resident population, a large volume of trips by floating day population will be moving on the city transport system.

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Modal Share

Presently modal share of PMT system, including IPT modes, is only 35.40%. In the context of future growth of the city, the need of conserve land resource, minimize environmental negative impacts and promote mobility of the weaker sections, there is a need to ensure a high modal share by PMT system. The NUTP also lays stress on promotion of PMT system to cater larger share of travel demand. The Study Group on Alternate Urban Transport System, set by GOI, had recommended policy normative modal shares in favour of PMTS, by city size as under:

Less than 1.0 million	-	30%
1.0 million	-	35%
1.5 million	-	40%
3.0 million	-	50%
6.0 million	-	70%
9.0 million & above	-	75% and above

Accordingly, for the present, a normative modal share of 50% by PMTS is assumed. (Note: This will be reviewed and revised based on transport demand models). Of this the common carrier (bus) is estimated to account for a large share of 80% and IPT modes to share the balance 20%. Hence, overall the modal share of total trips will be as under:

Walk & Slow Moving Modes	:	30%
Private Modes	:	20%
Public Transport		
Bus System	:	40%
IPT Modes	:	10%

PMT Travel Demand

At the above normative modal share policy, with a population size of 16.4 lakhs and a PCTR of 1.48 the travel demand per day, by PMT systems would be as under:

Common Carrier (Bus)	:	9.71 lakh trips
IPT	:	2.43 lakhs trips

On the common carrier system, say bus system, there will be transfers in performance of a trip. Assuming a transfer factor of 1.5, the demand will be of order of 14.57 lakh passengers per day.

In addition to the above demand by residents of the city, the system would need to cater to the demand by the floating population commuting every day into the city from the region. Hence the common carrier PMT system would need to gear itself to meet an overall demand of 16 to 18 lakh passengers. This will be a substantial increase from the present levels catered by the Vijayawada City Division (Bus) of APSRTC.