

5 Existing Traffic and Transportation in Studied Areas

5.1 Travel demand between zones

There are 53 internal zones and 5 external zones for transportation demand modeling. To display travel demand, the internal zones are grouped to be 4 group zones. The travel demand within the study area can be shown in Figure 5.1-1

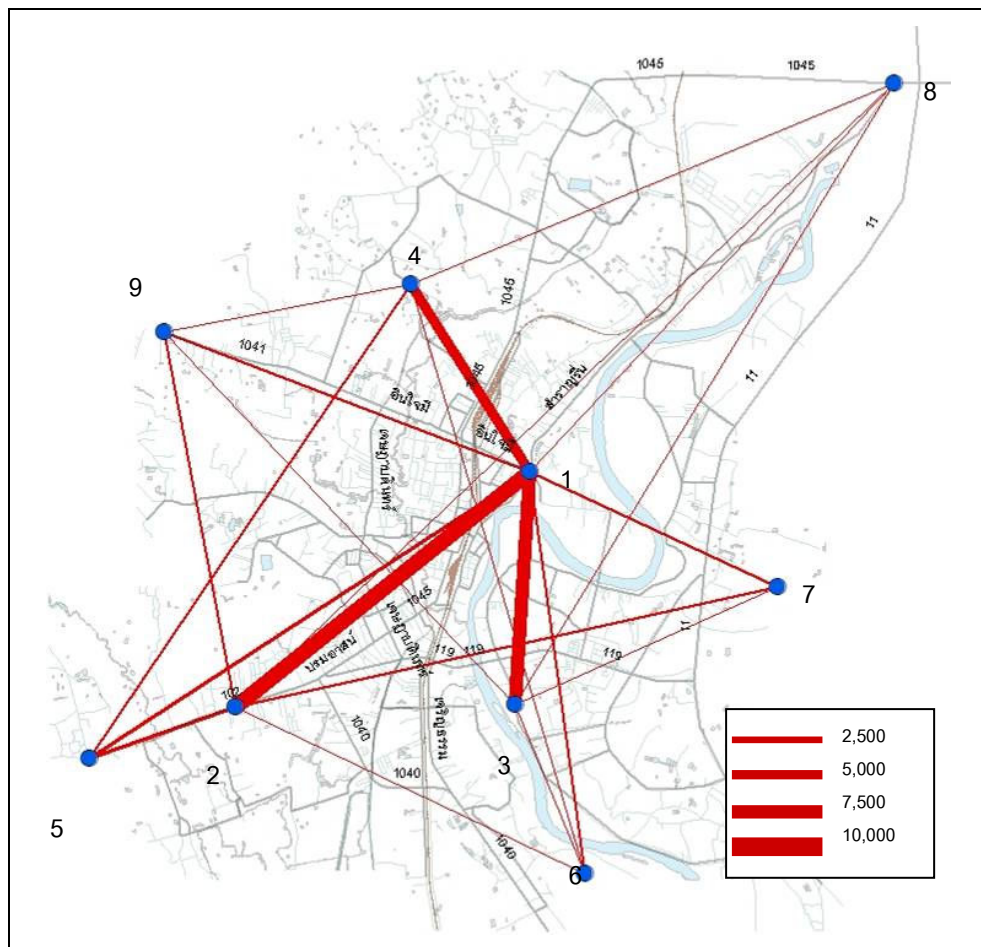


Figure 5.1-1 Travel demand in Uttaradit (Person trip/day)

5.2 Traffic Volume Count

Traffic volume survey in Uttaradit can be divided into 4 surveys.

- (1) Traffic volume at Cordon
- (2) Traffic volume at Midblock
- (3) Traffic volume at Screen Line
- (4) Traffic volume at Intersection

5.3 Traffic volume at Cordon

In morning peak hour, highest traffic volume is on highway No.119. This is because this highway is used as a main entrance to the city center. The traffic volume at cordon can be shown in Figure 5.3- 1.

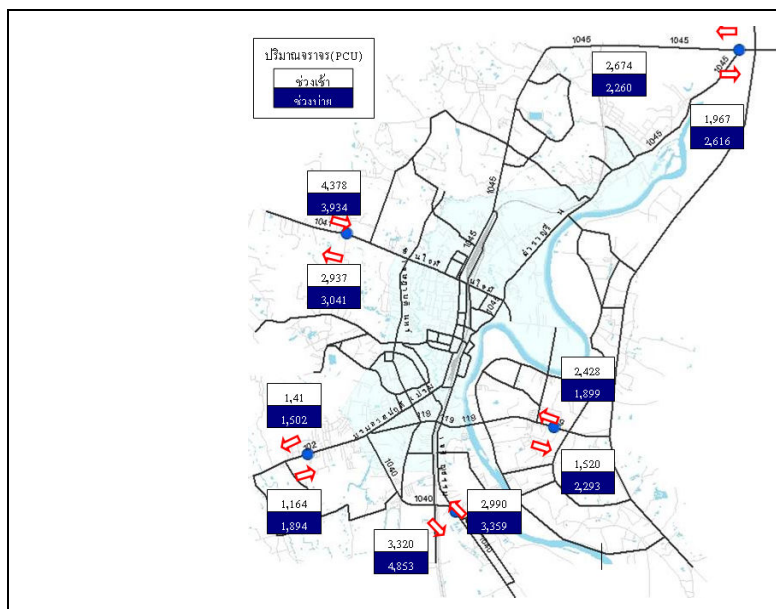


Figure 5.3-1 Traffic volume at Cordon

5.3.1 Traffic volume at Midblock

Traffic volume during the morning rush hour (7.00 – 8.00 am.) is highest on Jareerntam road with 2,119 PCU/ hour, and 1,804 PCU/ hour in evening rush hour. This is because this road is located within the CBD.

5.3.2 Traffic volume at Screen Line

In Uttaradit, rail track is used as a screen line. The screen line can be used to determine traffic volume between east and west part of the study area. The traffic volume in morning rush hour 7.00 – 8.00 am. is 11,806 vehicles per hour, while reducing to 7,885 vehicles per hour at 9.00-10.00 am. The average vehicle occupancy is 1.5 persons per vehicle.

5.3.3 Traffic volume at Intersection

Traffic volumes at 10 intersections in Uttaradit have been performed, which can be divided in to 9 signalized intersections and 1 unsignalized intersection.

5.4 Travel speed and Travel Delay

By using Travel time-Delay study technique, it was found that the average travel speed within the study areas was in a low-speed level (20 – 35 km/ hour) and running speed 25 – 40 km/ hour, and the speed tends to be at the low level within the city center with the speed of 20 – 30 km/hour due to high density of the traffic and various turning points. The lowest travel speed occurred in Jareerntam road. The average travel speed can be shown in Figure 5.4-1

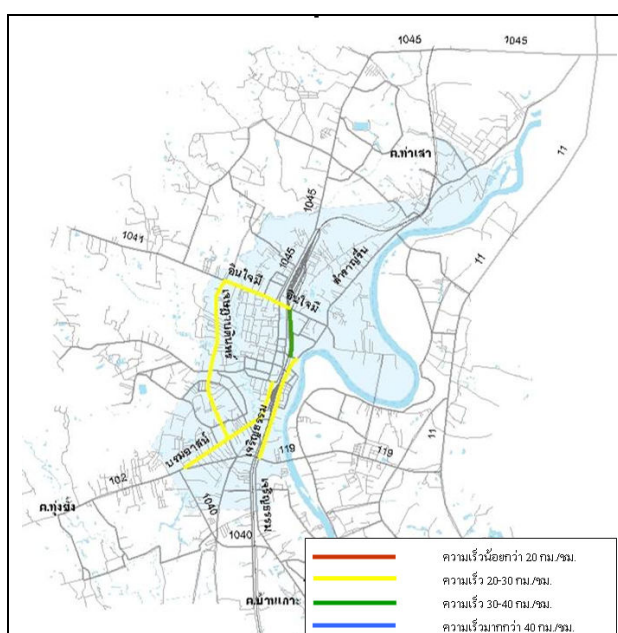


Figure 5.4-1 Average travel speed in morning peak hour

5.5 Level of Service of roads

Capacity of roads in Uttaradit can be estimated following Highway Capacity Manual. Together with counted traffic volume, level of service and reserved capacity of each road can be determined using volume per capacity ratio (V/C ratio). It is found that most of roads in Uttaradit have V/C ratio less than 0.5. The road that have largest V/C ratio is Jitpern road. Large reserved capacity on roads is also obtained. Thus, it can be concluded that there are no problem with capacity in most of roads in Uttaradit.

5.6 Traffic accidents in Uttaradit

In 2003 – 2006, there are 711 accidents per year in average, resulting in 804 injured per year and 76 fatalities per year. It is found traffic accident is highest in December, 111 accidents per year. However, the highest injured and fatalities occurred in September. Number of accidents and Number of injured and fatality can be shown in Figure 5.6-1 and 5.6-2

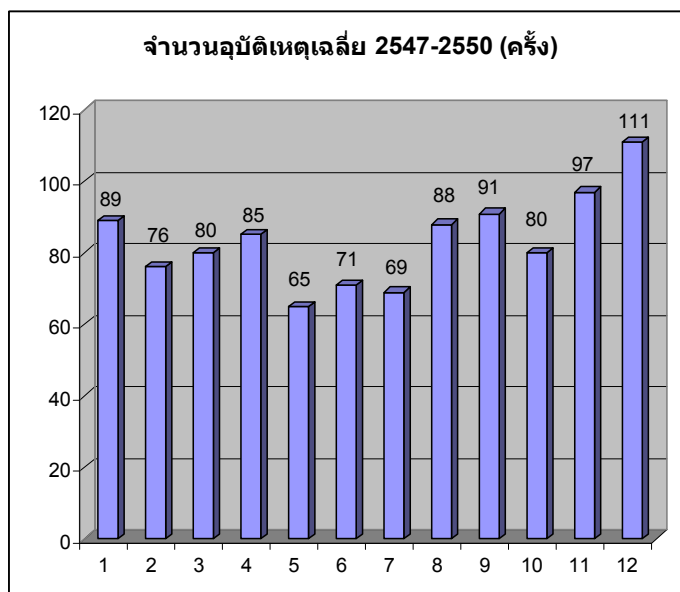


Figure 5.6-1 Average number of accident in 2003 - 2006

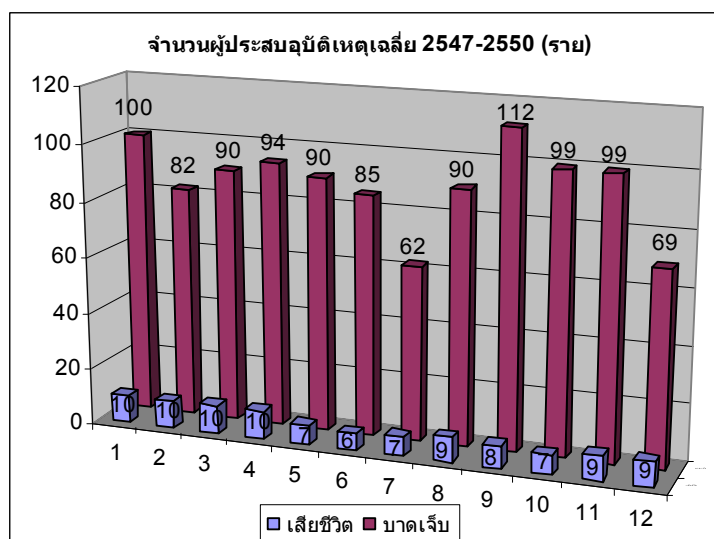


Figure 5.6-2 Average number of injured and fatality in 2003 - 2006

