

## 2.1 TRAFFIC FLOW

Summertime traffic on the Niagara Parkway has been measured since 1966 showing less than a daily average of 3000 traffic units entering and leaving Town by the Parkway in 1966, to about 5000 units today, and a projected 7500 units by the year 2000. A statistical trend analysis shows a 2.76% yearly growth rate from 1975 to 1986. (Figure 1).

Figure 2, \* from Read-Voorhees (1982) gives 1981 summer weekday and weekend average daily traffic measured at key points in Town. Notice that weekend traffic at the Highway # 55 entrance at Mary Street and the Parkway entrance to Town are about equal, 7500 and 8450 respectively. This fact is important to future traffic control plans.

Figure 3 \* shows summer Sunday peak hour (4-5 p.m.) traffic measured by Read-Voorhees in 1981 at several key points. Also shown are projected additional new traffic due to anticipated Dock Area development. Read-Voorhees made the 1981 projections based upon development plans at that time. Using the same techniques, the 1988 Traffic Flow Sub-committee generated the 1987 new traffic data based upon new anticipated development in the Dock Area. Development here approximates 75% of "Old Town" total. Naturally, such a concentration of development will most drastically alter traffic flow patterns in this part of Town.

Figures 4, 5 and 6 \* highlight the anticipated traffic growth at the 3 most critical corners in town; Picton-Queen and King; Queen and Mississagua; and Mary and Mississagua Streets. In addition Fig. 7 shows the impact of Dock Area development upon the Ricardo and Melville intersection. Table 1 summarizes the important numbers in Fig. 3 and the projections in Figs. 4 through 7. Details of how these numbers were generated can be found in Appendix C from the 1987-1988 Niagara-on-the-Lake Traffic Flow Subcommittee Reports.

Inspection of Figures 4-7 \* each show 4 growth curves projected to the year 2000 based upon known past 2.76% growth rate. The lowest curve starts with 1981 Read-Voorhees and Associates (RVA) measured values. The next growth curve is based upon one measurement made September 16, 1987. However this 30% growth from 1981 agrees with other "spot" measurements made in recent times. Also plotted near these curves are the RVA projected 1986 values based upon 1982 proposed developments on the books at that time. The 3rd highest curves are 1987 projections based upon present proposed Dock Area developments. Finally the highest or top curves are for the total 1987 town proposed developments.

\* Further details from 1987 - 1988 Niagara-on-the-Lake Traffic Flow Subcommittee Reports can be found in Appendix C

The right hand side of graphs 4-6 give the RVA classification of traffic loads. In the body of each graph the arrows and dates indicate where each growth curve crosses from one traffic class to the next. Results are rather startling but it should be emphasized that in every step of the calculations, the most conservative assumption was made, thus end results likely undershoot reality.

In Fig. 7 \* for the Ricardo-Melville corner no traffic classes are given but % growth since 1981 is given to highlight growth in this part of town where 75% of development will occur. Solid lines here, give indicated 5 to 10 year growth lag time. Again all numbers are very conservative but development in the Dock Area will most drastically alter flow patterns in this part of town.

Table 1 \* summarizes anticipated traffic conditions at the three most critical intersections in Town, plus one most affected by growth in the Dock Area. Of note is the fact that the three critical points are much alike, which is consistent with the data given above, indicating about equal traffic at the two main entrances to Town. Obviously, most traffic heads for the Queen Street core. Most disturbing, is the projection of "grid lock" or saturation of traffic flow at all three intersections by the year 2000 if annual growth continues at 2.76%. Alternative traffic patterns will have to be established within the next 10 years to head off such serious conditions. A growth of 133% of traffic at the Ricardo-Melville intersection in the Dock Area also will require attention to avoid congestion in a confined area.

\* Further details from 1987 - 1988 Niagara-on-the-Lake Traffic Flow Subcommittee Reports can be found in Appendix C