



**AYR COMMUNITY PLAN  
DISCUSSION PAPER**

**TRANSPORTATION**

**Prepared For:  
*Township of North Dumfries***

***August 2001***

## **TRANSPORTATION**

### **1.0 Introduction**

#### **1.1 Purpose**

An important component of any community plan involves an assessment of the impacts and requirements associated with the movement of people and goods into and out of the Village. While other infrastructure components need to be dealt with, transportation is generally a very sensitive issue to local residents and businesses. Therefore, it should receive adequate attention in the community based public process used to develop this plan.

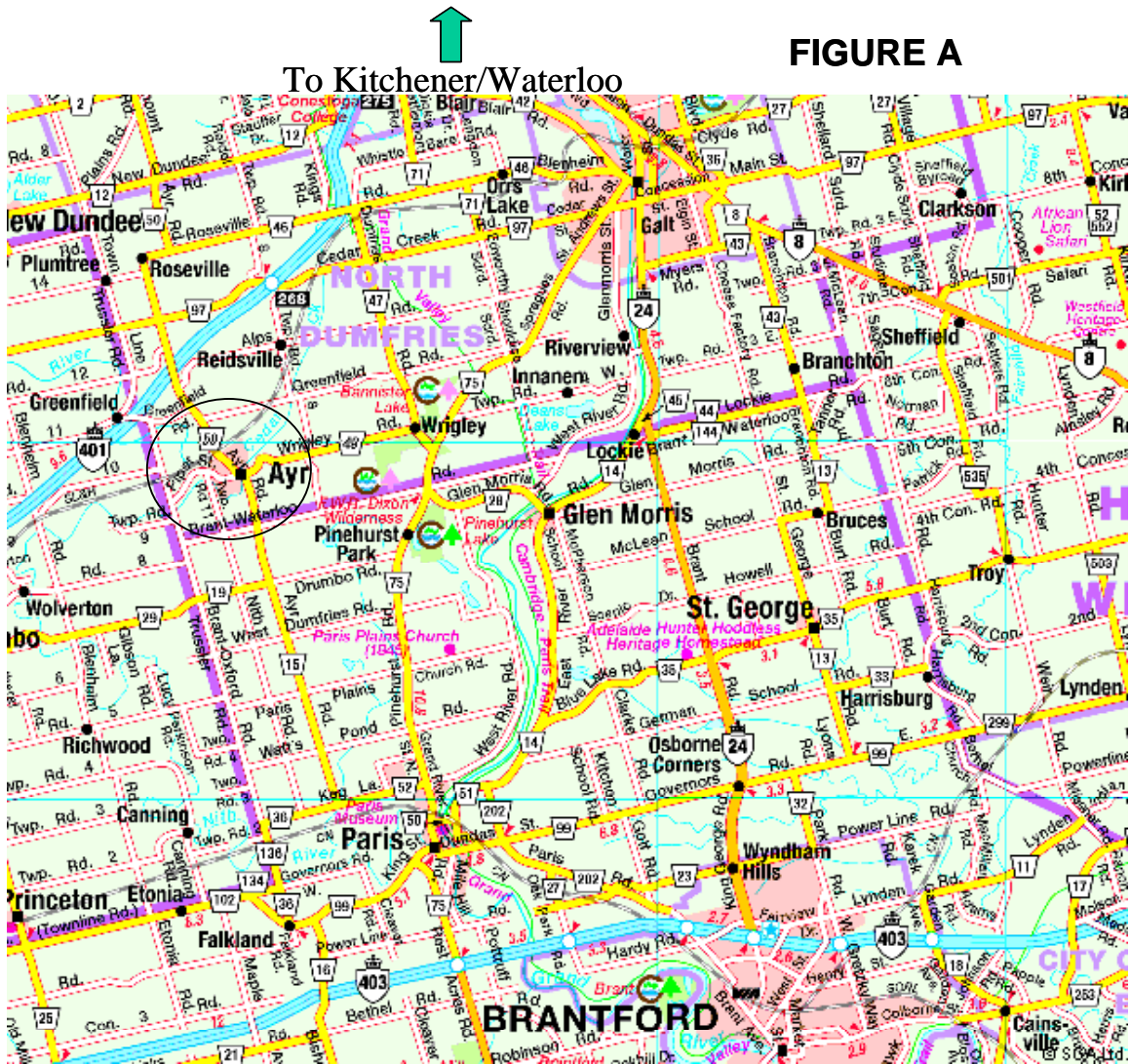
*“The goal of this component study is to develop a long term plan, strategy and associated policies for the transportation system within the Village that will address existing and future growth related issues.”*

This component study will deal with the following subjects:

- ▲ Internal Traffic Demands
- ▲ External Traffic Demands
- ▲ Future Internal Road Network
- ▲ Roadway Network Improvements
- ▲ Public Transit
- ▲ Truck Routing
- ▲ Parking
- ▲ Pedestrian and Bicycle System

The following section documents existing conditions and issues to date concerning transportation within the Village of Ayr. In reviewing this information it is important to understand the regional context within which the Village is located. This is shown in Figure A.

As noted in the figure, the Village of Ayr is located southwest of the City of Cambridge and northwest of the City of Brantford. North of the Village are the cities of Kitchener Waterloo while to the south is the Town of Paris in Brant County. Key transportation linkages to these areas are provided by Regional Road 50 and 49.



## 1.2 Public Input

Transportation issues gathered to date from public input obtained as part of this study, including the Community Plan Open House/Public Meeting of November 23, 2000 are summarized in three main categories below:

1. **Heavy Truck Traffic:** The movement of heavy truck traffic through the Village has been a key issue in the Village for well over 10 years and this remains a major concern for area residents.
2. **Central Area** In addition to concerns regarding truck traffic moving through the downtown general concerns regarding intersection sight lines, congestion and lack of parking were noted as issues in this area.

3. **Access to Hwy 401:** Better access to Hwy 401 via a new interchange at Trussler Road is supported to divert truck traffic from the Village as is not to locate this interchange at Northumberland Street since it may encourage more traffic through the Village.

It is noted that a transportation planning and traffic operations study<sup>1</sup> for the Village of Ayr was completed in 1991 by the Region of Waterloo. The purpose of that study was to address some of the very same issues noted above. The Region of Waterloo is currently conducting a truck routing study to update truck traffic patterns. Much of the current traffic data contained in this paper has been assembled from this more recent study.

Most of the above issues are related to existing operational concerns rather than those that would be impacted by the longer range Community Plan. However, where these issues are relevant and/or potentially impacted by future growth, they will be considered.

## **2.0 Existing Conditions**

### **2.1 Roads**

The Township of North Dumfries Official Plan identifies a road hierarchy consisting of provincial highways, regional roads and township roads. The latter category is broken down into primary, secondary and local roadways within the Township. The Township Official Plan does not specifically identify a roadway hierarchy within the Village except where roadways are designated as Township Roads.

Figure B provides a hierarchy of roadways within the urban area of Ayr. The designated *arterial* roadways include Alps Road (Twp. Road 2W), Greenfield Road east of Northumberland Street (Twp. Road 3W) and the Regional roadways of :

- ▲ Northumberland Street (R. R. 50)
- ▲ Scott Street/Wrigley Road (R.R. 49)
- ▲ Swan Street (R.R. 50)

These roadways function to accommodate traffic flow between urban and rural areas outside the Village to and through Ayr. Not shown within the Community Plan area is

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<sup>1</sup> Transportation Planning and Traffic Operations Study, Village of Ayr, Township of North Dumfries, Regional Municipality of Waterloo, March 1991.



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Trussler Road (Twp Road 6) to the west of the Village, which is considered to function as an arterial roadway (See Figure A). These roadways are intended for the movement of traffic but also provide some land access. All these roadways currently consist of two lanes.

Roadways that collect and distribute locally generated traffic to the above noted arterial roads include Greenfield Road west of Northumberland Street, Piper Street, Hilltop Drive, Mitchell Street, Main Street, Hall Street, Inglis Street etc. as shown in Figure B. These are all two lane roadways.

### **2.2 Traffic**

The most recent counts undertaken in the area were provided by the Region of Waterloo and were observed in 1998. Figure B summarizes this information. The data clearly shows that Northumberland Street (R.R. 50) north of the Village Centre accommodates the highest daily traffic volumes at 5500 - 6,500 vehicles per day. This roadway provides the main access to Hwy. 401 and urban areas to the north and east (Kitchener, Waterloo, Cambridge).

The continuation of Regional Road 50, which includes part of Stanley Street (in the central area of the Village) and Swan Street, accommodates traffic demands of 3000 – 5000 vehicles per day. Swan Street provides access to/from Paris and Brantford to the south. Stanley Street connects to Main Street and Wrigley Road providing an alternative route to the City of Cambridge.

Piper Street immediately west of Northumberland Street accommodates 2000 vehicles per day while traffic volumes on Wrigley Road are about 1500 vehicles per day. All available traffic volumes on other roadways (including Trussler Road south of Greenfield Road) accommodate volumes of about 1000 vehicles per day or lower.

Generally speaking, two lane arterial roadways are capable of accommodating up to 15,000 vehicles per day if left turn lanes are provided at major intersections. Therefore,

all designated arterial roadways are capable of adequately accommodating traffic volume increases and support for future growth in the Village.

## **2.3 Historical Growth**

Historical traffic counts were available from the 1991 Village of Ayr Transportation Planning and Traffic Operations Study. The existing counts shown in Figure B are compared to the corresponding counts from the 1991 report in Table A below.

**TABLE A: EXISTING AND HISTORICAL COUNTS**

Road	Road Section Location	Traffic Volumes (vpd)		Annual Growth
		1990	1998	
Northumberland Street (RR 50)	Greenfield Road to Stanley Street	5000	6300	3.3%
Swan Street (RR 49)	South of Stanley Street	3000	3100	0.4%
Scott Street (RR 49)	East of Stanley Street	1650	1550	-0.8%
Stanley Street (RR 50)	Between Swan Street and Northumberland Street	2700	1900	-3.7%
Piper Street	West of Northumberland Street	1550	2000	3.6%
Total		15890	16848	0.8%

The table indicates the following:

- ▲ Over an eight year period traffic volumes on Northumberland Street and Piper Street show the highest annual growth rates averaging increases of over 3% per year.
- ▲ Other roadways show little or negative growth indicating that volumes have remained the same or dropped.

Since the 1991 study, Hilltop Drive has been constructed providing a new link to Scott Street/Wrigley Road. This could have contributed to the drop in volumes on Stanley Street east of the core area. Although development has also occurred in the Hilltop Drive subdivision, there has been no growth in traffic on Wrigley Road east of Hilltop Drive. The limited traffic growth in the east part of the Village may suggest a shift in travel patterns toward more commuter/shopping orientation of the Village residents to Kitchener/Waterloo and Hwy. 401 and a decrease in travel to/from the City of Cambridge.

## 2.4 Travel Patterns

The 1996 Region of Waterloo Transportation Tomorrow Survey involved a travel survey of 6% of Ayr households to determine travel characteristics in this area and other municipalities in the Region. Although the survey is based on responses from only about 60 households, it provides some general information to assist in analyzing existing and potential future travel patterns. Figure C illustrates some of this information highlighted below:

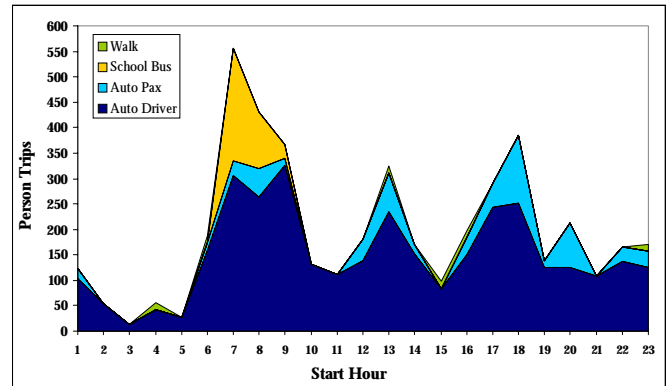
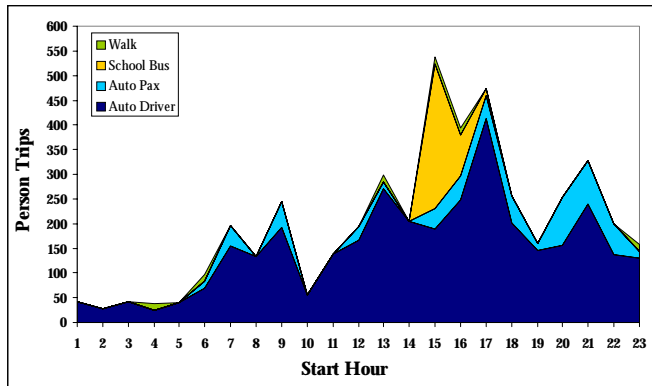
- ▲ Time of day patterns for trips originating from Ayr show three peaks (AM, PM and noon hour). The AM is the highest peak if school bus trips are included – otherwise it is similar to the other peaks. Excluding the trips by school bus, the PM peak hour of trips destined to Ayr is higher than the AM peak of trips originating from Ayr. Combining the two graphs and excluding the school bus trips shows that the PM peak hour is the highest period of traffic activity by area residents. This is further supported by the trips rates calculated in Table B below:

**TABLE B: OBSERVED RESIDENTIAL TRIP RATES**

Trip Rates	Daily	AM Peak	PM Peak	1996 Statistics	
Rate /Capita	2.89	0.18	0.25	3118	Population
Rate / Job	7.26	0.45	0.62	1241	Employment
Rate / HH	8.71	0.55	0.74	1779	Households

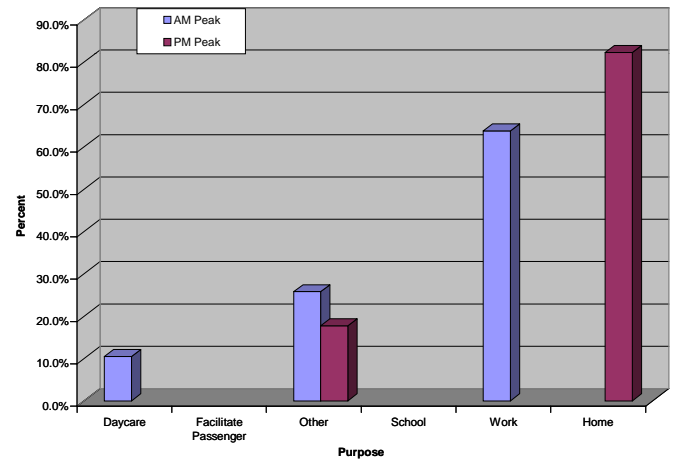
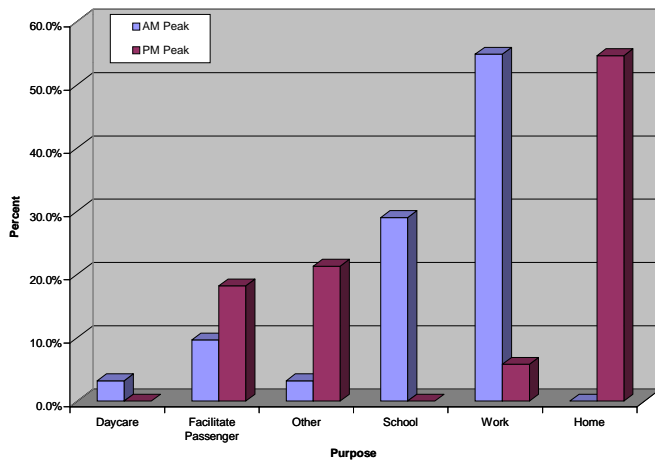
- ▲ Table B indicates that the average household make 0.18 trips per capita or 0.55 trips per household in the AM peak hour. The PM peak hour rate is 0.25/capita or 0.74 per household. On a daily basis, households in Ayr make almost 9 trips per day and residents make about 3 trips/person.
- ▲ The majority of trips (over 80%) destined to Ayr in the PM peak hour are ending at home while over 60% of the trips from Ayr are for the purpose ending at home during this period.
- ▲ Trips to/from Kitchener/Waterloo represent 25-30% of the origins/destinations. About 30 percent of the AM trips and 20% of the PM trips are internal to Ayr.

**Figure C**  
**Existing Travel Patterns**



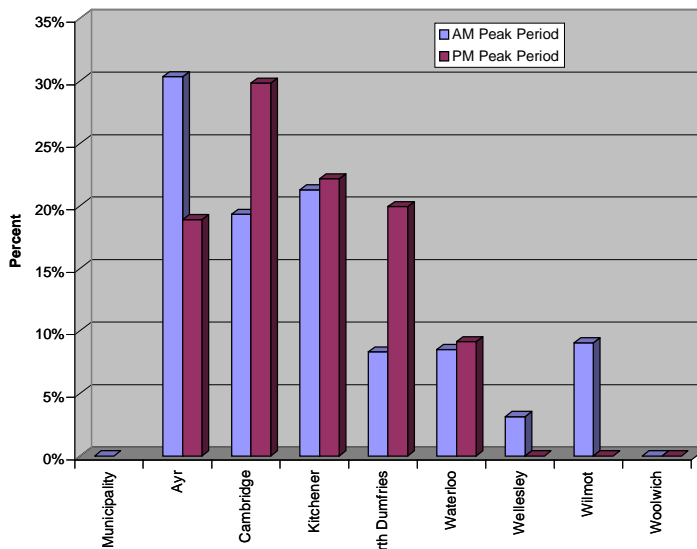
**Trips Destined To Ayr By Time of Day and Travel Mode**

**Trips Originating From Ayr By Time of Day and Travel Mode**



**Purpose of Trips From Ayr**

**Purpose of Trips To Ayr**



Where Trips To/From Ayr Go To or Come From

### **3.1 Truck Traffic**

Truck traffic within and through the Village was also dealt with in the previous 1991 Ayr Study but remains an issue with residents. As a result, the Region of Waterloo has been undertaking a review of truck traffic patterns and some remedial measures. The following is a list of issues, comments and suggestions related to truck traffic in the Village.

- ▲ Trucks coming from Paris headed to Hwy. 401 from Spragues Road miss the sign at Dumfries Road so they continue on Wrigley Road into and through Ayr. Can the signs be made bigger and located better so that this does not happen?
- ▲ Many trucks on Northumberland Street from Hwy 401 are going to Tampa Hall but miss the corner at Greenfield Road and end up in the Village core. It was suggested that signage to Tampa Hall would help avoid this.
- ▲ A new truck company is in operation on Township Road 2W and along with approval of a new Coop store on Hwy 50 at the intersection with 2W. One resident felt that safety is a concern at this intersection.
- ▲ Visibility is a concern at the Swan Street and Stanley Street intersection due to positioning of the building at the corner. It was suggested that the building should be removed and that the land be used as a parking lot. Alternatively, place a mirror at the corner to help motorists see past the building.
- ▲ Concern was expressed that there is not enough parking downtown.
- ▲ What is the status of Trussler Road as a bypass and as a new Regional Road? This warrants some consideration given that it is the next continuous N-S arterial on the west side of the City of Kitchener and Waterloo. As IRA Needles gets constructed and growth continues on the west side, it may make some sense to look at this road as a future Regional Road and ultimately with an interchange at HWY. 401.

The Region of Waterloo studies of heavy truck traffic patterns have resulted in a data base of daily flows in the Village as shown in Figure C. Northumberland Street immediately south of Greenfield Road experiences the highest volume of trucks at about

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350 per day. Over 100 of these heavy vehicles end up in the Village core. These trucks likely are providing materials for construction activity in the Village or are exiting/entering on Swan Street and Wrigley Road.

The Region's current studies indicate that approximately 15% of the truck traffic on Regional Road 50 represents traffic going directly through the Village. The 1991 study indicated a much higher percentage of through truck traffic with the most significant travel pattern occurring between Regional Road 49 and Regional Road 50.

The Region in conjunction with a Steering Committee have implemented some improved signage to divert trucks from traveling through the Village. Long term suggestions involve the designation of Trussler Road as a truck by-pass route.

The truck traffic issue is an operational problem that will be dealt with by the Region of Waterloo as part of their ongoing truck bypass study.

