

**Appendix A: "Toronto Area Transportation Data Study." Acres Consulting Services Limited. March, 1979. Details and Recommendations**

## ***Acres Report Details***

The Acres report identified several existing databases that may satisfy priority data gaps, i.e. the Census Place-of-Work and related datasets, the TARMS external travel surveys. Databases with potential planning application were also identified, specifically the Ontario Recreation Survey for weekend travel forecasting purposes. Given the uncertainties surrounding the availability of the 1981 census data and surrounding the suitability of potential datasets, the report made a series of recommendations regarding model development/update, development approval studies, impact analyses of goods movements, impact analyses of weekend recreational traffic, time series database and other issues, as summarized below.

- a) Model development/update - Detailed task outlines for a data collection program were provided concerning procedural/statistical uncertainties and survey scope and design. The report also recommended three surveys. Survey 1 would provide estimates of HB and NHB trip production and HB TLFDs based on small scale telephone interviews (1500 to 2250 hh). Survey 2 would estimate trip attraction, TLFDs and mode choice for home based shopping trips. Survey 3 would be HB-Work travel surveys to collect detailed information on trip distribution and mode choice. As part of the model development/update process, an analysis of existing data sets should be carried out to extract useful data and in particular, the MTC Census Tract data should be upgraded by incorporating inter-CMA flows so as to develop an area-wide origin-destination matrix.
- b) Site plan/development approval - Survey 1 can be used to generate trip rates data and survey 2 for trip attraction and distribution data. Specially designed attractor-end surveys can be used for unique trip generators like office complex, hospitals, warehouses, etc.
- c) Impact analyses of goods movement - Existing truck data collected by the Region of Peel and the Ministry of Transportation and Communications can be used as the basis for the development of a region-wide database for truck movements.
- d) Time series database - For model development/update, the Census and related datasets should serve as a basis for updating trip generation every 5 years and trip distribution every 10 years. For non-discretionary trips, updates are at the discretion of agencies involved. Forecast results can be confirmed by traffic counts undertaken by the ATR counts and transit agencies. ATR counts and occupancy and classification counts should be carried out every 5 years to coincide with the Census and additional counts and new screen lines should be implemented as required. Standardization of data collection procedures, zonal system, data categories, and screen lines is emphasized. Special purpose surveys (e.g. Survey 2) and trucking generation surveys should be initiated on a needs basis. Other indicators such as population, labour force participation, rate of age, etc. should be used to determine the necessity of carrying out new data collection programs.
- e) Other matters - To achieve standardization of definitions and procedures, intermediate size calibration district zone systems can be developed for the TRAMS area. As well, zone systems should be compatible with the units employed by various agencies. The use of “occupation” as a descriptor for employment at place-of-work is deemed as appropriate as it is sensitive to socioeconomic factors, and it is a good indicator of the relevance of jobs to

resident labour force. An alternative would be to develop typical occupational profiles for zones with distinct land uses.

- f) Four research and development priorities were identified, specifically, the influence of socioeconomic factors on home-based work trip distribution, shopping travel attraction and distribution, estimation of peak period travel and disaggregate mode choice. The use of a compatibility index to weight the attractiveness of jobs or the use of separate models to distribute different socioeconomic groups are possible ways of assessing the influence of socioeconomic factors on home-based work trip distribution. The retail gravity model can be used to deal with trip distribution among competing centres to simulate home-based and non-home-based shopping trips. The time budget concept can be tested with Survey 1 to determine whether periods of increasing average speeds correlate with increase in discretionary trips and vice versa whether decreasing average speeds correlate with decrease in discretionary trips. If validated, this time budget concept can be further refined to improve peak hour forecasts. Survey 3 can be designed to support disaggregate analysis, to this end, the advances in structured or sequential logit models and multinomial probit models can be used to overcome the traditional problems associated with using disaggregate models with aggregate data.