

EMPLOYMENT INFORMATION AND DATA COLLECTION ISSUES

Data Management Group
Joint Program in Transportation
University of Toronto

February 1999

Prepared by
Loy-Sai Cheah
Trimap Communications Inc.

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1. Introduction

Various organisations collect employment data to fulfil a varied set of objectives.

Employment data are collected by

- planning agencies (e.g. municipal planning departments),
- boards of trade,
- chambers of commerce,
- economic development agencies (e.g. municipal economic development offices),
- labour support agencies (e.g. Human Resource Development Canada (HRDC)), and
- commercial information vendors (e.g. Dun & Bradstreet, infoCanada, TeleDirect).

Aggregate employment data is a fundamental input parameter in most transportation and land use planning initiatives. For example, it is used in long range transportation and municipal infrastructure planning. It is also used in short-term traffic impact analysis to determine traffic operations and capacity problems resulting from a proposed land use development.

Employment data is also used as part of economic development-related activities such as identifying trends in the economy, conducting detailed analysis of a sector of the economy and providing information on the economic status of an area.

2. Study Objectives

Two different issues prompted the initiation of this study.

1. The traditional approach to employment data collection in the Greater Toronto Area and the Region of Hamilton-Wentworth (“the GTA”) makes use of the municipal property assessment file as a starting source of employer information. The key information in the assessment file is the tenant information. As of 1998, the assessment file no longer contains tenant information.
2. While the GTA has developed into an integrated economic area and most strategic planning activities cover more than a single region, the collection and reporting of employment data are neither uniform nor consistent across the GTA.

The objective of this study is to review current employment data collection activities in the regional planning agencies of the GTA by:

- assembling an inventory of data and collection methods ,
- identifying current issues in regard to data collection, and
- beginning a discussion on the options available to collect appropriate data .

3. Study Approach

To assemble the inventory of employment data and collection methods, the regional municipalities and operating agencies that collect employment data were contacted. The information requested included

- data collection method,
- reference data source of employers,
- when the data collection was conducted, and
- whether there is an update process.

This request for information was directed at both public agencies and commercial information vendors that sell business information. The request was contained in a discussion paper sent to each of the agencies. The discussion paper presented an introduction to this study, its objectives and approach, and some preliminary issues for discussion.

Meetings were held with representatives of the regional and operating agencies to discuss the issues surrounding employment data and collection methods. These and other agencies contacted were:

- City of Toronto
- Region of Durham
- Region of York
- Region of Peel
- Region of Halton
- Region of Hamilton-Wentworth
- Ontario Ministry of Transportation (MTO)
- GO Transit
- Toronto Transit Commission (TTC)
- Dunn & Bradstreet Canada
- InfoCanada
- B. J. Hunter
- InfoDirect
- Compusearch
- Cornerstone

4. Employment Data Collection Role

To provide some understanding of the current state of employment data collection in the GTA, it is useful to describe the role of the various agencies contacted. The list below summarises the current roles of GTA regional planning agencies in collecting primary employment data. The differentiation between primary and secondary employment data is described in the next section.

Regional municipalities play one of three different roles in primary employment data collection:

1. The regional municipality is responsible for primary employment data collection. The data is then provided free to its constituent local municipalities. The City of Toronto, Region of Halton and Region of Hamilton-Wentworth fall in this group.
2. Local municipalities are responsible for primary employment data collection. The data is then provided free to the regional municipality. The Region of Peel falls in this group.
3. There is no explicit agreement on who is responsible for primary employment data collection. Both levels of government engage in some level of employment data collection. There is usually some sharing of data between the two levels of government. The Region of York and Region of Durham fall in this group.

It should be noted that these roles exist at the time of this study. They are not static and can change depending on the state of GTA governance.

With amalgamation of the six municipalities in Toronto, the level of government responsible for primary employment data collection is no longer an issue in the City of Toronto. However, in the regions of the GTA, primary employment data collection function is usually related to the level of government responsible for economic development.

For instance, in the Region of Peel, economic development is a function of the local municipalities. There, primary employment data collection is conducted by the local municipalities. Inversely, in the Region of Hamilton-Wentworth, the region is responsible for economic development and is also responsible for primary employment data collection.

5. Employment Data Collected

For the purpose of this study, employment data collected in the GTA will be divided into two types: primary and secondary employment data. They are described as follows:

- Primary employment data are those collected directly by the regional municipalities or with their participation, and
- Secondary employment data are those collected by local municipalities and other sources such as commercial information vendors.

Primary Employment Data

Primary employment data can further be grouped based on the entity from which the data is collected:

1. **person-based** data such as Statistics Canada's Census Place of Work (POW) and the Transportation Tomorrow Surveys (TTS), and
2. **employer-based** data such as data collected through traditional employment surveys and employer/business directories.

Tables 1 and 2 summarise the primary data collection efforts of the regional planning agencies in the GTA.

Table 1 – Person-Based Employment Data

Agency	Data Set Name	Update Frequency	Methodology	Primary Data Source
Statistics Canada	Census Place of Work ¹	Every 5 years 1996, 1991, 1991, 1986	mail-back survey household-based 20% sample of nation-wide Census of households	Assessment
TATPDCSC	TTS ²	Every 5 years 1996, 1991, 1986	Household-based Telephone interviews 4.5% sample	Bell Canada residential telephone directory
GO Transit	Bus & Rail Passenger Surveys	Biennial 1998, 1996, 1994, 1992, 1990, 1988, 1986	person-based survey of patrons completed by patrons during outbound trips no sample control	

It should be noted that the primary objective of the TTS and GO Transit’s passenger surveys are to capture trip origin-destination and other travel information of trip makers. It is only an added bonus that some of these data are also used as employment data.

Person-based employment data usually include variables such as

- location of the person’s employment,
- the industry they work in,
- whether they work full-time or part-time, and
- their occupational type.

Employment data contained in databases such as the Census POW and TTS can be cross-referenced to other person attributes such as sex, age, and income level, which are collected as part of the general Census or the TTS. For Census POW data, however, there is a financial cost

¹ The GTA and the Ministry of Transportation Ontario (MTO) are part of a consortium that subscribes to the Census POW program.

² As well, the GTA, MTO, GO Transit and the Toronto Transit Commission (TTC) jointly conduct the TTS. Therefore, employment data contained in the TTS are available to all of them.

attached to each additional cross-tabulation above those contained in the consortium agreement.

TTS data are maintained at a central agency, the Data Management Group (DMG) at the University of Toronto, funded jointly by the same agencies that conduct the TTS. DMG maintains an automated data retrieval system that allows the funding agencies to extract data from the TTS at their convenience.

Table 2 – Employer-Based Employment Data

Agency	Data Set Name	Update Frequency	Methodology	Primary Data Source
Metro Toronto	Annual Employment Survey	Annual 1983 to 1998	Employer-based site visit telephone call-back 50% to 100% sample	Assessment
York Region	Employment Survey	Irregular 1998 ³ , 1988, 1986, 1985	Employer-based site visit telephone call-back 100% sample	Assessment municipal business directories phone directory business white pages
Peel Region	Annual Employment Survey	Annual 1977 to 1982	Employer-based site visit	Assessment
Hamilton-Wentworth	Employment survey	Dyamic ³ 1997/98*, 1990, 1982 *partial data update	Employer-based site visit telephone call-back 100% sample	Assessment
Durham Region	Employment survey	Irregular 1983	Employer-based site visit	Assessment
Halton Region	Employment survey	Irregular 1980, 1975	Telephone interviews mail-back cards	Assessment

Employer-based data usually include variables such as

- business name,
- address of the business,

³ Collected in partnership with Human Resource Development Canada (HRDC).

- main telephone and fax numbers,
- name of contact person,
- types of activities conducted by the business, and
- number of employees (full-time and part-time).

Office or retail space occupied by a business is another variable often expressed as being useful but almost never collected by public agencies. Databases maintained by realtors do carry this information.

The former Metro Toronto (now the City of Toronto) is the only regional planning agency that has a continuing program of employment data collection, their annual employment survey. However, the status of this program is uncertain for 1999.

Among the planning agencies, two different methodologies are used to collect employment data.

1. The first is the traditional approach of using municipal assessment data that contain business tenant information as a data source to identify businesses that are to be surveyed. These employers are surveyed through site visits and follow-up telephone calls if necessary.
2. The second approach is being applied in the Regions of Hamilton-Wentworth and York. Hamilton-Wentworth and York have embarked or are in the process of embarking on a joint effort with HRDC and other local partners to develop dynamically-updated employer and labour market databases.

Secondary Employment Data

In addition to the employment data collected by the regional municipalities, almost all local municipalities maintain some sort of employment data in the form of business directories for their economic development activities. Business directories are employer-based data. They are described further in Section 7.

There are numerous private companies engaged in employer data collection and dissemination. Their primary markets are private sector clients, but some public

sector planning agencies do make use of their data. Commercial information vendors are further described in the next section.

6. Commercial Information Vendors

In addition to public sector data collection efforts, several private sector organisations collect employment-related data. This information is generally described as business information or “business lists”. They are, of course, employer-based data.

Data maintained by these organisations typically include the same information as those maintained in local municipal business directories and some financial information of companies such as annual sales volume and net worth.

Very few of these private organisations actually collect, maintain, and sell their business lists. Most of them just maintain their list of clientele that results from their main business activities, and relies on others to sell their lists. As indicated in the following table, Dunn & Bradstreet and infoCanada are two sources that actually collect, maintain and sell business lists⁴.

Table 3 – Example Commercial Information Vendors

Agency	Update Frequency	Methodology	Data source
Dunn & Bradstreet	client driven	No consistently defined process; Client requirements determine update, scope and frequency	In-house list of companies; updated through credit check business
Canadian Business/Info Canada	Annually	Obtain list from telephone directories, supplemented by telephone verification	Yellow Pages Business white pages

⁴ Several other vendors were contacted including B.J. Hunter, InfoDirect, Compusearch, and Cornerstone. Most of them are business list resellers.

7. Deficiencies of GTA Employment Data

Employment data currently collected in the GTA have a few major deficiencies. They are in the areas of availability, consistency, uniformity and quality. For example:

- there is no uniformity in the role of both local and regional municipalities in employment data collection;
- there is no co-ordination in collecting employment data at both the local and regional municipal levels;
- there are major differences in data collection methodologies used in the GTA; and
- there is no common data standard respecting the collection of employment data.

The lack of consistent and uniform employment data causes many of the planning agencies to constantly scramble to assemble composite data from several different data sources for their planning needs. These sources tend to be the Census POW, TTS and, employer data from commercial information vendors.

Where local municipalities (usually the economic development department) collect and maintain employment data, no common standard is applied. For example, some municipalities maintain only a subset of the employer base, such as those in certain industrial sectors only. As well, in most instances, a numeric range is used to indicate the number of full and part-time employees at each employer. Therefore, the quality of data varies by municipality.

There is no common standard or guidelines for employment data definition and maintenance in the GTA. However, this deficiency is beginning to be addressed. Through the association of Regional Planning Commissioners of Ontario (RPCO), a study is currently underway to derive standard data definitions and guidelines for property-based data collection, maintenance and dissemination. When completed, the RPCO study could be used as a base to define employer-based data collection and maintenance guidelines for the GTA. A similar exercise would also have to be conducted for person-based employment data.

Census POW data have two major deficiencies in the areas of data quality and availability.

1. The quality of Census POW data is not consistent across the GTA. This is due to differing quality of spatial referencing data used in coding geographic locations in the Census data.
2. The timeliness or the lack of it, of POW data is the other major concern. For example, in the past three Censuses, the POW data at the traffic zone level did not become available until about 3 years after the data were collected. By the time it becomes available, it has a certain degree of obsolescence.

8. Options

Based on the investigations conducted as part of this study, a number of options have been identified to assemble appropriate employment data throughout the GTA. These can be described as follows:

1. **Continue the disjointed collection of employment data by the respective planning and economic development agencies in the GTA.** This option reflects the status quo where municipalities continue to collect employment data based on traditional methods. Those municipalities that had relied on assessment-based data must seek other sources of information to compile employer lists to base a survey upon. This replacement information could be based, in part, on telephone listings (*TeleDirect/InfoCanada*) or commercially maintained databases (*Dunn and Bradstreet/InfoCanada*). Other planning or economic development agencies would continue to manage their respective business inventories and lists. No consistent estimates of employment would be collected throughout the GTA. Data would be updated irregularly based on the needs of specific stakeholders.
2. **Establish a process to conduct co-ordinated employment survey on a regular basis.** Such a survey would be similar to the conduct of the TTS and would maximise the infrastructure in place to complete such a survey. A range of databases is available to construct an initial sample upon which a survey could be developed. Upon completion of this survey, a consistent estimate of employment would be collected throughout the GTA. Data would be updated based on a determined survey cycle and would complement other primary data collection activities managed by public sector organisations in the GTA. Due to the infrequent sampling of employment data through this option, the needs of stakeholders such as economic development agencies would have to be met through other means.
3. **Development of a dynamically maintained repository of employment data, based on partnerships with**

other organisations. In this option, the interests of other organisations such as HRDC would be leveraged to collect employment data in a dynamic manner. The database would be used as a human resource tool on a continual basis. Some of the data collected may be released on a disaggregated level to provide information to a new stakeholder: persons seeking employment. The expectations of traditional stakeholders would be exceeded. The process, sources of information and update mechanism to manage this information requires further investigation.

4. **Enhance Census-based data collection activities.** This option is an extension of the traditional Census POW data collection effort. Data would be consistent with historical information and would be useful for time series analyses. The need to conduct a primary data collection effort would be eliminated. However, it is evident that limited use has been made of POW data already collected. Difficulties collecting and managing information in a timely manner would continue. The needs of stakeholders such as those interested in economic development would have to be met through other traditional means.

5. **Application of advanced analytical methods to synthesise multiple existing databases.** Through the course of this investigation, it has become evident that a wide range of data exists that may be useful in tracking employment. As a result it may be possible to apply a new method to capture employment data, not only throughout the GTA but also throughout the Province of Ontario. One such scenario could build on the universe of employers based on the last municipal assessment information, append employment data from public and private-sector sources, spatially referencing all data based on postal code data and manage any changes by analysing new telephone listings and change of address related data. As a result, the need to conduct any primary data collection would be limited. The needs of traditional stakeholders would be met.

9. Observations

While planners use employment data, the most significant use of this information is currently made by economic development-related organisations. As a result any new solution to capture and manage employment-related data should be developed in conjunction with these stakeholders. In developing this solution, it should be noted that new processes and sources of data are available to address the need to replace assessment data as the prime source of information. These include:

- consideration of new sources of data;
- development of a dynamically updated database;
- making information available on a disaggregated level;
and
- completing extensive data mining activities that make use of merged databases.