Internet Data Retrieval System
(iDRS)
Users' Manual

Prepared for the
Transportation Information
Steering Committee

By the
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Joint Program in Transportation

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1.0 Introduction

Due to the increasing demand for the use of the Transportation Tomorrow Survey (TTS) data, an application was developed on the Data Management Group (DMG) computer system in 1991. This application consisted of a text-based menu and was only available to users who had access to EMME/2[1] on the DMG computer system. As the use of the data continued to expand, a new application was created in order to allow the extraction of the data over the Internet. This Internet based Data Retrieval System (iDRS) permits users who do not have access or experience with the DMG computer system to perform data extractions. In addition to TTS data, this new software provides access to the 1964 Metropolitan Toronto and Region Transportation Study (MTARTS) data and the data collected from the GO Transit Surveys.

In order to use iDRS, the user must request a login name and a password from the DMG. The user can fill out the access request form located on the DMG home page: http://www.jpint.utoronto.ca/dmg. The form is in PDF format and can be viewed using Acrobat Reader. Once the form is sent to DMG, an account will be set up for the user, and the username and password will then be provided.

The iDRS's homepage is a link from the DMG homepage, but can also be reached directly using the URL https://www.jpint.utoronto.ca/drs/index.html. Figure 1 shows the login authentication page. The user can then enter the given username and password on this page. All sessions expire after a certain period of time, and the time of the login is displayed on every query result.

[1] EMME/2 is a transportation planning software package.

Figure 1 Login Authentication Page

DATA MANAGEMENT GROUP

iDRS - Internet Data Retrieval System

Enter your username and password below in order to access the database.
NOTE: All sessions expire after a given period of time.
If iDRS reports that your session has expired, simply re-enter your login information.

Username:

Password:

Submit

Notice

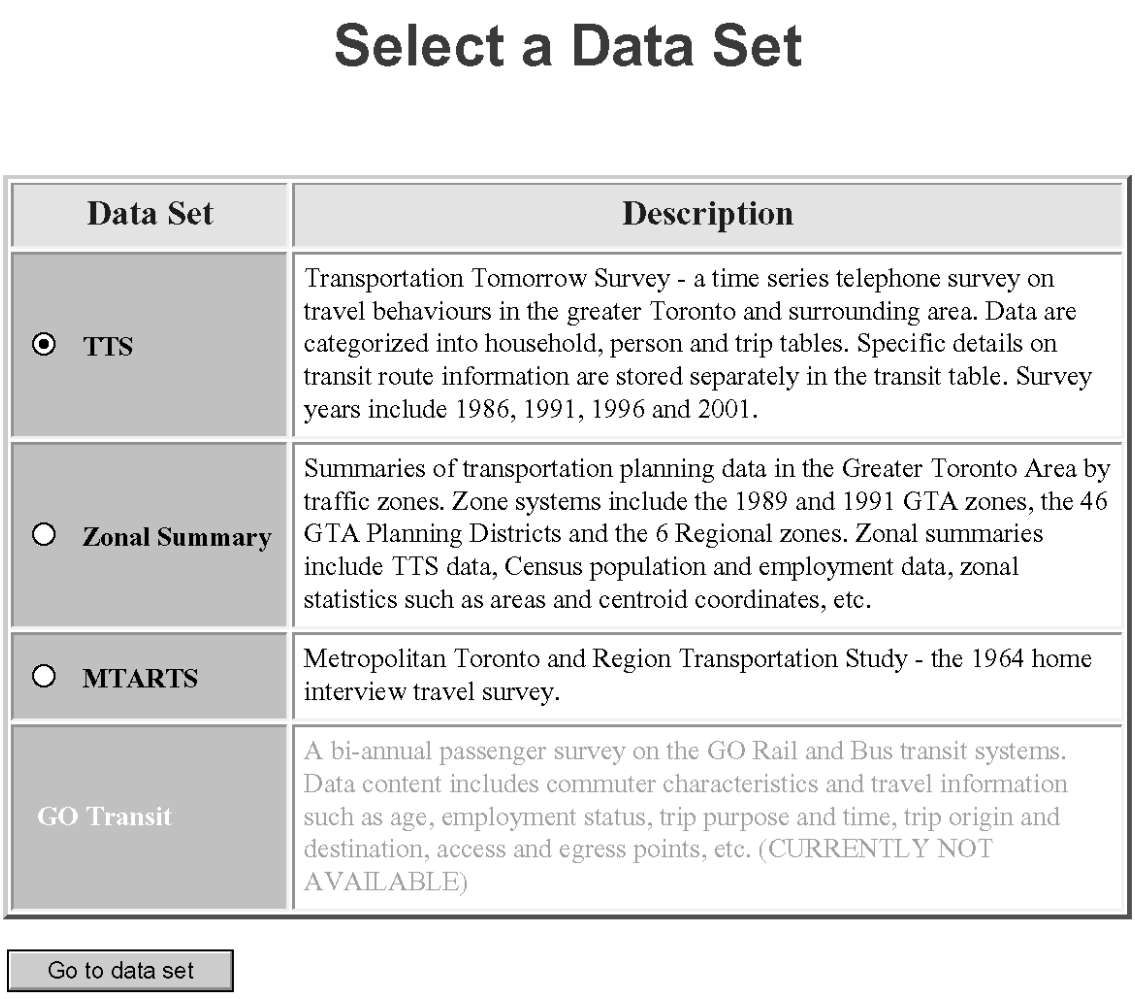
Please read the following information carefully before using this website. Using this website indicates that you have read and fully accept the following Terms of Use. If you do not agree to these Terms of Use, do not use the site.

- The User acknowledges that the Data Management Group and its funding agencies own the copyright of any data available on this website.
- The User will not permit any other person to use his/her account.
- The Data Management Group has attempted to ensure the accuracy of the data provided but given the inherent limitations in the collection of the data, no warranty is provided that the data is indeed accurate or that the data is suitable for the purposes of the user.
- The data is provided "as is" and the Data Management Group makes no warranty, either expressed or implied, including but not limited to, warranties of merchantability and fitness for a particular purpose. In no event will the University of Toronto, The Joint Program in Transportation Data Management Group or any of its funding agencies be liable for any indirect, special, consequential or other damages however caused.
- The User will attribute credit for any data derived on this website to the Data Management Group as appropriate.

2.0 Data Sets

Within iDRS, there are four sets of data available: TTS, Zonal Summary, MTARTS and GO Transit Surveys.

Figure 2 Data Set Selection



Different types of data extraction are available depending on the selection of data sets. If TTS, MTARTS or GO Transit data are selected, there are three types of extraction: record count, frequency distribution, and cross-tabulation. Output data will be formatted according to the type specified by the user. However, zonal summary is different from the other types of extraction in that data are already summarized and tabulated in the database.

2.1 Transportation Tomorrow Survey Data

The first TTS was conducted in 1986. It covered the Greater Toronto Area and City of Hamilton (formerly the Regional Municipality of Hamilton-Wentworth). In 1991, a second TTS was conducted and the area surrounding the 1986 survey area was included. This survey was conducted as the supplementary update to the 1986 survey. The 1996 TTS expanded the coverage area to include the City of Peterborough, part of Peterborough County, the City of Kawartha Lakes (formerly Victoria County), the City of Barrie, part of Simcoe County, the Town of Orangeville, the Regional Municipality of Niagara, the City of Guelph, part of Wellington County, and the Regional Municipality of Waterloo. The survey area of the 2001 TTS was similar to that of 1996, except for the inclusion of the City of Orillia, the entire Simcoe County and the exclusion of the Regional Municipality of Waterloo.

The TTS surveys contain household, person, and trip information. The households were interviewed in the surveys and expansion factors were created to represent the total number of dwellings in each defined area. The expansion process is explained in the "2001 Transportation Tomorrow Survey Working Paper Series: Data Expansion". Household information includes dwelling types of the households, number of persons in the households and number of vehicles available, day of the week on which the interview was conducted, etc. Person information includes gender, age, employment status, student status, location of employment, etc. Trip information includes origin and destination of trip, mode, purpose, etc. In additional, detailed transit routes were also collected for all transit trips. For a detailed description of the TTS information, users can refer to the "2001 Transportation Tomorrow Survey Data Guide Version 1.0".

2.2 Zonal Summary

Zonal summary is a collection of transportation data summarized by different spatial aggregation, such as traffic zones, planning districts, and regional municipalities. The collection primarily consists of the TTS data. Number of dwellings, population by gender and age cohort, employment, employed labour force, trips by trip purpose and travel between certain time periods are tabulated. In addition, Census population and employment data, and geographic information such as areas and geometric centroids are also available.

2.3 Metropolitan Toronto and Regional Transportation Study

The MTARTS was a home interview based survey conducted in 1964. The survey captured household, person and trip information such as number of persons, number of vehicles, household income, age, gender, occupation, trip origins, trip destinations, trip start time, arrival time, and travel mode. Expansion factors were calculated at trip level, therefore, in order to avoid the misuse of the data, extraction of households and persons is not permitted.

2.4 GO Transit Survey

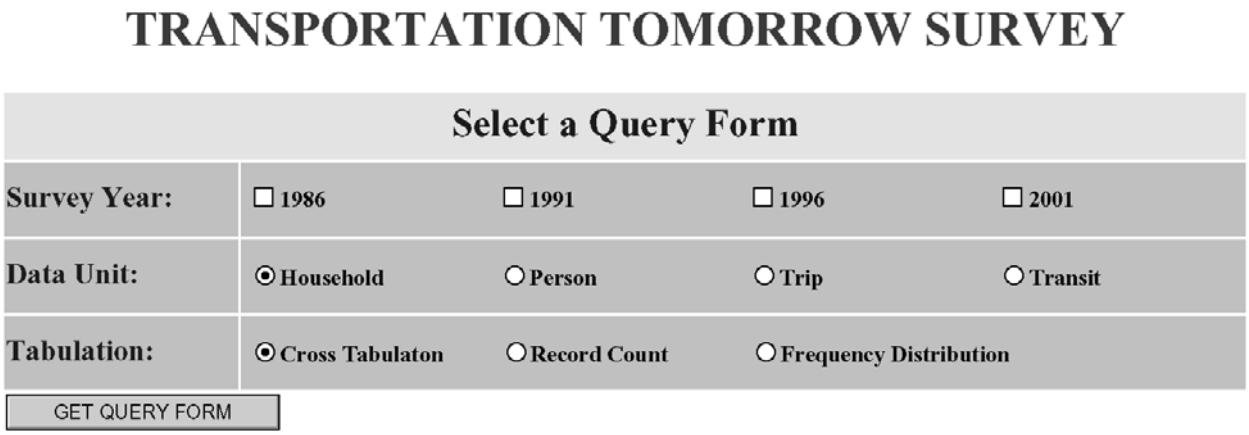
GO Transit conducted the first GO rail passenger survey in 1983. Then in 1985, both GO rail and GO bus systems were surveyed. The third GO rail survey was conducted in 1987; whereas the second GO bus survey was conducted in 1988. Since then, rail and bus surveys have been done in alternate years. GO surveys collected household, person and trip information together with personal comments from commuters on GO service. Similar to MTARTS data, these survey data were expanded at trip level based on ridership counts and only extraction of trips is allowed. GO Transit survey data are only accessible with permission of GO Transit.

3.0 General Data Extraction

If TTS, MTARTS or GO Transit survey is selected, three types of tabulation are available for data extraction. Figure 3 shows the query form for the TTS surveys. The user can choose from four TTS surveys: 1986, 1991, 1996, and 2001. For the MTARTS survey, there is only one survey year, 1964. The GO Transit survey is broken down into GO rail passenger survey and GO bus passenger survey. Both surveys consist of several years of data. When the user selects more than one year from one of the surveys, only the data or attributes common to all selected years are displayed for extraction. For example, if personal information is queried from the 1986 and 1991 TTS data, the availability of free parking at the usual place of employment is not presented for extraction because this variable was first introduced in the 1991 TTS.

The TTS data are structured into four categories: household, person, trip and transit. Each category represents the resulting data unit from the query. The iDRS arranges the data according to this same hierarchy and if household is selected as the data unit, only the household attributes are displayed. If trip is selected as the data unit, all the attributes related to the person who made the trip and the household to which this person belonged can be extracted. However, if the data unit is person, attributes about the trips the person made and any transit characteristics of these trips are not available. If the required information cannot be retrieved through iDRS, a special data request can be made to the DMG.

Figure 3 TTS Query Form



TRANSPORTATION TOMORROW SURVEY

Select a Query Form

Survey Year:	☐ 1986	☐ 1991	☐ 1996	☐ 2001
Data Unit:	◉ Household	○ Person	○ Trip	○ Transit
Tabulation:	◉ Cross Tabulaton	○ Record Count	○ Frequency Distribution	

GET QUERY FORM

To learn more about the TTS surveys and the data collected, please download a copy of the data guide (735 KB).

Instruction

Survey Year: The TTS was conducted in 1986, 1991, 1996 and 2001. At least one survey year must be selected.

Data Unit: TTS data are categorized into Household, Person and Trip records. Specific transit route information are stored separately as Transit records. Specifying the Data Unit determines the control total for the tabulation. For example, selecting Person as the Data Unit implies tabulating total number of persons which meet the query criteria.

Tabulation: Cross Tabulation produces 2 or 3 dimensional tables. It is useful for creating origin-destination matrices such as number of trips by traffic zones and mode or cross-sectional analysis matrices such as age verses travel mode or household size verses dewlling types, etc.

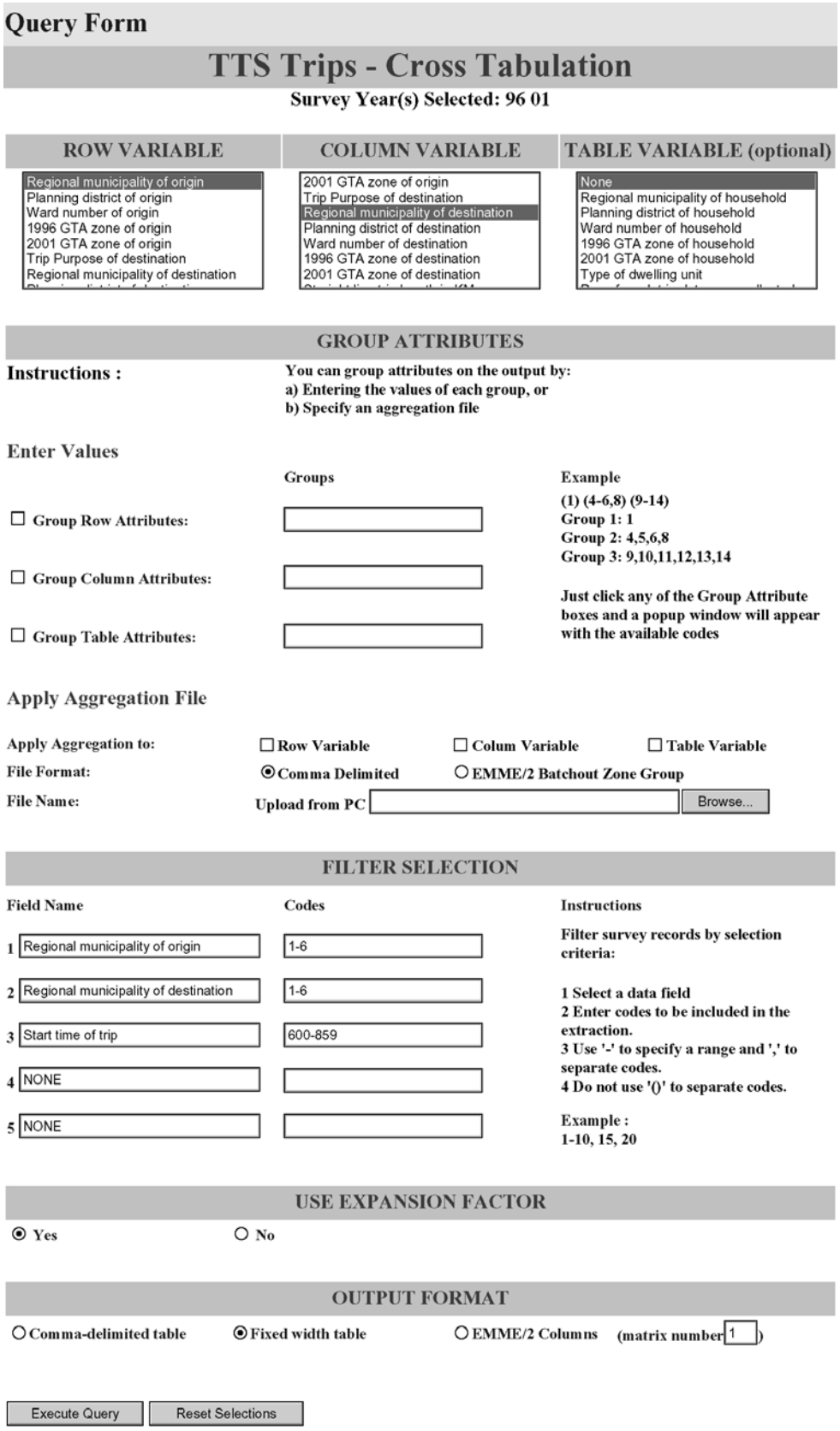
Record Count totals the number of survey records which meet the query criteria. It returns a single number (i.e., record count).

Frequency Distribution calculates the number of occurances, expanded total and % distribution for each category in the selected table attribute. It is useful for tabulating control totals in a data table.

3.1 Cross Tabulation

The cross tabulation type of data extraction produces two or three-dimensional tables as a result. The three dimensions are row, column and table. Row and column attributes are required to create any output whereas the table attribute is optional. The number of different unique values for the table attribute will determine the number of tables generated. If there is more than one survey year selected, then a set of tables is reproduced for each survey year. The screen display of a cross tabulation is shown in figure 4 and the corresponding output is showed in figure 5.

Figure 4 Cross Tabulation Extraction Screen



Query Form

TTS Trips - Cross Tabulation

Survey Year(s) Selected: 96 01

ROW VARIABLE	COLUMN VARIABLE	TABLE VARIABLE (optional)
Regional municipality of origin	2001 GTA zone of origin	None
Planning district of origin	Trip Purpose of destination	Regional municipality of household
Ward number of origin	Regional municipality of destination	Planning district of household
1996 GTA zone of origin	Planning district of destination	Ward number of household
2001 GTA zone of origin	Ward number of destination	1996 GTA zone of household
Trip Purpose of destination	1996 GTA zone of destination	2001 GTA zone of household
Regional municipality of destination	2001 GTA zone of destination	Type of dwelling unit

GROUP ATTRIBUTES

Instructions :

You can group attributes on the output by:
a) Entering the values of each group, or
b) Specify an aggregation file

Enter Values

	Groups	Example
☐ Group Row Attributes:		(1) (4-6,8) (9-14) Group 1: 1 Group 2: 4,5,6,8 Group 3: 9,10,11,12,13,14
☐ Group Column Attributes:		Just click any of the Group Attribute boxes and a popup window will appear with the available codes
☐ Group Table Attributes:		

Apply Aggregation File

Apply Aggregation to: ☐ Row Variable ☐ Colum Variable ☐ Table Variable

File Format: ◉ Comma Delimited ○ EMME/2 Batchout Zone Group

File Name: Upload from PC [ ] Browse...

FILTER SELECTION

	Field Name	Codes
1	Regional municipality of origin	1-6
2	Regional municipality of destination	1-6
3	Start time of trip	600-859
4	NONE	
5	NONE	

Instructions

Filter survey records by selection criteria:

1 Select a data field
2 Enter codes to be included in the extraction.
3 Use '-' to specify a range and ',' to separate codes.
4 Do not use '()' to separate codes.

Example :
1-10, 15, 20

USE EXPANSION FACTOR

◉ Yes ○ No

OUTPUT FORMAT

○ Comma-delimited table ◉ Fixed width table ○ EMME/2 Columns (matrix number 1)

Execute Query Reset Selections

Figure 5 Sample of Cross Tabulation Result

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 1996 TTS Vers 2.1 Trips
ROW: region_orig
COLUMN: region_dest
FILTER 1: region_orig => Toronto - Hamilton
FILTER 2: region_dest => Toronto - Hamilton
FILTER 3: start_time => 600-859

	Toronto	Durham	York	Peel	Halton	Hamilton
Toronto	908139	8320	70323	53435	4648	1090
Durham	45674	148604	11128	1897	255	164
York	100596	2699	175158	9619	596	139
Peel	103946	716	13109	280109	12869	1582
Halton	22918	123	1493	24979	104232	9934
Hamilton	4758	75	269	3815	17396	159123

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 2001 TTS Vers 1.0 Trips
ROW: region_orig
COLUMN: region_dest
FILTER 1: region_orig => Toronto - Hamilton
FILTER 2: region_dest => Toronto - Hamilton
FILTER 3: start_time => 600-859

	Toronto	Durham	York	Peel	Halton	Hamilton
Toronto	964454	9430	79830	59655	6019	1415
Durham	52011	171840	14861	3104	258	261
York	128281	4231	237343	16362	1536	359
Peel	105447	892	16693	364017	17214	1678
Halton	25173	200	2410	30083	118645	9850
Hamilton	5430	57	581	4918	22197	177489

3.2 Record Count

A sample screen for record count tabulation is shown in figure 6. This type of extraction produces two numbers per selected survey year. The first number is the total number of observations in the database and the second number is the total number of expanded records. For example, in the 2001 TTS, there are 136,379 household records in the database and the total expanded number of households is 2,417,513. Figure 7 displays a sample output from record count tabulation.

Figure 6 Record Count Extraction Screen

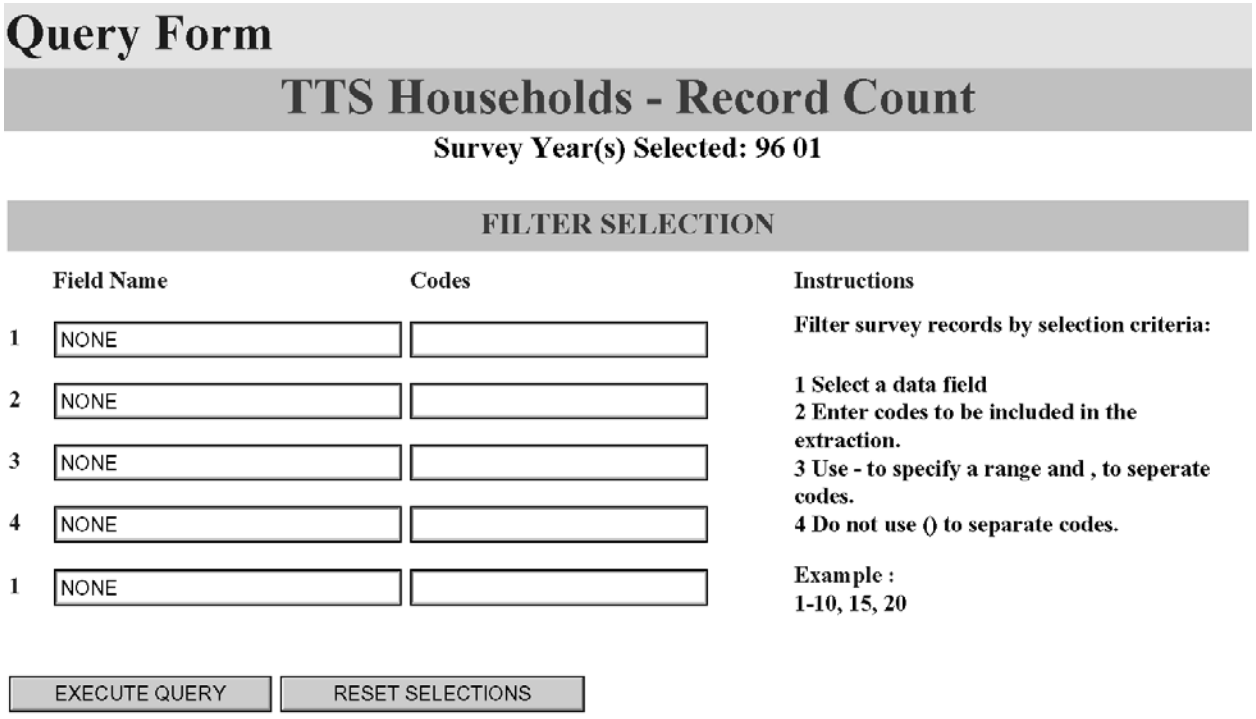


Figure 7 Sample of Record Count Result

Date: Mar 31 2004 09:00:00
Data: 1996 TTS Vers 2.1 Households

Number of Observations = 115193
Total Expanded Number = 2317185

Date: Mar 31 2004 09:00:00
Data: 2001 TTS Vers 1.0 Households

Number of Observations = 136379
Total Expanded Number = 2417513

3.3 Frequency Distribution

Frequency distribution provides a summary of unique values used for the selected attributes that satisfy the specified conditions. For example, modal split by City of Toronto residents can be obtained using the frequency distribution. Similar to the other types of tabulation, one set of results is produced for each survey year selected. Figure 8 shows an example of a frequency distribution type of extraction, and figure 9 gives a sample output.

Figure 8 Frequency Distribution Extraction Screen

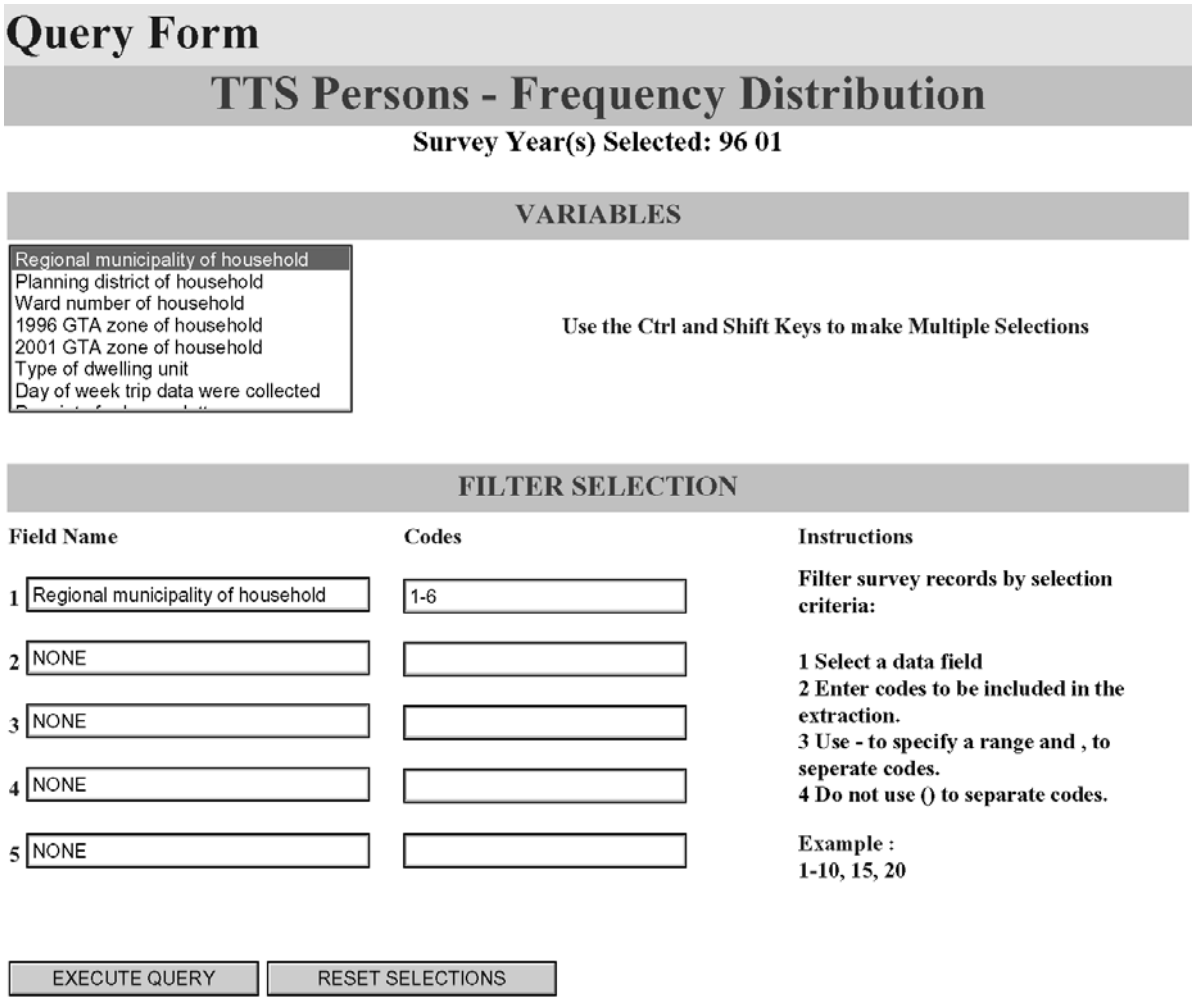


Figure 9 Sample of Frequency Distribution Result

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: Households
FILTER 1: region_hhld => Toronto - Hamilton
VARIABLE: region_hhld

	1996 TTS Vers 2.1		2001 TTS Vers 1.0	
	Count	Expanded	Count	Expanded
Toronto	44643	908505	56525	943251
Durham	7569	154288	9357	173142
York	9058	178202	12472	227711
Peel	13128	266543	17640	308571
Halton	5865	118403	7418	133599
Hamilton	8635	179080	10196	188881
Total	88898	1805021	113608	1975154

3.4 Attributes Grouping

The grouping option is available if the type of extraction selected is cross tabulation. It allows the user to group the values of row, column, and/or table attribute. For example, if a new category of travel mode “auto” is desired instead of individual travel mode, grouping can be applied to combine “Auto Driver” and “Auto Passenger” into the new category “auto”. If travel mode is selected as the row attribute, grouping is applied on the row dimension. There are two ways to apply grouping to an attribute or a dimension. The user can manually group the values for the attribute in the space provided or grouping can be achieved using an aggregation file. Only one method of grouping can be used on the same attribute.

3.4.1 Manual Grouping

If the number of groups to be generated is small and the groupings are unlikely to be used again, grouping should be manually applied. Manual grouping allows the user to have different groups on different attributes. All values that are put inside a pair of brackets are considered a new group. If grouping is applied to an attribute, a value not specified in any group will not be included in the resulting tables. Here is an example of how to group the trip start time into three periods:

1) Morning peak period from 6 a.m. to 8:59 a.m.,
2) Non-peak period from 9 a.m. to 2:59 p.m., and
3) Afternoon peak period from 3 p.m. to 5:59 p.m.

The groupings will look like: (600-859)(900-1459)(1500-1759)

Note that any trips made between 6:00 p.m. and 5:59 a.m. are not included because this period is not specified in any group.

3.4.2 Aggregation File

Another way to group the attributes used in cross tabulation is to apply an aggregation file. An aggregation file is usually used when there are numerous groups to be generated or when this grouping will be used repeatedly. The file can be uploaded from a local computer by specifying the path to the file or using the browse function on the page. Aggregation can be applied to one or more dimensions with the same aggregation file by marking the checkbox next to each dimension. However, only one aggregation file can be used at a time. An aggregation file can be in one of two formats.

1) A two-column comma-delimited text file, with the original values of the attribute as the first column and the new values as the second column. This file can be generated using Excel and saved in "csv" format. For example, if the households outside the GTA area are grouped as one category, and the households inside the GTA stay as individual regions, the content of the file will look like figure 10.

2) A text file with zone groups exported from EMME/2. This file type can only be used if the attribute on which aggregation is applied contains traffic zones. A sample of an EMME/2 batchout of zone groups is shown in figure 11.

Figure 10 Comma-delimited Aggregation File

```
1,1
2,2
3,3
4,4
5,5
6,6
7,9
8,9
10,9
11,9
12,9
13,9
14,9
15,9
16,9
17,9
18,9
19,9
20,9
21,9
```

Figure 11 EMME/2 Batchout Aggregation File

```
c Project : 2001 GTA Integrated Network
c Scenario 1: 2001 Integrated Network (2001 GTA Zones)
t groups
a  ga:        '2001 GTA zones to regions'
a  ga00:      4000    4001    4002    4003    4004    4005    4100    4101    4102
a  ga00:      4103    4104    4201    4202    4301    4302    4303    4401    4402
a  ga00:      4403    4404    4405    4406    4407    4408    4409    4410
a  ga01:         1       2       3       4       5       6       7       8       9
a  ga01:        10      11      12      13      14      15      16      17      18
a  ga01:        19      20      21      22      23      24      25      26      27
a  ga01:        28      29      30      31      32      33      34      35      36
a  ga01:        37      38      39      40      41      42      43      44      45
a  ga01:        46      47      48      49      50      51      52      53      54
a  ga01:        55      56      57      58      59      60      61      62      63
a  ga01:        64      65      66      67      68      69      70      71      72
a  ga01:        73      74      75      76      77      78      79      80      81
a  ga01:        82      83      84      85      86      87      88      89      90
a  ga01:        91      92      93      94      95      96      97      98      99
a  ga01:       100     101     102     103     104     105     106     107     108
a  ga01:       109     110     111     112     113     114     115     116     117
a  ga01:       118     119     120     121     122     123     124     125     126
a  ga01:       127     128     129     130     131     132     133     134     135
a  ga01:       136     137     138     139     140     141     142     143     144
.....
a  ga01:       460     461     462     463     464     465     466     467     468
a  ga01:       469     470     471     472     473     474     475     476     477
a  ga01:       478     479     480     481
a  ga02:       501     502     503     504     505     506     507     508     509
a  ga02:       510     511     512     513     514     515     516     517     518
a  ga02:       519     520     521     522     523     524     525     526     527
a  ga02:       528     529     530     531     532     533     534     535     536
a  ga02:       537     538     539     540     541     542     543     544     545
a  ga02:       546     547     548     549     550     551     552     553     554
a  ga02:       555     556     557     558     559     560     561     562     563
.....
a  ga02:       744     745     746     747     748     749     750     751     752
a  ga02:       753     754     755     756     757     758     759     760     761
a  ga02:       762     763     764     765
a  ga03:      1001    1002    1003    1004    1005    1006    1007    1008    1009
a  ga03:      1010    1011    1012    1013    1014    1015    1016    1017    1018
a  ga03:      1019    1020    1021    1022    1023    1024    1025    1026    1027
a  ga03:      1028    1029    1030    1031    1032    1033    1034    1035    1036
a  ga03:      1037    1038    1039    1040    1041    1042    1043    1044    1045
a  ga03:      1046    1047    1048    1049    1050    1051    1052    1053    1054
a  ga03:      1055    1056    1057    1058    1059    1060    1061    1062    1063
a  ga03:      1064    1065    1066    1067    1068    1069    1070    1071    1072
.....
a  ga03:      1325    1326    1327    1328    1329    1330    1331    1332    1333
a  ga03:      1343    1344    1345    1346    1347    1348    1349    1350    1351
a  ga03:      1352    1353
a  ga04:      1501    1502    1503    1504    1505    1506    1507    1508    1509
a  ga04:      1510    1511    1512    1513    1514    1515    1516    1517    1518
a  ga04:      1519    1520    1521    1522    1523    1524    1525    1526    1527
```

Cont'd Figure 11

```
a  ga04:    1528  1529  1530  1531  1532  1533  1534  1535  1536
a  ga04:    1537  1538  1539  1540  1541  1542  1543  1544  1545
a  ga04:    1546  1547  1548  1549  1550  1551  1552  1553  1554
a  ga04:    1555  1556  1557  1558  1559  1560  1561  1562  1563
a  ga04:    1564  1565  1566  1567  1568  1569  1570  1571  1572
…..
a  ga04:    1735  1736  1737  1738  1739  1740  1741  1742  1743
a  ga04:    1744  1745  1746  1747  1748  1749  1750  1751  1752
a  ga04:    1753
a  ga05:    2001  2002  2003  2004  2005  2006  2007  2008  2009
a  ga05:    2010  2011  2012  2013  2014  2015  2016  2017  2018
…..
a  ga05:    2145  2147  2148  2149  2150  2151  2152  2153  2154
a  ga05:    2155  2156  2157  2158  2159  2160  2161  2162  2163
a  ga05:    2164  2165  2166  2167  2168  2169  2170  2171  2172
a  ga05:    2173  2174  2175  2176  2177  2178  2179  2180  2181
a  ga05:    2182  2183  2184  2185  2186  2187  2188  2189  2190
a  ga05:    2191  2192  2193  2194  2195  2196  2197
a  ga06:    2501  2502  2503  2504  2505  2506  2507  2508  2509
a  ga06:    2510  2511  2512  2513  2514  2515  2516  2517  2518
…..
a  ga06:    2600  2601  2602  2603  2604  2605  2606  2607  2608
a  ga06:    2609  2610  2611  2612  2613  2614  2615  2616  2617
a  ga06:    2618  2619  2620  2621  2622  2623  2624  2625  2626
a  ga06:    2627  2628  2629  2630  2631  2632  2633  2634  2635
a  ga06:    2636  2637  2638  2639  2640  2641  2642  2643  2644
a  ga06:    2645  2646  2647  2648  2649  2650  2651  2652  2653
a  ga06:    2654  2655  2656  2658  2659  2660  2661  2662  2663
a  ga06:    2664  2665  2666  2667  2668  2669  2670
```

3.5 Filters

Filter selection is available for all types of data extraction. A maximum of five filters can be used in one query. Once a filter is specified, only the data that satisfy the condition is extracted and included in the output.

For example, if only the trips made by auto drivers and auto passengers living within the Greater Toronto Area are required, two filters are used:
Filter 1: Primary travel mode of trip = D,P
Filter 2: Regional municipality of household = 1-6

Under primary travel mode of trip, the codes “D” and “P” represent auto driver and auto passenger respectively and under the regional municipality of household the code “1-6” represents the GTA.

When an attribute is selected in the pull-down menu under field name, a separate window, yellow in colour, with a list of codes for that attribute will appear. Figure 12 shows a popup window when trip purpose of destination is selected as a filter. The codes are entered into the code text box according to the filter required. Please note that codes are case-sensitive.

Filters and groups can both be applied to the same attribute. Filters will first eliminate the unwanted values from the extraction, and groups will combine the values into desired groupings.

Figure 12 Filter Window

Trip Purpose of Destination

Code	Description
C	Subsequent school
D	Daycare - not 1986
E	Entertainment - 1986 only
F	Faciliate passenger
H	Home
M	Market/Shop - not 1991
L	Linked trip - 1991 only
O	Other
P	Personal - 1986 only
R	Subsequent work
S	School
W	Work
9	Unknown

3.6 Expansion Factor

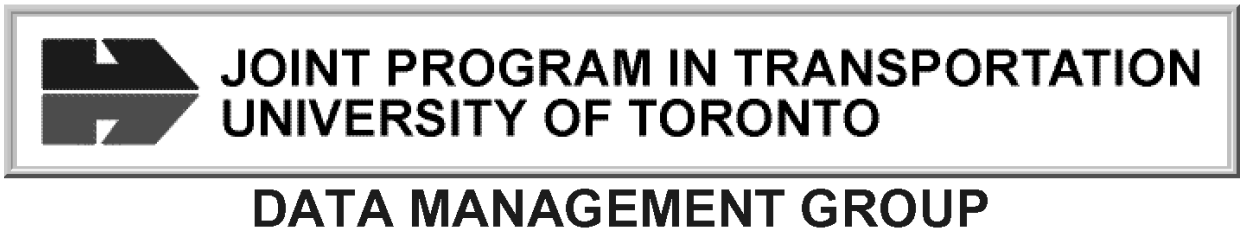
The application of the expansion factor is an option in cross tabulation extraction. The default is to use the expansion factor, which generates the output with expanded totals. If the user chooses not to use the expansion factor, the result will represent the number of observations collected from the survey.

3.7 Output

When the data extraction is finished, the browser will show a web page similar to figure 13. The link on this page leads to the actual result. By pressing the “Shift” key and clicking on the link simultaneously, the user can save this file onto the local computer.

Different types of data tabulation create different types of output. Record count generates only online viewing of the result (see figure 7). Frequency distribution generates fixed width column outputs (see figure 9). Cross tabulation generates output into three different ASCII formats. They are comma-delimited table, fixed width tables and EMME/2 columns. However, if the output table contains more than 265 columns, the default output format will be EMME/2 columns with the standard header information.

Figure 13 Result Screen



1) Comma-delimited table
   An example of output in this format is shown in figure 14. This format allows users to import the output file into Excel or similar spreadsheet software by specifying comma as the delimiter.

Figure 14 Output in Comma-delimited Table

```
USER: iDRS User
DATE: Mar 31, 2004 09:00:00
DATA: 2001 TTS Vers 1.0 Trips
ROW: region_orig
COLUMN: region_dest
FILTER 1: mode_prime => Auto driver
FILTER 2: start_time => 600-859
FILTER 3: region_orig => Toronto – Hamilton
FILTER 4: region_dest => Toronto – Hamilton

,Toronto,Durham,York,Peel,Halton,Hamilton
Toronto,429272,8121,63267,49822,5162,1114
Durham,34850,105483,13406,2845,258,164
York,88394,3378,148520,15102,1335,279
Peel,68140,756,14921,225090,14654,1464
Halton,12760,187,2301,27108,75731,8577
Hamilton,2843,57,565,4604,19731,104758
```

2) Fixed width table
   Figure 15 shows a cross tabulation output in fixed width format. Results in this format are easier to read on screen and in print out form.

Figure 15 Output in Fixed Width Format

```
USER: iDRS User
DATE: Mar 31, 2004 (09:00:00)
DATA: 2001 TTS Vers 1.0 Trips
ROW: region_orig
COLUMN: region_dest
FILTER 1: mode_prime => Auto driver
FILTER 2: start_time => 600-859
FILTER 3: region_orig => Toronto - Hamilton
FILTER 4: region_dest => Toronto - Hamilton
```

	Toronto	Durham	York	Peel	Halton	Hamilton
Toronto	429272	8121	63267	49822	5162	1114
Durham	34850	105483	13406	2845	258	164
York	88394	3378	148520	15102	1335	279
Peel	68140	756	14921	225090	14654	1464
Halton	12760	187	2301	27108	75731	8577
Hamilton	2843	57	565	4604	19731	104758

3) EMME/2 columns

An example of output in this format is shown in figure 16. This format allows users to import the file directly into an EMME/2 databank. The matrix number can be specified before the query is submitted whereas default header information is used for the matrix. This information can be changed within EMME/2. Note that this is also the default format if there are more than 265 columns in the output table. If this is the case, the header information is similar to the other formats.

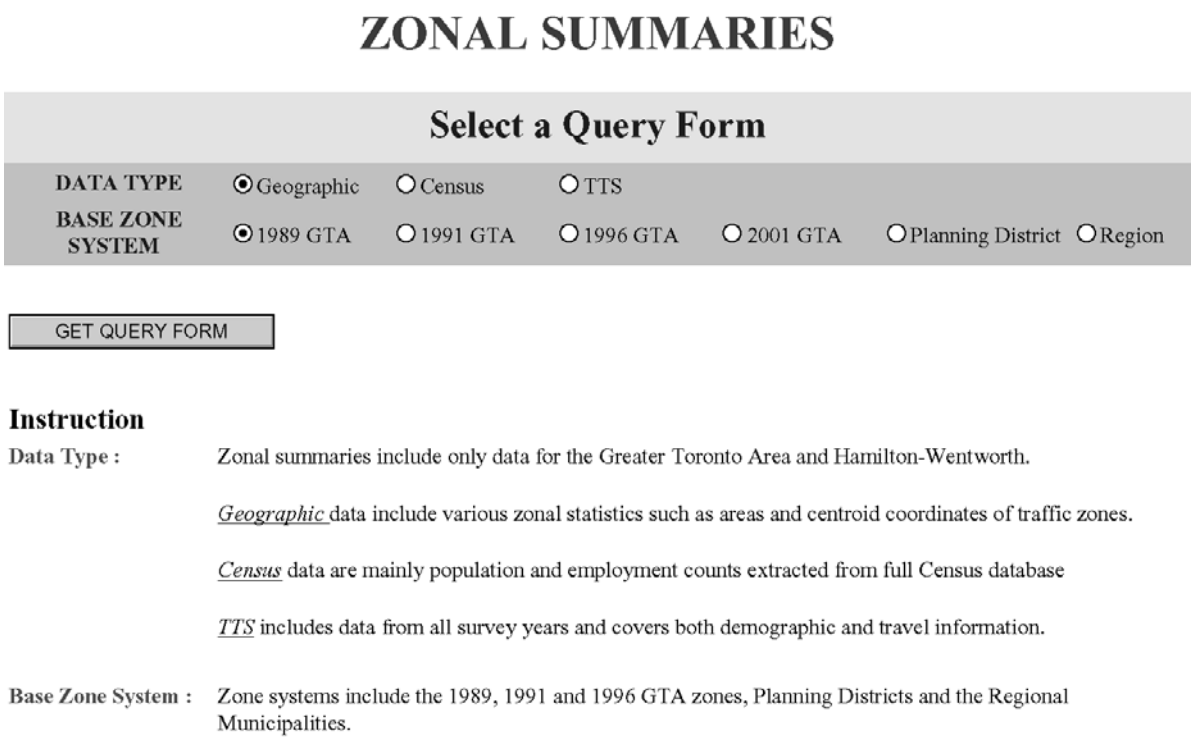
Figure 16 Output in EMME/2 Column

```
c USER: iDRS User
c DATE: Mar 31 2004 (09:00:00)
c DATA: 2001 TTS Vers 1.0 Trips
c ROW: region_orig
c COLUMN: region_dest
c FILTER 1: mode_prime => Auto driver
c FILTER 2: start_time => 600-859
c FILTER 3: region_orig => Toronto – Hamilton
c FILTER 4: region_dest => Toronto – Hamilton
t matrices
a matrix=mf1 matrix 0 2001 TTS Vers 1.0 trip
        1       1  429272
        1       2    8121
        1       3   63267
        1       4   49822
        1       5    5162
        1       6    1114
        2       1   34850
        2       2  105483
        ……
        5       5   75731
        5       6    8577
        6       1    2843
        6       2      57
        6       3     565
        6       4    4604
        6       5   19731
        6       6  104758
```

4.0 Zonal Data Extraction

Zonal summaries contain various data for the Greater Toronto Area and the City of Hamilton. Figure 17 shows the options available for zonal summaries. There are six spatial aggregations and three data types to choose. Spatial aggregation includes the four different GTA traffic zone systems (1989, 1991, 1996 and 2001), planning districts and regional municipality. The three data types are geographic, TTS, and census data. Geographic data contain zonal statistics such as area in square metre or hectare, corresponding planning district and regional municipality, and the coordinates of geometric centres of traffic zones. Summaries of TTS data can be found under TTS data type. Census data include population, employed labour force, employment and number of people who worked at home. Not all data types are available for all zone systems. For example, census data are only available for the 1989 GTA zone system. Once the data are obtained, a screen that is similar to the other types of data extraction, with a link to the result, is displayed. All output data are in fixed width column format.

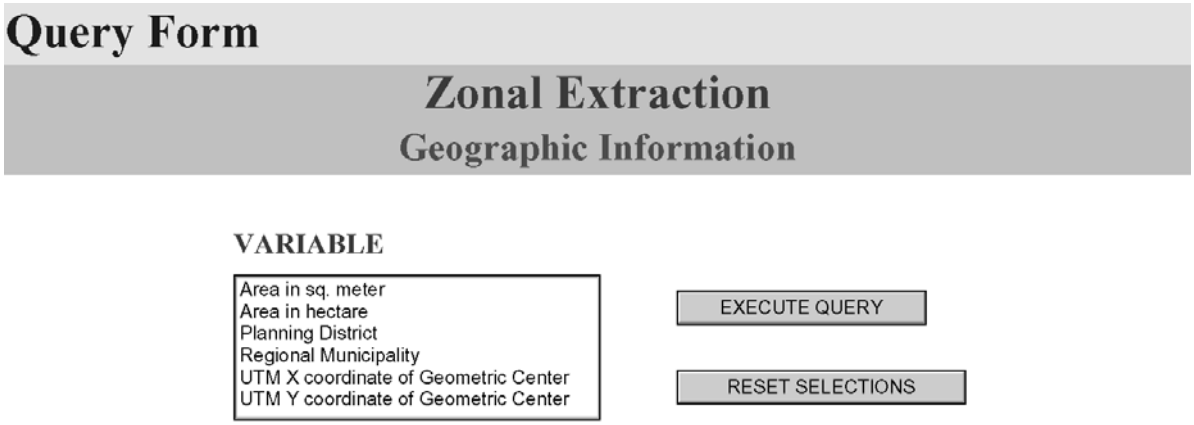
Figure 17 Zonal Summaries Screen



4.1 Geographic Data Extraction

Geographic data are available at all spatial levels. However, only the variables that are applicable to the selected zone system can be extracted. For example, the x and y coordinates of the geometric centres of traffic zones are not available for planning districts or regional levels. Figure 18 shows the screen display of a geographic data extraction when the 1989 GTA zone system is selected. Note that the user can use the “shift” or “control” key together with the mouse in order to select more than one variable.

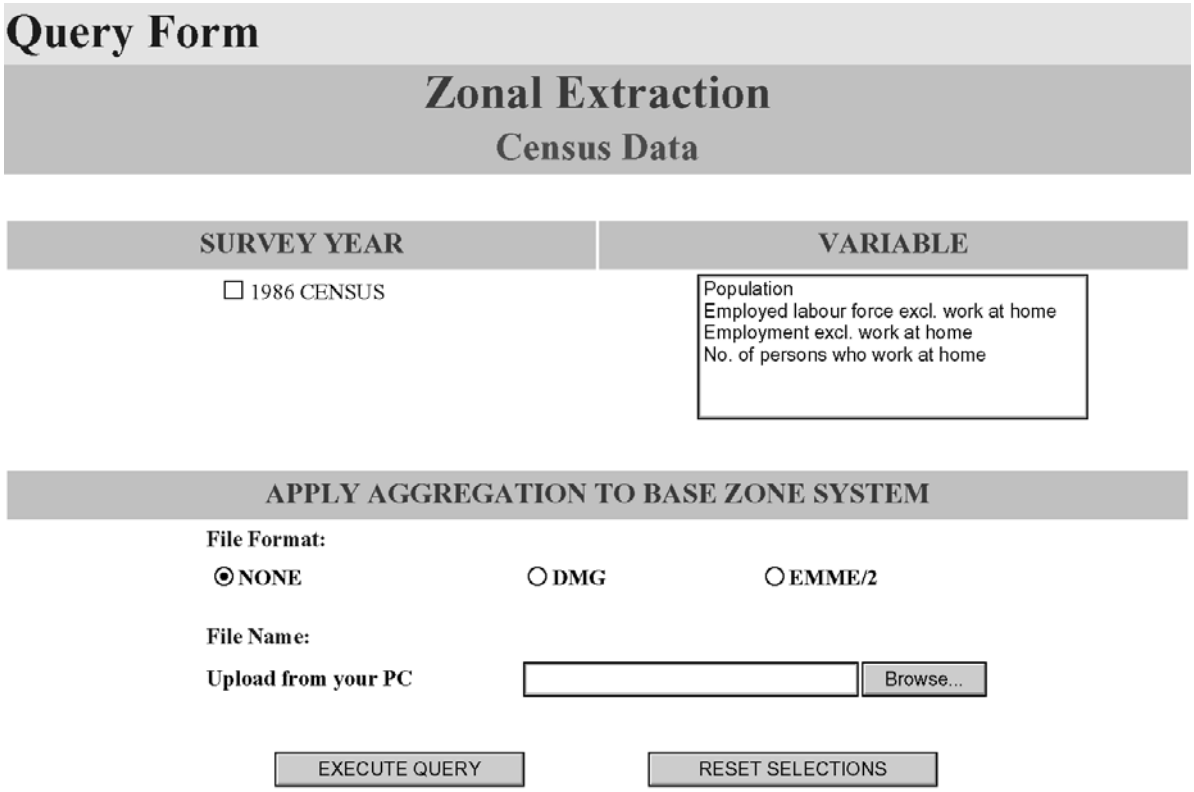
Figure 18 Geographic Data Extraction Screen



4.2 Census Data Extraction

Figure 19 displays the screen for the 1986 Census data extraction. The 1986 Census data are only available in the 1989 GTA zone system. The data include population, employed labour force excluding people who work at home, employed labour force including people who work at home, and number of people who work at home. In addition to the zone system provided, an aggregation file can be applied to group the data into different spatial levels. Refer to section 3.4.2 for details on applying aggregation.

Figure 19 Census Data Extraction Screen



4.3 TTS Zonal Data Extraction

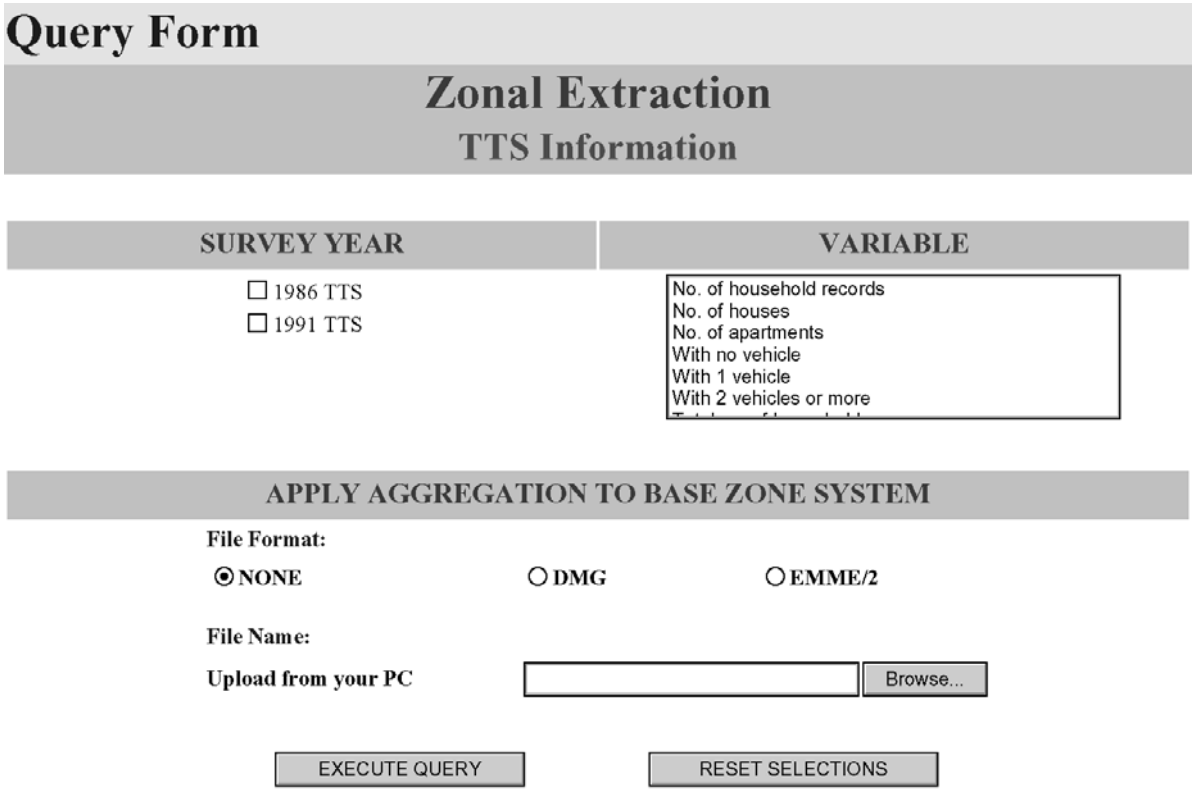
TTS zonal data are TTS data summarized at different zonal levels. These data can be compiled through the standard TTS data extraction. Figure 20 shows the screen of TTS zonal data extraction. The TTS surveys available for the selected zone system are displayed on the left, while the summarized variables are listed on the right. These variables are as follows:

- Number of household records
- Number of households by dwelling type (house, apartment)
- Number of households with different number of vehicles (0,1,2+) for personal use
- Total number of households
- Total number of vehicles
- Number of person records
- Population by age cohort (0-10,11-15,16+)
- Population by gender (male, female) with and without driver's licence
- Total population
- Employed labour force by employment status (full-time, part-time, work at home)
- Total employed labour force
- Full time students

- All day trip productions by travel mode (auto driver, auto passenger, transit, other) and by trip purpose (home-based work[2], home-based school[3], home-based discretionary[4], non home-based[5])
- All day trip attractions by travel mode (auto driver, auto passenger, transit, other) and by trip purpose (home-based work, home-based school, home-based discretionary, non home-based)
- First trip to work origins during 24-hour and AM peak period
- First trip to work destinations during 24-hour and AM peak period

Similar to the census data, an aggregation file can be used to combine several zones into a new spatial level. Please refer to section 3.4.2 for details on applying aggregation.

Figure 20 TTS Zonal Data Extraction Screen



[2] Home-based work trips include trips originating from home and destined to work, and trips originating from work and destined to home.
[3] The definition of home-based school trips is similar to that of home-based work trips.
[4] Home-based discretionary trips include trips originating from home and destined to anywhere except work and school, and trips originating from anywhere except work and school and destined to home.
[5] Non home-based trips are defined as trips with neither trip end as home.

5.0 Examples

In order to demonstrate the capabilities of iDRS, several examples are used. For each example, all the screen pages are captured and displayed with explanations. Although there could be various ways to query the data, only one method is shown in each example. Examples 1 to 5 are TTS data extractions and examples 6 to 8 are zonal summaries.

5.1 Example 1

Data required: total number of dwellings for the Greater Toronto Area and the City of Hamilton from the 1996 and 2001 TTS.

Figure 21 shows the first selection screen for this example. Since only the total dwellings are required, the tabulation type is record count.

Figure 21 Example 1 – Screen 1

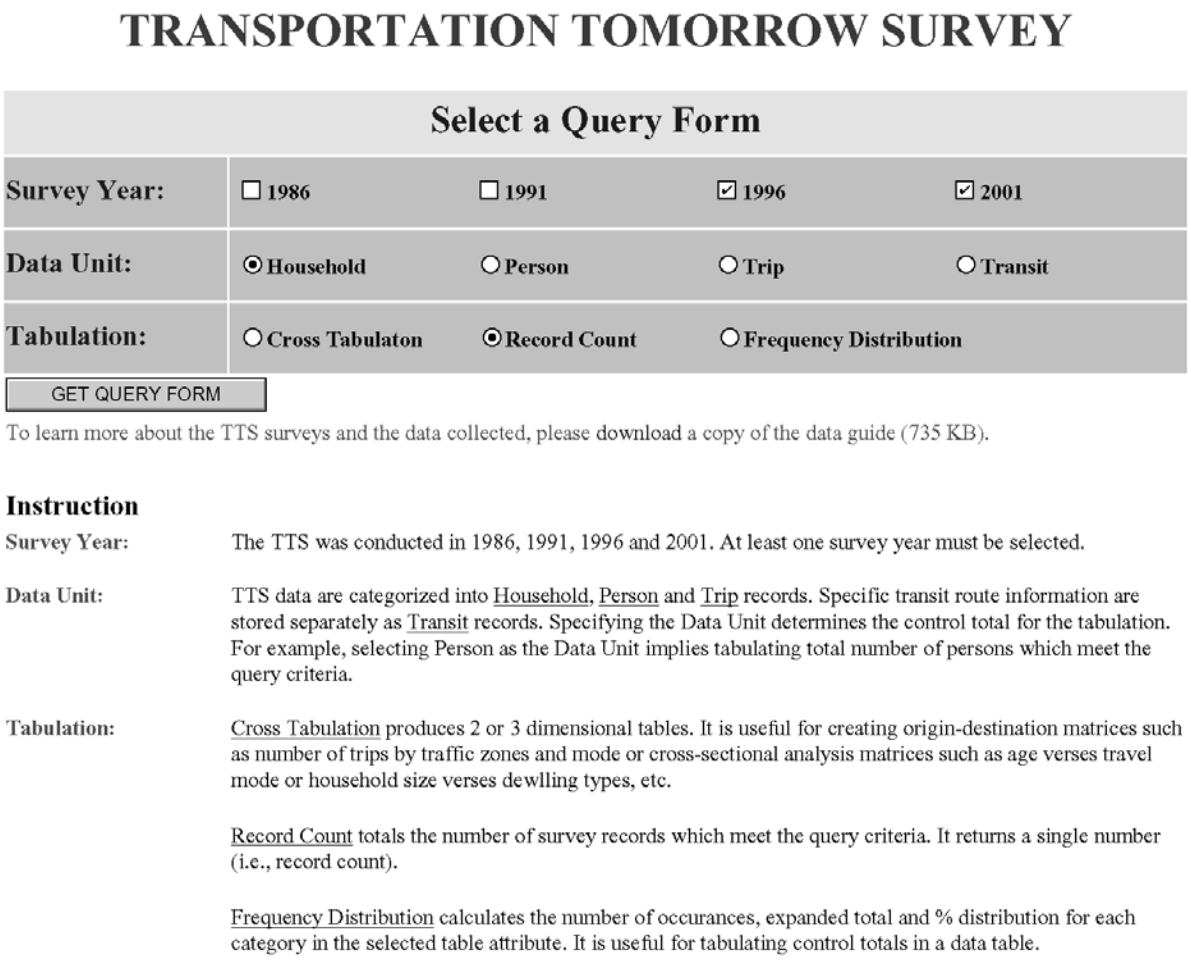
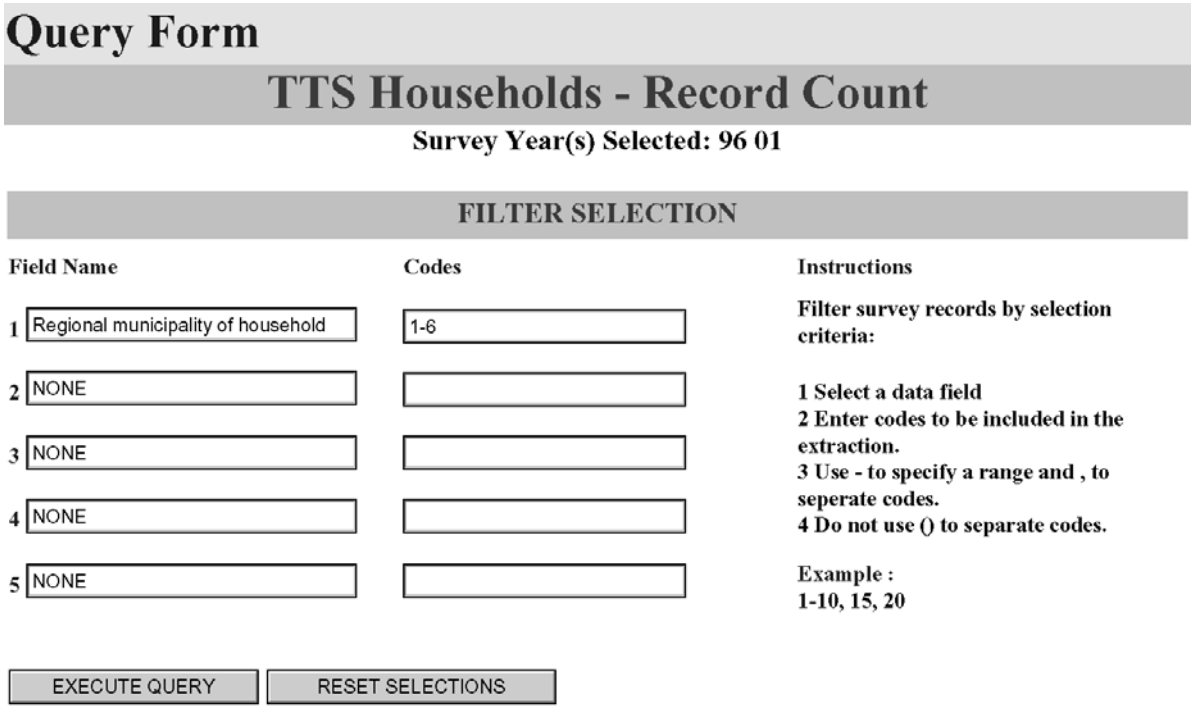


Figure 22 shows the second selection screen for this example. Since the Greater Toronto Area (region 1 to 5) and City of Hamilton (region 6) are required, a filter on the regional municipality of household is set to 1 to 6.

Figure 22 Example 1 – Screen 2



After submitting the query, a page with the link to the output appears. Selecting the link will display the result shown in figure 23.

Figure 23 Example 1 – Result

Date: Mar 31, 2004 09:00:00
Data: 1996 TTS Vers 2.1 Households
Filter 1: region_hhld => Toronto-Hamilton

Number of Observations = 88898
Total Expanded Number = 1805021

Date: Mar 31, 2004 09:00:00
Data: 2001 TTS Vers 1.0 Households
Filter 1: region_hhld => Toronto-Hamilton

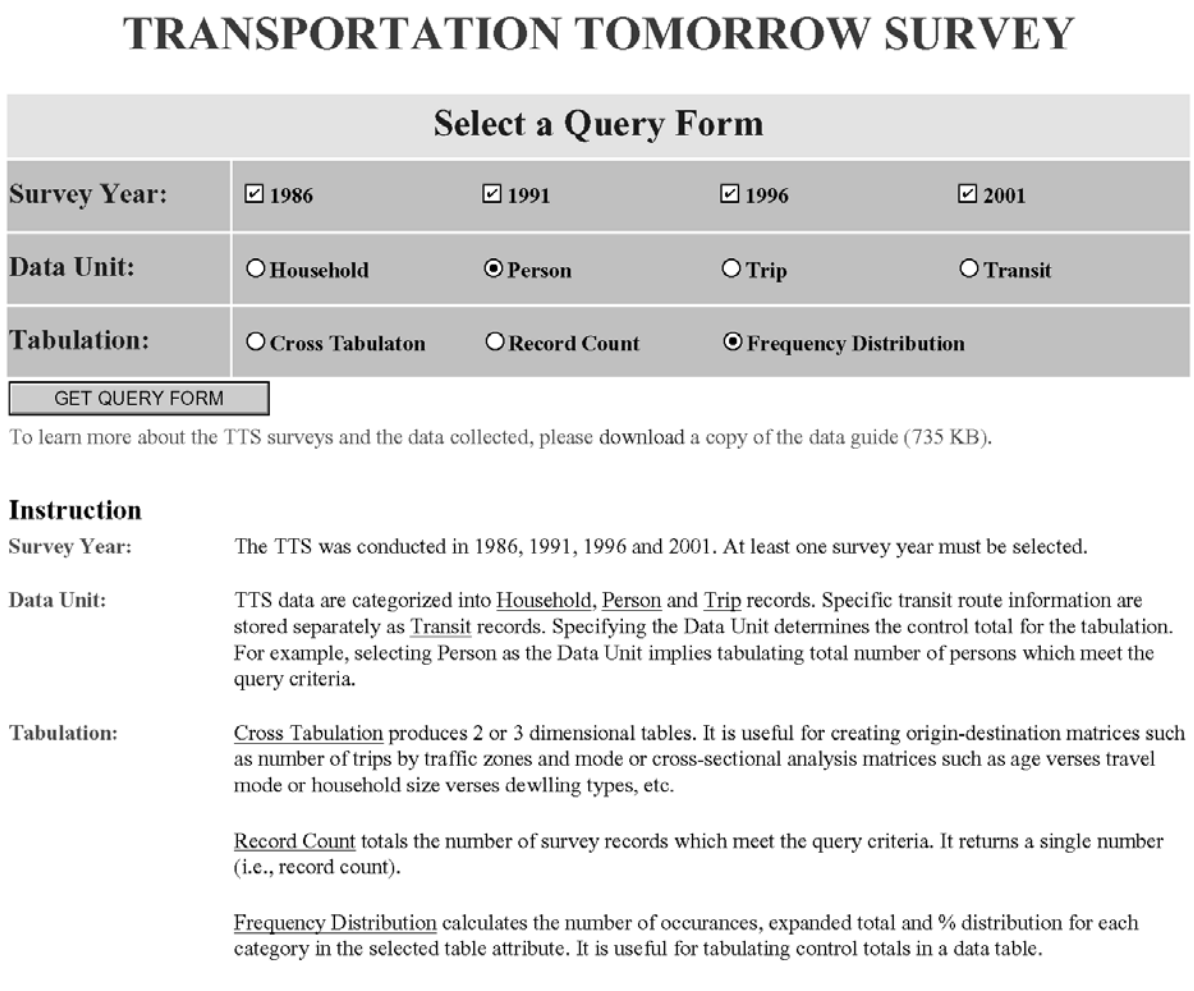
Number of Observations = 113608
Total Expanded Number = 1975154

5.2 Example 2

Data required: total number of workers between the ages of 18 and 65, living in York Region from the 1986, 1991, 1996 and 2001 TTS broken down by local municipality.

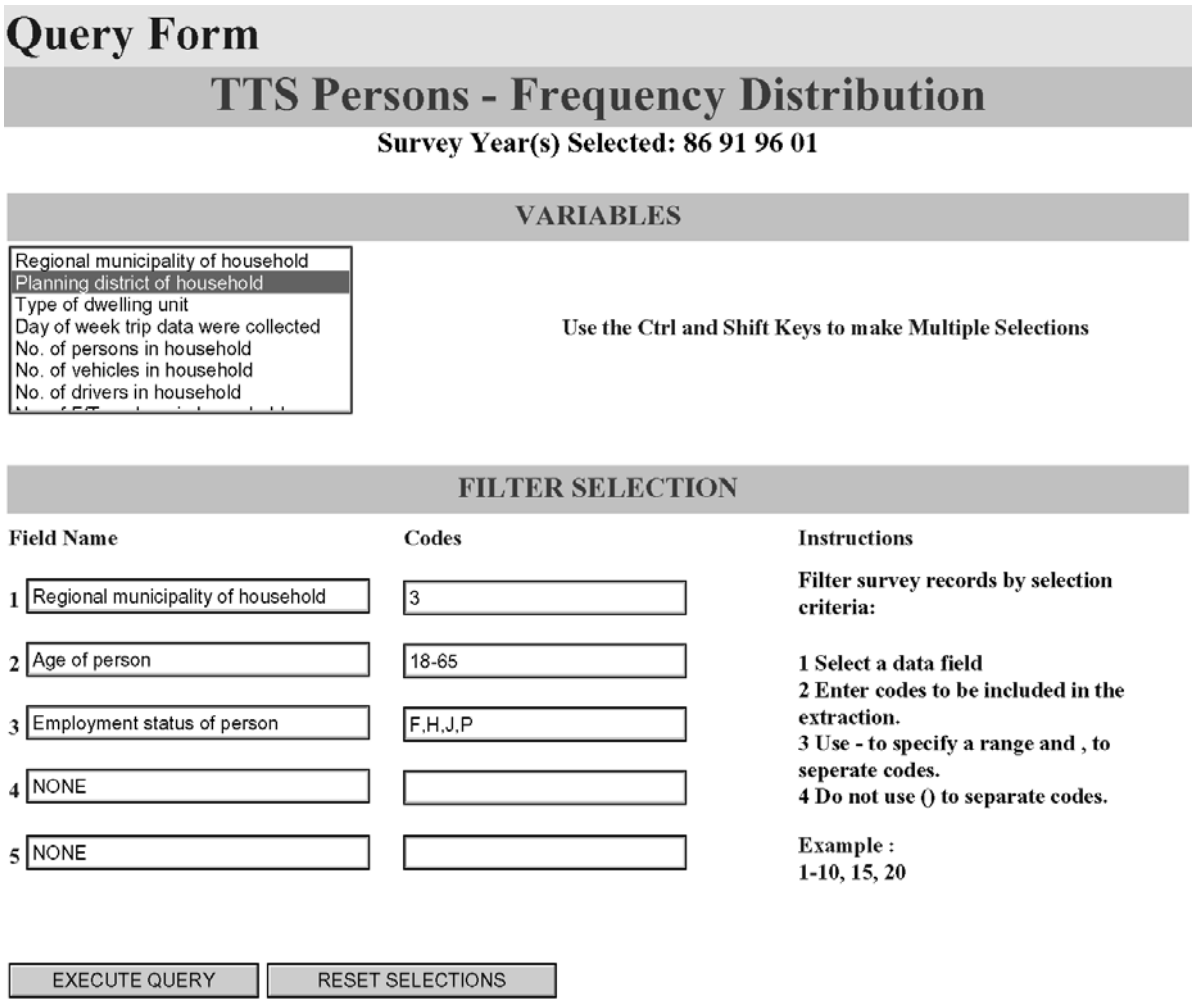
Because a vector of numbers representing the local municipalities is to be generated, one-dimensional type of extraction, frequency distribution, is chosen. The output required is the number of persons, not households. Therefore, the data unit is set to person. Figure 24 shows the first selection screen for this example.

Figure 24 Example 2 – Screen 1



The local municipality of household is represented by the planning district of household, which is selected as the variable[6]. Since only the persons between the ages of 18 and 65 who work and live in York Region are required, three filters are used and are shown in figure 25. Note that the first filter can be replaced by setting the planning district of household to the range of 25 to 33, since these are the municipalities in York Region.

Figure 25 Example 2 – Screen 2



[6] Refer to the 2001 TTS Data Guide for the detailed description of variables.

Once all the variables and filters are chosen, the query is executed. The result of this example is shown in figure 26. Both the number of records and the expanded totals are extracted for each municipality and each survey year selected. The total for each column is also calculated.

Figure 26 Example 2 – Result

USER: iDR User
DATE: Mar 31 2004 09:00:00
DATA: Persons
FILTER 1: region_hhld => York
FILTER 2: age => 18-65
FILTER 3: emp_stat => Full time, Home F/T, Home P/T, Part time
VARIABLE: pd_hhld

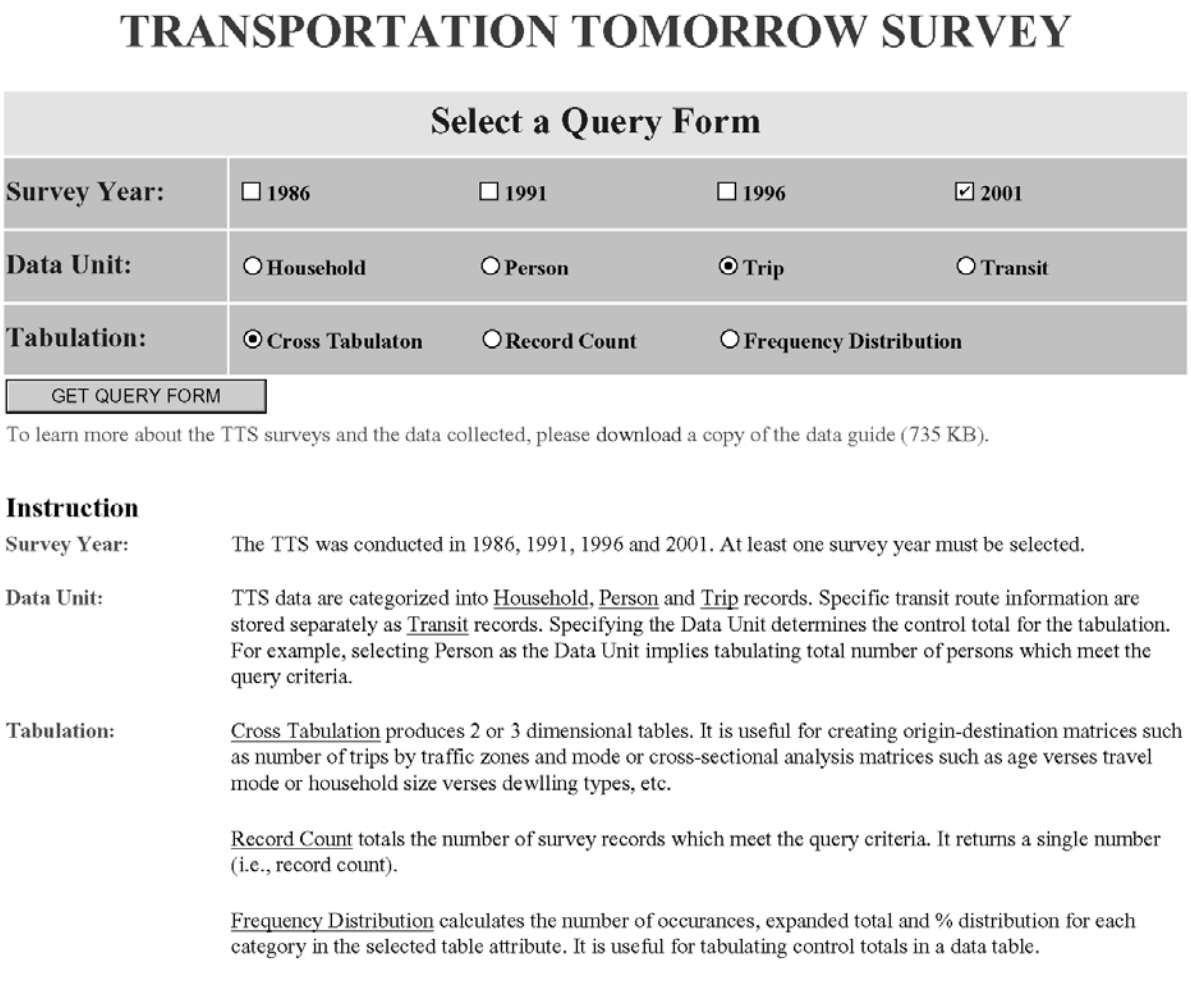
	1986 TTS Vers 3.1		1991 TTS Vers 4.1		1996 TTS Vers 2.1		2001 TTS Vers 1.0	
	Count	Expanded	Count	Expanded	Count	Expanded	Count	Expanded
Georgina	419	11769	104	15388	758	15786	928	18399
East Gwillimbury	318	7200	185	9338	519	9219	733	11054
Newmarket	850	17400	254	23172	1357	26904	1836	33721
Aurora	464	10436	707	14738	859	16658	1230	19552
Richmond Hill	1046	23779	1177	37062	2331	46569	3626	65271
Whitchurch-Stouffville	369	7350	363	8962	378	9340	495	9954
Markham	2399	56817	1960	71684	4155	77514	5312	99831
King	316	8535	61	9734	358	8860	435	8517
Vaughan	1419	33100	2418	53157	3207	62181	5570	98955
Total	7600	176385	7229	243235	13922	273032	20165	365255

5.3 Example 3

Data required: Total number of work trips made by residents in the City of Toronto, broken down by primary mode of travel and the municipality of destination within the Greater Toronto Area and City of Hamilton from the 2001 TTS during the morning peak period.

The expected output table consists of two dimensions: the municipality of destination and the primary mode of travel. Therefore, cross tabulation is chosen as the extraction type, with data unit set to trip.

Figure 27 Example 3 – Screen 1



TRANSPORTATION TOMORROW SURVEY

Select a Query Form

Survey Year:	☐ 1986	☐ 1991	☐ 1996	☑ 2001
Data Unit:	○ Household	○ Person	◉ Trip	○ Transit
Tabulation:	◉ Cross Tabulaton	○ Record Count	○ Frequency Distribution	

GET QUERY FORM

To learn more about the TTS surveys and the data collected, please download a copy of the data guide (735 KB).

Instruction

Survey Year: The TTS was conducted in 1986, 1991, 1996 and 2001. At least one survey year must be selected.

Data Unit: TTS data are categorized into Household, Person and Trip records. Specific transit route information are stored separately as Transit records. Specifying the Data Unit determines the control total for the tabulation. For example, selecting Person as the Data Unit implies tabulating total number of persons which meet the query criteria.

Tabulation: Cross Tabulation produces 2 or 3 dimensional tables. It is useful for creating origin-destination matrices such as number of trips by traffic zones and mode or cross-sectional analysis matrices such as age verses travel mode or household size verses dewlling types, etc.

Record Count totals the number of survey records which meet the query criteria. It returns a single number (i.e., record count).

Frequency Distribution calculates the number of occurances, expanded total and % distribution for each category in the selected table attribute. It is useful for tabulating control totals in a data table.

Since there are 46 planning districts or municipalities within the GTA and the City of Hamilton, and less than 20 different travel modes, planning district is selected as row variable and travel mode is selected as column variable. Users can decide on the attribute in each dimension. However, they should keep in mind that if the total number of columns exceeds 265, 3-column format is used as default for the output. There are four filters used for this example. The first filter, the regional municipality of household, is set to 1, which represents the City of Toronto. The second filter is to select region 1 to 6 for destination to limit the trip destinations to the GTA and the City of Hamilton. Because only work trips are required, trip purpose of destination is set to work as the third filter. The last filter is the start time of trips. Morning peak period, in this example, is defined as 6:00 a.m. to 8:59 a.m. In order to easily view the result, fixed width columns are chosen as the output format. All these selections are displayed in figure 28.

As soon as the “Execute Query” button is pressed, the query is submitted and the data are being extracted. Cross tabulation extraction usually takes longer than the other types of extraction to run, and generally takes about one minute to finish. Again, once the data are retrieved, a screen with a link to the output file is shown. The user can save the file at this point or display the contents of the output file by clicking on the link. The result for this example is shown in figure 29.

Figure 28 Example 3 – Screen 2

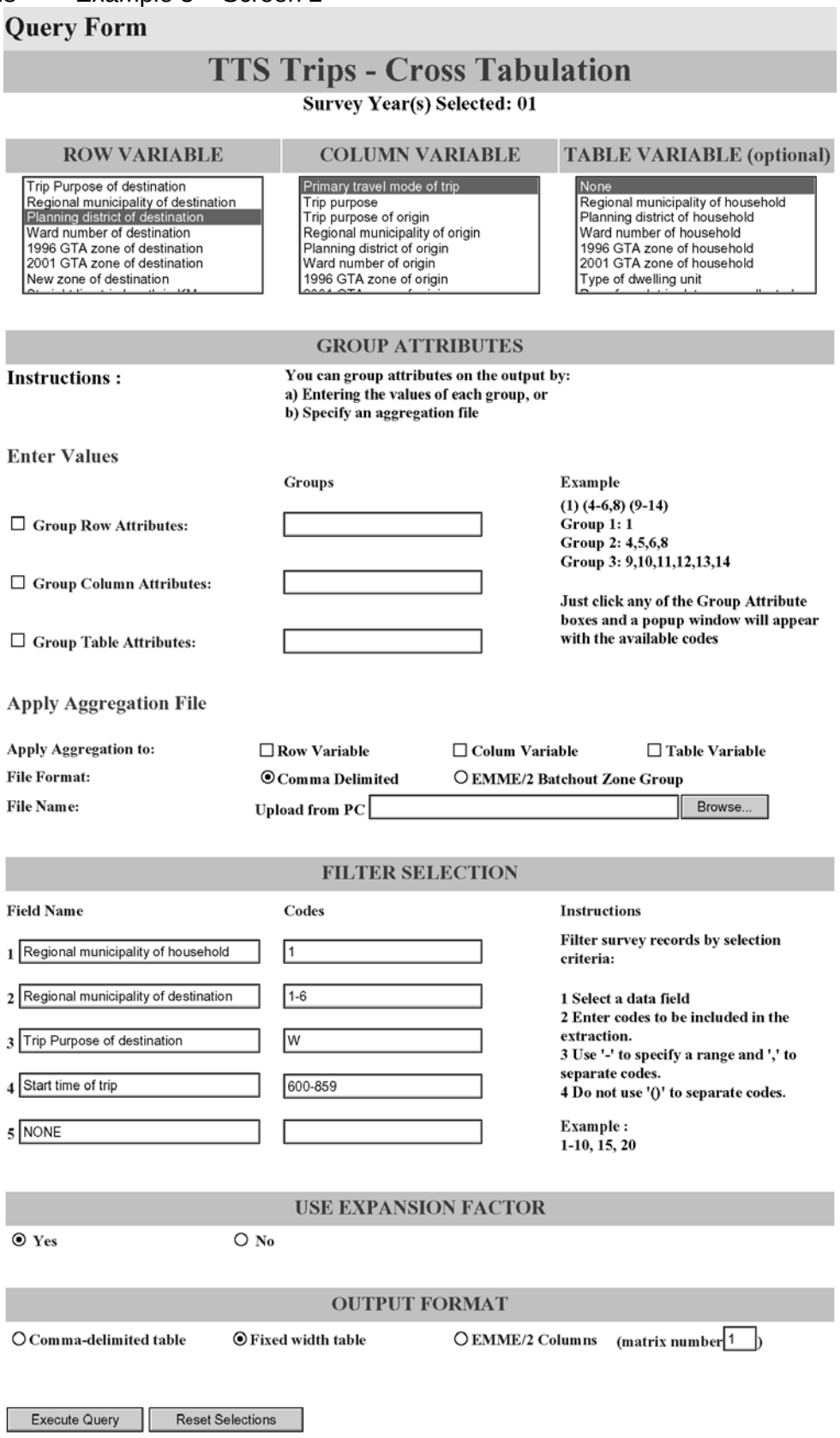


Figure 29 Example 3 – Result

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 2001 TTS Vers 1.0 Trips
ROW: pd_dest
COLUMN: mode_prime
FILTER 1: region_hhld => Toronto
FILTER 2: region_dest => Toronto - Hamilton
FILTER 3 : purp_dest => Work
FILTER 4 : start_time => 600-859

	Walk	Other	GO rail only	Auto passenger	Transit exclud	Joint GO rail	Schoolbus	Cycle	Taxi passenger	Auto driver	Motorcycle	Unknown
PD 1 of Toront	15409	206	5935	11043	102537	894	0	4279	950	50650	164	36
PD 2 of Toront	1915	0	0	1797	5663	0	0	504	68	9313	0	0
PD 3 of Toront	1723	0	0	2890	6879	14	0	186	52	17016	0	0
PD 4 of Toront	2975	35	0	2631	15847	115	0	707	153	19078	0	0
PD 5 of Toront	633	0	0	2169	5878	0	0	124	58	17882	0	0
PD 6 of Toront	1763	17	20	1446	5291	0	0	525	84	9333	0	0
PD 7 of Toront	333	0	0	628	1115	0	0	86	12	4482	0	0
PD 8 of Toront	881	0	0	2122	5655	0	0	154	29	16245	20	0
PD 9 of Toront	491	0	0	1882	2761	0	20	11	0	12599	16	0
PD 10 of Toron	828	20	0	3702	6802	0	0	196	33	21398	0	0
PD 11 of Toron	1217	17	0	2294	8561	0	0	148	51	15686	14	14
PD 12 of Toron	220	0	0	1053	2183	0	0	30	25	9218	0	0
PD 13 of Toron	987	30	0	3865	6938	0	14	173	130	22521	0	0
PD 14 of Toron	121	0	0	434	515	0	0	14	0	2827	0	0
PD 15 of Toron	187	0	0	328	620	0	0	14	0	2778	0	12
PD 16 of Toron	686	12	0	3812	5159	0	0	166	30	21366	0	0

Cont'd Figure 29

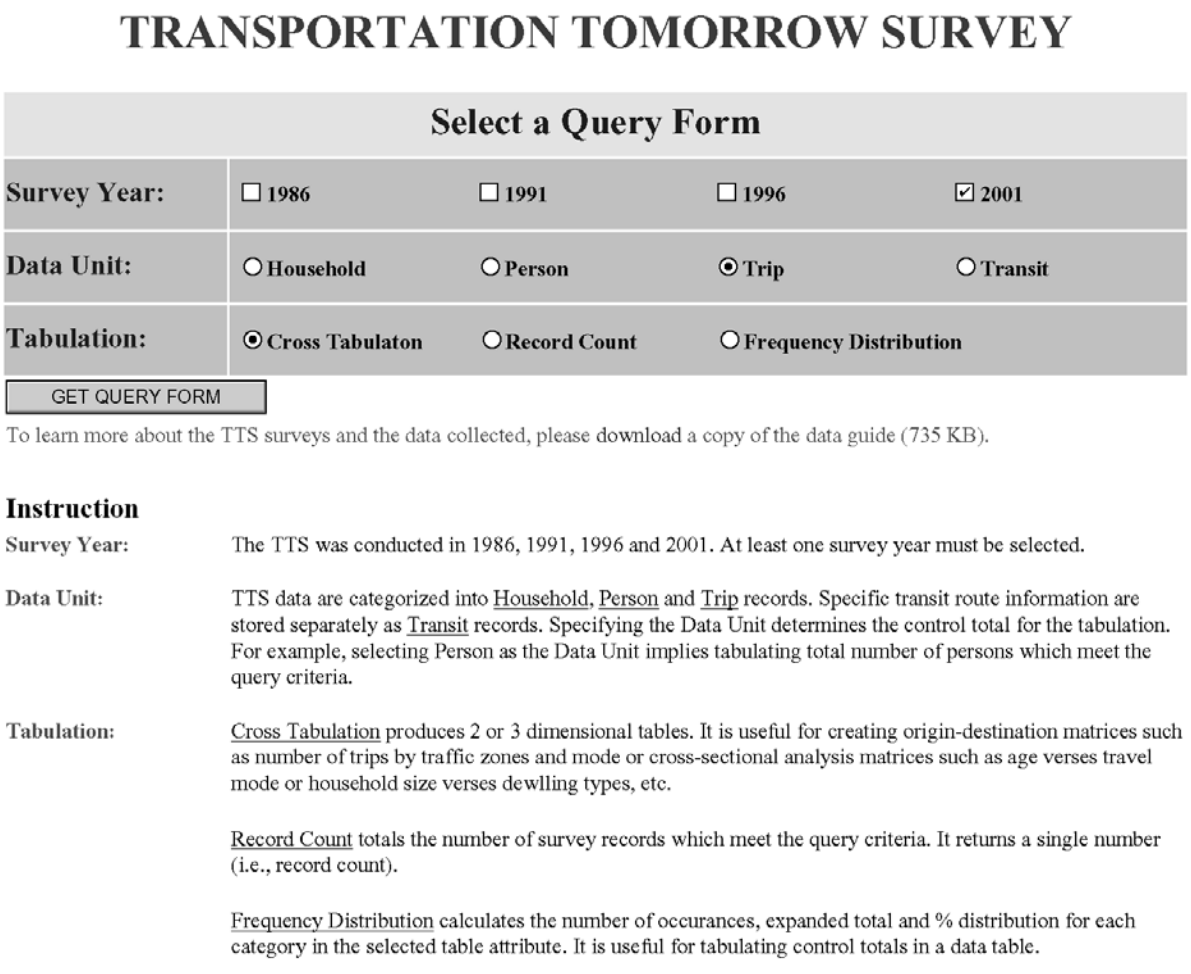
	Walk	Other	GO rail only	Auto passenger	Transit exclud	Joint GO rail	Schoolbus	Cycle	Taxi passenger	Auto driver	Motorcycle	Unknown
Brock	0	0	0	0	0	0	0	0	0	42	0	0
Uxbridge	0	0	0	0	22	0	0	0	0	46	0	0
Scugog	0	0	0	0	0	0	0	0	0	76	0	0
Pickering	0	0	20	165	32	54	0	0	0	2496	0	0
Ajax	0	0	0	194	24	58	0	0	0	1087	0	0
Whitby	0	20	13	14	13	45	0	0	0	655	0	0
Oshawa	0	0	0	67	12	39	0	0	0	1014	0	0
Clarington	0	0	0	29	0	0	0	0	0	392	0	0
Georgina	0	0	0	18	0	0	0	0	0	62	0	0
East Gwillimbu	0	0	0	0	0	0	0	0	0	40	0	0
Newmarket	0	0	0	98	0	0	0	0	0	1233	0	0
Aurora	23	0	0	12	0	0	0	0	0	579	0	0
Richmond Hill	28	0	0	508	711	0	0	0	0	5012	0	0
Whitchurt-Stou	0	0	0	50	18	0	0	0	0	323	0	0
Markham	60	0	0	2559	2804	0	0	67	53	24002	24	0
King	0	0	0	42	11	0	0	0	0	284	0	0
Vaughan	91	0	0	3705	2923	0	0	62	0	21725	0	0
Caledon	0	0	0	29	0	0	0	0	0	674	0	0
Brampton	10	0	0	910	343	42	0	0	0	7543	0	0
Mississauga	113	0	22	3028	2771	71	0	34	155	33769	82	0
Halton Hills	0	0	0	54	15	0	0	0	0	289	0	0
Milton	0	0	0	52	0	12	0	0	0	442	0	0
Oakville	0	0	25	240	20	64	0	0	0	2657	0	0
Burlington	0	0	15	42	20	38	0	0	0	849	0	0
Flamborough	0	0	0	0	0	0	0	0	0	22	0	0
Dundas	0	0	0	0	19	0	0	0	0	26	0	0
Glanbrook	0	0	0	16	0	0	0	0	0	0	0	0
Stoney Creek	0	0	0	0	0	0	0	0	0	51	0	0
Hamilton	0	0	0	0	20	0	0	0	0	418	0	0

5.4 Example 4

Data required: 2001 TTS origin-destination (o-d) matrix for auto driver trips between 6:00 a.m. and 8:59 a.m. This matrix is to be batched into a 2001 GTA network in EMME/2 as mf2 for auto assignment.

Because an o-d trip matrix is required, a cross tabulation of trips from the 2001 TTS is selected, as shown in figure 30.

Figure 30 Example 4 – Screen 1



TRANSPORTATION TOMORROW SURVEY

Select a Query Form

Survey Year:	☐ 1986	☐ 1991	☐ 1996	☑ 2001
Data Unit:	○ Household	○ Person	◉ Trip	○ Transit
Tabulation:	◉ Cross Tabulaton	○ Record Count	○ Frequency Distribution	

GET QUERY FORM

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Instruction

Survey Year: The TTS was conducted in 1986, 1991, 1996 and 2001. At least one survey year must be selected.

Data Unit: TTS data are categorized into Household, Person and Trip records. Specific transit route information are stored separately as Transit records. Specifying the Data Unit determines the control total for the tabulation. For example, selecting Person as the Data Unit implies tabulating total number of persons which meet the query criteria.

Tabulation: Cross Tabulation produces 2 or 3 dimensional tables. It is useful for creating origin-destination matrices such as number of trips by traffic zones and mode or cross-sectional analysis matrices such as age verses travel mode or household size verses dewlling types, etc.

Record Count totals the number of survey records which meet the query criteria. It returns a single number (i.e., record count).

Frequency Distribution calculates the number of occurances, expanded total and % distribution for each category in the selected table attribute. It is useful for tabulating control totals in a data table.

The result of this extraction is batched into a 2001 GTA network in EMME/2. Therefore, the row and column attributes should be the 2001 GTA zones of origin and destination and an aggregation file[7] converting these zones into the zone system used in the 2001 GTA network should be applied. The output format is EMME/2 columns with the matrix number set to two. The selection screen for this example is shown in figure 31, and the result will look similar to figure 32.

[7] This aggregation file can be obtained from DMG upon request.

Figure 31 Example 4 – Screen 2

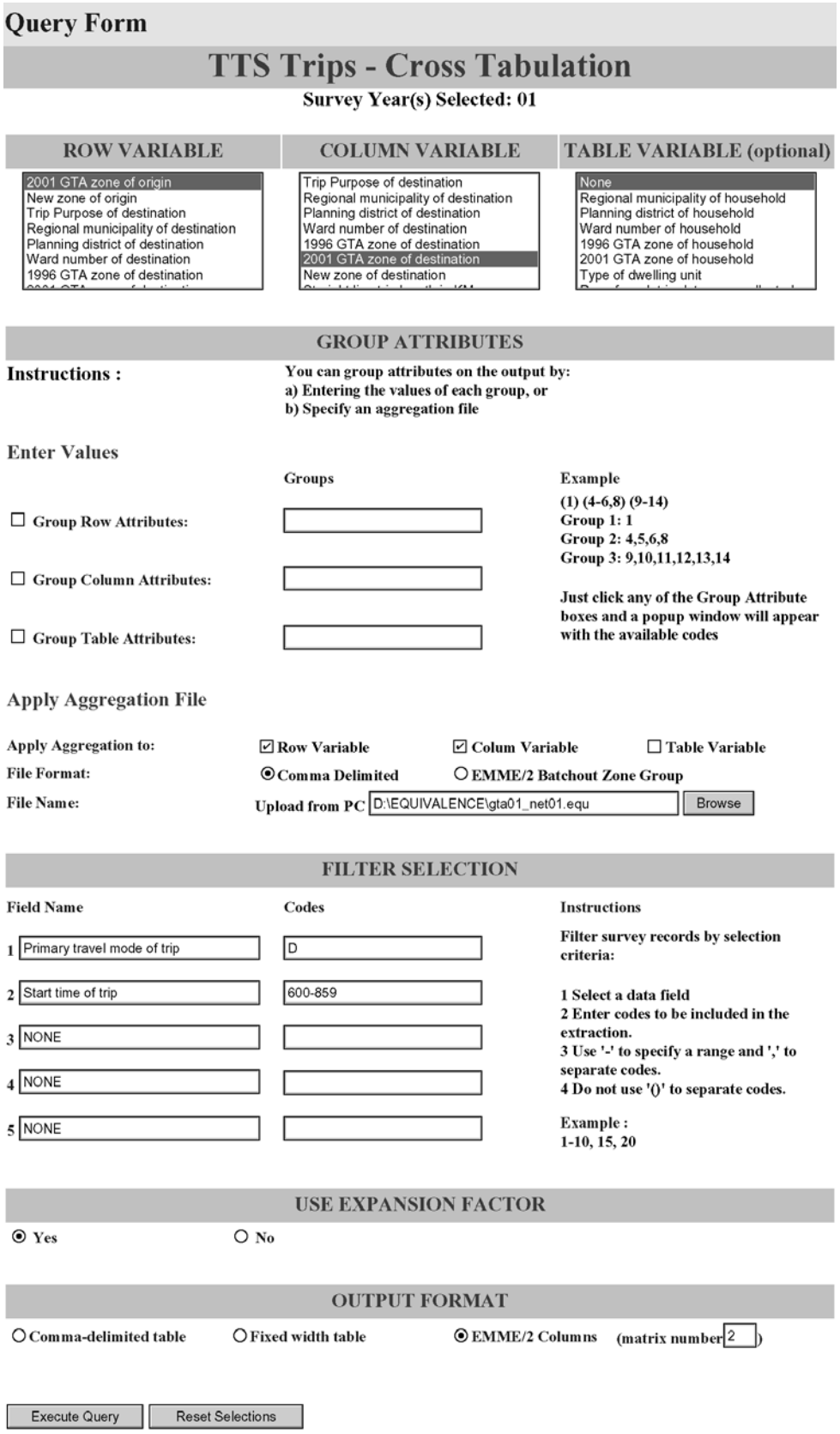


Figure 32 Example 4 – Result

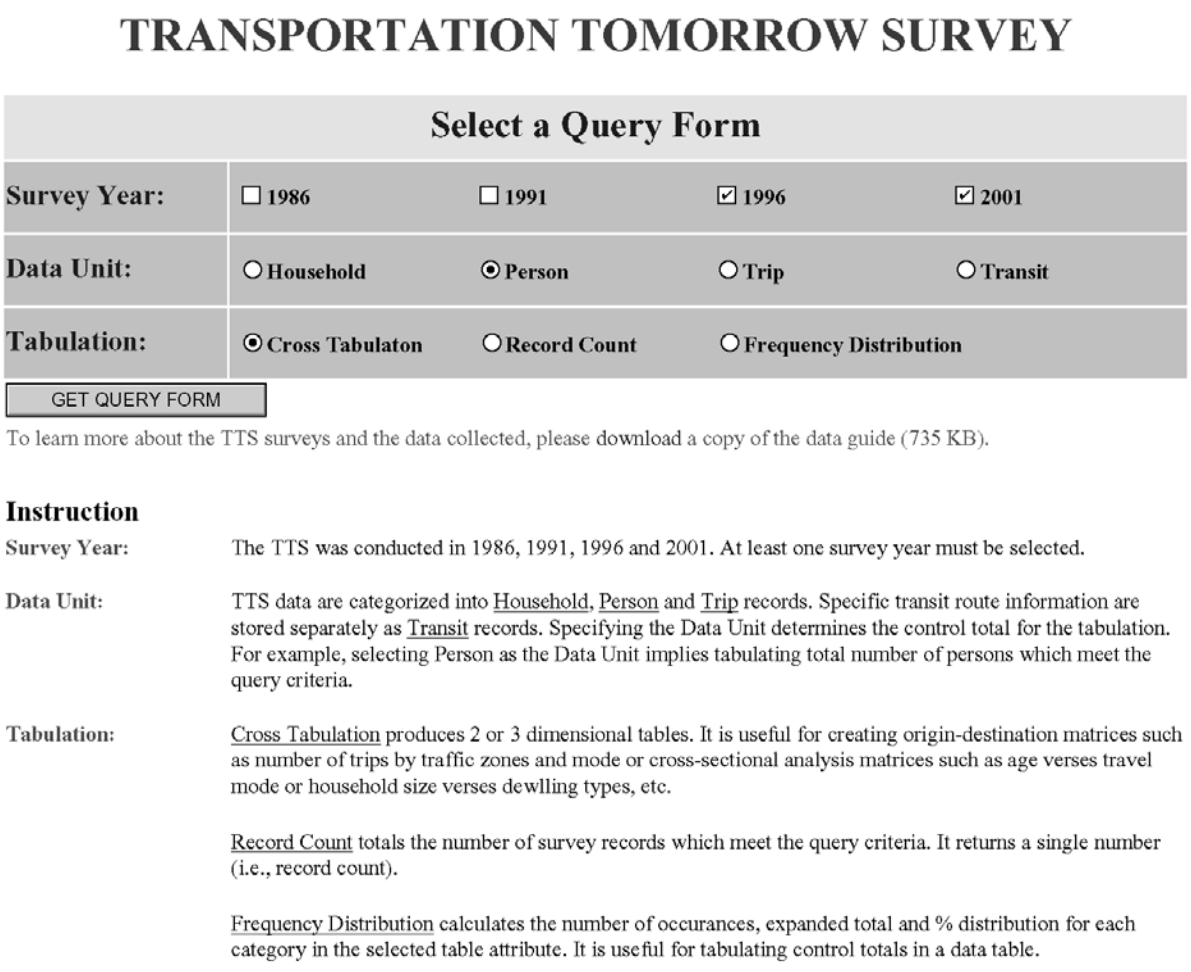
```
c USER: iDRS User
c DATE: Mar 31 2004 09:00:00
c DATA: 2001 TTS Vers 1.0 Trips
c ROW: gta01_orig
c COLUMN: gta01_dest
c FILTER 1: mode_prime => Auto driver
c FILTER 2: start_time => 600-859
c ROW: aggregated with /usr/local/www/htsdocs/drs/work/aggr_file10488
c COLUMN: aggregated with /usr/local/www/htsdocs/drs/work/aggr_file10488
t matrices
a matrix=mf2 matrix 0 2001 TTS Vers 1.0 trip
        1          1         54
        1          2         56
        1          3         13
        1          6         16
        1          7         41
        1          9         36
        1         10         13
        1         12         13
        1         14         13
        1         24         13
        1         28         13
        1         34         13
        1         40         13
        1         48         13
        1         52         54
    …….
    …….
    4408       2577         19
    4408       2581         19
    4408       2588         19
    4408       2609         44
    4408       2613         37
    4408       2617         25
    4408       2649         19
    4408       2660         37
    4408       2661        100
    4408       2662         46
    4408       2663         19
    4408       2670         37
    4408       4301         44
    4408       4402         21
    4408       4404        182
    4408       4405        646
    4408       4406       2414
    4408       4407       2164
    4408       4408       2862
    4409       4301         22
    4409       4408         17
    4409       4409         19
```

5.5 Example 5

Data required: 1996 and 2001 population from the TTS surveys, broken down by gender and age cohort (19-25, 26-35, 36-45, 46-55, 56-65), for (1) the City of Toronto, and (2) the Regional Municipality of York.

Since both the gender and age have to be tabulated, cross tabulation is chosen. The data unit is person because population is required. Figure 33 shows the first screen for this example.

Figure 33 Example 5 – Screen 1



There are two different methods to retrieve data for this example. The first method is to run the query twice, setting the household region to the City of Toronto in the first run, and to York Region in the second run. The second method is to introduce a third dimension in the cross tabulation as shown in this example. We now have three variables: age, gender and the household region. Similar to example 3, the user can decide the variable in each dimension. In this example, the age of persons is used as row variable, gender of persons as column variable, and region of household as table variable. Age groups are required instead of individual age values, therefore, grouping is applied to the row variable and there are altogether five groups defined. Since only the residents of the City of Toronto and the Region of York are to be extracted separately, a filter is set to limit the regional municipality of household to these two regions. If this filter is not set, the number of tables in the output is the same as the number of unique values for the table attribute, that is the number of regions in the surveys. The second filter in this case is optional. Persons under the age of 19 or above 65 are not extracted, as they are not included in any of the five groups. However, setting the age as the second filter will slightly speed up the extraction. Again, in order to view the result properly, fixed width table is selected as the output format. The second selection screen is shown in figure 34 and the results in figure 35.

Figure 34 Example 5 – Screen 2

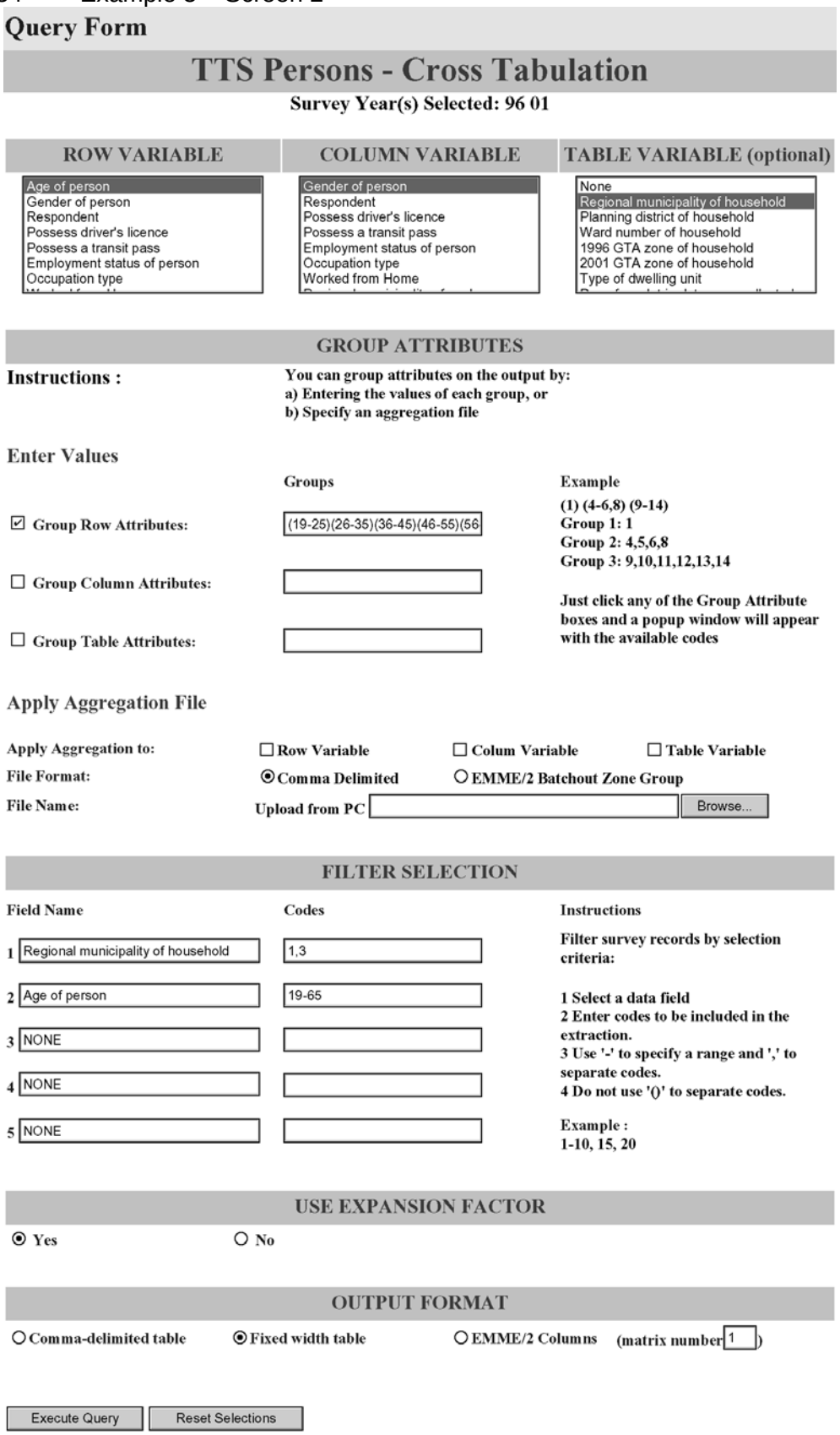


Figure 35 Example 5 – Result

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 1996 TTS Vers 2.1 Persons
ROW: age
COLUMN: sex
TABLE: region_hhld (Toronto)
FILTER 1: region_hhld => Toronto, York
FILTER 2: age => 19-65
ROW: age
Group 1 : 19-25
Group 2 : 26-35
Group 3 : 36-45
Group 4 : 46-55
Group 5 : 56-65

	Female	Male	Unknown
Group 1	112314	103451	0
Group 2	237112	224302	0
Group 3	198811	183759	19
Group 4	137553	127421	0
Group 5	110338	96536	0

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 1996 TTS Vers 2.1 Persons
ROW: age
COLUMN: sex
TABLE: region_hhld (York)
FILTER 1: region_hhld => Toronto, York
FILTER 2: age => 19-65
ROW: age
Group 1 : 19-25
Group 2 : 26-35
Group 3 : 36-45
Group 4 : 46-55
Group 5 : 56-65

	Female	Male	Unknown
Group 1	22767	24278	0
Group 2	47366	40758	0
Group 3	57917	51247	21
Group 4	35658	38504	0
Group 5	21805	22046	0

Cont'd Figure 35

USER: iDRS
DATE: Mar 31 2004 09:00:00
DATA: 2001 TTS Vers 1.0 Persons
ROW: age
COLUMN: sex
TABLE: region_hhld (Toronto)
FILTER 1: region_hhld => Toronto, York
FILTER 2: age => 19-65
ROW: age
Group 1 : 19-25
Group 2 : 26-35
Group 3 : 36-45
Group 4 : 46-55
Group 5 : 56-65

	Female	Male	Unknown
Group 1	107990	101700	24
Group 2	216453	200774	36
Group 3	211081	201614	34
Group 4	158529	148793	0
Group 5	111916	93875	0

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: 2001 TTS Vers 1.0 Persons
ROW: age
COLUMN: sex
TABLE: region_hhld (York)
FILTER 1: region_hhld => Toronto, York
FILTER 2: age => 19-65
ROW: age
Group 1 : 19-25
Group 2 : 26-35
Group 3 : 36-45
Group 4 : 46-55
Group 5 : 56-65

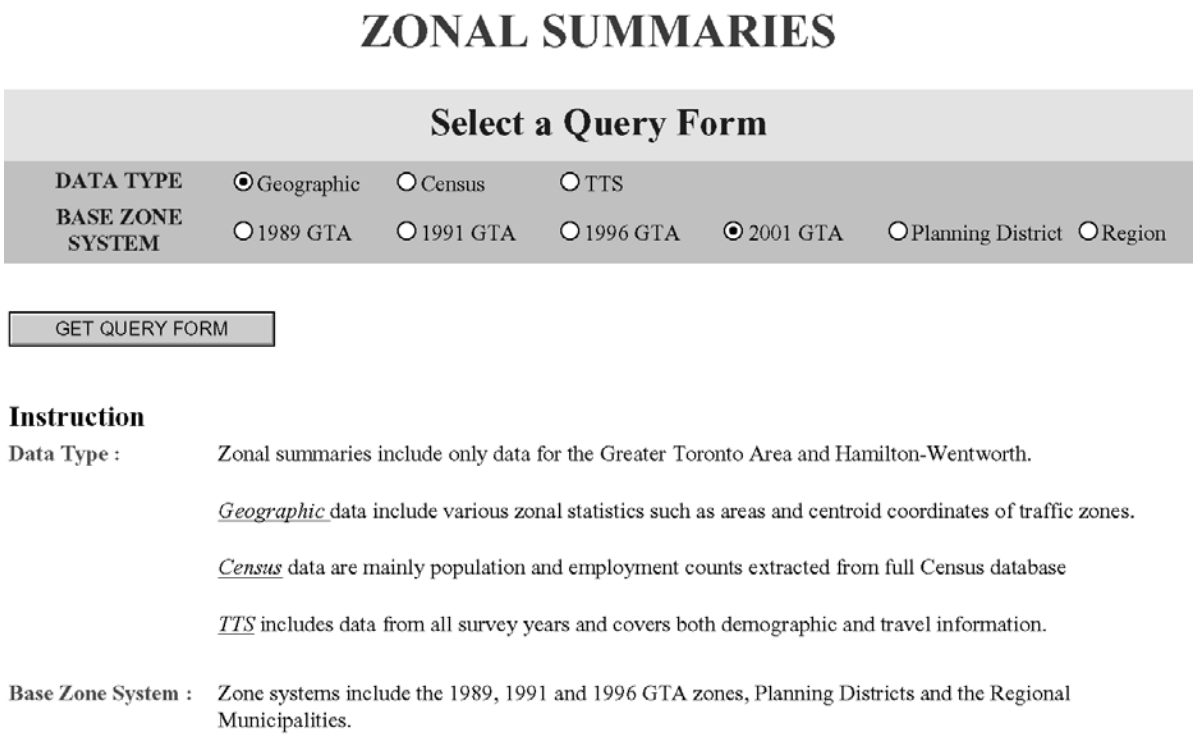
	Female	Male	Unknown
Group 1	28768	29476	19
Group 2	51050	45215	0
Group 3	72385	66036	18
Group 4	55263	53895	0
Group 5	28485	31355	0

5.6 Example 6

Data required: area in hectare, corresponding planning district and regional municipality, Universal Transverse Mercator (UTM) coordinates[8] of the geometric centre for each zone in the 2001 GTA zone system.

This is the first example using the zonal summary extraction. Once zonal dataset is chosen, the query form shown in figure 36 is displayed. Because geographic type of data is required, it is chosen as the data type. Figure 37 shows the variables selection and figure 38 displays the result. The result is in fixed width column format.

Figure 36 Example 6 – Screen 1



[8] The coordinate system for the 2001 GTA zones is UTM NAD 83, while the coordinate systems for the 1989, 1991 and the 1996 GTA zone systems are UTM zone 17 NAD 27 for Canada.

Figure 37 Example 6 – Screen 2

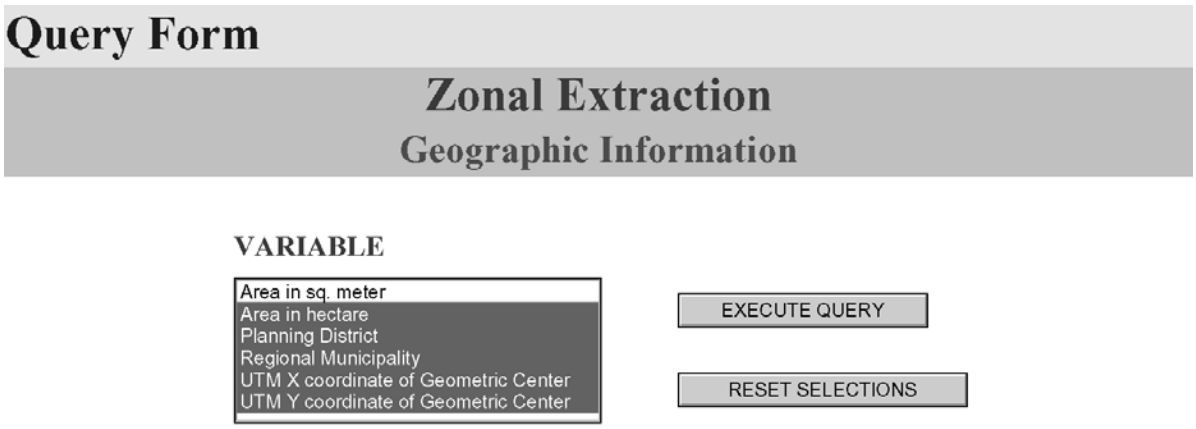


Figure 38 Example 6 – Result

USER: iDRS User
DATE: Mar 31 2004 09:00:00
DATA: Zonal Extraction - Georgraphic data
ZONE SYSTEM: 2001 GTA

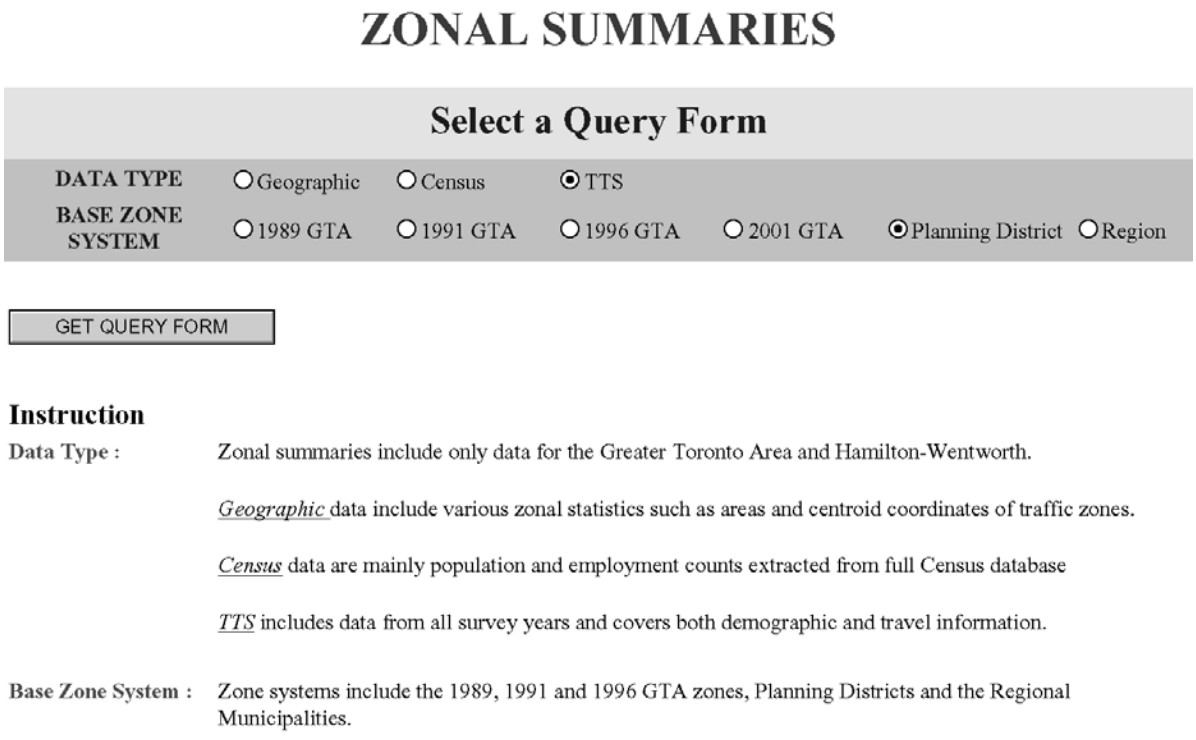
Zone	geographic area_h	geographic plan_dist	geographic region	geographic utmx_gcen	geographic utmy_gcen
1	117	7	1	617868	4827341
2	170	7	1	616976	4828690
3	153	8	1	616324	4830013
4	191	8	1	617674	4831705
5	156	8	1	617856	4830646
6	327	7	1	618066	4829099
7	109	7	1	618942	4827895
8	149	7	1	620319	4827949
9	197	7	1	620069	4829099
10	271	7	1	619771	4829864
11	159	8	1	619231	4831407
12	123	8	1	618800	4832728
13	139	8	1	619823	4832789
…					
3916	260	103	19	710390	4907636
3917	169	103	19	712125	4908264
3918	163	103	19	713162	4908706
3919	322	103	19	714841	4907590
3920	212	103	19	709167	4905632
3921	326	103	19	710277	4906042
3922	361	103	19	712282	4905042
3923	409	103	19	712878	4904151
3924	236	103	19	714914	4905758
3925	143	103	19	710454	4903943

5.7 Example 7

Data required: trips produced by each planning district from the 2001 TTS broken down by trip purpose (home-based work trips, home-based school trips, home-based discretionary trips, and non-home based trips) during the 24-hour period are required.

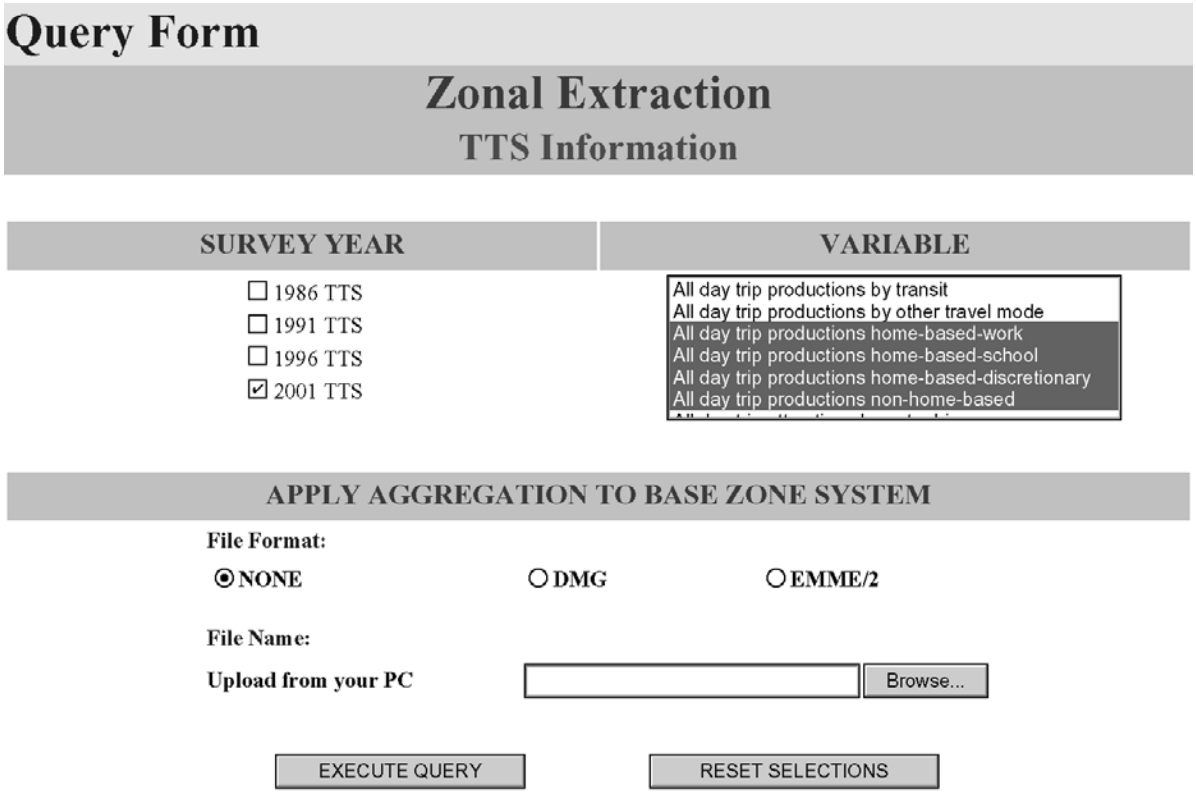
Figure 39 shows the first selection screen after the zonal summary is chosen as the dataset.

Figure 39 Example 7 – Screen 1



Once TTS and planning district are selected as the data type and zone system respectively, the variables are listed. The required variables all day trip productions home-based work, all day trip productions home-based school, all day trip productions home-based discretionary and all day trip productions non home-based are highlighted, together with 2001 TTS, in the query form as shown in figure 40.

Figure 40 Example 7 – Screen 2



Once the query is submitted, the result is produced as in figure 41. Note that for zonal summary extraction, the survey year is included as part of the table name, which is "trip_tts01" in this case. It is displayed as part of the column heading.

Figure 41 Example 7 – Result

USER: iDRS
DATE: Mar 31 2004 09:00:00
DATA: Zonal Extraction - TTS data
ZONE SYSTEM: Planning District

Zone	trip_tts01 hbwpro24h	trip_tts01 hbspro24h	trip_tts01 hbdpro24h	trip_tts01 nhbpro24h
1	399249	79088	180855	152760
2	115018	41231	127000	38221
3	133569	46423	147225	50547
4	148199	46886	171864	73486
5	84509	32162	90417	39247
6	113645	41956	131425	37597
7	36517	9812	35649	11368
8	114464	38885	168127	64294
9	77224	29174	69909	30755
10	111656	52166	92002	42942
11	101633	39493	131462	52872
12	51718	21554	61794	25775
13	136420	52200	175882	67303
14	29230	15463	47272	11896
15	37901	22752	53009	14746
…				
104	147	0	182	256
106	0	0	0	15
108	0	0	20	0
109	52	0	32	17
111	58	0	354	104
127	66	0	417	234
128	16	0	237	153
129	16	0	17	11
130	40	0	167	85
131	65	0	190	114
132	0	0	16	38
133	153	0	124	75
134	35	0	242	40
135	145	0	1323	612
136	96	0	743	314

6.0 Related Reports

Although most of the descriptions of the attributes or the variables in iDRS are quite self-explanatory, the following reports provide additional information about the data. These reports can be found on the DMG web site, under “Reports and Working Papers”.

- 2001 Transportation Tomorrow Survey: Design & Conduct of the Survey
- 2001 Transportation Tomorrow Survey: Data Validation
- 2001 Transportation Tomorrow Survey: Data Guide
- 2001 Traffic Zone Boundaries
- 1996 GTA Zone Boundaries