

2025

Data Management Group

Annual Report

Prepared by:

Data Management Group
Department of Civil and Mineral Engineering
University of Toronto

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INTRODUCTION

The Data Management Group (DMG) was established in 1988 based on a proposal from the University of Toronto's Joint Program in Transportation for an autonomous research group with the following objectives:

- (a) to establish a common, centrally accessible database containing information on transportation activities, zone systems, transportation networks, and land use activity,
- (b) to provide a transportation data retrieval service to the participating agencies,
- (c) to monitor the adequacy of available data and propose approaches for adding to or updating the data as mutually agreed upon by the agencies,
- (d) to promote greater interaction between university researchers and practitioners in the field of urban transportation planning,
- (e) to promote the communication of transportation information and data obtained or administered by the Data Management Group to interested agencies and the public, and
- (f) to further the improvement of transportation demand analysis, research, and forecasting in the Greater Toronto Area.

Although the group's administration has changed and DMG is now a part of the University of Toronto Transportation Research Institute (UTTRI), under the Department of Civil and Mineral Engineering at the University of Toronto, DMG continues to be guided by these objectives into its 37th year of continuous operation.

Program approval and funding of DMG is the collective responsibility of members of the Transportation Information Steering Committee (TISC) with the following membership:

City of Hamilton
City of Toronto
Metrolinx
Ministry of Transportation, Ontario (MTO)
Regional Municipality of Durham
Regional Municipality of Halton
Regional Municipality of Peel
Regional Municipality of York
Toronto Transit Commission (TTC)

Each participating agency appoints a member of its technical staff to the Transportation Research and Data Management Group (TRADMAG), which is a standing committee of TISC responsible for coordinating the needs of the funding agencies and the activities of the research project.

This report provides a brief profile of the staff employed and a description of the activities undertaken by DMG during the calendar year 2025. These are presented in the following sections:

1. Staff and Location
2. Transportation Tomorrow Survey
3. Information Processing
4. Computer Resources and Technical Support
5. Work Plan
6. Budget and Contributions
7. Meetings

STAFF AND LOCATION

Research Director

Eric J. Miller, Professor, Department of Civil & Mineral Engineering, University of Toronto

Associate Director

Khandker Nurul Habib, Professor, Department of Civil & Mineral Engineering, University of Toronto

Technical Staff

Reuben Briggs, B.A.Sc. (Civil Engineering), M.A.Sc. (Civil Engineering) University of Toronto, P.Eng.

Susanna Choy, B.A.Sc. (Industrial Engineering), M.Eng. (Civil Engineering) University of Toronto, P.Eng.

Dorian Stratigacos, B.A. Carleton University

Web Site

<https://www.dmg.utoronto.ca>

Office Location

Department of Civil and Mineral Engineering
University of Toronto
Galbraith Building, Suite 305
35 St. George Street
Toronto, Ontario M5S 1A4
Telephone: (416) 978-3913
Email: info@dmg.utoronto.ca

TRANSPORTATION TOMORROW SURVEY

Under the guidance of TISC, a series of urban travel surveys known as the Transportation Tomorrow Survey (TTS), has been conducted every five years since 1986. DMG managed the surveys from 1991 to 2011. Since 2016, the Ministry of Transportation has engaged consultants through the Ontario government tendering process to conduct the TTS on behalf of the funding partners. DMG has served in an advisory capacity, participating in the technical advisory committee, overseeing the technical aspects of the survey and providing guidance to the consultants.

The most recent TTS, conducted in 2022, was a collaborative effort among 25 funding agencies, including the Ministry of Transportation, Metrolinx, the Toronto Transit Commission and various municipalities throughout the Greater Golden Horseshoe and surrounding areas. It was initially scheduled for the fall of 2021 and the spring of 2022. However, the resurgence of new COVID-19 variants affected Ontario's reopening plans, leading to delays in the data collection periods. The first phase of the data collection occurred from September 12, 2022 to December 19, 2022, followed by the second phase from April 12, 2023 to July 28, 2023. The final dataset was officially released to public in December 2024 via the DMG online data retrieval system and the DMG open data portal. Additionally, a collection of reports was provided by the consultant for DMG review and was subsequently published on the DMG website in 2025.

In preparation for the 2026 TTS, a new technical advisory committee has been established, consisting of representatives from TISC and DMG. The committee is discussing strategies and potential approaches for conducting the upcoming survey, informed by insights from the TTS Modernization Initiatives (refer to the following section). Development of the request-for-bids document began in late 2025, and the project is expected to start in the spring of 2026.

TTS Modernization Initiative

The TTS has employed similar methodologies over the past three decades, encountering numerous challenges during the 2022 TTS cycle. Although the TTS 2.0 research project¹ explored alternative methods for collecting transportation data, the recommendations presented in the final report were not implemented in the 2022 TTS. This was due to various reasons, including limited time for field tests caused by the COVID-19 pandemic.

¹ Sriukenthrian, et al. (2018) *TTS 2.0 Final Report*, Toronto: University of Toronto Transportation Research Institute. https://dmg.utoronto.ca/wp-content/uploads/2023/03/TTS2.0_Final_Report.pdf

In 2024, TISC launched a new initiative aimed at modernizing data collection. The objectives of this initiative are as follows:

1. Explore new survey methodologies for future TTS data collection cycles.
2. Ensure that the data collected meet the requirements of funding partners.
3. Optimize response rates.
4. Enhance the quality and representativeness of the data.
5. Ensure cost-effectiveness and address evolving transportation patterns.
6. Integrate new technologies into the survey process.

As part of the technical advisory committee, DMG was involved in developing the request-for-bids document and the vendor selection process. After a consultant was chosen, DMG provided essential information and insights regarding previous TTS cycles and TTS 2.0. Together with the technical committee, DMG reviewed and advised the consultant on the key deliverables. The final product, a roadmap for the future TTS, was delivered to the technical committee in November 2025.

INFORMATION PROCESSING

The term ‘information processing’ is used in this instance to describe activities supporting the management, storage, and distribution of urban travel information. The principal components of this information are the results of the Transportation Tomorrow Surveys and a collection of Cordon Count Surveys.

Transportation Tomorrow Surveys and iDRS

DMG manages the urban travel data files from all Transportation Tomorrow Surveys (TTS) conducted from 1986 to 2022. These data files are organized in relational databases and can be accessed using various access methods. Direct access to the original files containing coordinates is restricted to DMG staff to protect household anonymity. Currently, the data files available to users include the following information:

Table 1: TTS Number of records

Year	Households	Persons	All Trips	Transit Detail
1986	61,453	171,086	370,248	56,615
1991	24,507	72,496	157,349	14,896
1996	115,193	312,781	657,971	70,295
2001	136,379	374,182	817,744	85,095
2006	149,631	401,653	864,348	87,244
2011	159,157	410,404	858,848	86,703
2016	162,708	395,885	798,093	91,437
2022	158,662	366,172	759,736	55,261

There are many factors that affect the size of the databases, including the survey coverage, sampling rate as well as the growth in travel in the area.

DMG has developed an internet-based data retrieval system (iDRS) designed for public access to TTS data, which is available at <https://drs.dmg.utoronto.ca>. Individuals can create an account by submitting an online request. Once registered, users can extract data in aggregated formats.

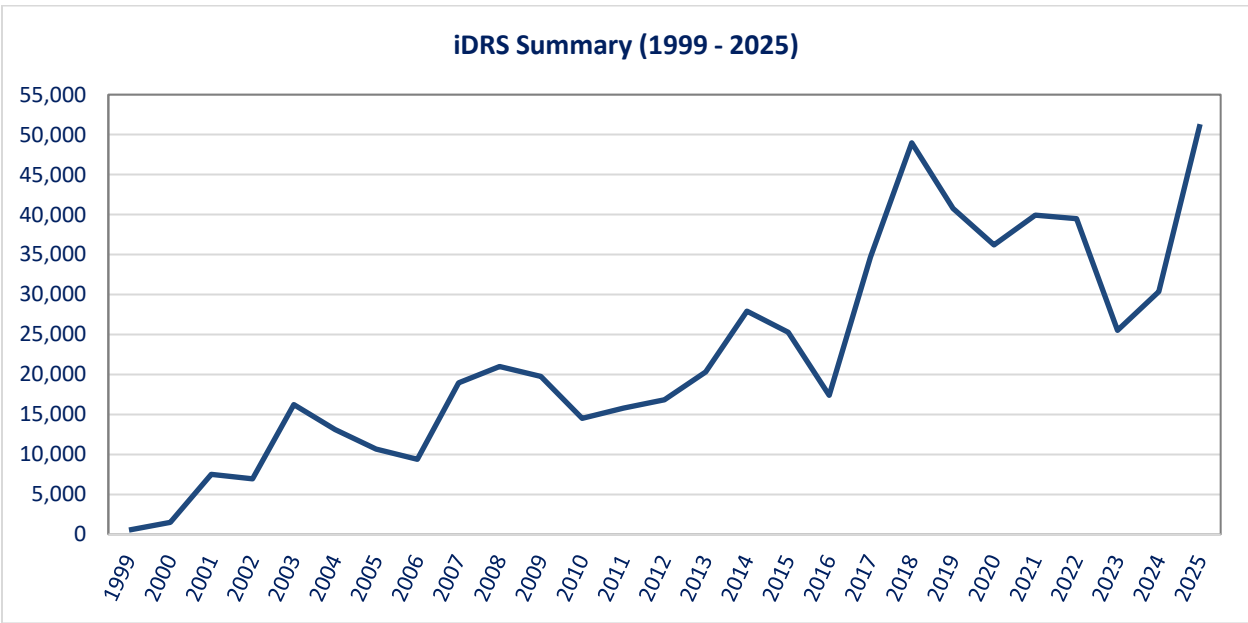
In 2016, the data retrieval system was entirely rewritten. Since then, it has undergone various updates, including improvements to backend processes.

Summary of iDRS Data Requests

Initially, the data retrieval system was accessible only to members of the Steering Committee. In late 2000, the Committee authorized expanding access to any registered individual who provided relevant information, including their affiliation. The growing popularity of TTS data is evident in the rising number of data extractions.

The following chart illustrates the growth trajectory of data extractions since the introduction of iDRS in 1999. The ‘Number of Queries’ reflects the frequency of outputs generated within a session. Notably, iDRS usage peaks in the year following the release of new TTS datasets, specifically in 2002, 2007, 2014², 2018³, and as expected in 2025⁴. Although there was a downturn in queries after 2018 before the peak in 2025, usage remained at a relatively high level, indicating that the data tool is very widely used.

Figure 1: iDRS Usage Summary



The table below provides a monthly summary of the queries since the release of the 2016 TTS data. In the year 2025, out of a total of 51,308 queries, 19% were generated by funding partners of DMG, 3% by other government agencies, and 29% by academic institutions. The remaining queries were generated

² The interview phase of the 2011 TTS was completed in December 2012, and the final data was released in November 2013.

³ The interview phase of the 2016 TTS was completed in December 2016, and the final data was released in October 2017.

⁴ The interview phase of the 2022 TTS was completed in July 2023, and the final data was released in December 2024.

by individuals affiliated with various organizations, which included local municipalities and transportation consultant firms.

Table 2: Yearly Count of iDRS Queries

	Year						
Month	2019	2020	2021	2022	2023	2024	2025
January	3,778	3,203	4,206	2,009	1,864	2,425	4,658
February	4,098	3,286	2,399	1,822	2,053	1,845	4,585
March	4,296	4,953	2,683	2,738	3,432	2,894	4,765
April	2,946	5,583	2,281	2,306	2,016	2,570	5,555
May	4,209	2,588	2,169	2,463	2,391	4,143	4,635
June	3,575	2,026	2,608	3,658	2,206	2,746	4,261
July	3,554	2,210	3,373	13,028	2,033	2,788	5,427
August	3,205	1,956	5,540	2,549	1,750	2,065	2,332
September	2,461	2,389	5,223	2,493	1,923	1,787	3,905
October	3,360	2,360	3,163	2,528	1,703	2,248	4,542
November	3,149	3,577	4,037	2,732	2,871	2,909	2,309
December	2,143	2,069	2,262	1,145	1,257	1,925	4,334
Total	40,774	36,200	39,944	39,471	25,499	30,345	51,308

Affiliations of iDRS Users in 2025

The following is the list of 107 different agencies and groups that extracted TTS data through iDRS in 2025, demonstrating the wide usage of the TTS data across public, private and academic sectors.

30 Forensic Engineering	PB World Consulting
407 ETR	Peterborough Currents
ACCESS Planning	Poulos and Chung Ltd.
AECOM	Queen's University
Arcadis	R. C. Lau Inc.
Arup Group	R. V. Anderson Associates Ltd.
Associated Engineering	Regional Municipality of Durham
Asurza Engineers Ltd.	Regional Municipality of Halton
BA Consulting Group Ltd.	Regional Municipality of Peel
Baxter Analytics	Regional Municipality of Waterloo
Blueprint2build Inc.	Regional Municipality of York
Boston Consulting Group	RJ Burnside & Associates Ltd.
C.C. Tatham and Associates	Robinson Consultants Inc.
Candevcon Limited	Salvini Consulting Inc.
CBC News	SDG World
CGH Transportation Inc.	Seneca Polytechnic College
CIMA Canada Inc.	Sepulveda Consulting
City of Brampton	Sharif University of Technology
City of Brantford	Shaw Research

City of Burlington	Shiraz University
City of Guelph	SMATS Traffic Solutions
City of Hamilton	Stantec Consulting Inc.
City of Kitchener	Steer Group
City of Markham	Stratageeb Ltd.
City of Mississauga	T.Y. Lin International Group
City of Peterborough	Tatham Engineering Ltd.
City of Toronto	The Municipal Infrastructure Group Ltd.
City of Vaughan	The Record
CPCS Transcom Ltd.	The Star
CPP Investments	The Technical University of Darmstadt
D. M. Wills Associates Ltd.	Toronto Environment Alliance
David Kriger Consultants Inc.	Toronto Hydro
Dillon Consulting Ltd.	Toronto Metropolitan University
Egis Group	Toronto Transit Commission
EXP Services Inc.	Town of Newmarket
GHD Group	Town of Whitby
H Fox Associates	TraffMobility Engineering Inc.
Hatch Ltd.	Trans-Plan Transportation Inc.
HDR Inc.	Tri-Cities Transport Action Group
High Frequency Rail Project	University of Alberta
Housing, Infrastructure and Communities Canada	University of California Berkeley
Jacobs Engineering Group	University of Toronto
JD Engineering	University of Waterloo
LEA Consulting Ltd.	University of Western Ontario
McMaster University	University of Windsor
Metrolinx	Urban SDK Inc.
Ministry of Transportation	UrbanMetrics Inc.
Mohawk College	UrbanTrans Engineering Solutions Inc.
Mott MacDonald Group	WhatIf? Technologies
N Engineering Inc.	Wilfrid Laurier University
Nextrans Consulting Engineers	WPE Engineering Ltd.
Ontario Professional Planners Institute	WSP Group Ltd.
Paradigm Transportation Solutions Ltd.	York University
Parsons Corporation	

Special Data Requests

The interactive procedures available through iDRS satisfy the data needs of the majority of users. However, some requests are more complex and require the expertise of an experienced analyst to formulate a custom query from the database. DMG staff also assist in identifying the most relevant data for specific analytical needs. A common type of data request involves assigning household or trip-end coordinates to spatial aggregations that differ from the standard traffic zone systems. In order to protect the privacy of survey respondents, these coordinates are restricted to DMG staff only. In addition to fulfilling special requests for aggregated data, DMG has also created customized data files containing individual-level records, enabling users to run analyses within a secure virtual machine

environment. The list of agencies and a summary of the selected special data requests completed in 2025 are provided as below:

City of Barrie

- Assignment of the 2011 and 2016 TTS data to the 2024 Barrie zone system.

City of Toronto

- 2022 TTS origin-destination matrices for auto and transit modes by time periods for a specified zone level
- 2022 TTS origin-destination matrix for Cycling trips by 2022 traffic zones
- 2022 TTS origin-destination matrix for Cycling trips by Census Dissemination Area
- 1986, 1991, 1996, 2001, 2006, 2011 and 2016 TTS driver trips made by household matrix

McMaster University

- A subset of Household, Person, Trip and Transit data for the City of Hamilton was provided for a study on suburban aging

Region of York

- Various data subsets for households, persons and trips made by York residents from the 1986 -2022 TTS data for the update of their TTS dashboard

Toronto Transit Commission

- 2016 and 2022 TTS individual trip and transit records with selected household and person attributes

University of Waterloo

- Attached household and person variables to 2022 TTS trip file for a mobility study across the days of the week

Disaggregated Data Access

An increasing number of transportation-related projects require access to disaggregated data for travel modelling purposes. In 2017, with approval from the Steering Committee, DMG developed and implemented a new data access protocol for researchers, DMG funding partners, as well as consultants working on their behalf. This protocol is designed to ensure the security of the disaggregated data while facilitating authorized access for relevant stakeholders.

Potential users are required to complete a request form specifying the data required, the associated project and its sponsor, and the intended duration of access. Upon approval of the request, a user account is created, and the user receives detailed login instructions along with unique credentials to access the datasets on virtual machines via Remote Desktop Protocol (RDP). Internet access is disabled on these virtual machines, and data cannot be directly copied from them. Only aggregated data may be exported from the system, and any files requested for download must be reviewed and approved by DMG personnel before being made available through a secure FTP site. DMG is committed to reviewing

and forwarding approved data within one business day. Additional information about the virtual machine environments is provided in the Computer Resources and Technical Support section.

The datasets provided do not contain any geographic coordinates; instead, all locations are coded to higher-level geographic areas, such as traffic zones, Census dissemination areas, and planning districts. Some datasets require additional processing, similar to the procedures outlined in the Special Data Request section. Below is a list of the users of disaggregated data access in 2025 via the RDP method:

User Type	Requesting Agency	Data Requirement	Project Description
Internal Staff	Region of York	1986, 1991, 1996, 2001, 2006, 2011, 2016 & 2022 TTS	Updating the Region's TTS dashboard.
Internal Staff	TTC	2022 TTS	Ridership Growth Strategy Study
WSP	City of Toronto	2006, 2011, 2016 & 2022 TTS	North York Secondary Plan Study
WSP	City of Barrie	2011, 2016 & 2022 TTS	Developing a new activity-based model for the City of Barrie Transportation Master Plan
Dept. of Earth, Energy & Environment	University of Calgary	2016 & 2022 TTS	Use car commuting patterns in Toronto and nearby metropolitan areas to understand grid requirements assuming a high rate of adoption of EVs
School of Earth, Environment & Society	McMaster University	1986, 1991, 1996, 2001, 2006, 2011, 2016 & 2022 TTS	Exploring mobility of care, all the travel needed to fulfil household needs, such as travel to grocery stores, to run errands, or to escort children; Examining the intersectional (gendered and spatial) patterns as well as changes over time.

User Type	Requesting Agency	Data Requirement	Project Description
School of Earth, Environment & Society	McMaster University	2016 & 2022 TTS	As part of a Climate Action and Awareness Fund grant, building a tour-based travel demand model for the Hamilton CMA. Emphasizing public transit and shared forms of mobility. Descriptive and inferential statistics will be estimated, along with discrete-choice models.
School of Earth, Environment & Society	McMaster University	2022 TTS	Comparing the travel behaviour of suburban older adults' with and without a car in City of Hamilton.
Dept. of Systems Design Engineering	University of Waterloo	2016 TTS	Understanding and optimizing charging behaviour for electric vehicle owners; Investigating the implications of different charger access and use based on housing characteristics on large-scale charging strategy to minimize relative greenhouse gas emissions; Investigating potential impacts on greenhouse gas emissions of time-of-day pricing for EV charging.
Human Environments Analysis Laboratory	University of Western Ontario	2022 TTS	Examining changes in mobility across days of the week.
Dept. of Human Geography	University of Toronto	2016 TTS	Examining how income and transit accessibility interacts with activity participation
Dept. of Civil Engineering	University of Toronto	All TTS	Travel demand modelling research
Dept. of Civil Engineering	University of Toronto	2016 TTS	Investigating the impact of daily activity patterns on household mobility tool ownership.
Dept. of Civil Engineering	University of Toronto	2016 TTS	Examining how income and transit accessibility interact with activity participation, i.e., whether there is a threshold of income-transit accessibility below which activity participation decreases significantly.

User Type	Requesting Agency	Data Requirement	Project Description
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Analysis of travel behaviour of persons jointly with serve dependents in a household. The serve-dependent activities impact the activity schedule and trip making behaviour of household members.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Analyzing demand for research projects with the City of Mississauga, TTC and iCity2.0.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Cycling mode choice analysis by examining the interaction of gender and household demographics with mode choice and the effect of infrastructure on these choices.
Dept. of Civil Engineering	University of Toronto	2011, 2016 & 2022 TTS	Exploring the application of LLM mode to the analysis and modelling of TTS data.
Dept. of Civil Engineering	University of Toronto	2022 TTS	Exploring e-bike and e-scooter usage in the Greater Golden Horseshoe.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Updating the model that explores gender mobility patterns in the GTA.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Researching mobility tool ownership, mode choice and trip patterns.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Travel demand modelling, travel survey methods and data fusion.
Dept. of Civil Engineering	University of Toronto	2016 & 2022 TTS	Estimating model parameters, validating model output, and analyzing travel trends to gain insight and enhance regional travel demand forecasting.
School of Cities	University of Toronto	2011, 2016 & 2022 TTS	Descriptive analysis to chart change in travel behaviour over time (e.g. mode share, trip rates, car ownership rates) for different geographies, demographics, etc.; Update the interactive map of TTS data to show change over time at neighbourhood level.

Additionally, disaggregated data from three cycles of the COVID-19 Influenced Households’ Interrupted Travel Schedules Survey (COHVITS) and two cycles of the Google Timeline Travel Survey (GTTS) have been made available to survey sponsors and the Steering Committee members via virtual machines.

Cordon Counts and CCDRS

The City of Toronto (then the Regional Municipality of Metropolitan Toronto) began collecting detailed information on the type and volume of traffic crossing selected points on the road network as early as 1975. Counting locations were chosen to define screen lines or cordon lines, and the program has continued a regular basis since then.

Subsequently, other regions began similar programs. As the number of participating areas with a similar program grew, efforts were made to coordinate their count programs and establish a common set of data standards. In 1998, DMG consolidated these traffic counts into a unified and common database structure and developed a Cordon Count Data Retrieval System (CCDRS), which is now widely used by a variety of public and private agencies.

In 2022, DMG started the development of a new version of the CCDRS tool, updating both the structure and the underlying programming. The new version includes a PostgreSQL 14 backend database, a Razor-based frontend and a new data updating tool.

In 2024, the updated Cordon Count datasets were integrated into the new CCDRS and tested, with access initially limited to participating agencies. By early spring 2025, following the verification of the datasets, the new CCDRS became publicly available along with all available datasets, including the latest 2022 Cordon Count dataset. Since September 2025, CCDRS usage has been monitored, with a total of 110 queries recorded between September and December 2025.

The following list comprises 12 different agencies and groups that accessed Cordon Count data through CCDRS in 2025:

Arup Group	Regional Municipality of Peel
Arcadis	Queen's University
City of Brampton	Stantec Consulting Inc.
University of Waterloo	City of Toronto
HDR Inc.	TraffMobility Engineering Inc.
Mott MacDonald Group	University of Toronto

Additionally, DMG met with the Cordon Count committee on multiple occasions to coordinate efforts in finalizing a trends report examining cordon data for 2022 and previous years, as well as to plan for the next Cordon Count program in 2026-27. The trends report was published on our website and is available here: https://dmg.utoronto.ca/wp-content/uploads/2025/07/cordon_2022trends.pdf.

Open Data Portal

In March 2011, the Government of Canada launched the first generation of its Open Data Portal. The Government of Canada defines open data as “structured, machine-readable data that can be freely shared, used and built upon without restrictions.” The data must be available as a whole and at no more than a reasonable reproduction cost, preferably through internet download. It must also be provided in a convenient and modifiable format and under terms that permit reuse and redistribution, including integration with other datasets. Everyone must be able to use, reuse, and redistribute. There should be no discrimination against fields of endeavour or against persons or groups. For example, 'non-commercial' restrictions that would prevent 'commercial' use, or restrictions of use for certain purposes (e.g., only in education), are not allowed.

With the approval of TISC, DMG started providing Open Data files from the TTS and Cordon Count programs to the public in 2014. Unlike the online data retrieval system, users can download the pre-generated text files from the DMG website without needing to register.

The DMG Open Data Portal was later updated to include the 2016 TTS data and the 2016 Cordon Count data, bringing the total number of files available to 129 TTS data files and 222 Cordon Count data files. Each TTS data file contains household, person, and trip information for a specific survey year, geographic area, and spatial aggregation for different time periods. Each cordon count data file contains various types of vehicles and person counts for a specific year, geographic area, and time period. The files are in comma-delimited text format and ready to be imported into Excel or other spreadsheet software. DMG continues to update the Open Data Portal to include new TTS and Cordon Count data files as new datasets become available.

In 2025, work began on preparing open data files for the 2022 TTS, with the intent to release them in early 2026.

Other Datasets

In addition to the TTS and Cordon Count data, DMG houses various other datasets. Access to these datasets is regulated, with permissions varying based on the nature of the data and the user's needs.

- Canada Census Data – 1971 to 2021
- Canada Mortgage and Housing Corporation Data – Various years based on data type
- Canadian Business Data – 2009 to 2021
- Computerized Household Activity Scheduling Elicitor Survey (CHASE) – March 2002 to January 2006
- Covid-19 Influenced Households' Interrupted Travel Survey (COVHITS) – Fall 2020, Summer 2021, and Fall 2021
- DMTI Spatial Data – 2001 to 2016
- Frazer Institute School Rankings Data – 2018
- GO Transit Bus Passenger Surveys – 1985 to 1996

- GO Transit Rail Passenger Surveys – 1983 to 1997
- Google Timeline Travel Survey (GTTS) – Spring 2023 and Fall 2023
- Metropolitan Toronto Area and Region Transportation Study (MTARTS) – 1964
- Multi-Day Travel Survey (MTS) – 2025
- Post Secondary School Enrollment Data – 2006, 2011, 2016 and 2022
- StudentMove TO Survey – 2015 and 2019
- Teranet Housing Data – 1990 to 2016
- Toronto Household Activity-Travel Survey (THATS) – 2023
- Transit Boarding Data – 2006, 2011, 2016 and 2022
- Transportation Modelling Data – 1971 to 2016

COMPUTER RESOURCES AND TECHNICAL SUPPORT

The DMG computer system consists of several servers located behind the DMG firewall for security reasons. In 2025, a new Dell PowerEdge R6715 was purchased to modernize the TTS virtual machine systems and resources. This upgrade provided increased CPU power and memory allocation for the numerous VMs running in its Windows Server 2025 Datacentre Hyper-V environment, facilitating the gradual phase-out of older systems. The previous central server at DMG was a Dell R620 running Windows Server 2012 R2 with a Hyper-V environment. The majority of the virtual machines on this server have either been deprecated or migrated to other hosts, with the remaining ones scheduled for migration by late 2026.

The following virtual machines are currently running on this server:

- The DMG website created in WordPress, which also runs a Linux environment with the Apache web server, MySQL, PHP, and the LAMP stack. This virtual machine will be migrated to the new server in 2026.
- The Data Retrieval System developed using the MEAN stack, which is a free and open-source JavaScript software stack for building web applications running on Debian. The data is hosted in PostgreSQL, an open-source relational database management system. This system is set to be replaced and hosted on a different server in 2026.

Additionally, there is another significant server, a Dell R430 running Windows Server 2019 Datacentre, equipped with Hyper-V applications. This server hosts the newly built CCDRS Production server, the CCDRS test environment (used for modifications to the CCDRS application in a secure environment that does not impact live performance) the iDRS test environment (which will be replicated to a live environment to replace the antiquated version) and a NGINX proxy server to manage web traffic.

OpenPaths (EMME)

The EMME software is a transportation modelling software platform developed by INRO software. Rather than each funding agency purchasing an individual licence, DMG negotiated several concurrent licences to authenticate several machines operating simultaneously. DMG developed a licence management system and dedicated a proxy server to provide remote authentication to the participating partners. In addition, DMG hosted one of the MTO's licences on the EMME proxy server and set up accounts for their internal staff so that they could access this licence the same way they access DMG licences.

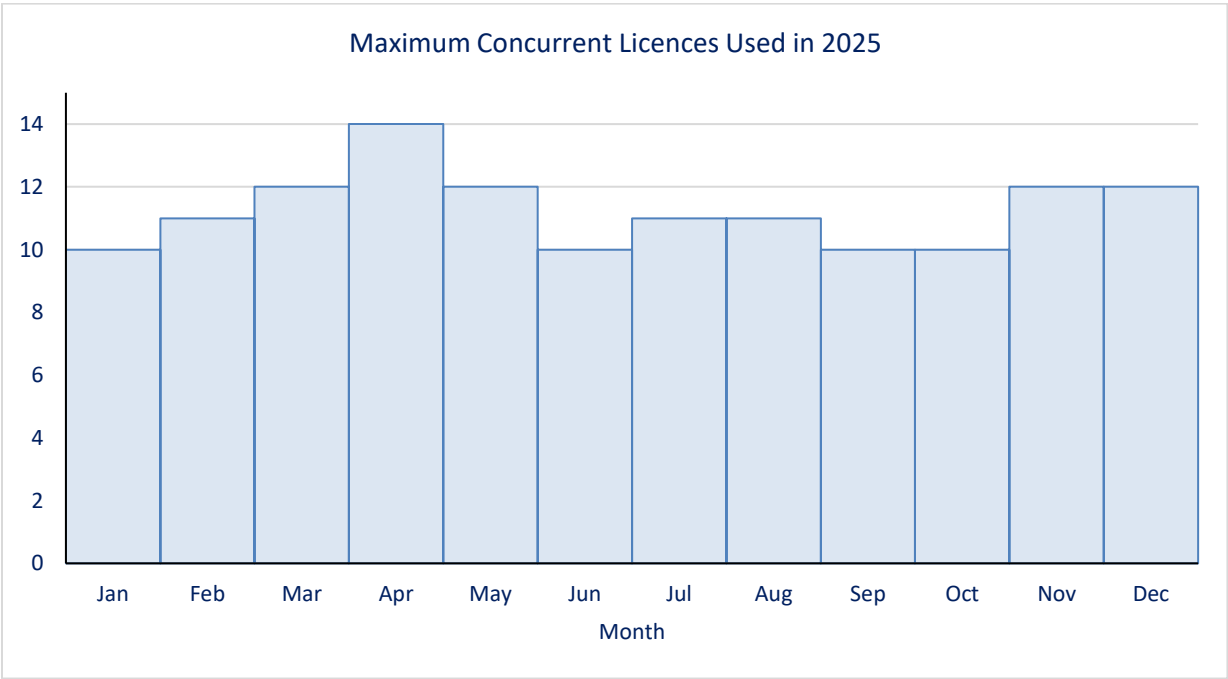
In July 2023, DMG migrated to a new licence management system following Bentley Systems' acquisition of INRO software. The system is hosted on the Bentley platform, and licences are authenticated through

their licence utility. There are no more licencing constraints, and users can access the maximum network size. Additionally, students can access the software through the Bentley Educational program that the educational licences previously maintained by DMG for student training have been disabled.

In 2024, the software underwent a rebranding process and was merged with several other software packages to become OpenPaths. Many users encountered issues, including connection problems. DMG worked in collaboration with Bentley and the users to resolve these issues. DMG continues to manage the licence user database and provides ongoing support to the participating agencies.

In early 2025, DMG acquired two additional licences on behalf of its funding partners, raising the total number of licences under the DMG account to twenty-one. The following chart shows the maximum number of concurrent licences used per month in 2025.

Figure 2: Maximum Concurrent Licences in 2025



The table below displays the number of concurrent licences each agency is entitled to and the number of hours used by each participating agency in 2025.

Table 3: Licence Usage by Participating Agency

Agency	# of Entitlements	Total # of Hours Used
City of Brampton	1	6,148
City of Hamilton	1	0
City of Mississauga	2	769

Agency	# of Entitlements	Total # of Hours Used
City of Toronto	4	20,171
Metrolinx	2	0
Ministry of Transportation Ontario	4	6,275
Regional Municipality of Durham	2	929
Regional Municipality of Halton	1	6,694
Regional Municipality of Peel	2	298
Regional Municipality of York	3	2,966
Toronto Transit Commission	3	4,160
Travel Modelling Group, University of Toronto	3	10,351
Total	27	49,990

The following is the list of OpenPaths users in the year 2025:

City of Brampton	Regional Municipality of Halton
City of Mississauga	Regional Municipality of Peel
City of Toronto	Regional Municipality of York
Ministry of Transportation Ontario	Transportation Transit Commission
Regional Municipality of Durham	Travel Modelling Group, University of Toronto

WORK PLAN

This section presents the DMG two-year work plan for 2024 and 2025.

1. 2022 Transportation Tomorrow Survey

DMG will support the 2022 TTS in the following areas:

- Update the online data retrieval system to include the final 2022 data
- Create data files on the Open Data Portal and provide updated files to MTO
- Publish all survey related reports on the DMG website
- Assign the final 2022 data to additional geographic aggregations
- Analyze 2022 data for possible sampling/response biases and develop guidance for best use of the data

2. 2026 Transportation Tomorrow Survey

Preparation work for 2026 survey:

- Preliminary work on RFPs, databases
- Review of lessons learned from 2022 survey
- Review of best practices and emerging survey methods (smartphone tracking apps, etc.) as possible complements/additions to the standard TTS methodology
- Provide cost estimates for 2026 survey

3. Data Management and Modernizing Practices

DMG will continue to manage the datasets in its care, maintain the access systems, and create new user-friendly means for sharing disaggregate records and non-license/copyright-limited resources while complying with privacy requirements.

- Continue to develop and evaluate the secure remote access capability to support disaggregate TTS and COVHITS data analysis and modelling by member agencies and their consulting teams:
 - Migrate remote access to new servers.
 - Investigate and evaluate methods of remote access and their limitations.
- Prepare a workplan to improve timely access to disaggregate version(s) of TTS data beyond VM solutions. The workplan will consider:
 - The use of aggregation and anonymization techniques (e.g., data released with broader zones, noise/geo-indistinguishability, etc.).
 - Policies used by other jurisdictions to improve access to files.
 - Guidance, standards and laws governing privacy to better understand what constitutes personally identifiable information, consent provided by respondents, and privacy protections that should be built in while delivering more convenient and accessible data.
 - Timelines/ milestones for process improvements
- Continue to maintain, upgrade and document the existing TTS portal. This will include a rewrite of the iDRS software system for accessing TTS data.

- Investigate mapping and data visualization options for existing TTS data
- Create and maintain a holistic “list” of DMG-managed data sources other than TTS survey data and boundary files indicating its core users (internal/external) on the website.
- Assign TTS data to various geographic aggregations as required.
- Investigate the potential to acquire and curate additional datasets of general transportation planning, analysis and modelling applications. These will include:
 - o Municipal traffic count data.
 - o Transit agency ridership count data.
 - o Useful aggregations of Presto card data.
 - o Other travel demand-related datasets where available.
 - o Land use data.

4. Cordon Count Program

DMG will assist the program committee in conducting the Cordon Count Program.

- Provide technical advice on cordon count data collection options.
- Provide advice on database requirements.
- Develop 2022 Cordon Count Trend Report.
- Update DRS to include the 2022 Cordon Count data.
- Provide technical assistance to consultant preparing 2022 GTHA wide Cordon Count report
- Continue to investigate mapping and visualization options for Cordon Count data to enhance the accessibility and usability of these data.
- Determine current best practices and investigate new methodologies available for collection of future Cordon Count data.

5. EMME System

DMG will continue to provide support to funding agencies and users:

- Manage the EMME accounts using the new Bentley platform.
- Monitor usage and manage licences.
- Provide EMME support to member agencies and their consultants.

6. Other Activities

- Generate customized data for member agencies and their consultants to support their modelling work.
- Provide technical support to the University of Toronto’s Mobility Network activities.
- Provide technical support to any user of the data hosted on the DMG system
- Update and maintain the DMG web site, including the DMG mandate (About Us) to reflect the shift in focus and activities.
- Provide bi-annual progress report and participate in performance review meeting with the TISC.
- Create and provide Annual Reports for review by funding partners.
- Improve user-experience and transfer of knowledge by moving from responding to individual custom tabulation requests to preparing guides and videos related to TTS uses and limitations and hosting virtual workshops to help users understand how to access and use data.
- Prepare trend and topical reports using TTS results.

BUDGET AND CONTRIBUTIONS

The following table presents the 2025 DMG budget and contributions by funding agencies. DMG budget supported three full time staff members and the Director's stipend. It did not include the cost of the OpenPaths software maintenance, which was proportionally contributed based on the number of licences allocated to each agency and a "flow-through" expenditure with an overhead of 2%.

2025 Budget	Amount
Salaries & Benefits	\$446,690.00
Hardware & Software Upgrades	\$ 5,000.00
Software License Support	\$ 1,000.00
Overhead @40%	\$181,076.00
Total Budget	\$633,766.00

2025 Contributions	Amount
Ministry of Transportation	\$409,835.35
Metrolinx	\$19,012.98
City of Toronto	\$39,318.74
Toronto Transit Commission	\$39,318.74
Regional Municipality of Durham	\$19,614.43
Regional Municipality of York	\$33,019.43
Regional Municipality of Peel	\$40,833.57
Regional Municipality of Halton	\$16,790.29
City of Hamilton	\$16,022.47
Total Contributions	\$633,766.00

MEETINGS

In 2025, a total of fourteen TTSMI meetings were conducted involving DMG, MTO staff, and the consultant to discuss and evaluate project criteria and deliverables. Two workshops were organized to collect feedback from stakeholders. Additionally, seven meetings were held with the consultant responsible for the 2022 TTS to finalize the survey reports. Three Technical Advisory Committee (TAC) meetings were also arranged for the planning of the 2026 TTS.

There were also three Cordon Count meetings in 2025 to discuss the upcoming 2026-2027 program and finalize the consultant's report for the 2022 data.

On September 29th, a TISC meeting chaired by the MTO was held to provide updates on the progress of the 2022 TTS and the findings from the TTSMI. The meeting also covered the planning for the 2026 TTS and the 2026 Cordon Count program.

Furthermore, DMG staff held numerous meetings with representatives from various agencies, consultants, and researchers to assist their work.