

Calgary



City of Calgary Walking Data: Methods and Alignment with the International Data Standard



History of Travel Surveys in Calgary

- Calgary has long history of conducting household travel surveys to support travel demand model development
 - 1964, 1971, 1981, 1991, 2001, 2012
- Walk mode has been included in Calgary surveys since 2001
- Challenges:
 - Episodic resource needs
 - Loss of staff expertise
 - Susceptible to one time events
 - Stale data, difficult to do trend analysis



What is My Travel Log?

Household travel survey where information is collected from a smaller number of households, almost every day of the year, for many years.

1,500

Households

1

Day Per Household

Over **335**

Days per year

Recruitment



Reminders



Retrieval





My Travel Log – Travel Information

- Participants complete an initial recruitment survey that includes:
 - Demographics
 - Auto ownership
 - Transit Passes
- Participants report every trip they make in a 24 hour period
 - ALL household members regardless of age.
 - Includes people who don't travel on their travel day.
 - No thresholds on trip distance or time
- Collect information on each trip
 - Mode, purpose, costs, group travel, parking



Supplemental Studies

Secondary Suite Study

- Many perceptions about households living in secondary suites
- Very little data, most information was anecdotal
- Concerns regarding parking and household size.

Sample Size	1,096
Completed	122

rMove Smart Phone App

- Sampled previously recruited households
- Assess for implementation in 2019

89

Households Participated

51

Completed all 3 days



My Travel Log – Survey Response

	2015	2016	2017*
Target	1400	1500	1500
Complete	1445	1609	1274

* As of August 10, 2017

- My Travel Log has **met** or exceeded most recruitment **targets**
 - Exceptions: Large household, low income households, young people
- 1,200 samples are **randomly** distributed across the study area
- 300 samples are used to **over sample** targeted areas
 - West LRT, Downtown/Beltline



Issue 1: Population Included in Survey

Minimum

Same as in standard level.

Standard

Trips of resident population.

Elaborate

Trips of resident and non-resident populations

My Travel Log collects data:

- From **ALL** household members, regardless of age, who live within the study area.
- Study area includes the region surrounding Calgary so walk travel from residents of the region are also captured.



Issue 2: Age Limits

Minimum

Existing Age Limitations

Standard

From age 5, no upper age limit

Elaborate

All ages, no limits

- In Calgary, there are more people under the age of 15 than seniors
- Children influence household travel even if they don't make independent travel decisions
- **My Travel Log** collects travel information from all household members, of all ages.



Issue 3: Survey Days

Minimum

Average work day or average season

Standard

All days of the week and all seasons

Elaborate

Same as Standard

- Seasonal travel is a key element of walk travel, particularly in winter cities like Calgary
- Weekend travel can be higher than weekday travel at certain times of day.
- My Travel Log assigns travel days for all days of the week, in every month of the year.



Issue 4: Boundary

Minimum

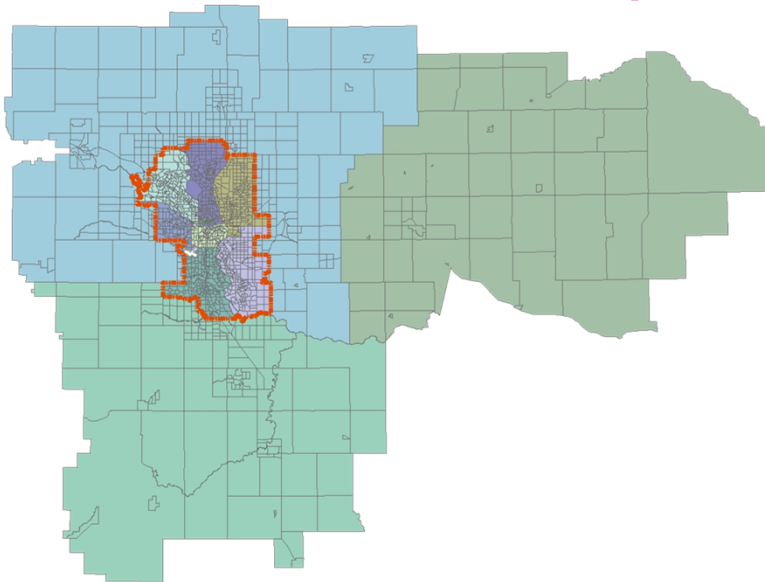
According to the survey in use

Standard

All trips except those made abroad

Elaborate

Same as standard level



My Travel Log study area includes:

- City of Calgary
- Counties of:
 - Foothills
 - Rocky View
 - Wheatland
- Regional Towns



Issue 5: Unit of Travel

Minimum

“All modes” or “main mode”

Standard

Stages or all modes being transformed into stages

Elaborate

Standard
+
Transit Waiting Times

- My Travel Log (and past Calgary Household Travel Surveys) capture data at a **PLACE** level.
 - Household members provide info about each place they visit
 - A place can be a building, bus stop, train station, home, etc.
 - This data can be used to determine transit wait times



Issue 6: Duration and Length

Minimum

Distance, if possible converted into time

Standard

Travel time and distance

Elaborate

Travel time and distance including transit waiting times

- Self reported **travel times** are often problematic as participants tend to **round** trip start/end times to the nearest 5, 10, or even 15 minutes.
- Trip distances are often a **straight line distance** as surveys do not validate travel routes.
- My Travel Log data also includes average **distance** and **travel** time data obtained from **Google Maps**.



Issue 7: Threshold

Minimum

Some time or distance threshold for trip reporting

Standard

No limits to stage or trip length

Elaborate

Same as Standard

- My Travel Log has no time or distance **thresholds**.
- Participants are asked to report travel between **separate places**. For example:
 - Trips to/from an enclosed shopping mall are captured, travel within the mall is not.
- Participants are encouraged to provide **as much detail** as possible



Issue 8: Trip Purpose

Minimum

Limited purposes.

- Work
- School
- Other

Standard

All trip purposes including:

- Work
- School
- Shopping
- Personal business
- Escorting

Elaborate

All trips purposes plus separate study on travel behaviour during play activity of children

- My Travel Log includes 18 unique trip purposes
- Participants can provide up to 5 purposes per trip, along with the duration they spent at each activity



Issue 9: Participation

Minimum

Same as in standard level.

Standard

All residents, including those without walking trips on survey day

Elaborate

Same as standard plus calculate the average of total population and of mobile population

- My Travel Log collects travel information from all household members who made trip regardless of mode.
- Includes additional questions for household members who did not travel.



Issue 10: Survey Methods and Design

Minimum

Standard

Elaborate

All levels recommend describing and documenting all relevant elements of the survey.

- The City of Calgary plans to produce an **annual report** for My Travel Log that describes the **survey operations** as well as any **significant changes** to survey operations.



Issue 11: Reporting Period

Minimum

Multi-day surveys or one-day mobility for pre-determined day

Standard

- One-day mobility for “previous day”
- Multi-day surveys

Elaborate

Same as standard
+
Capture regular mobility patterns

- Multi-day surveys can help understand daily travel variability, however they have a high respondent burden.
- My Travel Log only collects data from one assigned travel day.
 - Smart phone GPS surveys collect data for 7 days, but are not part of the regular survey at this time.



Issue 12: Statistical Unit

Minimum

Same as in standard level.

Standard

One person or everyone in the household as long as the sample is representative

Elaborate

Same as standard

- My Travel Log collects data from all household members.
- Typically one person would record travel for all family members
- All family members are provided with a travel log to record their trips.



Key Performance Indicators

Indicator	Standard	Elaborate
Share of people who made at least 1 walk stage on travel day	Whole Population	Whole Population
Average number of walking trips per person.		Whole Population & Mobile Persons
Average Daily Time walked per person		Whole Population
Average daily distance walked per person		Whole Population
Mode share of walking based on: <ul style="list-style-type: none"> • Stages • Main Mode • Time • Distance 		Whole Population

Note: Time and distance calculations can be a challenge due to data quality issues



Conclusions

- City of Calgary has been collecting detailed household travel data for over **50 years**.
 - Walk data has been collected for over 15 years.
- **My Travel Log** is a continuous household survey launched in 2015
 - Collects travel behaviour information from Calgary Area households almost **every day** of the year.
- My Travel Log meets the **International Walk Data Standard**
 - Able to produce data to report on key indicators



Questions?

Kristina Hill, P.Eng

Senior Transportation Engineer, Forecasting Division

City of Calgary, Transportation Planning

403-268-5573

Kristina.Hill@calgary.ca