Survey of GGH-Travel Survey Methods: GGH-TSM Survey

Professor Khandker Nurul Habib, PhD, PEng

Department of Civil Engineering
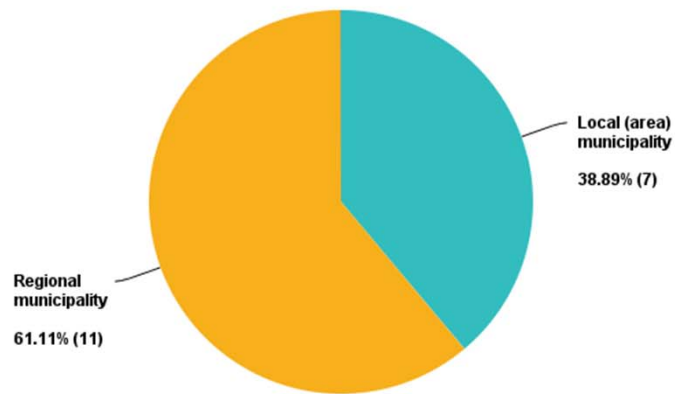
University of Toronto

Outlines

- Survey Sample Frame and Sample
- Agency Activities
- Issues/Concerns with Current TTS
- Specific Issues/Concerns with TTS
- Purpose of using TTS Data
- Data Sources Other than TTS
- Barrier to Data Collection
- Demand Modelling
- Aggregation in Demand Modelling
- Conclusions

Sample Frame and Sample

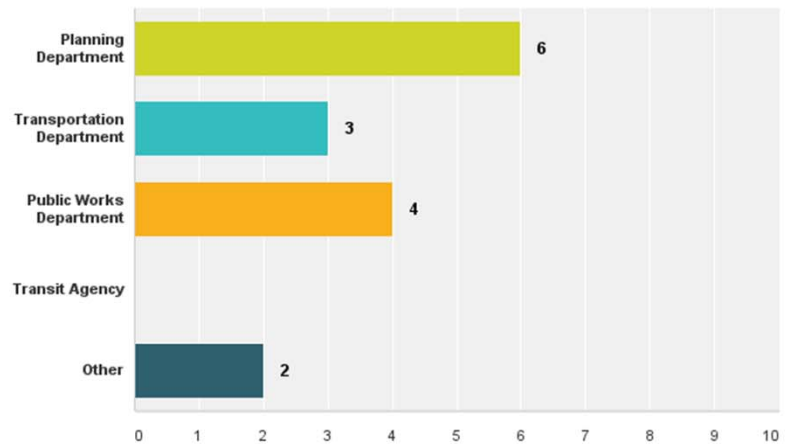Total 24 agencies/people were invited and 18 completed the surveys

Q1 **Please check the category that best describes your agency's level of government:(* indicates, throughout the survey, a question that must be answered before advancing to the next screen)**

Answered: 18   Skipped: 0

Local (area) municipality
38.89% (7)

Regional municipality
61.11% (11)

Q2 **Please select the category that best describes your agency's organization:**

Answered: 15   Skipped: 3

Planning Department	6
Transportation Department	3
Public Works Department	4
Transit Agency	
Other	2

0 1 2 3 4 5 6 7 8 9 10
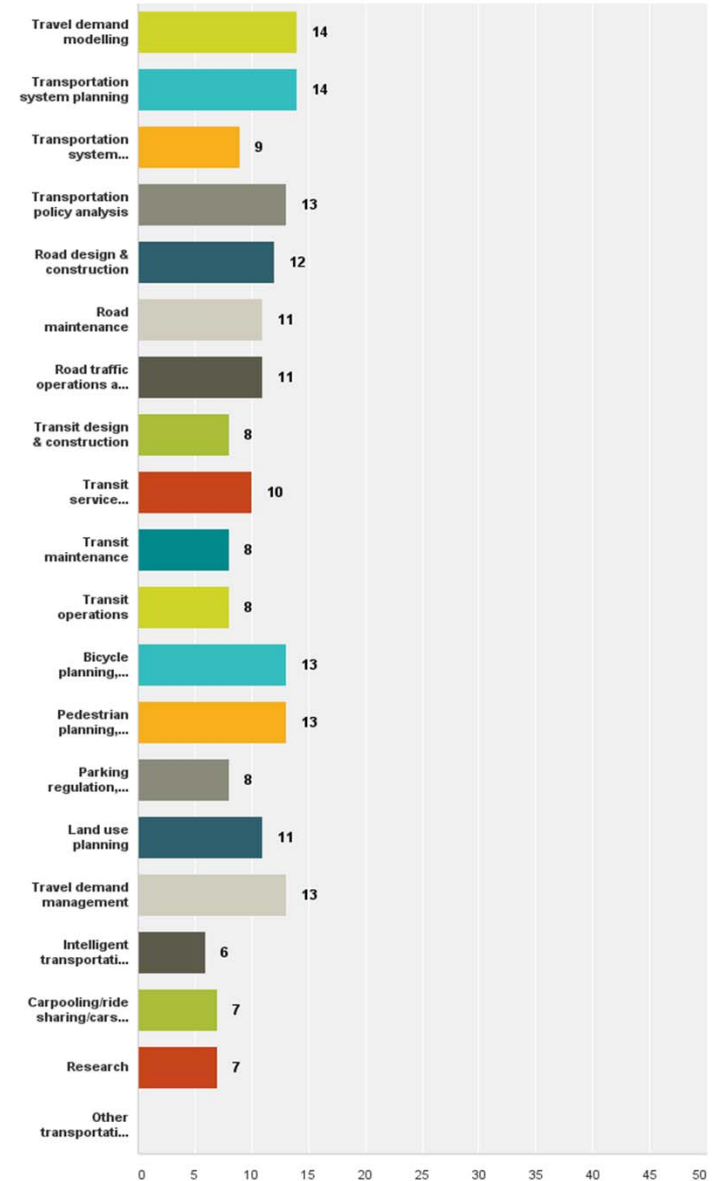
Agency Activities

Q3 For each component of travel listed below, please check the single category that best describes your agency's level of engagement.

Answered: 15   Skipped: 3

Component	Operational & Planning Responsibility	Operational Responsibility Only	Planning Responsibility Only	Not Applicable
Roads	12			3
Local transit	6	2	2	5
Commuter rail/bus			4	11
Intercity rail			2	13
Intercity bus			2	13
Parking	4	2	2	7
Bicycles	11		3	1
Pedestrians	10		2	3
Other (please specify below)	3			12

Legend:
- Operational & Planning Responsibility
- Operational Responsibility Only
- Planning Responsibility Only
- Not Applicable

Q4 Please indicate the activities that your agency conducts or commissions (either in-house or via consultants/contractors) (please check all that apply)
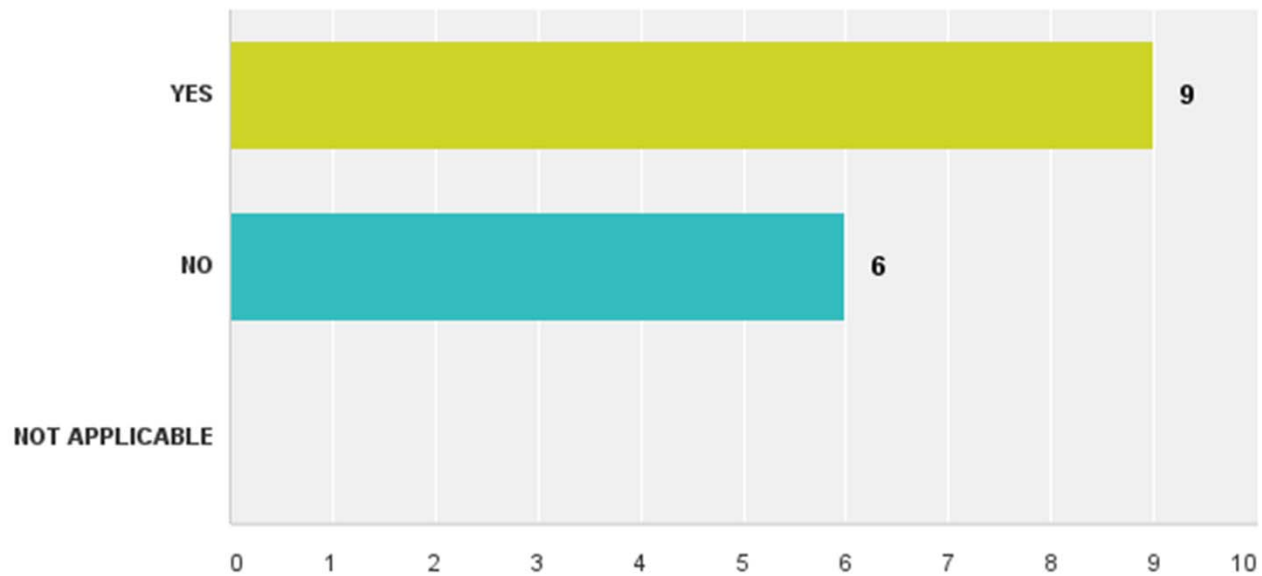
Answered: 15   Skipped: 3

Activity	Count
Travel demand modelling	14
Transportation system planning	14
Transportation system...	9
Transportation policy analysis	13
Road design & construction	12
Road maintenance	11
Road traffic operations a...	11
Transit design & construction	8
Transit service...	10
Transit maintenance	8
Transit operations	8
Bicycle planning,...	13
Pedestrian planning,...	13
Parking regulation,...	8
Land use planning	11
Travel demand management	13
Intelligent transportati...	6
Carpooling/ride sharing/cars...	7
Research	7
Other transportati...	

Issues/Concerns with Current TTS

Q7 **Do you have any issues/concerns with the current TTS home-interview survey methods?**

Answered: 15   Skipped: 3

Specific Issues/Concerns with TTS

9 individuals made Comments

| |
|---|
| The survey sample underrepresents some demographic groups. |
| The sample of households is becoming more skewed, as a telephone (land line) based survey |
| More households with younger heads/occupants are getting missed as fewer of them have land lines, and households headed by older persons are potentially over-represented as they tend ot have land lines. The web-based completions were relatively small, relative to the total sample, which may appeal to some of the younger respondents. |
| Cohort adjustments introduced for 2011/2012 TTS introduced additional limitations in using the data when "drilling down" to different factors, particularly for smaller levels of geography or different demographic breakdowns, even though the trip related data is still sound. |
| Even with land line households, the number of calls per completed survey increases each survey year as more callbacks due to answering services, call screening, etc. are needed, adding to the expense of achieving the 5% sample of households. |
| Both web based and telephone survey takes time to get questions completed, and people are increasingly busy or "over-surveyed" |
| Data quality: Errors have previously been detected in data and fixing these can be difficult. |
| Ability to represent demographic samples at TAZ. |
| Encoding is sometimes suspect and fixing this after the fact is challenging. There is no good reason why survey partners from governments cannot access survey UTM coordinates. |
| Survey structure: No ability to influence structure of survey despite being a funding partner. Survey structure was already decided by the time input was sought. |
| Data completeness: Survey of post-secondary students in our area has been a consistent problem with no ability to resolve through TTS. |
| Under reporting: Weakness in survey design is that respondents tend to forget/under-report trips that occur later in the day. |

Specific Issues/Concerns with TTS

Decreasing utility of land line respondents.
Ability to reach younger demographic - as shown in low sample rates for 2011 TTS.
It is not totally inclusive.
The survey is based on land based telephone services, which does not cover all households.
We need to provide a method to contact those who do not have land line telephones and encourge their participation.
Perhaps some incentives could be offered, combined with internet survey tools or cell phone apps to complete and log trips with GPS recording or Origin-Destination locations?
Under reporting of discretionary trip making (i.e particulalry for non respondents). We need to devise a method to accurately capture the trip making activity of all household participants so that one person is not responsible for reporting on trips made by other members of household. Perhaps having each person complete a travel diary and submitting it online would improve this.
Under reporting of Active Transportation trip making.
Under sampling and reporting of Post Secondary Student travel. This is important in communities with large University / College campuses. Current methods of data collection do not target this portion of the fall-winter population unless they already live in the community. Methods of data expansion do not isolate the Post Secondary Students and adopt expansion methods to reflect the total popualtion of this group of students.
Most houses do not have home telephone any more. Demographics and language may be an issue.
Use of new methods and techniques. However, it is still acceptable method
The increased use for cell phones and the decreased use for landline phones in particular for university students.
We are concerned about the university related travel patterns, and the sample sizes for transit and auto trips.

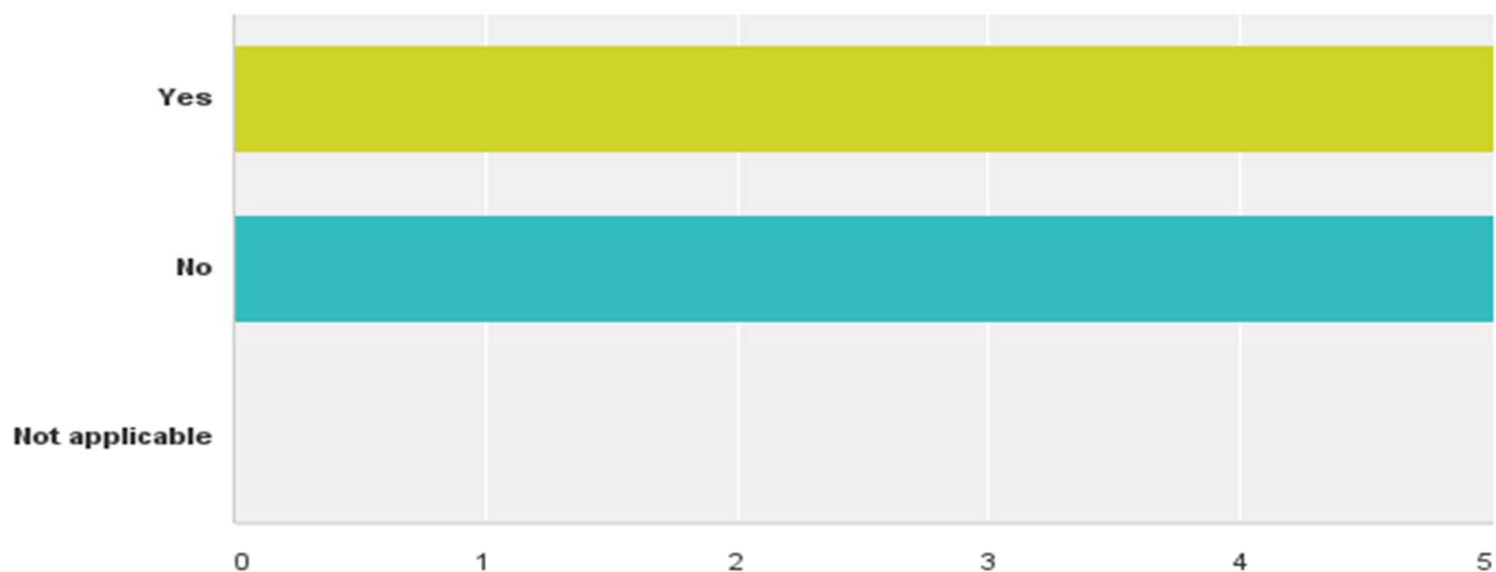# Purpose of Using TTS Data

- Everybody uses TTS data

Q10 **If you do use TTS survey data please indicate in what way(s) (tick as many boxes as apply):**
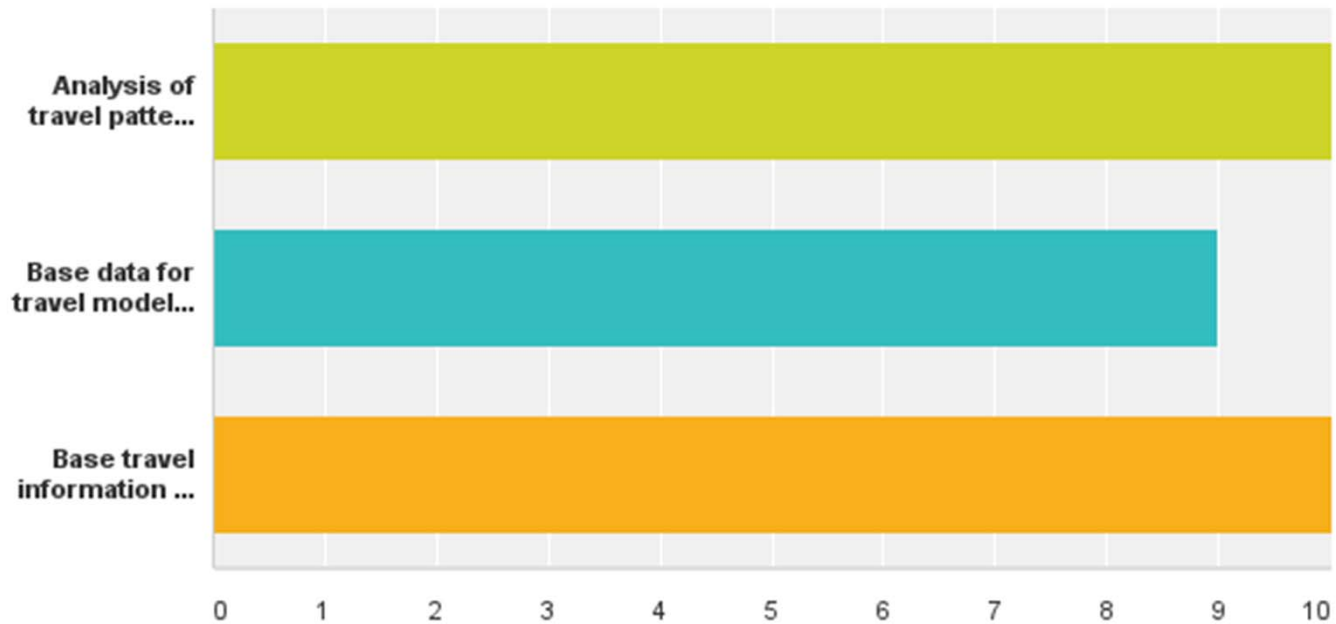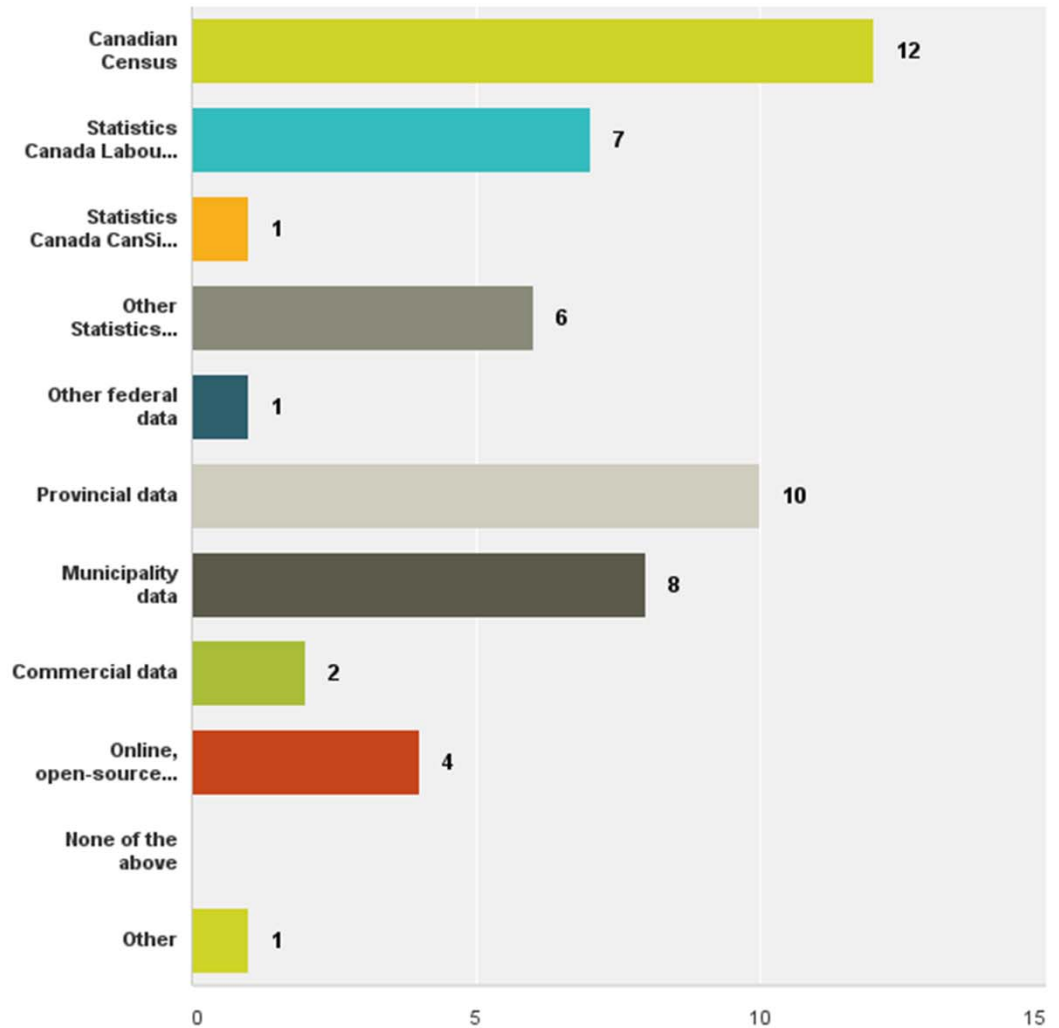
Answered: 10   Skipped: 8

Data Sources Other than TTS

Q84 Please indicate which of the following other data sources your agency makes use of (Please do not include datasets covered by previous sections B and C):(please check all that apply)
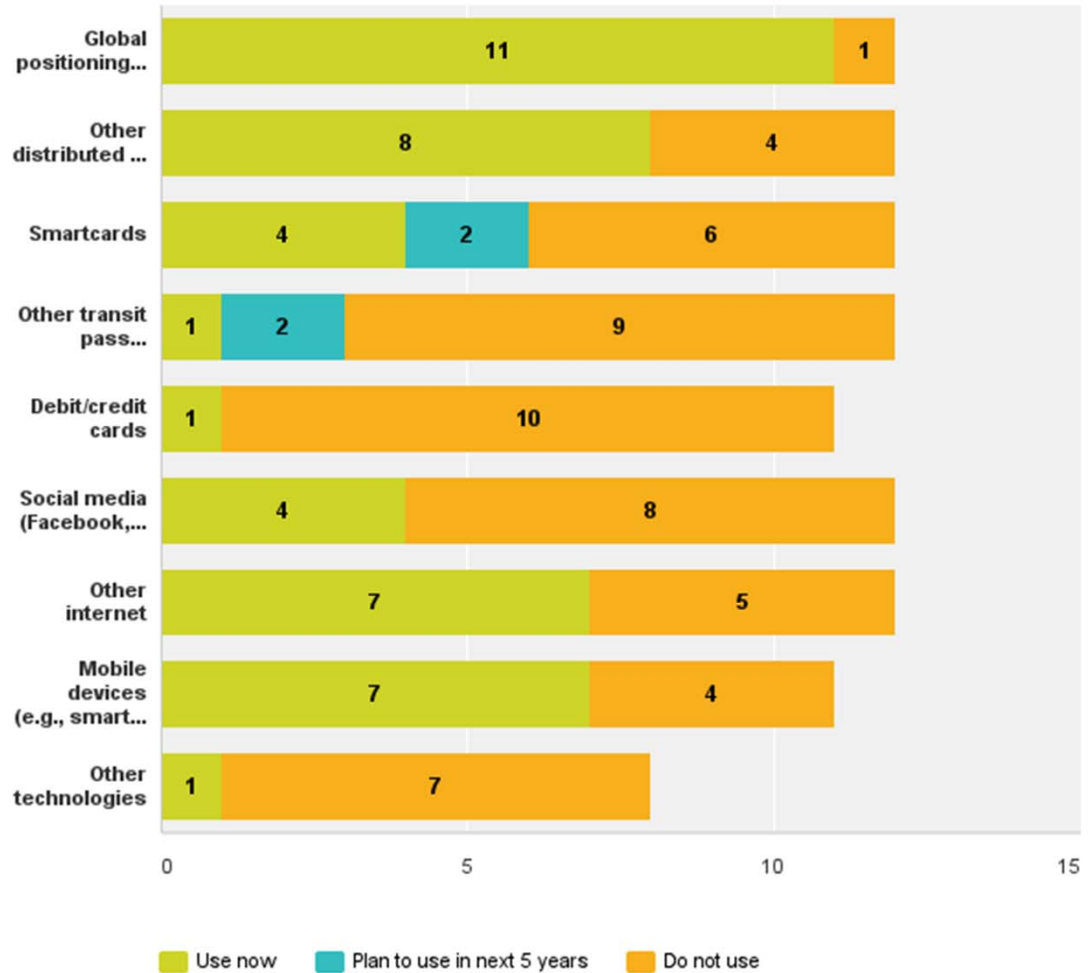
Answered: 12   Skipped: 6

Use of Technology

Q87 For each type of TECHNOLOGY-BASED DATA COLLECTION listed below, please check the box that best describes your agency's use
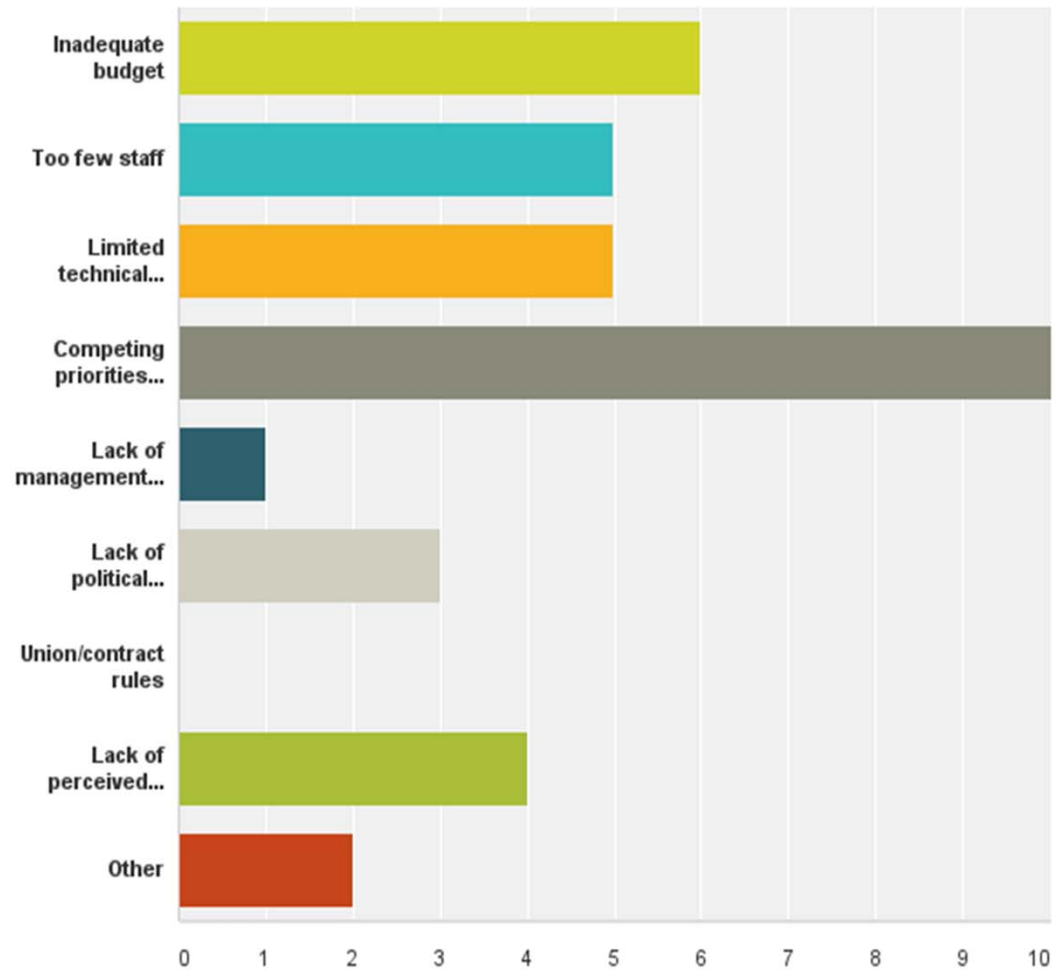
Answered: 12   Skipped: 6

	Use now	Plan to use in next 5 years	Do not use
Global positioning...	11		1
Other distributed ...	8		4
Smartcards	4	2	6
Other transit pass...	1	2	9
Debit/credit cards	1		10
Social media (Facebook,...	4		8
Other internet	7		5
Mobile devices (e.g., smart...	7		4
Other technologies	1		7

Barrier to Data Collection

Q90 **Please indicate which of the following are barriers for developing improved data collection & management methods within your agency. (please check all that apply)**
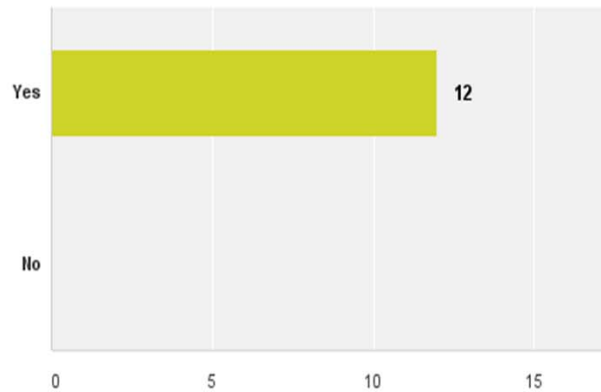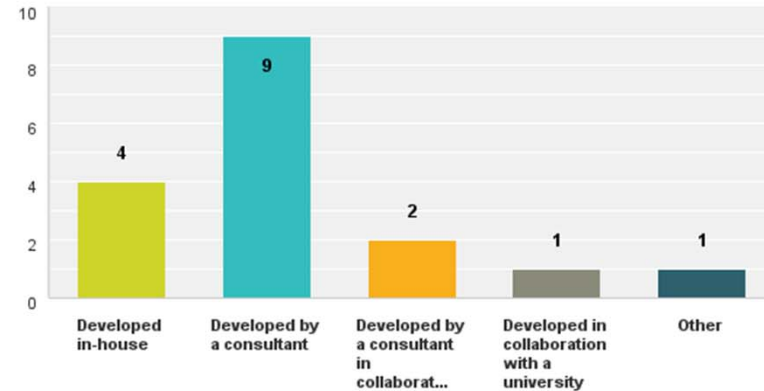
Answered: 11   Skipped: 7

Demand Modelling

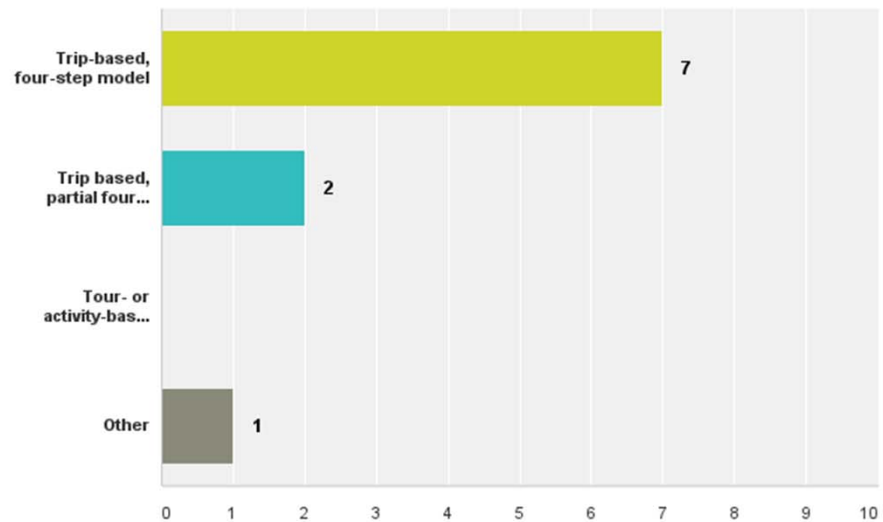## Q93 Who developed your current travel demand model? (please check all that apply)

Answered: 12 Skipped: 6

Category	Value
Developed in-house	4
Developed by a consultant	9
Developed by a consultant in collaborat...	2
Developed in collaboration with a university	1
Other	1

Q92 Does your agency use a travel demand model for planning and policy analysis?

Answered: 12 Skipped: 6

Category	Value
Yes	12
No	

Q94 What type of model is your current travel demand model:

Answered: 10 Skipped: 8

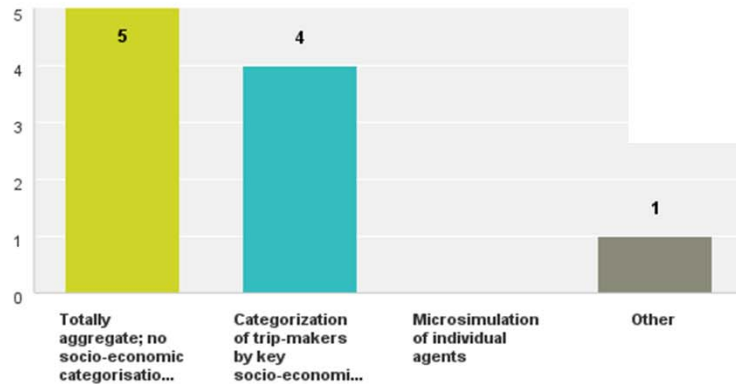| Category	Value
Trip-based, four-step model	7
Trip based, partial four...	2
Tour- or activity-bas...	
Other	1

Aggregation in Modelling

Q95 What level of socio-economic aggregation is used in your current model?

Answered: 10   Skipped: 8

- Totally aggregate; no socio-economic categorisatio...: 5
- Categorization of trip-makers by key socio-economi...: 4
- Microsimulation of individual agents
- Other: 1

Q96 What travel time periods are modelled? (please check all that apply)

Answered: 11   Skipped: 7

- AM peak period: 7
- PM peak period: 7
- Mid-day
- Evening/night
- All day (no individual time...): 2
- All day, continuous time repres...
- Other: 1
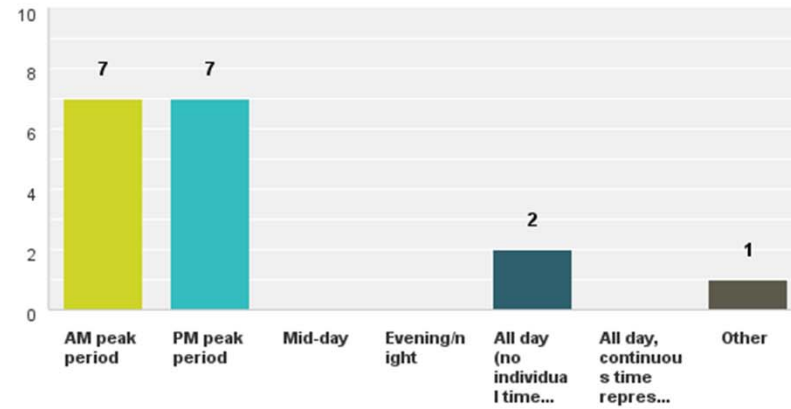
Q99 Do you have any plans to significantly change / "upgrade" your model (e.g., replace a trip-based model with an activity-based model)

Answered: 11   Skipped: 7

- Yes: 4
- No, we are happy with our current model: 4
- No, we would like to upgrade but face constraints in doing so: 3

Conclusions

- TTS in current form has issues recognized by majority of agencies
- Most of such concerns are related to
  - ✓ Sampling frame and sampling procedure
  - ✓ Incomplete travel information
- Majority values the use of advanced technology and advanced methods for next generation TTS
- Demand modelling is one of main purpose of using TTS data
- So, moving towards advanced demand models (disaggregate, 24-hour, activity-based) would increase more detail and accurate information from TTS in future