



Green Communities
CANADA



BEST PRACTICES IN SCHOOL DATA COLLECTION IN CANADA

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INTRODUCTION

Having access to data is a key tool in understanding the current state of school travel in Canada, enabling Active School Travel (AST) organizations, professionals, and advocates to accurately measure the impact of various interventions, identify opportunities for improvement, allowing practitioners to effectively advocate for investment using current data, and encouraging wider conversation and behaviour change.

Currently, there is a well documented knowledge gap in Canada as to how children and families travel to and from school each day. Although individual schools or school boards may on (very) rare occasions collect their own data on how their students are travelling to and from school, there is a distinct lack of current, ongoing, and statistically significant data available. This lack of data on rates and modes of school travel in communities across Canada makes it difficult to identify and articulate the scale of the issue, and correspondingly advocate for funding to support important infrastructure improvements and AST programming.

Canadian AST practitioners are often relying on data from a small number of municipalities that conduct surveys or research, dated academic studies, or from other countries such as the United States to make the case for investment in active and safe routes to school interventions.

In an effort to understand and identify improved processes for school travel data collection in Canada, this report describes:

- ▶ Data collection methods currently used by AST researchers and programs across Canada.
- ▶ Recommendations for future data collection and research at the Provincial and National level.
- ▶ Identification of best practices in Data Collection in Canada as summarized from stakeholder interviews.
- ▶ Identification of future research and study in this realm that should be conducted as funding and capacity permit.
- ▶ Recommended approaches for School Travel Data Collection for the Ontario context.

PROCESS

As per the workplan for the *Best Practices in School Travel Data Collection in Canada* project, team members Jamie Hilland and Alannah Rodgers conducted 7 different interviews with a wide range of school travel data collection organizations across the country. In these interviews, our team sought to identify the challenges these organizations faced in collecting School Travel data and solicited recommendations for process improvements, as part of an effort to develop a list of data collection approaches appropriate for the Ontario context.

Through consultation with the OAST team in the spring of 2022, a list of organizations to interview for this process were identified based upon their past research and data collection in this realm. The organizations and their representatives that were selected for an interview are listed below:

- ▶ Child Active-transportation Safety and the Environment (CHASE) study at the University of Calgary – Brent Hagel
- ▶ Green Communities Canada – Nicole Roach
- ▶ Ottawa Student Transportation Authority (OSTA) – Vicky Kyriaco
- ▶ TransLink – Mariee Devereux and Natalie Corbo
- ▶ Traffic Injury Research Foundation (TIRF) – Rob Wilkinson
- ▶ Canadian Automobile Association (CAA) – Kristine D’Arbelles
- ▶ Ontario Active School Travel (OAST) – Subha Ramanathan (currently at Share the Road)

INTERVIEW QUESTIONS

Interview questions were predetermined to align with the project purpose and ensure consistency of the information collected. The interview questions utilized are as listed below:

1. What previous school travel related data collection studies have you conducted (if any)? What was your data collection methodology?
2. What data or information were you hoping to (or did) collect as part of these efforts and what did you intend to do with this data? What data do you feel is absolutely critical to collect?
3. What do you feel were the main benefits of your data collection methodology?
4. What were some of the challenges/barriers that you observed with your data collection methodology?
5. If you were to replicate your study again, is there anything that you would do differently?
6. Based upon your experiences - if you were to conduct a large scale (Provincial or National level) study, what approach would you recommend? Who would you involve in these efforts? What stakeholders/organizations would you seek to partner with (if any)?
7. Do you have any other recommendations or tips, based upon your experiences, that you would like to share with us to help inform future school travel data collection efforts?

FINDINGS

FINDINGS SUMMARY

The table below summarizes key features of the studies by the organizations interviewed. Detailed information from each of the interviews is provided in subsequent sections.

	Methodology	# of schools / Sample size	Data Type Collected	Duration	Cost (\$ - \$\$\$)
CHASE	Direct observation of student mode share	552	Travel mode	2 observations over the course of two years	\$\$\$
GCC	School site audits, traffic observations, surveys	54 in Toronto	Travel mode, purpose of trip, Infrastructure gaps	Typically two years	\$
OSTA	Hands up survey, online parent transportation mode survey	227 schools	Travel mode	Annual	\$\$
TransLink	Online survey (Trip Diary)	2.5% of households in Metro Vancouver	Mode, purpose of trip, origin and destination, length of trip, demographics	Conducted every 3-4 years	\$\$\$
TIRF	Online data collection via Route2School application	55 schools	Infrastructure gaps, travel mode	Ongoing – currently 4 months	\$\$
CAA	School zone safety assessment tool, public opinion polling	84	Travel behaviour; school zone safety perceptions	Conducted as needed	\$\$
OAST	Active school travel delphi survey	16	Demographics mode, barriers, emotions	7 months	\$

INTERVIEW SUMMARY

This section provides detailed information collected from each of the interviews, describing the background of their study and the benefits and challenges of their approach (as described by the interviewee).

CHILD ACTIVE TRANSPORTATION SAFETY AND ENVIRONMENT (CHASE)



INTERVIEWEE

Brent Hagel
University of Calgary

BACKGROUND

Brent Hagel and other researchers conducted a comparison of active school transportation across Canadian urban and suburban areas in 2019. This team employed a direct observation methodology and counted students at schools in six Canadian communities, resulting in a total of 552 schools being studied. This study is notable as it was the first Pan-Canadian study examining how the built environment correlates to active school travel.

BENEFITS

- ▶ A key objective of the study was to understand what environments are creating or supporting behaviours deemed as risky or unsafe.
- ▶ Data collection was conducted on-site, by university students, using a consistent form to make data collection easier.
- ▶ The Project team was made up of academics that specialize in active transportation research across Canada.
- ▶ Robust and large data set due to the large number of schools studied. Provided a statistically significant survey sample size.
- ▶ Cross referenced data with census data on socioeconomic status to provide an equity lens to the research.
- ▶ Did not require school board approval as observers were not on school grounds.

CHALLENGES

- ▶ Study focused on major urban centres. Brent noted the importance of conducting analysis in smaller and rural communities as well to ensure equity was considered in the research findings.
- ▶ Challenge to determine the radius around the school area to analyze the environmental characteristics. The study considered 500m but eventually landed on a 1000m radius.
- ▶ Determining which locations were most suitable for direct observation was a challenge – may have missed some students due to limited number of observers.
- ▶ Privacy/security – many parents and school staff asked students why they were observing children and taking notes. Researchers kept an information sheet with them for these requests.
- ▶ Did require ethics approval from University as children were subjects.
- ▶ Study was not able to collect data at different times of the day, different days of the week, and different seasons.
- ▶ Study did not collect data via other methodologies (hands up, family surveys). Missed opportunity to compare results with each other.

SUMMARY

Brent highlighted the need to implement an equity approach when developing any data collection methodology to ensure that study areas are from a variety of socioeconomic backgrounds and community types (rural and urban).

He also really highlighted the importance of partnerships as a good way to communicate that the study is taking place and help enlist broad participation. The CHASE team is keen to partner on any future data collections initiatives and act as a resource. He felt that having academic advisors would help ensure that the research is scientifically sound and has the potential to support further study/research in this realm.



INTERVIEWEE

Nicole Roach
Manager, Sustainable Transportation

BACKGROUND

Green Communities Canada (GCC) supports active school travel data collection through Ontario Active School Travel (OAST). Green Communities Canada has delivered school travel planning services to schools in Toronto, Ottawa, and beyond to provide expertise in planning, data collection and evaluation.

BENEFITS

- ▶ Having a variety of data collection methods (observations, audits, surveys) provides the opportunity to get the full picture of the school community, as well as the opportunities and challenges facing efforts to increase rates of active school travel.
- ▶ Family surveys and hands up surveys provide an opportunity for school communities to highlight the need to increase the rates of healthy and sustainable school transportation, and initiate discussions on how to make this happen.
- ▶ Having trained STP facilitators allows for the development of a strong knowledge base in the realm of active school travel, enabling these facilitators to develop community informed actions and recommendations as well as effectively advocate for action post STP.
- ▶ Developing a “community of practice” allows for shared learning and advocacy.

CHALLENGES

- ▶ Resource intensive to conduct the surveys – requires support and interest from school administration, as well as significant capacity requirements for the STP lead.
- ▶ School Boards are often reluctant to engage with GCC to conduct data collections, citing privacy concerns.
- ▶ Some questions have been raised around the accuracy of family and hands-up surveys given the lack of observational data available to verify the information collected. Many academic studies use a variety of data collection approaches in an effort to ensure that the data collected is as scientifically robust as possible.
- ▶ Reluctance of school boards to approve data collection (no matter the methodology) has posed a serious challenge to data collection efforts for GCC/OAST. Need to identify a data collection approach that either does not require permission of school boards or is more likely to be approved if it does require review/approval.

SUMMARY

While clearly being a national leader in Active School Travel and School Travel Planning, GCC does continue to experience significant challenges in collecting data in the Province of Ontario in particular. The organization is looking for alternative data collection approaches, or for a more refined approach that may be more amenable to school boards review and approval.

While their current approach of family and student hands up surveys has been successful at individual schools, largely in part to the connections that the STP facilitators are able to make, they will require an alternative approach when seeking to conduct large scale school transportation studies as this data collection methodology is not scalable without a massive investment in hundreds of STP facilitators.

Lastly, GCC has been successful at building strong partnerships with local school boards and communities and is well regarded nationally. Using their reputation as a well respected and nation leading organization in the realm of Active School Travel positions them well to conduct a large-scale school transportation study in Canada. However, in other Provinces where they are not as well known they will need to enlist the support of local partner organizations to ensure widespread participation and success. Green Communities Canada

OSTA TRANSPORTATION SURVEY OVERVIEW REPORT

INTERVIEWEE

Vicky Kyriaco
General Manager

BACKGROUND

Beginning in 2018, the Ottawa Student Transportation Authority (OSTA) has distributed a transportation mode share survey to parents on an annual basis as part of an effort to better understand travel modes and behaviours. This study is used to inform the needs of students in accessing school bus services and/or walking school bus services, as well as to enable evidence-based decision making. If and when they exist, hand up surveys are also compared to the transportation mode survey (that parents complete) to identify any major discrepancies or glaring difference in results.

The results of the transportation mode share survey are shared with the administration at participating schools, including the amount of students who live in the walk zone. This information allows them to better allocate resources for walking school bus programs, as well as motorized transportation services. *"In order to get money and funding, you need to show data and evidence. If you don't have all of the data available, start with a smaller pilot and scale up from there."* – Vicky.

BENEFITS

- ▶ Compared results from schools with Hands Up survey with mode share survey. Findings have determined that schools that have previously conducted a STP typically have higher rates of active transportation rates than those schools which had not completed a STP.
- ▶ Used a third-party facilitator (EnviroCentre) to complete Hands Up survey analysis provided an objective third party view of the results.
- ▶ Conduct the surveys every year which helps create continuity and allows OSTA to update the survey annually based on feedback.

CHALLENGES

- ▶ Privacy challenges are a concern for parents. To mitigate these concerns, Vicky recommended conducting consultation with a research/ethics commission, etc. prior to releasing surveys, and then sharing this with school board administration and caregivers.
- ▶ Some degree of latitude is noted with student hands up surveys as their responses are not always reflective of their actual travel mode.
- ▶ Community is suffering from survey fatigue. Incentives or piggybacking on another initiative that requires response could improve response rates.

SUMMARY

Vicky noted that data collection methodologies and approaches have evolved over time. She stressed the importance of reviewing responses and adjusting survey language as needed.

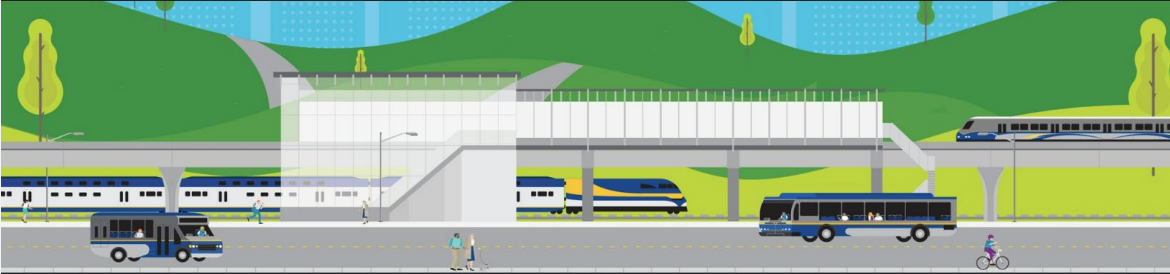
Vicky also made the point to have a very clear and well articulated rationale for the project, as well as a clear explanation of how the data will be used to convey to participants, team members, media, and funders.

She also noted the importance of collecting enough data to be statistically significant, and that incentives of some kind (even small prizes or honoraria) can really help to encourage participation.

Another interesting recommendation was to consider “piggybacking” school travel data collection with another federal or provincial initiative, as well as looking to work with the federal funding partner (in this case INFC) to help distribute. This model is already being used by the Public Health Agency of Canada to collect data on how children get to school in Canada by including questions on school travel mode in their *Health Behaviour in School-Aged Children Study* that is largely focused on gaining insights into young people’s well-being, health behaviours, and social contexts.

Vicky also indicated that they are very willing to act in an advisory capacity for future data collection initiatives, and with her strong resume in the realm of AST data collection she would be a valuable asset for future projects in this field.

2017 Trip Diary



INTERVIEWEE

Mariee Deveraux
TDM Officer, and Natalie Corbo, Planner

BACKGROUND

Every five years TransLink (TL) conducts a large-scale study to understand the travel habits of Metro Vancouver residents. This study includes the identification of trip purpose, with school trips as an option. Over 28,000 households respond, representing a statistically significant survey size. Only one question in the Trip Diary (considered to be a long questionnaire) was related to Active School Travel. In the past, TransLink has been mostly interested in AST in terms of how these trips to and from school intersect with work commutes.

TransLink has also helped support schools in conducting Hands Up travel surveys and has paid external consultants (including HASTeBC and Urban Systems) to conduct School Travel Plans in the region. Most recently, TransLink has contracted Urban Systems to develop and lead their regional *Youth Travel Strategy* across all 23 local governments in Metro Vancouver. This strategy includes dedicated infrastructure funding as well as supporting three types of walking school bus pilots.

Previous AST/STP data collection efforts involved using pen and paper to write down tallies from hand's up surveys. TransLink has never had an online data collection portal specific to active school travel.

Mariee did express an interest in determining if there were differences in mode share between the journey to school and the journey home at the end of the day, and what the main reason for these differences might be. Many schools had previously noted that there was a significant portion of students that were driven to school in the morning but then walked home at the end of the day.

Natalie Corbo had also previously worked for the City of North Vancouver (CNV) and was able to share her experiences with Active School Travel data collection in that municipality as well. Her insights are listed below along with Mariee's.

The City of North Vancouver conducted region wide school travel data collection initiatives with every school in the city using an online survey tool. Natalie noted that the survey response rate at high schools was highest on those schools where students were provided time to respond to the survey and provide the answers themselves.

The CNV survey collected data on mode share and focused on collecting this data before and after interventions (such as infrastructure improvements or encouragement programs) to determine the impact of these interventions on mode share. Questions also sought to determine what it would take for respondents to consider using other more sustainable modes of transportation, as well as understanding attitudes towards engaging in active school travel.

Urban Systems was contracted to analyze the data and make recommendations on future investment and initiatives for the CNV based upon these results.

BENEFITS

- ▶ Opportunity to receive a large response rate across the region through an online survey. Processing data using online surveys was far less burdensome than hard copy format.
- ▶ TL applied the results from the survey data to create public education programs.
- ▶ CNV: online surveys allow for a larger amount of data to be collected and in a shorter amount of time. The response rate for paper surveys was very low and being able to scale larger surveys was much easier and less resource intensive when done online.

CHALLENGES

- ▶ Conducted questions through the Trip Diary Survey (TDS). The TDS is not in of itself specific to collecting data on school travel, but does contain a few AST specific questions.
- ▶ Only 2% of the population is represented in this household survey. Hard to use for disaggregate (smaller and localized) data as a result, especially in area with low participation rates.
- ▶ Trip purpose, how far you've travelled, origin/destination are the questions asked – results in limited utility from a school perspective.
- ▶ Difficult to understand who is best to connect with to conduct school travel surveys – i.e., school Principals or the school district?

- ▶ Cultural barriers were noted, particularly amongst immigrant/newcomer communities where it is considered a status symbol to be able to own a car and use it to drive your child to school.
- ▶ Organization is lacking communication between internal departments on data collection and information sharing in the realm of active school travel.

SUMMARY

Mariee (TL) suggested that enlisting the support and participation of Provincial Departments (Transportation, Education, Health) in connecting with School Districts would greatly increase the likelihood of them participating in a Province wide data collection effort. They also suggested timing the data collection process with an encouragement event such as walk to school week or bike to school month, although this may lead to artificially inflated results as a result.

Similar to the recommendations made by OSTA, participation incentives of some kind were strongly suggested for any data collection effort.

An important point was to always consider how the questions relate to what is actually actionable for the group(s) releasing the survey. If the organizations behind the data collection cannot implement infrastructure improvements for example, then it might be best to avoid raising the hopes of plan participants by including infrastructure recommendations in the survey results.

Keeping the surveys as concise as possible was a strong recommendation from both TL and CNV; the CNV school travel survey was 30-40 questions. Short surveys have a better chance of completion, and an easier analysis. Open ended questions are to be avoided as much as possible, so multiple choice questions are preferred.

Natalie felt that it was critical to collect information on not only mode share, but also travel distances and the “why” these modes were chosen. Understanding the reason why transportation mode choices are made will provide guidance as to how initiatives can be oriented to support more sustainable modes of travel being the default.

Lastly, there was a lot of conversation over how the data can be most effectively used once the study has concluded. Both encouraged us to think about where the information collected will reside, and how it can/will be used to inform decision making. They advocated for municipalities and other organizations to be able to use this data to start a conversation on the importance of AST and help to normalize it.

Sharing the results as widely as possible and encouraging schools to use it for benchmarking (comparing themselves to other schools in the area/region), as well as providing accountability, recognition, and reporting back to participants is an important outcome to ensuring that this study has a broad impact. Building in a guide on how to conduct public education/advocacy was also listed as a key outcome.

** TransLink did want us to note that they are looking for more consistent data collection to occur in the Metro Vancouver region, and this initiative would potentially be a good first step towards establishing an ongoing data collection program.



INTERVIEWEE

Rob Wilkinson
Director – Community Partnerships

BACKGROUND

In the fall of 2022, the Traffic Injury Research Foundation (TIRF) piloted the “Route2School” application at 55 schools in the City of Winnipeg. The main intent of this application is to have students and families identify built environment barriers to active school travel, but the application also collects information on school travel mode.

BENEFITS

- ▶ Data entered directly into the app relieves the burden of inputting/ translating data from hard copies or external data collection portals.
- ▶ Route2School is focused on understanding existing infrastructure and how it impacts perceptions of risk. The data collected is used to determine overall issues that students face on their trip to school, as well as what the busiest routes to school are. For example, an output of the data could be a heat map that informs the development of a school specific Safe Routes to School map.
- ▶ The R2S platform provides the ability to spin it out into many ways to make it digestible by a wide variety of stakeholders. For example, it can be made appealing to traffic engineers using localized data to identify infrastructure deficits but can also create a visual representation of aggregate data for presentation to school representatives.

CHALLENGES

- ▶ Privacy concerns by school administrators and parents as there is a hypersensitivity related to data collection, particularly when children are involved.
- ▶ Survey fatigue among parents and teachers to conduct these studies.
- ▶ There is a potential gap in data by not including parents in the data collection. Although important to get the kids perspectives, mode choice is often up to parents and researchers need to understand the “why”.

SUMMARY

Much like many of the recommendations made by the TransLink team, TIRF also encouraged us to consider HOW the data can best be used once collected. Consider who is going to review the data and make decisions on the basis of these results. Should strive to get this information in front of “true influencers” who have the ability to “move the needle” on policies, programs, and funding.

Rob also stressed the importance of considering who reviews the data and makes decisions on the basis of that data. Need to get the information into an easily digestible form and put in front of a true “influencer”.

The need to work with application developers as early and often as possible to identify and rectify any kinks in the data collection portal was stressed as a key priority early on in any data collection project. The R2S app experienced a fair amount of issues with the app due to the fact that many bugs/concerns had not been addressed in the initial test phase.

Getting parents to “buy in” to the project as participants and later advocates can help effect change. Important to communicate with this group throughout the process and report back at the end. Similar to TransLink’s recommendations they suggested providing a short guide on how to effectively use the data collected (whom to share the results with, what to focus on, specific actions to request etc.).

Partnerships were also flagged as being very important for the success of any large-scale study – Rob suggested GCC (as the National leader in AST) as an organization to connect with(!), as well as walking and cycling advocacy organizations. Engaging with politicians and finding a champion on council/in government can also go a long way towards drawing attention to the issue and increasing the likelihood to resources being dedicated to resolving. Lastly, he encouraged anyone doing work in this realm to share the results with media – they are always looking for a good story, and in this instance can help amplify the messaging.

On the research approvals side of things, Rob floated the idea of a creating a national research board to approve surveys of this kind. This would allow surveys to be conducted without having so many barriers in the way and simplify the approvals process for all practitioners. Finding a way to standardize questions across surveys as well as the manner in which data is collected would also speed up the process, encourage comparison, and likely result in more engagement with the results as they are collected in a standardized approach in different regions.

Lastly, Rob suggested that the Final Report include case studies of communities that have experiences success with both their AST Data collection efforts as well as AST initiatives. This approach would give the Final Report an additional utility as not only a source of reliable data, but also as a guide for future investment and resources in this realm.

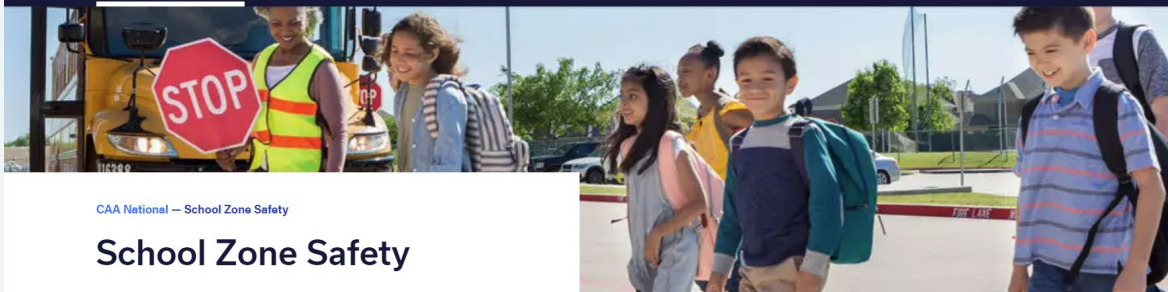
CANADIAN AUTOMOBILE ASSOCIATION

School Zone Safety

School Safety Patrollers

Getting to School Safely

Statistics



CAA National – School Zone Safety

School Zone Safety

INTERVIEWEE

Kristine D'Arbelles
Senior Director of Public
Affairs

BACKGROUND

CAA's School Zone Safety Assessment Tool allows volunteers to collect data on unsafe driving and pedestrian practices in school zones. By tracking unsafe behaviours as they occur, stakeholders are able to identify key problems in different schools and locations. CAA has also conducted nationwide public opinion polling, which provides them with a broader data collection tool.

BENEFITS

- ▶ The tool collects information on behaviours alone, no mode share data is collected. This approach is intentional as it removes the ability to make conclusions based on the types of issues encountered by a specific category of mode.
- ▶ CAA Saskatchewan uses the app in the way it was intended - use the tool at a school to collect data, bring that data to the school district and municipality to identify what they need.
- ▶ The tool was used to collect the data from multiple schools and provide the findings to the provincial government to give a high-level summary of the typical challenges related to school travel safety. This resulted in a bill to advocate reducing speed limits to 30km/hr in school zones.
- ▶ CAA is looking to rebuild or modify the app based on the needs of other interested parties.
- ▶ CAA Saskatchewan has required the use of the tool as part of some grant funding requirements.
- ▶ CAA has also conducted public opinion polls on attitudes towards school zone safety. These polls have been helpful to inform public education campaigns as it provides data on what the community needs information on, and what parents worry about. These have been relatively inexpensive to fund as they run only about \$1000 a question for 2000 respondents.

CHALLENGES

- ▶ School Zone Safety Assessment Tool asked 45 questions with 5 related to school zone safety. CAA suggested this was too many questions to ask and recommends that under 20 is the “sweet spot”.
- ▶ The tool is meant more to track a trend in a school zone. Some questions have arisen around whether it should be a road safety expert using the app and tracking the data to ensure it’s accurate.
- ▶ Using the Assessment Tool requires significant resources. The more you want to track / the more resources you need.
- ▶ Public Opinion Polling costs approximately \$1000/question to reach approximately 2000 people. For responses on school travel, the reach has to be broad in order to ensure it reaches the correct demographics to complete the poll.
- ▶ Polls only measure the perception of respondents, and as such may be less reflective of the actual reality of a situation. Many respondents perceived speeding as an issue, but traffic studies showed lower vehicles speeds than users indicated (perception of speed is relative!).
- ▶ Making the application available to the public has not happened as of yet, so limited audience and results so far.
- ▶ The application was designed to be customizable by each club, but this has resulted in inconsistent data between clubs. Makes it very difficult to compare results and make high level conclusions.

SUMMARY

Kristine suggested that any AST data collection efforts keep the number of questions as low as possible while still gathering the minimum amount of information that is critical for project success. The School Zone Safety Tool has 45 questions, with 5 related to school zone safety. This is widely perceived as being quite onerous by many participants - 20 or less is considered the “sweet spot” by CAA and other data collection agencies.

CAA is another possible partner in the future as they are looking to rebuild the app or modify it based upon need from other interested parties. A main driver of these changes is to make the tool more user friendly and less intensive to use. This could be an opportunity for GCC to help guide the changes to the School Zone Safety App, as well as its future use in AST initiatives across the country.

Similar to Brent from the Chase Study, Kristine suggested exploring partnerships with Universities and their students. Academics can help ensure that the data is collected in a scientifically sound manner, give the project added credibility, and help with data analysis post project. CAA Quebec worked with a PHD student to develop their study and found this relationship to be particularly beneficial to the success of their project.

Developing Indicators of Active School Travel

INTERVIEWEE

Subha Ramanathan
Researcher for Green Communities
Canada/OAST (currently employed at
Share the Road)

BACKGROUND

Subha was directly interviewed for their experience in active school travel research, particularly their experience developing OAST's *Developing Indicators of Active School Travel* research study, as well as their involvement with the 2010-2012 CLASP funded National STP pilot. The methodology for the Developing Indicators of AST project entailed a three-round Delphi survey and a two-hour web meeting to gather input from a panel of experts on approaches to collecting data on school travel. Subha has also been a lead researcher in a pan-Canadian School Travel Planning study to understand the relationship between travel mode and emotions.

BENEFITS

- ▶ Used a local organization to collect the data, while researchers across Canada analyzed the results.
- ▶ Developing a provincial or national wide survey provides a great opportunity for practitioners in the industry to connect, build relationships and learn from each other.
- ▶ Important to have practitioners from various industries as part of study to help understand different perspectives – planners, engineers, researchers, physical health practitioners.
- ▶ Should not rely on parents to identify barriers in the built environment. Researchers can do that themselves with the same accuracy through site visits, street view, etc.

CHALLENGES

- ▶ Challenging to have linked data set (tracking Parent A at the start to parent A at the end of the study).
- ▶ Travel mode is absolutely critical to collect, but self reporting surveys can be incredibly inaccurate and don't allow the researcher to understand what modes they have available to them that they may not be using (i.e., have the option to take the bus but choose to be driven).
- ▶ Need to broaden data collection time frames when conducting surveys to give flexibility to schools. Time range within a month is best.

SUMMARY

Subha had a differing perspective on AST Data collection than most other survey participants as she felt that hands up surveys were a very limited data collection tool. Her main issue with these types of surveys was that they did not consider what other transportation options (such as bussing) were being offered to students, and what type of travel mode was dictated by the built environment as well as proximity to the school. She felt that failing to collect this important secondary data would reduce the research team's ability to make informed recommendations for specific schools, and only provide a snapshot of current travel patterns – and little else.

As a follow-up to this, she articulated that in her estimation self reported surveys were highly suspect as reliable data sources. She referenced the example of when studies rely upon participants to self report physical activity levels; when investigated further through direct observation, researchers found that the numbers submitted varied greatly from the numbers researchers observed. She felt that the best approach to getting reliable results was to collect data without the respondent knowing (direct observation like the CHASE study), as participation in surveys can often modify behaviour on its own.

She did recognize the opportunity for partnership and relationship building that large-scale studies provided and encouraged any organization undertaking these types of data collection initiatives to be prepared to explore these relationships, and to be prepared to respond appropriately to the spike in interest/involvement that often results. She made note of Jackie Kennedy's ability to build relationships with the heart and stroke foundation and clean air foundation; planners and engineers; physical health practitioners.

Another interesting perspective offered by Subha is to be more flexible on the timelines for data collection. In her observation, researchers are often too focused on providing short, rigid timelines (usually a school week) in which to collect data. She reflected that it might be more advantageous to provide a larger data submission data window (or several windows) so that there is more opportunity for respondents to provide data.

Another point that others made that Subha echoed was the need to be accountable to survey participants and report back on the results and future actions, as well as the need to create a central information hub that is accessible to all communities' post survey so that they can also benefit from the lessons learned through the survey process and data collected. She encouraged any future initiatives to seek funding for a central resource library that not only shares the survey data, but also provides a central information hub for other communities and organizations to upload and share their own research, findings, and data (maybe an AST Canada funding application?).

Accessing big data (such as from cell phones) was also suggested as a possible data source in the future, as well as collecting data on the built environment around schools using professionals (not parents) who are more likely to be objective in their assessment.

Lastly, (Subha had lots to say!) she conveyed that any AST initiatives should focus on improving conditions (built environment) first before undertaking any encouragement activities. Encouraging families to undertake high risk trips to and from school is not something that Subha felt we should be doing. Make the conditions safe – then focus on behavioural changes.

KEY FINDINGS

A summary of key findings that were shared among two or more organizations has been provided below. These key findings have helped to create “emerging recommendations” for GCC that are explored further below.

PARTNERSHIPS

A question asked in all interviews was related to key partners to include when conducting a large-scale study:

- ▶ **Involving Academic Institutions -** Many interviewees recommended partnering with academics to develop the study. Universities can help to structure the research question, identify metrics, review the data collected, and verify that the study was conducted in a scientifically sound manner. There are also opportunities to hire university students to conduct the data collection.
- ▶ **Government partnerships** were also identified as a key partner. Partnering at a local, provincial, or national level can help support funding, promotion and get community buy-in. It was also suggested that by partnering with government, there could be opportunities to incorporate the study with some other public facing campaign or document that is already being promoted/distributed to the public.
- ▶ **Collaboration with other NGO's -** Active transportation partners such as Environmental non-profits, Planning and Engineering professionals, and advocacy groups were the other key partner identified by most organizations to help promote the survey, provide expertise, and aid in distributing the data.

STUDY CONTENT

In considering the metrics and information collected, data collecting organizations offered the following observations:

- ▶ **Cross referencing data -** If conducting student surveys such as Hands Up Surveys, this information should be cross-referenced with a parent survey as there can be a potential gap in data given that parents often decide their children's mode choice. It is important for researchers to understand the rationale behind mode choice, and this understanding is only possible if parents are involved.
- ▶ **Multiple data types -** Many studies collected data on mode choice and travel behaviour, as well as capturing data on the built environment in the area. Collecting these two types of data helps researchers understand if the built environment (and specific infrastructure gaps) contribute to mode choice.
- ▶ **Standardized questions -** For ease of summarizing data and making conclusions, the organizations interviewed recommended as much as possible to standardize questions and have as few questions as possible for easy participation by respondents as well as simpler post-survey analysis.
- ▶ **Accountability and feedback -** Several interviewees recommended providing feedback to participants in a timely manner (or immediately after completing an online survey/poll) to help them understand how their input was/will be used, as well as share the results back to ensure accountability.

PROGRAM LOGISTICS

Several considerations were provided by the organizations on program logistics to ensure the study is successful:

- ▶ **Privacy and security** - Concerns regarding privacy and security amongst parents was raised by some participating organizations during these studies. A recommended solution to this issue was to have study/survey questions reviewed by an ethics commission. An ethics commission could be found through a university. It was also recommended that if you are going to conduct a direct observation study at school sites that you should then have information about your study on hand to provide to any concerned parents, administration, or concerned community members.
- ▶ **Providing incentives** - When asked about the best approaches to conducting a large-scale study, many organizations suggested providing incentives to encourage participation. As noted by many, survey fatigue is causing barriers for data collection. However, incentives or prizes may help to increase participation and overcome this fatigue.
- ▶ **Alternative data collection methodologies** - Public opinion polling is a unique and inexpensive method to collect large amounts of data without a lot of the capacity required for an in-person data collection project. However, results from public opinion polls can be limited due to time constraints and can be expensive to conduct if there are more than a few questions posed.
- ▶ **Cost and capacity** - The cost and resource requirements of the studies referenced varied greatly, and is an important consideration for undertaking any such study in this realm. Larger scale studies such as CHASE were successful through significant grant funding (\$3 million) and partnerships with universities. TIRF's use of the Route2School application saved costs in data collection resources as the information was inputted by participants, but in the first round of the pilot in the fall of 2023 resulted in limited participation due in part from the lack of incentives.
- ▶ **Study frequency** - The frequency of studies also varied greatly. Some organizations, such as OSTA conduct their studies annually, which helps to create an intensive, ongoing log of travel behaviours year over year, as well as creating familiarity for the families filling out the survey. Although programs such as CHASE reached a lot of schools and made detailed findings, the lack of continuity resulted in an absence of longitudinal data with which to measure short- or long-term changes.

FINAL RECOMMENDATIONS

PROVINCE OF ONTARIO

Previous data collection efforts in the Province of Ontario have been met with resistance at the school board level, largely due to concerns around privacy and the perceived risks of conducting research on children. In our Active School Travel work across BC, Alberta, and Manitoba, our team has not encountered this level of concern and outright resistance; while some school boards have requested more information as to research methodology, data storage, and how potential privacy concerns might be addressed, once provided this information, they have given permission to participate to the schools

involved. This experience includes conducting youth engagement as part of School Travel Planning, hands up surveys as part of the Province wide count of school travel here in Manitoba, and user inputted data as part of the Route2School pilot.

Given this previous experience with School Travel Data Collection, the input and insights provided by the experts interviewed, and the need to develop an approach for School Travel Data Collection in the Province of Ontario that is likely to be more amenable for school boards in the region, our team developed the following list of recommended approaches to consider. Each approach has their own merits and challenges, and we have tried to address these considerations as much as possible in each section below.

DETERMINE HOW THE INFORMATION COLLECTED WILL BE USED

Before considering the recommendations below, it is important to consider what ultimate objective of the data collection effort is. Are you hoping to:

- ▶ Use survey participation and sharing of the data to initiate behaviour change?
- ▶ Draw conclusions on current mode share to highlight the scale of the issue?
- ▶ Identify specific infrastructure deficits?
- ▶ Advocate for investment in AST programs and/or infrastructure?
- ▶ Gain understanding on the rationale for the transportation choices being made?
- ▶ Build support for AST programs and/or infrastructure improvements within a school community?
- ▶ Develop an ongoing Report Card to encourage accountability and action?

While not mutually exclusive objectives, each of these outcomes requires a different data collection methodology to achieve the identified project goals. Before initiating your study, take the time to consider what impact you are hoping this initiative will have – who the target audience is, what critical data you need to collect to have the intended impact, and what approach is best suited to collecting this data (hands up/observation/paper/online etc.). Determining your study goals at the start of any data collection initiative will allow your team to develop the most suitable approach to achieving these goals.

In the Ontario context, survey development and objectives discussions may revolve around advocating for re-investment in programs such as Ontario Active School Travel, building relationships with school boards and school divisions, developing survey methodologies that will enable GCC and other AST organizations to actually collect school travel data from students and families (more likely to be approved), and starting a larger conversation on the need for safer routes to school across the Province.

ASSESS CAPACITY AND FUNDING

Once the project objectives have been identified, the project team should take stock of internal and external capacity well as available (or potential) funding available. As noted in the interview results above – the approach taken by many previous studies has been in large part dictated by available funding and the capacity of the project team. The CHASE team was able to conduct a very rigorous direct observation study as they had the financial means to hire students to conduct this research, thereby increasing their capacity to undertake this type of study. This can be contrasted with the approach taken by the Green Action Centre in 2016 – recognizing their internal capacity limitations as well as the financial resources at their disposal (a \$40,000 grant from Heart and Stroke), they chose to conduct a hands-up survey using the application they had developed.

Scaling the study workplan to the funding and resource capacity available at the time will ensure that the project goals are achieved to the maximum extent possible and does not leave the organization in a deficit position – either from a financial or internal staffing capacity perspective.

At this time in Ontario, capacity and funding conversations will largely be determined by available grant funding (either at a Federal, Provincial, or Local Government level), as well as the internal and external capacity of the Green Communities Canada team. While it is often advisable to seek external grant funding, it is equally important to be able to articulate the project goals and objectives, as well as have a clear understanding of what resources will be needed and how they will be used if the funding is received.

RESEARCH APPROVALS

Given the significant resistance from school boards in the Province of Ontario to previous Active School Travel data collection initiatives, we recommend a several different approaches that can be employed to help overcome these barriers:

Reduce interaction levels

Develop survey methodologies that are as minimally intrusive as possible, limit contact with children, and have as few individual identifiers as possible. While this “light touch” approach may be more amendable to school boards in the Province, it may also limit the depth and quality of the data collected. A balance must be struck between reducing privacy concerns while also ensuring that the data collected is useful and supports achieving project outcomes.

Ethics Commission

Connecting with an Ethics Commission and gaining approval for your study in advance of communicating with school boards or individual schools may reduce or eliminate any concerns that school boards/schools may have with the study. Connecting with ethics commissions in advance of survey initiation also provides an opportunity to refine the survey methodology based upon any feedback they may have, and act as the first step in developing an academic partnership.

Refine Methodology

If resources allow, consider a survey methodology that does not require either school board/school approval – direct behaviour observation. The CHASE study is an excellent example of a rigorous AST data collection project that did not seek (nor require) external research or ethics approvals. Having researchers stand outside of school grounds provides the advantage of merely

observing and recording behaviours and is far less likely to trigger changes in behaviour. This approach should of course include providing information to interested/concerned parties as to the nature of the study but does remove the potential for research applications to be rejected.

Build Partnerships

This was a common theme with all of the interviewees, and one that cannot be stressed enough. However, it should also be recognized that building strong, trusting relationships is a process that takes a significant amount of time, tact, and intentionality. While building partnerships can take a large amount of time and effort, many prior study initiatives have only been possible due to the parties involved having a strong and trusted relationship.

The most recent example of the importance of trust and relationships in helping to ensure project success is the recent Route2School (R2S) pilot here in Winnipeg. In the fall of 2021, the Traffic Injury Research Foundation (TIRF) contracted the Active and Safe Routes to School (ASRTS) program at Green Action Centre (GAC) to assist TIRF with piloting the R2S application in Winnipeg schools. Due in large part to staff turnover over the past few years, the ASRTS team at GAC were largely unknown to staff at the 6 school divisions in the City of Winnipeg. As a result (and despite their best efforts) all attempts by GAC staff at connecting with the school divisions in the City were unsuccessful, largely due to the fact that they had no existing relationship. This was a prime example of the need to not only build but maintain strong relationships with key partners.

If your organization does not have the capacity to connect with a wide range of potential partners/organizations – focus on those key partnerships that provide an opportunity to amplify your messaging and support your work. In our work in the Metro Vancouver area of British Columbia, the AST team here at Urban Systems has been able to build strong, trusted partnerships with not only the regional transportation authority (TransLink), but also the Ministry of Transportation of the Province of BC, as well as many of the municipalities in the Metro Vancouver region. This level of trust has not come overnight but does result in our team being viewed as reliable, trusted advisors in these conversations, resulting in a strong willingness to work with our team on data collection and other AST initiatives.

Several of us had the same experience when we worked at the Green Action Centre – focusing many of our efforts at relationship building with organizations such as Manitoba Public Insurance, all of the school divisions in the City of Winnipeg, Provincial Ministries with related portfolios (health, education, transportation), and national level funding partners (Heart and Stroke, CAA). All of these relationships enabled our team to propose and successfully execute data collection campaigns by leveraging these relationships to secure funding, amplify messaging, and promote/mandate participation in these data collection efforts.

The present-day context for AST organizations in the Province of Ontario is one of great potential. While provincial funding has been reduced, there remains a strong network of supportive organizations that GCC has been able to connect with over the past decade. Maintaining these relationships and leveraging them to build new ones with important strategic partners will help establish trust with survey approving organizations, allowing for the collaborative development of any future data collection initiatives.

Lastly, we would encourage GCC to explore building political relationships in addition to strategic ones. Working with supporting organizations such as CAA South Central Ontario, the Association of Municipalities of Ontario, and the Ontario Public School Boards Association to advocate for provincial support for AST initiatives (both data collections as well as funding), will give GCC added credibility, potential funding, and increased likelihood to participation in any future data collection initiatives.

PROVINCE-WIDE AND NATIONAL LEVEL RESEARCH

At larger scales such as at the Provincial and National level there are of course many parallels to the recommendations for the Ontario context, but there are also other broader considerations that must be accounted for.

Methodology

In other Provinces that our AST team (and others) have worked in, there does seem to be less sensitivity to data collection efforts that involve children. Hands Up surveys using the BikeWalkRoll application have been successfully completed in over 20 schools in Alberta, 5 or so in Saskatchewan (a Province with not ASRTS organization at this time), over 10 in BC, and over 300 across Manitoba. While we have not been a part of every data collection in these Provinces, we have been a part of most, and connected with the AST organizations behind these efforts through the AST Canada working group. At no time have we or other organizations encountered any major barriers in collecting school travel data via hands up surveys.

Given the openness of other regions of Canada beyond Ontario to engage in hands up surveys, the relatively low resource constraints that are required to undertake this process, and sheer scale of a Province wide or National data collection effort, hands up surveys provide the best opportunity to connect with a large number of communities, get a clearer picture of the current mode share at schools across the country, and spark wider cross-country/cross Province conversations around this issue.

Partners

At the National level, there exist several willing partners that should be approached

early on in any National data collection effort, these include:

- ▶ Canadian Automobile Association
- ▶ Heart and Stroke
- ▶ Public Health Agency of Canada
- ▶ Health Canada
- ▶ Canadian Partnership Against Cancer
- ▶ Infrastructure Canada
- ▶ Federation of Canadian Municipalities

Enlisting the financial, resource, and networking capacity of these organizations early in the data collection planning process is a critical first task. Leveraging the resources of National partners to help develop and execute a successful data collection initiative will not only improve the chance for success, but also provide an opportunity to use their collective networks to share the results and spark further investment in the realm of Active School Travel in Canada.

Maintain consistency between regions

While it may be tempting to provide different regions of the country and/or Province with the ability to customize and curate their data in an effort to suit the local context, doing so would remove any ability to compare between jurisdictions – a key outcome of any study in this realm. The CAA National team found this out the hard way when they developed the safe school zone application; individual clubs (users) advocated for the ability to customize their data collection efforts, resulting in a fully customizable application. However, this ability to select the data that is collected has removed any ability for CAA to draw broader conclusions at a National or Regional level or compare concerns from region to region. Consistency in the data collected is key.

FUTURE RESEARCH AND STUDY

In conversation with the data collecting organizations interviewed for this report, there were several areas of future study that were noted:

DEMONSTRATE WHAT WORKS

From a local government, transit authority, and provincial government level, there is a common and overwhelming desire to understand the ROI of various AST initiatives. Governments of all levels are keen to have hard data that clearly demonstrates what interventions will have the greatest impact on mode share, road safety, and community health and well-being. Any study or survey that was able to measure pre and post AST intervention results, and clearly identify a causal link between behaviour change and intervention would be very well received.

MEASURE THE BARRIERS TO AST

While this type of data is regularly collected as part of the School Travel Planning process, a study that was able to identify the barriers to active school travel at a population level and make recommendations on this basis would be well received. Any successful Transportation Demand Management (TDM) initiative includes a strong understanding of why certain mode shares are being chosen. The ultimate objective of any data collection process is to inform and direct future efforts, so developing an understanding of WHY more families are not sustainably travelling to and from school is a critical base level of understanding.

HIGHLIGHT SUCCESSFUL INTERVENTIONS

Governments of all levels are always looking for examples of effective programs, interventions, and approaches in other jurisdictions, both to serve as something to replicate in their own region, as well as provide an opportunity for advocates (both internal and external) to demonstrate what other communities are doing as well as encourage their own community to do the same. Sharing case studies of effective interventions and providing data when and where possible is a powerful motivator for decision makers and can also serve to reassure them that their investment in a particular approach will succeed as it has been successful elsewhere.



BEST PRACTICES IN SCHOOL DATA COLLECTION IN CANADA

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