INTERACT

INTERVENTIONS, RESEARCH, AND ACTION IN CITIES TEAM

SASKATOON - WAVE 1

REPORT TO STAKEHOLDERS

WELCOME TO INTERACT

The Interventions, Research, and Action in Cities Team (INTERACT) is a pan-Canadian collaboration of interdisciplinary scientists, urban planners and public health decision-makers with a common vision of healthy, equitable, and sustainable cities by design. Seeing cities as living laboratories, we use cutting-edge tools that harness the power of mobile technology and geographic information science to measure real world changes in urban environments and the resulting impact on health outcomes that matter most to cities, including physical activity, social connection, and well-being.

INTERACT was launched in 2017 under the leadership of three principal investigators, Yan Kestens (Université de Montréal), Meghan Winters (Simon Fraser University), and Daniel Fuller (Memorial University of Newfoundland). The team is funded by the Canadian Institutes of Health Research and composed of researchers, knowledge users, partners, and students with expertise in public health, epidemiology, urban planning, computer science, transportation, and geography.

INTERACT AIMS

1. Understand Context
Through engagement with stakeholders, we characterize the context of the intervention, including factors that impact its success or failure.

2. Measure Change
With tools that integrate mobile sensing and geographic information science, INTERACT is objectively measuring changes in the urban environment.

3. Analyze Impact
Using mixed methods, INTERACT is collecting data from participants over a five-year period to analyze the impact on health and well-being.

4. Mobilize Knowledge
We are producing timely evidence to guide decision-making on the ongoing implementation of the intervention and future investments in healthy urban development, as well as building capacity in urban research.

INTERACT TOOLKIT

1 Understand Context
Concept mapping captures stakeholders' perceptions.

2 Measure Urban Change
GIScience used to track changes over time.

3 Track Population Health
A longitudinal cohort is set up in each INTERACT city with multiple data collection time points.

4 Link the urban intervention to health and inequalities.
Through modeling we explore the relationship between urban change, mobility, and health inequalities.

5 Mobilize Knowledge
Generate evidence to inform future decisions for healthier cities.

The INTERACT Toolkit is intended to be transferable to other study sites and adaptable to different interventions.

Participant Tools

1. Online Surveys - standardized questions for health, well-being, travel, and demographics.
2. Novel map-based survey (VERITAS) - to understand where and with whom people travel.
3. Wearables and smartphone apps - record where and when people are active. Surveys to measure well-being.
4. Interviews - gain a deeper understanding of neighbourhoods, social connection, well-being, and the impact of the intervention.

INTERVENTION

BUS RAPID TRANSIT (BRT)
SASKATOON, SK

As part of the "Plan for Growth", the City of Saskatoon is implementing the Bus Rapid Transit (BRT) system.

Initial pre-construction work began in the fall of 2018, continuing into 2019. The installation of communication cables and changes to traffic signal equipment will begin in 2020. In 2022, the construction of BRT platform and dedicated transit lanes as well as the installation of station amenities are scheduled. June 1, 2025 is the proposed switch to the new service. INTERACT has developed a five-year study to measure the impact of the implementation of the BRT on physical activity, social participation and well-being.

LOCAL STUDY TEAM

City of Saskatoon
Lesley Anderson
Chris Shulz

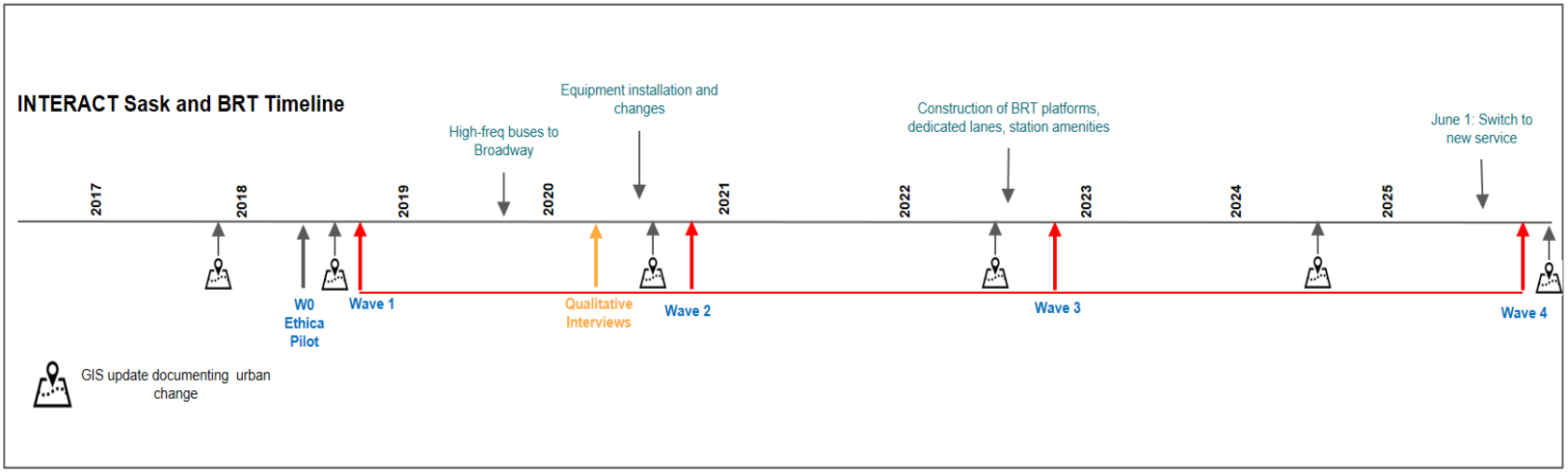
Research Leads
Dr. Daniel Fuller
Dr. Kevin Stanley
Dr. Nazeem Muhajarine
Dr. Scott Bell

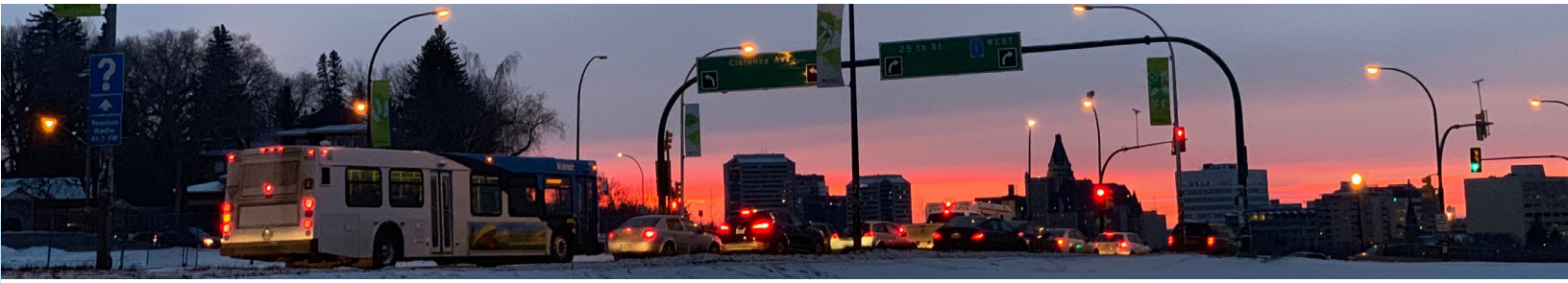
OUR PARTICIPANTS

The Saskatoon cohort was recruited through various methods including in-person recruitment, posters on buses, posters in public spaces, social media posts (Facebook and Twitter), PAWS bulletins, newsletters and by word of mouth.

- **31%** Owns a Upass
- **39%** Are between 18 - 24 years of age
- **73%** Are women
- **76%** Currently have a valid driver's license
- **70%** Have access to a car

SASKTOON TIMELINE





RESULTS

During the first wave of the study, data was collected through online surveys (health survey, VERITAS (Visualisation, Evaluation and Recording of Itineraries and Activity Spaces questionnaire), smartphone-based app and Sensedoc sensors. Four hundred and one participants were recruited from September 19th, to December 27, 2018.

The online health survey captured information on physical activity, well-being, general health, travel behaviour, and demographics. Of the total participants, 315 completed the health survey. The VERITAS questionnaire is a map-based questionnaire, which collected data on activity space (regular destinations) and social participation. These surveys are intended to provide information on how urban environments influences social interactions and health. Two hundred and thirty-seven participants completed the VERITAS questionnaire.

The smartphone-based app was developed by Ethics Data Systems. The app collected location and activity information passively through sensor data logging of Global Positioning Systems (GPS), WiFi, Bluetooth, accelerometer, gyroscope, battery life, and logical sensors describing location, activity type and phone orientation. Of the 315 participants, 159 completed the Ethica portion of the study. Sensedoc sensors uses integrated GPS and accelerometry to record location data every second and accelerometry data at 50 Hz, respectively. One hundred and eight participants completed the Sensedoc component of the study.

KEY FINDINGS

WHAT DO PEOPLE THINK OF THE BRT?

AWARENESS

Among bus riders in our sample only 54.8% of participants have heard of the Bus Rapid Transit (BRT).

GOOD OR BAD IDEA?

From the survey, the majority of participants (92.7%) think the BRT would be a good idea.

FUTURE RIDERSHIP

The majority of participants, 80.3 %, agree that they want to travel by bus more once the BRT corridors are in place.

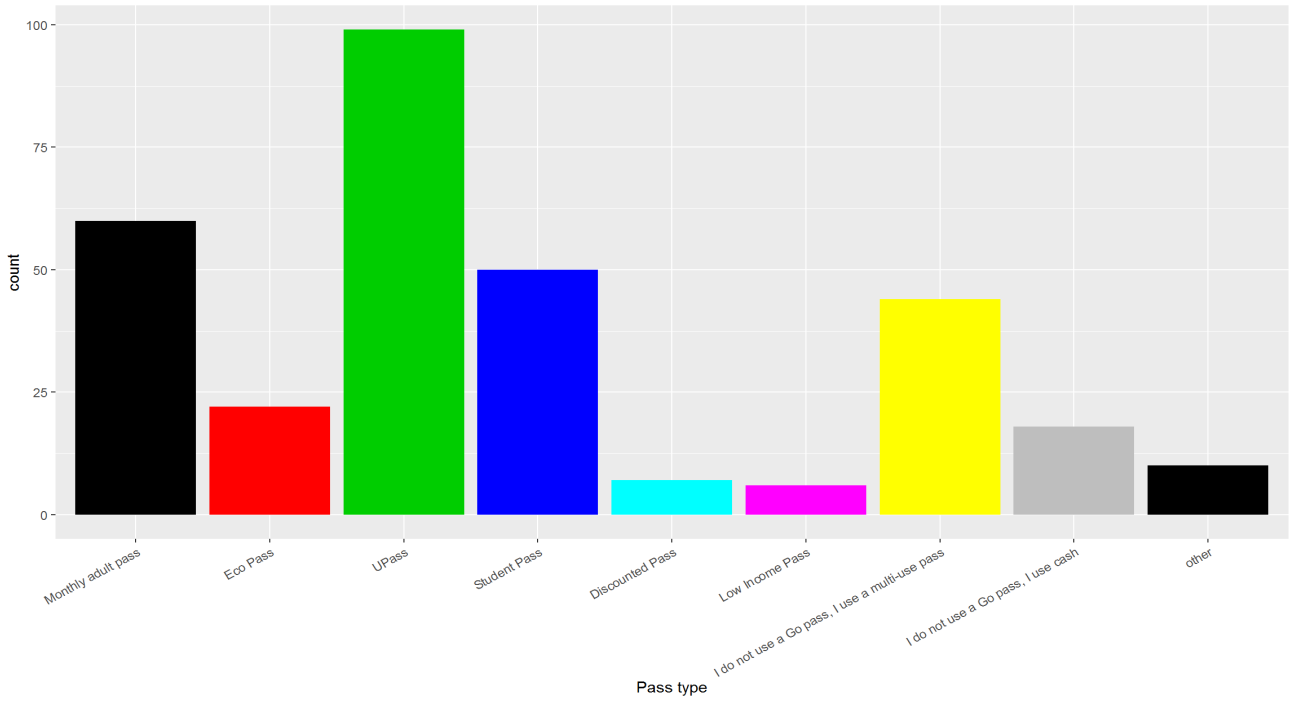


Figure 1 - Which Saskatoon Transit Go Pass do you own? Approximately one quarter of participants own a Upass. The next highest categories were monthly adult pass and student pass. There is also considerable variability in fair type with all possible fair types represented in the survey.

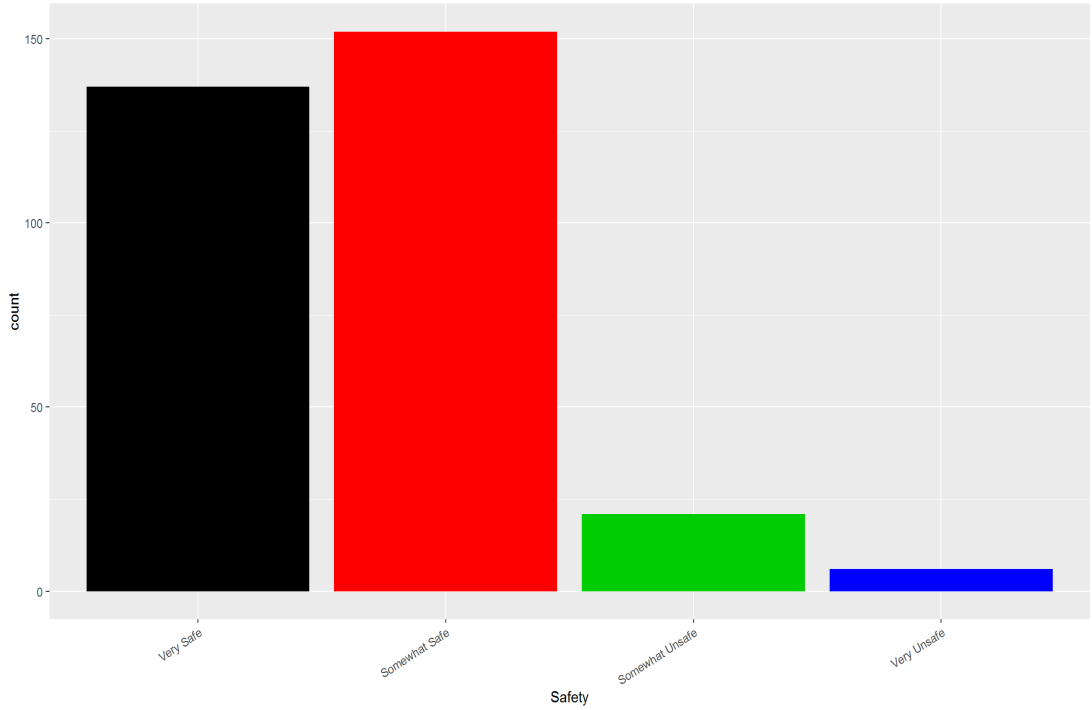


Figure 2 - On a scale of 1 to 4, with 1 being 'very safe and 4 being 'very unsafe', overall, how safe do you think travelling by bus is in your city? The majority of participants felt safe travelling by bus in Saskatoon. This is a strong feature of the current Saskatoon Transit system.

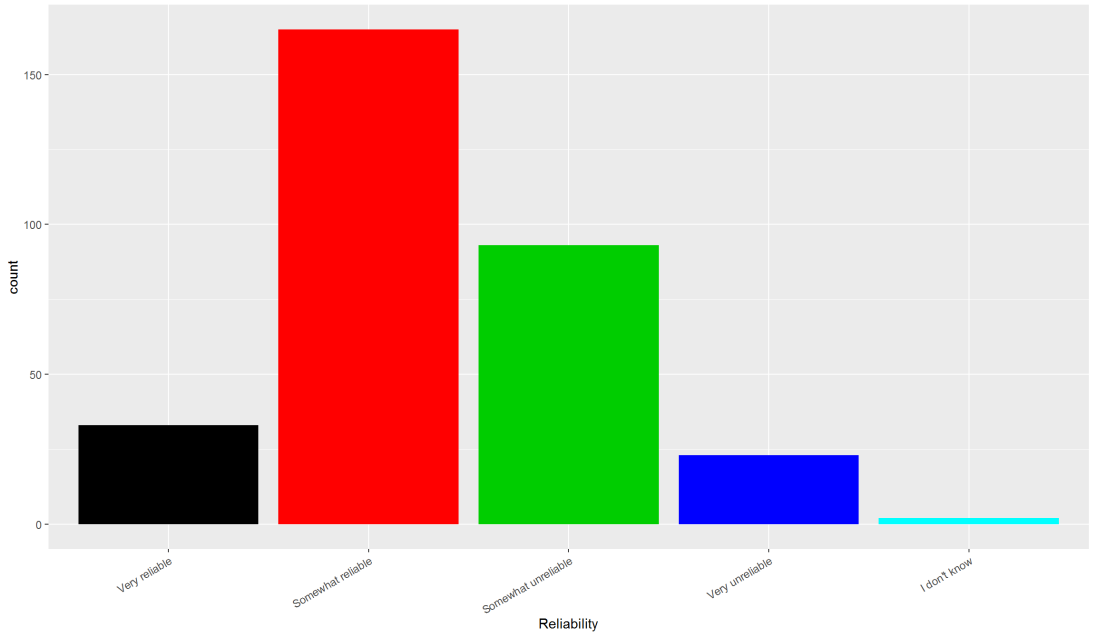


Figure 3 - On a scale of 1 to 4, with 1 being 'very reliable' and 4 being 'very unreliable', overall, how reliable do you think traveling by bus is in your city? While the majority of bus riders felt traveling by bus was somewhat reliable, a large group of participants felt the bus was somewhat unreliable. This suggests a possible area for the BRT to target as only a small group of participants though the bus is "very reliable".

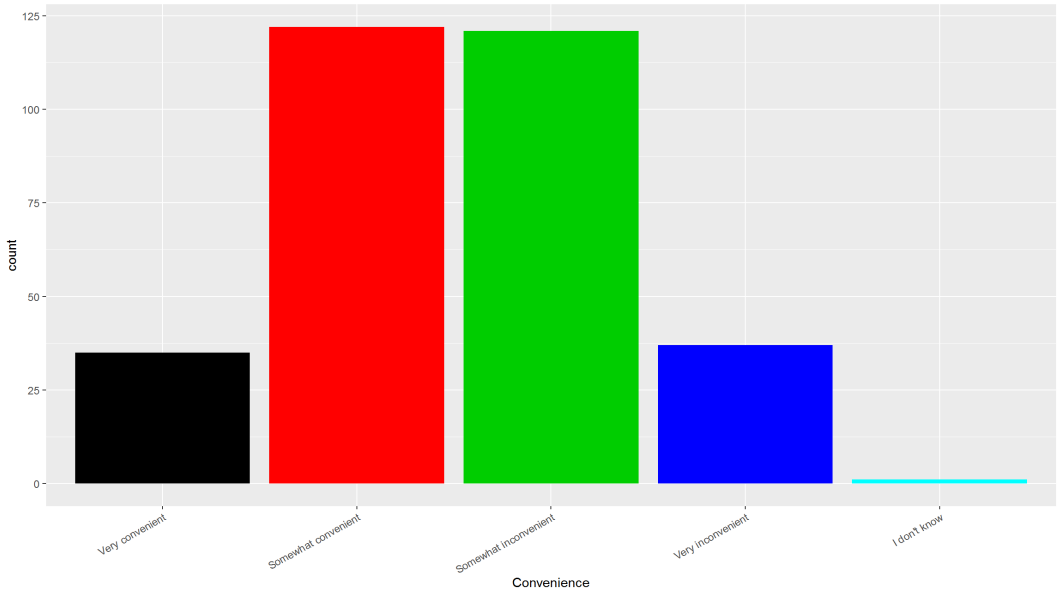


Figure 4 - On a scale of 1 to 4, with 1 being 'very convenient' and 4 being very inconvenient', overall, how convenient do you think traveling by bus is in your city? Convenience is a factor that influences participants' perceptions of the transit system. In Saskatoon, participants are fairly equally split between convenient and inconvenient.

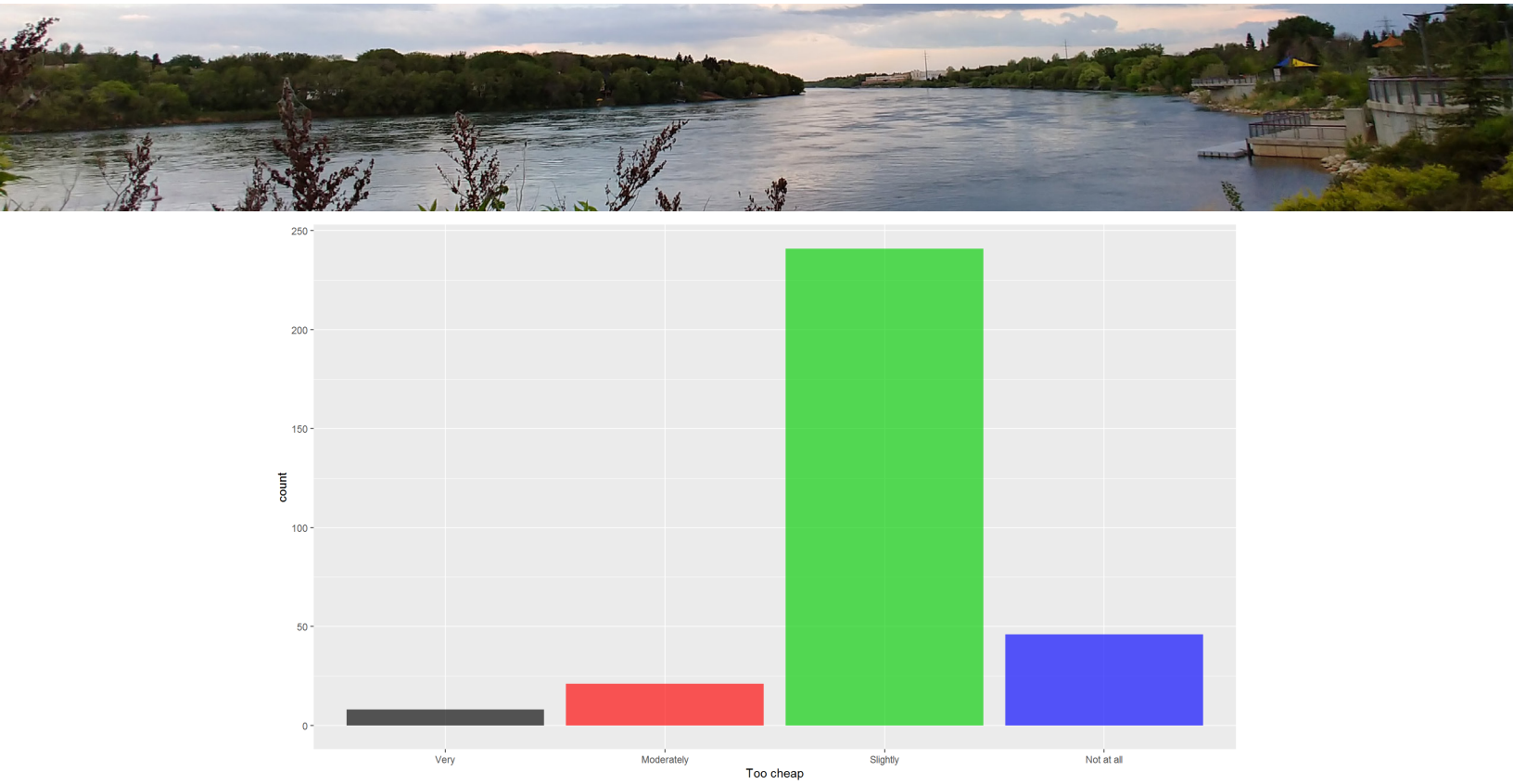


Figure 5 - Do you think Saskatoon Transit Service today is too cheap? The majority participants (76%) think the Saskatoon Transit Service is slighty "too cheap". This perception may change once new amenities and the BRT are in place.

Rank the following in order of how much they would influence your decision to use the bus.

1. The bus on the main part of your route ran every 10 minutes or less
2. The buses were on time and transfers were more reliable
3. The bus route took you closer to your destination
4. The bus and shelter were cleaner and in better condition
5. The cost of the bus passes or fare was lower

Figure 6 - Participants were asked to rank in order of importance, which factors would influence their decision to use the bus. Frequency was the most important factor as participants would like the bus on the main part of their route to run every ten minutes or less. The next important factor was if the buses were on time and transfers were more reliable. These results suggest that the BRT could fulfill these needs through dedicated lines and more consistent and reliable transfers.

SUMMARY

Wave 1 was completed with four hundred and one participants recruited. Of the total participants, 315 completed the health survey, 237 completed the VERITAS questionnaire, 159 completed Ethica and 108 completed the Sensedoc portion of the study. Analysis of the data is still ongoing. Selected results of the health survey suggest areas where the current Saskatoon Transit system excels in areas such as safety and areas where they could focus on such as reliability and convenience, as the BRT is implemented.

LOOKING AHEAD

The INTERACT Team will conduct another round of data collection in the fall of 2020. We are plan to conduct interviews with a smaller sub-sample of the cohort in the summer of 2020. We will also be recruiting additional participants to account for any attrition in our cohort. Analysis of the data from Wave 1 is continuing with staff and trainees across the country working to answer our many research questions.

We are continuing to work with stakeholders and partners across the country. If you have questions or would like to connect with our other research partners please contact us at: saskatoon@teaminteract.ca

Acknowledgements

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