Measuring the impacts of the Réseau express métropolitain (REM)

Progress Report 2019–2024

TRAM TRANSPORTATION RESEARCH AT MCGILL

McGill

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Territorial Acknowledgment

We would like to acknowledge that McGill University is located on unceded Indigenous lands. Tiohtià:ke/Montréal has long served as a site of meeting and exchange amongst Indigenous peoples, including the Kanien'kehaì:ka of the Haudenosaunee Confederacy, Huron/Wendat, Abenaki, and Anishinaabeg, among others. TRAM recognizes and respects these nations as the traditional stewards of the lands and waters. We respect the continued relationship these diverse Indigenous peoples have with the territory upon which we now gather.

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Summary

The Réseau express métropolitain (REM), a new light-rail system in Montréal, opened its first branch of service from Downtown to the South Shore in Summer 2023, with three more branches to open between 2025 and 2027. This 67-km light-rail network is expected to have major impacts on residents across the Montréal metropolitan region, providing a unique opportunity to study the outcomes of a major public transport investment in the Canadian context. This report complements a previous report published in 2024 [1], which provided an overview of the first four waves of surveys conducted by the Transportation Research at McGill (TRAM) Group and Sphere lab in the fall of 2019 (wave one), 2021 (wave two), 2022 (wave three), and 2023 (wave four). This report integrates data from the fifth wave of the survey, conducted in Fall 2024, one year after the opening of the first branch of the REM, providing insights into changes in travel behaviour and quality of life. The surveys form a part of the multiyear project titled "Impacts of the new Réseau express métropolitain (REM) on mobility, health and equity: A pre-post intervention study," funded through the federal government's Collaborative Health Research Projects (CHRP) program. This report documents the methodology used for the surveys and provides a summary of the findings from wave one (N= 3,520), wave two (N= 4,058), wave three (N= 4,065), wave four (N= 5,312), and wave five (N = 7,400).

Key findings

- In terms of **travel behaviour**, transit use increased by 11%, active-mode use increased by 25%, and car use increased by only 5% in 2024 compared to 2023. These changes represent a continued recovery for sustainable mobility after the repercussions of COVID-19 seen in previous waves.
- One year after the opening of the South Shore branch, **intentions to use the REM** around future stations further increased by 2 percentage points for commuting trips and by 3 percentage points for shopping purposes.
- Previous survey waves highlighted that significantly more men intended to use the REM than women. Current South Shore REM use shows a fairly equal split of ridership between men and women.
- The two **main purposes** for which the South Shore REM was used were leisure (31% of users) and work (24% of users).
- While most REM users reported being satisfied with REM services (76%), satisfaction with the replacement bus shuttle service was much lower at just 13%.
- REM commuters reported one of the highest **levels of satisfaction** with their health, second only to cyclists.

Sommaire

Le Réseau express métropolitain (REM) a ouvert sa première branche de service entre le centre-ville et la Rive-Sud à l'été 2023, la mise en service des trois autres branches étant prévue entre 2025 et 2027. Ce réseau de 67 km devrait avoir un impact majeur à travers la région métropolitaine de Montréal, offrant une occasion inédite pour étudier les résultats d'un investissement majeur en transport en commun dans le contexte canadien. Ce rapport suit celui publié en 2024 [1], qui résumait les quatre premières vagues d'enquêtes menées par le groupe de recherche en transport de l'Université McGill (TRAM) et le Sphere Lab à l'automne 2019 (première vague), 2021 (deuxième), 2022 (troisième), et 2023 (quatrième). Ce rapport intègre les données de la cinquième vague de l'enquête, menée à l'automne 2024 un an après l'ouverture de la première branche du REM, donnant un aperçu des changements dans les comportements de déplacement et la qualité de vie des Montréalais. Les sondages font partie d'un projet continu intitulé « Les impacts du nouveau Réseau express métropolitain (REM) sur la mobilité, la santé et l'équité : une étude pré- et post-intervention » financé par le programme de Projets de recherche concertée sur la santé (PRCS) du gouvernement fédéral. Ce rapport documente la méthodologie utilisée pour les enquêtes et fournit un aperçu des résultats tirés des vagues un (N= 3520), deux (N= 4058), trois (N= 4065), quatre (N= 5312) et cinq (N = 7,400).

Principaux résultats

- En terme du **comportement des déplacements**, l'utilisation des transports en commun a augmenté de 11 %, celle des modes actifs de 25 % et celle de la voiture a augmenté de seulement 5% en 2024 par rapport à 2023. Ces changements démontrent la reprise de la mobilité durable après les impacts de COVID-19 observés dans les années précédentes.
- Un an après l'ouverture de l'antenne Rive-Sud, **les intentions d'utiliser le REM** autour des futures stations ont augmenté de 2 % pour les déplacements quotidiens et de 3 % pour le magasinage.
- Les enquêtes précédentes ont mis en évidence que les hommes étaient beaucoup plus nombreux que les femmes à avoir l'intention d'utiliser le REM. L'utilisation actuelle du REM de la Rive-Sud montre une répartition assez égale entre les hommes et les femmes.
- Les deux **principaux motifs d'utilisation** du REM de la Rive-Sud sont les loisirs (31% des usagers) et le travail (24 % des usagers).
- Bien que 76 % des usagers soient satisfaits du REM, seulement 13 % sont satisfaits de la navette de remplacement.
- Les usagers du REM se sont déclarés parmi **les plus satisfaits** de leur santé, deuxièmes aux cyclistes.

1 Introduction

In 2018, the Caisse de dépôt et placement du Québec (CDPQ) began constructing the Réseau express métropolitain (REM), a fully automated, 67-kilometer light-rail network in the Montréal region. When complete in 2027, the $8 billion project will link numerous suburbs and the Montréal-Trudeau International Airport to the Montréal downtown with frequent, highspeed rail service (Figure 1.1). The project is planned to open in several phases: the first branch to the South Shore, which started operation in Summer 2023; the second two branches, currently scheduled to open by Fall 2025; and the final branch to the airport, expected to open in 2027.

As one of the largest public-transit investments currently being built in North America, this state-of-the-art, universally accessible light-rail network is expected to fundamentally alter travel and land-use patterns across the Montréal region. The REM's construction is already impacting local built-environments and travel behaviour [2-4], with additional impacts projected over the coming decades on the health and wellbeing of residents. In addition to positive impacts on the health of local populations [5-8], public transit improvements have been associated with environmental [9, 10], social [11-13], and economic benefits [14, 15].

Due to the considerable impacts that the construction of the REM is having on the metropolitan area, there is a need to understand people's changing perceptions and behaviour before, during, and after the project's implementation. For this purpose, the Montréal Mobility Survey has been implemented as a multi-wave data collection process which intends to provide longitudinal insights into respondents' perceptions of the REM's impact and therefore improve overall understanding of such infrastructure developments. A total of five waves of surveys have been collected so far in Fall 2019, 2021, 2022, 2023 and 2024.

The surveys were administered in the Montréal Census Metropolitan Area (CMA) to participants of 18 years of age and older, including a total of 3,520 valid responses in wave one, 4,058 valid responses in wave two, 4,065 valid responses in wave three, 5,312 valid responses in wave 4, and 7,400 in wave 5. Recruitment for each wave was done directly by the TRAM team through online and in-person methods, and additional recruitment was undertaken by the Leger market-research agency.

In addition to collecting multiple waves of data, the Montréal Mobility Survey includes the collection of a panel dataset, which includes people who answered at least two waves of the survey. The longitudinal and panel design of the Montréal Mobility Survey has become particularly relevant since the outbreak of the COVID-19 pandemic. This report makes use of the substantial data collected by the team before (2019), during (2021-2022), and after (2023-2024) the COVID-19 pandemic to control for the effects of the pandemic on travel behaviour.

Due to construction delays, the opening of the first branch of the REM was postponed from 2021 to 2023. Construction impacts, perceptions and intentions of using the REM were the main focus of wave 2 and 3 of the survey. The collection of waves 4 and 5, after the opening of the first branch of the REM that links Downtown Montréal to the South shore, allowed for the continuous assessment of the actual impacts of the REM's operation on health,

wellbeing, and travel behaviour for its users.

This report focuses on the collection, validation, and analysis of waves one to five of the Montréal Mobility Survey. Section two presents a detailed description of the survey methods, including the recruitment, data-cleaning, and validation processes. Section three presents the sample's demographic characteristics and spatial distribution. Section four details general travel behaviour and telecommuting patterns. Section five examined the intention to use the REM in areas where it is not operating yet. Section six examines the travel behaviour of REM users, particularly those located in the South Shore given the availability of the REM in the area while also exploring their satisfaction with the network. Similarly, section seven presents the impact of the REM on quality of life for users in the South Shore, in addition to their satisfaction with their health. The evidence generated from these longitudinal assessments will be relevant to policies in the Montréal CMA, where future REM extensions are being studied, and beyond, as other regions weigh similar investments to promote health, travel, environmental, social, and economic objectives.

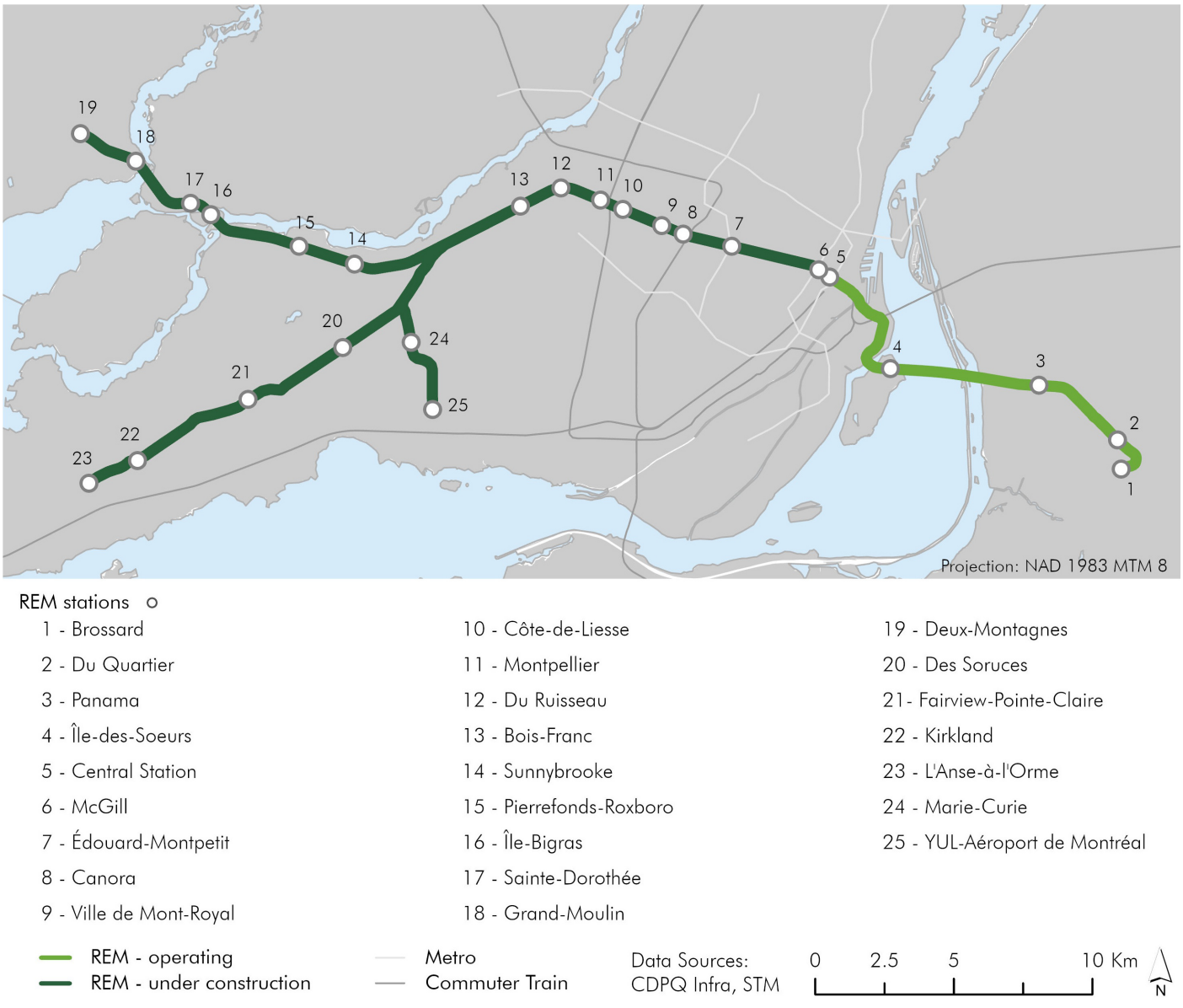


Figure 1.1 Réseau express métropolitain (REM) line and stations

2 Recruitment and Validation Methods

2.1 Recruitment

Recruitment of wave five participants was undertaken between October and November 2024. Consistent with the first four waves of the survey, various recruitment techniques recommended by Dillman et al. [16] were employed to ensure the representativeness of the sample. Two URLs were used to circulate the survey and recruit participants in English and French: www.mobility-montreal.ca and www.mobilite-montreal.ca. While all respondents filled out the survey online, recruitment was performed by the TRAM team using both in-person and online methods. In-person methods included the distribution of bilingual flyers advertising the survey around operating REM stations in the South Shore. Online methods included recruitment through paid advertisements on Facebook and Instagram for people within the Montréal CMA, with a focus on people within half a mile (around 800 meters) of REM stations. Figure 2.1 shows the digital flyers used to advertise on these platforms. Additionally, recruitment of the panel sample was done by contacting all participants of previous waves who provided their e-mail addresses to invite them to participate in wave five. As in all previous waves, to complement recruitment done directly by the TRAM team, additional recruitment was performed by Leger, a company specializing in public opinion and surveys in Canada. The company contacted respondents from their proprietary stable of potential survey respondents who live in areas surrounding existing and future REM stations. Recruitment for the panel sample was also done by Leger by contacting the same respondents who answered at least one previous wave of the survey.

Since emails from Leger respondents were not available to the TRAM team, a unique identifier (or "token") was created for each respondent and was used to link responses from panel respondents. Table 2.1 presents a summary of the pre-validation responses recruited by TRAM and Leger for all five waves.

Table 2.1 TRAM and Leger total recruitment (pre-validation)

Source	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
TRAM	3,675	4,670	4,147	7,281	11,103
Leger	2,267	2,317	2,275	1,613	2,207
Total	5,942	6,987	6,422	8,894	13,310

In keeping with best practices for survey recruitment [16], incentives were employed to encourage participation in the survey. The following prizes were advertised to respondents and distributed based on a draw after finishing data collection:

- 1 x iPad Air
- 1 x Fitbit Smart Watch
- 4 x Kindle Paperwhite
- 1 x Apple AirPods
- 1 x Samsung Galaxy Buds
- 8 x Echo Dot Smart Speaker
- 2 x Bose Portable Speakers
- 4 x EBODA Portable Speakers
- 4 x Fire TV Stick 4K Max

2.2 Data validation

A thorough data-cleaning procedure was applied to the five waves of the Montréal Mobility Survey. The cleaning process was subdivided into several sequential steps, each of which constituted a filter modifying the number of valid responses. Some of these steps were cross-sectional, meaning that each wave was cleaned and validated only using information from said wave. Other steps were based on panel data, from which it was possible to perform further validation by comparing the answers of survey respondents from multiple waves. It is important to apply the same cleaning procedure to all waves of the survey to ensure consistency in the exclusion criteria of unreliable responses. Because of this, the same procedure was applied to all five waves of the Montréal Mobility Survey. What follows is a description of each step of the cleaning process, which were applied sequentially in the order presented here:

Figure 2.1 Digital flyers used to advertise on Facebook and Instagram

1. Incomplete answers: All surveys that were not answered to completion were dropped.

2. Multiple IP addresses 1: If more than two surveys were submitted from the same IP address, all observations from this IP were dropped.

3. Repeated e-mail: If the same e-mail was submitted for more than one survey, all observations from this address were dropped.

4. Multiple IP addresses 2: If more than one survey was submitted from the same IP address, and at least one of these came from the survey company Leger, all observations from this IP were dropped.

5. Age above 90: If a person indicated that they were born more than 90 years prior to the survey year, their response was dropped.

6. Invalid home location: If home location was either not provided, outside of the Montréal CMA, or located in an invalid location (e.g., on water or on a bridge), the observation was dropped.

7. Work or school outside of CMA: If a work or school location was outside of the Montréal CMA, or located in an invalid location (e.g., on water or on a bridge), the observation was dropped.

8. Project awareness: If the person said that they were aware of the REM project in a previous wave but not in a posterior wave, the observation was dropped. This filter is only for people who participated in multiple waves.

9. Answer speed: Surveys in the top 5% of speed of completion were dropped. It must be noted that different groups of respondents, depending on their answers, got different sets of questions. Each of these groups were cleaned according to their own respective top 5% speed.

10. Age and height change: If a person's reported age changed inconsistently across waves, or if their height changed more than 3cm from one wave to another, the observation was dropped. This filter is only for people who answered multiple waves.

The results of the cleaning process are summarized in Table 2.2, showing how many observations were dropped in each of the steps. The resulting sample sizes for the panel responses by wave participation is presented in Figure 2.2. A total of 4,599 participants have responded to two or more waves of the survey, 180 of which have responded to all five waves.

Table 2.2 Number of dropped and validated observations by filtering step

Step	2019		2021		2022		2023		2024	
	Dropped	Remaining	Dropped	Remaining	Dropped	Remaining	Dropped	Remaining	Dropped	Remaining
0 Raw Database	-	5,942	-	6,987	-	6,422	-	8,894	-	13,271
1 Complete answers	1,794	4,148	1,862	5,125	1,575	4,847	2,655	6,239	4,457	8,814
2 Multiple IP addresses 1	67	4,081	67	5,058	43	4,804	103	6,136	246	8,568
3 Repeated e-mail	10	4,071	74	4,984	24	4,780	32	6,104	118	8,450
4 Multiple IP addresses 2	180	3,891	212	4,772	140	4,640	109	5,995	169	8,281
5 Age above 90	2	3,889	3	4,769	1	4,639	0	5,995	4	8,277
6 Invalid home location	53	3,836	124	4,645	64	4,575	99	5,896	108	8,169
7 Invalid work or school	37	3,799	35	4,610	63	4,512	67	5,829	97	8,072
8 Project awareness	0	3,799	243	4,367	149	4,363	64	5,765	86	7,986
9 Answer speed	196	3,603	229	4,138	227	4,136	305	5,460	411	7,575
10 Age and height change	83	3,520	80	4,058	71	4,065	148	5,312	175	7,400
Final Cleaned Database	**3,520**		**4,058**		**4,065**		**5,312**		**7,400**	

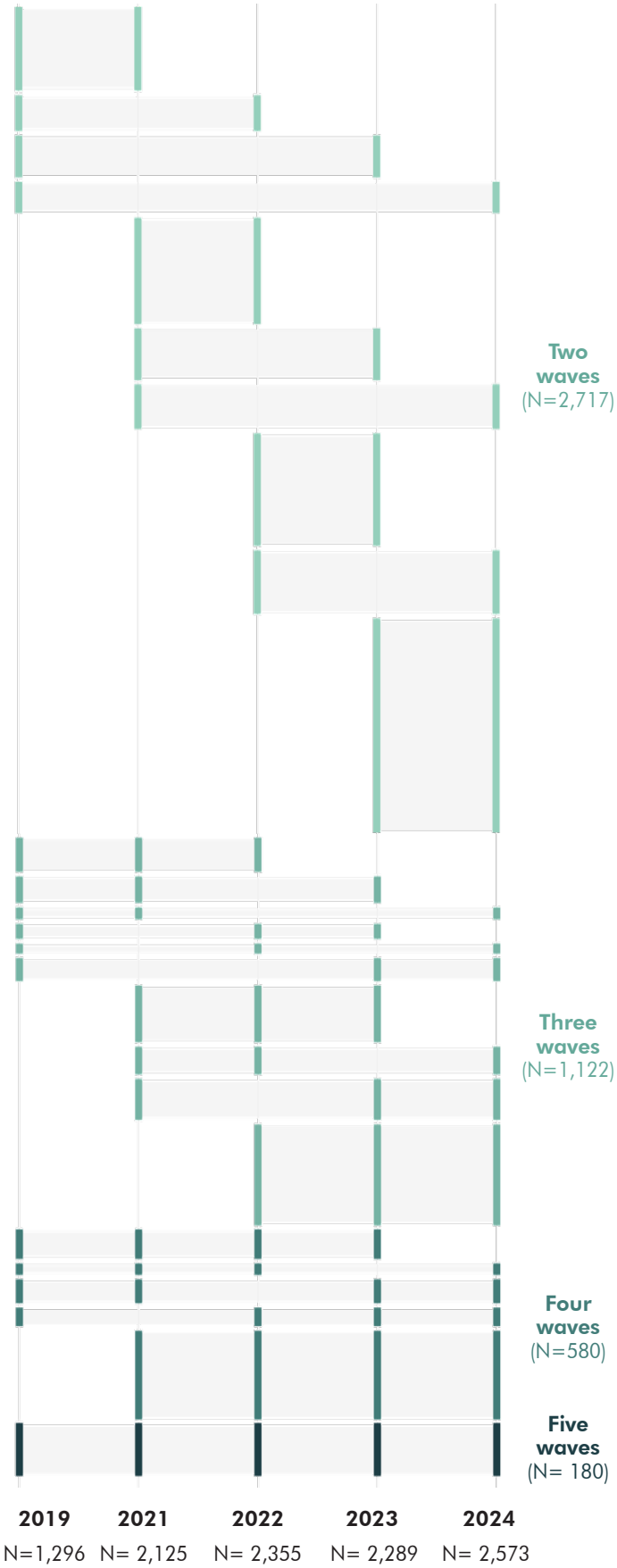


Figure 2.2 Number of valid observations for all panel responses

3 Sample Characteristics

3.1 Demographic characteristics

Across the five waves, the samples' demographic characteristics show a fairly representative distribution of different genders, age groups income brackets, visible-minority statuses, and employment types (Table 3.1) compared with the 2021 population census of the Montréal CMA (Statistics Canada, 2023). Figure 3.1 shows the distribution of the wave 5 sample's home, work, and school locations across Montréal.

Table 3.1 Demographic characteristics for the four waves compared with Montréal CMA census

		Wave 1 (2019)	Wave 2 (2021)	Wave 3 (2022)	Wave 4 (2023)	Wave 5 (2024)	Montréal CMA
Total N		3,533	4,063	4,065	5,312	7,428	4,291,635*
Gender	Man	45.29%	59.54%	52.72%	46.03%	44.59%	49.04%
	Woman	53.13%	38.35%	45.66%	51.17%	52.13%	50.96%
	Other	1.59%	2.12%	1.62%	2.80%	1.87%	-
Age group	18 to 24	12.62%	5.34%	4.23%	9.71%	10.37%	8.14%
	25 to 44	42.17%	36.40%	36.21%	34.96%	37.40%	27.70%
	45 to 64	33.17%	38.08%	39.11%	35.94%	34.50%	26.17%
	65 to 74	9.65%	15.65%	15.65%	14.91%	13.54%	9.90%
	75 and over	2.38%	4.53%	4.80%	4.48%	4.19%	8.10%
Income bracket (in CAD)	Under $30k	14.89%	9.67%	8.83%	8.13%	6.91%	14.44%
	$30k to $59.9k	27.43%	21.49%	22.61%	21.29%	14.01%	24.20%
	$60k to $89.9k	21.00%	22.08%	21.08%	21.91%	16.22%	20.25%
	$90k to $149.9k	25.73%	29.02%	29.32%	30.06%	25.59%	24.41%
	$150k and over	10.95%	17.75%	18.15%	18.60%	21.53%	16.69%
Migrant status	Non-immigrant	76.37%	76.79%	78.70%	75.96%	74.53%	71.84%
	Immigrant	22.90%	22.45%	20.47%	22.87%	24.11%	28.16%
Visible minority	Visible minority	19.87%	14.15%	14.76%	19.09%	19.80%	27.19%
	Not a visible minority	80.13%	85.85%	85.24%	80.91%	80.20%	72.81%
Work status	Employed	66.52%	63.01%	65.76%	65.85%	68.13%	60.75%
	Unemployed	5.41%	3.67%	2.95%	3.54%	3.37%	5.54%
	Not in the workforce	15.94%	23.41%	23.12%	20.41%	18.00%	33.71%
	Student	16.64%	8.32%	6.45%	12.18%	12.68%	-

*Population of Montréal in 2021 (over 18-years old)

3.2 Sample spatial distribution

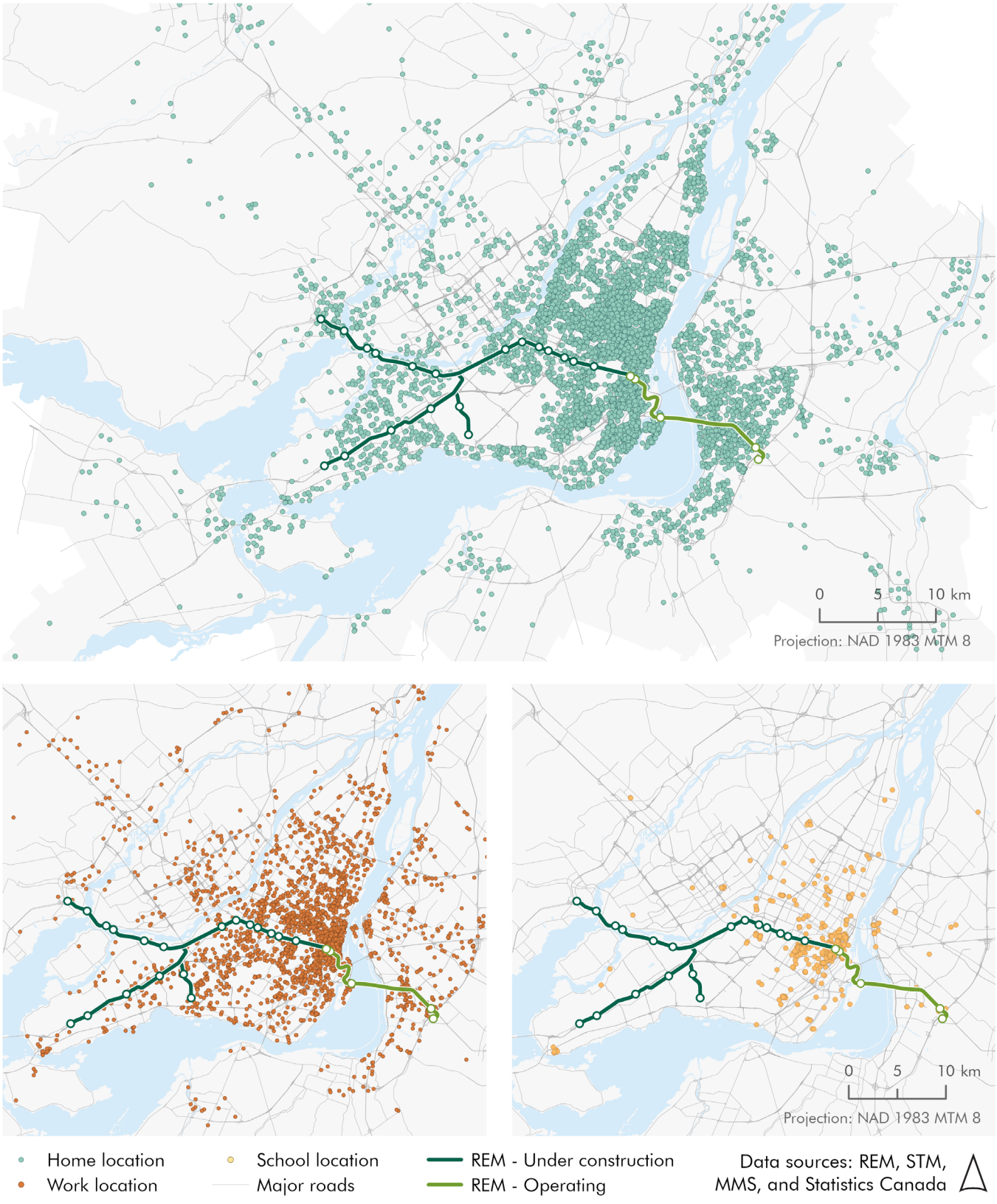


Figure 3.1 Home, work, and school locations of respondents for the fourth wave of the survey

4 Travel Behaviour

4.1 Weekly travel

Across the five waves, participants reported the number of trips performed during the previous week for four purposes (work, school, shopping, and healthcare) and three travel modes (car, transit, and active travel). The average total trip frequency by travel mode is presented in Figure 4.1. Results from 2024 show a slight increase in usage of all transport modes compared to 2023. These changes represent a small recovery from the impacts of COVID-19 on mode shares seen in previous waves.

However, weekly trips still remain lower than 2019: *"I might have had more relevant remarks when I was commuting, but since working from home, which began for me in March 2020 when my last external job closed because of COVID, I use transit a few times a week at most, and I can choose not to use it at rush hour"* (Wave 5 respondent).

Figure 4.2 presents the changes in panel respondents' dominant transport modes from 2023 to 2024 (N= 1,865) for all reported purposes. A respondent's dominant mode is that being used for more than 50% of reported trips. Respondents without a dominant mode were classified as multimodal. To ensure comparability, these results were weighted to match 2023 mode shares to the 2018 Montréal Origin-Destination Survey. Results indicate that in 2024, active modes have increased their share as a dominant mode, whereas driving has slightly receded. These panel results also show that there has been a decrease in transit as a dominant mode in 2024 compared to the last survey wave. A substantial portion of new active and multimodal commuters originated from both transit and car trips.

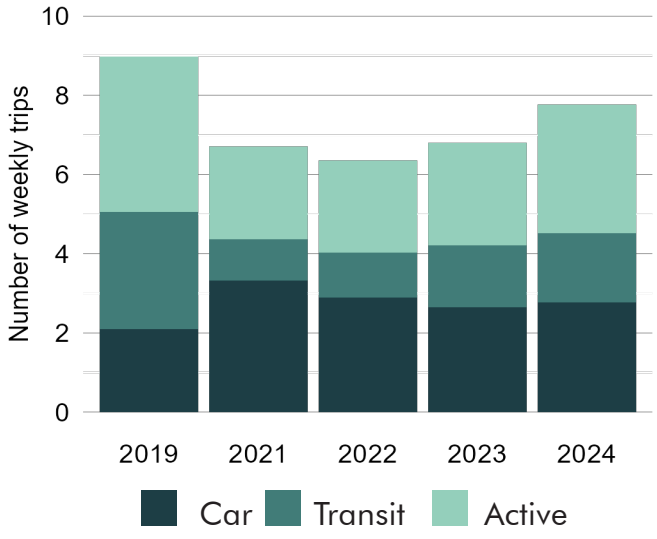


Figure 4.1 Average weekly trip frequency by mode and year

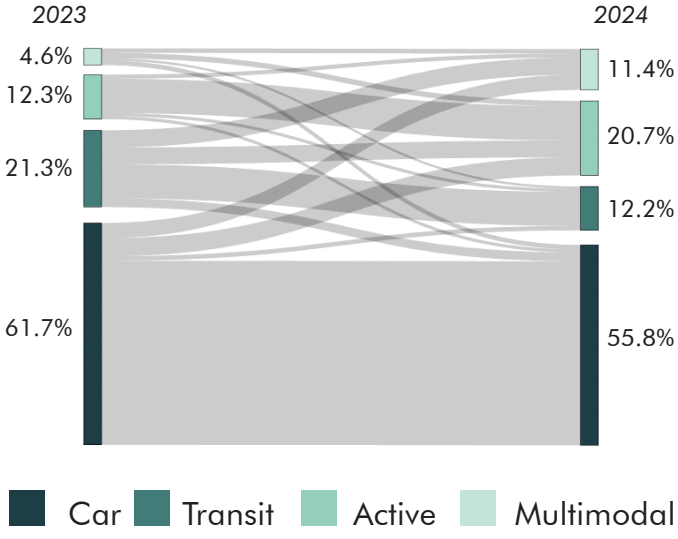


Figure 4.2 Change in dominant modes (N= 1,865)

4.2 Commute modal share

The commute modal share throughout the five waves in comparison with the Montréal CMA (Canadian Census, 2021) is displayed in Figure 4.3. The main mode of travel used to commute to work is presented under four categories: walking, cycling, public transit, and car. For respondents with multiple commute modes, the mode that they travelled the furthest with was considered their main mode. Wave 5 results (2024) show that commute modal shares have remained stable compared to Wave 4 (2023). These results suggest a potential stabilization of post-COVID commuting patterns. Differences remain compared to 2019. The share of commuting by cycling has considerably increased, and public transit remains lower than pre-pandemic levels.

4.3 Telecommuting

The multiple waves of data collected encompass the periods before (2019), during (2021), and after (2022, 2023, 2024) the pandemic-related travel restrictions. This provides an opportunity for studying changes in the frequency of telecommuting (working from home) and hybrid work (a combination of workplace and remote working). Figure 4.4 shows the share of workers in each survey year by their weekly frequency of telecommuting. The popularity of telecommuting increased drastically after the first wave of the survey (2019) due to the pandemic. This popularity has overall remained consistent, as results show that people not telecommuting have maintained a share of 40% from 2021 to 2024. However, telecommuting patterns in terms of weekly frequency have changed between 2021 and 2024. Whereas telecommuting five days per week was the most common telecommuting pattern in 2021, in following years a hybrid schedule has become increasingly more frequent.

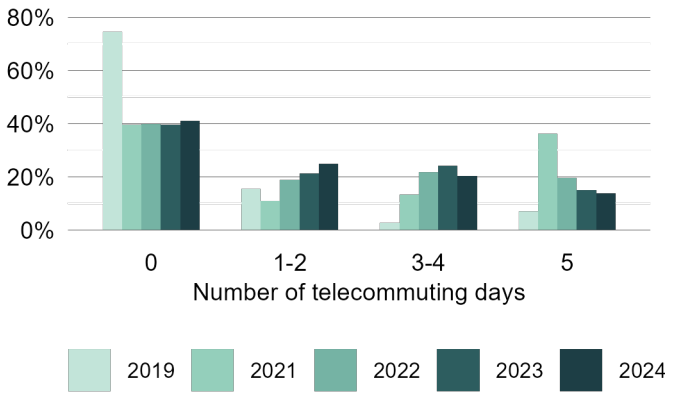


Figure 4.4 Share of workers by telecommuting frequency

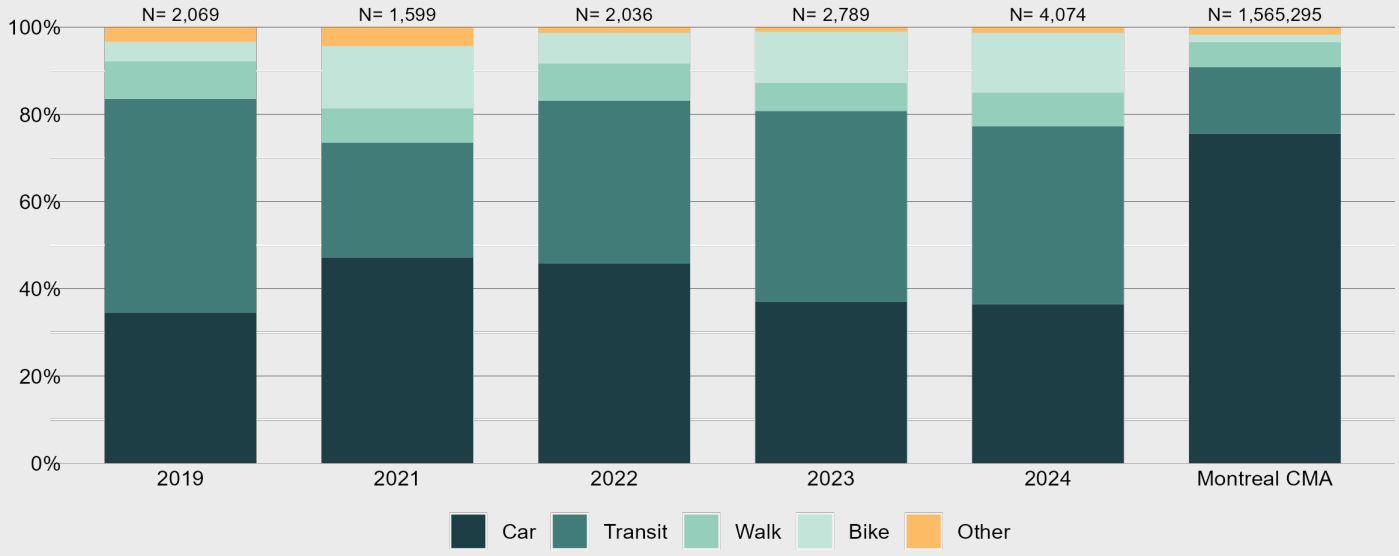


Figure 4.3 Commute modal share

5 Intention to Use

5.1 Intention to use the REM by mode

In the first three waves, all participants were asked about their intention to use the REM. In contrast, waves four and five limited this question to irregular and non-users (i.e., those using the REM once a month or less). To maintain consistency, respondents whose primary residence was in the South Shore (where regular users are concentrated) were excluded from this analysis. Intention to use the REM declined by seven percentage points between waves one and three. This was followed by a three-point increase between waves three and four, then a five-point drop between waves four and five.

To further analyze intention, results were disaggregated by proximity to REM stations (using 1.2 km as a threshold for walkable access [17]) and by dominant travel mode. Participants were grouped as either car-dominant (over 50% of weekly trips by car) or sustainable transport users (over 50% by public or active modes). Across both mode groups, individuals living within 1.2 km of a REM station were more likely to report positive intentions to use the service than those living farther away (Figure 5.1). Notably, proximity appeared to matter more than travel behaviour. Car-dominant users living within 1.2 km were more likely to intend to use the REM than sustainable-transport users living farther away. However, wave five showed a reversal of prior trends: intention among nearby car-dominant users declined, while intention among nearby sustainable transport users remained stable since wave three.

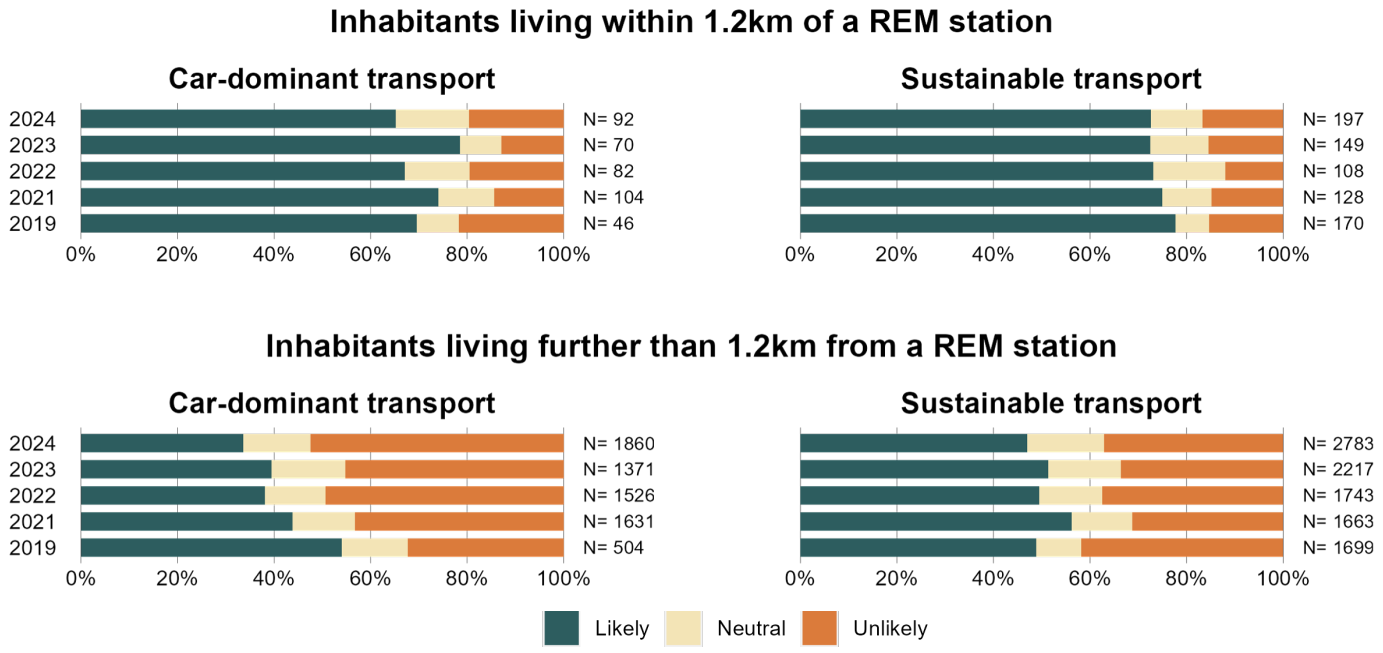


Figure 5.1 Intention to use the REM by current travel behaviour

5.2 Intention to use the REM by purpose of travel

The survey asked respondents about the specific purposes for which they intended to use the REM, including work, school, shopping, leisure, and airport trips. Across all waves, leisure and airport travel consistently emerged as the most cited purposes (Figures 5.2 and 5.3), with little variation since wave two. In contrast, intentions to use the REM for commuting to work or school declined across the first three waves. Wave five showed a modest rebound in work-related intentions, regardless of distance to the nearest station. Shopping-related intentions exhibited the most notable shift. In wave four, among those living within 1.2 km of a station, the share of respondents intending to use the REM for shopping increased by 10 %, followed by a further 3% increase in wave five. Among those living farther away, shopping intentions rose by 20 % between waves three and four, before a slight 4% decline in wave five.

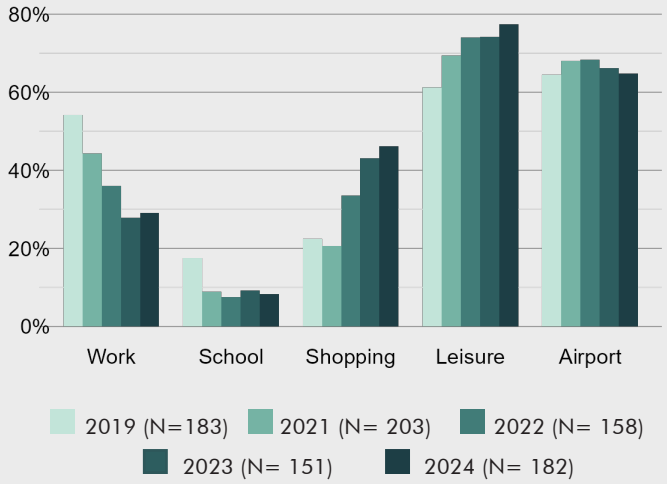


Figure 5.2 Intentions to use the REM by purpose of travel for respondents living within 1.2km of a REM station

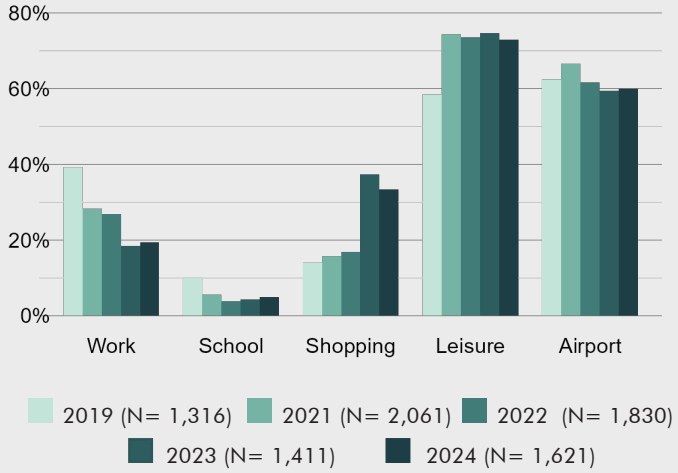


Figure 5.3 Intentions to use the REM by purpose of travel for respondents living further than 1.2km from a REM station

5.3 Intention to use the REM by gender

Intentions to use the REM were examined by gender to explore potential differences between men and women. As highlighted in a previous REM report [1], a consistent gap has persisted: across all five waves, women were 6–9 % less likely than men to report an intention to use the light-rail system (Figure 5.4). However, this gap has been gradually narrowing.

Between waves four and five, intentions declined slightly, by 6% among men and 3% among women. Now that several REM stations have been operational for over a year, these stated intentions can be compared with usage. Such comparisons may help identify social factors that contribute to differences in how men and women adopt and perceive the REM.

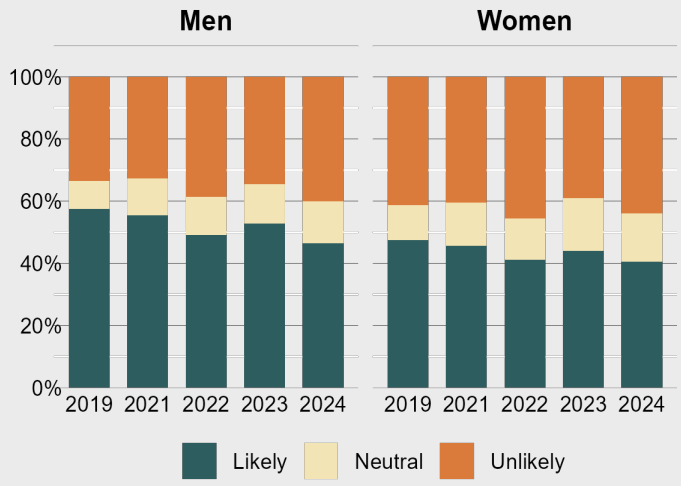


Figure 5.4 Intention to use the REM by gender

6 South Shore REM Use

6.1 Who is using the REM

The fifth wave of the survey, conducted about a year after the opening of the REM's first branch, provides insights into how REM usage and travel behaviour have evolved over time. Compared to the fourth wave, collected just a few months after opening, this wave captures shifts in ridership patterns. Respondents were categorized by REM usage: those who used it more than once, only once, or never (Figure 6.1). Most frequent users

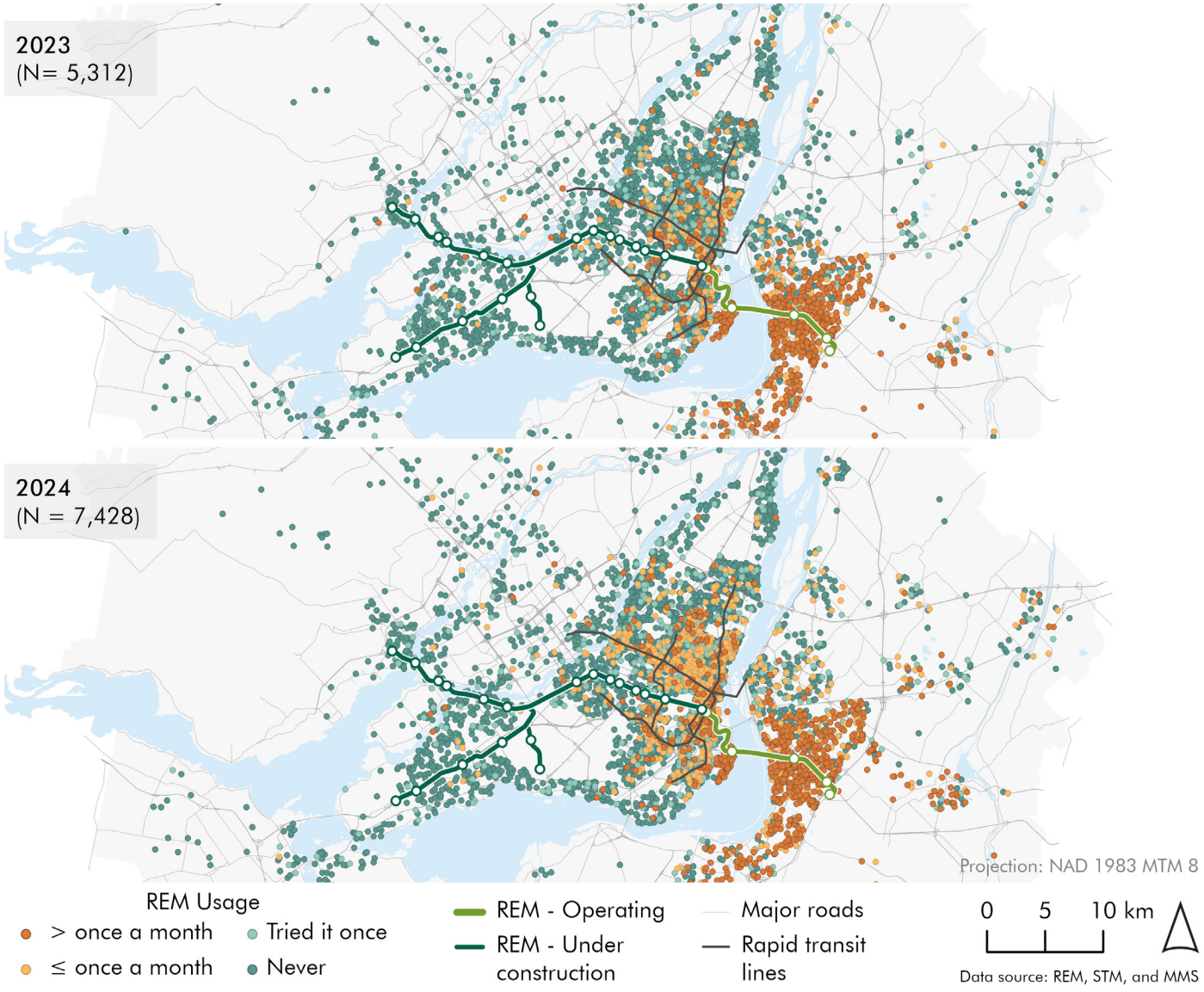


Figure 6.1 Distribution of the sample's home location by frequency of REM use (2023 vs 2024)

continue to be concentrated near the currently operational section linking Downtown Montréal to the South Shore. However, over the past year, occasional use of the REM has more than doubled among those living near metro lines on the island, indicating a growing but still infrequent integration of the REM into their travel routines.

An important dimension of REM ridership is gender. Prior to the opening of the South Shore branch, a study by the TRAM team about gendered mobilities found that men were significantly more likely than women to express an intention to use the REM [18]. This may be due to safety concerns that certain women may hold about public transportation: *"My only concerns have to do with it being a fully autonomous system. As a woman, I tend to feel safer if there's a driver who can help me if needed. What precautionary measures does the REM have?"* (Wave 5 respondent).

However, one year into operation, survey results show that actual usage is now fairly evenly split between men and women (Figure 6.2). Panel responses provide further insight into how these initial intentions translated into behaviour. As shown in Figure 6.3, 14% of men living on the South Shore who had expressed an intention to use the REM did not follow through compared to only 9% of women. Conversely, 27% of men who had not intended to use the REM ended up doing so, while the share was even higher among women, at 36%. These findings suggest that women adopted the REM despite their initial hesitation.

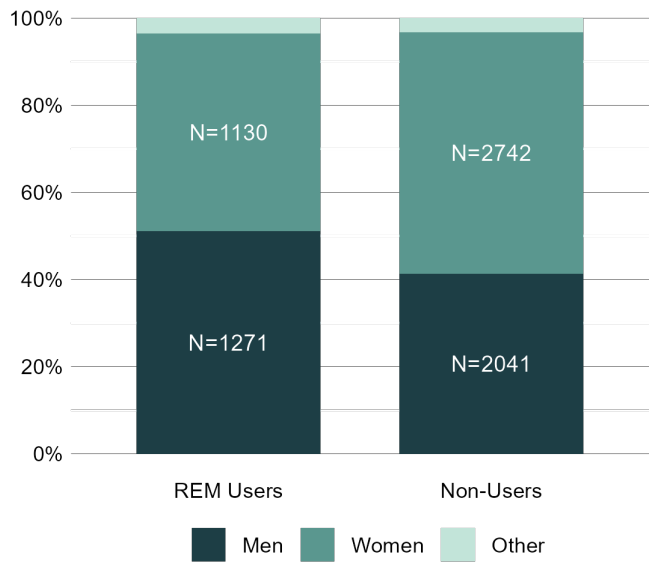


Figure 6.2 REM use by gender

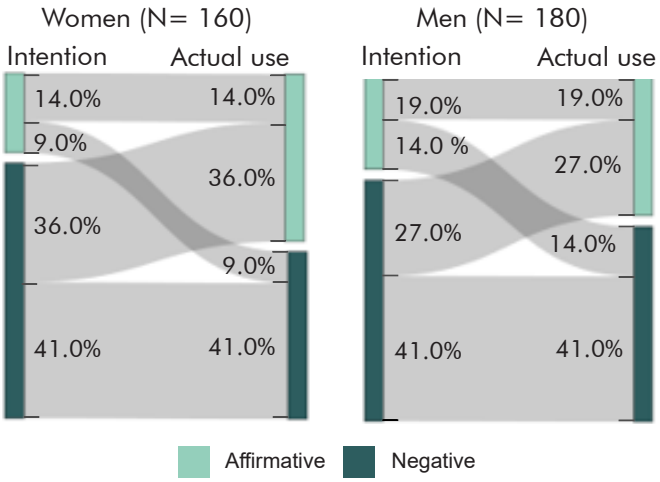


Figure 6.3 Intention (2019,2021 or 2022) and actual use (2023 or 2024) of REM in the South Shore

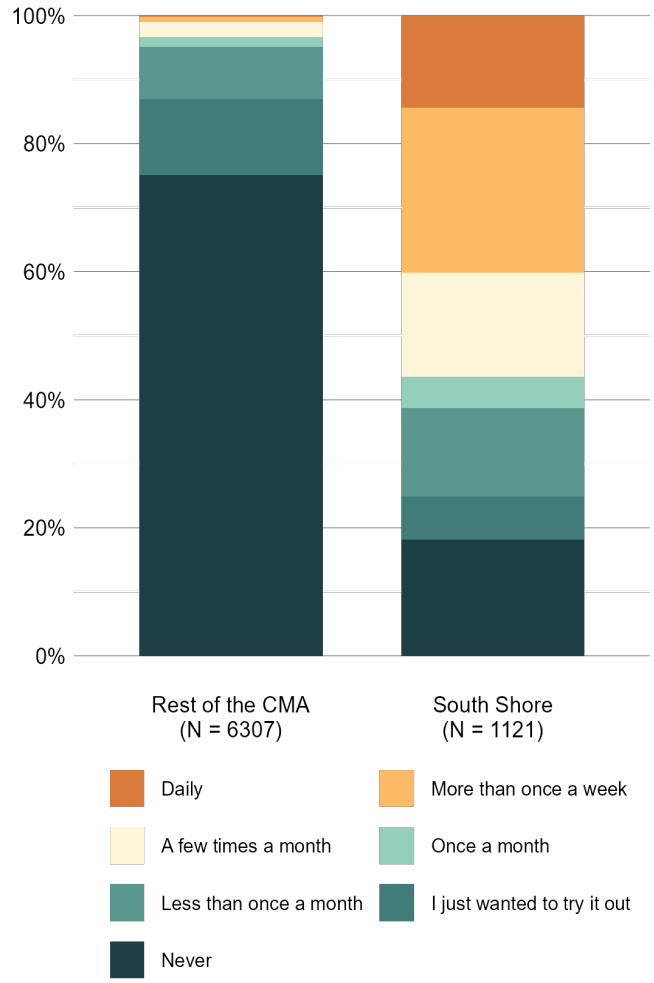


Figure 6.4 Frequency of REM use in the South Shore (right) and in the rest of the Montreal CMA (left)

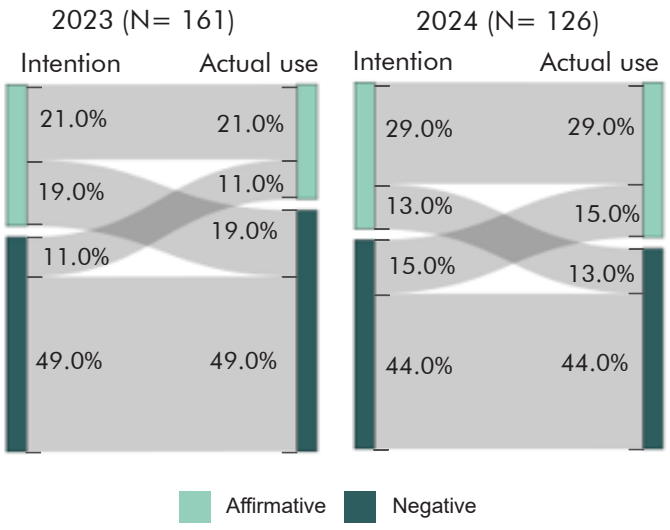


Figure 6.5 Intention vs usage regarding the REM (2023 and 2024)

6.2 Travel frequency and purpose

REM ridership data offers valuable insight into the system's effectiveness in reaching and serving nearby populations during its first year of operation. To assess usage patterns, survey participants were asked how frequently they currently use the REM for any purpose, whether for commuting, shopping, leisure, or other activities. For analytical clarity, responses were segmented by home location into two groups: residents of the South Shore and those living in the rest of the Montréal Census Metropolitan Area (CMA) (Figure 6.4).

Among respondents living outside the South Shore, regular use of the REM remains limited, with approximately 75% indicating they had never used the system. In contrast, REM adoption was significantly higher among South Shore residents: 56% reported using the REM regularly (a few times a month or more), and fewer than 20% had never used it, one year after the service began.

Encouragingly, the share of South Shore respondents who had initially expressed the intention to use the REM but had not yet done so decreased from 19% in 2023 to 13% in 2024 (Figure 6.5). This narrowing gap between intention and behaviour suggests a gradual transition from interest to actual ridership. These trends underscore the importance of physical proximity, ease of access, and exposure in adopting new transit infrastructures, particularly in areas directly served by the system.

In addition to frequency of use, participants were also asked about the specific purposes for which they used the REM (Figure 6.6). In 2023, the most commonly reported trip purposes among South Shore respondents were work (33%) and recreation (31%). Fewer respondents indicated using the REM for school (14%), visiting family and friends (13%), shopping (13%), or healthcare (7%). By 2024, usage increased across all trip purposes. Notably, recreational travel became the most cited reason for using the REM (46%), surpassing work-related travel, which increased

slightly being reported by 37% of the sample suggesting a diversification of REM use beyond commuting. Other significant purposes included shopping (21%), school (17%), visiting family and friends (17%), and healthcare (12%), pointing to the REM's growing role in supporting a wider range of travel needs.

6.3 Commute mode

Participants' main mode of commuting was also examined, with responses segmented by primary home location to assess the extent to which the REM has been integrated into daily travel patterns (Figure 6.7). Given that the REM is currently operational only along the South Shore corridor, it is not surprising that a significantly higher proportion of residents in that area have incorporated it into their regular commute.

Among South Shore respondents, approximately 32% reported using the REM as their main mode of commuting. It should be noted that a non-compete clause prevents other transit modes from competing with the REM. This positions the REM as a major transportation option in the area, second only to private car use, which remains the dominant mode at 46%. In contrast, REM usage as a primary commuting mode remains virtually nonexistent among respondents living outside the South Shore. Fewer than 1% of participants in the rest of the Montréal CMA reported the REM as their main mode, underscoring the limited geographic reach of the current operational segment.

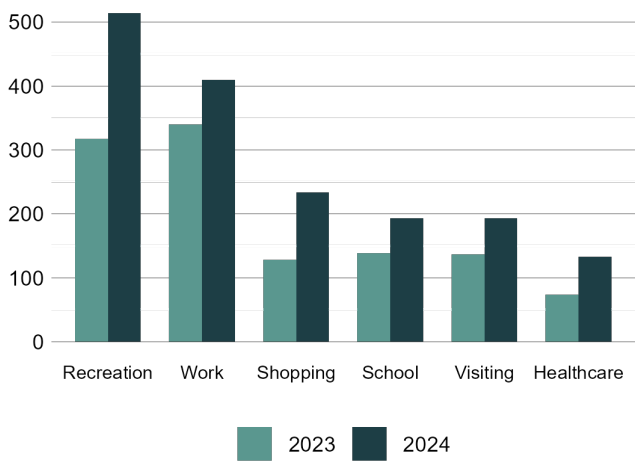


Figure 6.6 Purposes for which South Shore REM was used

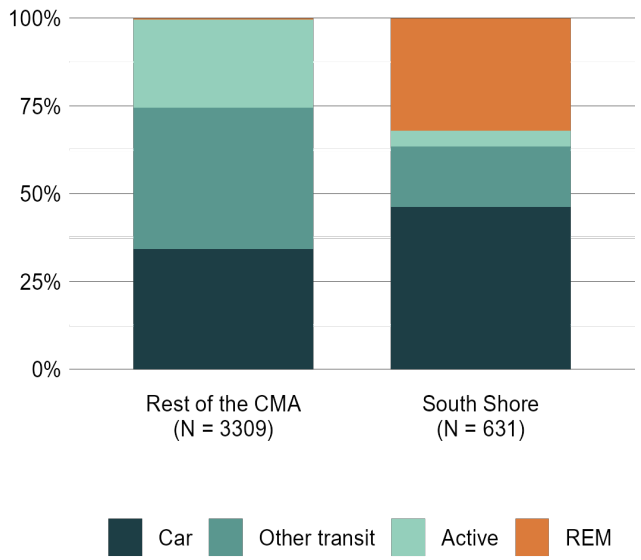
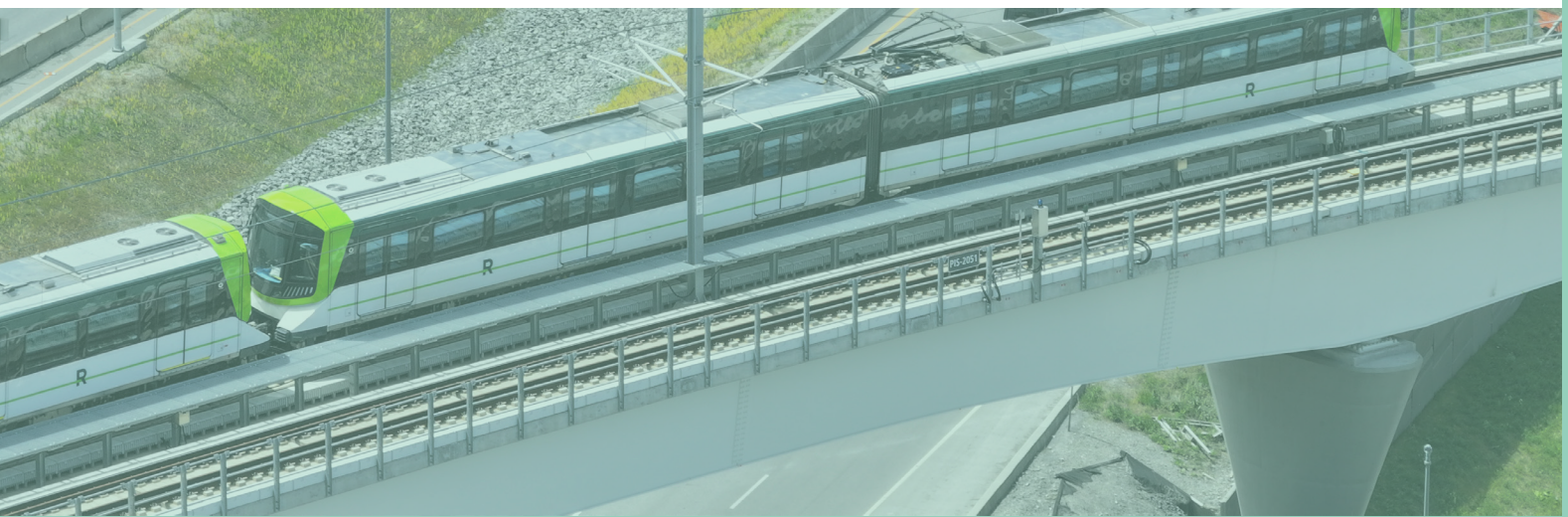


Figure 6.7 Main commute mode in the South Shore (right) and the rest of the Montreal CMA (left)



6.4 Likelihood of future use

Intentions to use the REM in the future were analyzed based on participants' current usage patterns (Figure 6.8). The results show a clear relationship between past use and future intention: more frequent users are more likely to continue using the service. Among regular REM users, approximately 89% reported that they were likely to keep using it. A similarly high share—around 82%—of irregular users also expressed positive intentions to use the REM in the future. In contrast, among those who have never used the REM, fewer than half indicated that they intended to do so.

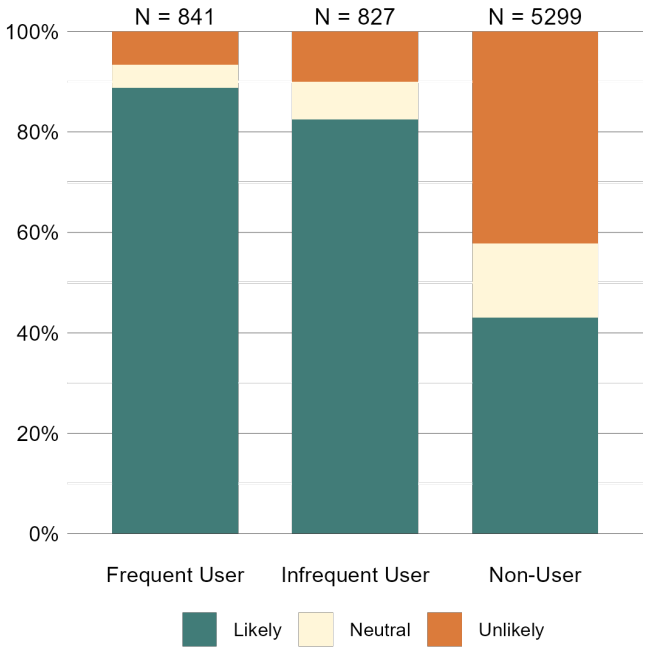


Figure 6.8 Intentions of using the REM in the future by current use

6.5 Willingness to recommend

The willingness of participants to recommend the REM offers a broader perspective on how the service is perceived across the Montréal region, serving as a proxy for overall satisfaction and public endorsement. This measure was analyzed over time and segmented by frequency of use, distinguishing between frequent riders, infrequent riders, and non-users (Figure 6.9).

Among frequent users, willingness to recommend the service increased modestly from 76% in 2023 to 80% in 2024. This suggests growing satisfaction among those most familiar with the system's performance. A similar upward trend was observed among infrequent users, whose willingness to recommend rose from 80% to 83% over the same period.

In contrast, non-users showed a slight decline in endorsement, with the share willing to recommend the REM dropping from 47% in 2023 to 45% in 2024. These findings highlight a consistent pattern: individuals with direct experience using the REM tend to view it more favorably over time, while those who have not yet used it remain more reserved in their evaluations, possibly due to a lack of familiarity or skepticism about its benefits.

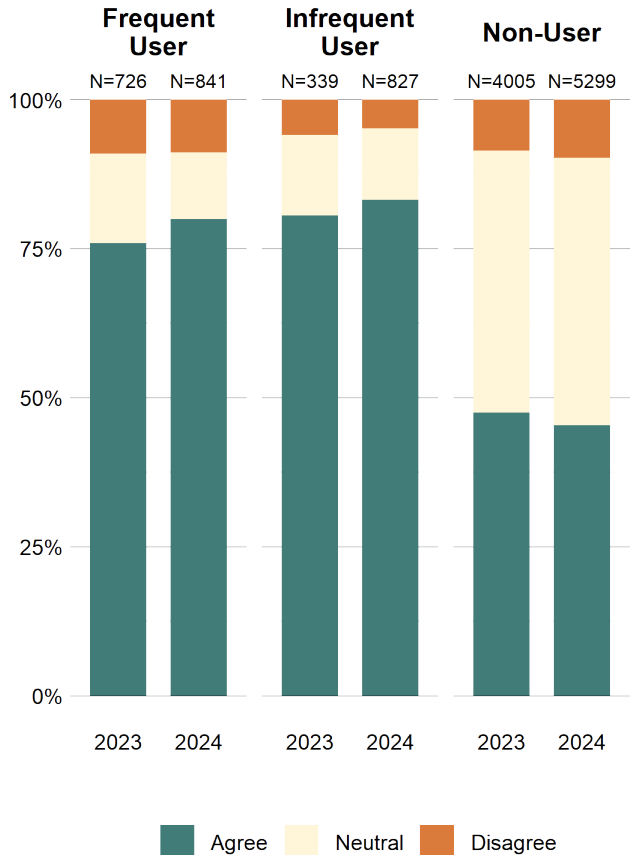


Figure 6.9 Willingness to recommend REM services (2023 and 2024)

6.6 Satisfaction with service

Satisfaction with REM services was analyzed over time based on respondents' frequency of use, offering insight into how different user groups evaluate the system (Figure 6.10). During the first full year of operation, a modest increase in overall satisfaction was observed among both frequent and infrequent users. Across the entire sample, the proportion of satisfied users rose from approximately 74% in 2023 to 76% in 2024, indicating a gradual improvement in public perceptions as the system matured.

Notably, infrequent users consistently reported slightly higher satisfaction levels than frequent users. Among this group, satisfaction increased from 78% to 79%, suggesting that occasional users may experience fewer disruptions or hold more forgiving expectations of the service. In comparison, satisfaction among frequent users also improved, though at a slightly lower baseline. Similarly, belief that the REM was beneficial for the Greater Montreal remained above 75% from 2019 to 2024 (Figure 6.11).

Conversely, satisfaction levels are significantly lower when users are asked about the replacement bus shuttle service deployed during periods of REM interruption. The substitute shuttle service—intended to maintain connectivity during planned or unplanned disruptions—was met with significantly more critical feedback than the REM itself.

According to survey results, approximately 65% of frequent users reported being dissatisfied with the shuttle service. Among infrequent users, dissatisfaction was even more pronounced, reaching 79% (Figure 6.12). This may point to the particularly disruptive nature of the replacement service for occasional riders, who may be less familiar with alternative routes or more sensitive to unexpected delays.

These findings suggest that while public perception of the REM itself remains broadly positive and continues to improve over time, there is a significant gap in how users experience service continuity during disruptions underscoring the need of providing reliable alternatives.

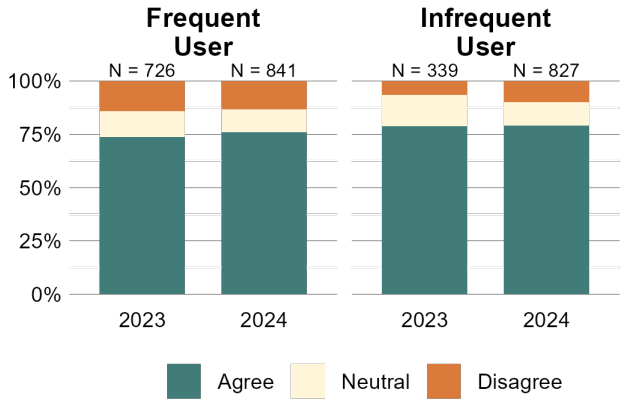


Figure 6.10 Satisfaction with REM services (2023 and 2024)

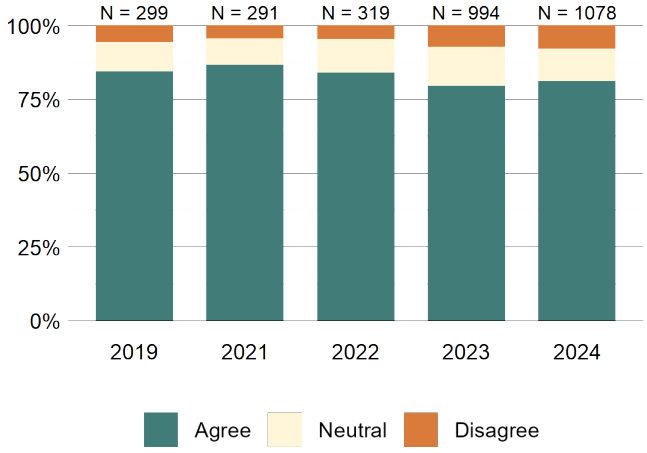


Figure 6.11 Belief that the REM is a beneficial project for the Greater Montreal

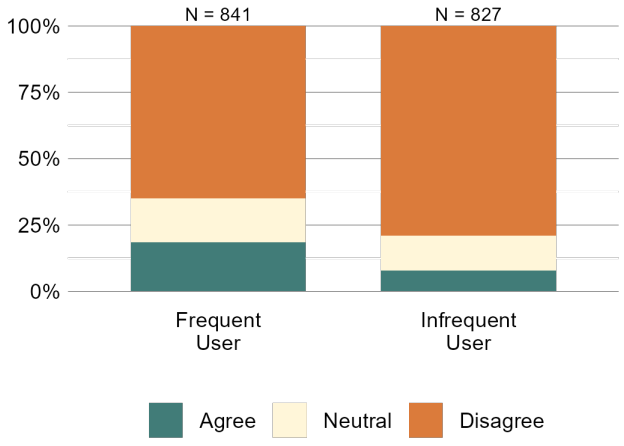


Figure 6.12 Satisfaction with replacement bus service (2024)

7 REM, Health, and Quality of Life

7.1 Commute choices

Relevant factors influencing choice of commuting mode were identified, illustrating the importance of health and quality of life in decision-making processes. Commuters were asked to select which of the following were important in deciding to use their main work-related travel mode: "My physical and/or mental health," "It is better for the environment than other modes," "It is cheaper for me than other modes," "I have a shorter travel time than with other modes," "I am more comfortable using this mode to travel than when using other modes," and "Other modes don't go where I need to go."

Figure 7.1 displays the proportion of respondents that identified a given factor as important to their decision to take their chosen mode of travel. REM users largely identified shorter travel times (50%) as an important factor behind their decision , with respondents highlighting its efficacy: *"The REM allows us to get from the South Shore of Montreal to downtown quicker than the previous bus system, especially during rush hour…"* (Wave 5 respondent).

Four factors were reported as having similar importance levels: affordability (31%), destination connectivity (27%), environmental friendliness (25%) and comfort (33%), with the latter showing the largest increase across waves, up from 22% in 2023. Physical and mental health were not found to be a primary factor influencing REM users' modal choices. Only 17% of REM commuters selected it for health-related factors while larger proportions of other transit commuters (24%) attributed 'importance to this factor. The low importance of health factors among REM users contrasts most significantly with active travellers, with 86% of cyclists and 66% of walkers considering physical and mental health in their mode choices.

7.2 Satisfaction with health

Respondents were asked about their satisfaction with their health on a scale from completely unsatisfied (0) to completely satisfied (10). Figure 7.2 explores differences in health satisfaction between REM commuters and those using other modes of travel. Although health was not found to be a primary factor influencing REM users' modal choices, this group was among the most satisfied with their health on average, second only to bike users.

7.3 Quality of life

REM users were asked whether the REM positively impacts their life (Figure 7.3) in order to assess how quality of life varies with usage frequency. Results reveal the highest level of agreement was among respondents who use the REM once a month, whereas those using the REM less than once a month had the lowest levels. Interestingly, those using the REM between a few times a month and daily report lower positive impact on quality of life than those using it only once a month. This agreement gap may point to a need for further attention towards more frequent users, as increasing REM usage yields diminishing returns on quality of life.

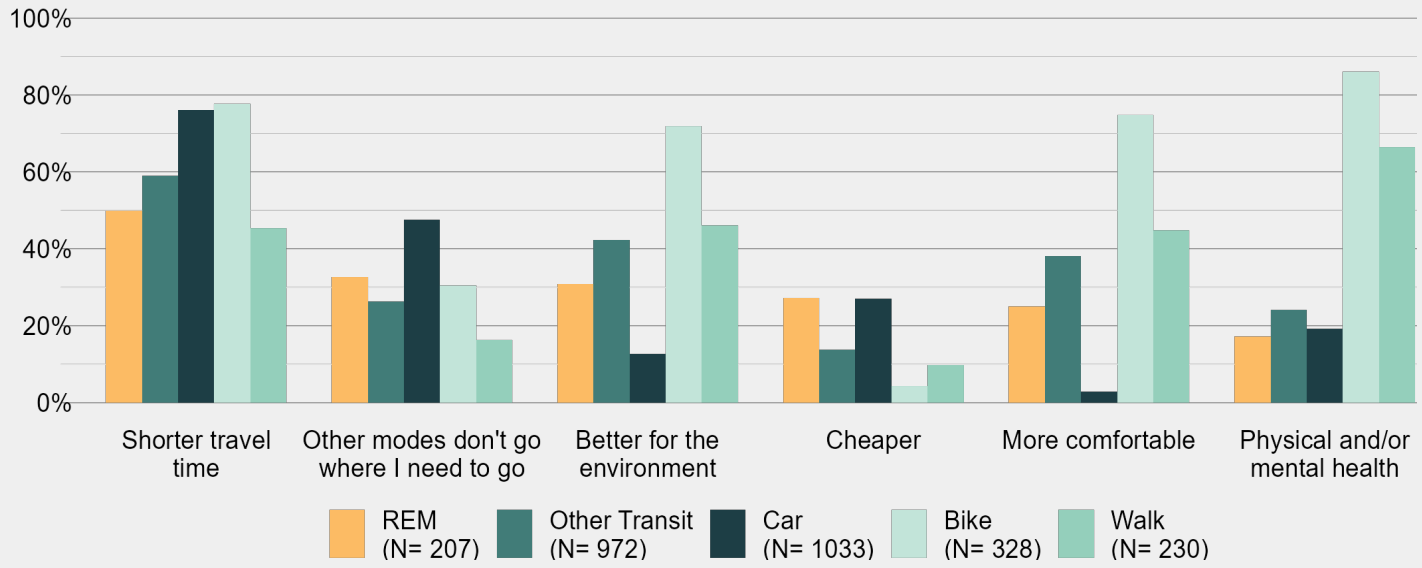


Figure 7.1 Important factors for deciding commute mode

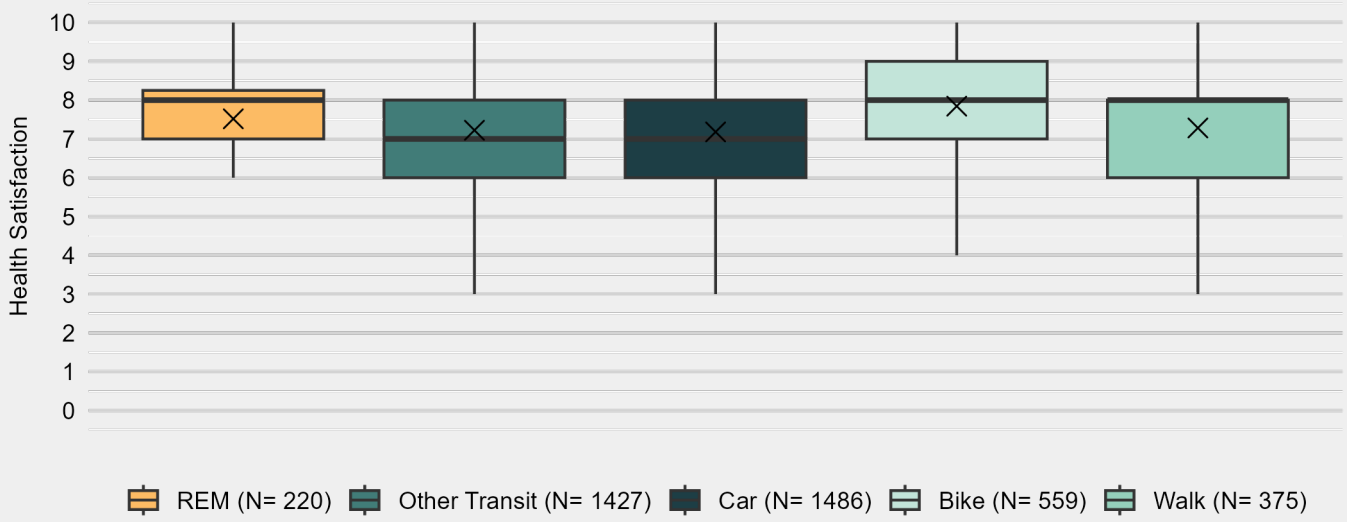


Figure 7.2 Health satisfaction rates among different commute modes

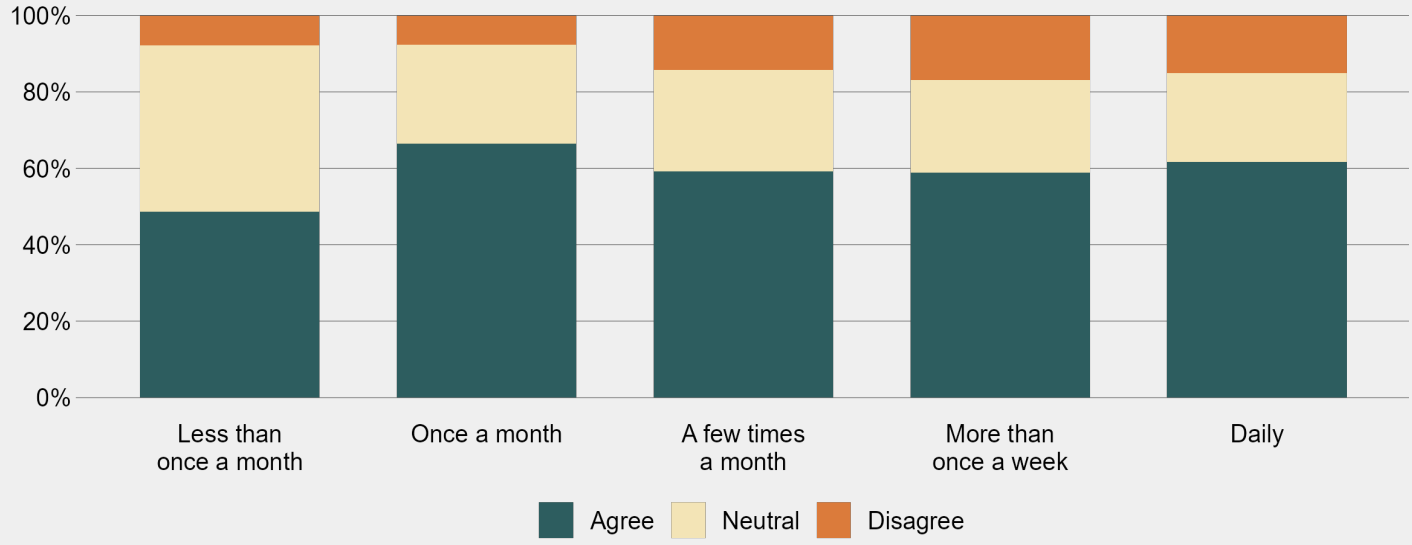


Figure 7.3 Positive impact of the REM on quality of life by frequency of use

7.4 Workplace impacts

Respondents in wave 5 were asked to report how their commute mode impacted their workplace performance (Figure 7.4). Over 40% of REM and Metro users claimed that their energy levels at work were positively affected by their commute. Bus users followed closely behind, with only 32% of bus riders expressing that their commute was beneficial for their workplace energy levels. Only 12% of REM users reported that their commute had a negative effect on their energy levels at work.

Respondents were also asked about the effect their commute mode had on their punctuality at work. 58% of participants commuting via the REM reported that their mode of commuting had a “very positive” or “positive” effect on their punctuality, followed by metro (50%) and bus riders (35%). Over 25% of bus users report that their mode of transport "very negatively" or "negatively" affects their punctuality. Commute mode was found to have a minimal influence on productivity at work, with over 55% of respondents saying their commute has "no impact" on their workplace productivity, regardless of commute mode.

7.5 Rider well–being

In addition to being asked about the effect of commuting on their energy, productivity and punctuality at work, participants were asked to report the impact of commuting via bus, metro or the REM on their life in general and their mental and physical health (Figure 7.5). The metro is reported to be the most beneficial to its users’ quality of life in comparison to the REM and the metro. Over 50% of metro and REM users reported that their commute impacted their lives either "very positively" or "positively". Results indicated that the bus had the least positive effect on a user's life, with nearly 25% of users indicating that the mode of transport affected their lives "negatively".

The REM and metro have the most positive impact on their riders' mental health, with 47% and 41% of riders, respectively, reporting that their commute has a "very positive" or "positive" effect on their mental health. This stands in contrast with bus riders, where only 35.7% of users reported their mode affecting their mental health "positively" or "very positively". Around 20% of respondents reported that their commute affects their life in a "negative" or "very negative" way. This indicates a potential mental health vulnerability among bus riders.

Users of all three modes reported their primary mode of commuting as very positively or positively impacting their physical health more so than their mental health, with approximately 50% of the bus, metro and the REM reporting that their commute mode impacts their physical health very positively or positively. Riders across all three modes reported that their commutes had similar impacts on their lives in general, with around 50% of respondents indicating that their commute affects their lives in a positive or very positive manner, although this remains higher for metro and REM users.

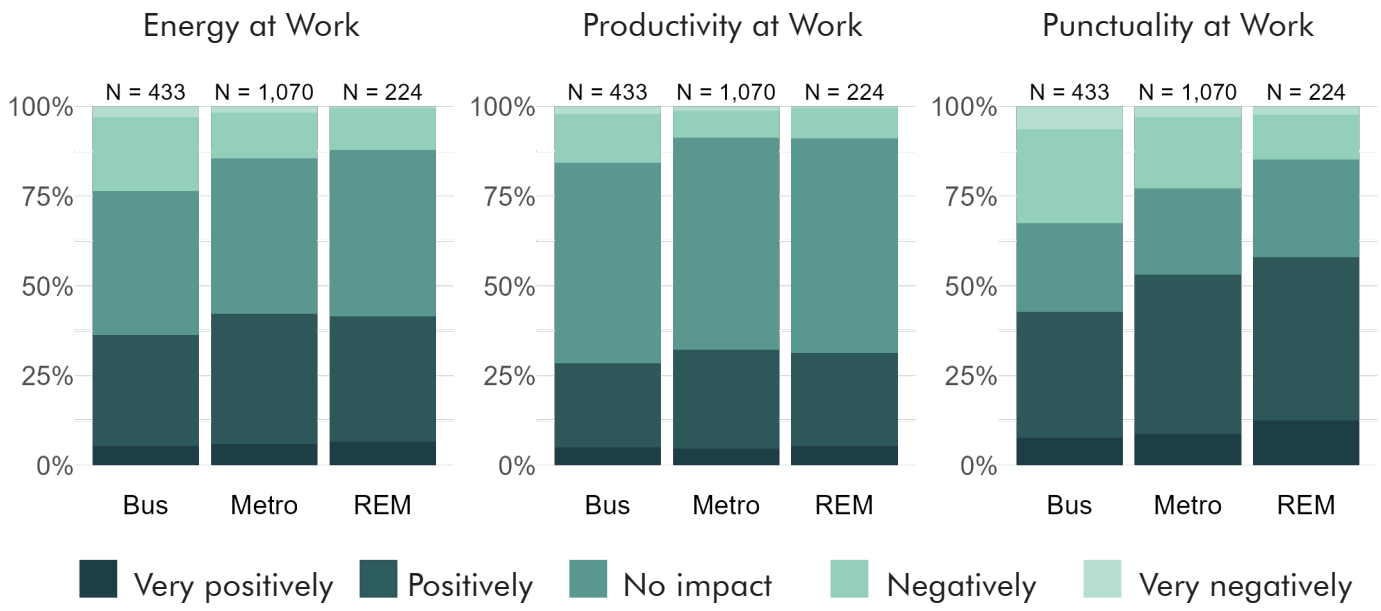


Figure 7.4 Effect of the REM compared to the bus and metro on energy, productivity, and punctuality at work

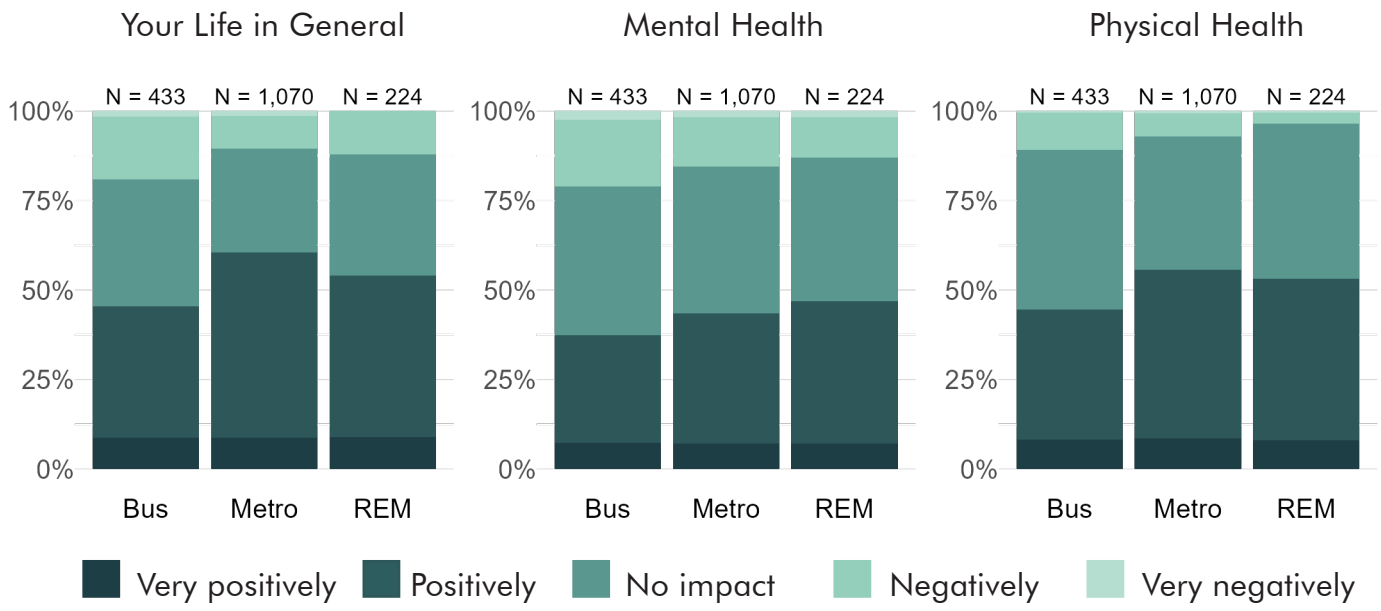


Figure 7.5 Effect of the REM compared to the bus and metro on respondents' life in general and their physical and mental health

8 Conclusion

The construction and opening of the REM represent a generational opportunity to examine the relationship between large scale public-transit projects and a variety of societal outcomes. To provide a comprehensive understanding of the impacts of this public-transport investment, this report has presented the results of a multi-wave data-collection process, including five waves of surveys collected between 2019 and 2024. Overall, the samples from wave one (N= 3,520), wave two (N= 4,058), wave three (N= 4,065), wave four (N= 5,312), and wave 5 (N = 7,400), were found to be representative of the targeted population, with a slight underrepresentation of lower-income households.

The analyses shown in this report focused on multiple dimensions, including the impacts of the REM on travel patterns, health satisfaction, and quality of life. The findings related to the different themes covered in the five waves of the survey and the panel dataset have allowed for significant comparisons. For instance, in terms of general travel behaviour, results from the fifth wave illustrate a sustained recovery for sustainable mobility after the repercussions of COVID-19. More importantly, results from wave five provided insights one year after the opening of the REM branch connecting Montréal's Downtown to the South Shore, including its prominance among commuters in the region.

The following wave of data collection in Fall 2025 and its analysis in 2026 will allow for the continuation of this comprehensive assessment of the impacts of the REM on health, wellbeing, travel behaviour, and social-equity outcomes. This next phase will provide valuable longitudinal insights into how these outcomes evolve as the network expands and matures.

We hope that the lessons learned from this study and future research will not only be applicable to projects of similar scale, but also to smaller ones that aim to create healthier environments and a more resilient and equitable future.

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Please visit the REM page on the TRAM website to view the full survey

Réseau express métropolitain (REM)
Progress Report: 2019–2024

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