

2021 MICHIGAN DOT ATTITUDES AND PERCEPTIONS SURVEY: FINAL REPORT



November 2021

Prepared for Michigan Department of
Transportation (MDOT)

 **RSG**
the science of insight

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EXECUTIVE SUMMARY

The **Michigan Attitudes and Perceptions (A&P) Survey** has been conducted on a regular basis since 2006 to provide the Michigan Department of Transportation (MDOT) with current information on residents' opinions about the state's transportation system and support MDOT's statewide long-range transportation plan. Like previous surveys, the 2021 survey focused on topics including the quality of transportation facilities, services, and infrastructure throughout Michigan. The 2021 survey also integrated key questions to help MDOT understand how COVID-19 has impacted travel over the past 18 months and how it may be impacted in the future as travel returns to a steady state.

The 2021 Michigan A&P Survey leveraged several key methodology elements:

- **Three-Wave Structure:** Unlike previous surveys, the 2021 survey was designed to collect data in May, July, and September of 2021 to monitor changes in COVID-19 related travel behavior over time. Participation was split roughly equally across the three waves.
- **Tailored Questionnaire:** The survey questionnaire included many of the same attitudes and perceptions questions as previous years to maintain analytical consistency while adding tailored COVID-19 questions to help MDOT understand current and future impacts on travel in Michigan.
- **Online Survey Instrument:** The 2021 survey collected data through an online survey instrument to achieve high quality, consistent data within a user-friendly format, which was accessible by desktop, tablet, or mobile device.
- **Dual-Method Sampling Approach:** The survey sampling plan included both probability (address-based sample, or ABS) and non-probability (online panel) sampling methods to optimize sample size and provide flexibility to adjust sample targets between waves.
- **Demographic and Geographic Survey Weighting:** Following data collection, the survey data was weighted to fit regional and demographic targets, including gender, income, employment status and age. This approach applied current best practices in weighting while also aligning with previous years' weighting approach to improve comparability in analysis across survey years.

Through these methods, the survey team was able to collect 5,074 total responses, exceeding the 4,200-response target by more than 20 percent. Key highlights in the resulting data include:

- Forty-one percent of residents perceive the quality of Michigan transportation as the same as three years ago.

- Thirty percent of residents get transportation information from social media. Only 20 percent reported the same in 2019.
- As in 2019, residents believe road maintenance is the highest priority for MDOT (89 percent in 2021).
- Bus and Taxi / Uber / Lyft modes saw an increase in usage in Michigan between May and July 2021.
- In-restaurant dining increased more than ten percent between May and July 2021 while ordering food for pick up decreased in the same time period.
- Telework frequency remained relatively consistent among employed residents across the study period.
- Forty-four percent of respondents age 18-44 reported interest in purchasing an electric vehicle while only 24 percent of respondents age 45+ reported the same.

Highlights by MDOT region are also included below in Section 5.0.

1.0 SURVEY DESIGN AND METHODOLOGY

Introduction

The **Michigan Attitudes and Perceptions (A&P) Survey** has been conducted on a regular basis since 2006 to provide the Michigan Department of Transportation (MDOT) with current information on residents' opinions about the state's transportation system and support MDOT's statewide long-range transportation plan. Like previous surveys, the 2021 survey focused on topics including the quality of transportation facilities, services, and infrastructure throughout Michigan. The 2021 survey also integrated key questions to help MDOT understand how COVID-19 has impacted travel over the past 18 months and how it may be impacted in the future as travel returns to a steady state.

The 2021 Michigan A&P Survey data collection occurred over three waves in the spring, summer, and early fall of 2021. The survey collected a total of 5,074 responses from 4,758 unique respondents across the three waves.

The survey methodology included five primary components:

- Questionnaire development and programming
- Survey sampling
- Survey administration
- Data preparation and reporting
- MDOT leadership team presentation

These components are outlined in further detail below.

Questionnaire Development and Programming

Throughout March and April 2021, RSG coordinated with MDOT to develop the 2021 A&P survey questionnaire, largely based on previous A&P questionnaires. The 2021 questionnaire focused on topics including the quality of transportation facilities, services, and infrastructure throughout Michigan. The questionnaire also integrated key questions from RSG's COVID-19 Transportation Insights Survey to help MDOT understand how travel has been impacted by COVID-19 and how travel is likely to be impacted in the future.

Once the survey questionnaire was finalized, the survey was programmed into RSG's proprietary online survey platform, rSurvey™, for data collection. This online instrument included a built-in Google translate feature and was optimized for desktop computers, tablets, and mobile phones. The online instrument also included built-in data checks to ensure real-time data consistency and minimize respondent burden. After Wave 1 data collection, RSG

coordinated with MDOT to update the instrument for Wave 2, including clarifying “transportation” for respondents and adding a question about transportation user fees. The Wave 3 questionnaire and instrument expanded the transportation user fee question with the addition of an open-ended text box where respondents could explain their answer.

Survey respondents entered the survey via direct, unique links or by entering a unique password on the survey website (shown below). The survey website also included additional information about the study, answers to frequently asked questions, survey privacy documentation, and information on how to contact the study team.

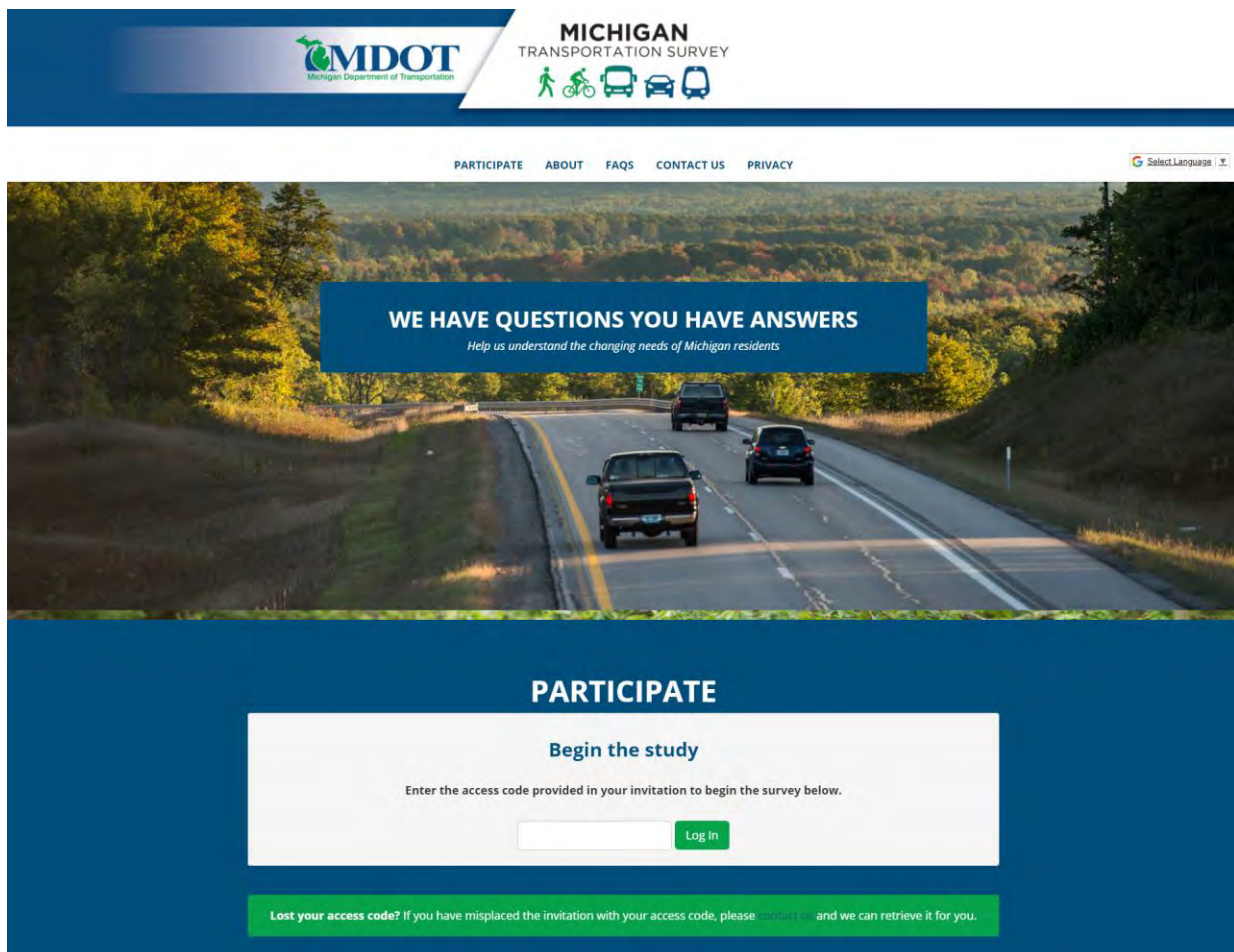


FIGURE 1: MDOT A&P SURVEY WEBSITE

Survey Sampling

Respondents were invited to the survey through two methods – Online panels and address-based sampling (ABS). This mix of sampling approaches was designed to reduce response bias

from either method and allow the study team to efficiently oversample key geographies and demographics while maximizing cost efficiency.

Online Panel Sampling

RSG coordinated with Full Circle Research and Dynata to invite online panel respondents to complete the survey. Waves 1 and 2 included only “new” respondents (i.e., those who had not taken the survey previously) while survey Wave 3 included a mix of both new and repeat participants.

Address-Based Sampling (ABS)

To supplement the online panel sample, RSG also conducted targeted address-based sampling (ABS) for all three survey waves. Additional information and detail about the survey sampling methodology is included in Section 2.0 of this report.

Survey Administration

The Wave 1 survey collected data from April 29 – May 17, the Wave 2 survey collected data from July 6 – August 3, and the Wave 3 survey collected data from September 7 – October 5. Online panel respondents were invited to the survey via direct links from the panel provider. Upon completing the survey, panel respondents were directed back to the online panel companies’ platforms and paid a small incentive (through the provider). ABS respondents were invited to the survey using a mailed invitation postcard with a link to the survey and a unique access code for entry. RSG and MDOT collaboratively developed the invitation postcard to match the survey branding and encourage participation (see Figure 2 and Figure 3). Upon completing the survey, ABS respondents were sent a \$10 Visa e-card as thanks for their participation.



FIGURE 2: INVITATION POSTCARD (FRONT)

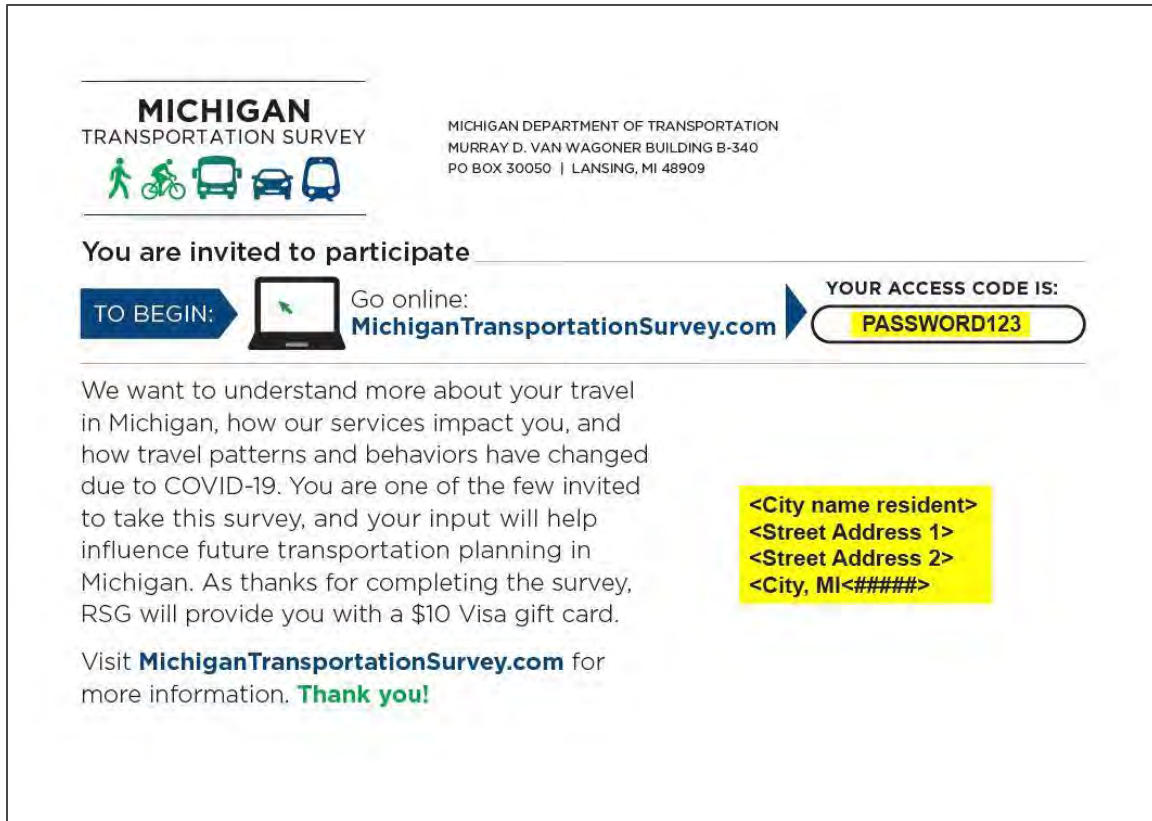


FIGURE 3: INVITATION POSTCARD (BACK)

To provide MDOT with insight into survey response during data collection, RSG developed a live, web-based tracking dashboard (Figure 4). This dashboard included response rate metrics by sampling method and key demographics (e.g., income, age, employment status, race/ethnicity, gender).

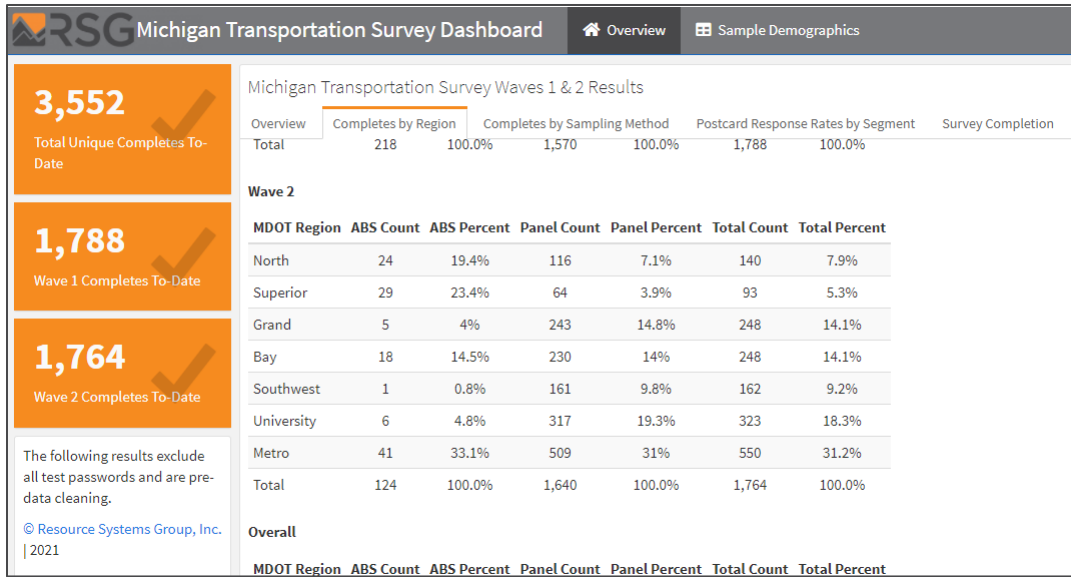


FIGURE 4: LIVE TRACKING DASHBOARD

Data Preparation and Reporting

Following each wave of data collection, RSG cleaned the survey data (e.g., removed low quality records, derived additional fields for analysis) and shared the survey data, codebooks, and data frequencies with MDOT. RSG also produced a “mini report” summarizing response rates and key unweighted data findings after survey Waves 1 and 2. This final report – which summarizes all three waves – expands on those mini reports.

The data for all three survey waves was weighted together at the end of the study to ensure that the final data was representative of the state of Michigan across key demographic dimensions such as age, gender, household income, and region.

2.0 SURVEY SAMPLING

This section provides the sampling plan methodology for the 2021 Michigan A&P Survey. As discussed above, survey data collection occurred in three waves in the spring, summer, and early fall of 2021. In total, 4,758 individual Michigan residents participated across the three waves. The sampling methodology included both online panel sampling and address-based sampling (ABS).

Online Panel Sampling Methods

RSG targeted a sample size of 1,400 nonprobability online panel respondents per wave, for a total target of 4,200 panel respondents across three survey waves. The sample included Michigan residents across MDOT's seven defined regions. Table 1 provides the sample targets by region used during the project. RSG worked with MDOT to adjust the sampling targets by region and survey wave to meet the needs and objectives of the study.

At the regional level, sample targets were consistent with previous instances of the A&P Survey.

TABLE 1: TARGETED SAMPLE SIZE PER SURVEY WAVE FOR ONLINE PANEL

MDOT Region	Target Per Survey Wave	Target for All Survey Waves	Adult Population	Sample Share
Bay	225	675	1,111,828	0.061%
Grand	200	600	1,206,535	0.050%
Metro	500	1,500	3,327,784	0.045%
North	85	255	409,910	0.062%
Southwest	125	375	605,511	0.062%
Superior	40	120	248,018	0.048%
University	225	675	1,174,660	0.057%
Total	1,400	4,200	8,084,246	0.052%

As shown below in Table 2, the study surpassed sample targets in all regions.

TABLE 2: SURVEY RESPONSE

MDOT Region	Target	Complete Surveys	ABS Complete Surveys	Online Panel Complete Surveys
Bay	675	722	52	670
Grand	600	695	18	677
Metro	1,500	1,608	86	1,522
North	255	452	102	350
Southwest	375	430	6	424
Superior	120	367	164	203
University	675	800	14	786
Total	4,200	5,074	442	4,632

Survey waves 1 & 2 contained only “new” online panel participants (i.e., those that have not yet taken the 2021 A&P survey), while survey wave 3 included both new and “repeat” online panel participants. Table 3 shows the split of each by survey wave. These completion counts are exclusive of those collected through targeted address-based sampling (ABS).

TABLE 3: DISTRIBUTION OF NEW AND LONGITUDINAL ONLINE PANEL PARTICIPANTS

Waves	New Panel Participants	Repeat Panel Participants	Total Panel Participants
Wave 1 (Actual)	1,518	---	1,518
Wave 2 (Actual)	1,571	---	1,571
Wave 3 (Actual)	1,227	316	1,543
Total	4,316	316	4,632

Address-Based Sampling Methods

To supplement the online panel sample, RSG also conducted targeted address-based sampling (ABS) for each of the three survey waves. RSG stratified the ABS sample using census block groups from the 2015-2019 American Community Survey (ACS). The sampling frame for the ABS portion of the study included the list of all households in block groups that fell within MDOT’s priority areas, identified as:

- **Non-White Households.** A portion of the ABS sample targeted block groups where at least 75 percent of households were non-White.
- **North and Superior MDOT Regions.** A portion of the ABS sample targeted block groups in the North and Superior MDOT Regions where fewer online panel participants were available to survey. Mailings in both areas were distributed population-proportionally across each region (North and Superior).

Methods to Identify Block Groups for Non-White Sampling

RSG identified the top eight counties in Michigan with the highest proportion of non-white persons (excluding counties in the North and Superior Regions, which will be sampled separately below). The following counties – which account for 73.8 percent of the non-White population in Michigan – were selected:

- **Detroit Area:**
 - Oakland County
 - Wayne County
- **Not Detroit Area:**
 - Genesee County
 - Ingham County
 - Kalamazoo County
 - Kent County
 - Saginaw County
 - Washtenaw County

Next, RSG identified block groups within the selected counties where 75 percent or more of the population was non-White. Focusing on block groups with this high concentration improved the likelihood of reaching non-White participants for the survey. Table 4 below shows the number of eligible block groups in each of the identified counties and number of invitations in each wave. The geographic location of selected block groups is shown in Figure 5 and Figure 6.

TABLE 4: NON-WHITE ABS INVITATIONS PER WAVE

Strata	County	Block Groups to Sample	Non-White Population	Total Population	Wave 1 Invitations	Wave 2 Invitations	Wave 3 Invitations
Detroit Area	Oakland	92	91,862	106,118	162	382	404
Detroit Area	Wayne	852	604,034	640,914	838	2,018	2,146
Not Detroit Area	Genesee	71	44,753	47,962	540	579	615
Not Detroit Area	Ingham	7	5,386	6,876	64	67	72
Not Detroit Area	Kalamazoo	10	7,190	8,035	90	196	210
Not Detroit Area	Kent	26	33,578	39,103	341	367	388
Not Detroit Area	Saginaw	30	23,587	25,588	300	322	342
Not Detroit Area	Washtenaw	5	5,937	6,488	65	69	73
Total		1,093	816,327	881,084	2,400	4,000	4,250

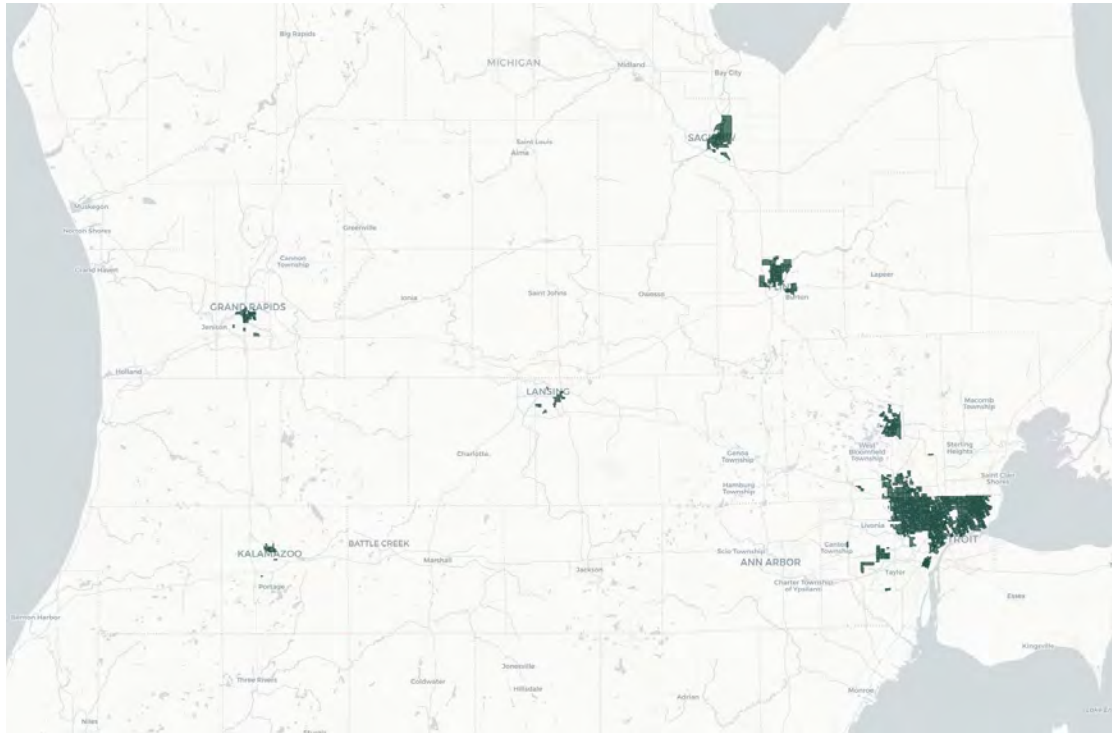


FIGURE 5: MAP OF ALL SELECTED BLOCK GROUPS FOR NON-WHITE ABS SAMPLING

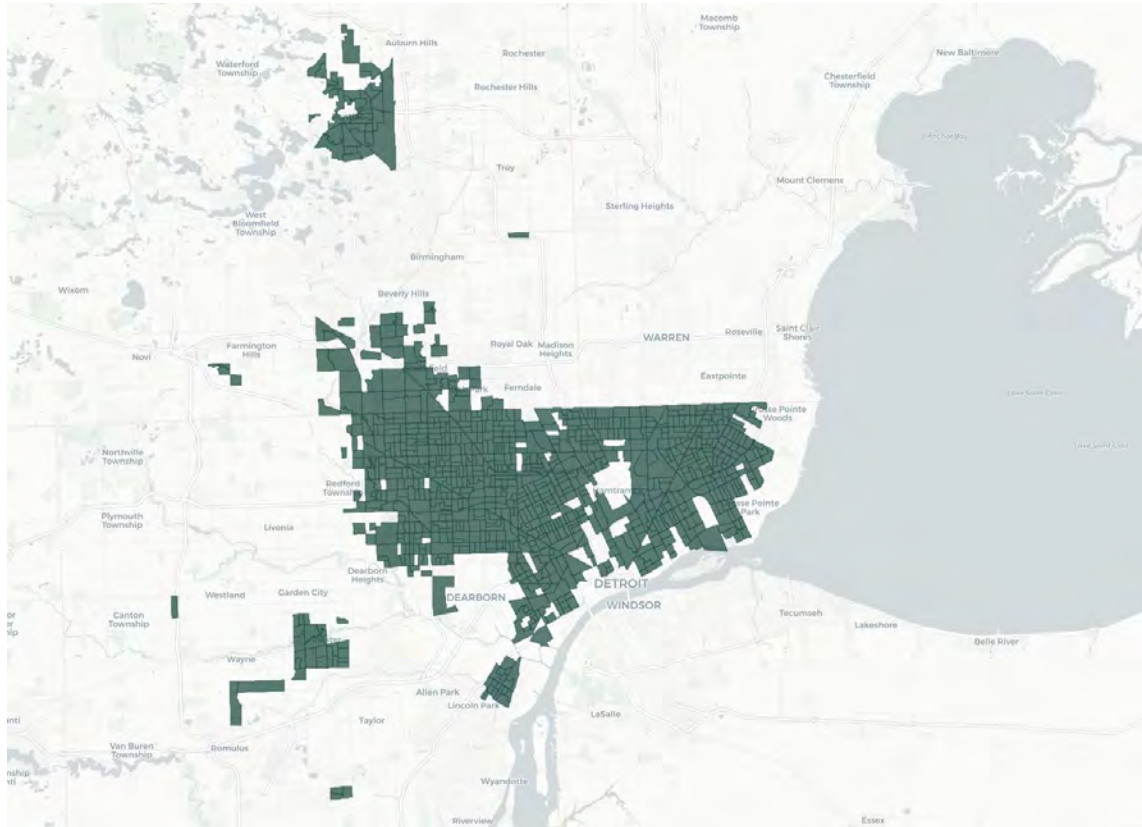


FIGURE 6: MAP OF DETROIT AREA SELECTED BLOCK GROUPS FOR NON-WHITE ABS SAMPLING

Methods to Identify Block Groups for North and Superior Sampling

Given that the goal of this priority group was to collect more samples in these regions (without a sub-focus on demographics), RSG sampled randomly selected block groups from the entire North and Superior Regions. As the project progressed, RSG discussed relative priorities with MDOT for each survey wave based on response from previous waves and adjusted as necessary to ensure sampling targets were met.

ABS Sampling Summary

Table 5 summarizes the ABS invitations and responses for each survey wave.

TABLE 5: ABS INVITATIONS AND RESPONSE BY WAVE

ABS Sample Segments	Postcards Mailed in Wave 1	Postcards Mailed in Wave 2	Postcards Mailed in Wave 3	Actual Responses in Wave 1	Actual Responses in Wave 2	Actual Responses in Wave 3
Non-White Detroit	1,000	2,400	2,550	17	40	29
Non-White Other	1,400	1,600	1,700	26	33	27
MDOT North	1,440	400	300	68	28	10
MDOT Superior	2,160	600	450	107	29	28
Total	6,000	5,000	5,000	218	130	94

Summary

In total, RSG reached more than 1,500 online panel respondents per wave plus an average of nearly 150 targeted ABS respondents per wave, exceeding the original project goals of 1,400 online panel respondents per wave plus an additional 95-220 targeted ABS respondents per wave. These total targets represent a notable increase over the previous A&P surveys and will support MDOT's primary analysis priorities of assessing whether attitudes and perceptions of Michigan's adults have changed since the last survey and assessing travel choices and opinions of travel choices in relation to the COVID-19 pandemic.

The study sample targets and actual response for each wave by region are included in Table 6, Table 7, and Table 8 below. Survey responses exceeded targets in all regions in all three waves.

TABLE 6: STUDY TARGETS AND WAVE 1 RESPONSE

MDOT Region	Target For All Waves	Wave 1 Target	Wave 1 ABS Complete Surveys	Wave 1 Online Panel Complete Surveys	Wave 1 Complete Surveys (Total)	Percent of Wave 1 Target
Bay	675	225	15	223	238	106%
Grand	600	200	7	231	238	119%
Metro	1,500	500	16	493	509	102%
North	255	85	67	128	195	229%
Southwest	375	125	1	146	147	118%
Superior	120	40	107	74	181	453%
University	675	225	5	223	228	101%
Total	4,200	1,400	218	1,518	1,736	124%

TABLE 7: STUDY TARGETS AND WAVE 2 RESPONSE

MDOT Region	Target For All Waves	Wave 2 Target	Wave 2 ABS Complete Surveys	Wave 2 Online Panel Complete Surveys	Wave 2 Complete Surveys (Total)	Percent of Wave 2 Target
Bay	675	225	21	22	241	107%
Grand	600	200	5	235	240	120%
Metro	1,500	500	41	484	525	105%
North	255	85	26	109	135	159%
Southwest	375	125	1	155	156	125%
Superior	120	40	29	61	90	225%
University	675	225	7	307	314	140%
Total	4,200	1,400	130	1,571	1,701	122%

TABLE 8: STUDY TARGETS AND WAVE 3 RESPONSE

MDOT Region	Target For All Waves	Wave 3 Target	Wave 3 ABS Complete Surveys	Wave 3 Online Panel Complete Surveys	Wave 3 Complete Surveys (Total)	Percent of Wave 3 Target
Bay	675	225	16	227	243	108%
Grand	600	200	6	211	217	109%
Metro	1,500	500	29	545	574	115%
North	255	85	9	113	122	144%
Southwest	375	125	4	123	127	102%
Superior	120	40	28	68	96	240%
University	675	225	2	256	258	115%
Total	4,200	1,400	94	1,543	1,637	117%

3.0 SURVEY DATA WEIGHTING

This section describes the analysis and methodology used to expand¹ the 2021 Michigan A&P survey data to match the 2019 Census Survey Public Use Microdata Sample (PUMS) data. RSG generated two sets of weights as part of this process. The first set was designed for analysis of the combined, three-wave data, and the second set was designed for analysis of each individual wave's data.

The overall weighting process included:

1. Calculating an 'initial weight' based on the probability of selection. This essentially 'reverses' the sample plan.
2. Performing an iterative proportional fitting (IPF) routine to the surveyed data within eight subregions to ensure the weighted data accurately represents the entire region (and to reduce sampling biases).
3. Calculating 'final weight' values for both sets.

The following sections describe the process and the results in detail. The expansion was completed at a regional level based on the Michigan Prosperity Regions (see Figure 7).

3.1 INITIAL EXPANSION

The purpose of the initial expansion was to expand each complete survey record to the population that was eligible to participate in the survey. The initial expansion weights were based on the relative probabilities that each participant had of being in the sample, as a function of the sampling plan. For this dataset, the initial expansion factors were generated for each weighting region by taking the total adult population for each region divided by the survey sample count.

¹ For the purposes of this report, the terms "expansion", "expansion factors", and "weights" are used interchangeably and are synonymous. They all represent the concept of an expansion weight.

Table 9 provides the definition of the 8 sub-regions used in the survey weighting.

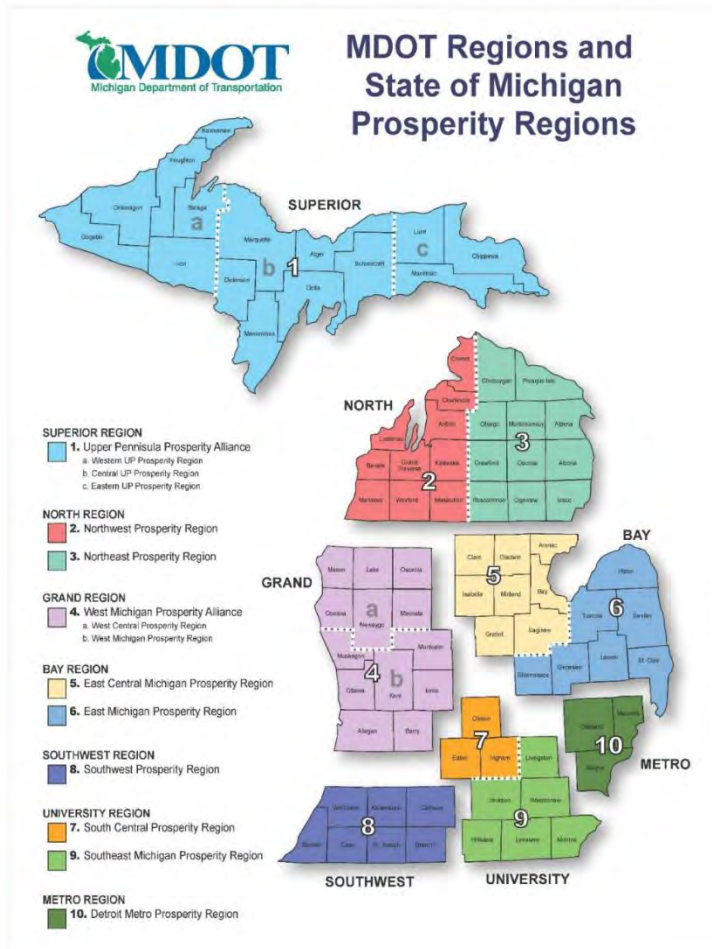


FIGURE 7: MAP OF MDOT REGIONS AND STATE OF MICHIGAN PROSPERITY REGIONS

TABLE 9: RELATION BETWEEN COUNTY, REGION, AND PUMA AREAS CODES

GEO-BIN	PROSPERITY REGION ID	LABEL	SHORT LABEL	COUNTY NAMES	PUMA AREAS (SHORT CODES)
1	1	Upper Peninsula Prosperity Alliance	Upper Peninsula	Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Luce, Keweenaw, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft	0100, 0200, 0300, 0400, 0500
2	2	Northwest Prosperity Alliance	Northwest	Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, Wexford	0400, 0500
3	3 & 5	Northeast Prosperity Alliance & East Central Michigan Prosperity Alliance	Northeast & East Central	Alcona, Alpena, Cheboygan, Crawford, Iosco, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Saginaw	0300, 1300, 1200, 1400, 1500
4	4 & 8	West Michigan Prosperity Alliance & Southwest Prosperity Alliance	West & Southwest	Allegan, Barry, Ionia, Kent, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, Van Buren	0600, 0700, 0801, 0802, 0900, 1001, 1002, 1003, 1004, 1100, 1801, 1802, 1900
5	6	East Michigan Prosperity Alliance	East Michigan	Genesee, Huron, Lapeer, St. Clair, Sanilac, Shiawassee, Tuscola	1600, 1701, 1702, 1703, 1704, 3100
6	7	South Central Prosperity Alliance	South Central	Clinton, Eaton, Ingham	2000, 2101, 2102, 2200, 2300, 2400
7	9	Southeast Michigan Prosperity Alliance	Southeast	Hillsdale, Jackson, Lenawee, Livingston, Monroe, Washtenaw	2500, 2600, 2701, 2702, 2703, 2800, 3300
8	10	Detroit Metro Prosperity Alliance	Detroit Metro	Macomb, Oakland, Wayne	2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 3001, 3002, 3003, 3004, 3005, 3006, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213

3.2 WEIGHTING DIMENSIONS

Survey weighting generally involves calculating an initial expansion weight and identifying dimensions on which to match the population. Table 10 shows the four survey characteristics used in the 2021 Michigan A&P weighting process, chosen for their relevance to overall representativeness of survey data. These four characteristics and 24 components were used to fit the PUMS data.

TABLE 10: DIMENSIONS USED IN DATA WEIGHTING

<p>Gender</p> <p>Female</p> <p>Male</p>	<p>Income</p> <p>\$0-\$49,999</p> <p>\$50,000-\$74,999</p> <p>\$75,000-\$99,999</p> <p>\$100,000 or more</p>
<p>Employment</p> <p>Employed: Includes full-time, part-time, self-employed, volunteer, and internships</p> <p>Unemployed: Includes retired, stay-at-home parents, and students</p>	<p>Age</p> <p>18 – 34 Years Old</p> <p>35 – 54 Years Old</p> <p>55 – 64 Years Old</p> <p>65+ Years Old</p>

Income and Gender Imputation

The income question in the survey allowed participants to respond with “prefer not to answer,” so missing values were imputed to facilitate data weighting. Missing values were imputed using the most frequently chosen income bracket for each Prosperity Region (\$0-\$49,999). The gender question in the survey also allowed participants to respond with “prefer not to answer.” Like with income, the most frequently chosen option (in this case ‘female’) was used to impute missing values.

3.3 FINAL WEIGHTS

The final dataset included two sets of weights:

- **wave_weight:** The resulting weights from expanding each of the three individual survey waves to the PUMS data. The sum of the weights in this column for each individual wave reflects the total adult population living in the study area. This weight was designed for single-wave analyses (e.g., change in mode usage across waves).
- **combined_weight:** The resulting weights from expanding all three waves of the survey to the PUMS data. The sum of the weights in the column reflects the total adult population living in the study area. This weight was designed for combined-wave analyses (e.g., perception of quality of Michigan transportation).

Readers can view the full weighting memo (delivered separately) for additional information about the weighting methodology and validation.

4.0 SURVEY RESULTS

The following sections include key highlights from the 2021 A&P Survey data analysis.

4.1 ATTITUDES AND PERCEPTIONS

The largest share of respondents (41 percent) perceive the quality of transportation in Michigan to be the same as it was three years ago (Figure 8). Figure 9 and Figure 10 show responses to the same question in the 2019 and 2017 surveys. The share of respondents who perceived the quality of transportation in Michigan the same, better, and worse, is similar in 2021 as in 2017 and 2019.

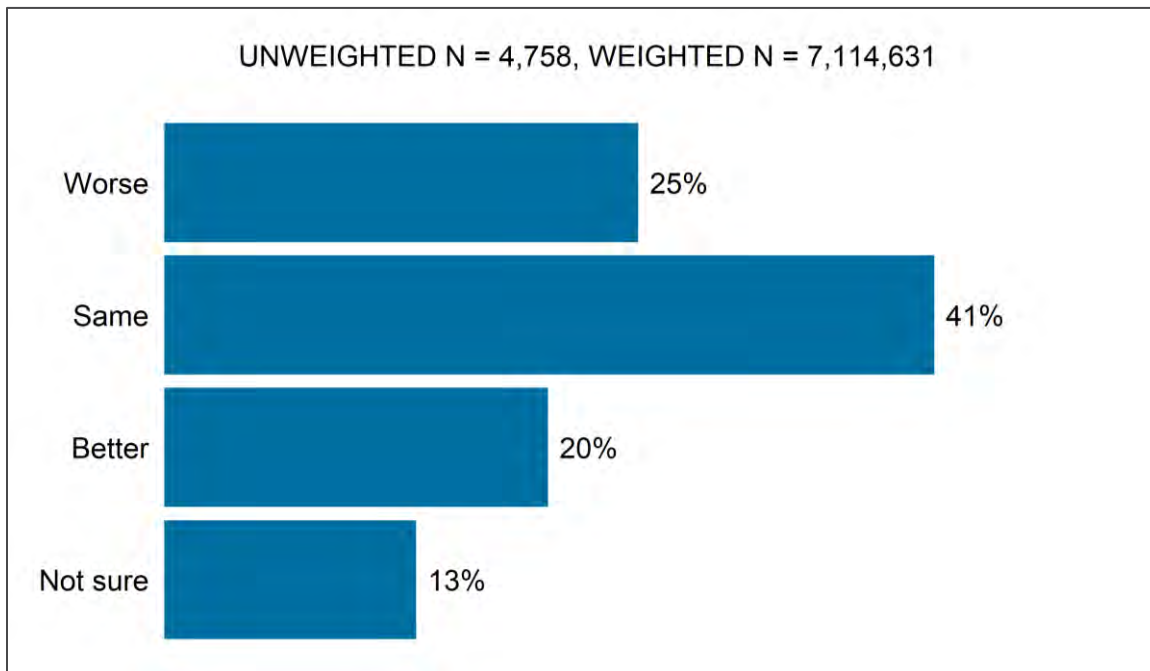


FIGURE 8: PERCEIVED QUALITY OF TRANSPORTATION IN MICHIGAN COMPARED TO THREE YEARS AGO (2021)

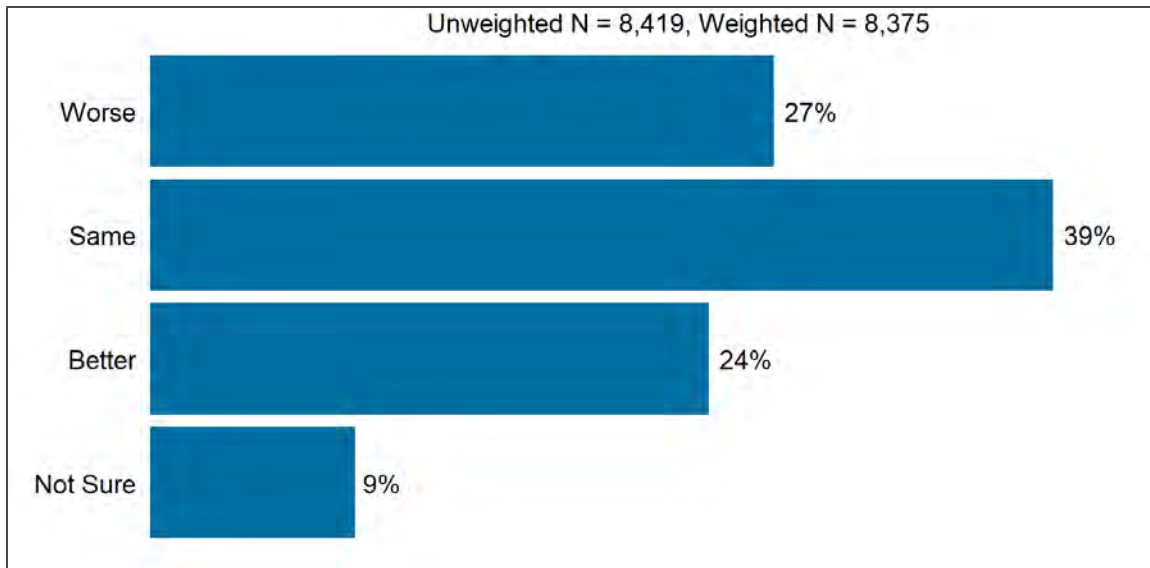


FIGURE 9: PERCEIVED QUALITY OF TRANSPORTATION IN MICHIGAN COMPARED TO THREE YEARS AGO (2019)

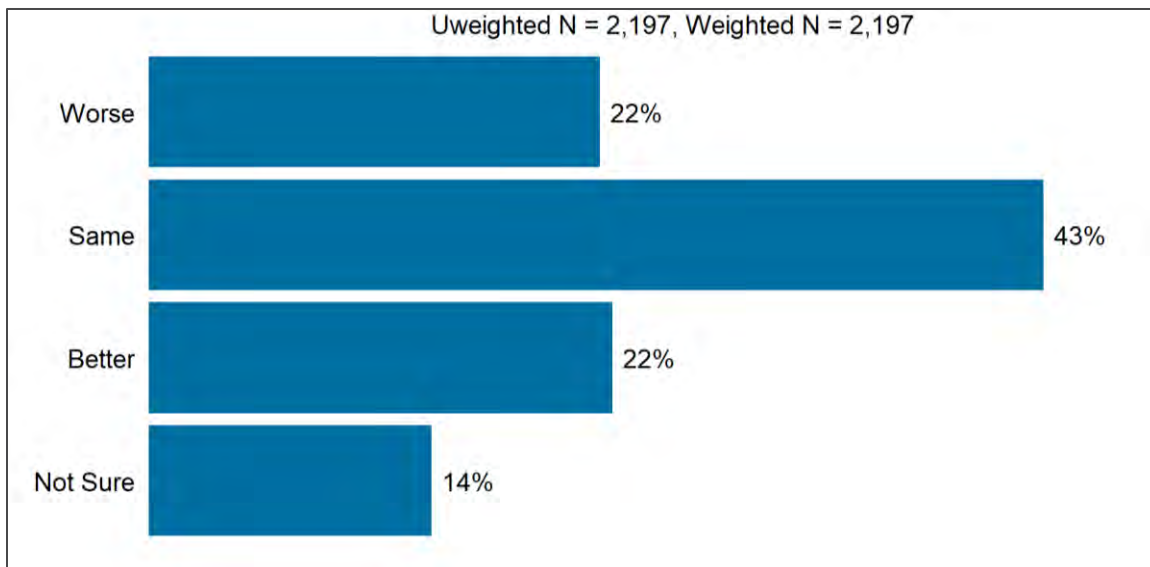


FIGURE 10: PERCEIVED QUALITY OF TRANSPORTATION IN MICHIGAN COMPARED TO THREE YEARS AGO (2017)

Figure 11 provides a comparison of perceptions in the quality of transportation across MDOT's seven regions. The North Region demonstrated the highest share of respondents who perceive the quality of transportation in Michigan to be better than three years ago (25 percent), followed by the Grand Region (24 percent) and the Metro and Superior Regions (22 percent each). In

comparison, the Southwest Region demonstrated the highest share of respondents who perceive the quality of transportation in Michigan to be worse than three years ago (29 percent), followed by the University Region (28 percent) and the Bay Region (27 percent).

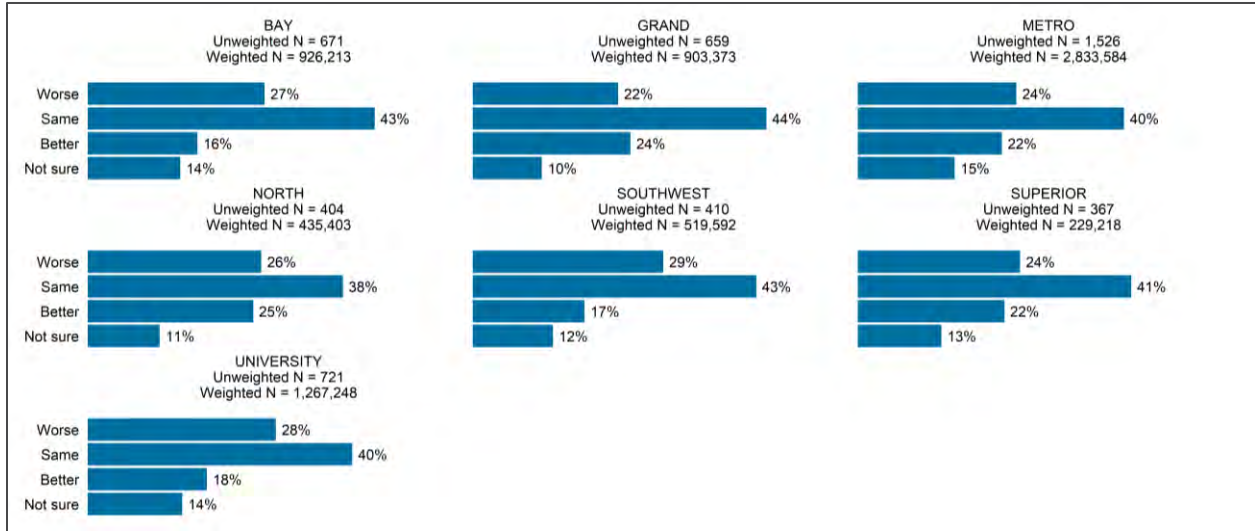


FIGURE 11: PERCEIVED QUALITY OF TRANSPORTATION IN MICHIGAN COMPARED TO THREE YEARS AGO (BY REGION)

Residents most frequently obtain information on Michigan’s transportation issues from television (45 percent), followed by smartphone traffic/map app (31 percent) and social media (30 percent). When comparing 2021 survey results (Figure 12) to 2019 (Figure 13) and 2017 (Figure 14), residents’ decreased reliance on radio for information on transportation issues and increased reliance on social media is evident.

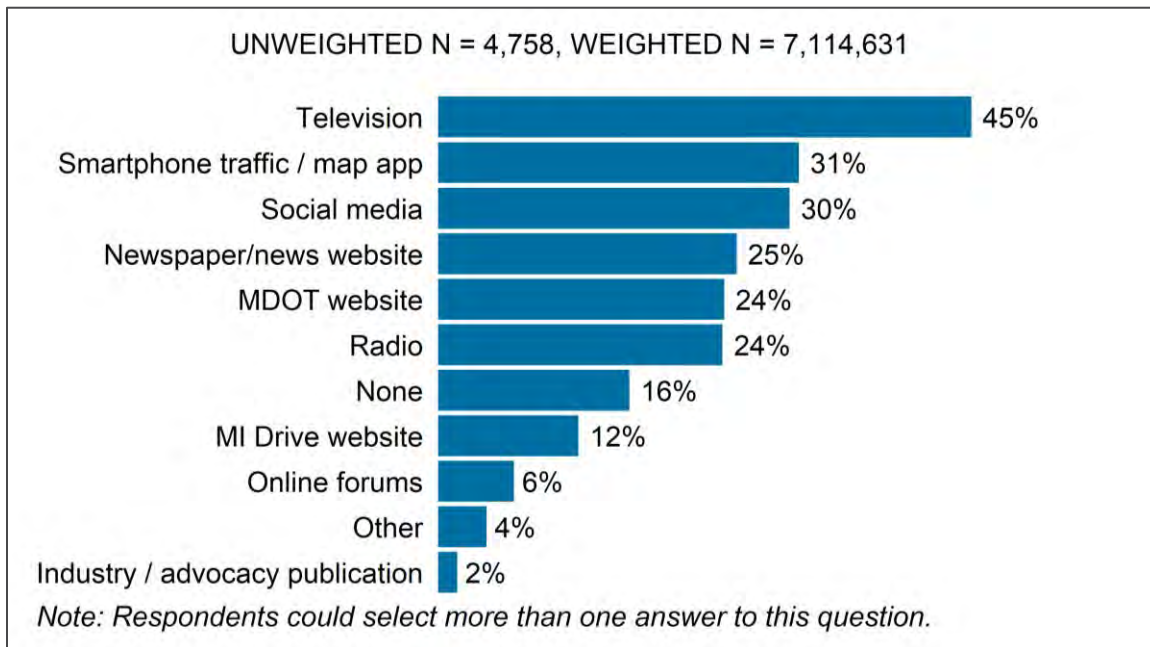


FIGURE 12: SOURCES OF INFORMATION ON TRANSPORTATION ISSUES IN MICHIGAN (2021)

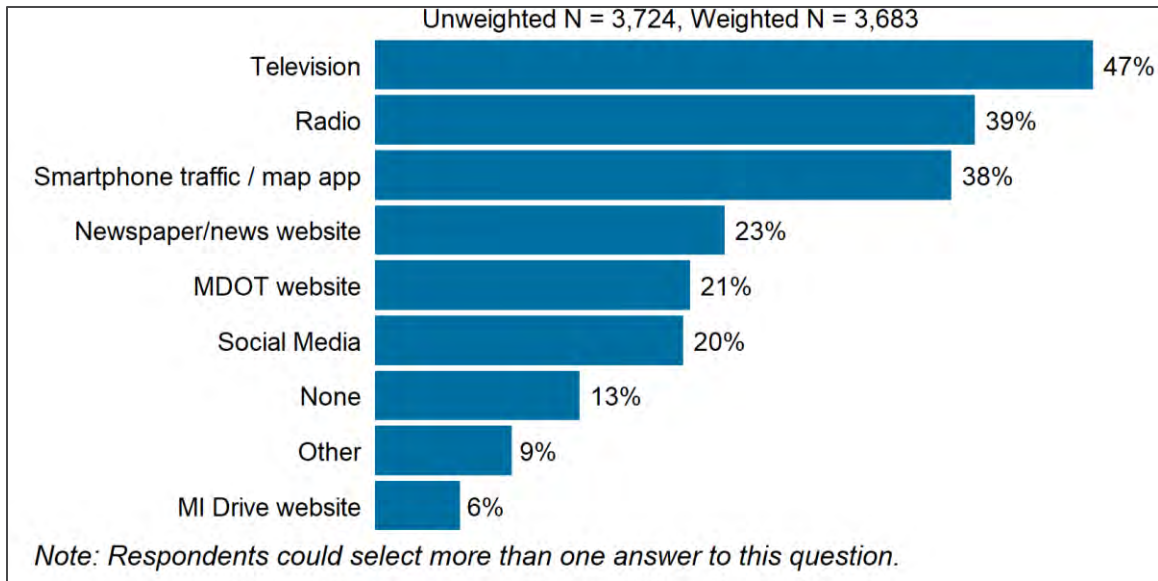


FIGURE 13: SOURCES OF INFORMATION ON TRANSPORTATION ISSUES IN MICHIGAN (2019)

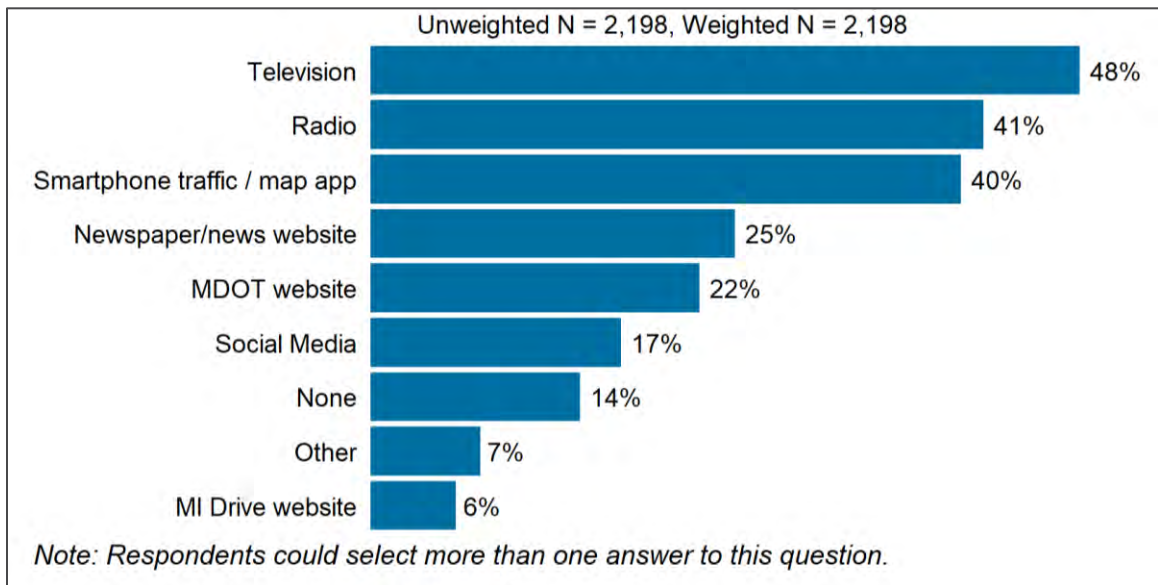


FIGURE 14: SOURCES OF INFORMATION ON TRANSPORTATION ISSUES IN MICHIGAN (2017)

Figure 15 shows a comparison of sources of information on transportation issues across MDOT’s seven regions. Television is the most frequently reported source of information across all regions, though the second and third most popular sources varies by region.

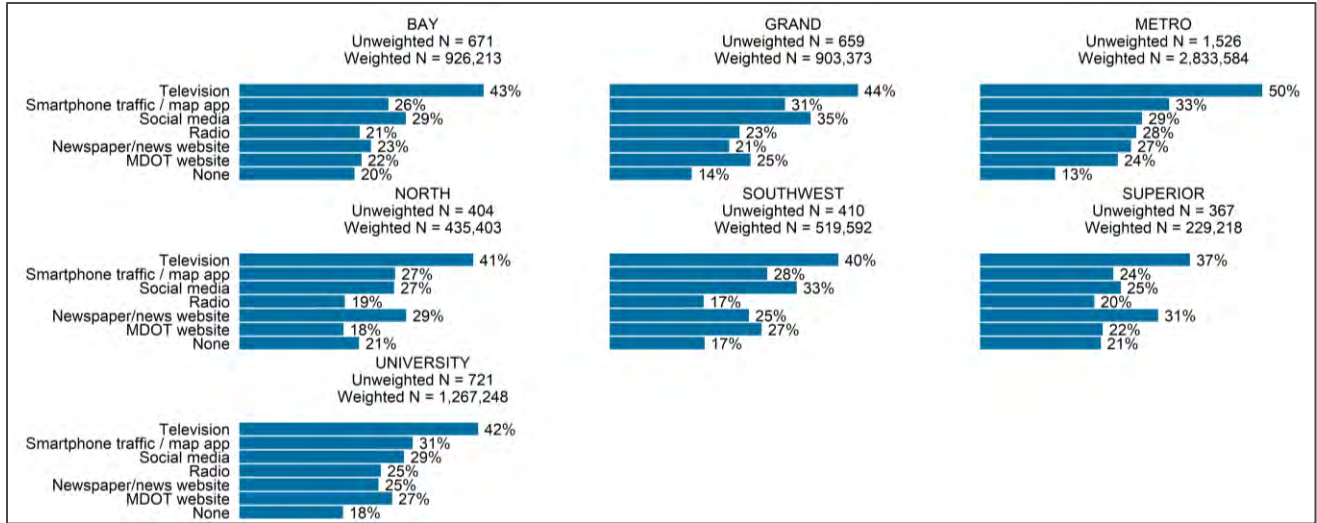


FIGURE 15: SOURCES OF INFORMATION ON TRANSPORTATION ISSUES IN MICHIGAN BY REGION (RESPONDENTS COULD SELECT MORE THAN ONE OPTION)

Participants were asked to indicate their level of agreement with various statements about MDOT. Forty-six percent of respondents indicate that they “trust MDOT officials to make good decisions about the State’s future transportation system”. Similarly, 46 percent “think MDOT is moving in the right direction.” Of the questions included in the survey, the highest level of disagreement (27 percent) was in response to the statement “I think MDOT does a good job prioritizing highway improvements in Michigan” (Figure 16).

When comparing 2017 survey results (Figure 17) to 2021 survey results, the most significant improvement was in regard to the statement “I think MDOT adequately supports local transportation projects for city and county governments.” Thirty-two percent of respondents agreed with that statement in 2017, while 44 percent agree with the statement in 2021, a twelve-percentage point increase.

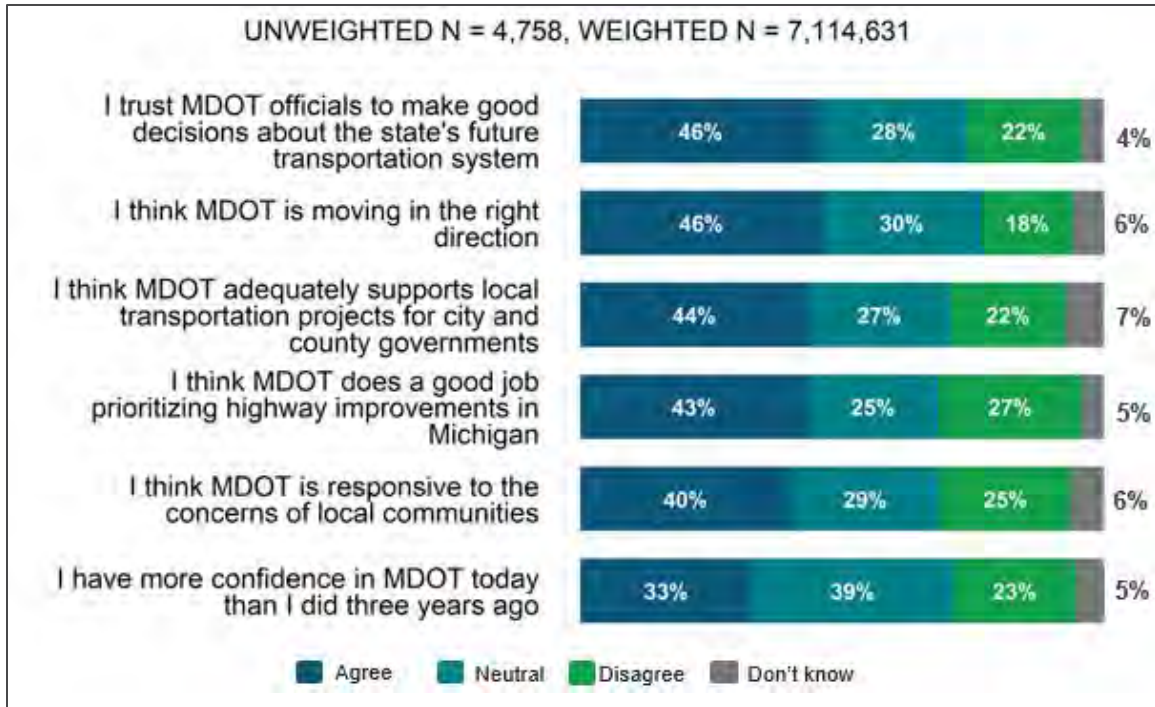


FIGURE 16: AGREEMENT WITH STATEMENTS ABOUT MDOT (2021)

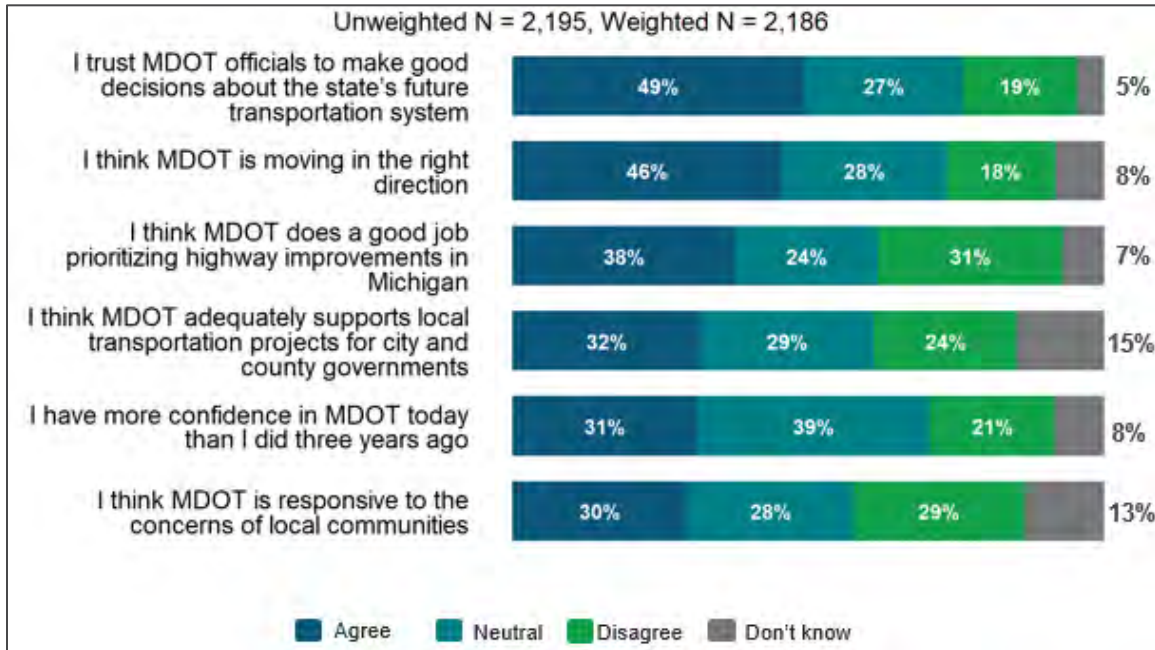


FIGURE 17: AGREEMENT WITH STATEMENTS ABOUT MDOT (2017)

As shown in Figure 18, Michigan residents most frequently indicate that maintaining existing roads is a high or very high priority (89 percent). Reduced traffic congestion (65 percent), expanding transportation services for seniors and persons with disabilities (57 percent), and adding sidewalks and paths to make it easier and safer to walk (55 percent) were also frequently reported as high or very high priorities for MDOT.

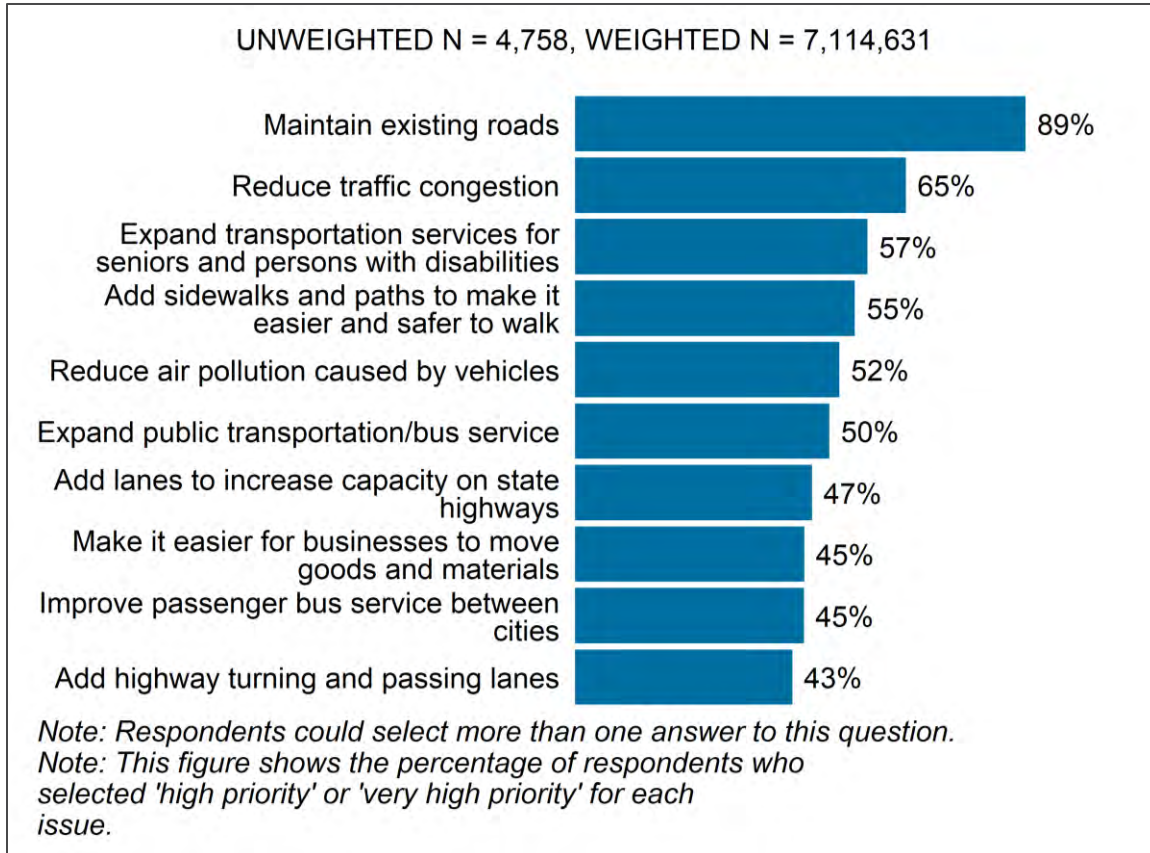


FIGURE 18: TOP 10 HIGH PRIORITY ISSUES FOR MDOT (2021)

When comparing high or very high priorities issues in 2021 to 2019 (Figure 19), the top three issues have remained the same, though the relative difference between the top three issues and the remaining issues has decreased (due to higher importance placed on issues below the top three).

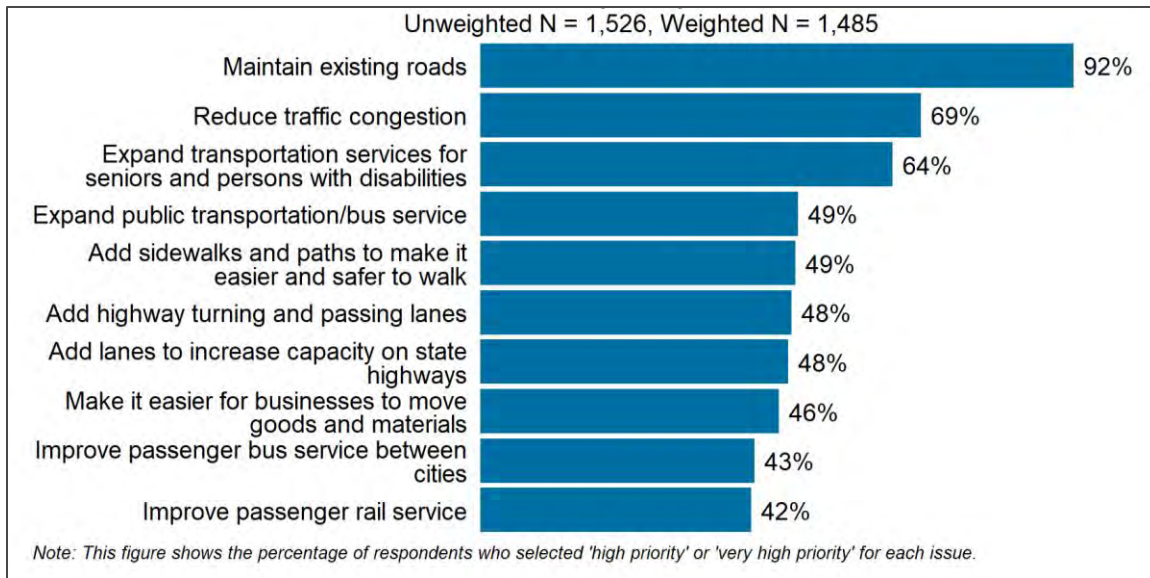


FIGURE 19: TOP 10 HIGH PRIORITY ISSUES FOR MDOT (2019)

Figure 20 shows the top issues across MDOT's seven regions. Existing road maintenance is the top priority in all regions, though subsequent high priority issues vary by region.

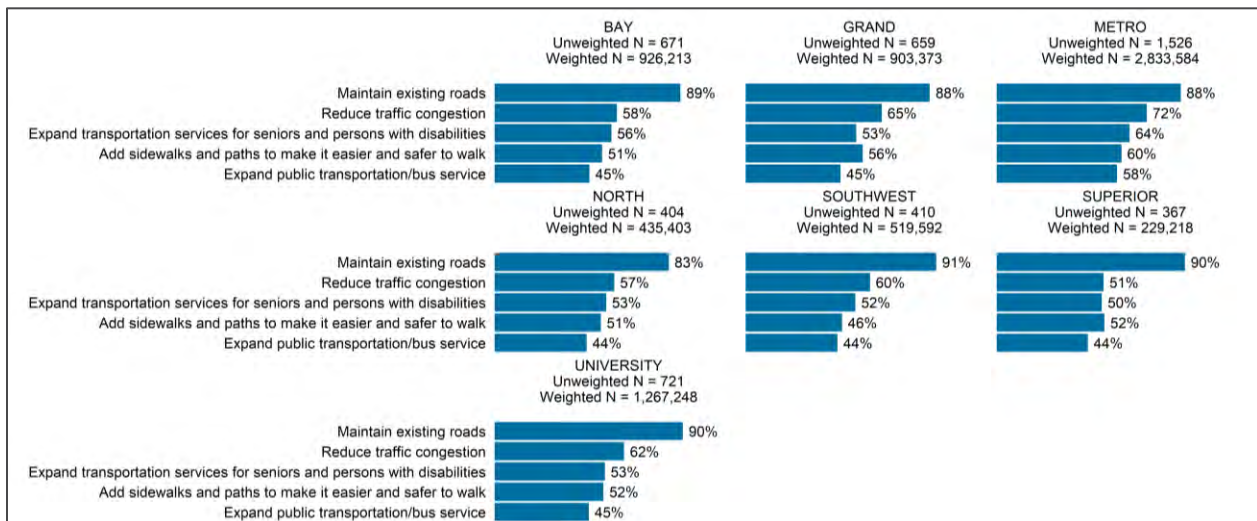


FIGURE 20: TOP 5 HIGH PRIORITY ISSUES FOR MDOT BY REGION (RESPONDENTS COULD SELECT MORE THAN ONE OPTION)

Respondents were also asked about satisfaction with various MDOT services in both the 2021 (Figure 21) and 2017 (Figure 22) surveys. The share of residents who are satisfied with MDOT’s efforts to make state highways as safe as possible (the service with the highest “satisfied” rating) has remained consistent across years, the share of residents who are satisfied MDOT’s snow removal, clear information about road changes through Facebook or Twitter, and bridge maintenance has notably increased from 2017 to 2021.

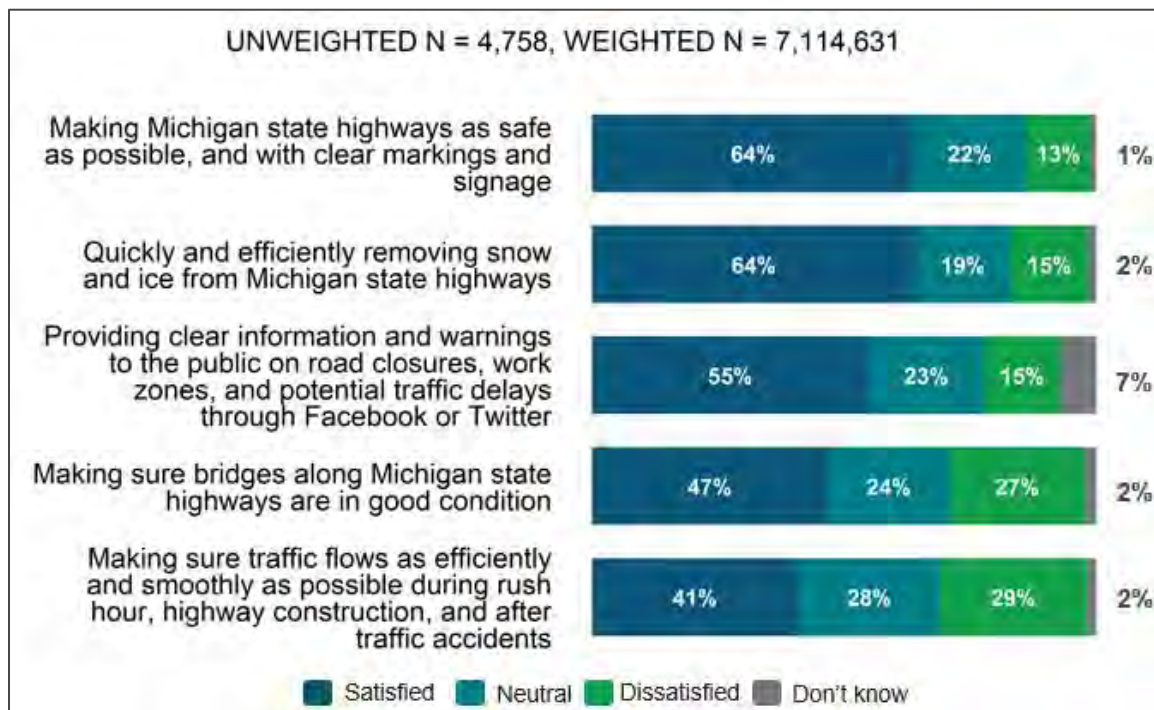


FIGURE 21: MDOT SERVICES: TOP FIVE MOST SATISFIED (2021)

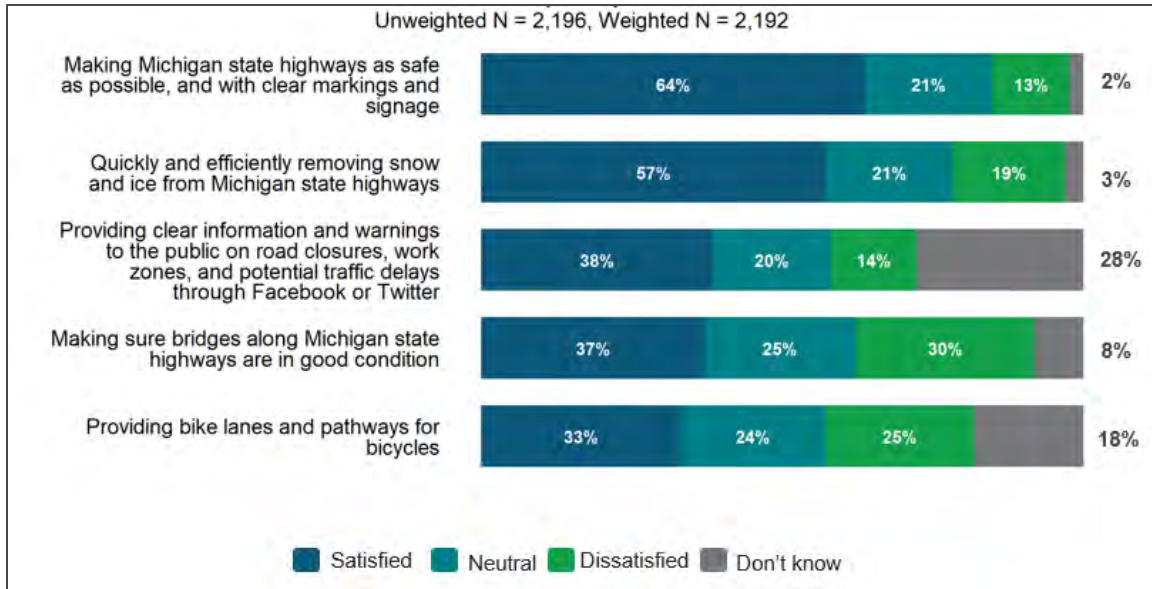


FIGURE 22: MDOT SERVICES: TOP FIVE MOST SATISFIED (2017)

Similarly, the top five issues with the highest dissatisfaction ratings have remained the same between 2021 (Figure 23) and 2017 (Figure 24). Comparing across survey years, the percentage of respondents indicating dissatisfaction with each individual issue has decreased from 2017 to 2021, indicating MDOT improvement in these areas. Dissatisfaction with pavement maintenance in particular decreased from 55 percent in 2017 to 47 percent in 2021.

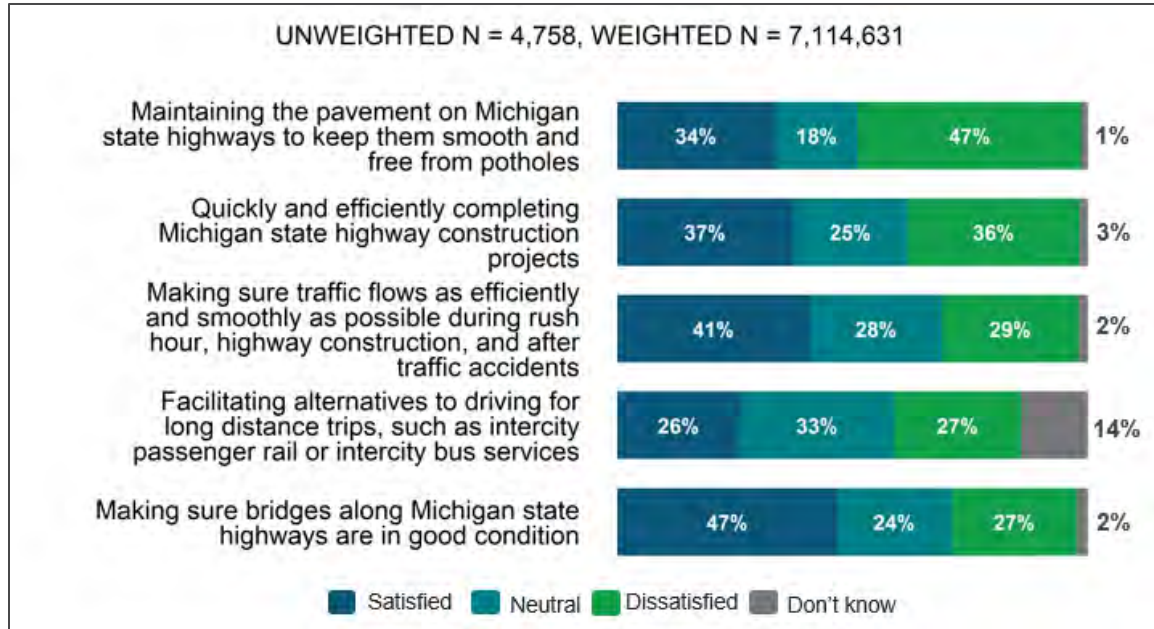


FIGURE 23: MDOT SERVICES: TOP FIVE MOST DISSATISFIED (2021)

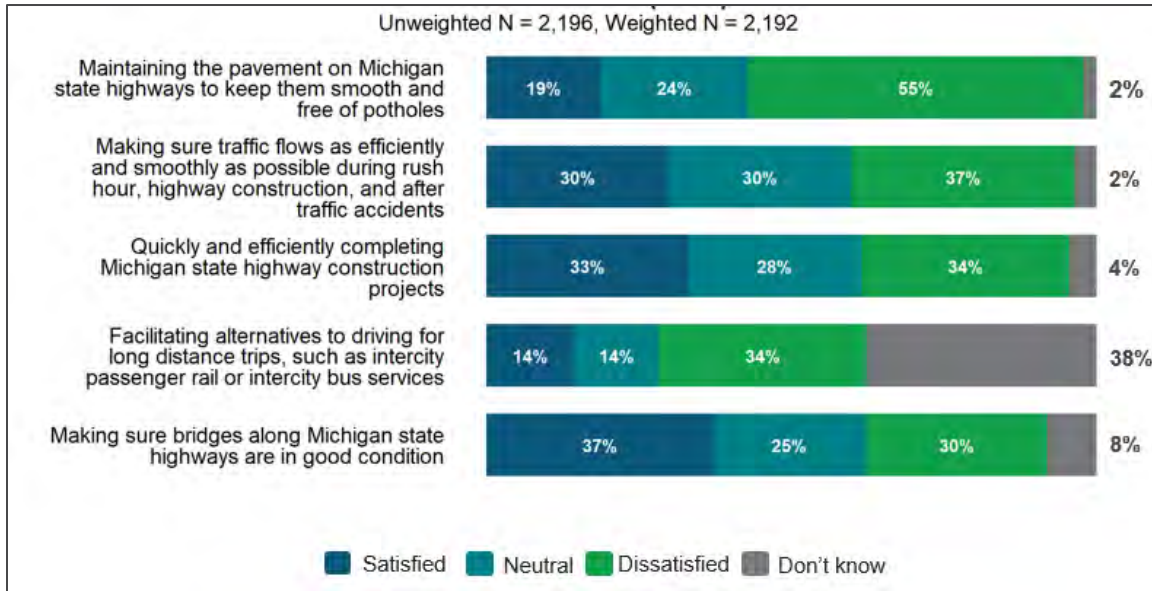


FIGURE 24: MDOT SERVICES: TOP FIVE MOST DISSATISFIED (2017)

4.2 TRAVEL BEHAVIOR

To facilitate MDOT’s understanding of the way COVID-19 has impacted residents’ travel behaviors, respondents were asked about their transportation behaviors and decisions over the past 7 days and before the COVID-19 outbreak. In reviewing changes in mode usage across the three survey waves, vehicle travel remained relatively consistent while the share of those who reported traveling by bus, shuttle, taxi, or Uber/Lyft notably increased between survey waves 1 and 2 (Figure 25). Top modes used varied somewhat by region (Figure 26) with household vehicle being by far the most frequently used mode in all areas.

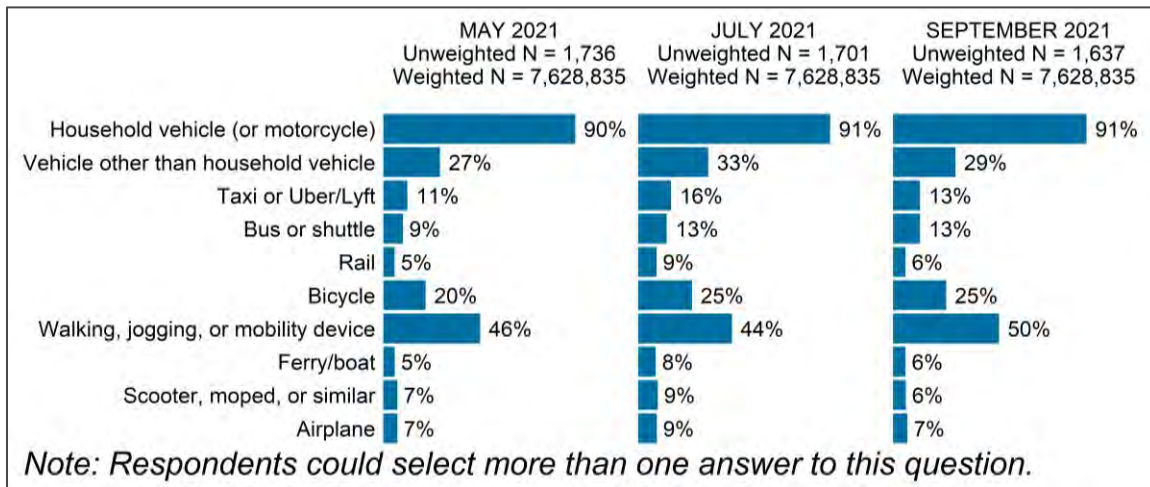


FIGURE 25: MODES USED TO TRAVEL OUTSIDE OF HOME IN PAST SEVEN DAYS

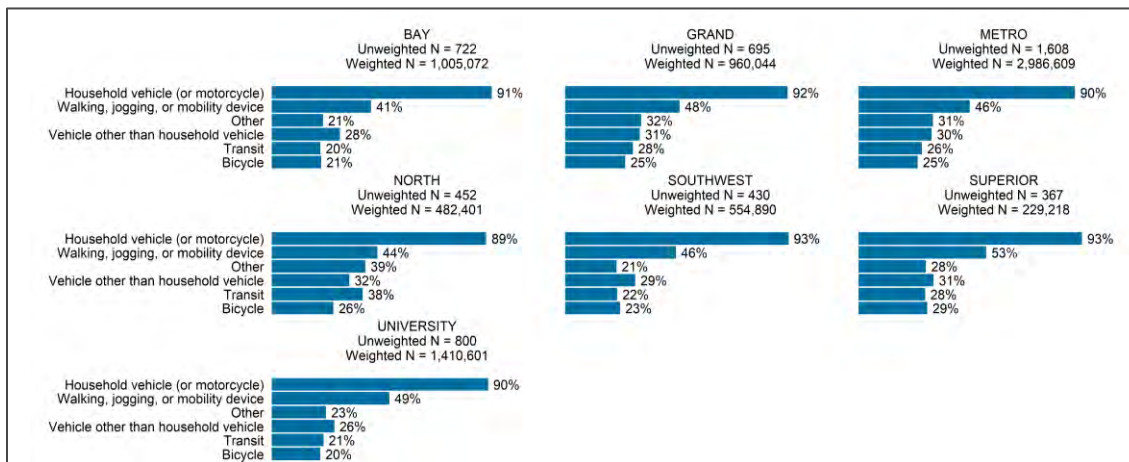


FIGURE 26: TOP MODES USED TO TRAVEL OUTSIDE OF HOME IN PAST SEVEN DAYS BY REGION (RESPONDENTS COULD SELECT MORE THAN ONE OPTION)

When comparing Michigan results to those in RSG’s national survey (Figure 27), Michigan demonstrated greater change in mode usage over the same time period whereas national mode usage changed very little. (Note that these figures show only modes used by day and not modes used by trip.)

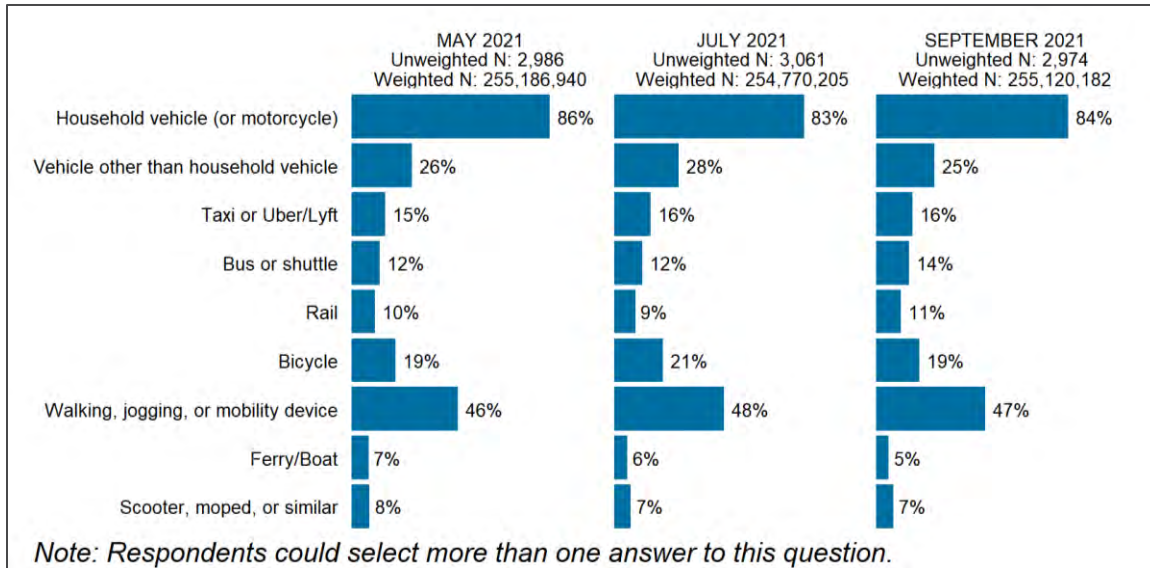


FIGURE 27: MODES USED TO TRAVEL OUTSIDE OF HOME IN PAST SEVEN DAYS (NATIONAL)

Food shopping behaviors in Michigan also changed very little over the three survey periods with the exception of eating at restaurants or cafés, which increased very notably between the May and July survey waves (Figure 28). While the share of those ordering groceries for delivery and pick-up was relatively consistent across waves, the share in itself is notable given that less than twenty percent of residents reported ordering groceries for delivery and/or pick-up more often than monthly prior to March 2020. Similarly, less than twenty percent of residents reported ordering food through a delivery service more often than monthly prior to March 2020.

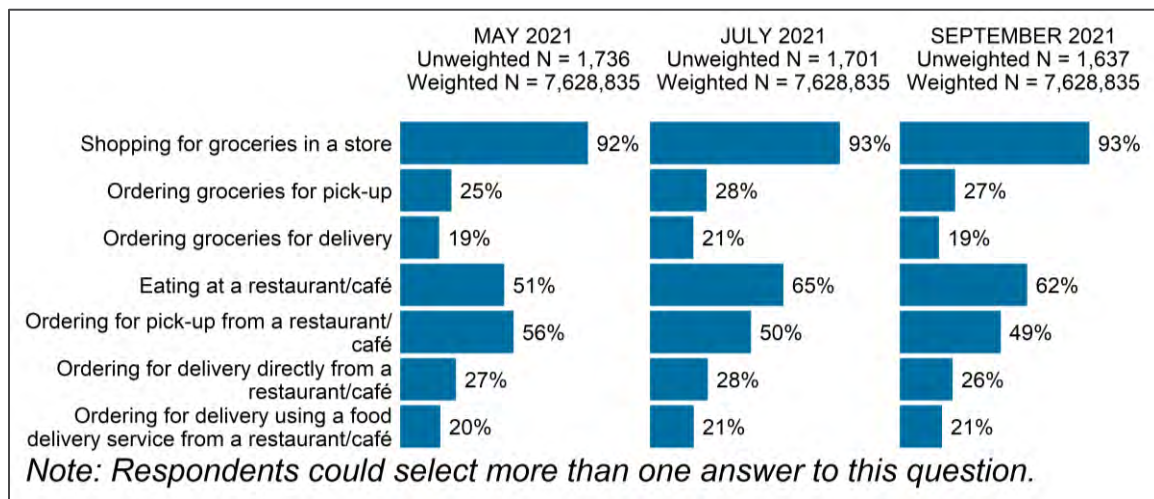


FIGURE 28: FOOD SHOPPING METHODS USED IN PAST SEVEN DAYS

Food shopping trends in Michigan were mirrored in the national data, both in consistency across time periods and share of respondents participating in each activity (Figure 29). Food shopping was also relatively consistent across MDOT regions (Figure 30).

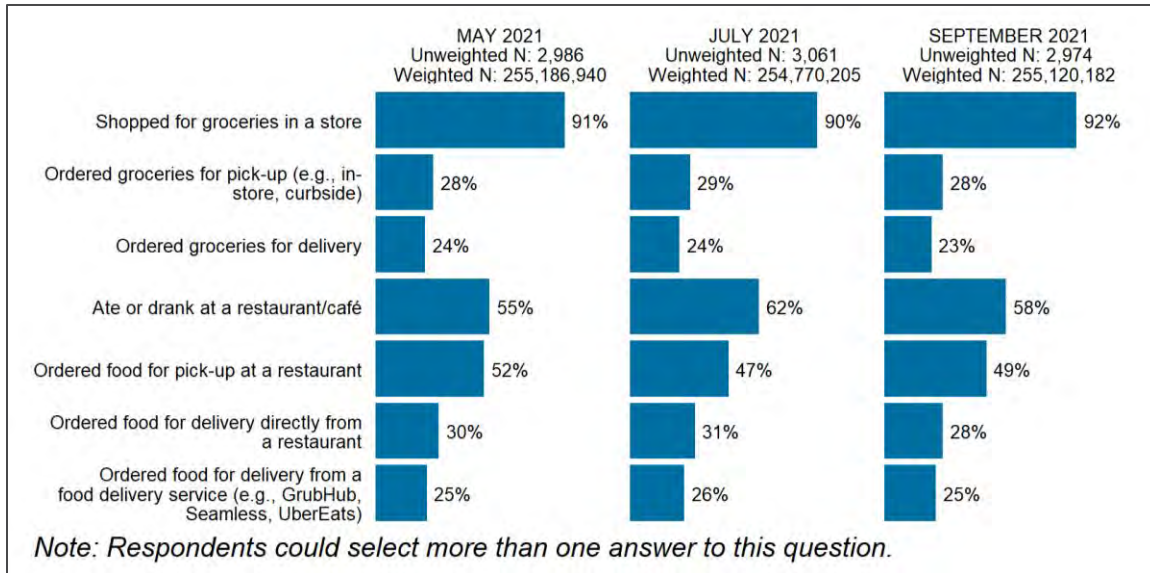


FIGURE 29: FOOD SHOPPING METHODS USED IN PAST SEVEN DAYS (NATIONAL)

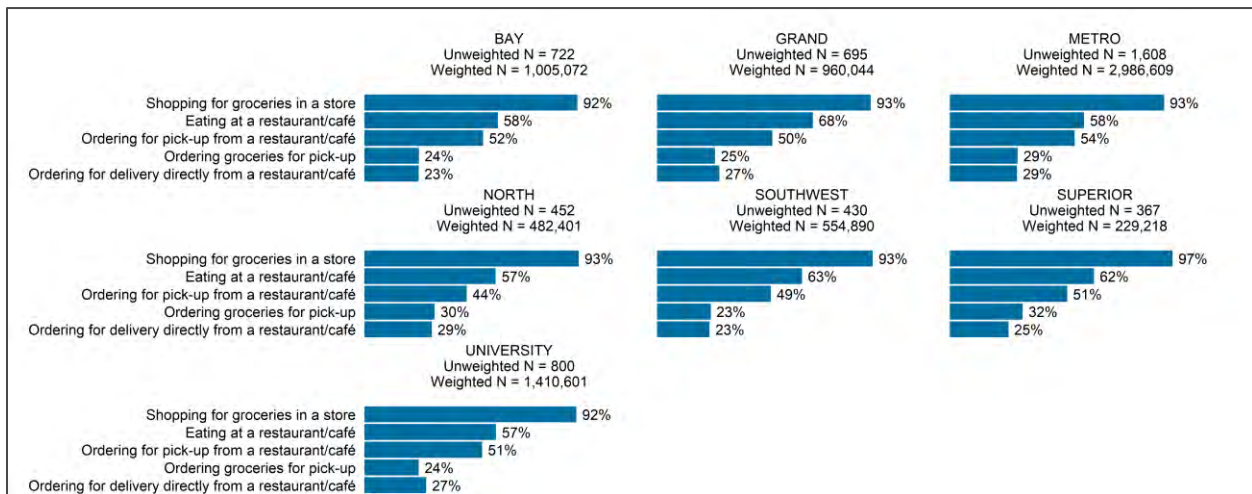


FIGURE 30: TOP FOOD SHOPPING METHODS USED IN PAST SEVEN DAYS BY REGION (RESPONDENTS COULD SELECT MORE THAN ONE OPTION)

During each of the three survey waves, nearly three-quarters of residents received packages at home at least once in the past 7 days. In contrast, in 2019, only 33 percent of respondents reported receiving packages at home weekly or more. Over thirty percent reported ordering something online from a small retailer (Figure 31). These trends were also very similar by region (Figure 32).

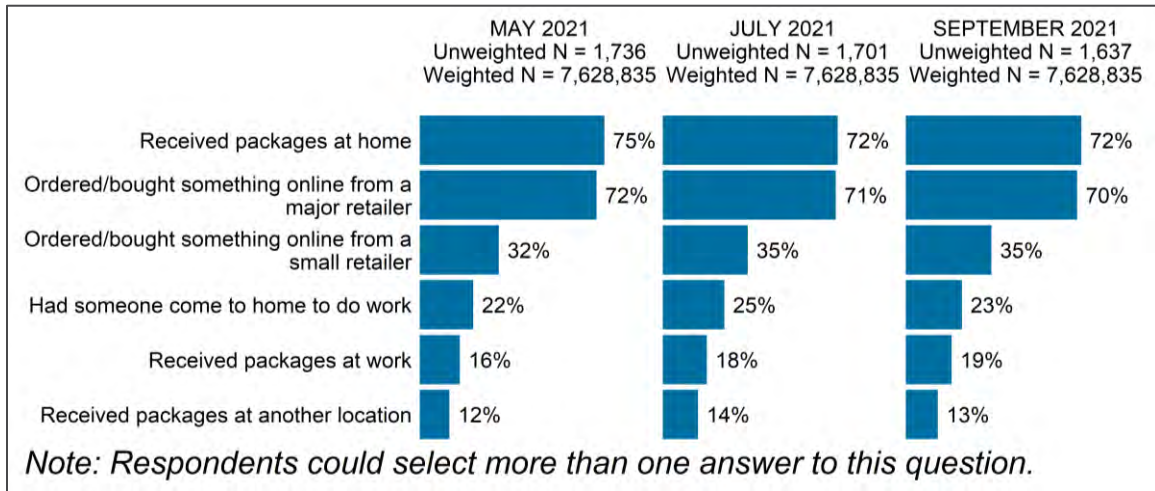


FIGURE 31: PURCHASED OR RECEIVED GOODS AND SERVICES IN PAST SEVEN DAYS

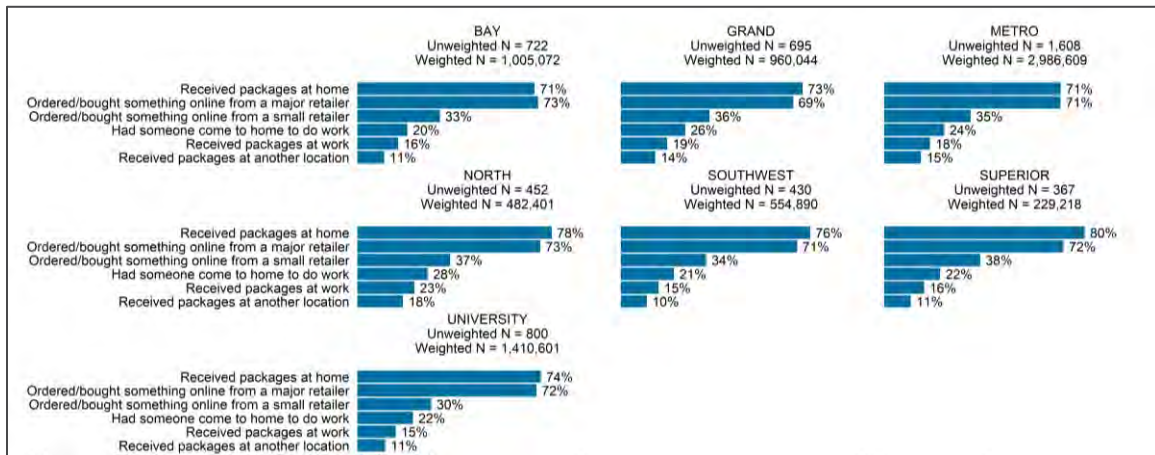


FIGURE 32: PURCHASED OR RECEIVED GOODS AND SERVICES IN PAST SEVEN DAYS BY REGION (RESPONDENTS COULD SELECT MORE THAN ONE OPTION)

In looking at expected future mode use, the share of respondents who used public transportation (bus or rail) prior to March 2020 who said they would use public transportation at least weekly (in a scenario in which most Michigan residents were vaccinated for COVID-19 and there were very few new cases in Michigan) increased notably between May and July. The change between July and September was less pronounced, though the share of those who said they would use public transportation “never” in the future increased slightly (Figure 33). Changes in expected future Uber, Lyft, and taxi travel changed less across the three waves (Figure 34).

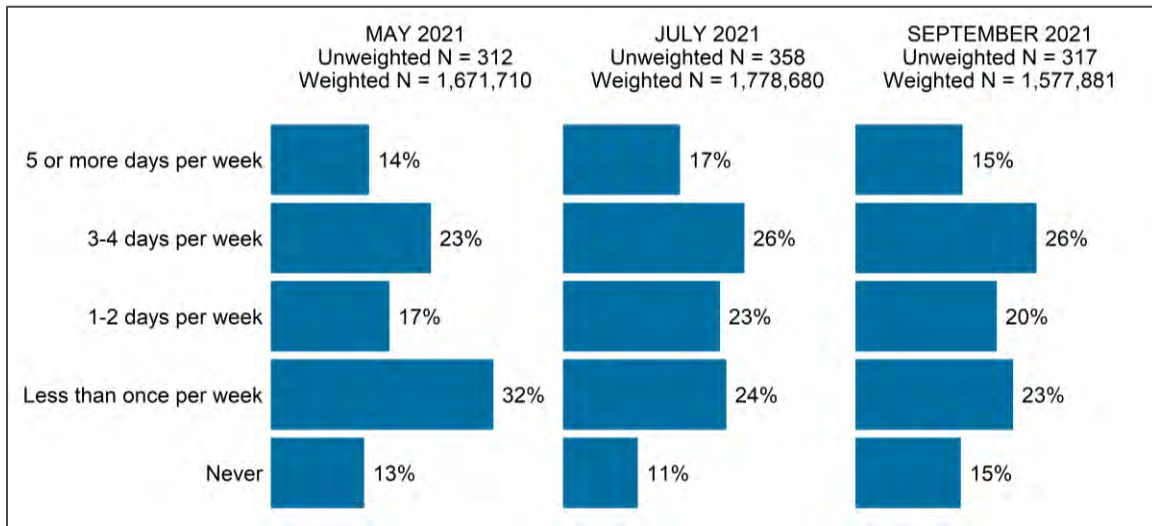


FIGURE 33: EXPECTED PUBLIC TRANSPORTATION USE

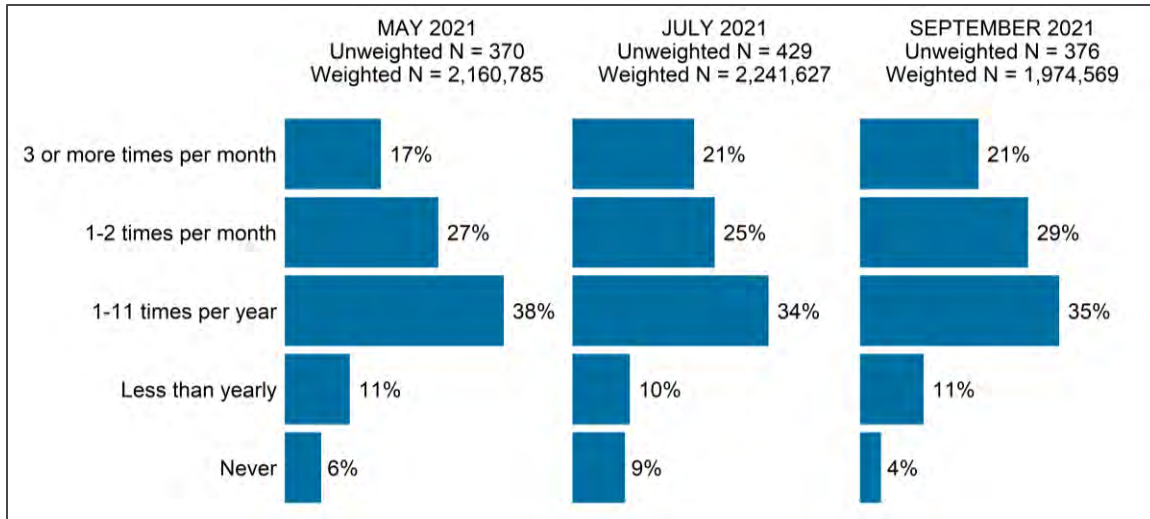


FIGURE 34: EXPECTED UBER, LYFT, OR TAXI USE

4.3 EMPLOYMENT AND TELEWORKING

Employed respondents were asked to report the number of days they had teleworked in the past seven days. There was a six-percentage point decrease in those who reported teleworking at all between May and September 2021 and a seven-percentage point decrease in those who reported teleworking four or more days over the same time period (Figure 35).

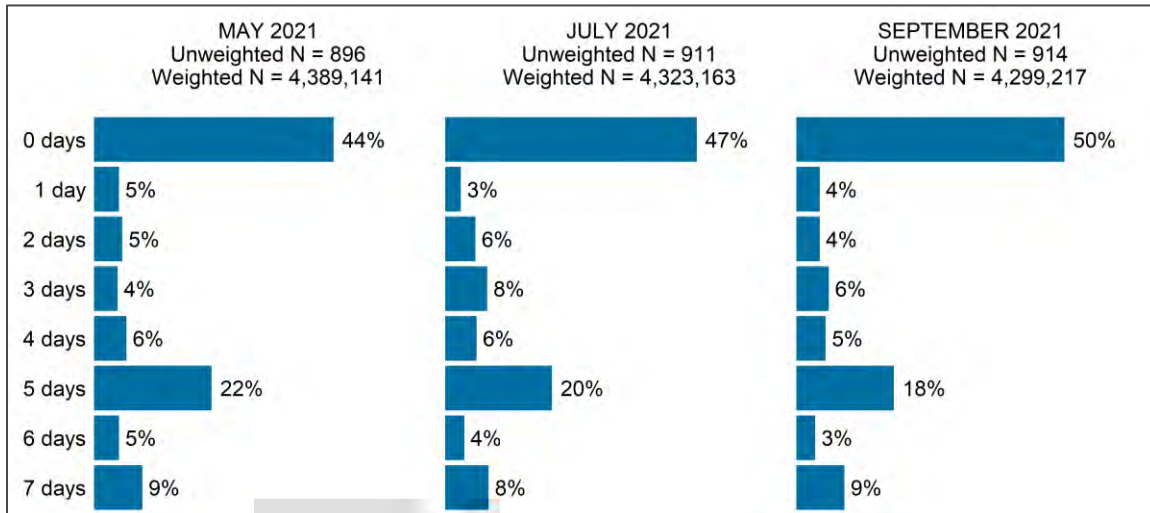


FIGURE 35: DAYS TELEWORKED IN PAST SEVEN DAYS AMONG CURRENTLY EMPLOYED RESPONDENTS

Across MDOT's seven regions, employees living in the Metro Region reported the highest instance of 5+ days per week teleworking (36 percent), followed by the Southwest, North, and Grand Regions (34 percent, 31 percent, and 31 percent, respectively) (Figure 36).

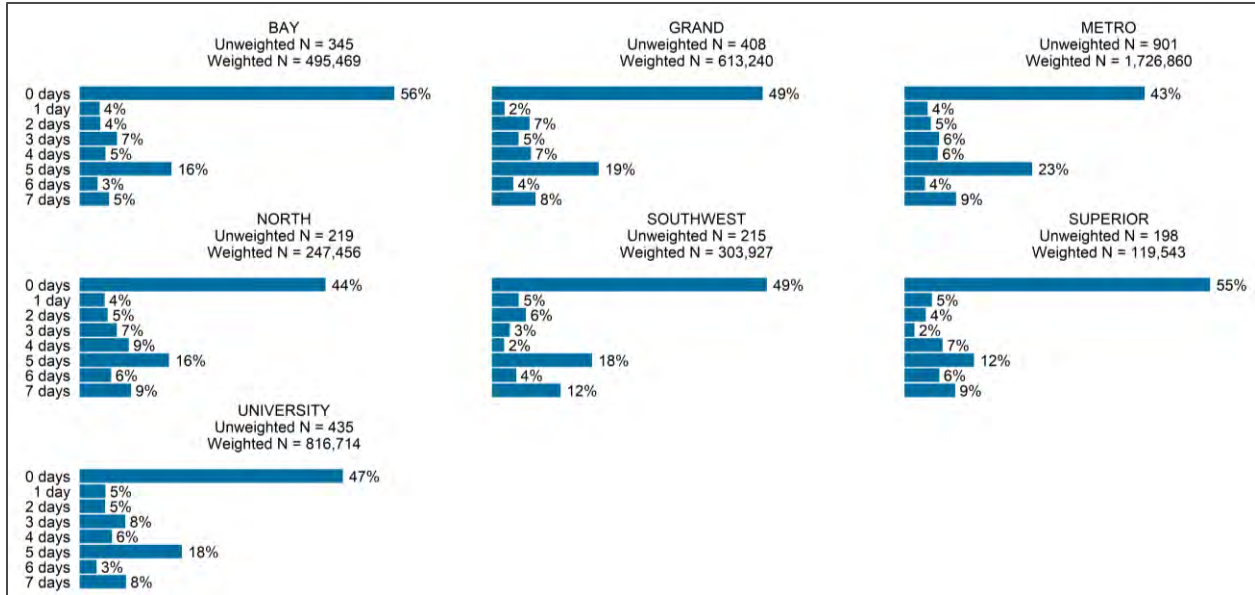


FIGURE 36: DAYS TELEWORKED IN PAST SEVEN DAYS AMONG CURRENTLY EMPLOYED RESPONDENTS (BY REGION)

Employed respondents who reported that they were teleworking currently were asked how often they would like to telework in the future, if allowed. The share of those who reported a desire to work from home four or more days per week increased slightly in July but was similar in September as in May 2021 (Figure 37). As shown in Figure 38, participants from the Bay Region most frequently reported a preference to “Never” work from home if given the option in the future (six percent). Participants from the Superior and Southwest Regions were most likely to report a preference to telework five or more days per week in the future (56 percent and 53 percent, respectively).

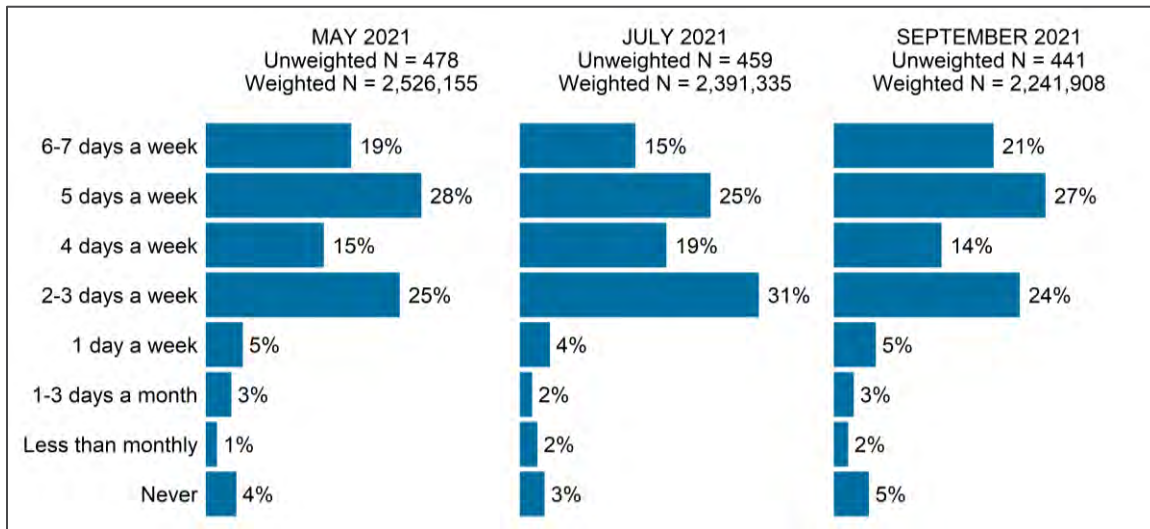


FIGURE 37: EXPECTED FUTURE TELEWORK FREQUENCY AMONG CURRENT TELEWORKERS

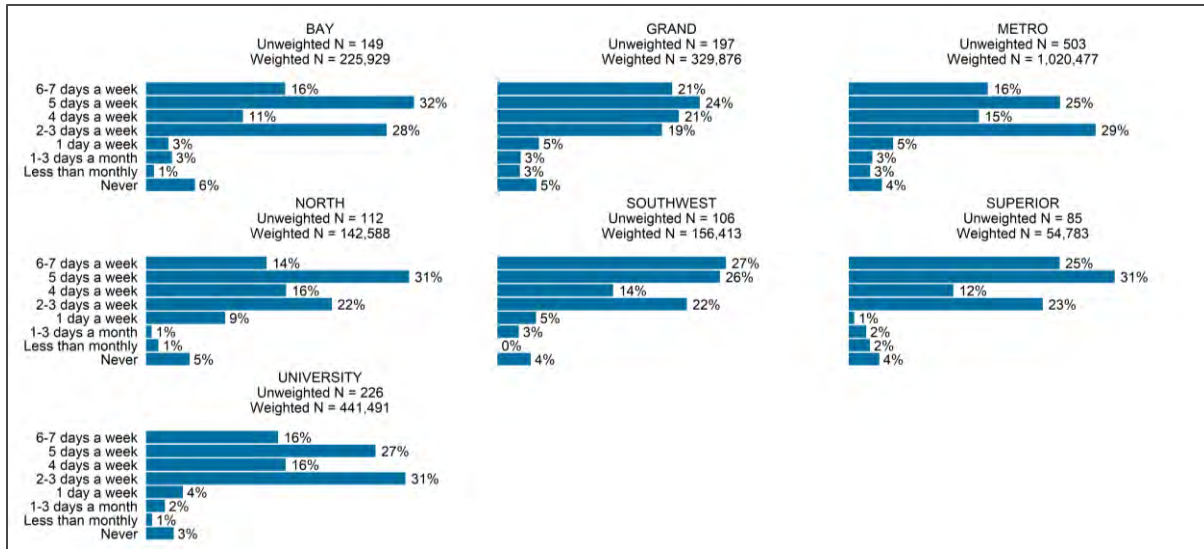


FIGURE 38: EXPECTED FUTURE TELEWORK FREQUENCY AMONG CURRENT TELEWORKERS (BY REGION)

4.4 VEHICLES

Participants were asked about their interest in purchasing or leasing an electric vehicle within the next five years. As shown in Figure 39, those under the age of 45 were much more interested than those age 45 and older (44 percent compared with 24 percent, respectively). Those age 45 and older reported a higher instance of “Unsure” than those younger than 45 (38 percent compared with 26 percent, respectively), indicating an opportunity for additional information, education, and outreach regarding electric vehicle technology.

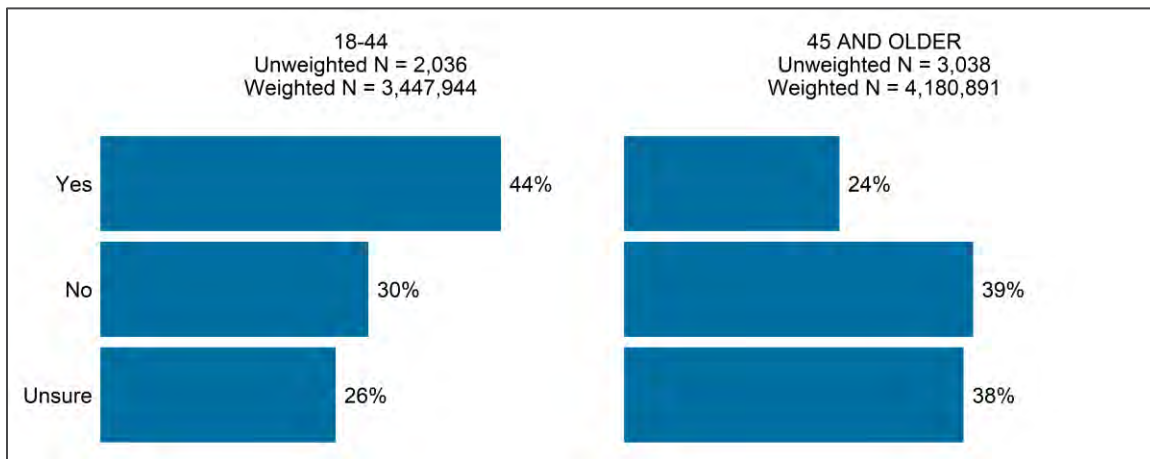


FIGURE 39: INTEREST IN PURCHASING OR LEASING AN ELECTRIC VEHICLE WITHIN THE NEXT FIVE YEARS

As shown in Figure 40, residents in the Metro Region (34 percent), University Region (34 percent), Southwest Region (33 percent) and Grand Region (33 percent) indicated the highest interest in purchasing or leasing an electric vehicle within the next five years.

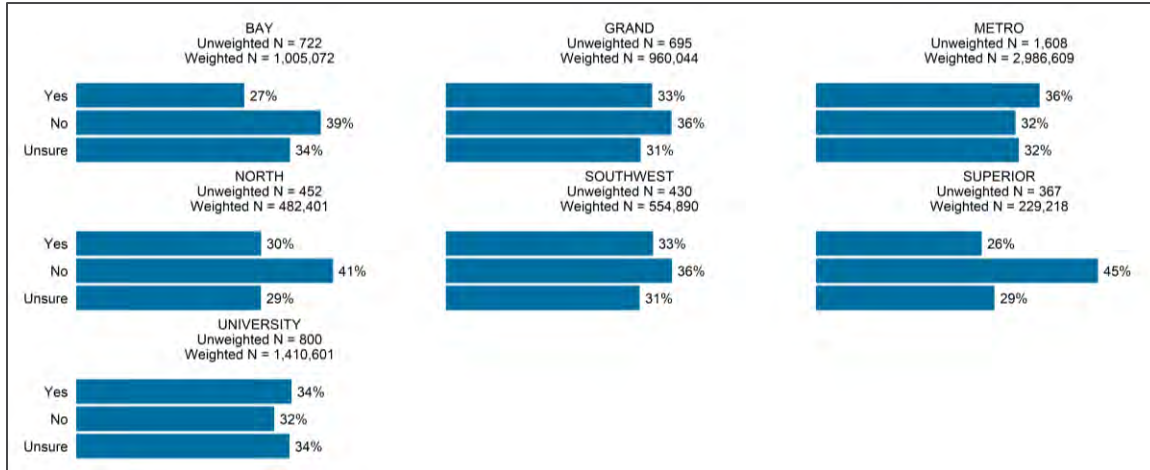


FIGURE 40: INTEREST IN PURCHASING OR LEASING AN ELECTRIC VEHICLE WITHIN THE NEXT FIVE YEARS (BY REGION)

Figure 41 shows the top concerns residents have about electric vehicle ownership. Charging availability for long distance trips is a top concern among residents while passenger and cargo space is a low concern among residents.

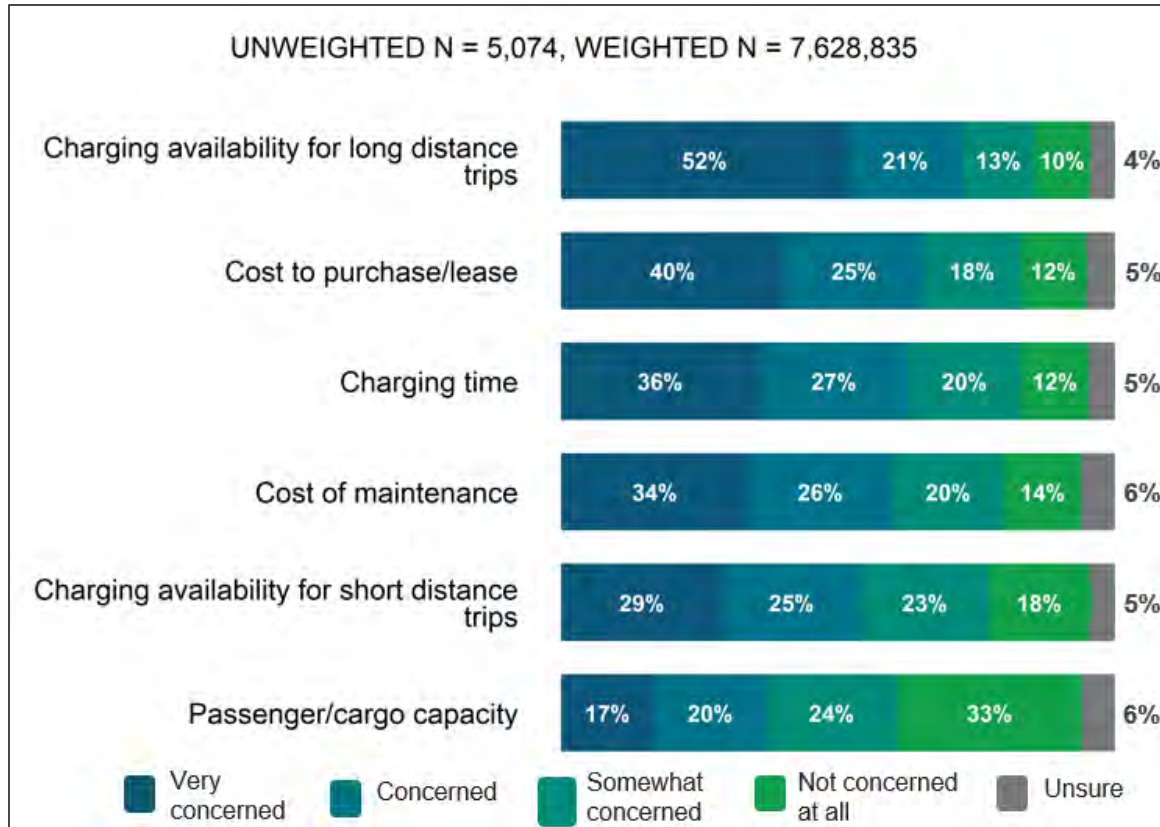


FIGURE 41: ELECTRIC VEHICLE CONCERNS

Drivers in Michigan currently pay 44.7 cents per gallon in state and federal motor fuel taxes. Like most states, this “gas tax” is the primary source of funding for transportation development and maintenance in Michigan. Because they use less or no gas, drivers of fuel efficient, hybrid, and electric vehicles pay less tax for the same distance traveled. Considering this, survey respondents were asked which transportation funding approach they think is the most fair. The overall results are shown in Figure 42 and the results by region are shown in Figure 43. Overall, and in all regions but Superior, respondents indicated that “Neither a road use charge nor a gas tax is fair.” In wave three, respondents who said neither is fair were asked to provide a reason for their answer. Most respondents who answered the follow-up question noted general dissatisfaction with having to pay taxes at all.

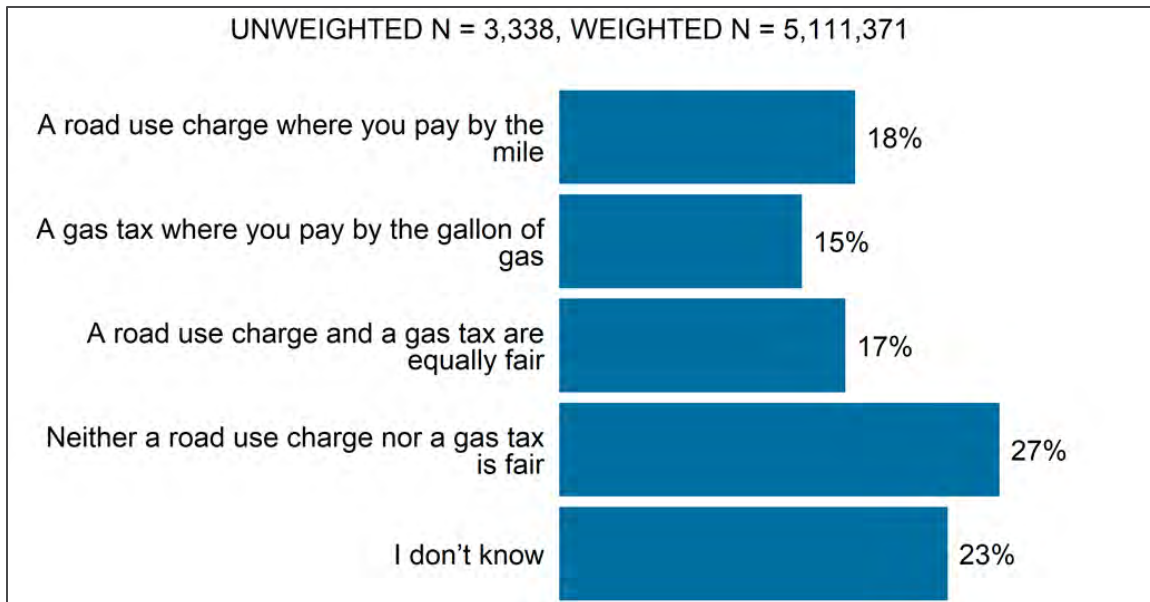


FIGURE 42: MOST FAIR TRANSPORTATION FUNDING APPROACH

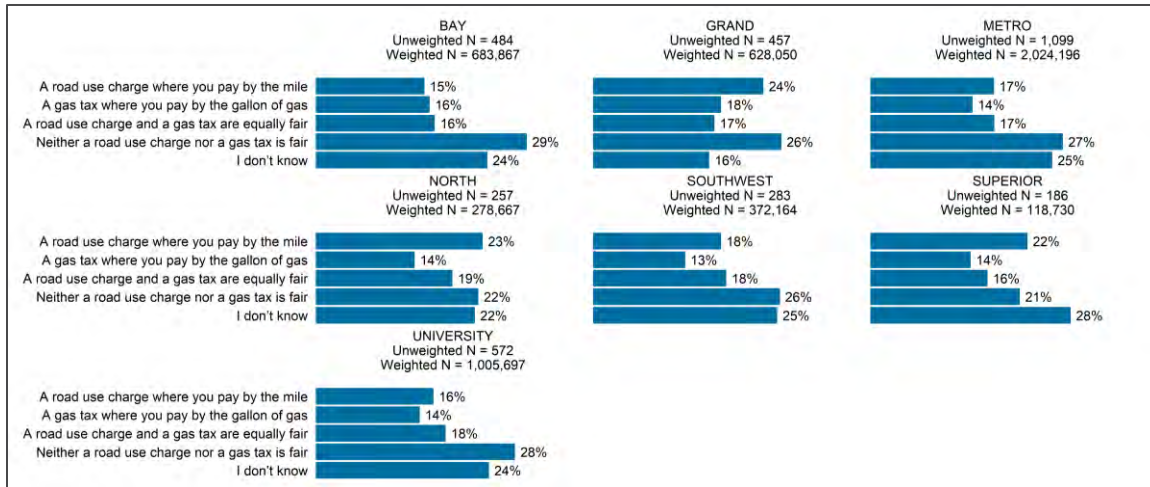


FIGURE 43: MOST FAIR TRANSPORTATION FUNDING APPROACH (BY REGION)

5.0 REGIONAL HIGHLIGHTS

This section summarizes the information included in Section 4.0 by MDOT Region, including highlighting each region's results.

5.1 BAY REGION

The Bay Region had one of the lowest Net Better scores of the seven regions, however, Bay Region's Net Better score increased eight points since 2019 (2019 Net Better Score of -19). Bay Region residents also reported the lowest occurrence of teleworking 4 or more days per week (29 percent of employees) when compared with other regions. They were tied with Metro for reporting the lowest instance (71 percent) of receiving packages at home in the past week.

TABLE 11: BAY REGION KEY METRICS

KEY METRICS	BAY
Quality of Transportation Net Better Score*	-11
Top Two Statements About MDOT Most Agreed With	
“I think MDOT is moving in the right direction”	46%
“I trust MDOT officials to make good decisions about the State’s future transportation system”	45%
Top Two Issues with High Priority	
Maintain existing roads	89%
Reduce traffic congestion	58%
Top Two Sources of Transportation Information	
Television	43%
Social media	29%
Top Two Satisfied Items	
Making Michigan state highways as safe as possible, and with clear markings and signage	63%
Quickly and efficiently removing snow and ice from Michigan state highways	60%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	48%
Quickly and efficiently completing Michigan state highway construction projects	38%
Received Packages at Home in the Past Week	71%
Ordered Groceries for Delivery in the Past Week	17%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	29%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents	59%
Currently Teleworking at Least One Day a Week	59%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.2 GRAND REGION

Residents in the Grand Region had the highest Net Better score of the seven regions and was the only region to have a positive net better score of +1. Their Net Better score increased by +1 since 2019 (2019 Net Better Score, 0).

TABLE 12: GRAND REGION KEY METRICS

KEY METRICS	GRAND
Quality of Transportation Net Better Score*	+1
Top Two Statements About MDOT Most Agreed With	
“I trust MDOT officials to make good decisions about the State’s future transportation system”	52%
“I think MDOT is moving in the right direction”	51%
Top Two Issues with High Priority	
Maintain existing roads	88%
Reduce traffic congestion	65%
Top Two Sources of Transportation Information	
Television	44%
Social media	35%
Top Two Satisfied Items	
Quickly and efficiently removing snow and ice from Michigan state highways	71%
Making Michigan state highways as safe as possible, and with clear markings and signage	69%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	43%
Quickly and efficiently completing Michigan state highway construction projects	35%
Received Packages at Home in the Past Week	73%
Ordered Groceries for Delivery in the Past Week	19%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	38%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	66%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.3 METRO REGION

Residents in the Metro Region had a Net Better score of -2, which is an improvement of +2 since 2019 (2019 Net Better Score, -4). Metro residents reported the highest instance of ordering groceries for delivery (23 percent) compared to other regions. Although Metro Region employees reported the highest instance of teleworking four or more days per week (42 percent), they also indicated the lowest expected future telework frequency (56 percent expecting to telework four or more days in the future), compared to other regions.

TABLE 13: METRO REGION KEY METRICS

KEY METRICS	METRO
Quality of Transportation Net Better Score*	-2
Top Two Statements About MDOT Most Agreed With	
“I think MDOT is moving in the right direction”	47%
“I trust MDOT officials to make good decisions about the State’s future transportation system”	45%
Top Two Issues with High Priority	
Maintain existing roads	88%
Reduce traffic congestion	72%
Top Two Sources of Transportation Information	
Television	50%
Smartphone traffic / map app	33%
Top Two Satisfied Items	
Quickly and efficiently removing snow and ice from Michigan state highways	62%
Making Michigan state highways as safe as possible, and with clear markings and signage	61%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	47%
Quickly and efficiently completing Michigan state highway construction projects	37%
Received Packages at Home in the Past Week	71%
Ordered Groceries for Delivery in the Past Week	23%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	42%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	56%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.4 NORTH REGION

Residents in the North Region had a Net Better score of -1. Although not the overall highest when compared with other regions, their Net Better score increased by +13 since 2019 (2019 Net Better Score, -14), which is the single largest improvement in Net Better score across the seven regions.

TABLE 14: NORTH REGION KEY METRICS

KEY METRICS	NORTH
Quality of Transportation Net Better Score*	-1
Top Two Statements About MDOT Most Agreed With	
“I trust MDOT officials to make good decisions about the State’s future transportation system”	44%
“I think MDOT is moving in the right direction”	43%
Top Two Issues with High Priority	
Maintain existing roads	83%
Reduce traffic congestion	57%
Top Two Sources of Transportation Information	
Television	41%
Newspaper / new website	29%
Top Two Satisfied Items	
Making Michigan state highways as safe as possible, and with clear markings and signage	70%
Quickly and efficiently removing snow and ice from Michigan state highways	70%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	47%
Quickly and efficiently completing Michigan state highway construction projects	31%
Received Packages at Home in the Past Week	78%
Ordered Groceries for Delivery in the Past Week	21%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	40%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	61%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.5 SOUTHWEST REGION

Residents in the Southwest Region reported a Net Better score of -12, which represents a 7-point increase since 2019 (2019 Net Better Score, -19). Although not the largest improvement of the regions, this still indicates a positive improvement in perceptions about the quality of transportation in Michigan.

TABLE 15: SOUTHWEST REGION KEY METRICS

KEY METRICS	SOUTHWEST
Quality of Transportation Net Better Score*	-12
Top Two Statements About MDOT Most Agreed With	
“I think MDOT is moving in the right direction”	49%
“I think MDOT does a good job prioritizing highway improvements in Michigan”	46%
Top Two Issues with High Priority	
Maintain existing roads	91%
Reduce traffic congestion	60%
Top Two Sources of Transportation Information	
Television	40%
Social media	33%
Top Two Satisfied Items	
Quickly and efficiently removing snow and ice from Michigan state highways	69%
Making Michigan state highways as safe as possible, and with clear markings and signage	67%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	48%
Quickly and efficiently completing Michigan state highway construction projects	33%
Received Packages at Home in the Past Week	76%
Ordered Groceries for Delivery in the Past Week	18%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	36%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	67%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.6 SUPERIOR REGION

Residents in the Superior Region had a Net Better score of -2, which is an improvement of +6 since 2019 (2019 Net Better Score, -8). When compared with other regions, Superior residents reported the highest instance of receiving packages at home in the past week (80 percent), however, they also reported the lowest instance of ordering groceries for delivery in the past week (15 percent). Among employees who indicated that they currently telework, 68 percent expect to telework at least four days per week in the future; this is the highest expected future telework frequency across the regions.

TABLE 16: SUPERIOR REGION KEY METRICS

KEY METRICS	SUPERIOR
Quality of Transportation Net Better Score*	-2
Top Two Statements About MDOT Most Agreed With	
“I trust MDOT officials to make good decisions about the State’s future transportation system”	49%
“I think MDOT adequately supports local transportation projects for city and county governments”	44%
Top Two Issues with High Priority	
Maintain existing roads	90%
Add sidewalks and paths to make it easier and safer to walk	52%
Top Two Sources of Transportation Information	
Television	37%
Newspaper / news website	31%
Top Two Satisfied Items	
Making Michigan state highways as safe as possible, and with clear markings and signage	71%
Quickly and efficiently removing snow and ice from Michigan state highways	71%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	42%
Quickly and efficiently completing Michigan state highway construction projects	31%
Received Packages at Home in the Past Week	80%
Ordered Groceries for Delivery in the Past Week	15%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	34%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	68%

*“Net Better” score = the “better” percentage minus the “worse” percentage

5.7 UNIVERSITY REGION

Residents in the University Region had a Net Better score of -10, which is improved by +7 since 2019 (2019 Net Better Score, -17).

TABLE 17: UNIVERSITY REGION KEY METRICS

KEY METRICS	UNIVERSITY
Quality of Transportation Net Better Score*	-10
Top Two Statements About MDOT Most Agreed With	
“I trust MDOT officials to make good decisions about the State’s future transportation system”	44%
“I think MDOT is moving in the right direction”	43%
Top Two Issues with High Priority	
Maintain existing roads	90%
Reduce traffic congestion	62%
Top Two Sources of Transportation Information	
Television	42%
Smartphone traffic / map app	31%
Top Two Satisfied Items	
Quickly and efficiently removing snow and ice from Michigan state highways	63%
Making Michigan state highways as safe as possible, and with clear markings and signage	62%
Top Two Dissatisfied Items	
Maintaining the pavement on Michigan state highways to keep them smooth and free from potholes	53%
Quickly and efficiently completing Michigan state highway construction projects	39%
Received Packages at Home in the Past Week	74%
Ordered Groceries for Delivery in the Past Week	18%
Teleworked at Least Four Days in the Past Week, Among Employed Respondents	35%
Expect to Telework at Least Four Days a Week in the Future, Among Respondents Currently Teleworking at Least One Day a Week	59%

*“Net Better” score = the “better” percentage minus the “worse” percentage

6.0 CONCLUSIONS

While most MDOT regions were more negative than positive in their reported perceptions of the quality of Michigan transportation compared to three years ago, all regions demonstrated a higher “net better” score than in 2019. Though some of this difference may be explained differing survey methodologies between the years, the difference also suggests an overall improvement in the quality of transportation in Michigan. Similarly, all regions included the statements “I trust MDOT officials to make good decisions about the State’s future transportation system” and / or “I think MDOT is moving in the right direction” in the top two statements with which they most strongly agreed.

COVID-19 impacts on travel behaviors were also apparent in this survey, most notably in the expectations for future public transit usage, which increased between spring and summer of 2021. Grocery pick-up, delivery, and food service delivery have remained consistent since spring of 2021, though exhibit an increase in frequency over those same behaviors prior to March 2020 (when the COVID-19 outbreak began impacting travel more notably).

Throughout the survey period, more than half of employed residents reported teleworking at all in the past seven days. Among those, 40 percent or more expect to continue teleworking five or more days per week in the future if their employers allow them to do so. This would equate roughly 20% of employed adults teleworking five or more days per week (though some may telework only partial days).

Looking to future transportation technologies, most residents are not interested in purchasing or leasing an electric vehicle in the next five years, but interest varies greatly by age. Forty-four percent of respondents under age 45 reported an interest in purchasing an electric vehicle while the same was true of only 24 percent of those age 45 or older. When asked about future transportation funding options in light of the expected increase in electric vehicles, the largest share of respondents (18 percent) did not perceive a gas tax or road use charge as “fair,” though responses were varied across answer options (i.e., either, both, neither, don’t know).

In total, this survey revealed interesting trends both in current and changing perceptions about Michigan transportation as well as what transportation changes may come about in the near future as the COVID-19 outbreak response and general travel environment evolve.

