2022-23 NCDOT STATEWIDE CUSTOMER SERVICE SURVEY
Phase I

NCDOT Project 2023-34   FHWA/NC/2023-34
January 2024

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RESEARCH & DEVELOPMENT

2022–23

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16. Abstract

Across North Carolina, the North Carolina Department of Transportation (NCDOT) provides transportation services for a variety of functions and uses. Customer satisfaction is identified as an NCDOT priority as part of the department's Strategic Plan. Since 2015, NCDOT has measured customer service through a statewide survey focused on asking customers about key elements of interest to the department. This survey continues to provide useful insights that can be used to improve customer satisfaction and track progress over time, with a focus on NCDOT's mission and goals.

This summary outlines the results of the 2022-23 survey, which was completed by over 1,500 North Carolina residents. This customer survey was conducted in the spring of 2023 using a random sampling method as well as an additional oversampling effort to ensure populations that are typically more difficult to reach were surveyed.

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Executive Summary

Introduction

The North Carolina Department of Transportation (NCDOT) provides transportation services for a variety of purposes to customers across the state. Customer satisfaction is a priority for NCDOT that is emphasized in the department's Strategic Plan. As a result, NCDOT has measured customer service since 2015 through a statewide survey focused on asking customers about key services and programs of interest to the department. This annual survey continues to provide useful insights that can be used to improve customer satisfaction and track progress over time, with a focus on NCDOT's mission and goals.

This summary document outlines the results of the 2022-23 survey (referred to as the "2022" survey in this document), which was administered late April to early June 2023. The survey was answered by more than 1,500 North Carolinians, who were recruited via a combination of random selection and oversampling. The sampling method for the survey alternates each year, with a convenience sample conducted one year and a random sample is conducted the next. An additional targeted oversampling effort was conducted to survey demographic groups that are typically challenging to reach.

The overall NCDOT customer satisfaction rate for 2022 survey participants was 78%. The vast majority (94%) of respondents reported using a personal vehicle as their primary mode of transportation and 97% of respondents reported having access to a usable and reliable vehicle of their own. Overall, 53% of respondents reported that they have sufficient access to the transportation system in North Carolina and 49% of respondents reported that they do not experience barriers to using the transportation mode that they want to use. Additionally, 70% of respondents reported that they feel supported by North Carolina's transportation system.

Demographics

Survey respondents were asked to share which demographic categories that best describe them. The categories used were consistent with those included in the United States Census Bureau's American Community Survey. An oversampling effort was conducted in addition to the base survey sample to align the the survey participant sample more closely with the actual demographic composition of North Carolina adults. The oversampling effort focused on gaining more respondants in specific demographic groups who have historically been underpresented in the base survey sample. These groupd included individuals ages 18 to 24 and ages 25 to 34, individuals who identify as Black/African American, and individuals who identify as Hispanic. As a result the survey sample is more closely aligned with the actual demographic composite of North Carolina.

The following data presents a summary of the direct participant demographics for both the convenience sample as well as the oversampling effort. This summary shows the percentage of each demographic type (such as gender) that a given demographic group (such as those who identify as female) comprises in the random survey sample respondents compared to the North Carolina population as a whole. The state-level data utilized to measure representation is based on United States Census data and NC State Demographer projections.

Gender

- **Males: 47.9%** of North Carolina, **47.9%** of survey respondents
- **Females: 52.1%** of North Carolina, **52.1%** of survey respondents

Age

- **18-24 Years: 12.6%** in North Carolina, **2.3%** of survey respondents
- **25-34 Years: 16.5%** in North Carolina, **7.3%** of survey respondents
- **35-44 Years: 16.6%** in North Carolina, **11.0%** of survey respondents
- **45-54 Years: 16.4%** in North Carolina, **18.1%** of survey respondents
- **55-64 Years: 16.1%** in North Carolina, **26.2%** of survey respondents
- **65 or Older: 21.9%** in North Carolina, **35.0%** of survey respondents

Race

- **White/Caucasian: 71.1%** of North Carolina, **72.4%** of survey respondents
- **Asian or Pacific Islander: 3.5%** of North Carolina, **1.7%** of survey respondents
- **Native American including Alaskan Native: 1.6%** of North Carolina, **0.9%** of survey respondents
- **Black/African American: 20.3%** of North Carolina, **14.5%** of survey respondents
- **Hispanic/Latino: 9.8%** of North Carolina, **4.3%** of survey respondents

Survey Adjustments

The Statewide Customer Service Survey has been conducted annually since 2015 and over time, the survey has been changed and updated In order to ensure it is accessible, up to date, as brief as possible, and simple. However, the research team has also taken the necessity to maintain some consistency into account so that survey data is comparable year over year. The following list notes significant changes made:

- 2019: Significant overhaul and restructuring of survey to streamline time needed to take survey
- 2020: Changes to questions with sensitivity to COVID-19 pandemic
- 2021: Tuning of question wording and formatting; some COVID-19 related questions and response options were maintained. Questions regarding accessibility to transportation infrastructure were added
- 2022: DMV section removed to avoid redundancy

Additionally, in order to clarify naming conventions for each survey, the research team plans to implement the proposed new naming conventions for reports detailed in Table 1, below. These changes are integrated into this current report for the first time.

Table 1. Survey Naming Conventions (as of this report)

Report Number	Current Name in Research Reports	Year Survey Conducted	Proposed New Name for Reporting	Abbreviated Name for Reporting
7	N/A	2023	2022-23	2022
6	2020-21	2021	2021-22	2021
5	2019-20	2020	2020-21	2020
4	2018-19	2019	2019-20	2019
3	2017-18	2018	2018-19	2018
2	2016-17	2016/2017	2016-17	2017
1	2015-16	2015	2015-16	2016

Overall Satisfaction Rate

The overall customer satisfaction rate for the 2022 survey participants was 78%. This is an increase from 71% in 2021 and 74% in 2020. This satisfaction rate is compared to that of previous survey years in Figure 1, below.

However, caution should be used when comparing satisfaction across years, as some of the survey methods have changed over time. For example, the satisfaction rate for the 2019 survey is notably lower than other years. This may be the result of some changes to the survey, as the 3-point Likert scale used in previous survey years was converted to a 5-point Likert scale in 2019 to obtain more accurate responses. This change may have resulted in fewer respondents opting to select the "neutral" satisfaction category. Respondents who may have otherwise reported their satisfaction as "neutral" in previous years may have selected a different response option in the new, broader scale because they felt that it better represented their opinion, reducing the overall satisfaction rate compared to past years.

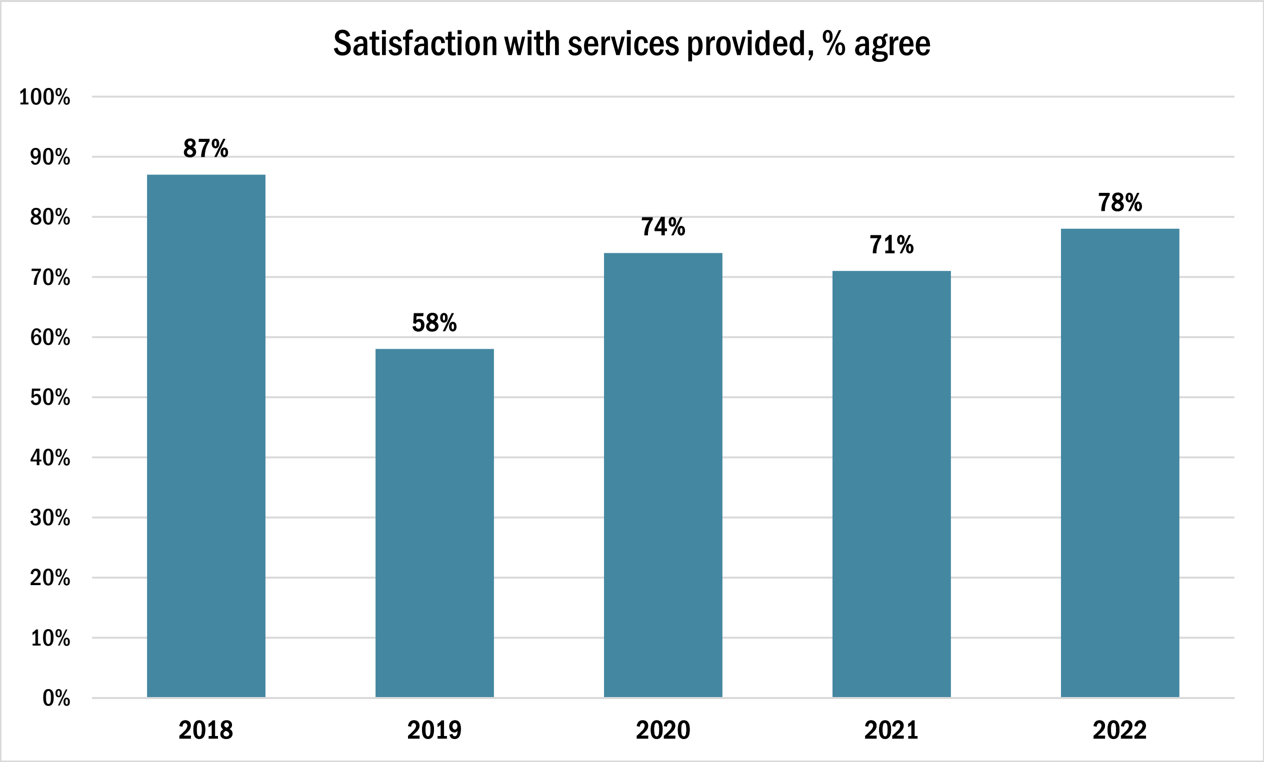

Figure 1. Satisfaction with NCDOT services by year

Overall Responses

The following section outlines the results of the convenience and oversampling effort conducted through this study. Note that not all participants responded to all questions and the sample size of respondents therefore may vary from question to question.

Satisfaction

Overall, 78% of respondents said they were satisfied with transportation services in North Carolina.

Primary Mode

Respondents reported their primary means of transportation as follows:

- **94.5%** of respondents use a **personal vehicle** as their primary means of transportation (81.0% as a driver and 12.6% as a passenger).
- **2.4%** use a **work vehicle**
- **1.1% walk**
- **1.5%** use a **personal bicycle**
- **1%** use **public transportation**
- **<1%** use **pay-to-use bicycles or scooters**
- **<1%** use **ferries**
- **<1%** use **another mode** as a primary means of transportation

Overall Mode Use

Respondents were asked how frequently they used each mode of transportation. The majority of respondents (61.5%) reported using a personal vehicle every day and a further 27.6% reported using a personal vehicle at least a few times a week. While only roughly 1% of respondents reported walking, jogging, or running as their primary mode of transportation, 32.9% of respondents reported that they walk, jog, or run a few times a week or more. Figure 2, below, shows frequency of use for each mode.

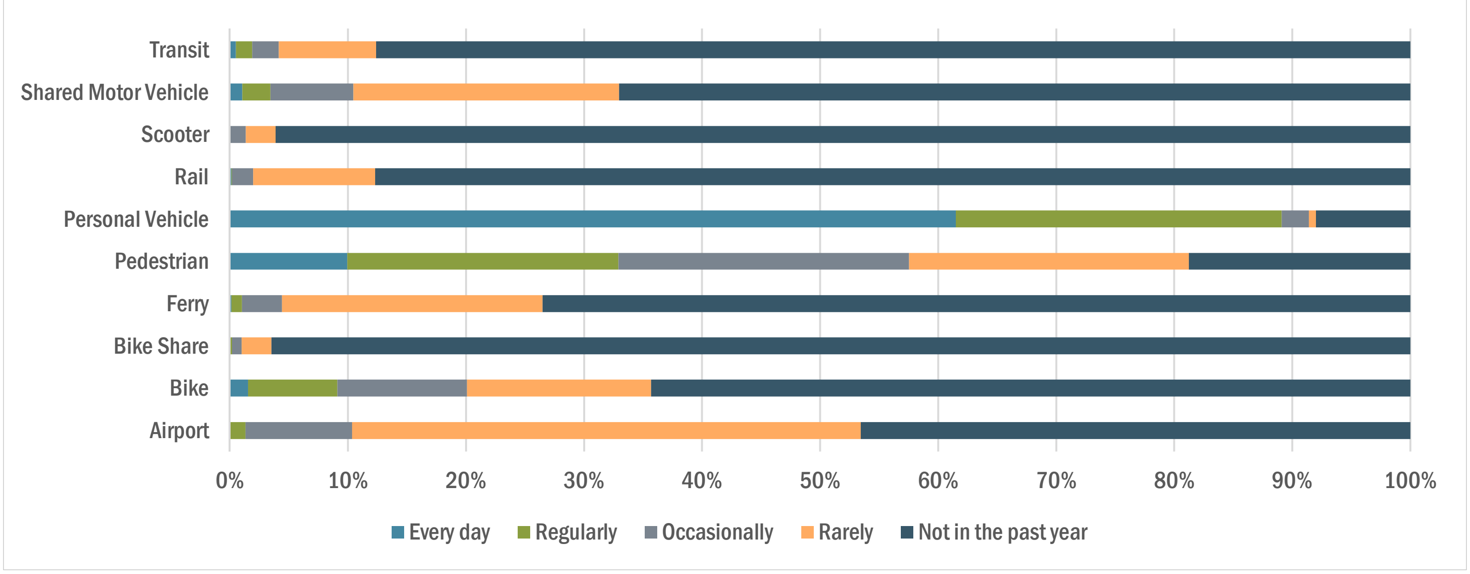

Figure 2. Mode Use

Service Priorities

Respondents rated the following services as those that should receive the most emphasis over the next two years:

- Maintenance of roadways **(26.8%)**
- Safety of roadways **(20.7%)**
- New construction of roadways **(18.2%)**
- Trains **(9.3%)**
- Local/public/city buses **(8.2%)**
- Pedestrian transportation **(6.5%)**
- Bicycle transportation **(6.1%)**
- Airports **(3.0%)**
- Ferries **(1.2%)**

Key Findings

In addition to the overall results described in previous sections, the research team identified survey results of interest related to travel trends and patterns identified in the data. These findings are described in the following sections.

Transportation Infrastructure Support

In 2021, four new questions were added to measure respondents' perceived access to and support from transportation infrastructure in North Carolina. Overall, 53% of respondents felt that they have sufficient access to the transportation system in North Carolina, a decrease from 2021. Forty-nine percent of respondents reported that they don't experience barriers to using the transportation mode(s) they prefer, a decrease from 67% in 2021. Figure 3, below, shows infrastructure support in 2022 versus 2021.

Despite these decreases, 70% of respondents reported that they felt supported by North Carolina's transportation infrastructure (versus 71% in 2021) and 97% reported having access to a usable vehicle of their own (an increase from 92% in 2021).

Consistent with results from 2021, respondents with lower income overall indicated that they have less access to a usable and reliable vehicle compared to respondents with higher income. Seventy-two percent of respondents earning less than $25,000 a year said they have access to a vehicle, versus 92% for respondents earning between $25,000 and $49,999. Ninety eight percent of respondents who earn $50,000 or more have access to a usable and reliable vehicle.

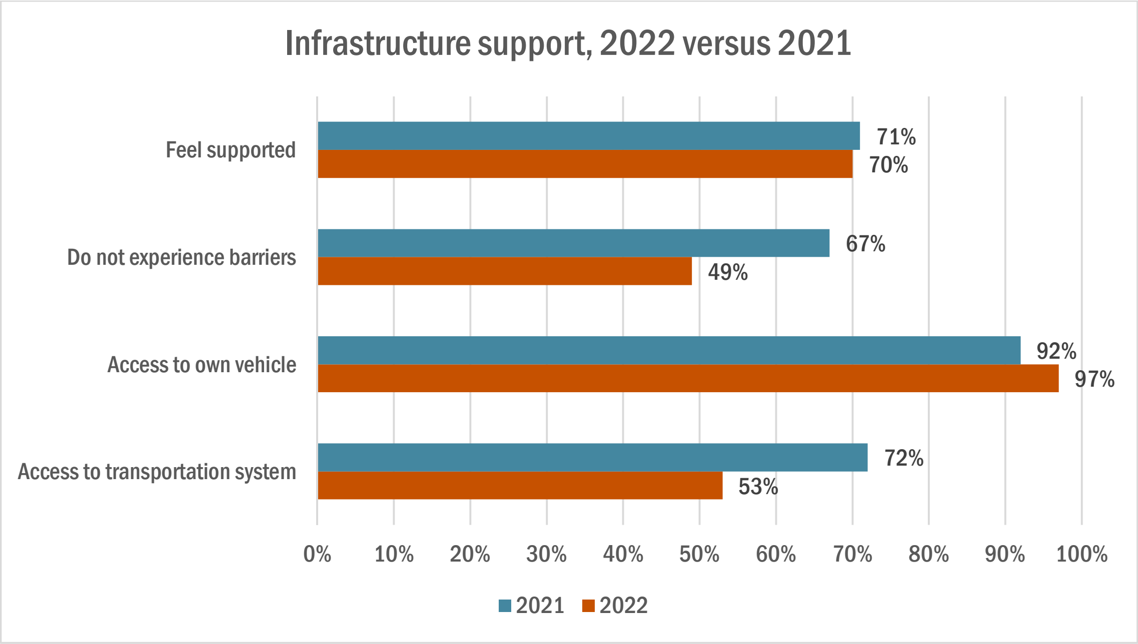

Figure 3. Infrastructure support in 2022 versus 2021

Personal Vehicle Use by Year

As a likely result of the COVID-19 pandemic, there was a pronounced decrease in daily vehicle use. In 2022, the number of respondents who reported using a personal vehicle on a daily basis has increased from 2020, however, the overall proportion is still reduced from pre-pandemic levels. Furthermore, there is an increase in respondents who reported using a personal vehicle regularly (28% versus 19% in 2021). It is possible that many people still work remotely or have permanently altered their travel habits for other reasons. These results are presented in Figure 4, below.

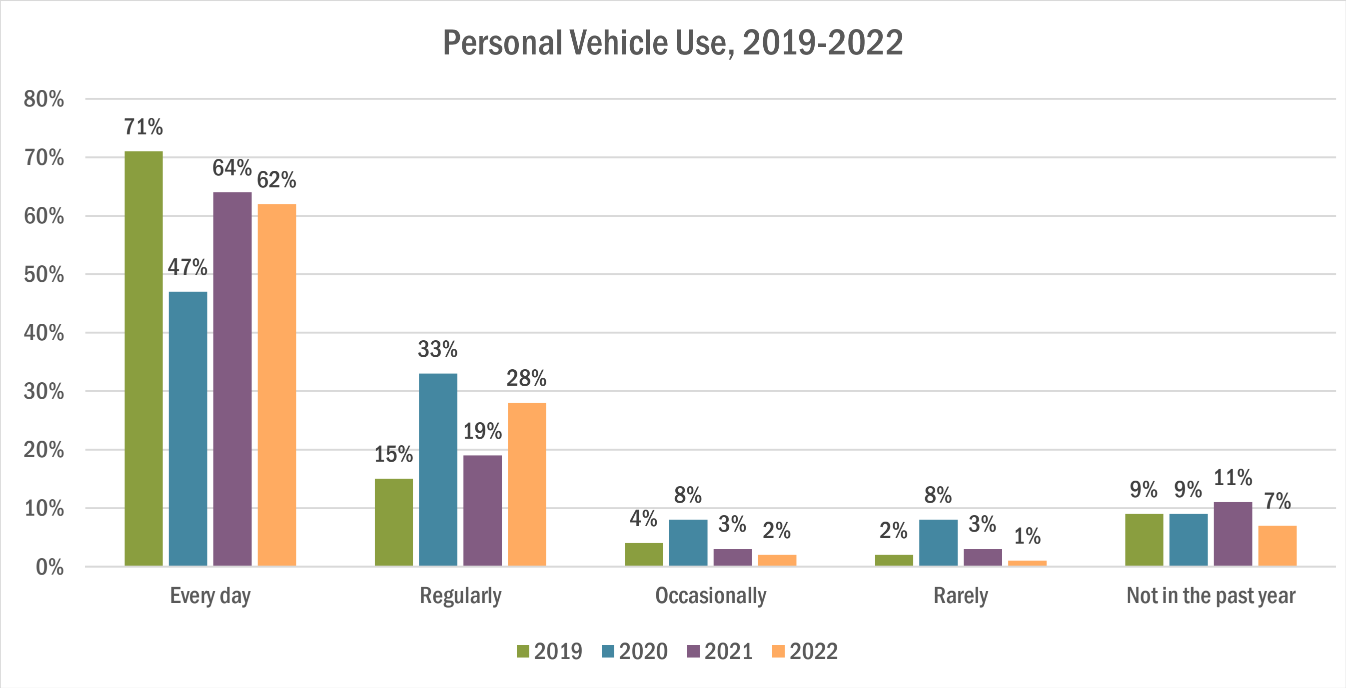

Figure 4. Personal vehicle use by year

Variance by Income

Primary mode use differed between household income brackets, as shown in Figure 6. For the purposes of this survey, respondents were asked to report their total household income before taxes and other withholdings. Respondents in lower income groups drive a personal vehicle at a lower rate than respondents in higher income brackets. Lower income groups are also more likely to be vehicle passengers compared to higher income groups. This may be due to challenges associated with affording a personal vehicle and/or the affordability of riding with someone else due to fuel cost. Respondents with lower income also walk and use public transit at a higher rate than those with higher income. Figure 5, below, displays the primary mode of transportation by respondent household income.

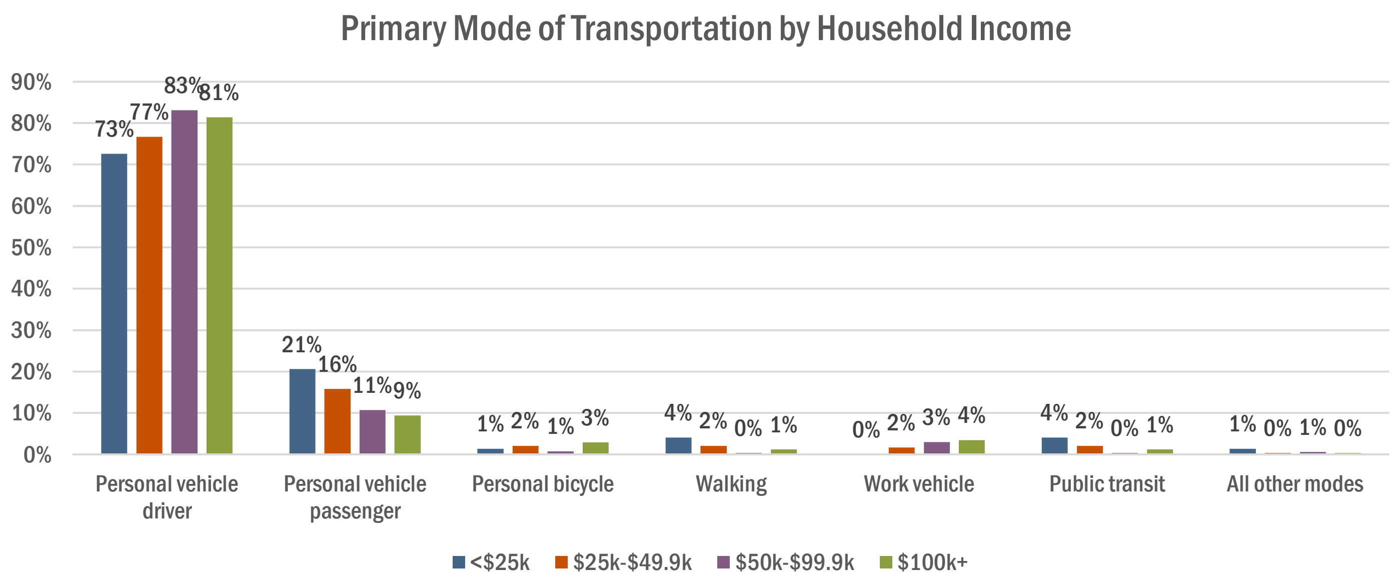

Figure 5. Primary mode of transportation by income

Satisfaction by Mode/Unit

While overall satisfaction with NCDOT services increased in 2022, individual modal satisfaction decreased overall. Figure 6 shows satisfaction by mode in 2022.

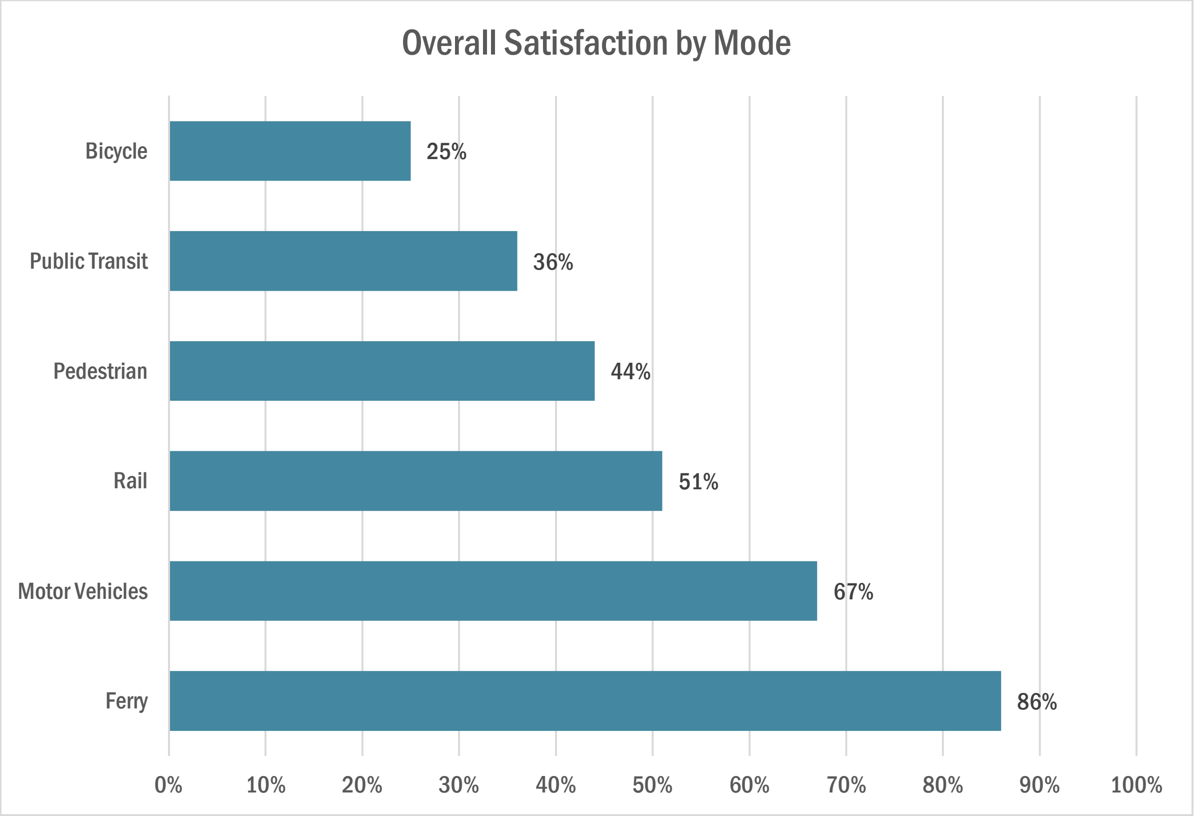

Figure 6. Satisfaction by Mode

Results by Mode

The survey also included both mode-specific and general agency-level questions, the results of which are described in the following section. It is important to note that for some modes, the number of respondents has a low sample size. Table 2, below, shows the number of respondents for each mode.

Table 2. Number of respondents using each mode

	Used within past year	Not used within past year
Personal vehicle	1,520	132
Walking/jogging/running	1,497	327
Airplane	883	769
Bicycle	647	1,118
Ferry	414	1,149
Transit	209	1,429
Rail	194	1,382

NCDOT Communications

Twenty-three percent of respondents reported that electronic message boards on highways were the most effective way for NCDOT to provide information such as traffic conditions and roadway projects. An additional 20% of respondents said that signs on roadways were the most effective, and 14% said social media was the most effective method.

Compared to 2021, respondents' knowledge of various campaigns and outreach efforts shifted. More respondents reported having knowledge of NC by Train (36% versus 20% in 2021). Far fewer respondents reported having knowledge of NC Vision Zero (8% versus 18% in 2021). Figure 7, below, displays the proportion of respondents who indicated they were aware of each campaign or outreach effort.

Top 5 most effective ways to provide information:

23% Electronic Message Boards

20% Signs on Roadways

14% Social Media

10% Local TV

9% Text Messages

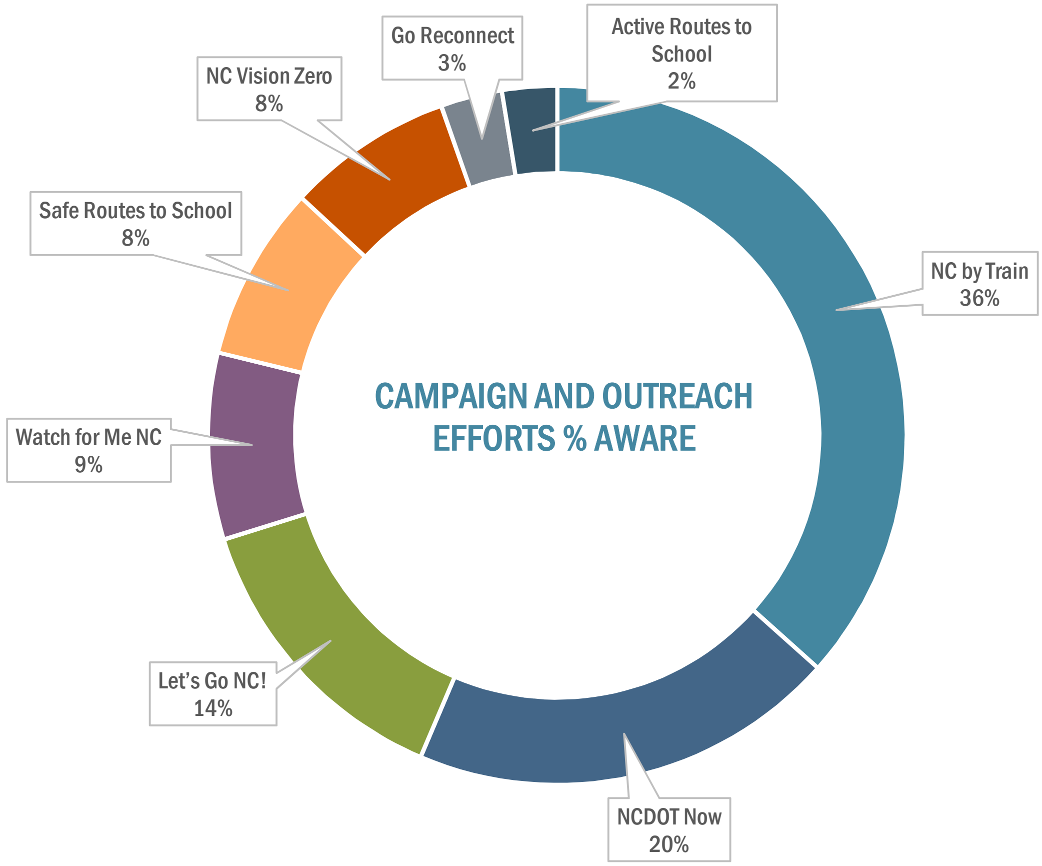

Figure 7. Campaign and Outreach Efforts - percent awar

Personal Vehicle Drivers and Passengers

Sixty-two percent respondents reported driving or riding in a personal vehicle every day in 2022, a marginal decrease compared to 64% in 2021. However, the number of respondents who drive or ride in a vehicle every day is still lower than pre-pandemic levels. Compared to 2021, more respondents used a vehicle regularly (28% versus 19% in 2021). An additional 8% of respondents reported that they had not driven or ridden in a vehicle in the past year, fewer than in 2021 (11%).

The median time spent in a vehicle was reported as approximately 60 minutes on Tuesday and Thursday, 56 minutes on Saturday, and 45 minutes on Sunday. Compared to 2021, respondents reported driving slightly more on Tuesday and Thursday (50 minutes in 2021), and more on Saturday and Sunday (45 minutes and 30 minutes, respectively).

Most respondents drive or ride in a personal vehicle every day, but an increased percentage use a vehicle only a couple of days a week.

Thirty-six percent of respondents said they rely on apps like Waze and Google maps to help them make decisions about their daily commute, a decrease from 52% in 2021.

Respondents most frequently reported changing the route they travel (33%) and changing the time they leave for work or home (30%) in response to traffic congestion. Twenty-six percent of respondents reported that they had not made any changes in response to traffic congestion. In North Carolina's most urban areas, such as Wake, Mecklenburg, New Hanover, and Guilford Counties and surrounding areas, a higher proportion of respondents reported making some changes in response to congestion. Over 85% of respondents in each of these counties reported that they had made some sort of change in driving habits in response to congestion. Conversely, respondents in North Carolina's more rural counties in Division 1 largely reported that they did not make any changes due to congestion; only 37% made any sort of change.

Sixty-seven percent of respondents were satisfied with all services, on average. Respondents felt most dissatisfied with smoothness of highway and interstate surfaces (43% satisfied), the overall flow of traffic (48% satisfied), and they delay time in work zones on highways and interstates (57% satisfied). Respondents were most satisfied with the safety and cleanliness of rest areas (90% satisfied). While these findings are proportionally comparable to past years, satisfaction with individual motor vehicle services has decreased.

Respondents rated the smoothness of highway and interstate surfaces (45%), overall flow of traffic on highways and interstates (38%) and safety of highways and interstates (28%) as the most important services to focus on. An additional 17% of respondents indicated that smoothness of highway and interstate surfaces were important from 2021 (30%), and more respondents were dissatisfied overall with highway smoothness.

Top 3 most important vehicle services:

- Smoothness of highway and interstate surfaces (45%)
- Overall flow of traffic on highways and interstates (38%)
- Safety of highways and interstates (28%)

Bicyclists

Nine percent of respondents said they ride a bicycle every day or more than once a week, while an additional 11% reported that they ride a bicycle a couple of times each month. The average daily travel time was approximately 24 minutes, a decrease from 43 minutes in 2021.

Respondents who said they did not ride a bicycle in the past year reported that they had safety concerns (21%), they did not own a bicycle (20%), or they were not interested (17%).

Amongst respondents who reported riding a bicycle at least a couple of times a year, 53% typically rode a bicycle for exercise or recreation.

Top 3 most important bicycle services:

- Access to bike lanes, wide shoulders, and bicycle-friendly shared lanes (17%)
- Location of bike lanes, wide shoulders, and bicycle-friendly shared lanes (12%)
- Connectivity of bicycling facilities (10%)

This mode historically has the lowest satisfaction rates, which was consistent in 2021. The average satisfaction rate across all categories was 24%. Expectations were best met for drainage on bike paths (41%). Location of bike lanes, wide shoulders, and bicycle-friendly shared lanes were rated as the least satisfactory, with 80% of respondents identifying this group of attributes as not meeting their expectations.

Respondents rated access to bike lanes, wide shoulders, and bicycle-friendly shared lanes (17%); location of bike lanes, wide shoulders, and bicycle-friendly shared lanes (12%); and connectivity of bicycling facilities (10%) as the three modes that should receive the most attention over the next couple of years.This is consistent with rankings from 2020 and 2021.

Pedestrians

Thirty-four percent of respondents said they walk, jog, or run on a sidewalk, greenway, or walkway every day or more than once a week, while an additional 25% responded that they do so a couple of times each month. Fewer respondents reported walking, jogging or running every day than in 2021, however, more reported doing so than in 2020. The median time traveled during a typical trip was 37 minutes for walking and 30 minutes for jogging or running, a decrease from 50 minutes in 2020. Respondents who reported living in urban areas walked, ran, and jogged more than respondents in rural counties; this is consistent with 2021 results.

Top 3 most important pedestrian services:

- Safety of pedestrian walkways, sidewalks, or crossing locations (16%)
- Access to walkways and sidewalks (15%)
- Visibility of lighting along sidewalks and greenways (11%)

Respondents who did not walk, jog, or run in the past year cited they did not do so primarily due to lack of infrastructure (26%), their distance to destinations (18%), and their physical condition (15%).Those who did walk, jog, or run in the past year typically did so for exercise or recreation (41%), to walk a pet (16%), or to go to a shopping or dining location (13%).

Across all categories, 52% of respondents rated pedestrian services as either meeting or exceeding their expectations. Forty-two percent of respondents reported that the education of roadway users about interacting safely with pedestrians did not meet their expectations, and 38% of respondents reported that the visibility of lighting along sidewalks and greenways did not meet their expectations.

The three transportation areas that respondents indicated should receive the most emphasis over the next two years were the safety of walkways, sidewalks, or crossing locations (16%), access to walkways and sidewalks (15%), and the visibility of lighting along sidewalks and greenways (11%).

Public Transportation (Small sample size)

Two percent of respondents said they ride a public/local/ city bus in North Carolina every day or more than once a week, while an additional 2% responded that they ride a public/local/city bus a couple of times each month. As a result, these sample size for this mode is small and results should be utilized with the appropriate context.

The following results include responses from survey participants who reported that they used public/local/city buses in North Carolina at least a couple of times in the

Top 3 most important bus services:

- Access to public/local/city buses (21%)
- Access to park-and-ride lots (11%)
- Weather protection at bus stops (10%)

past year. Twenty-five percent of respondents reported using a bus to access recreational activities and an additional 16% reported utilizing the bus to get to shopping and dining locations.

Twenty eight percent of respondents reported that they did not use the bus more because there were not enough routes to get them where they needed to go, an additional 24% reported that they were not interested in riding the bus. Thirty one percent of respondents said they might be more likely to ride the bus if there were routes that met their needs and 23% would be more likely to ride the bus if there were stops closer to where they needed to go.

Overall, 36% of respondents indicated that their expectations were met or exceeded. Respondents were most dissatisfied with weather protection at bus stops (20% satisfied) and access to buses (22% satisfied). Respondents were most satisfied with the cost of a bus ride (72%).

Respondents rated access to public/local/city buses (21%), access to park-and-ride lots (11%), and the reliability and weather protection at bus stops (10%) as the three services that should receive the most attention over the next two years.

Passenger Train (Small sample size)

Less than one percent of respondents said they rode a passenger train in North Carolina every day. Of those who responded that they rode a passenger train, 1% reported riding a passenger train a couple of times a week and 10% reported that they ride a passenger train a couple of times per year. Overall, more respondents reported riding a passenger train than in 2020 and 2021, although the total number of respondents is still low. Because of the small sample size for this mode, results should be utilized with the appropriate context.

Thirty-eight percent of respondents reported not traveling by train more often because of a lack of routes where they need to go. An additional 22% reported that they are not interested in riding a train. Respondents would be more likely to use a train if there were more routes that fit their needs (40%) or if there were train stations closer to them (26%). Thirty-six percent of respondents reported that they would be more likely to ride a train if there was a train station within a 30-mile radius of their location; 33% were unsure if they would, and 19% reported that they would not.

Top 3 most important rail services:

- Access to passenger train stations and routes (24%)
- Frequency of trains servicing desired route (18%)
- Ease of connection with other public transportation (9%)

In terms of what rail services NCDOT should focus on, respondents rated access to passenger train stations and routes (24%), the frequency of trains servicing their desired route, (18%), and the ease of connection with other public transportation (9%) as the three most important services.

Ferries (Small sample size)

Twenty six percent of respondents said they rode a ferry in North Carolina in the past year. Respondents reported not riding a ferry more frequently because they did not need to cross water to reach their destinations (63%) or were not interested (16%).

Top 3 most important ferry services:

- Frequency of ferry service on desired route (16%)
- Reliability/timeliness of ferry service (12%)
- Availability of ferry schedule and information (9%)

Across all services, satisfaction was 86%. Respondents were most satisfied with the convenience of ticketing and reservation options (91%) and least satisfied with the courtesy and helpfulness of staff (77%). Respondents rated frequency of ferry service on desired route (16%), the reliability and timeliness of ferry service (12%), and the availability of ferry schedule and information (9%) as the three services that should receive the most emphasis over the next two years.

Aviation

Fifty-four percent of respondents reported flying to or from a North Carolina in the past year, an increase from both 2020 and 2021. Fifty-two percent of respondents reported that they did not fly more frequently in the past year because they had no need to and an additional 24% reported cost as a limiting factor. Respondents flew for recreation, such as vacation (46%) and to visit friends or family (34%). Because NCDOT's role in aviation is different than the other modes, this segment of the survey has been reduced over time to optimize the content and length of the survey.

Conclusion

The ongoing NCDOT statewide customer service survey, now in its seventh iteration, remains a key tool in gathering the experiences and viewpoints of North Carolinians regarding transportation across the state.

The latest survey reveals the enduring impact of the COVID-19 pandemic on the state's transportation infrastructure. Despite an increase in vehicle ridership post-pandemic, a significant number of respondents now drive less frequently. While various transportation modes have seen increased usage compared to the early pandemic period, overall transportation system utilization remains below pre-pandemic levels.

The addition of new questions measuring accessibility to the transportation system in 2021, and varied results of these questions in 2022 exemplify how the survey can continue to be updated to capture what is most important to NCDOT.

The 2022 survey data showcases a NCDOT customer satisfaction rate of 78%. A predominant 94% of respondents rely on personal vehicles for transportation, with 97% having access to a reliable vehicle. Fifty-three percent of respondents were satisfied by their access to North Carolina’s transportation system , while 49% reported no barriers to their preferred mode of transportation. Additionally, 70% of respondents feel supported by the state's transportation system.

As the survey enters its next phase, the research team plans to further streamline the participant experience and capture more information pertinent to the needs of NCDOT.