



Appendix B-6: Transaction Survey Results

December 2023

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1.0 PREFACE

Forward Drive was a research, development, demonstration, and public engagement effort of the Washington State Transportation Commission. The project sought to advance understanding of and implementation pathways for per-mile road usage charging (RUC) as an alternative to motor fuel taxes and alternative fuel vehicle registration surcharges. The project aimed to address several key issues for RUC including principally equity, user experience, and cost of collection. As reported in Volume 1, the project unfolded in several stages. A series of appendices contain more detailed results. These appendices are organized as explained and illustrated below.

Appendix A. Forward Drive began with research spanning several activities including financial analysis, equity outreach and analysis, user experience research, and cost of collection reduction workshops (Appendices A-1 through A-4, respectively). The purpose of the research was to explore the financial, equity, user experience, and cost impacts of RUC under a variety of deployment scenarios. This research informed the design of experience-based simulations and pilots of various elements of a RUC program.

Appendix B. The research stage led directly to the design and development of simulations and pilots of RUC program elements spanning several areas to reflect the multiple objectives and research findings. The centerpiece of the simulation and pilot testing stage was an interactive simulation of RUC enrollment, reporting, and payment. As described in Volume 1, the simulation offered over 1,100 Washingtonians an opportunity to experience RUC in as little as a few minutes, followed by a survey about their preferences and opinions. The detailed results of the simulation survey and the measurements of the simulation itself are presented as separate reports (B-1 and B-2, respectively).

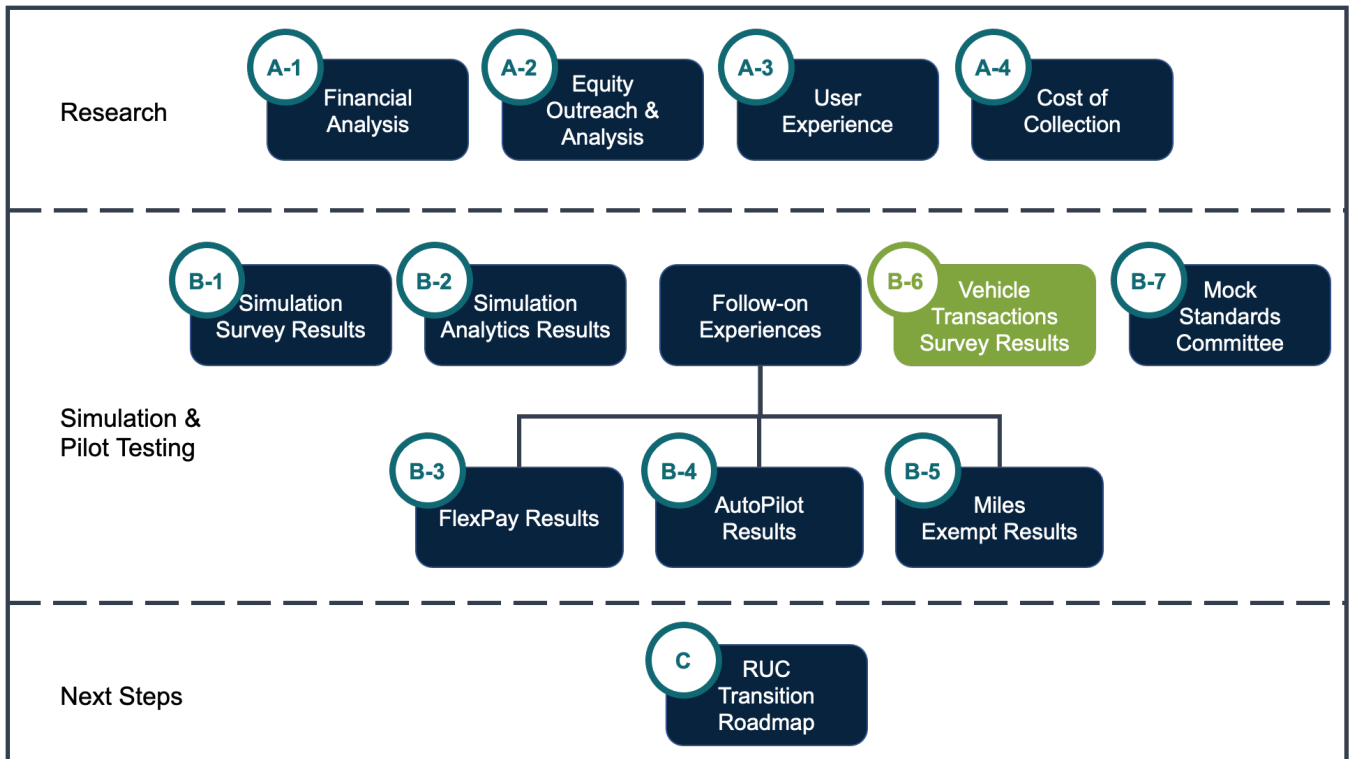
Within the simulation, participants could opt into one of three follow-on experiences, each designed to further test a specific feature of RUC of interest to Washington stakeholders and policymakers:

- FlexPay tested installment payments, allowing participants to pay their RUC over four payments instead of all at once (B-3).
- AutoPilot tested using native automaker telematics to report road usage as an alternative to self-reporting or other technology-based approaches to reporting (B-4).
- MilesExempt tested a self-reporting approach for claiming miles exempt from charges, such as off-road and out-of-state driving (B-5).

The simulation and pilot testing stage also included a statewide survey of Washingtonians' vehicle transactions designed to understand existing transactions and preferences and possibilities for how RUC reporting and payment could potentially be bundled with such transactions (B-6).

Lastly, the simulation and pilot testing stage included a mock standards committee of RUC experts from jurisdictions and industry. The committee simulated the process of creating standards for RUC to support cost reduction, enhanced user experiences, and multi-jurisdictional interoperability (B-7).

Appendix C. Appendix C details a transition roadmap for RUC in Washington drawing on the results of the research and simulation and pilot testing, as well as the updated recommendations regarding RUC implementation from the Commission to the Washington Legislature in 2022.



Appendix B-6 covers detailed results from a survey of Washington drivers about their vehicle-related transactions.

2.0 PURPOSE AND OVERVIEW

This appendix describes the Transaction Research component of the 2022-2023 Washington Road Usage Charge *Forward Drive* project. The RUC Simulation tested as part of Forward Drive illustrated through a live, interactive website how customers could enroll, report, customize their choices, and pay a RUC in Washington (see Appendix A-1 and Appendix A-2 for more information). However, the Simulation offered participants no assumptions or clues as to which agency or organization would operate the RUC system and whether the RUC transaction they were making would be part of another vehicle-related transaction (e.g., combined with registration renewal or vehicle insurance payment) or a standalone process.

If the state implements a RUC program, it could potentially leverage vehicle-related transactions that customers already make by adding mileage reporting and/or payment of RUC as a concurrent transaction. Given this possibility, research is needed to understand which transaction types could pair effectively with RUC transactions.

One important measure of the viability of a vehicle-related transaction for this purpose is residents' current experiences with these transactions – i.e., do residents find them convenient, and how frequently do residents conduct them? To gather this information, this Transaction Research was designed to gauge Washingtonians' views about and behaviors regarding their existing vehicle-related transactions. This information was gathered through an online survey of randomly selected Washington residents and did not involve any hands-on demonstration or interaction with customers and their transactions.

3.0 VEHICLE TRANSACTION TYPES EVALUATED

To begin the research, the following six existing vehicle-related transaction types were identified as having the potential to be paired with RUC reporting and payment processes:

1. Vehicle insurance payment
2. Vehicle registration renewal
3. Fuel purchase (e.g., gas, diesel, or EV charging)
4. Vehicle maintenance or repair
5. Purchase at an auto parts store
6. Toll payment for a road, highway, bridge, or tunnel

These six transactions types were selected by the research team because they are common transactions that many vehicle owners conduct on at least an annual basis. The survey asked respondents if they regularly conduct any vehicle-related transactions beyond these six types and if so, to describe these transactions. While a few respondents suggested other transaction types such as payment of parking or speeding tickets, most respondents did not report any additional transaction types.

4.0 SURVEY APPROACH

“SurveyMonkey Audience” was used to field this survey. SurveyMonkey Audience is a service that recruits participants from across the state to take part in a survey based on target criteria established by the survey designer. The survey, conducted in May 2023, gathered information from 267 participants around the state of Washington.

For each of the six transaction types described in Section 3.0, survey respondents were first asked if they had conducted the given transaction type within the past two years and/or planned to do so within the next two years. Survey respondents then provided information about the frequency with which they conduct the transaction; the convenience of the transaction; their anticipated comfort with sharing their odometer reading as part of the transaction; whether they typically transact in person and if they use cash to do so; and the types of reminders they receive to conduct this transaction. For each transaction type, survey respondents saw the questions presented in Exhibit 15 through Exhibit 22.

To avoid having respondents’ perceptions of a RUC program influence their responses, the survey did not mention RUC in the survey introduction or during any of the questions about transaction types shown in Exhibit 15 through Exhibit 9.

The last page of the survey provided respondents with simple information about a potential RUC program in Washington. Respondents then shared their level of support for a RUC program and ranked the six transaction types in their order of preference for including a RUC transaction with the existing transaction. Respondents could not modify their prior survey responses after learning about the RUC program.

4.1 Participant Attributes

To participate in the survey, respondents had to be Washington residents, aged 18 or older, and own at least one vehicle. SurveyMonkey Audience recruitment methods were used to oversample respondents with lower incomes. See Exhibit 18 in Respondent Attributes for more details.

4.2 Crosstabulations

Exhibit 1 shows the crosstabs used in this analysis. Crosstabs help to identify correlations between respondents’ socio-demographics and their responses to survey questions.

Exhibit 1. Crosstab Overview

CROSTAB TYPE	DESCRIPTION	GROUPS
Age	Respondents' self-identified age.	18 – 29 30 – 44 45 – 59 60+
Household Income	Respondents' self-reported total household income for the prior year.	Less than \$50,000 USD \$50,000 to \$99,999 USD \$100,000 to \$149,999 USD \$150,000 USD or more
Rural or Urban ZIP	The consultant team's characterization of a respondent's ZIP code of residence as fully or mostly rural or urban. To classify respondents' ZIP codes in this way, this analysis considered the ZIP code's distance to the nearest city of at least 25,000 people; the population density of the ZIP code; and the proportion of each ZIP code's residents that live in a census-defined "urbanized area."	Fully urban ZIP code Mostly urban ZIP code Mostly rural ZIP code Fully rural ZIP code
Race/ Ethnicity	Respondents' self-identified race and/or ethnicity. The survey offered the following multiple-choice options for race and/or ethnicity: African American or Black; American Indian or Alaska Native; Asian; Hispanic or Latino/a/x of any race; Native Hawaiian or other Pacific Islander; White, or an open-ended "other" response. For the purposes of having an adequate sample size for conducting crosstabs, this analysis combines all groups other than "White" into single category of Black, Indigenous, and People of Color (BIPOC).	BIPOC White

Source: BERK, 2023.

5.0 TOPLINE FINDINGS

Respondent behaviors and preferences indicate that vehicle registration renewal and insurance payment offer the strongest potential for combination with RUC reporting and/or payment.

Vehicle registration renewal. The largest proportion of survey respondents selected vehicle registration renewal as their top preference for combining with a RUC payment, and more than half (56%) included this transaction type in their top two preferences. Nearly all respondents (94%) conduct this transaction type, with no differences by respondent age, household income, rural/urban residency, or race/ethnicity. Vehicle registration renewal occurs annually in Washington.

Insurance payment. The second-largest proportion of survey respondents selected insurance payment as their top preference for combining with a RUC payment, and nearly half (47%) included this transaction type in their top two preferences. As with vehicle registration renewal, nearly all respondents (96%) conduct this transaction type, with no differences by respondent age, household income, rural/urban residency, or race/ethnicity.¹ Many respondents frequently pay for vehicle insurance, with more than half doing so at least six times per year.

These two transaction types received the highest overall convenience ratings from respondents, though there was some variation by age, household income, and race/ethnicity. Relatively high proportions of respondents expressed comfort with sharing their odometer reading as part of these transactions, with some differences by income and race/ethnicity.

Of all the transaction types surveyed, the highest proportions of respondents receive reminders for these two transaction types or pay using autopay.

Purchase of fuel, purchase at an auto parts store, and vehicle maintenance/repair also offer some potential.

Fuel purchase. More than one-third of respondents (36%) included fuel payment in their top two preferences for conducting a RUC transaction at the same time. Nearly all respondents (93%) purchase fuel, and 91% of these respondents do so at least 11 times per year. However, respondents expressed a relatively lower level of comfort sharing their odometer readings as part of this transaction and a relatively lower level of overall convenience.

Vehicle maintenance or repair. Most respondents (89%) have their vehicles maintained or repaired, and 72% of these respondents do so at least twice per year. Many respondents find vehicle maintenance/repair to be a convenient transaction, and odometer information is already typically collected as part of this transaction. Three-quarters of respondents receive reminders to complete this transaction type, though a relatively small proportion of respondents included this in their top preferences for combination with a RUC payment.

Purchase at an auto parts store. Fewer respondents (77%) make purchases at auto parts stores, and 74% of these respondents do so at least twice per year. A relatively high proportion of respondents find this transaction type to be convenient, and many respondents express comfort sharing their odometer as part of this transaction. However, few respondents receive reminders to conduct this transaction

¹ Notably, while 94% of respondents report having made vehicle insurance payments in the past two years or planning to do so in the next two years, the Insurance Research Council estimates that as of 2019, 21.7% of Washington drivers were uninsured (Insurance Research Council, 2021).

type and a relatively small proportion of respondents included this in their top preferences for combination with a RUC payment.

Respondent behaviors and preferences do not indicate that toll payment has much potential for combination with a RUC payment.

Toll payments. Less than half of respondents make toll payments, and of those who do, one in five does so less than once per year. The highest proportion of respondents find this transaction type to be inconvenient, the lowest proportion of respondents would be comfortable sharing their odometer information during this transaction, and the lowest proportion of respondents included this in their top preferences for combination with a RUC payment.

6.0 IN-DEPTH FINDINGS

All charts in this section present the transactions in the same order based on the proportion of respondents who conduct each transaction type, shown in Exhibit 2.

6.1 Transaction Frequency

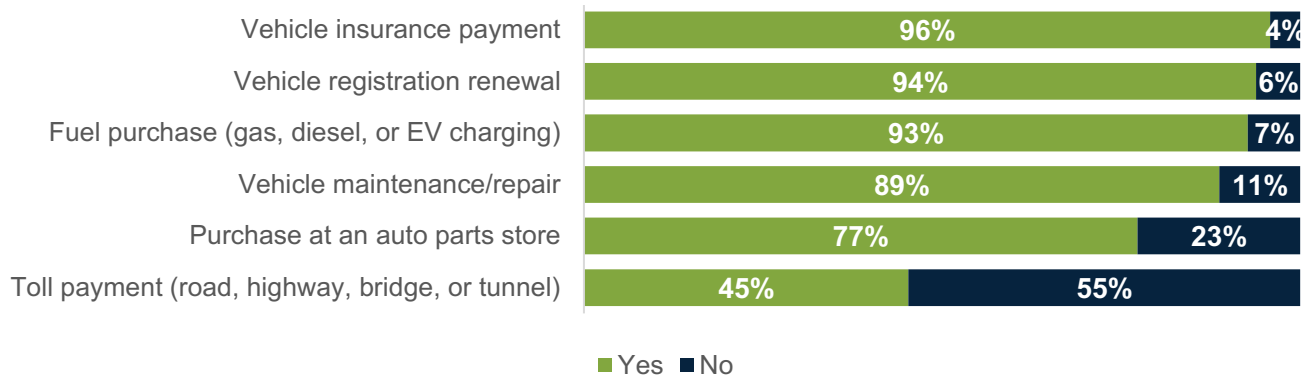
6.1.1 Proportion of Respondents who Conduct Each Transaction Type

Exhibit 2 shows the proportion of respondents who have conducted each transaction type within the past two years or anticipate doing so within the next two years. More than nine in ten respondents have paid for vehicle insurance, renewed their vehicle registration, or purchased fuel.² 89% have had their vehicles maintained or repaired, 77% have made a purchase at an auto parts store, and 45% have paid a toll. The table below the chart shows an analysis of how responses differ by crosstabs.

² 15 of the 19 respondents who reported that they have not purchased fuel within the past two years and do not anticipate doing so within the next two years drive vehicles with fully combustion engines. Some of these participants may have selected their response in error, or they may share their vehicle with another person who purchases gas for their vehicle.

Exhibit 2. Proportion of Respondents who have Conducted Each Transaction Type within the Past Two Years or Anticipate Doing So within the Next Two Years

Question: “Have you [conducted transaction type] within the past 2 years, or anticipate doing so within the next 2 years?”



CROSTAB	FINDING
Age	A larger proportion of respondents below the age of 60 make purchases at auto parts stores compared respondents aged 60 and above (83% versus 56%).
Household Income	<ul style="list-style-type: none"> A larger proportion of respondents with incomes below \$150,000 make purchases at auto parts stores than respondents with incomes of \$150,000 or more (78% versus 68%). A larger proportion of respondents with incomes below \$100,000 purchase fuel than respondents with incomes of \$100,000 or more (95% versus 88%). A larger proportion of respondents with higher incomes purchase tolls compared to respondents with lower incomes (67% of respondents with incomes of \$150,000 or more, 47% of respondents with incomes between \$50,000 and \$149,999, and 36% of respondents with incomes below \$50,000).
Rural or Urban ZIP	No patterns.
Race/Ethnicity	No patterns.

Source: BERK, 2023.

Frequency of Conducting Transactions

Exhibit 3 shows the frequency with which survey respondents conduct each of the given transaction types. The transaction type that most survey respondents conduct the most frequently is fuel purchase, which 91% of survey respondents conduct at least 11 times per year. Survey respondents also relatively frequently pay for their vehicle insurance, with more than half of respondents (57%) doing so at least six times per year.

Purchases at auto parts stores and vehicle maintenance/repair are transaction types that occur less frequently, but which many respondents nonetheless conduct multiple times per year. Nearly three-quarters of respondents make a purchase at an auto parts store (74%) or have their vehicle maintained or repaired (72%) at least twice per year.

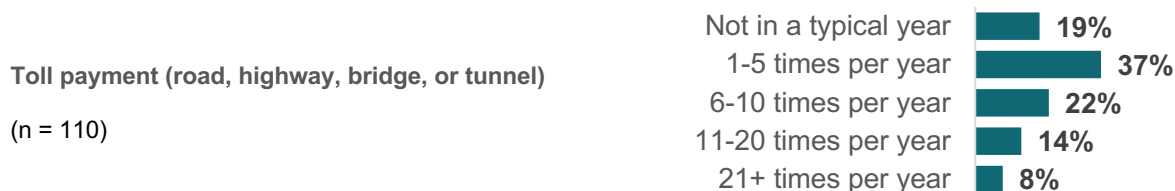
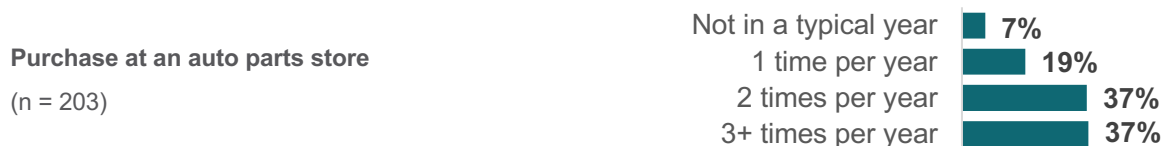
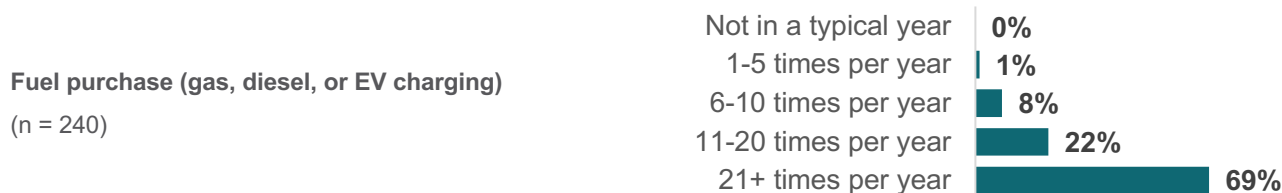
While nearly half of respondents (44%) make toll payments at least six times per year, one in five (19%) do so less than once per year.

Exhibit 3. Frequency with which Survey Respondents Conduct Transaction Types

Question: “How many times per year do you [conduct transaction type]?” (See Note)



Vehicle registration renewal [Not surveyed. Assumed once per year.]



Note: The toll payment question used the following question instead of the one shown above: “How many times per year do you pay for road, highway, bridge, or tunnel tolls by cash or credit card in one of the following ways? (1) Make an in-person toll payment at a tollbooth; (2) Pay a toll bill by phone/mail/online; (3) Add funds to your toll account. DO NOT include the number of times you automatically pay a toll using an account balance on a pass such as Good To Go!. Only include the instances in which you make a cash or credit card transaction. Do NOT include ferry fares in your response.”

Source: BERK, 2023.

6.2 Transaction Convenience

6.2.1 Overall Convenience of Each Transaction Type

Exhibit 4 shows how respondents assess the overall convenience of each transaction type. A relatively similar proportion—between 80% and 86%—of respondents find each of the given transaction types to be “very convenient” or “somewhat convenient.” Conversely, between 14% and 20% find each transaction type to be “very inconvenient” or “somewhat inconvenient.”

More than half of respondents find two transaction types to be “very convenient”: vehicle insurance payment (58% of respondents) and vehicle registration renewal (53% of respondents).

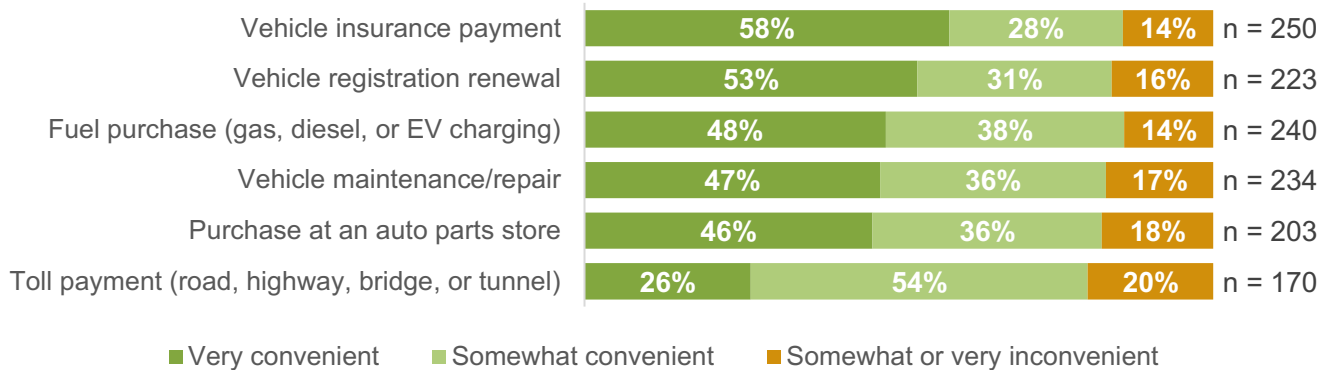
Three transaction types have a similar, slightly lower level of convenience, with slightly less than half of respondents finding them to be “very convenient”: fuel purchase (48%), vehicle maintenance/repair (47%), and purchase at an auto parts store (46%).

The least convenient transaction is toll payments: the smallest proportion of respondents find this transaction to be “very convenient” (26%) and the largest proportion of respondents find it somewhat or very inconvenient (20%).

The table below the chart shows an analysis of how responses differ by crosstabs.

Exhibit 4. Survey Respondents’ Assessment of Overall Convenience of Each Transaction Type

Question: “Overall, how convenient for you is [conducting transaction type]?”



CROSSTAB	FINDING
Age	<ul style="list-style-type: none"> Larger proportions of older survey respondents find the purchase of vehicle insurance and vehicle registration renewal to be convenient compared to younger respondents. For vehicle insurance, convenience ranges from 74% for respondents aged 18 – 29 to 94% for respondents aged 60 and above. For vehicle registration renewal, convenience ranges from 71% for respondents aged 18 – 29 to 89% for respondents aged 60 and above. A larger proportion respondents aged 60 and above find vehicle maintenance/repair to be convenient compared to respondents below the age of 60 (93% versus 79%).
Household Income	<ul style="list-style-type: none"> A larger proportion of respondents with incomes below \$100,000 find the purchase of vehicle insurance to be convenient than respondents with incomes of \$100,000 and above (88% versus 79%). A larger proportion of respondents with incomes of \$100,000 or above find vehicle registration renewal to be convenient than respondents with incomes below \$100,000 (85% versus 78%). Larger proportions of respondents with higher incomes find toll payment to be convenient compared to respondents with lower incomes, ranging from 76% for respondents with incomes below \$50,000 to 100% for respondents with incomes of \$150,000 or more. A higher proportion of respondents with incomes below \$150,000 find fuel purchase to be convenient than respondents with incomes of \$150,000 or more (87% versus 73%).
Rural or Urban ZIP	No patterns.
Race/Ethnicity	Compared to BIPOC respondents, larger proportions of White respondents find the following transaction types to be convenient: purchases at auto parts stores (84% versus 77%), purchase of vehicle insurance (87% versus 80%), and vehicle registration renewal (84% versus 70%).

Note: This analysis aggregates “somewhat inconvenient” and “very inconvenient” responses because a relatively small proportion of respondents (7% or less) indicated any given transaction type was “very inconvenient.”

Source: BERK, 2023.

6.2.2 Detailed Convenience of each Transaction Type

Exhibit 5 shows how survey respondents assess six different specific aspects of convenience for each of the transaction types, including:

- **Time.** The amount of time it takes to complete the transaction.
- **Method.** Whether a customer can transact in their choice of online, in-person, or by phone.
- **Location.** The ease of accessing the location, if a customer conducts this transaction in person.
- **Accessibility.** Accommodations available to a customer, such as the ADA/physical accessibility or language options for the transaction.
- **Payment type.** A customer's ability to pay in their preferred method of cash, card, or check.
- **Customer service.** The quality of customer service provided.

The survey did not ask about any irrelevant aspects of convenience for each transaction type, e.g., the survey did not ask about "method" for fuel purchase because a fuel purchase must be done in person by nature of the transaction. See the exhibit note for more details.

As the exhibit shows, for each aspect of convenience, there is no notable difference in respondents' average assessment of each transaction type, with all average ratings hovering near "somewhat convenient."

Exhibit 5. Survey Respondents' Average Assessment of the Level of Convenience of Each Transaction Type

Question: "How would you rate the level of convenience of each of the following aspects of [conducting transaction type]? Select 'N/A or Unsure' for any rows that are not relevant to how you typically complete this transaction." (See Note)

TRANSACTION TYPE	TIME	METHOD	LOCATION	ACCESSIBILITY	PAYMENT TYPE	CUSTOMER SERVICE
Vehicle insurance payment (n = 252)	2.4	2.4	2.2	2.2	2.5	2.4
Vehicle registration renewal (n = 244)	2.1	2.2	2.1	2.1	2.3	2.2
Fuel purchase (n = 241)	2.1	-	2.3	2.3	2.5	2.2
Vehicle maintenance/repair (n = 236)	-	-	2.2	2.2	2.5	2.3
Purchase at an auto parts store (n = 204)	2.2	2.4	2.3	2.3	2.5	2.3
Toll payment (n = 110)	1.9	2.0	1.9	2.0	2.1	2.0

Scoring: 0 – Very inconvenient | 1 – Somewhat inconvenient | 2 – Somewhat convenient | 3 – Very convenient

Notes: The survey provided additional instruction in the toll payment question, adding the following language to the question shown at the top of the exhibit: "Please only consider the times you make a cash or credit card transaction, not when you automatically pay for a toll from your account balance.) Select 'N/A or Unsure' for any rows that are not relevant to how you typically complete this transaction." The survey did not gather input about time for vehicle maintenance/repair to avoid confusion between the length of time for a vehicle to be maintained/repared, which varies significantly based on the maintenance/repair need, and the length of time to conduct a payment transaction. The survey did not gather input about method for vehicle maintenance/repair or for purchase of fuel because these transactions are only possible in person.

Source: BERK, 2023.

6.3 Comfort Sharing Odometer Reading as Part of Transaction

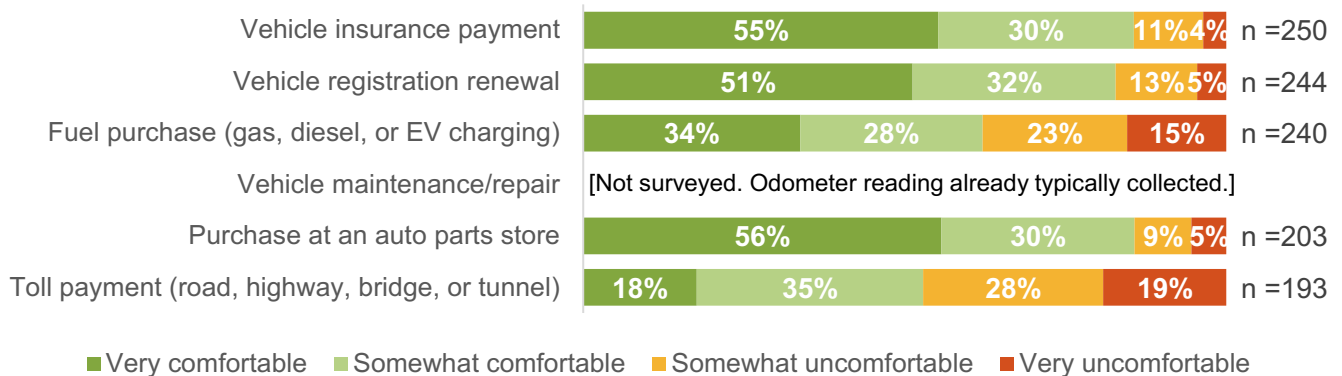
Exhibit 6 shows survey respondents' anticipated comfort with providing their odometer readings to transaction vendors as part of each transaction type.

The highest proportions of respondents (between 82% and 87%) would be comfortable with providing their odometer readings as part of paying or vehicle insurance, renewing their vehicle registration, or making a purchase at an auto parts store. Smaller proportions of respondents would be comfortable sharing their odometer reading as part of purchasing fuel (62%) or paying for a toll (53%), and 15% and 19% of respondents, respectively, report they would be "very uncomfortable" doing so for these transaction types.

The table below the chart shows an analysis of how responses differ by crosstabs.

Exhibit 6. Survey Respondents’ Anticipated Comfort with Providing their Odometer Readings to the Vendor as Part of Each Transaction Type

Question: “If necessary, how comfortable would you feel providing your odometer reading to the [vendor type] as part of [conducting transaction type]?”



CROSSTAB	FINDING
Age	No patterns.
Household Income	<ul style="list-style-type: none"> A larger proportion of survey respondents with incomes of \$100,000 or more are comfortable providing odometer information during toll purchases than respondents with incomes below \$100,000 (65% versus 50%). Larger proportions of respondents with lower incomes would be comfortable providing odometer information with the purchase of vehicle insurance compared to respondents with higher incomes, ranging from 89% for respondents with incomes below \$50,000 to 79% for respondents with incomes of \$150,000 or more.
Rural or Urban ZIP	No patterns.
Race/Ethnicity	<ul style="list-style-type: none"> A larger proportion of White respondents are comfortable providing odometer information during vehicle registration renewal purchases, compared to BIPOC respondents (85% versus 77%). A larger proportion of BIPOC respondents are comfortable providing odometer information during fuel purchases, compared to White respondents (73% versus 58%).

Source: BERK, 2023.

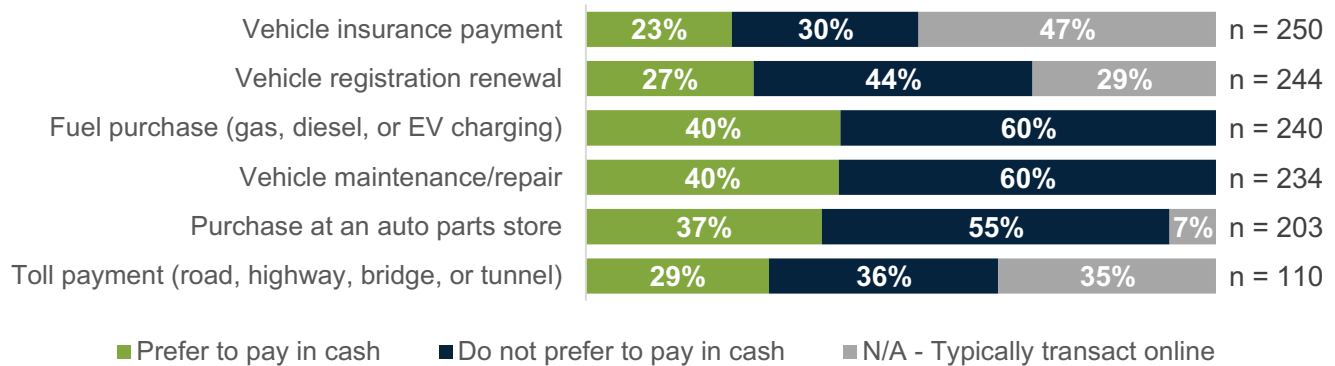
6.4 Online and Cash Transactions

Exhibit 7 shows the proportion of survey respondents who prefer to pay in cash, do not prefer to pay in cash, or typically transact online. Across all transaction types, between 23% and 40% of respondents prefer to pay in cash. And, across all transaction types, at least half of respondents typically conduct transactions in situations where payment by cash is an option (i.e., in-person or by mail), with the highest rates of these cash-eligible transactions for the two transaction types that must occur in-person – fuel purchase and vehicle maintenance/repair – and for purchases at auto parts stores (93%).

The table below the chart shows an analysis of how responses differ by several crosstabs.

Exhibit 7. Proportion of Survey Respondents' who Prefer to Pay in Cash

Question: “Do you typically need or prefer to pay in cash when you [conduct transaction type]?” OR “If you typically [conduct transaction type] in person or by mail, is the ability to pay in cash a motivating factor? If you do not typically complete this transaction in person or by mail, please select ‘N/A.’”



CROSSTAB	FINDING
Age	Did not assess.
Household Income	<ul style="list-style-type: none"> Compared to survey respondents with incomes below \$50,000 or above \$150,000, a smaller proportion of respondents with incomes between \$50,000 and \$149,000 prefer to use cash for the following transaction types: vehicle maintenance/repair (34% versus 49%); vehicle registration renewal (28% versus 49%); and fuel purchase (33% versus 50%). Compared to respondents with incomes below \$100,000, a larger proportion of respondents with incomes of \$100,000 or more prefer to use cash for toll payment (65% versus 35%).
Rural or Urban ZIP Code	Did not assess.
Race/ Ethnicity	<ul style="list-style-type: none"> Compared to White respondents, a larger proportion of BIPOC respondents prefer to use cash for the following transaction types: purchases at auto parts stores (48% versus 33%); purchase of vehicle insurance (31% versus 20%), vehicle registration renewal (32% versus 25%), and fuel purchase (45% versus 39%). A larger proportion of White respondents prefer to use cash for toll purchases, compared to BIPOC respondents (32% versus 20%).

Note: Survey did not offer the “N/A – Typically transact online” option for fuel purchase and vehicle maintenance/repair as these transactions are assumed to be in-person only.

Source: BERK, 2023.

6.5 Transaction Reminders

6.5.1 Proportion of Respondents who Receive Transaction Reminders

Exhibit 8 shows the proportion of survey respondents who receive reminders to conduct each transaction type. For vehicle insurance payment and toll payment, the survey included an “N/A” option if respondents use autopay or if they only make toll payments in person at tollbooths, as these respondents likely do not need a reminder to conduct these transactions.

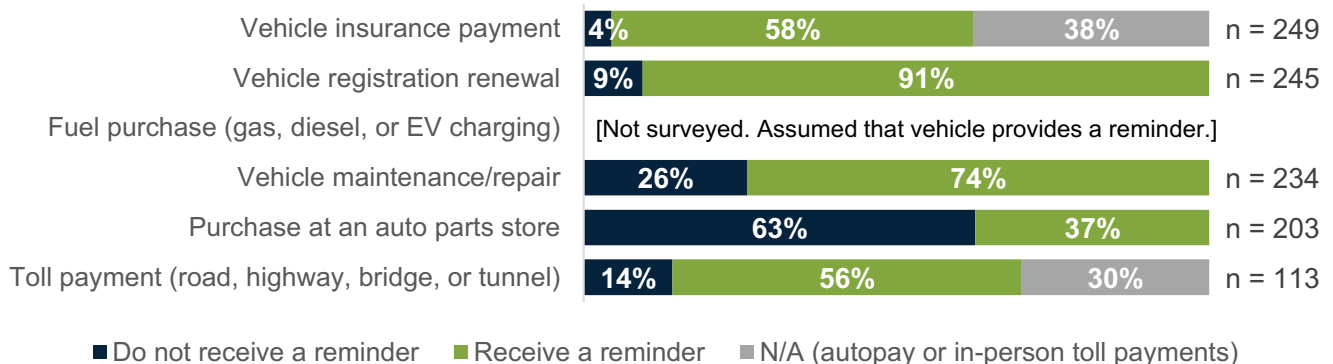
The largest proportions of respondents receive reminders or use autopay for vehicle insurance payment (96%), vehicle registration renewal (91%), and toll payment (86%). This analysis also assumes that all respondents receive automatic reminders from their vehicles for fuel purchase (i.e., a dashboard light).

Many respondents (74%) also receive reminders to maintain or repair their vehicles.

Far fewer respondents—just over one-third (37%)—receive reminders to make a purchase at an auto parts store.

Exhibit 8. Proportion of Survey Respondents who Receive Reminders to Conduct Each Transaction Type

Question: “Do you get reminders to [conduct transaction type]? Check all that apply.”



Note: Respondents indicated “N/A” for vehicle insurance payment if they use autopay, and “N/A” for toll payment if they use autopay or if they only make toll payments in person at tollbooths.

Source: BERK, 2023.

6.5.2 Most Common Reminder Types for Each Transaction Type

For each transaction type, Exhibit 9 shows the two most common reminder types for each transaction and the proportion of survey respondents who receive each of these reminder types. For this survey question, respondents indicated all the types of reminders they receive for a given transaction type, including by mail, email, text, phone call, vehicle alert, or an “other” method.

Across all transaction types surveyed in this question, email is the first or second most common reminder method. Reminders via mail are also a relatively common method for vehicle insurance

payment, vehicle registration renewal, and toll payment, though less so for purchases at an auto parts store or vehicle maintenance/repair.

Reminder by text, vehicle alert, and phone call are less common reminder types for most transaction types. Reminder by phone call is not in the top two most common reminder methods for any of the transaction types. Few respondents indicated that they receive an “other” type of reminder for any transaction type.

Exhibit 9. Proportion of Relevant Respondents (See Note) who Receive Transaction Reminders through Various Channels

Question: “Do you get reminders to [conduct transaction type]? Check all that apply.”

TRANSACTION TYPE	MOST COMMON REMINDER TYPE AND % OF RESPONDENTS WHO RECEIVE THIS REMINDER TYPE	SECOND MOST COMMON REMINDER TYPE AND % OF RESPONDENTS WHO RECEIVE THIS REMINDER TYPE
Vehicle insurance payment (n = 158)	Email 56%	Mail 41%
Vehicle registration renewal (n = 244)	Mail 62%	Email 33%
Fuel purchase (gas, diesel, or EV charging)	[Not surveyed. Assumed reminder via vehicle alert.]	
Vehicle maintenance/repair (n = 236)	Email 40%	Vehicle alert 33%
Purchase at an auto parts store (n = 204)	Email 21%	Text 16%
Toll payment (road, highway, bridge, or tunnel) (n = 74)	Mail 54%	Email 43%

Notes: When calculating the proportions shown in this chart for insurance payment and toll payment, this analysis omits the respondents who indicated that they use autopay for these transaction types or that they only make toll payments in person at tollbooths. This analysis assumes that these respondents are highly likely to make payments regardless of whether they receive a reminder, and therefore did not survey these respondents about the reminder types they received. Fuel purchase not surveyed because reminder assumed via vehicle alert.

Source: BERK, 2023.

6.6 RUC Opinions

6.6.1 Overall Respondent Support for RUC

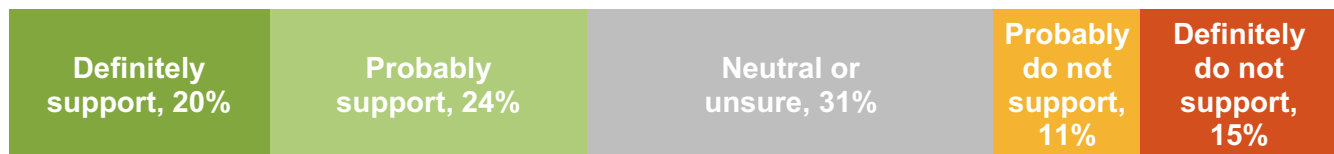
Exhibit 10 shows respondent support for RUC. The survey provided a brief overview of RUC, as shown in the exhibit. Nearly half of respondents (44%) “definitely” or “probably” support RUC, and about one-third (31%) are neutral or unsure. One-quarter (26%) “definitely” or “probably” do not support RUC.

These numbers show slightly lower proportions of support and opposition to RUC than indicated by respondents in the statistically-valid RUC simulation survey. This is because the simulation survey did not offer respondents a “neutral or unsure” option. Removing the respondents who selected “neutral or unsure” from this question in the transaction survey renders a more similar breakdown, with a slightly higher level of support among transaction survey respondents than among respondents of the simulation survey.

The table below the chart shows an analysis of how responses differ by several crosstabs.

Exhibit 10. Respondent Support for RUC

Question: “To fund the upkeep and repair of transportation infrastructure, Washington state currently taxes gasoline at 49.4 cents per gallon. With many newer vehicles consuming less gasoline (and all-electric vehicles using no gasoline at all), the state is considering removing the gas tax and instead implementing a charge based on miles driven. This charge would be equal to 2.5 cents per mile, or \$25 per 1,000 miles. Under this new charge, a driver that drives 12,000 miles per year would owe \$300 per year, very similar to what drivers currently pay on average (\$289.17) under the existing gas tax. Vehicle owners would have the option to report their odometer reading to calculate their charge owed. They would not be required to install any technology in their vehicle or report the location of their driving. Vehicle owners also would not pay both the gas tax and the per-mile charge for the same road usage, but instead would only pay one or the other. Given this information, would you support replacing the gas tax with a charge based on miles driven?”



CROSSTAB	FINDING
Age	A larger proportion of respondents below the age of 45 support RUC compared to respondents aged 45 and above (50% versus 35%).
Household Income	A larger proportion of respondents with incomes of \$100,000 or more support RUC compared to respondents with incomes below \$100,000 (54% versus 39%).
Rural or Urban ZIP Code	A larger proportion of urban respondents support RUC compared to rural respondents (46% versus 31%).
Race/ Ethnicity	A larger proportion of BIPOC respondents support RUC compared to White respondents (50% versus 41%).

Source: BERK, 2023.

6.6.2 Ranking of Transaction Types by Preference for a Concurrent RUC Transaction

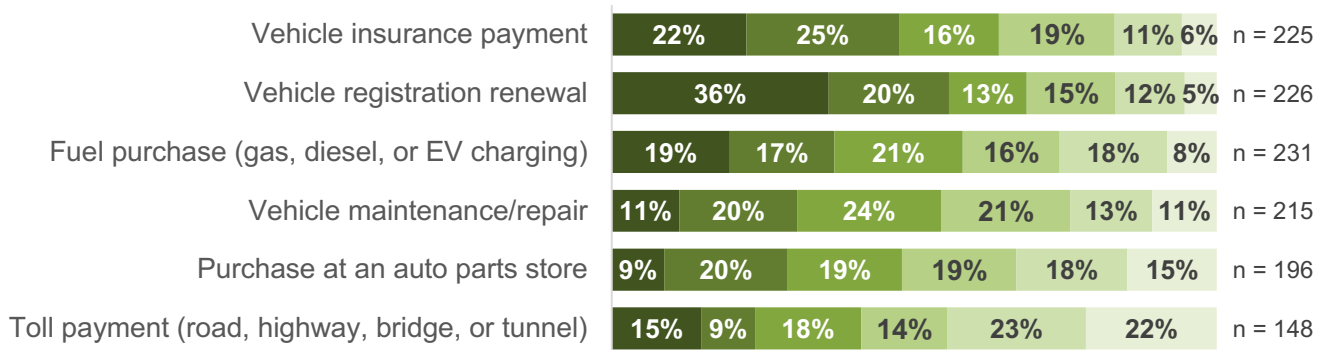
For each transaction type, Exhibit 11 shows the proportion of survey respondents who rated that transaction type as their top preference, second preference, or third, fourth, fifth, or lowest preference for making a RUC transaction at the same time.

- **The largest proportion of respondents selected vehicle registration renewal as their top preference:** more than one-third of respondents (36%) selected this as their top preference and more than one-half (56%) included it in their top two preferences.
- **Many respondents selected vehicle insurance payment as a top preference:** more than one-fifth (22%) noted it as their top preference and nearly half (48%) included it in their top two preferences.
- **Many respondents selected fuel purchase as a top preference:** nearly one-fifth (19%) noted it as their top preference and more than one-third (36%) included it in their top two preferences.

Smaller proportions of respondents included the other transaction types in their top two preferences, including vehicle maintenance or repair (31%), purchase at an auto parts store (29%), and toll payment (24%).

Exhibit 11. Respondent Ranking of Existing Vehicle Transactions by Preference for Making a RUC Transaction at the Same Time

Question: “Regardless of your opinion about a per-mile charge, imagine the State enacts one. Further, imagine the State allows you to choose an existing vehicle transaction you make that you could also report your odometer and pay your bill at the same time. Please rank the transactions below in order from most preferred (1) to least preferred (6) for reporting your odometer paying your per-mile charge. Select “N/A” for any transactions you’ve neither completed in the last 2 years nor anticipate completing in the next 2 years. We recommend selecting all of your “N/A” options before ranking the other options, as selecting “N/A” for one option will clear all ranked responses for other options.”



■ Top preference ■ 2nd preference ■ 3rd preference ■ 4th preference ■ 5th preference ■ Lowest preference

Note: For each option, respondents could select “N/A” if they had neither completed the transaction type the last 2 years nor anticipated doing so in the next 2 years. More than half of respondents (58%) responded with “N/A” in a way that was inconsistent with their responses to the previous questions in the survey. Some respondents may have done this in error, and others may have used the “N/A” option as a de facto opt-out response option for transactions they would not like to see RUC combined with. This chart nonetheless omits “N/A” responses because their inclusion does not impact the relative proportions of rankings.

Source: BERK, 2023.

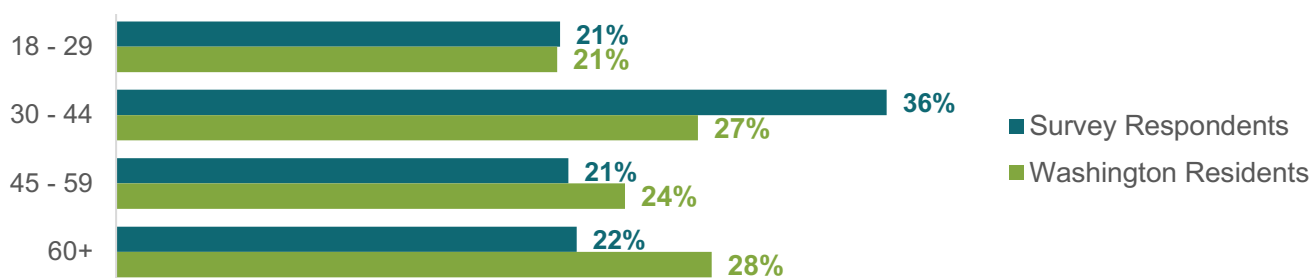
7.0 RESPONDENT ATTRIBUTES

7.1 Demographics

Exhibit 12 shows respondents' ages alongside the ages of Washington residents. Slightly more than two-thirds of respondents (36%) are between the ages of 30 and 44, an oversampling compared to Washington residents. About one-fifth of respondents are in each of the other age brackets, including 18 to 29, 45 to 59, and 60 or older. Respondents slightly under-sample residents aged 45 and older.

Exhibit 12. Respondents' Age

Question: "Your age."

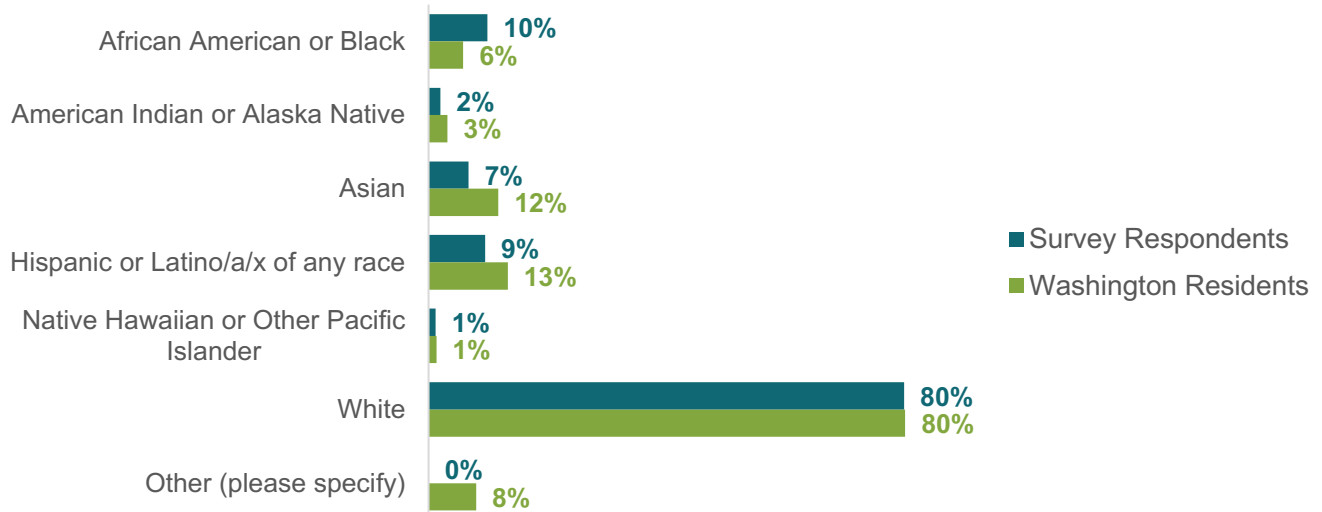


Sources: ACS 5-year estimates, 2021; BERK, 2023.

Exhibit 13 shows respondents' race(s) and ethnicity(ies) alongside those of Washington residents. Four in five respondents (80%) identify as White. About one in ten respondents identifies as African American or Black (9%) or Hispanic or Latino/a/x of any race (9%). Seven percent identify as Asian, 2% as American Indian or Alaska Native, and 1% as native Hawaiian or Other Pacific Islander. Respondents over-sample African American or Black respondents and under-sample American Indian or Alaska Native, Asian, and Hispanic or Latino/a/x respondents. No survey respondents identified as an "other" race, compared to 8% of Washington residents in the American Community Survey.

Exhibit 13. Respondents' Race(s) and/or Ethnicity(ies)

Question: "Your race or ethnicity (check all that apply)."

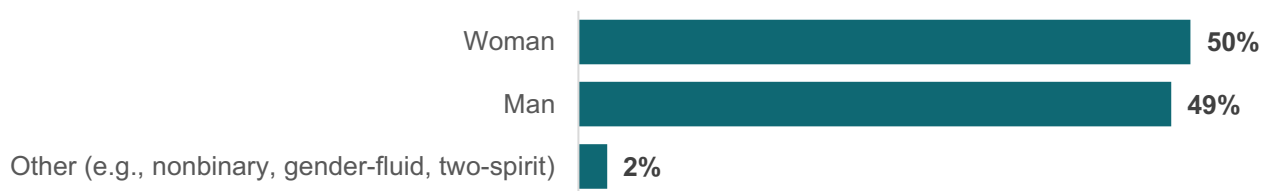


Source: ACS 5-year estimates, 2021; BERK, 2023.

Exhibit 14 shows respondents' gender(s). Women and men each comprise about half of respondents, and 2% of respondents identify as another gender.

Exhibit 14. Respondents' Gender(s)

Question: "Your gender (check all that apply)."



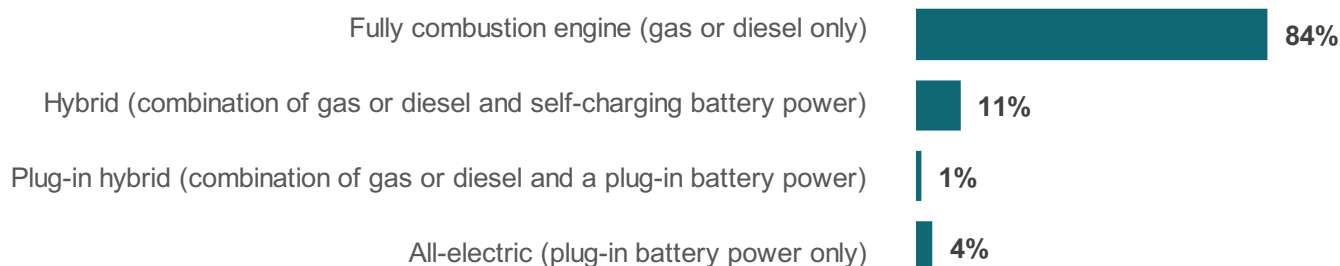
Source: BERK, 2023.

7.2 Vehicle Type and Driving Habits

Exhibit 15 shows respondents' vehicle types. Most respondents (84%) drive vehicles with a fully combustion engine and 11% drive hybrid vehicles. Five percent of respondents drive plug-in hybrid or all-electric vehicles.

Exhibit 15. Respondents Vehicle Types

Question: "Your vehicle type."

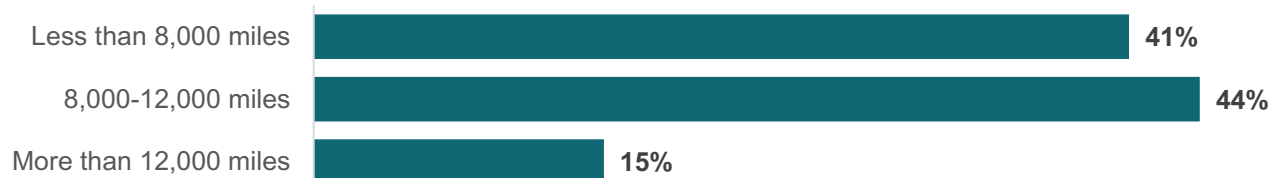


Source: BERK, 2023.

Exhibit 16 shows the number of miles respondents typically drive in a year. 41% drive less than 8,000 miles, 44% drive between 8,000 and 12,000 miles, and 15% drive more than 12,000 miles in a year.

Exhibit 16. Number of Miles Respondents Typically Drive in a Year

Question: "Number of miles you typically drive in a year."



Source: BERK, 2023.

7.3 Political Party Affiliation

Exhibit 17 shows respondents' political party affiliations. Most respondents are Independents/moderates (39%) or Democrats (38%) and nearly one-quarter of respondents are Republican (23%).

Exhibit 17. Respondents' Political Party Affiliation

Question: "Your political party affiliation"



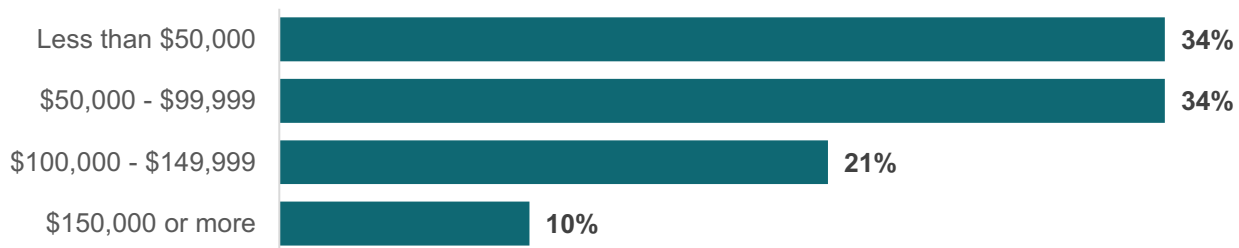
Source: BERK, 2023.

7.4 Household Income

Exhibit 18 shows respondents' total household income in 2021. About one-third of respondents had household incomes of less than \$50,000 and one-third had household incomes between \$50,000 and \$99,999. One in five (21%) had household incomes between \$100,000 and \$149,999 and the remaining 10% of respondents had household incomes of \$150,000 or more.

Exhibit 18. Respondents' Total 2021 Household Income

Question: "What was your total household income in 2021?"



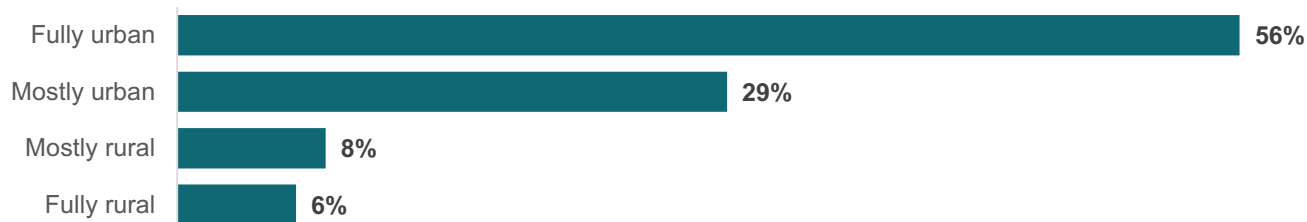
Source: BERK, 2023.

7.5 Location of Residence

Exhibit 19 shows the proportions of survey respondents who live in ZIP codes that are fully urban, mostly urban, mostly rural, or fully rural. See Exhibit 20 for the consultant team’s classification of each ZIP code into these categories. Most respondents (85%) live in fully or mostly urban zip codes.

Exhibit 19. Rural or Urban Classification of Respondents’ Location of Residence, Based on their ZIP Code

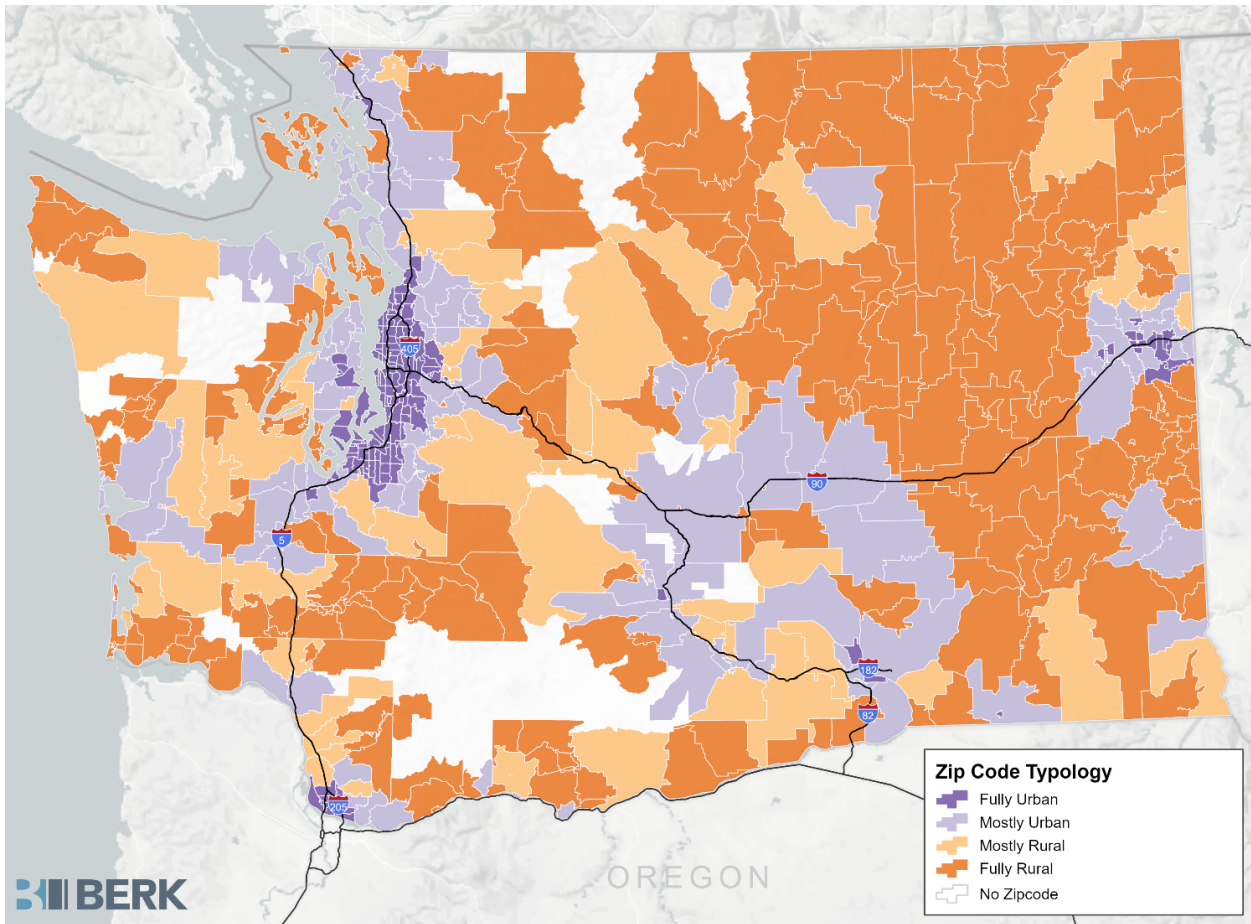
Question: “What is the ZIP code of your primary residence?”



Note: Urban or rural status of residential area is determined by the consultant team’s characterization of a respondent’s ZIP code of residence as fully or mostly rural or urban. To classify respondents’ ZIP codes in this way, this analysis considered the ZIP code’s distance to the nearest city of at least 25,000 people; the population density of the ZIP code; and the proportion of each ZIP code’s residents that live in a census-defined “urbanized area.”

Source: BERK, 2023.

Exhibit 20. Classification of ZIP Codes as Fully Urban, Mostly Urban, Mostly Rural, or Fully Rural



Source: BERK, 2023.

Exhibit 21 shows the proportions of survey respondents who live in a county in western or eastern Washington. See Exhibit 23 for the consultant team’s classification of each county as eastern or western. Most respondents (75%) live in western counties, and 25% live in eastern counties.

Exhibit 21. East or West Classification of Respondents’ Location of Residence, Based on their ZIP Code

Question: “What is the ZIP code of your primary residence?”



Source: BERK, 2023.

Exhibit 22. Classification of Counties as East or West

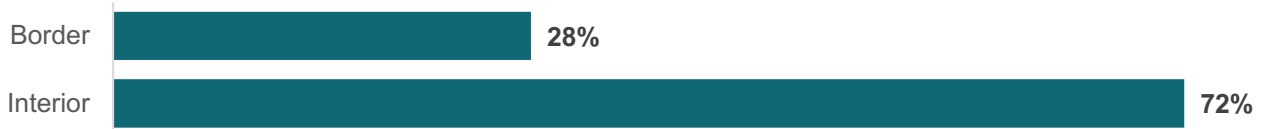


Source: BERK, 2023.

Exhibit 23 shows the proportions of survey respondents who live in counties in the interior or border of the state. See Exhibit 24 for the consultant team’s classification of each county as “interior” or “border.” Over two-thirds (72%) of respondents live in interior counties and about one-third (28%) in border counties.

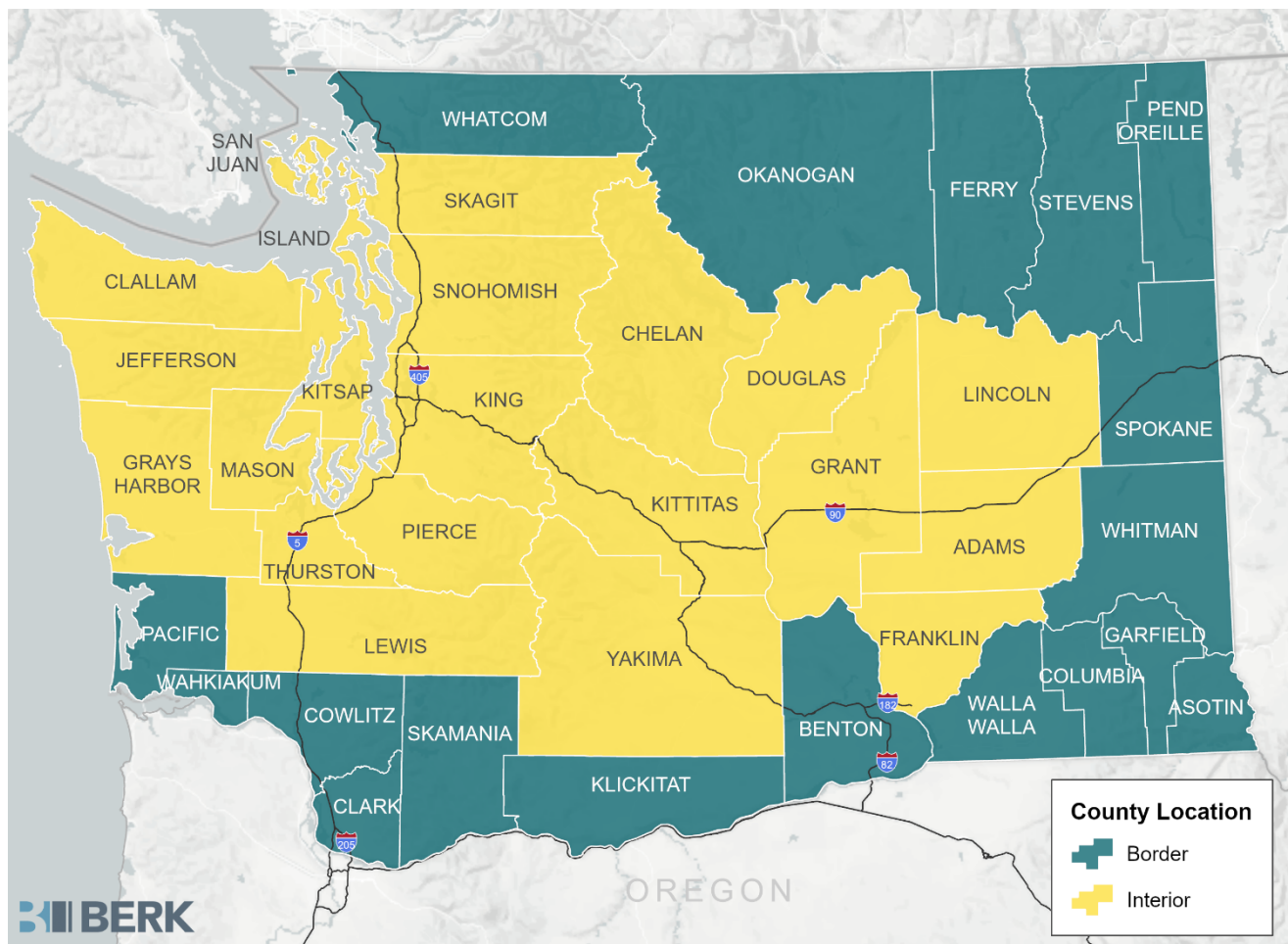
Exhibit 23. Border or Interior Classification of Respondents’ Location of Residence, Based on their ZIP Code

Question: “What is the ZIP code of your primary residence?”



Source: BERK, 2023.

Exhibit 24. Classification of Counties as Interior or Border



Source: BERK, 2023.