TRANSPORTATION ENERGY INSTITUTE

CONSUMER SURVEY

2024 Driver Behaviors and Perspectives

December

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Introduction

In the effort to reduce the environmental impact of transportation, consumers will be the ultimate decision maker regarding which emissions reduction technologies or energy options will be most successful. Therefore, it is essential to understand what they think and how they behave to ensure that the solutions being offered to them fit their needs and preferences. For this reason, the Transportation Energy Institute (TEI) frequently commissions or participates in consumer surveys, to provide insight into what consumers are thinking at a given period of time. This white paper presents findings from the 2024 consumer survey supported by the Institute. These results are presented as an additional tool to better understand the driver. As with all surveys, the results reflect how respondents answered questions at a given moment in time. The timing of the annual surveys is deliberate; they are designed to assess consumer sentiment and insights early in the transition to summer-blend fuels often before consumers have observed related price increases linked to the transition.

Methodology

On behalf of NACS (the National Association of Convenience Stores), and in collaboration with the TEI, Bold Decision conducted online interviews from Friday, March 8 – Tuesday, March 12, 2024, among N=1,200 American adults (age 18+, nationwide), including N=990 “gas consumers” (those who say they drive and buy gas at least once a month). The overall margin of error at the 95% confidence interval is +/- 2.83% for interviews among the N=1,200 US adults, and +/-3.11% for interviews among the N=990 gas consumers. Certain questions were split-sampled to reduce respondent fatigue and some findings may total more or less than 100% due to rounding. In the data presented in this paper, all responses are derived from the gas consumers (N = 990), except where noted in which case the data represents responses from all U.S. adults (N = 1,200).

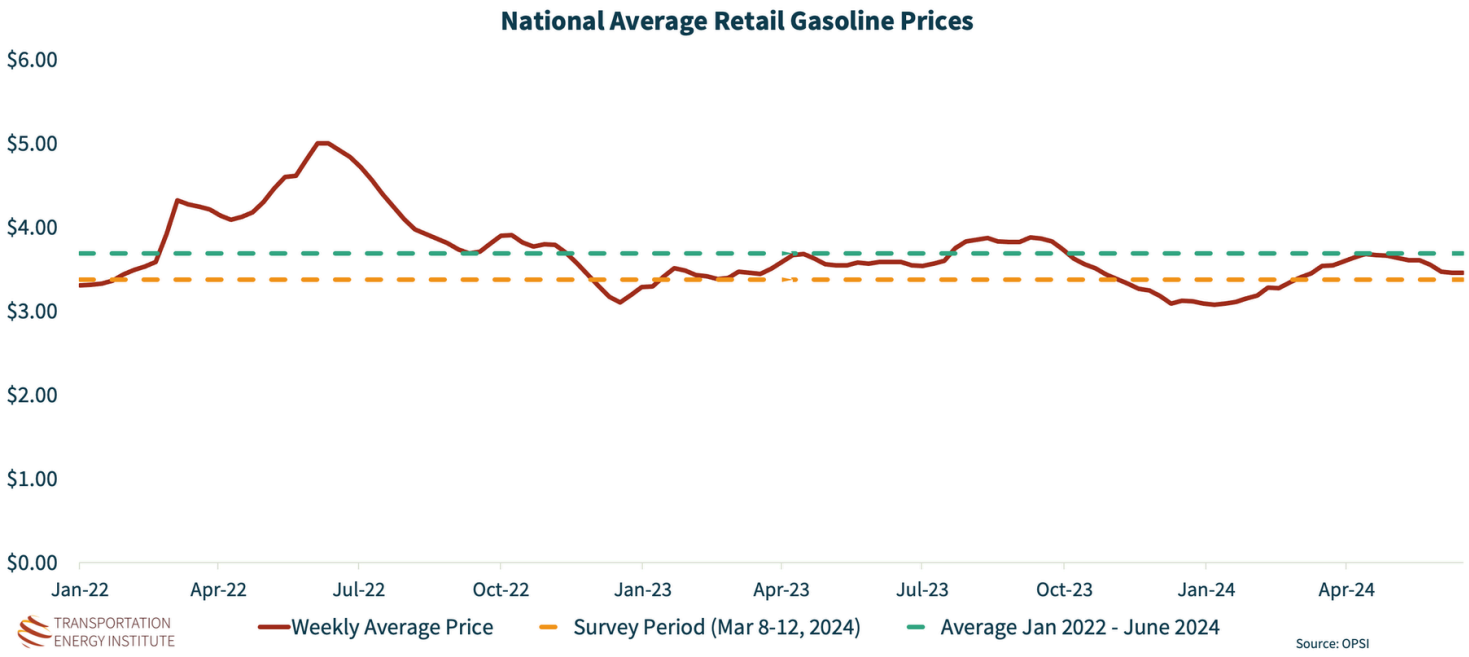
1. Gas Prices and Consumer Sensitivity

Gas Prices Serve as a Bellwether on the Economy

Retail gasoline is the only commodity for which consumers can comparison shop by price while driving 45+ miles per hour. Retailers post their prices on tall signs featuring numbers taller than a foot, creating the most price competitive market in the economy. This daily reminder of fuel prices, however, has an effect greater than simply creating competition for the customer – these prices are a major input on the barometer for how average Americans feel the economy is doing.

It is important for context to understand where the market was when the survey was conducted. Between March 8 – 12, 2024, the national average retail weekly price of gasoline was about $3.37, according to OPIS. As a point of reference, this price was $0.316 lower than the average price charged January 1, 2022 through June 30, 2024 and was lower than the average weekly price in 103 out of 129 weeks.

Figure 1



In general, at the time of the survey (March 2024) the majority of Americans (55%) felt pessimistic about the economy, with older age groups expressing greater pessimism. Supporting the hypothesis that gas prices have an impact on how people feel about the economy, those who commute to work every day were much more pessimistic (57%) than those who work from home (44%). Consumers in the Midwest and Northeast, as well as those who live in Rural markets, were the most pessimistic about the economy.

Generally speaking, how do you feel about the economy?

Figure 2

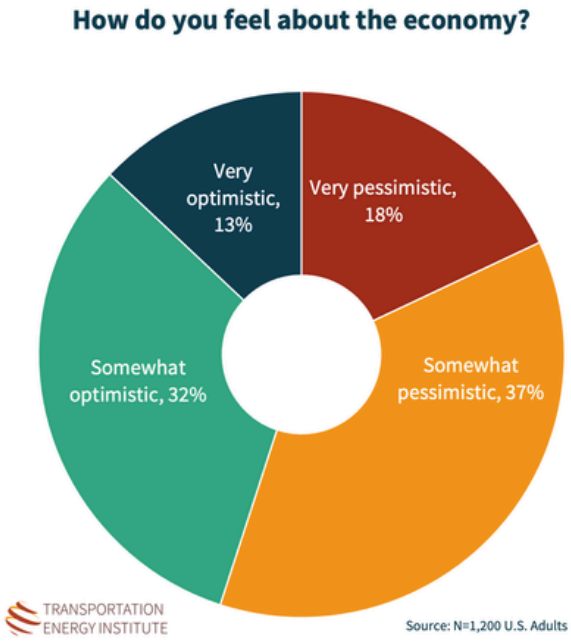
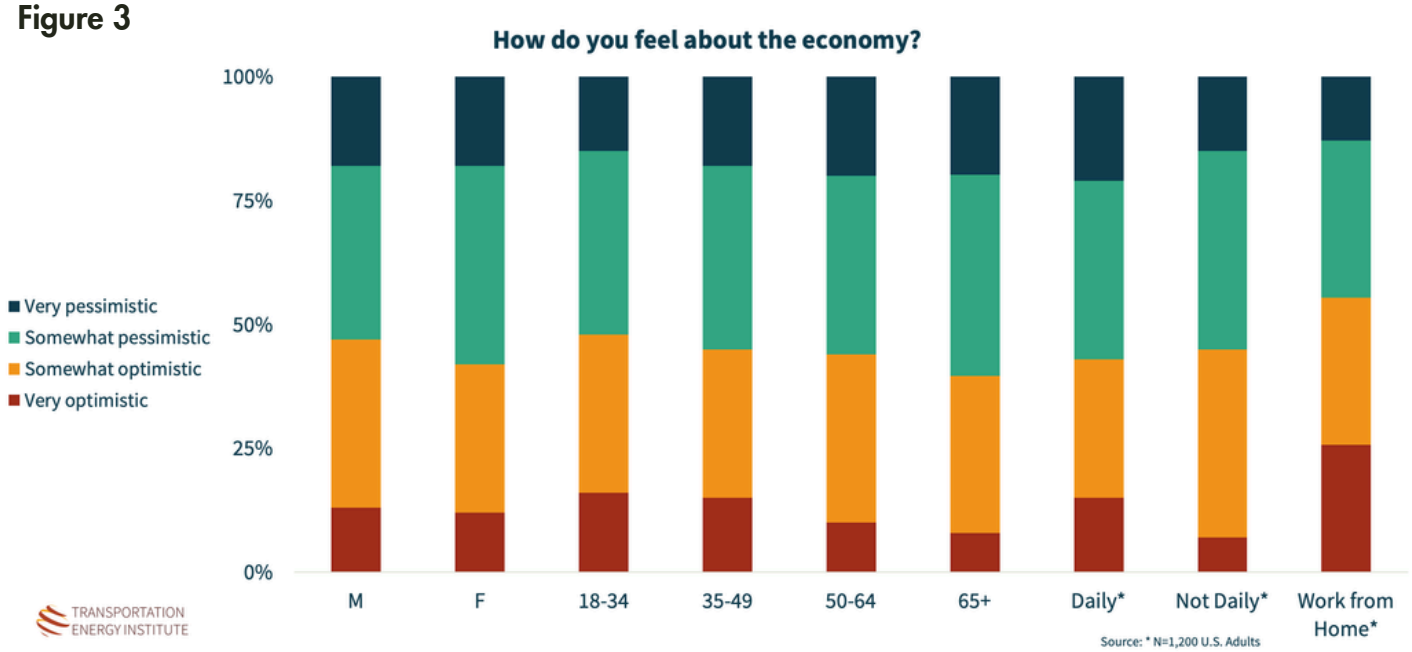


Figure 3



"Daily," "Not Daily" and "Work from Home" refer to how often the survey respondent commutes to and from work.

Figure 4

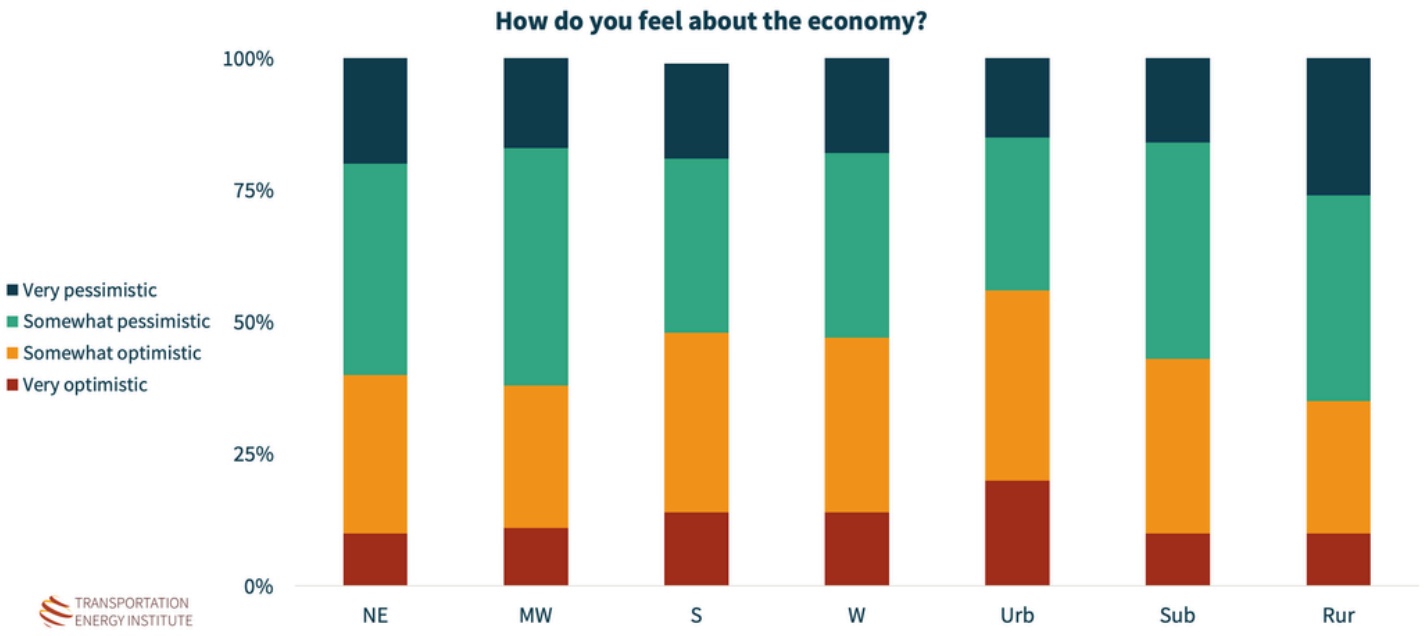


Figure 5

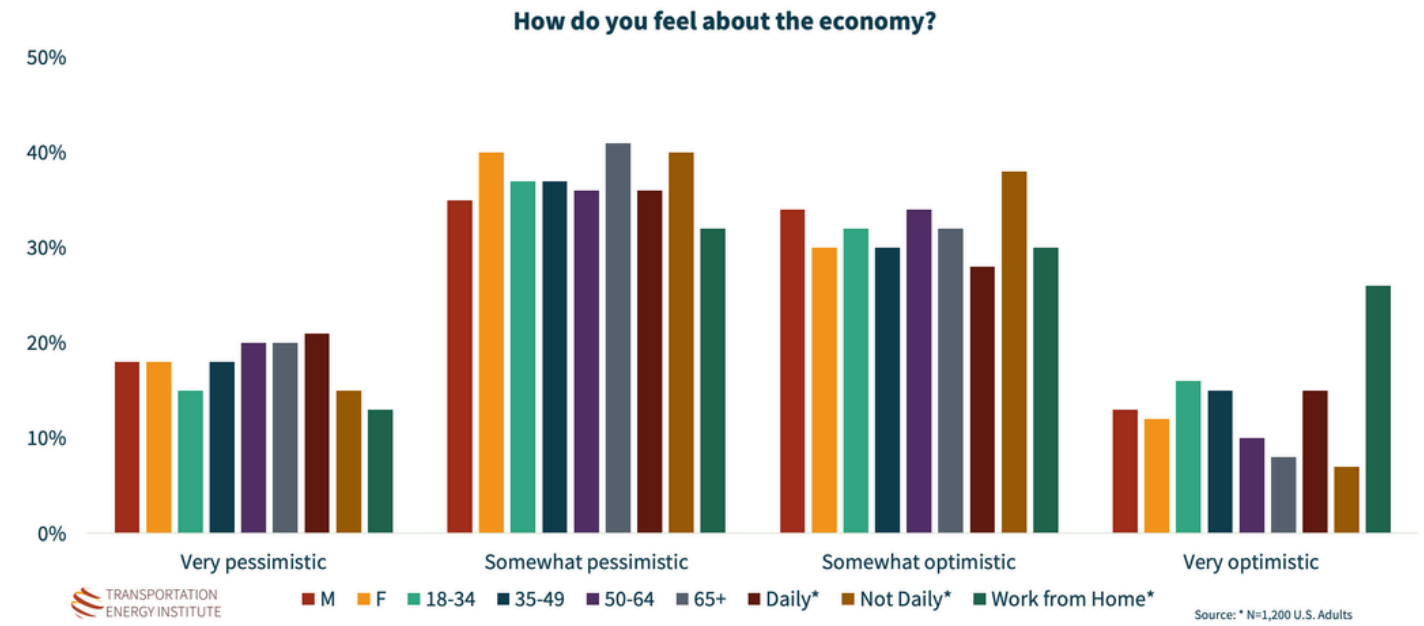


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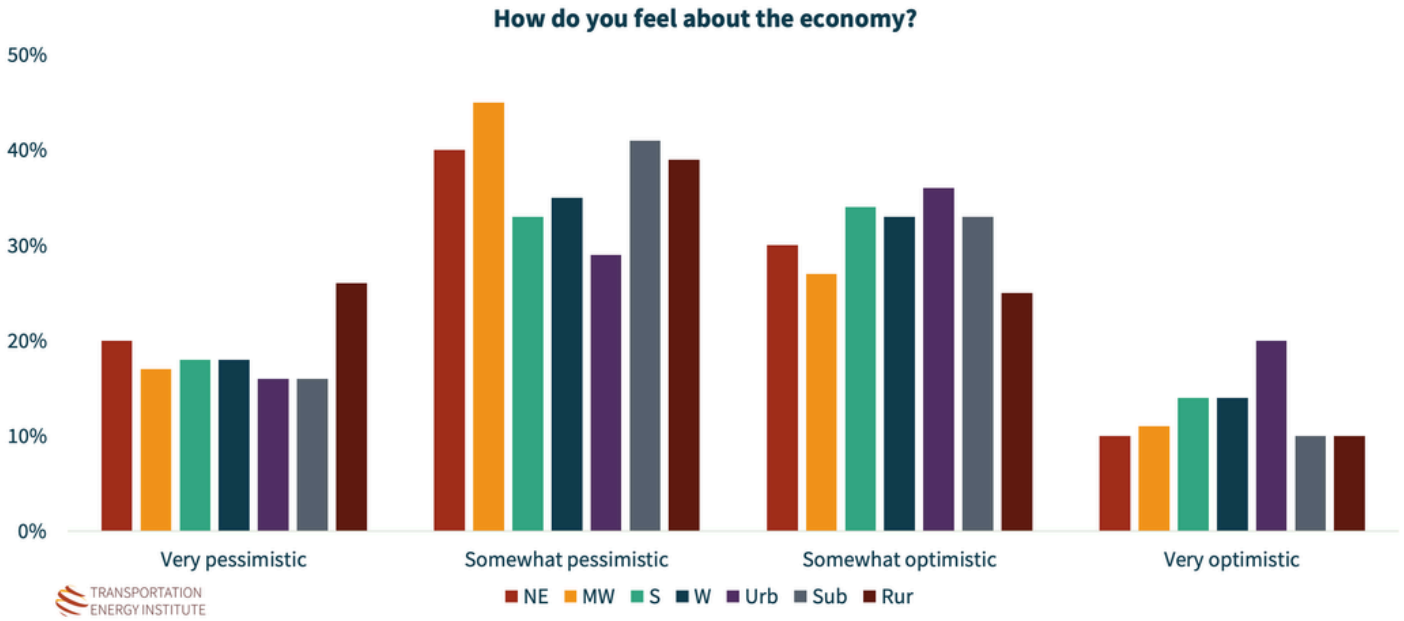
Figure 6



Overall, 85% of Americans said the price of gasoline influences how they feel about the economy. This is understandable given the impact of transportation-related expenses on consumers. According to U.S. Bureau of Transportation Statistics, transportation-related expenses were the second highest share of household expenditures, accounting for 16.9% of average household spending in 2022.[1] Of transportation-related expenses, 25% were attributed to expenditures on gasoline, other fuels and motor oil.[2] As a share of all expenses, gasoline represented 4.3% of the average American's expenditures in 2022.

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[1] https://data.bts.gov/stories/s/u3wt-eyhe

[2] https://www.bls.gov/opub/reports/consumer-expenditures/2022/#:~:text=Average%20annual%20expenditures%20grew%20by,(15.7%20percent)%20from%202019.

Transportation Cost Burden

Figure 7

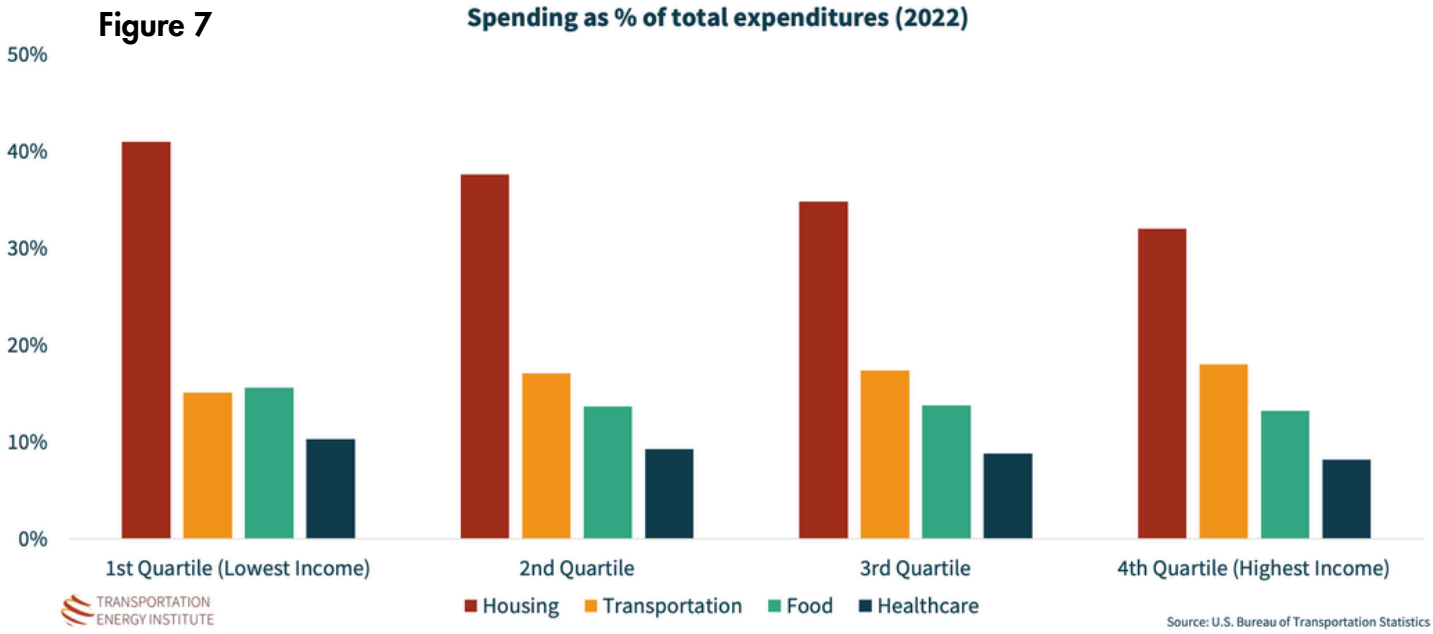
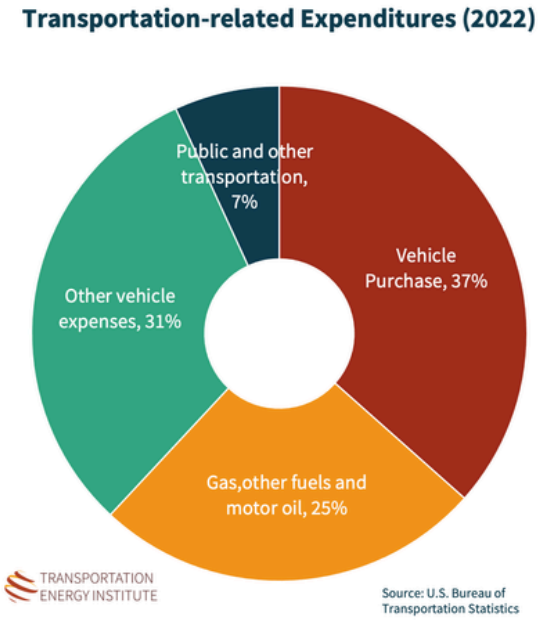
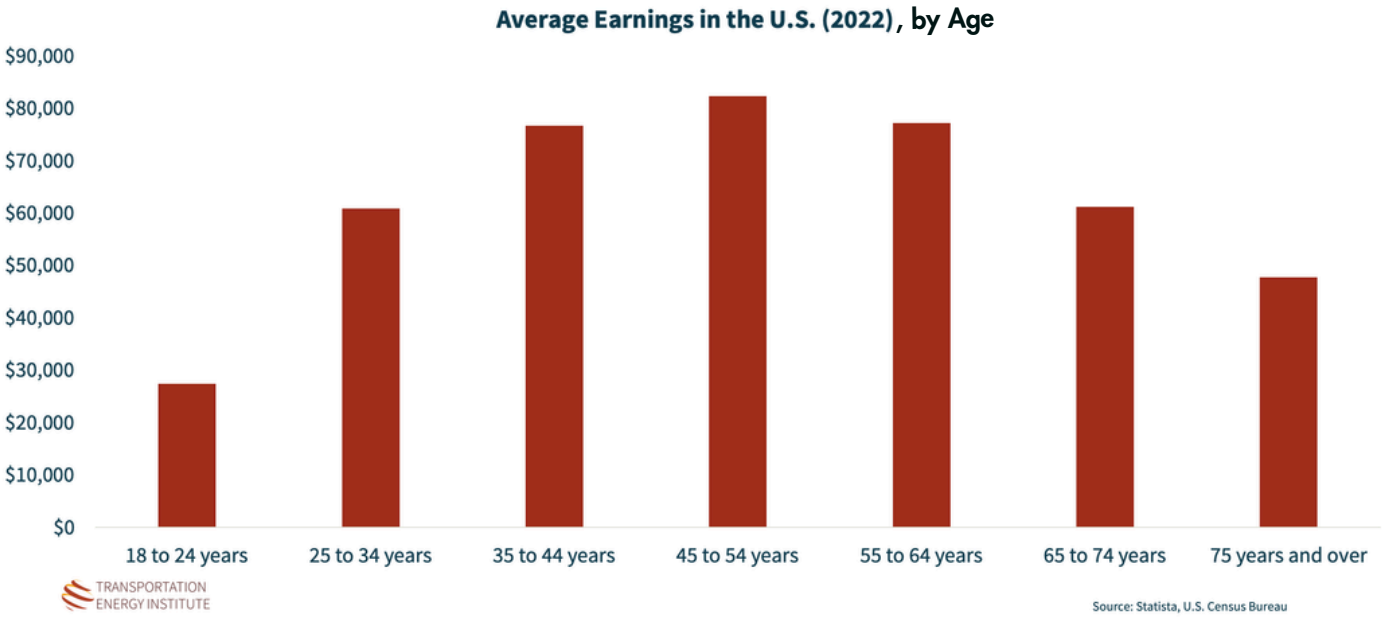


Figure 8



The survey found that the younger age groups were more affected by gas prices than were older consumers, which is consistent with data relative to income distribution by age group, which shows younger consumers typically earn less than older consumers.

Figure 9



The highest percentage of consumers said prices had a “great impact” on their feelings about the economy were those in the West (53%), which is not surprising given that gasoline is typically the most expensive in the West. Across all consumer categories, there were very few people who said gas prices have no impact on their feelings about the economy.

Figure 10 - 14: How much do gas prices today impact your feelings on the economy?

Figure 10

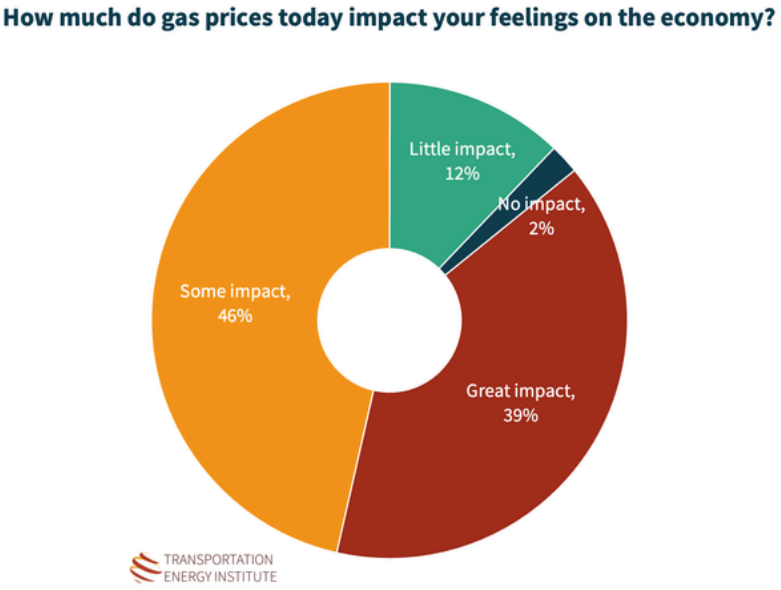
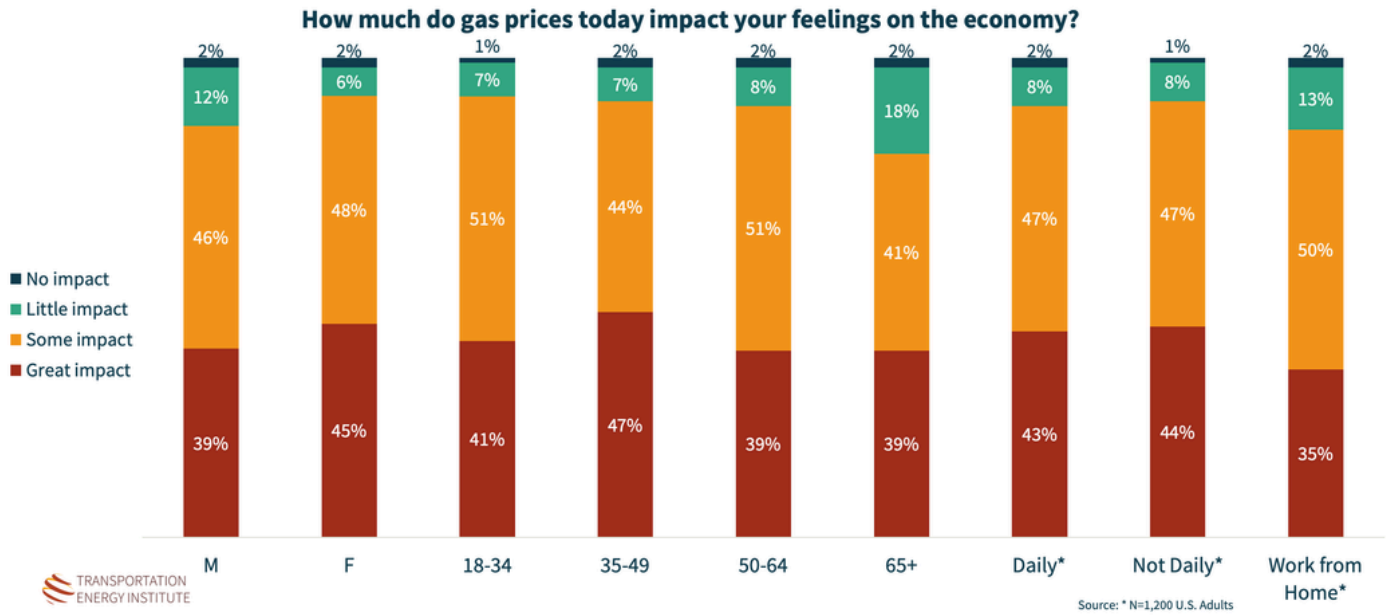


Figure 11



"Daily," "Not Daily" and "Work from Home" refer to how often the survey respondent commutes to and from work.

Figure 12

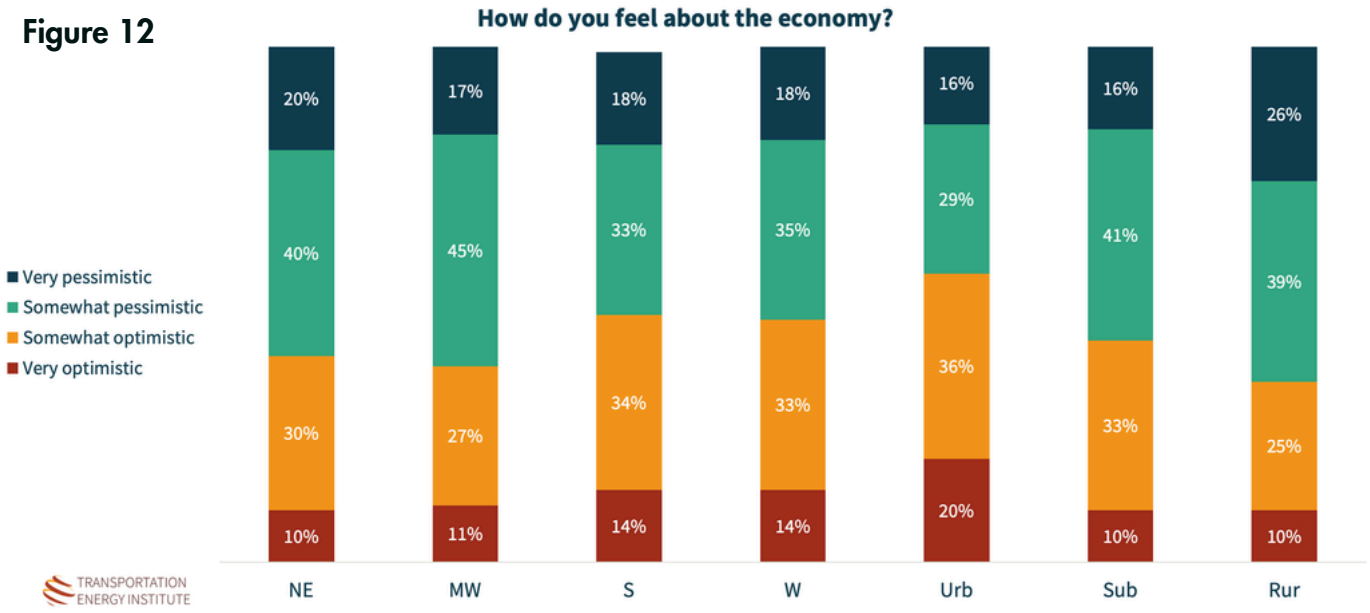


Figure 13

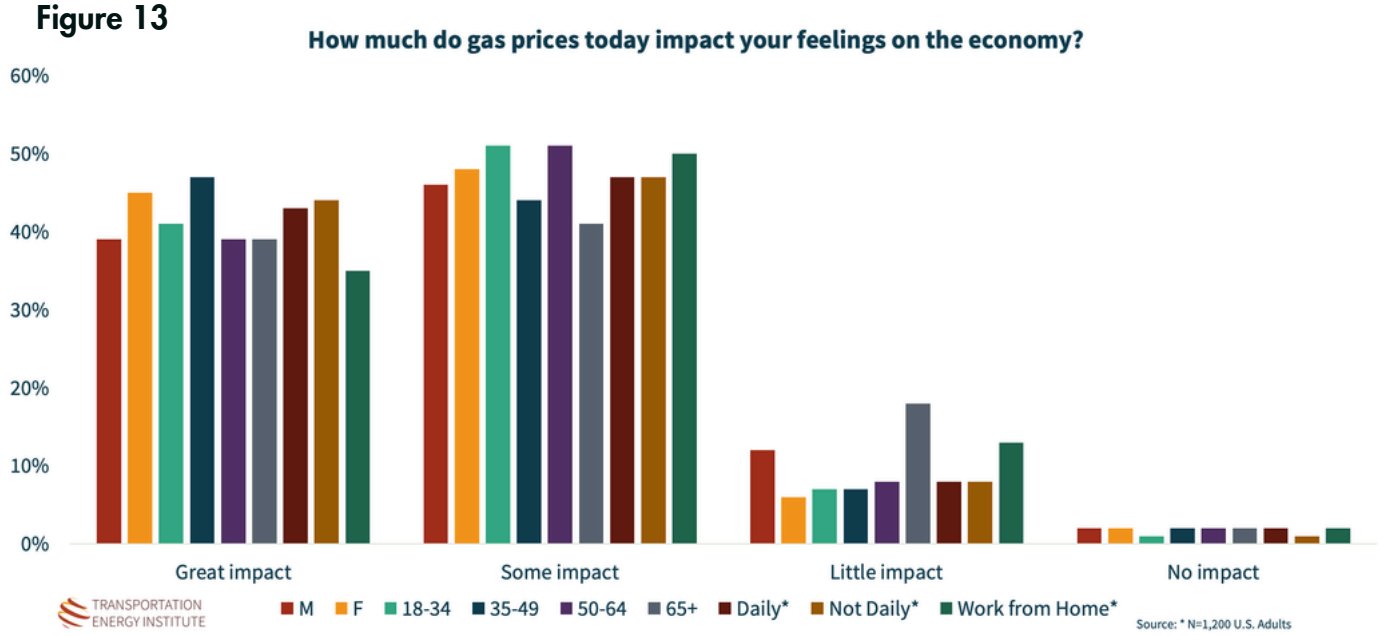


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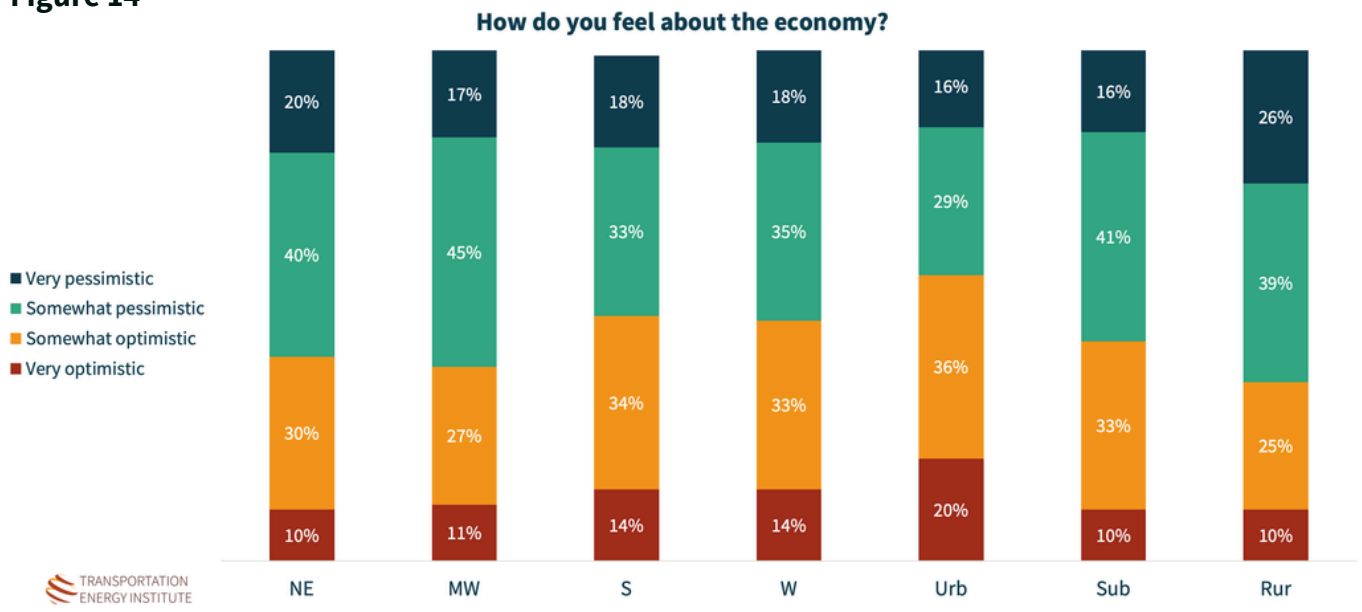
Figure 14



2. Consumer Fuel Buying Behavior

Consumers Remain Sensitive to Fuel Prices

Gas prices affect how consumers feel about the economy, and gas prices also play a key role in how consumers select where they choose to buy their fuel. Consistent with results from nearly 20 years of surveys, 70% of respondents said gas prices were the most important factor when choosing where to buy fuel. When looking at results across various demographic groups, there was no significant variability on the central importance of price – most respondents felt the same regardless of their gender, age or where they live.

Figures 15 – 17: When buying gas, which of the following factors is most important to you?

Figure 15

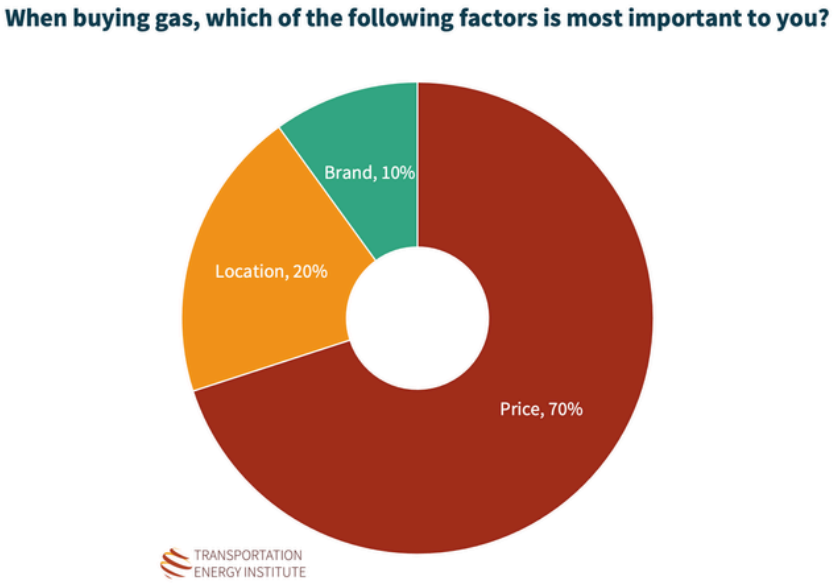


Figure 16

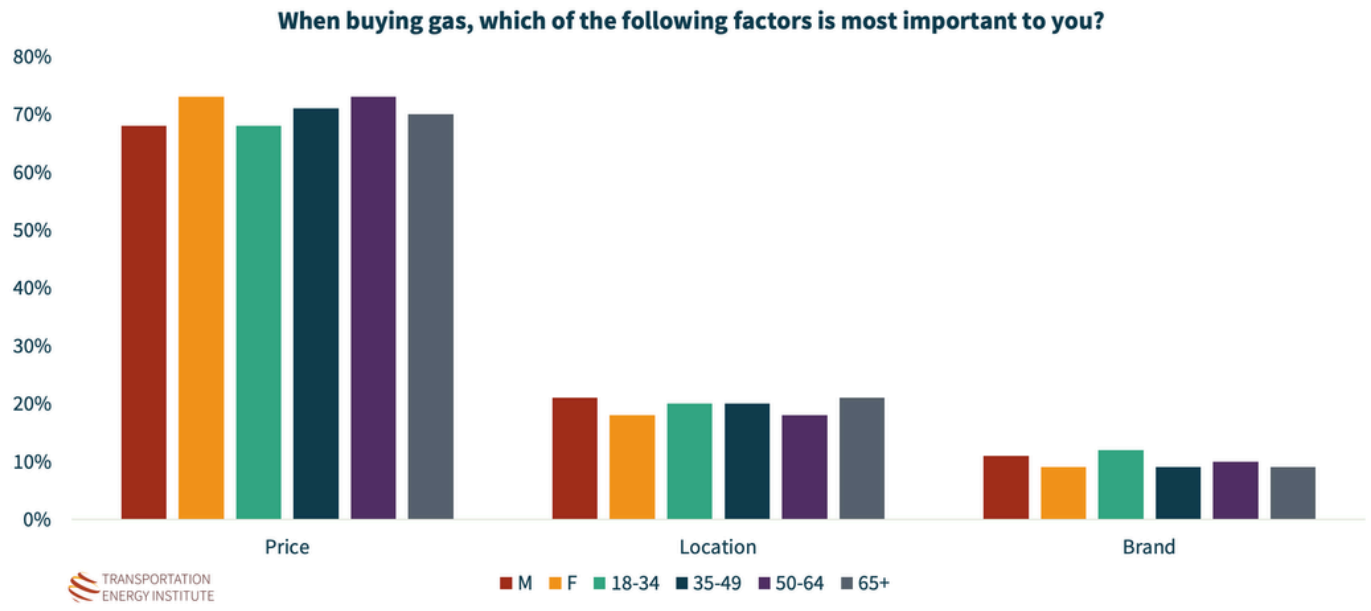
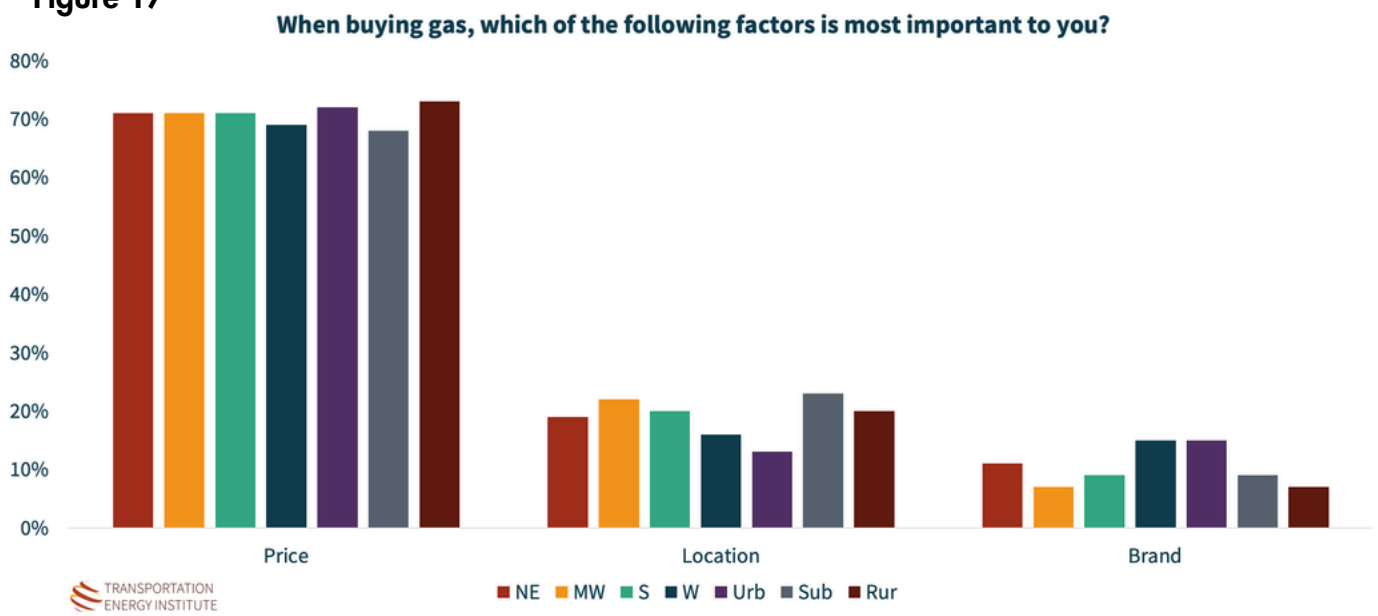


Figure 17



55% of respondents said they have a preference for a certain gas station or chain and in an immediate follow-up question, 56% of them said their preference was primarily because that retailer usually has the lowest prices. Lower prices was the most important store feature for all demographic groups, especially for those in the West who are accustomed to paying higher prices than the national average.

Figures 18 – 20: Among those who say they have a preference for a certain gas station or chain, why do you prefer that gas station or chain?

Figure 18

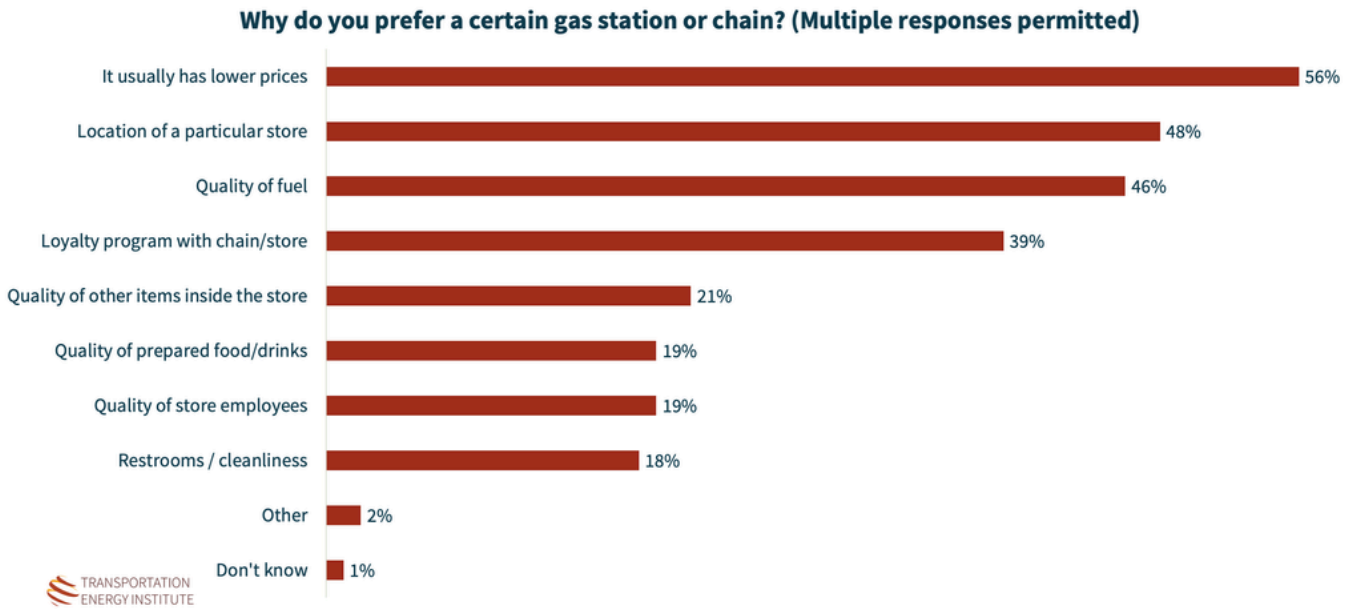


Figure 19

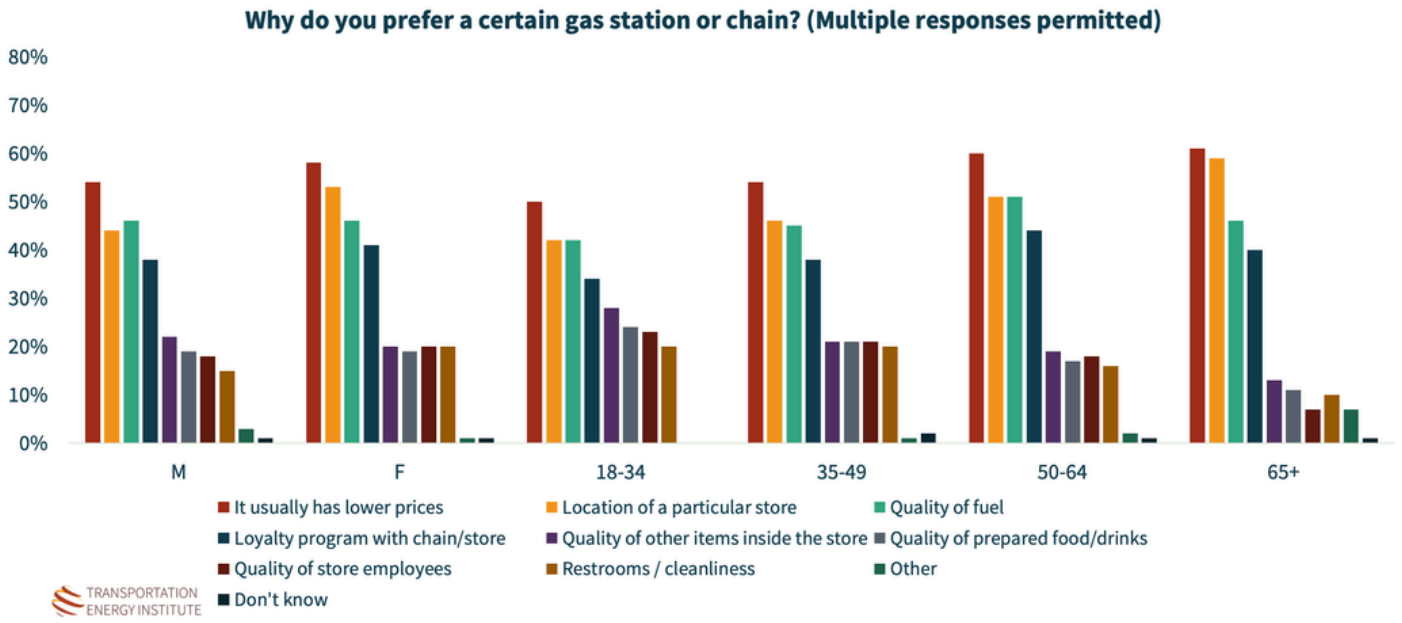
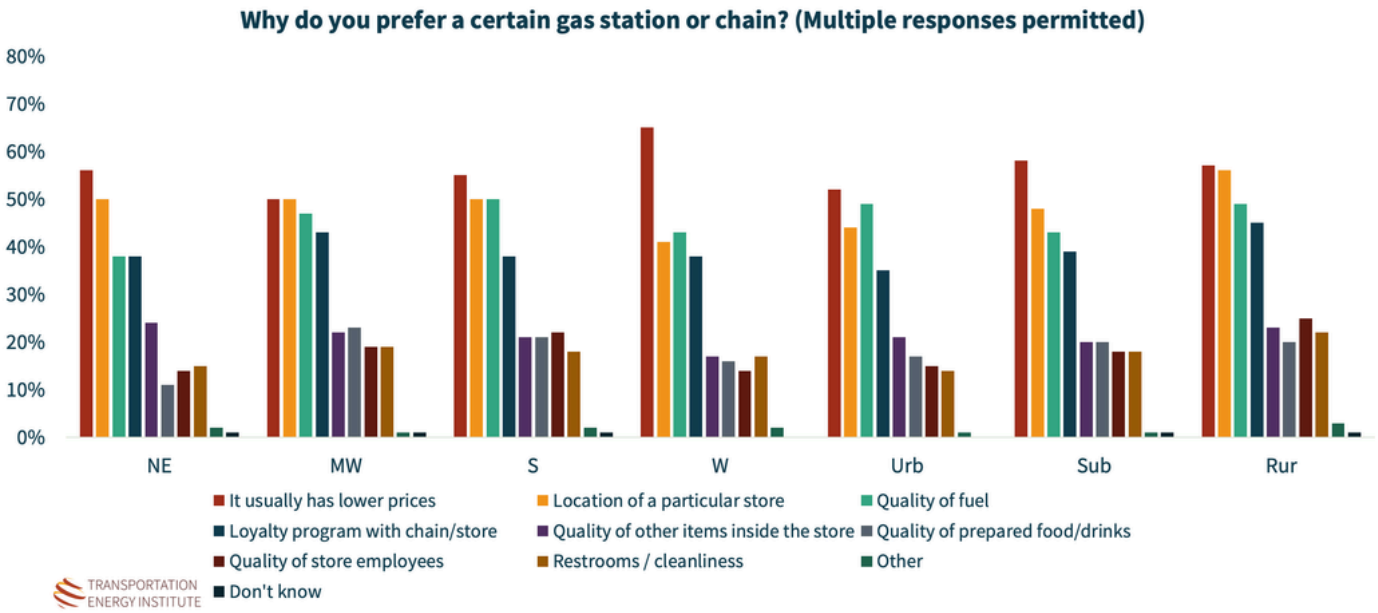


Figure 20



Beyond this, consumers said they would inconvenience themselves to save money at the pump. Showing how much consumers often value money over time, fully two-thirds (66%) of consumers said they would drive 5 minutes out of their way or turn left across a busy intersection to save 5 cents per gallon. Remarkably, nearly half (48%) would drive 10 minutes out of their way for the same savings. And this willingness to inconvenience themselves did not vary much by gender, age group or region.

Technically speaking, the motivation to inconvenience oneself to save money at the pump may not necessarily translate into actual monetary savings for the average consumer. For example, a consumer who drives 10 minutes out of their way to save 5 cents per gallon may spend more on the fuel required for this detour than the amount saved at the pump. This consumer inclination to inconvenience themselves to save money at the pump despite it being an economical behavior indicates an emotional element in the consumer decision-making process to seek out the best deal – even if it contradicts the potential financial reward.

Figures 21 - 24: How strongly do you agree or disagree with the following statements?

Figure 21

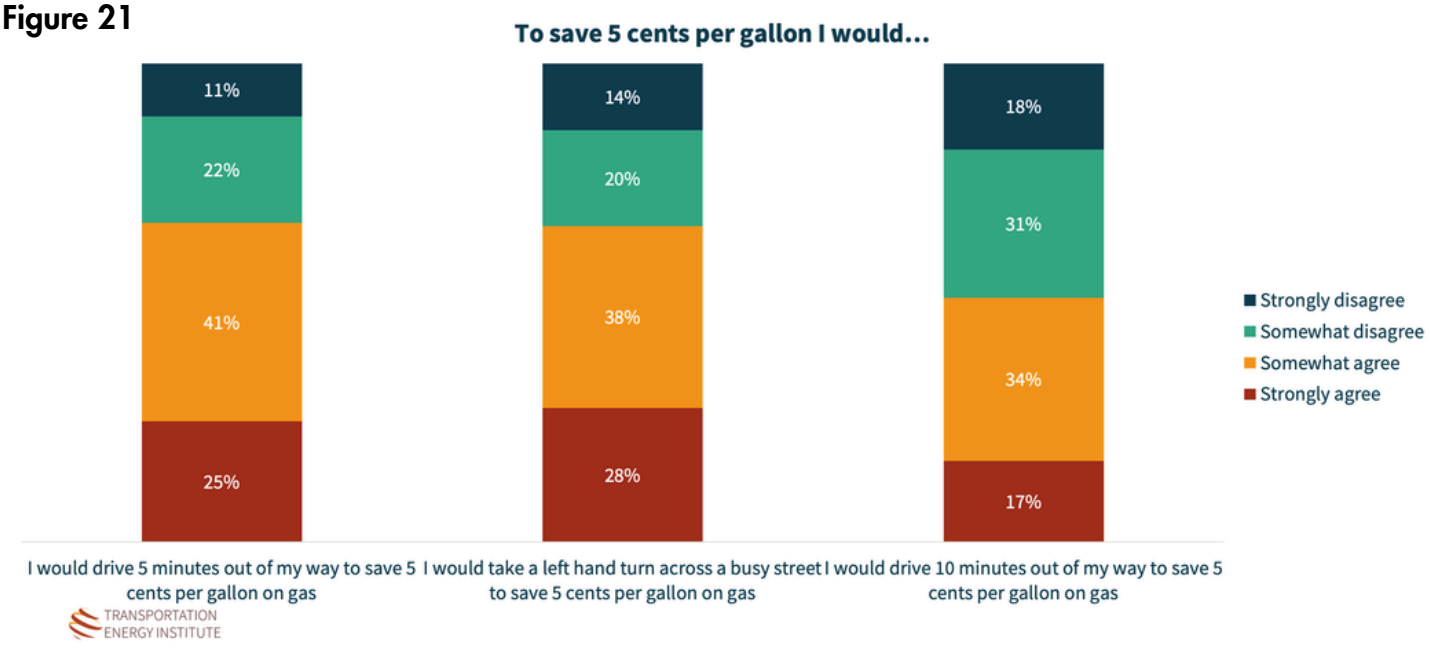


Figure 22

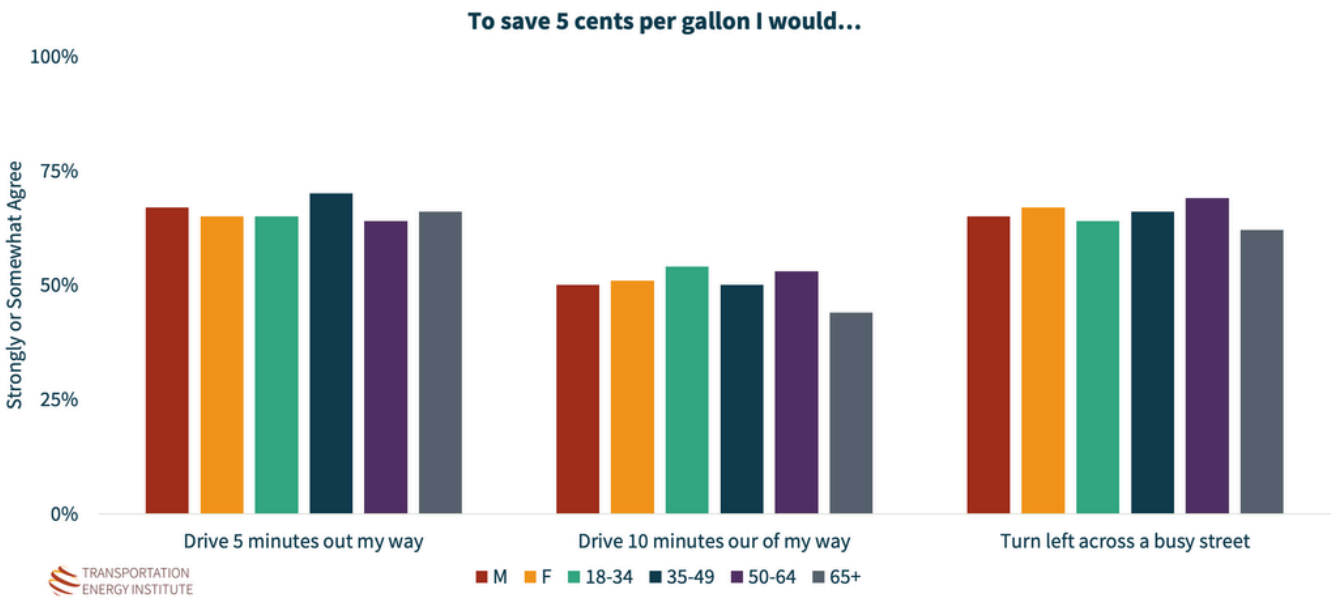
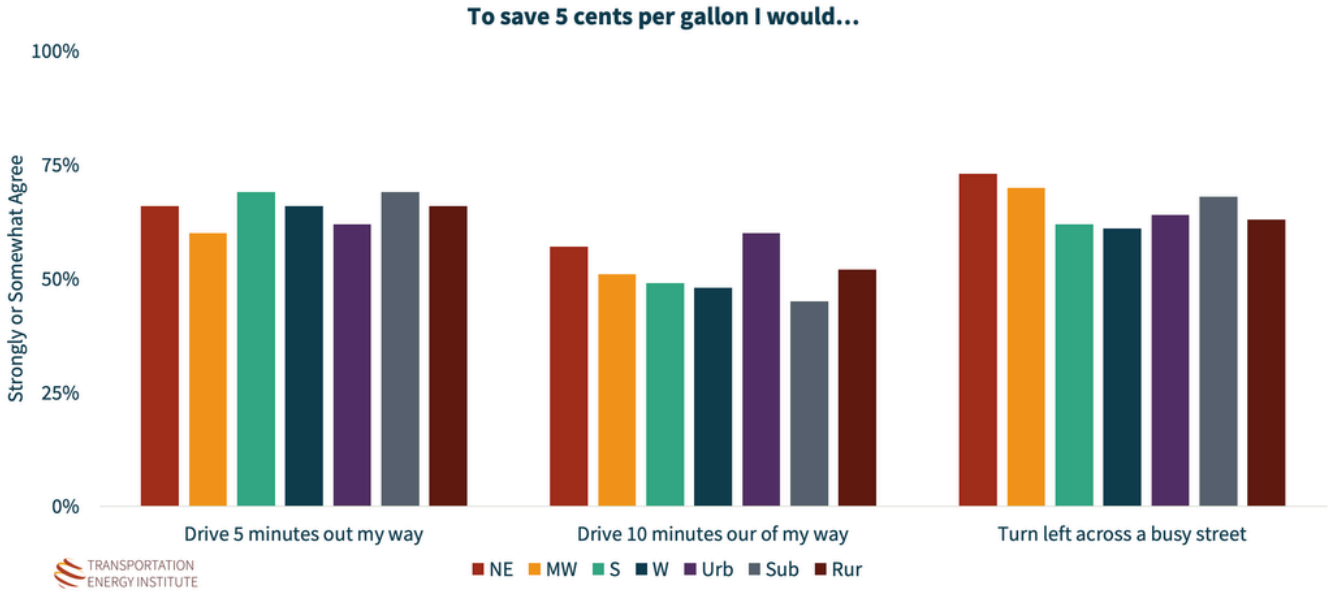


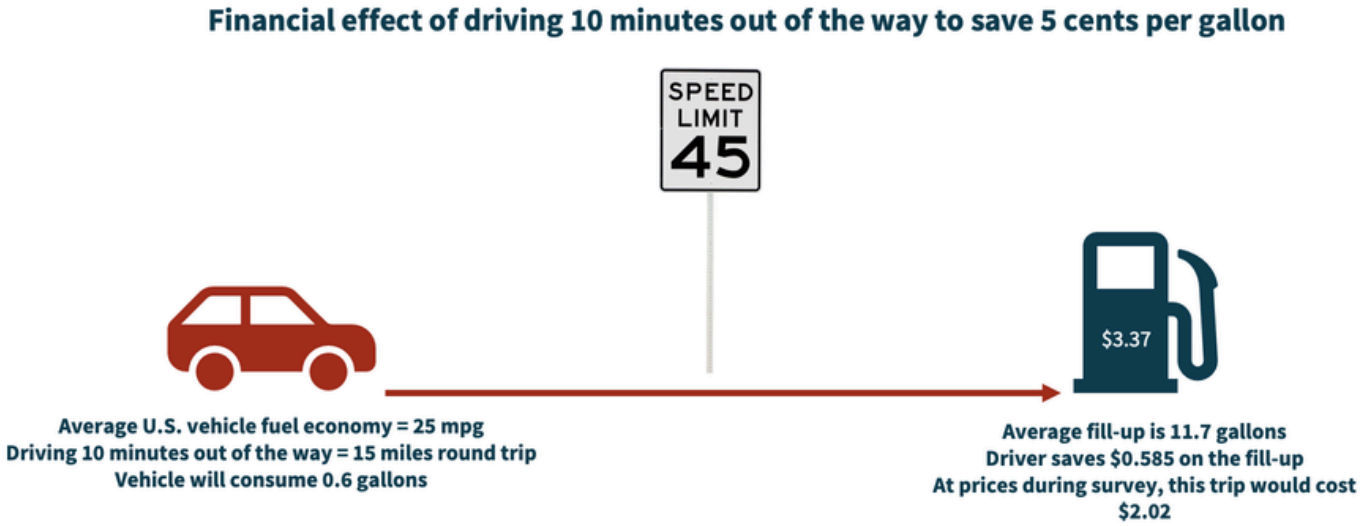
Figure 23



And finally, when asked what one thing a convenience store could do to earn more of the customer's business, 58% said they should offer a lower gas price. All of this leads to a conclusion that any alternative to traditional fuel and powertrains will have to be cost competitive, if not advantageous, and transparently so for the consumer.

Example of Financial Impact of 10 Minute Detour

Figure 24



Figures 25 – 27: If a convenience store near you could do one thing to get more of your business, what would it be?

Figure 25

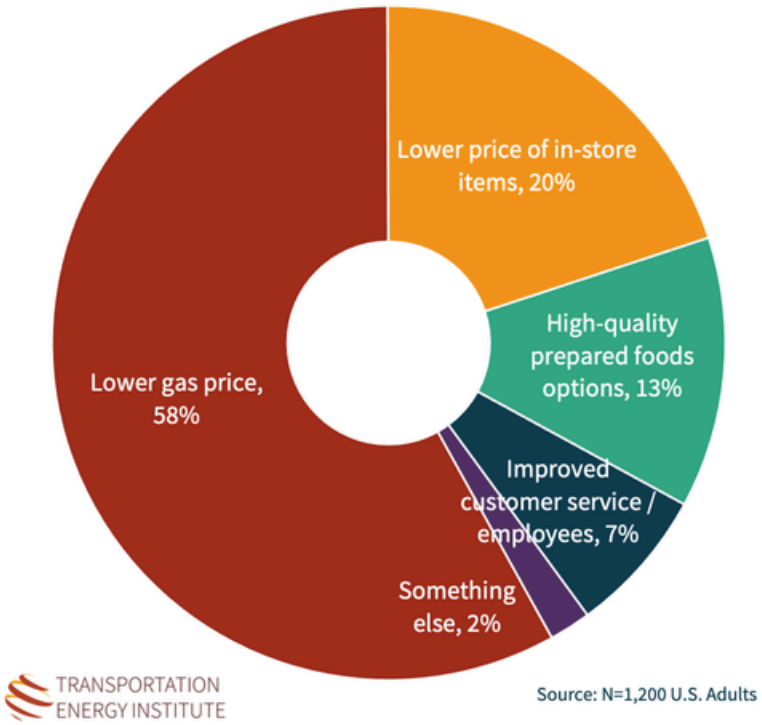


Figure 26

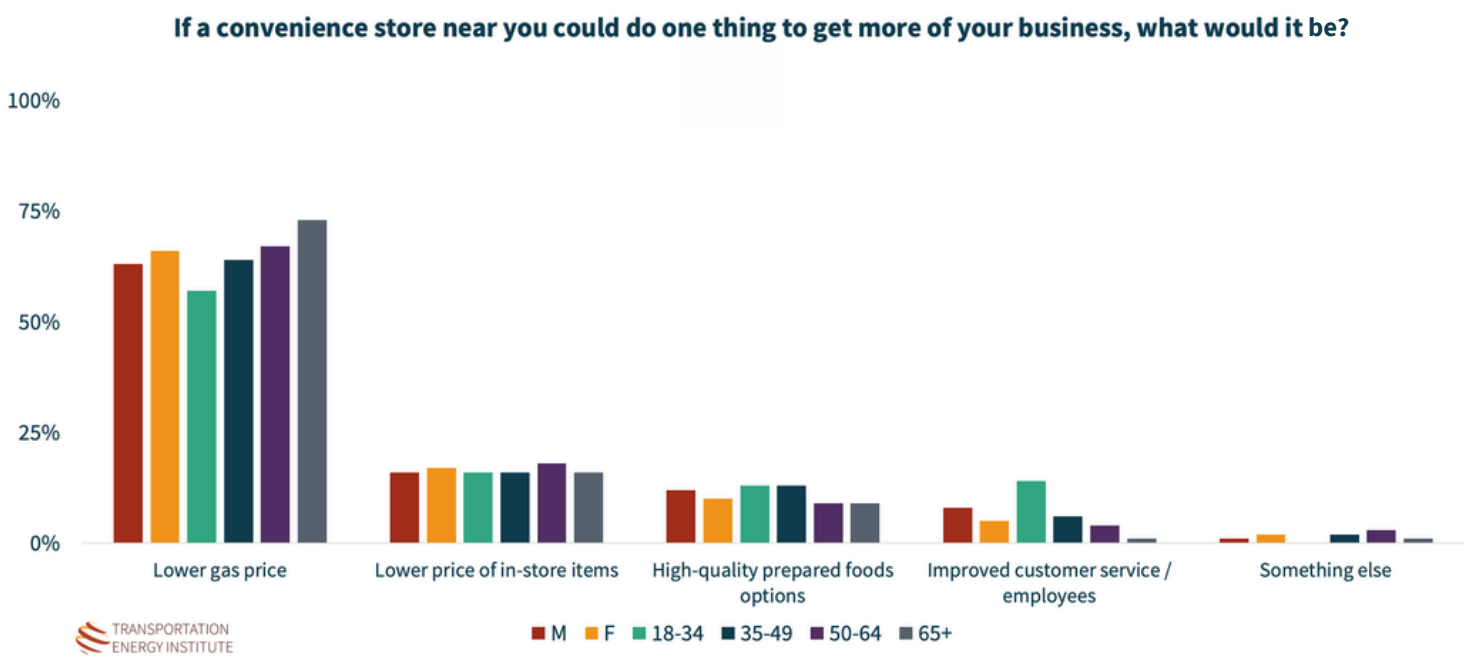
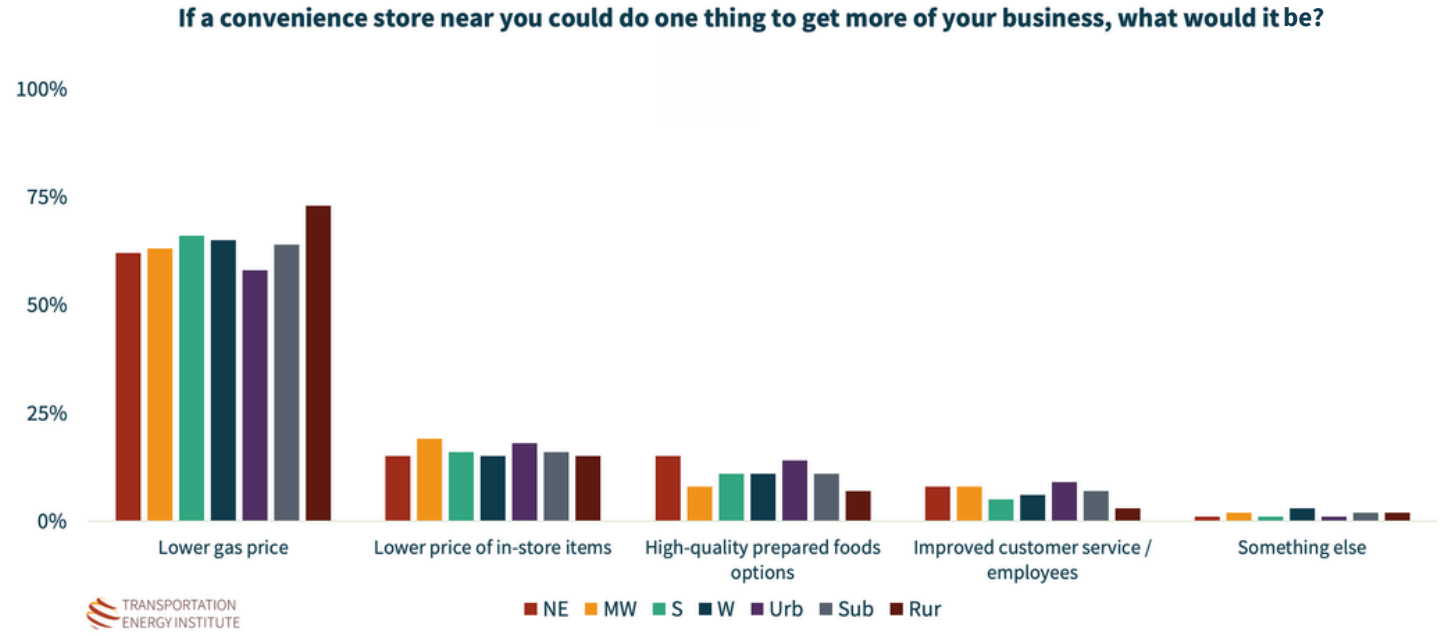


Figure 27



Fuel Buying Behavior

How consumers currently purchase their fuel is an important factor that can influence the transition of the transportation sector to any future energy sources. Matching consumer behavior to minimize behavioral friction is essential to successfully introducing a new fuel or vehicle option.

Today, consumers tend to refuel their vehicles throughout the day, with roughly one-third visiting a fueling station in the morning, afternoon and evening hours. Notably, frequency of fuel purchase declines significantly after the sun goes down and the traditional workday commute ends. Understanding when different demographics, such as age groups, prefer to purchase fuel, can help retailers design marketing strategies to appeal to those customers.

Figures 28 – 30: Generally speaking, at what time of the day do you most often purchase gas?

Figure 28

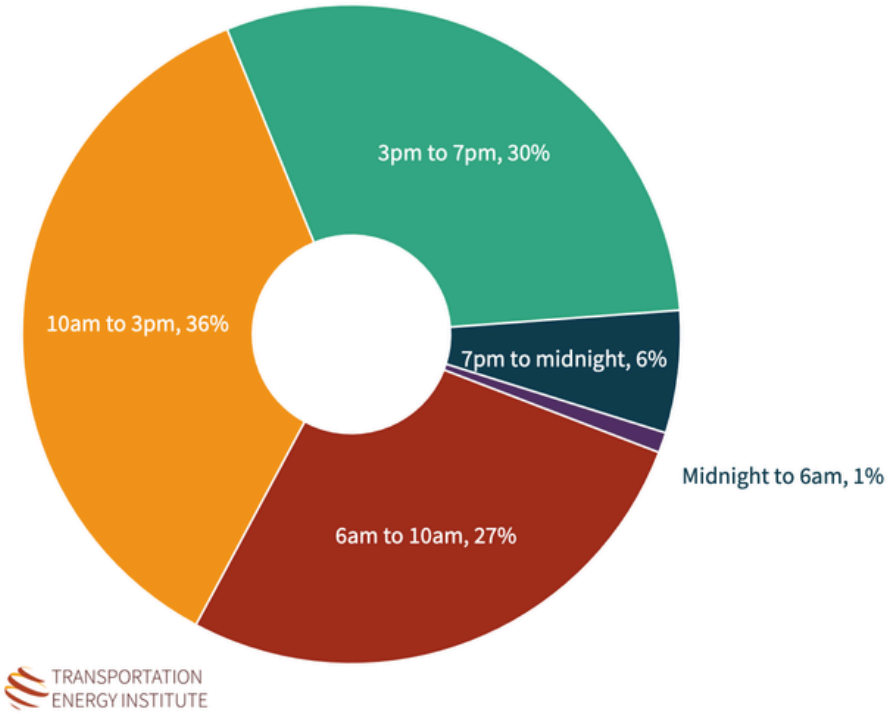


Figure 29

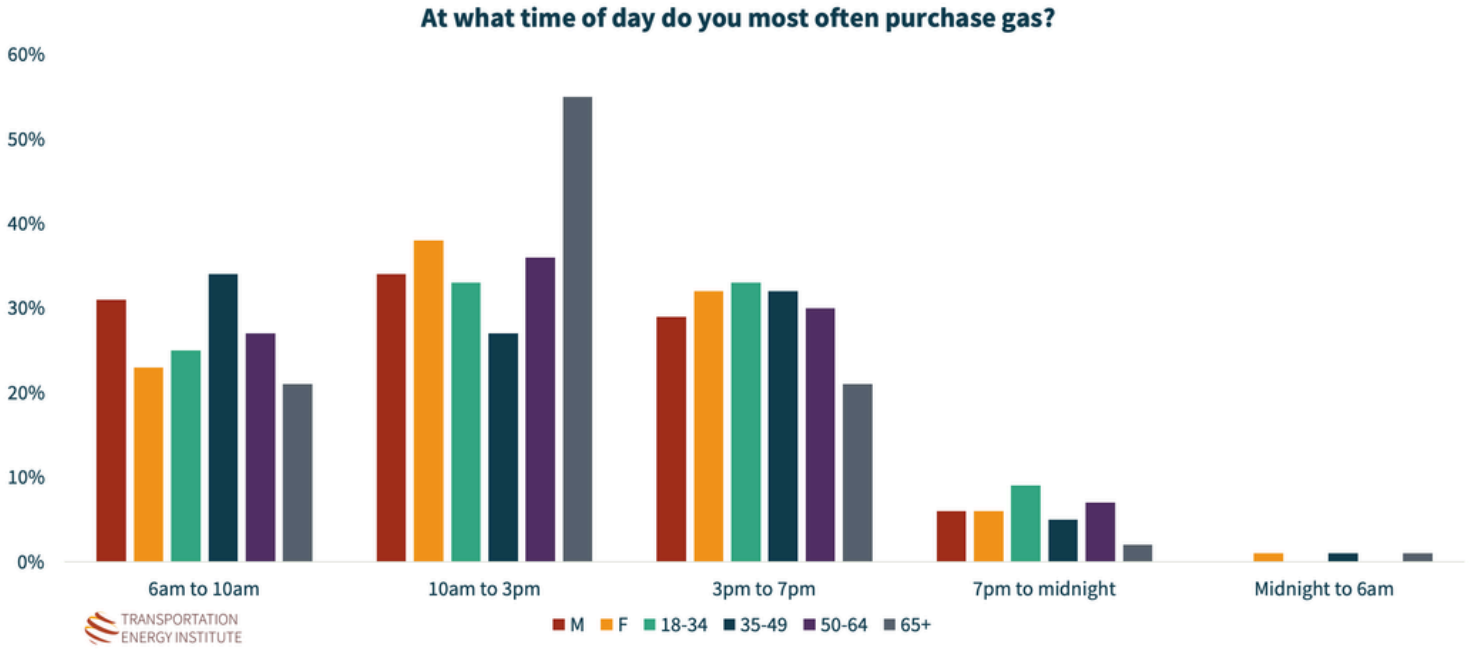
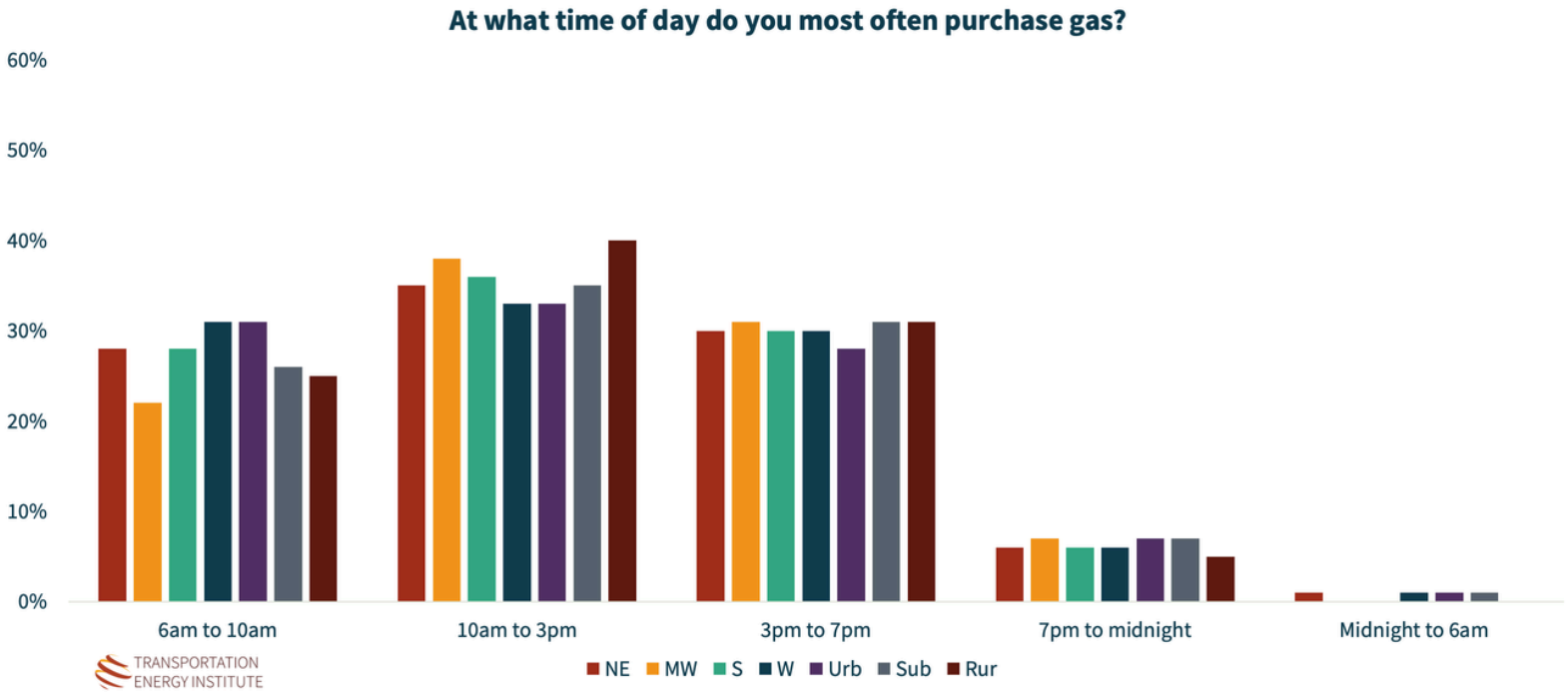


Figure 30



The majority of consumers want to get the most range from their refueling visit, with 59% saying they typically fill their tank. Yet another 38% decide how much fuel to purchase based upon their budget or available cash on hand, another indicator of the influence of price. Younger drivers tend to work within a budget, more so than other age groups.

Figures 31-33: When deciding how much gas to purchase, do you typically…?

Figure 31

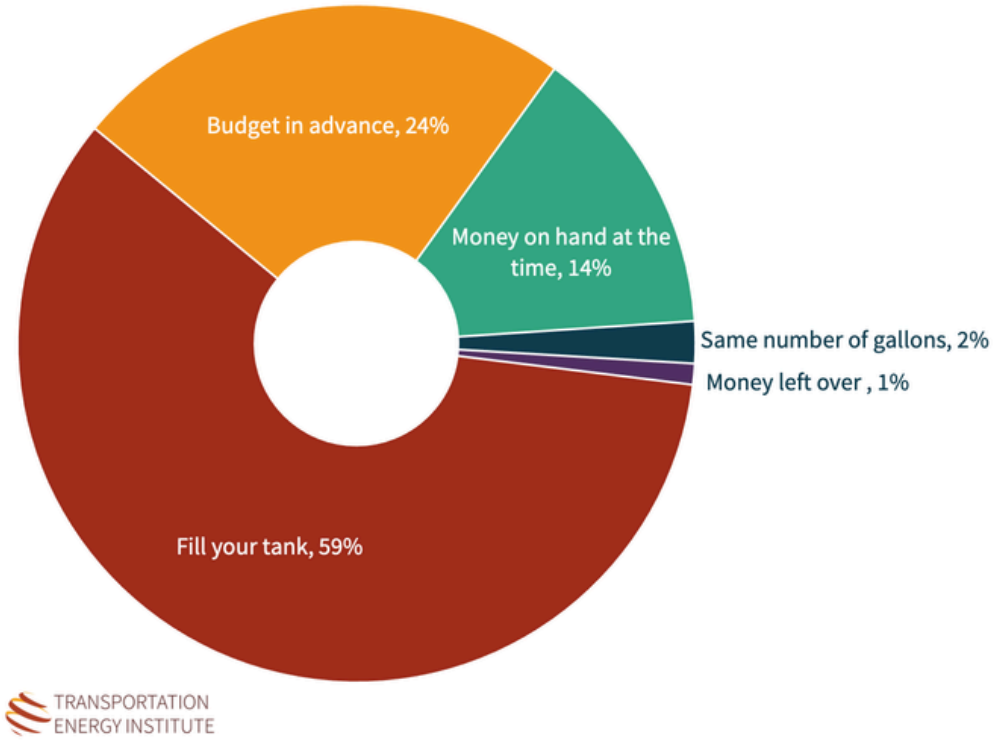


Figure 32

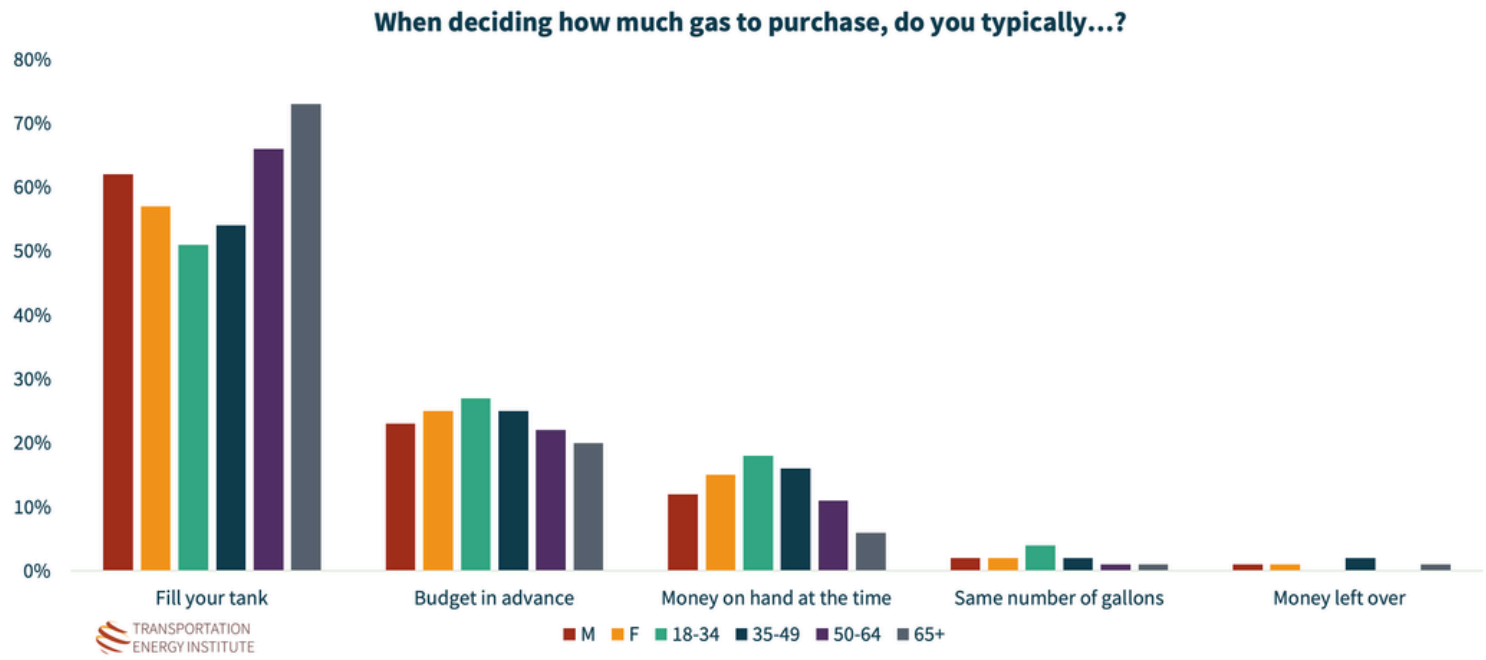
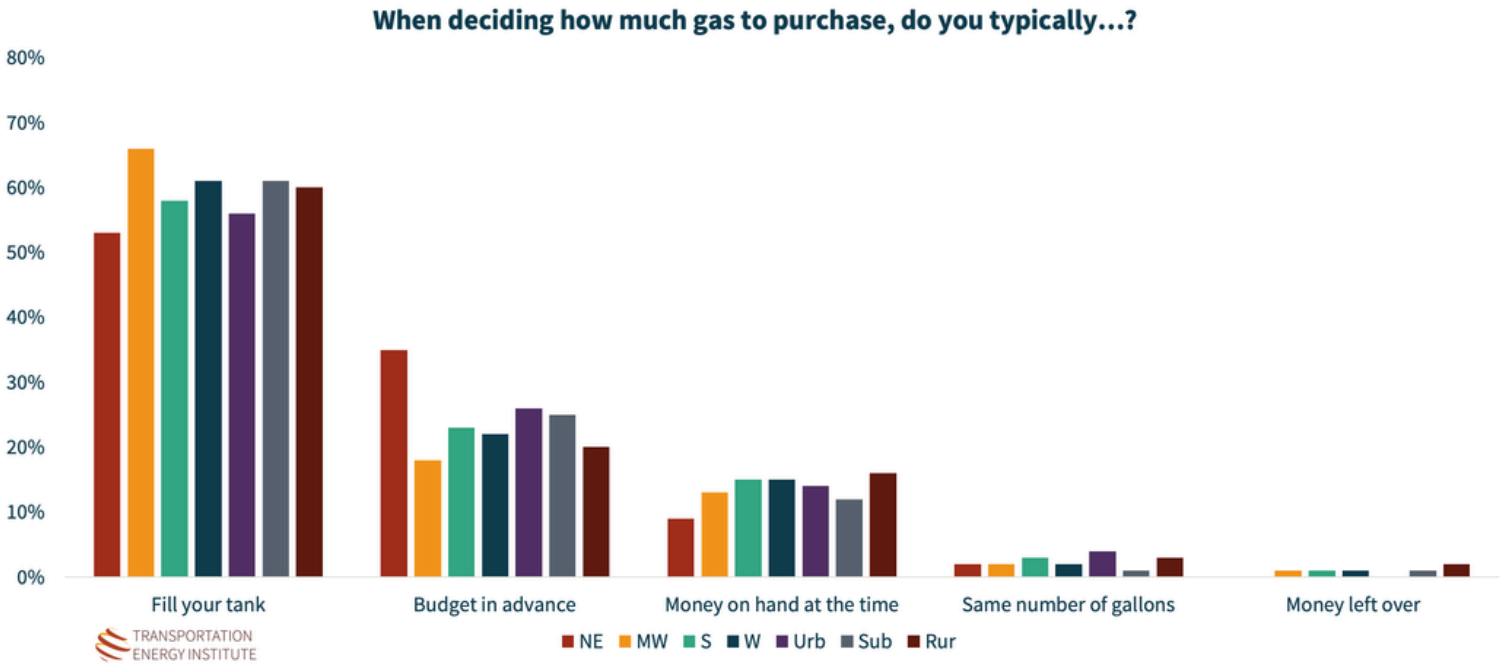


Figure 33



Another key factor to consider is where consumers buy fuel and why. Convenience stores are the single most common location across all consumers, with more than half (55%) saying they typically buy gasoline at a convenience store. That said, compared to all other age groups, consumers over the age of 65 are significantly more likely to buying fuel from a big-box retailer.

Figures 34 - 36: Where do you most often buy gas?

Figure 34

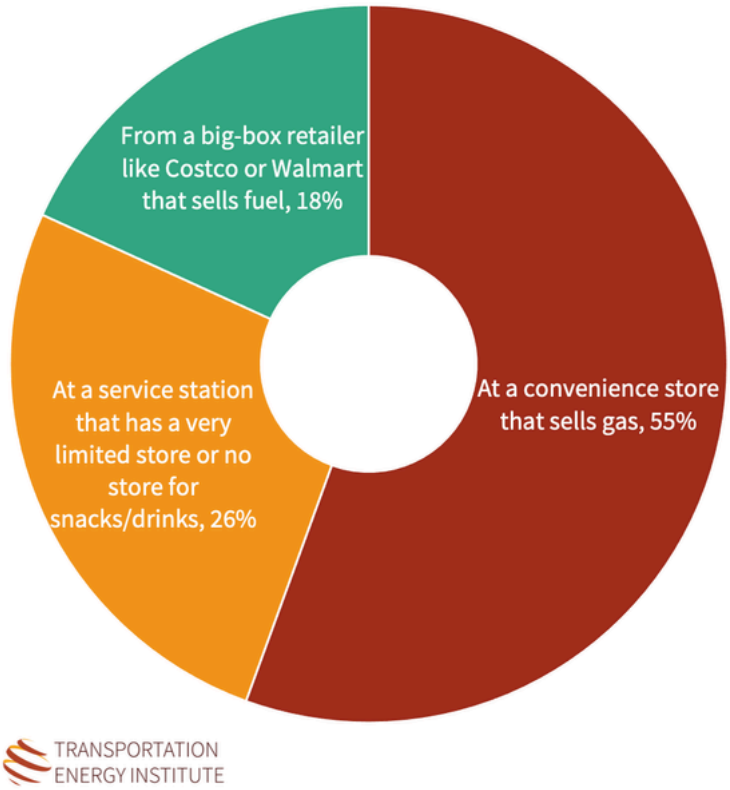


Figure 35

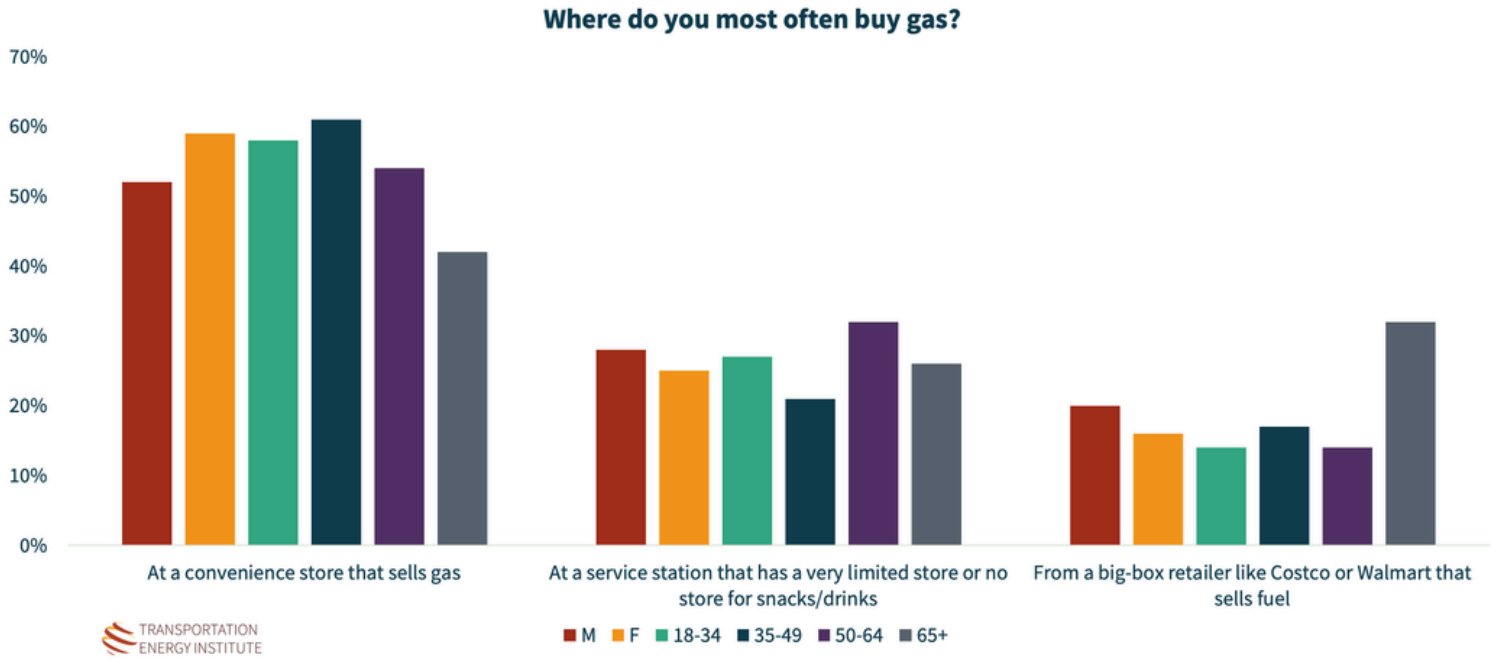
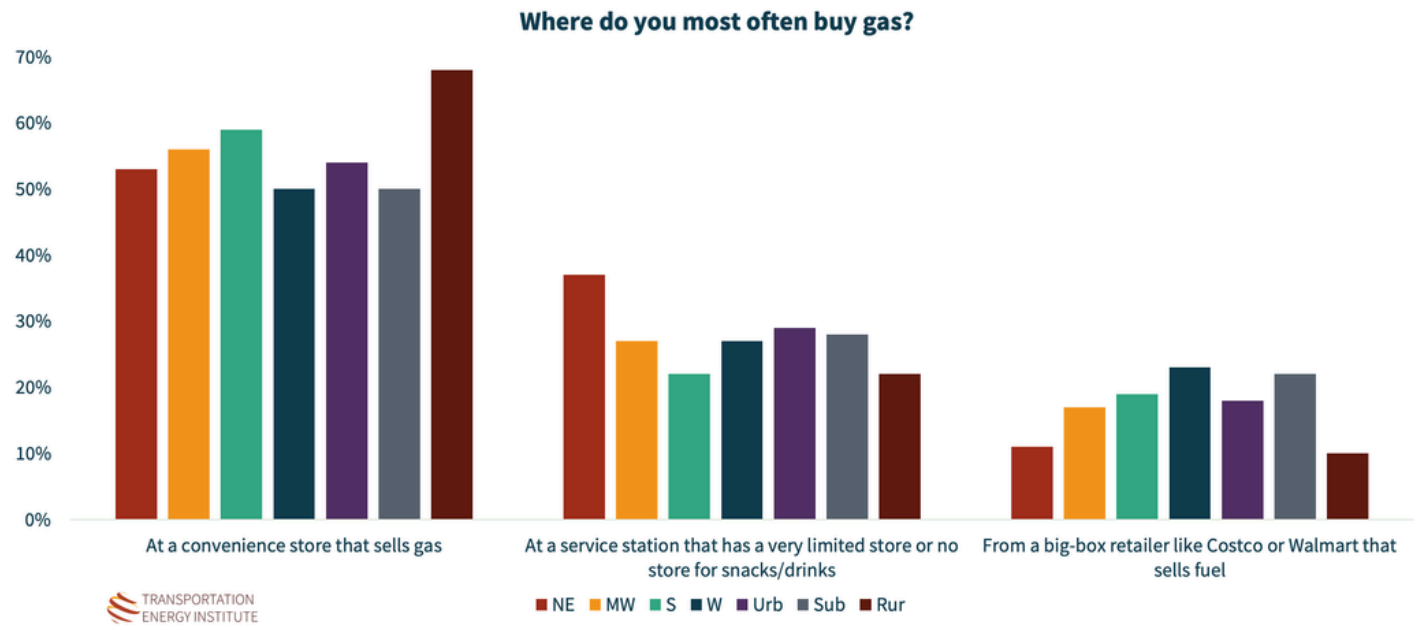


Figure 36



For most consumers (53%), buying fuel was the primary reason to visit a convenience store. Younger consumers (under age 34) - more than other age group - reported seeking out a convenience store in particular to buy a snack or meal.

Figures 37-39: Thinking about the last time you went to a convenience store, what was the main reason for your trip?

Figure 37

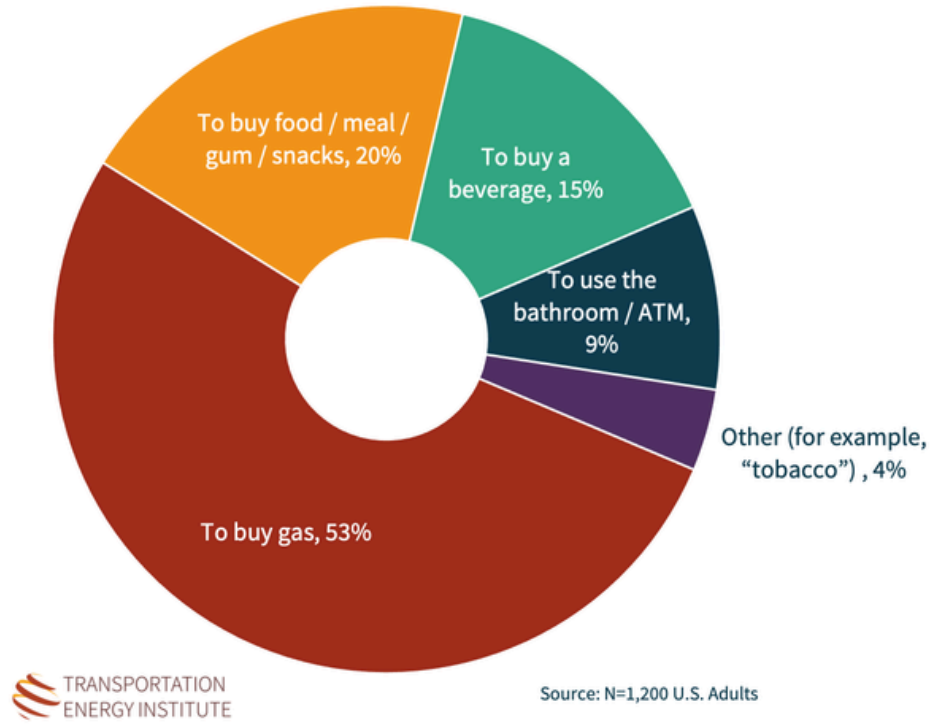


Figure 38

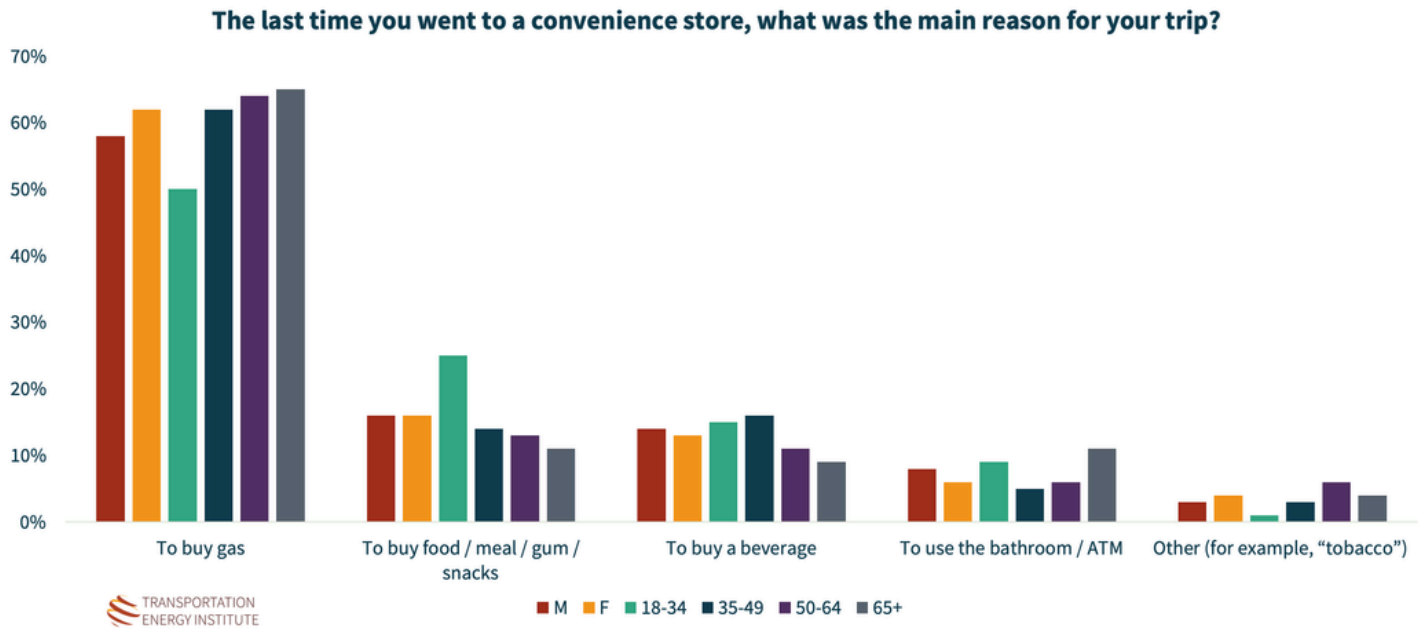
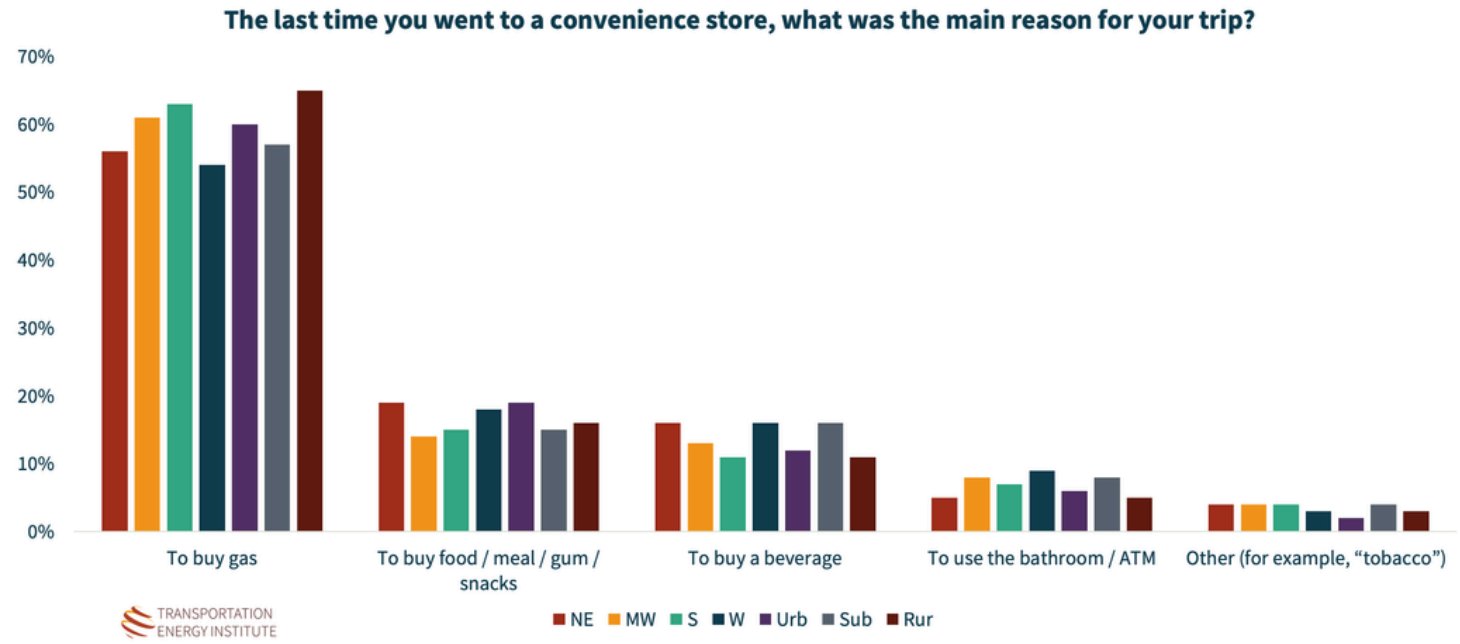


Figure 39



58% of customers said they went into the convenience store the last time they bought gas. However, they frequently do much more than pay for gas (45%), including buying a drink (46%), buying a snack (39%), or using the restroom (27%). As alternative transportation energy options gain market share, understanding the buying behaviors of consumers will help identify where to most effectively locate energy supplies that they may need in the future and provide amenities that are desirable to the driver.

Figures 40-41: Thinking about the last time you purchased gas, did you also go inside a store associated with a gas station?

Figure 40

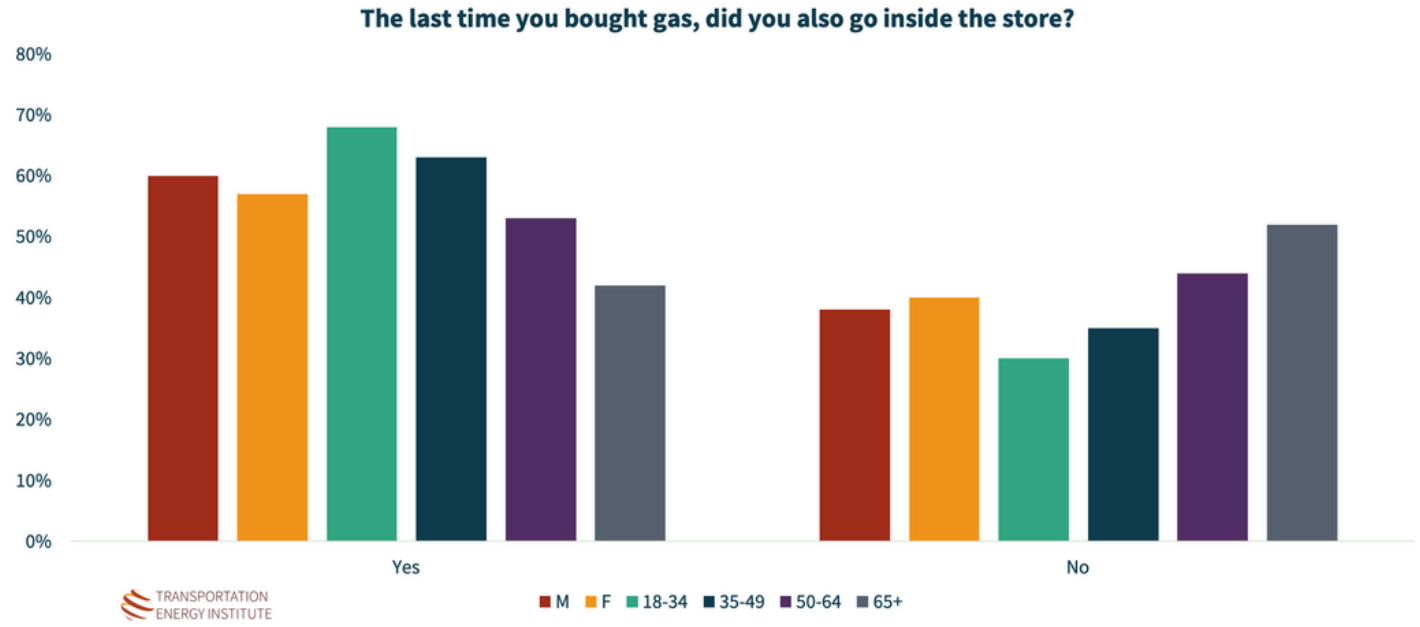
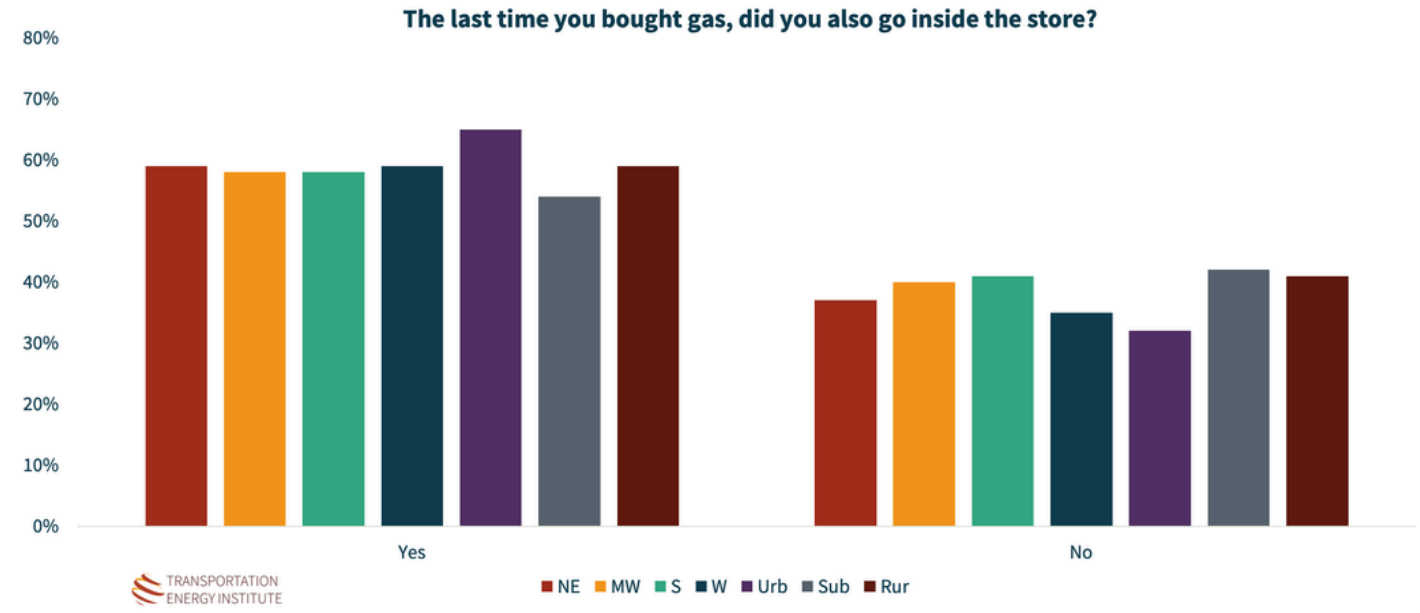


Figure 41



Figures 42-44 – Among those who went inside the store the last time they purchased gas, which of the following did you do while you were in the store associated with the gas station? Please select all that apply.

Figure 42

Which of the following did you do while you were in the store associated with the gas station? (multiple responses permitted)

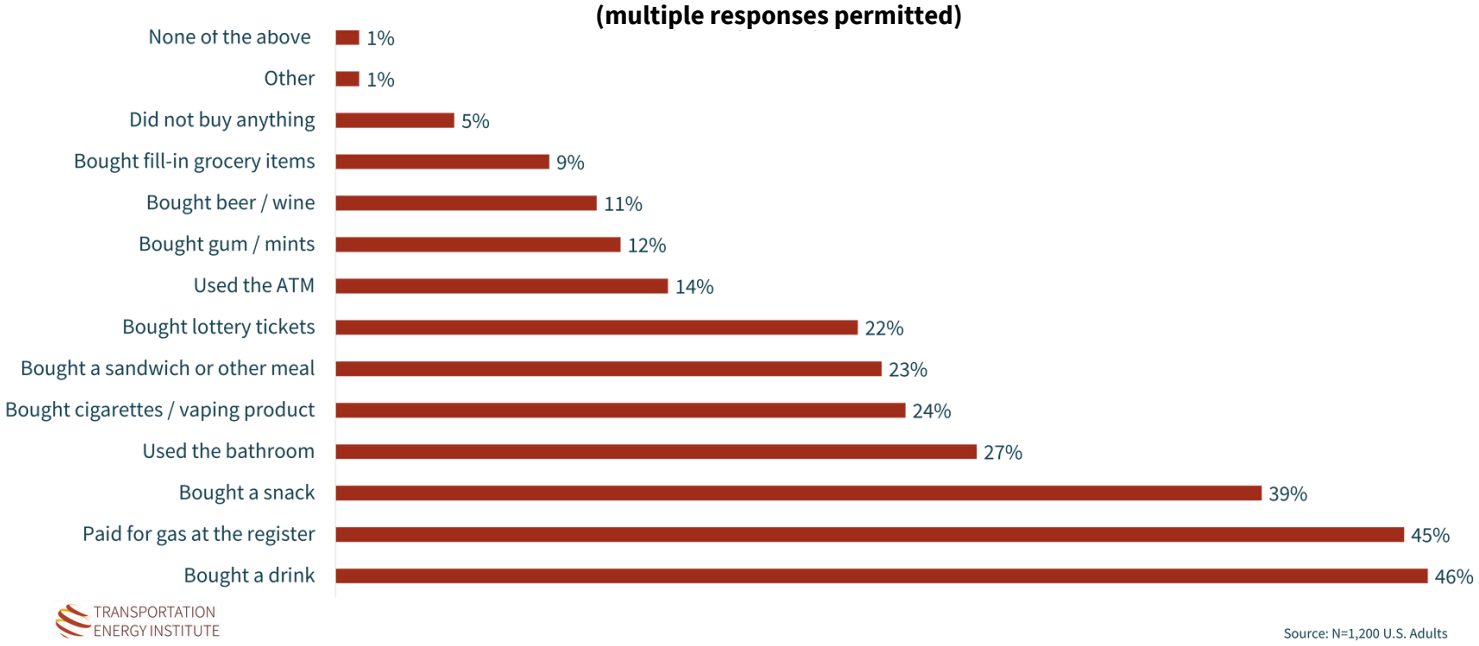


Figure 43

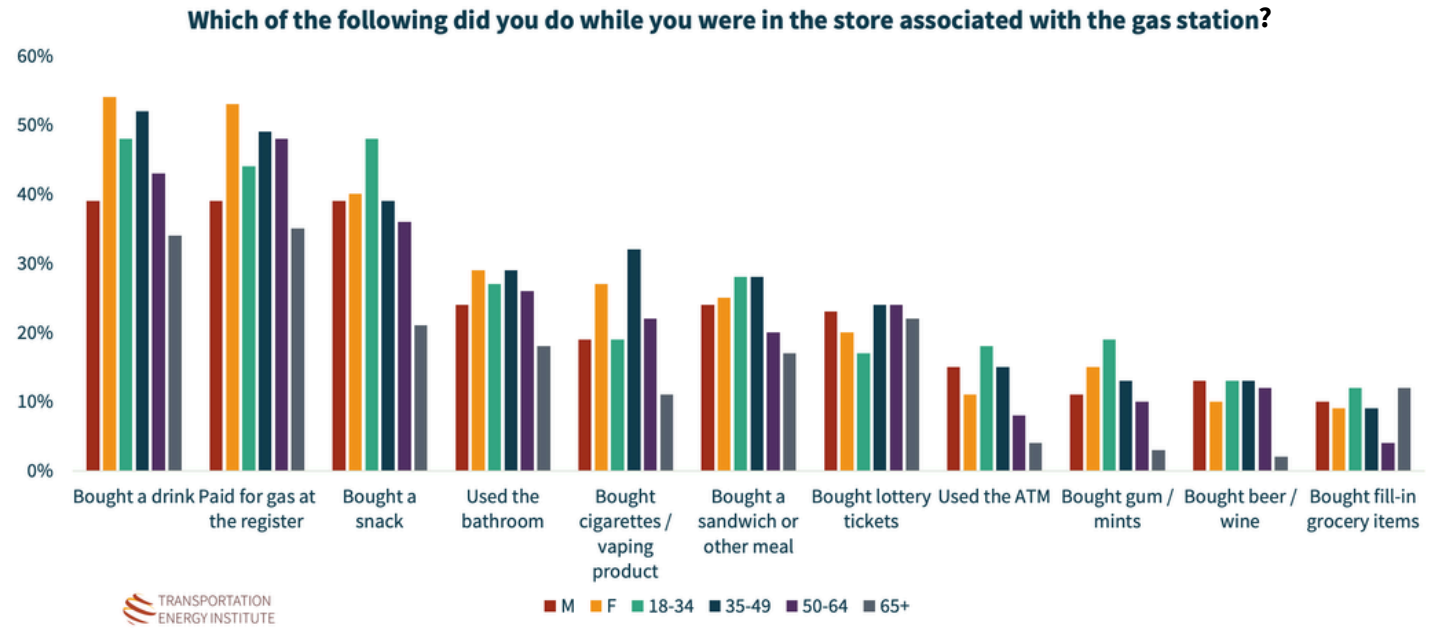
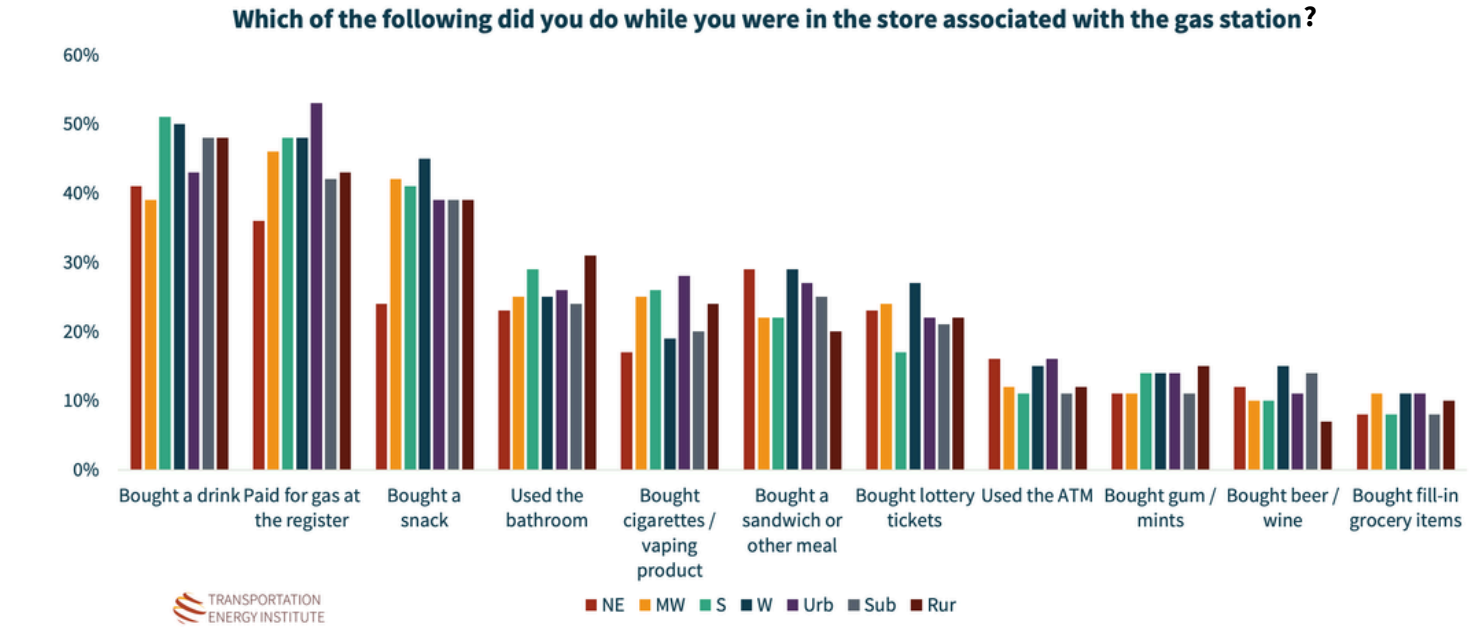


Figure 44



3. Vehicle Preferences

Nearly half (40%) of respondents said they are likely to purchase or lease a new or used vehicle within the next two years. Those 18-34 years are more interested in acquiring a vehicle, with 56% saying they are likely to do so, whereas only 29% of those over 65 are likely to make such a purchase.

Figures 45-47 – How likely are you to buy or lease a new or used vehicle in the next two years?

Figure 45

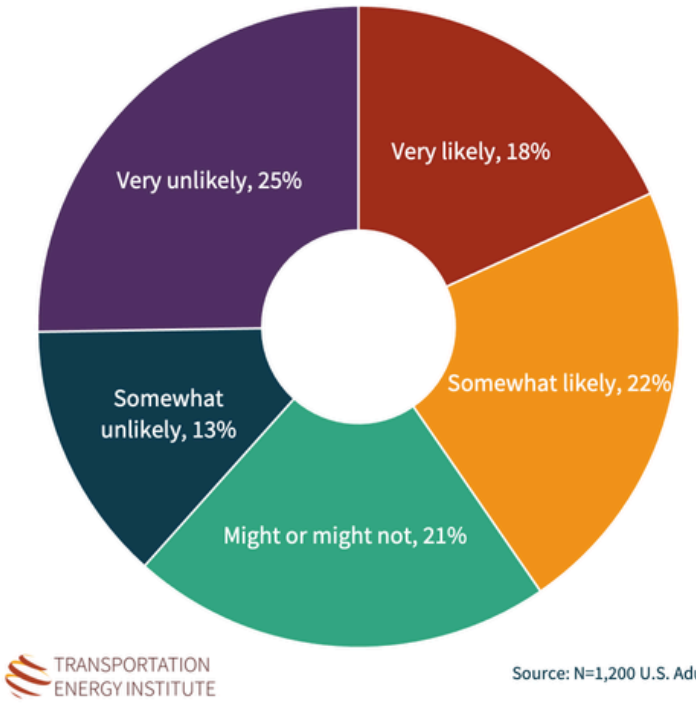


Figure 46

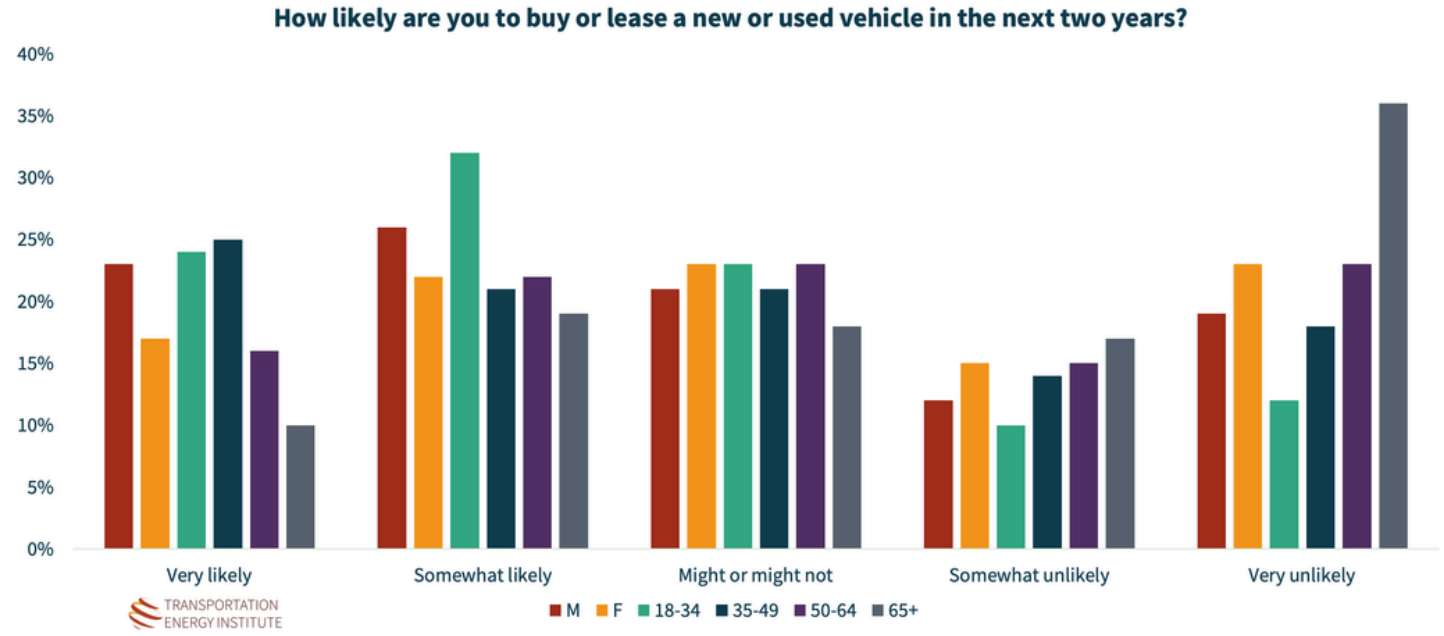
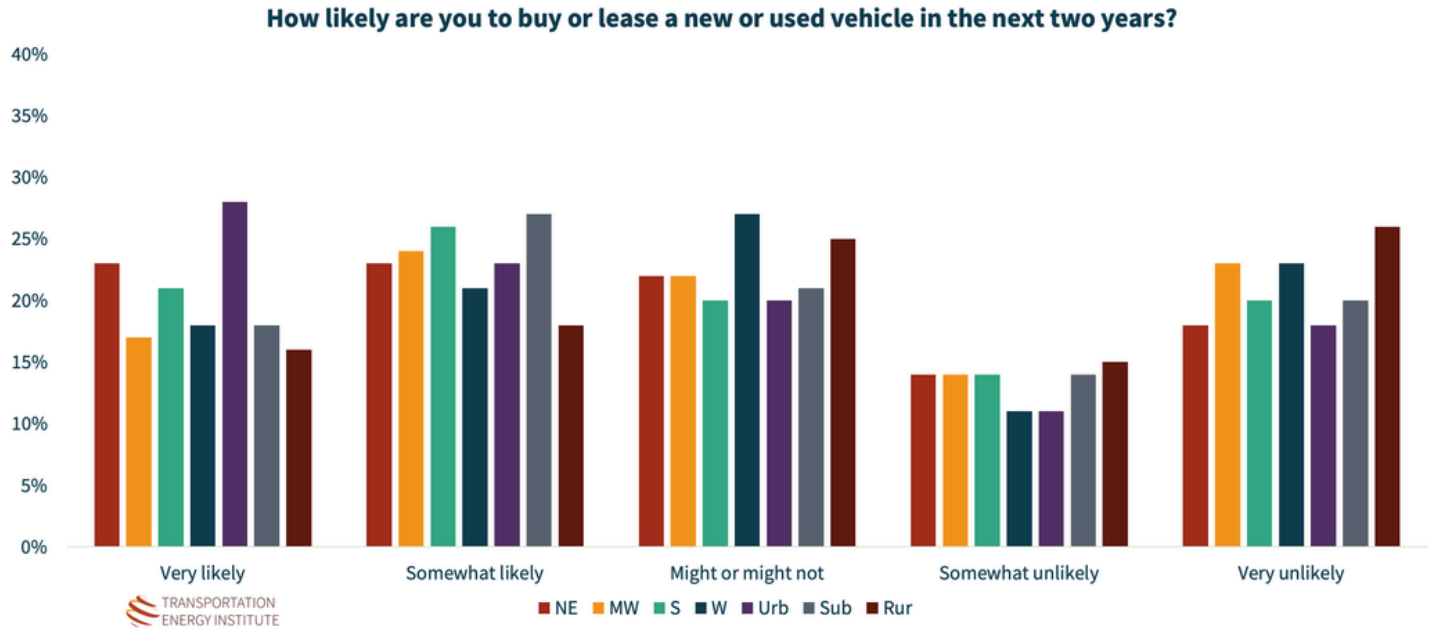


Figure 47



Consumers select a vehicle based on a variety of different factors. Any new vehicle that aims to secure a sizeable share of the market must keep these in mind. And just as one needs to consider how and where consumers currently acquire energy to power the vehicle, it is also important to understand what they want in their vehicles, to ensure that new alternatives will satisfy the core needs of buyers.

When selecting a vehicle, 30% of consumers said vehicle price was the most important factor influencing their decision. Reliability (19%), safety (16%) and fuel economy (13%) were the next most important factors. It is worth repeating here that these results are relative to the respondents in this survey; many other surveys have been conducted regarding vehicle purchase decisions and the results can vary significantly between surveys.

The factors that were most important varied by age group. Compared with other age groups, vehicle price was least important to those 18 – 34 years of age whereas reliability was comparatively most important to those older than 50.

Figures 48 – 50: Among those likely to buy/lease, which of the following is most important when thinking about buying or leasing a vehicle?

Figure 48

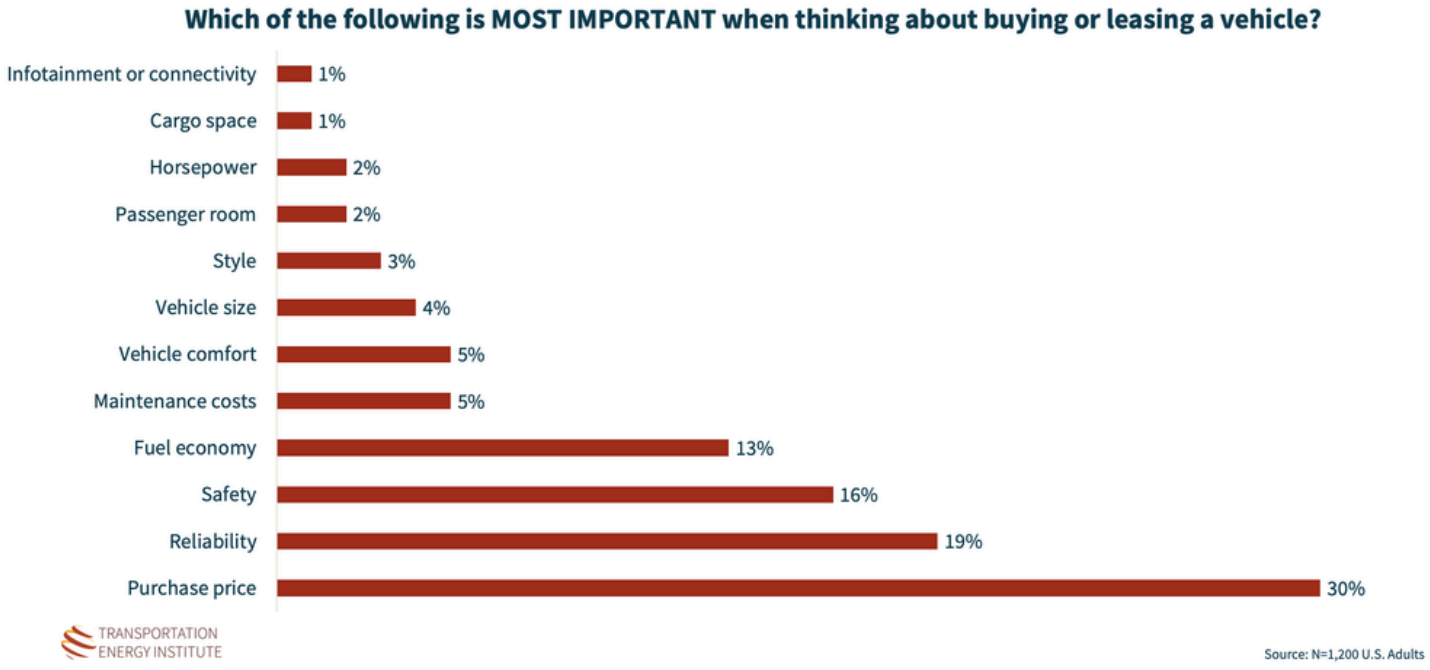


Figure 49

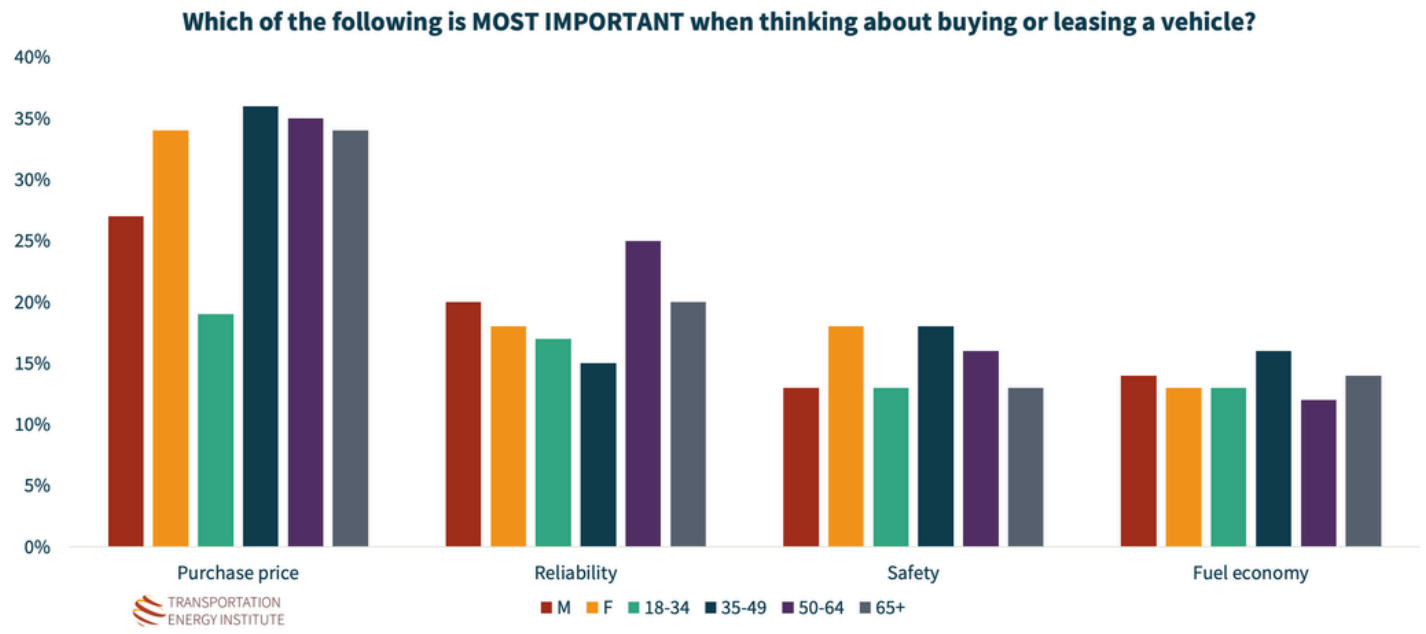
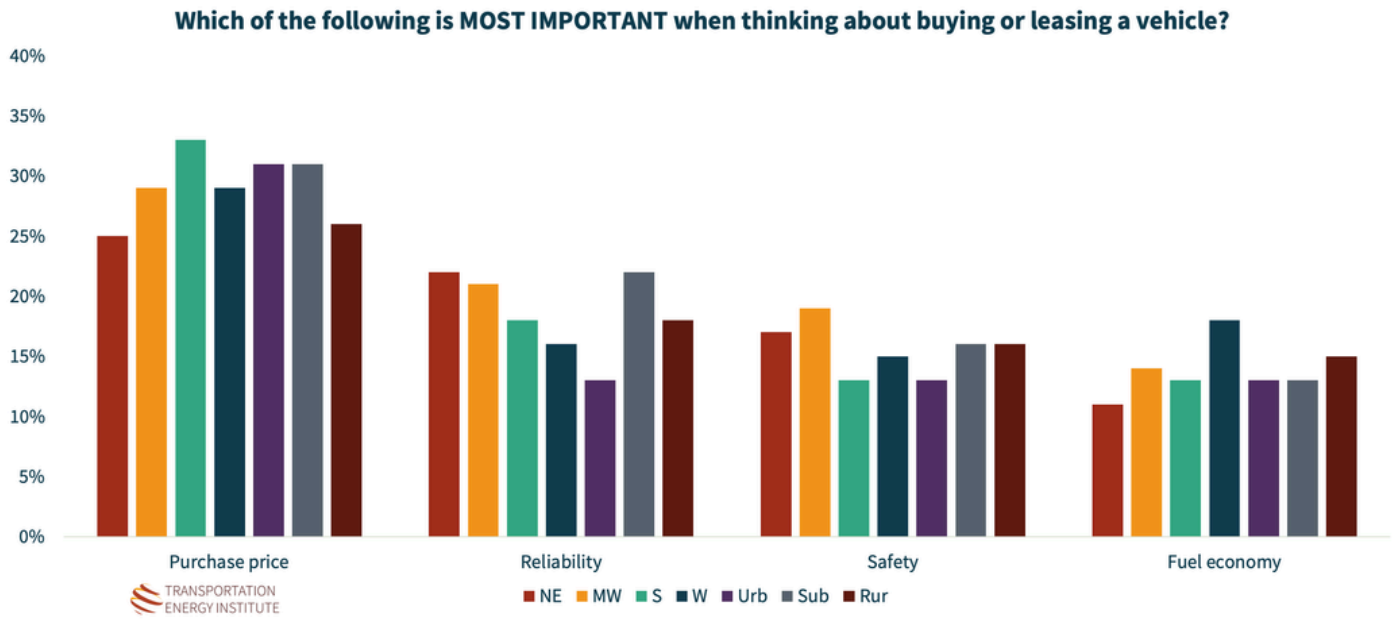


Figure 50



When allowed to select more than one response, reliability (79%) topped the list of factors considered important. It was followed closely by purchase price (77%), safety (72%) and maintenance cost (69%). The level of importance of these factors did not vary significantly among genders or age groups

Figures 51-61 - How important are the following when thinking about buying or leasing a vehicle?

Figure 51

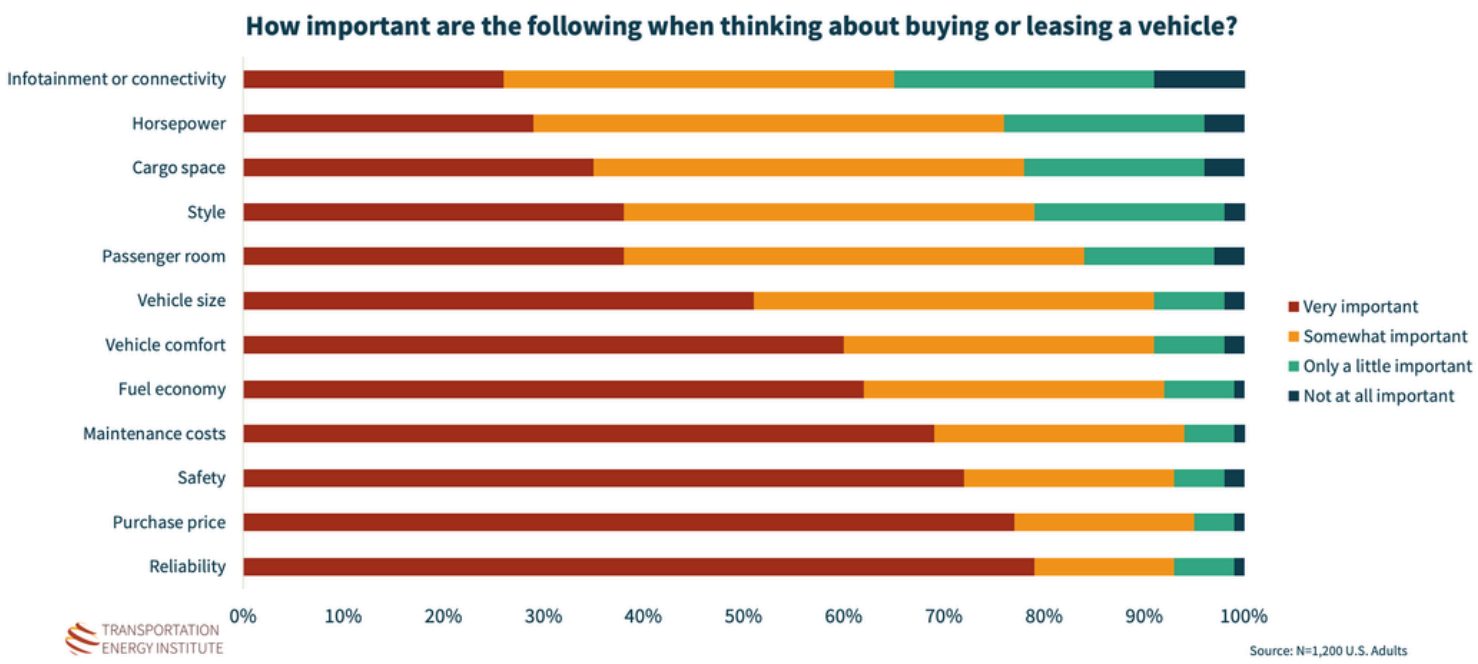


Figure 52

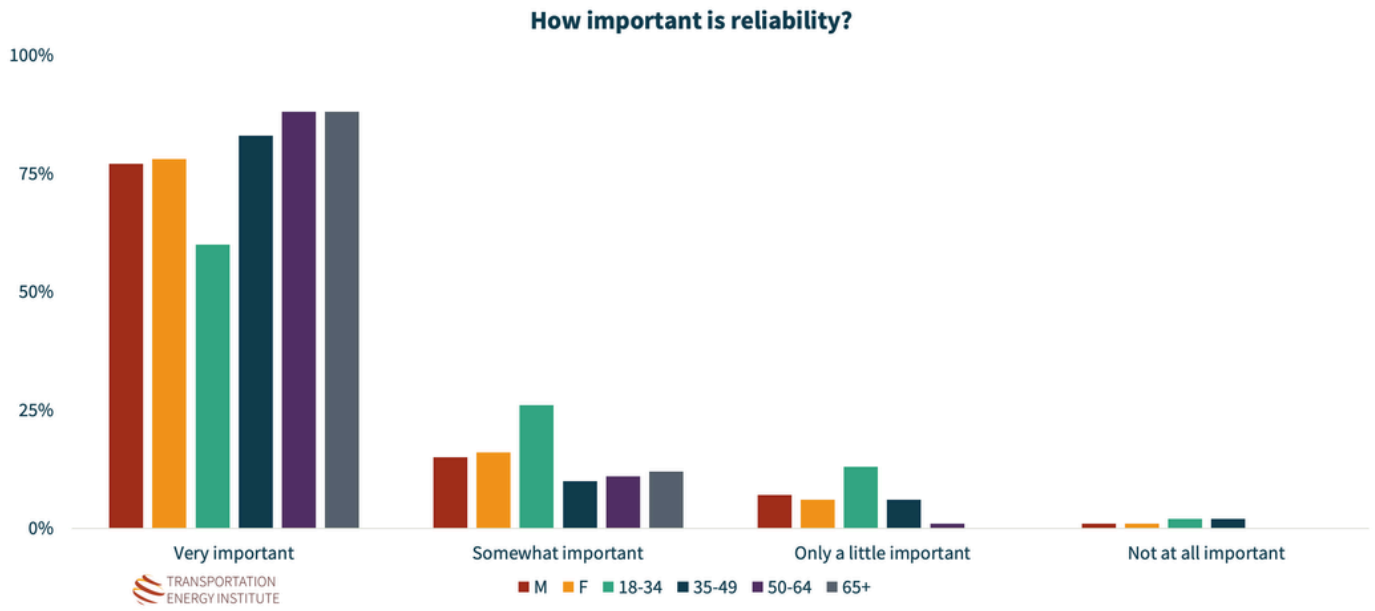


Figure 53

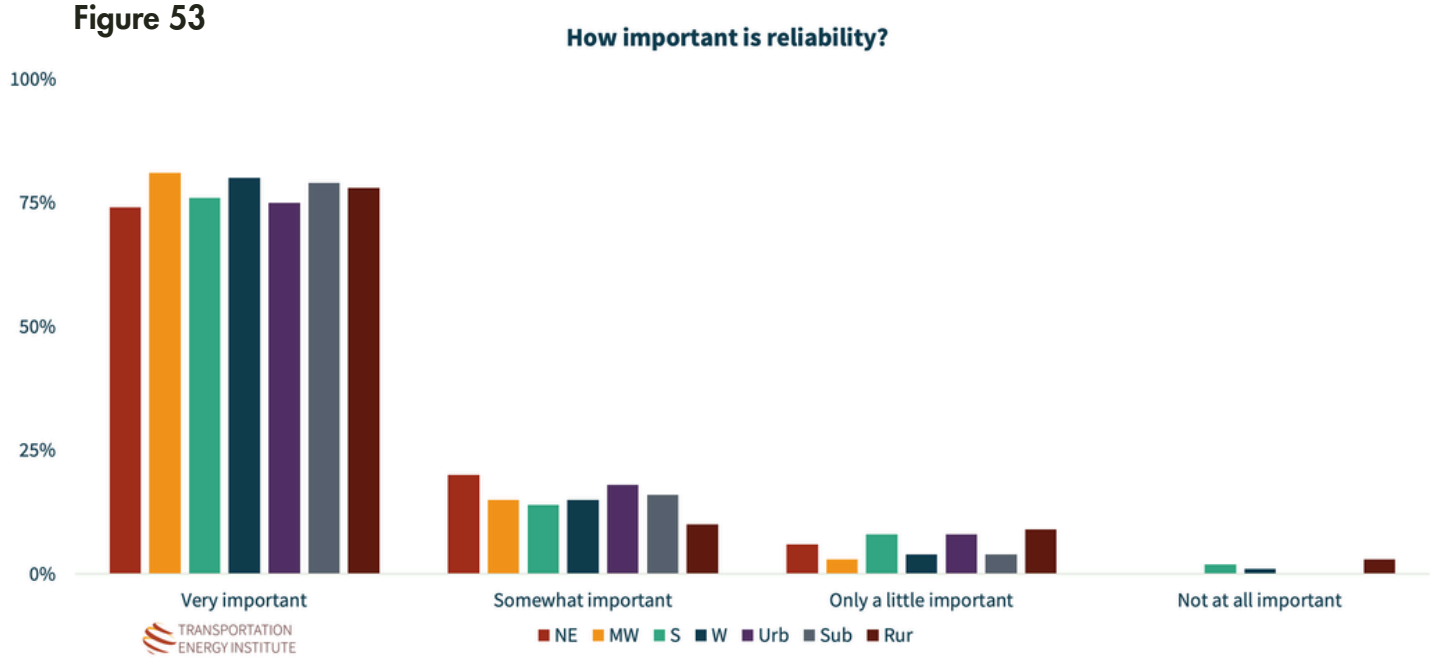


Figure 54

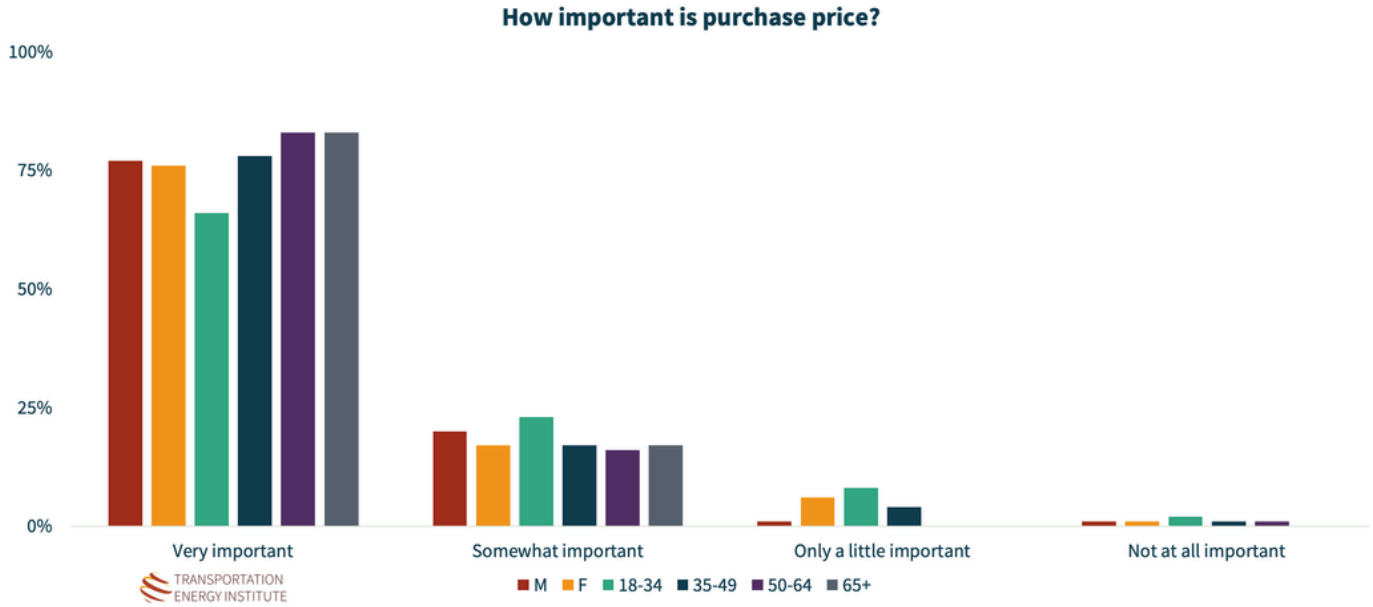


Figure 55

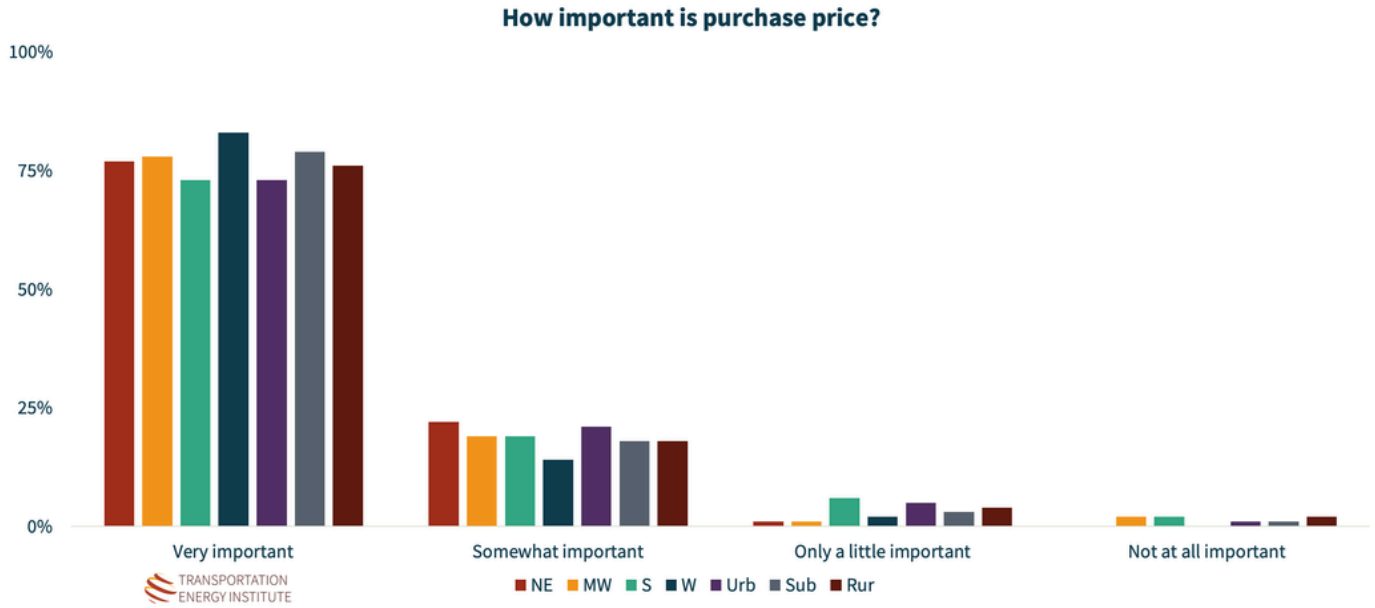


Figure 56

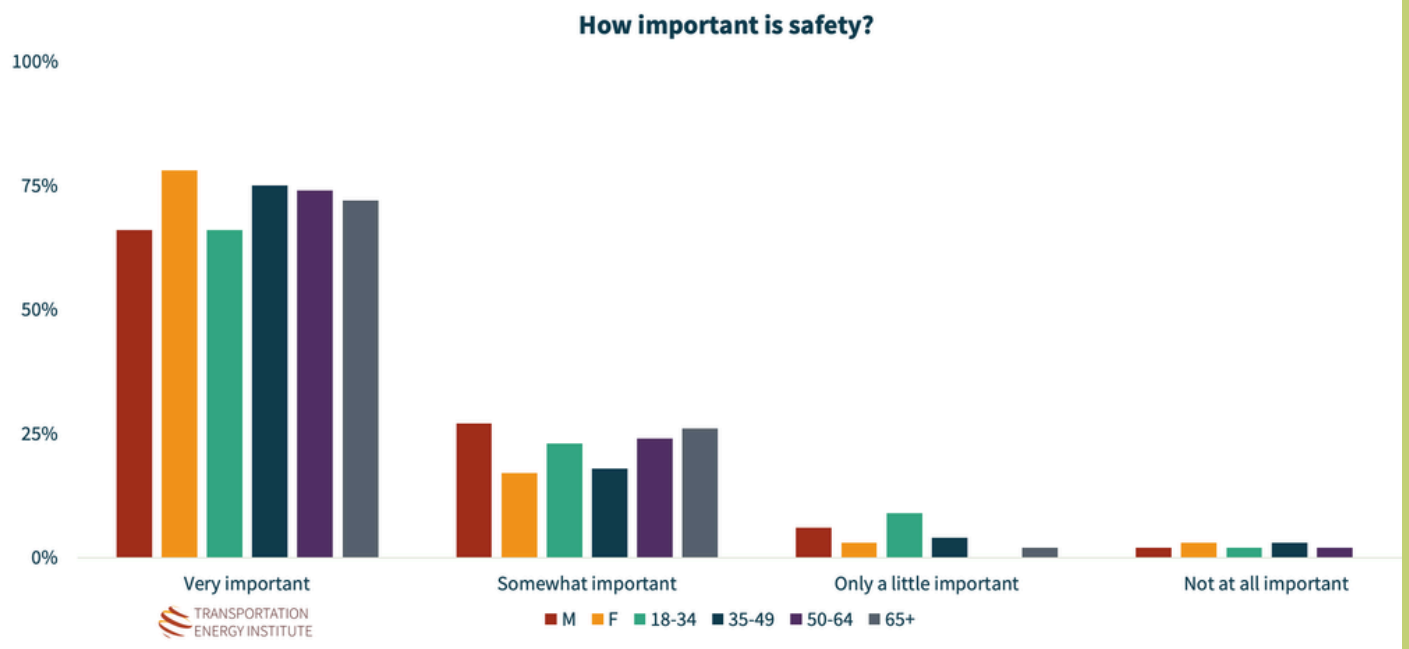


Figure 57

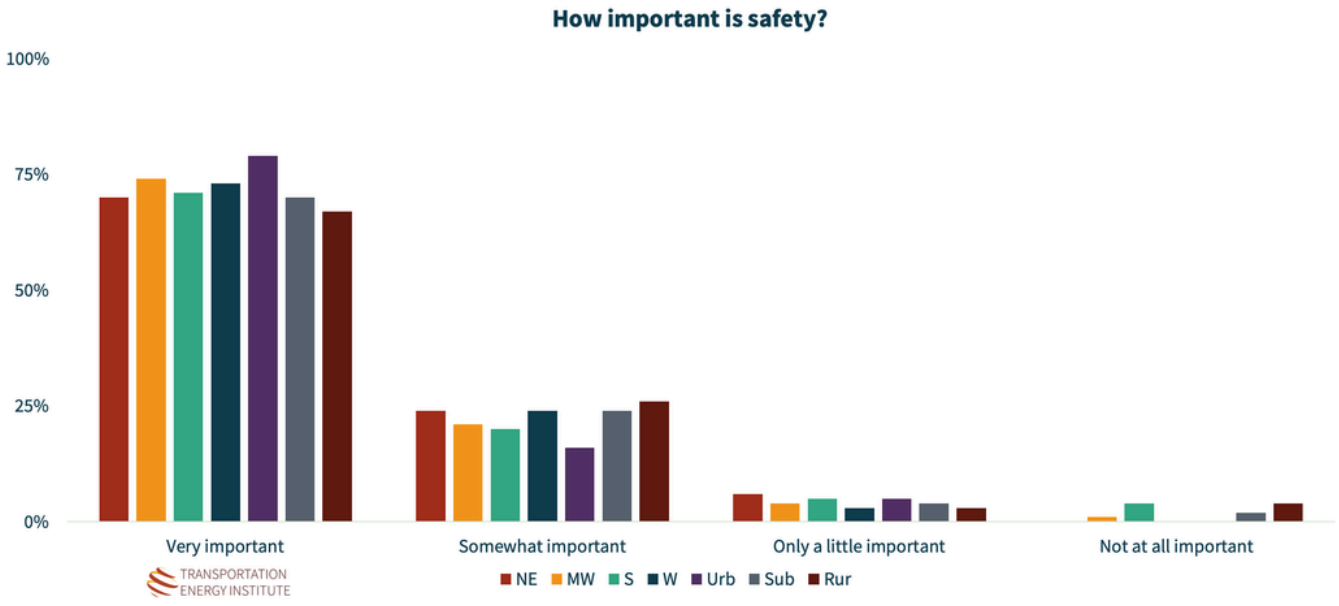


Figure 58

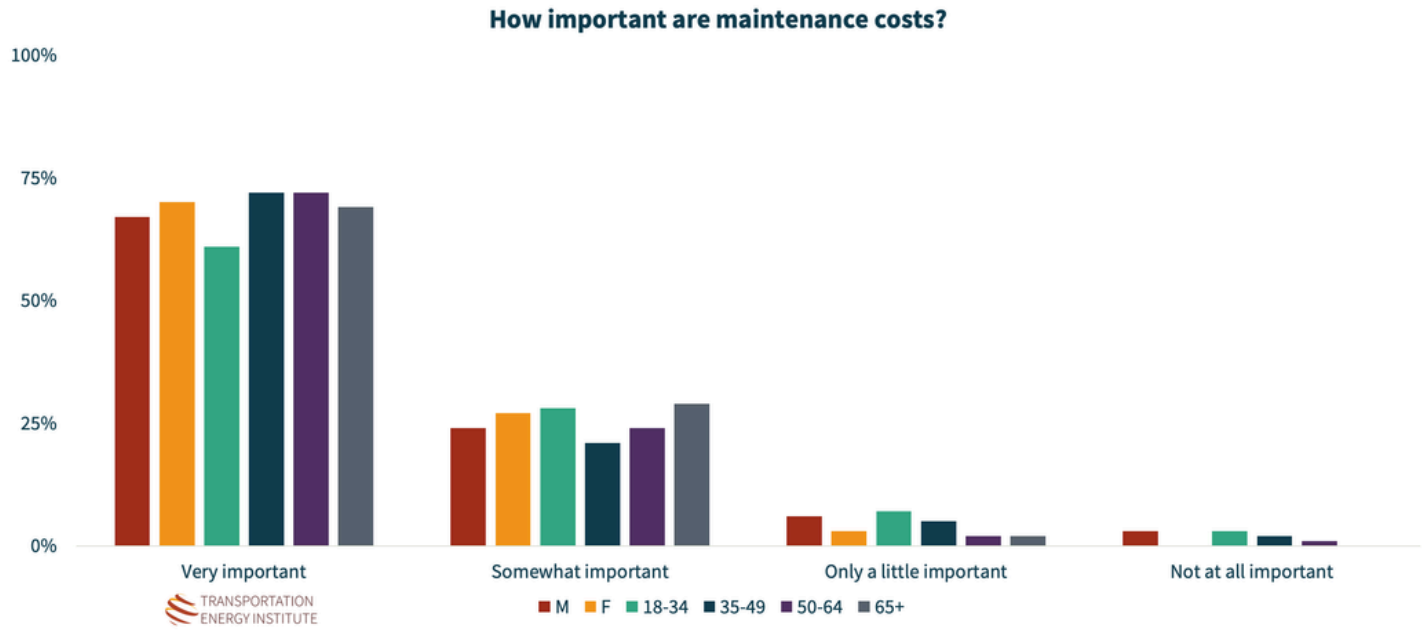


Figure 59

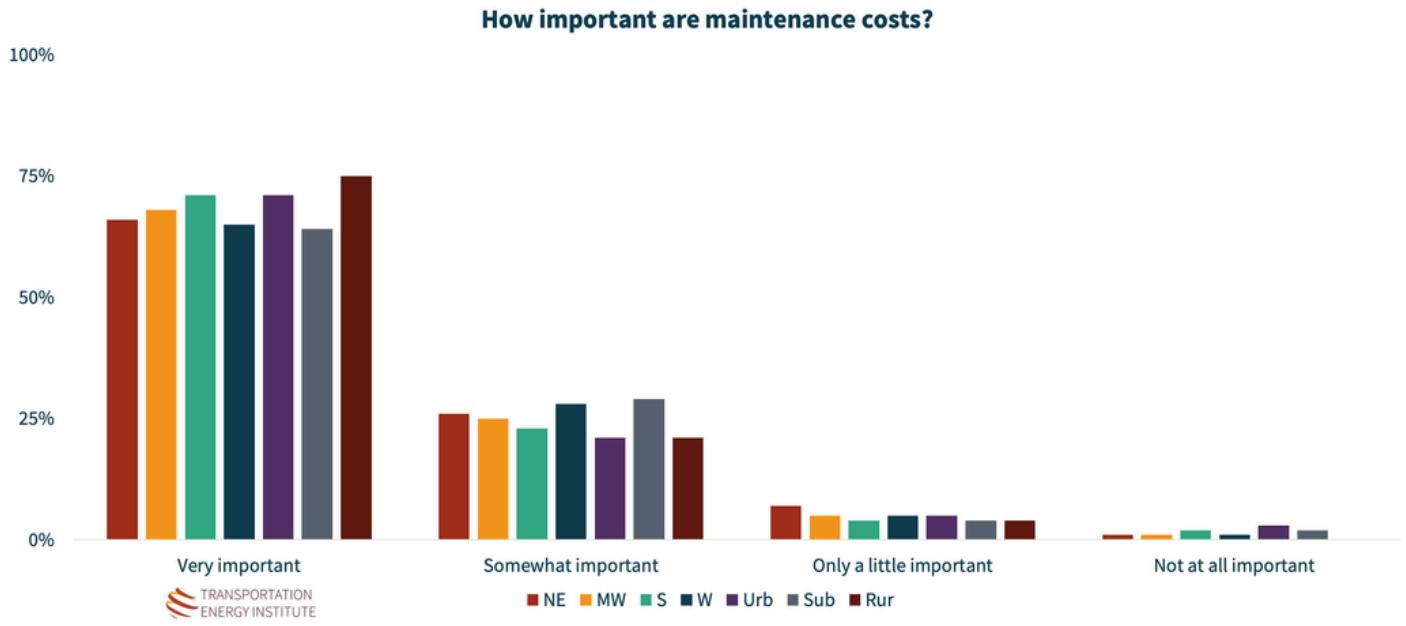


Figure 60

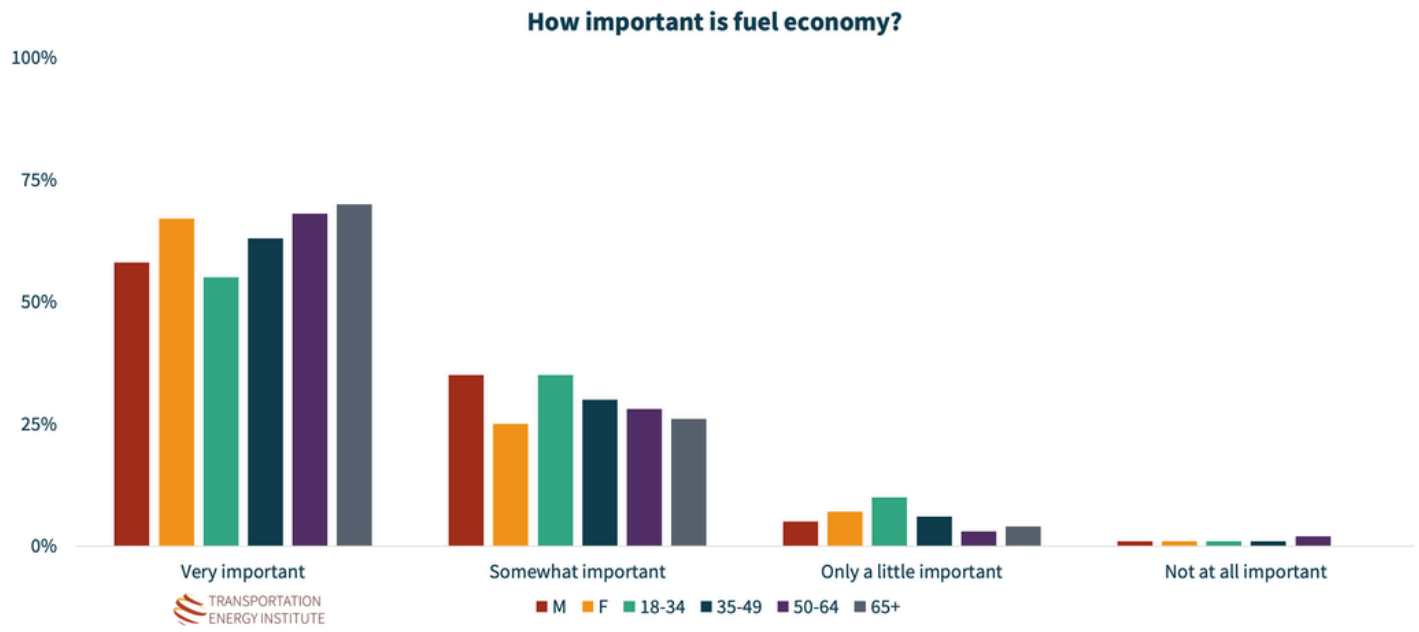
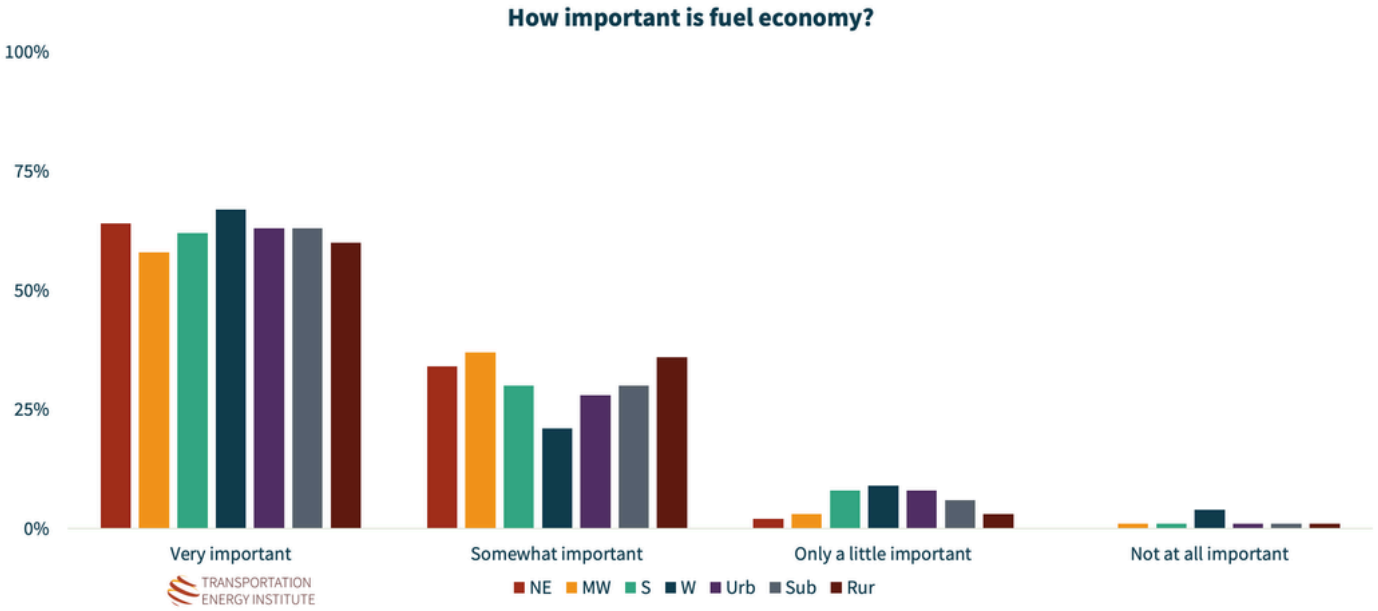


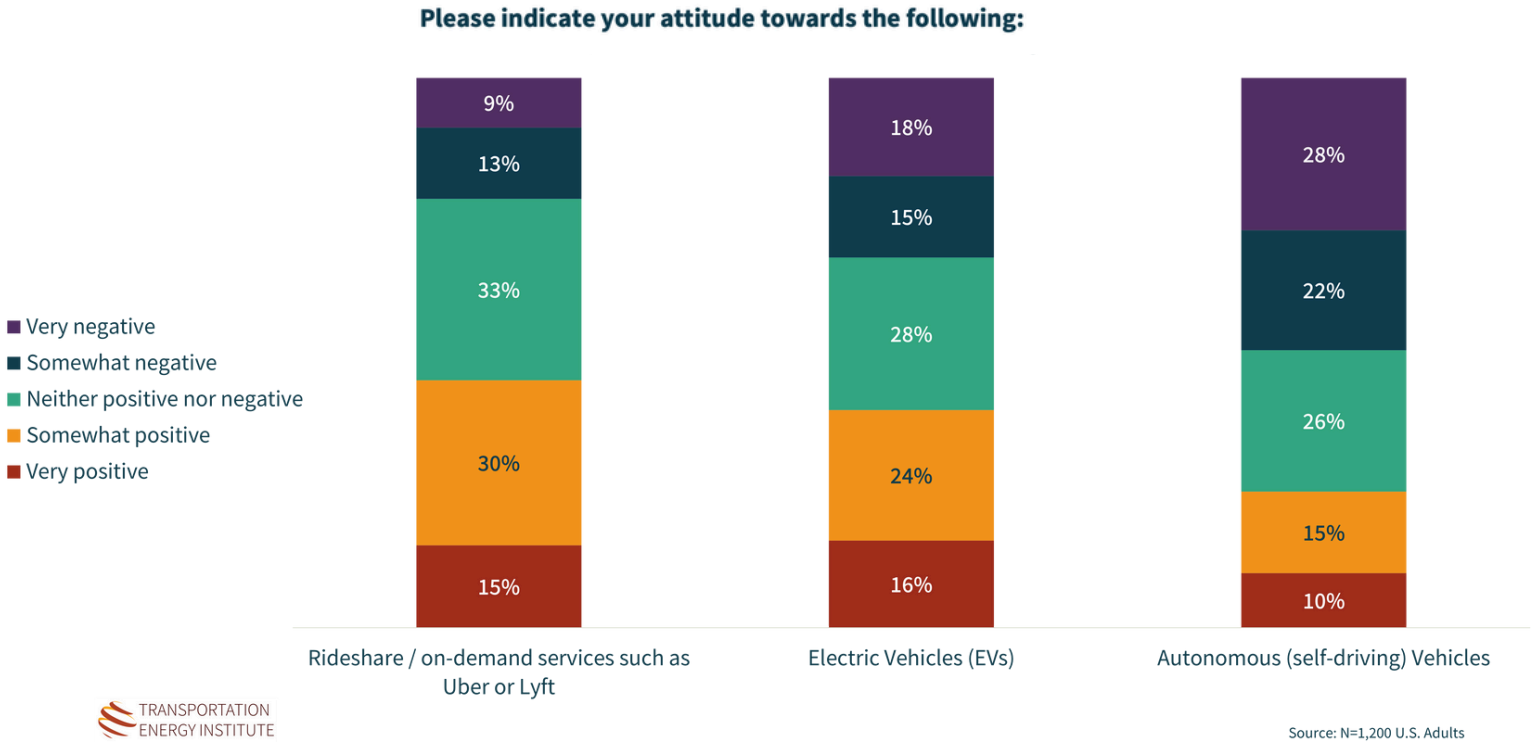
Figure 61



4. Perceptions and Attitudes

When asked about their attitudes about certain transportation options, less than half reported a positive attitude towards ride-share services (45%), electric vehicles (40%) or autonomous vehicles (25%).

Figure 62



Attitudes towards these options varied significantly by age and region. With regard to ride sharing, younger consumers had a more positive attitude than older demographics, while those in urban and suburban settings were more positive than those in rural settings, where such services likely are not as widely available.

Figures 63 - 64: Please indicate your attitude towards ride share/on demand services?

Figure 63

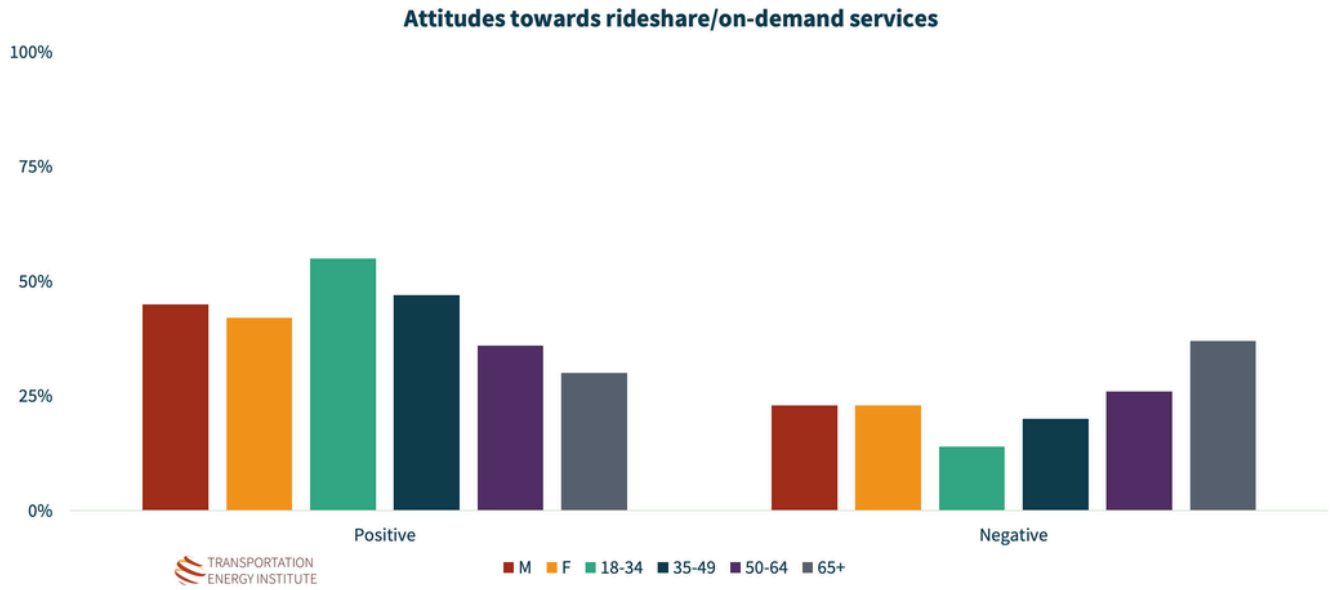
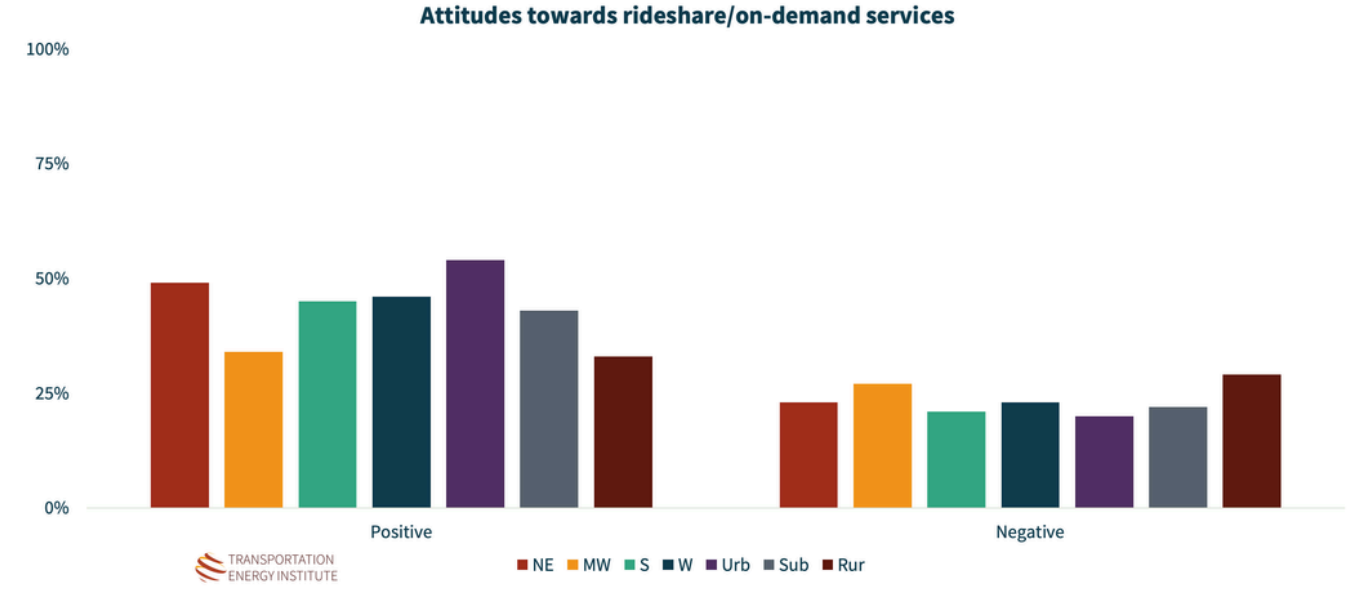


Figure 64



Views regarding electric vehicles were much more positive among younger drivers, with 53% of those 18-35 holding a positive attitude contrasted with only 23% of those over 65 years of age. Likewise, consumers in the Northeast, West and urban markets maintained a more positive attitude compared with those in the Midwest and Rural markets.

Figures 65 - 66: Please indicate your attitude towards electric vehicles?

Figure 65

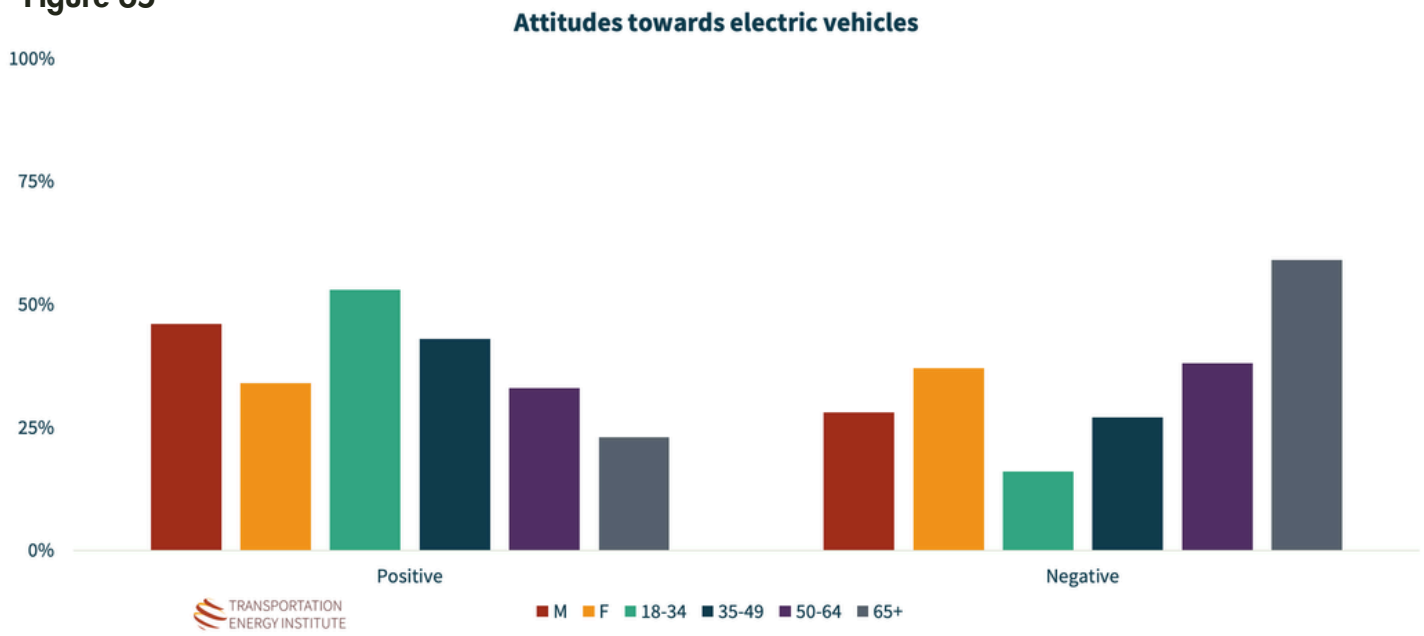
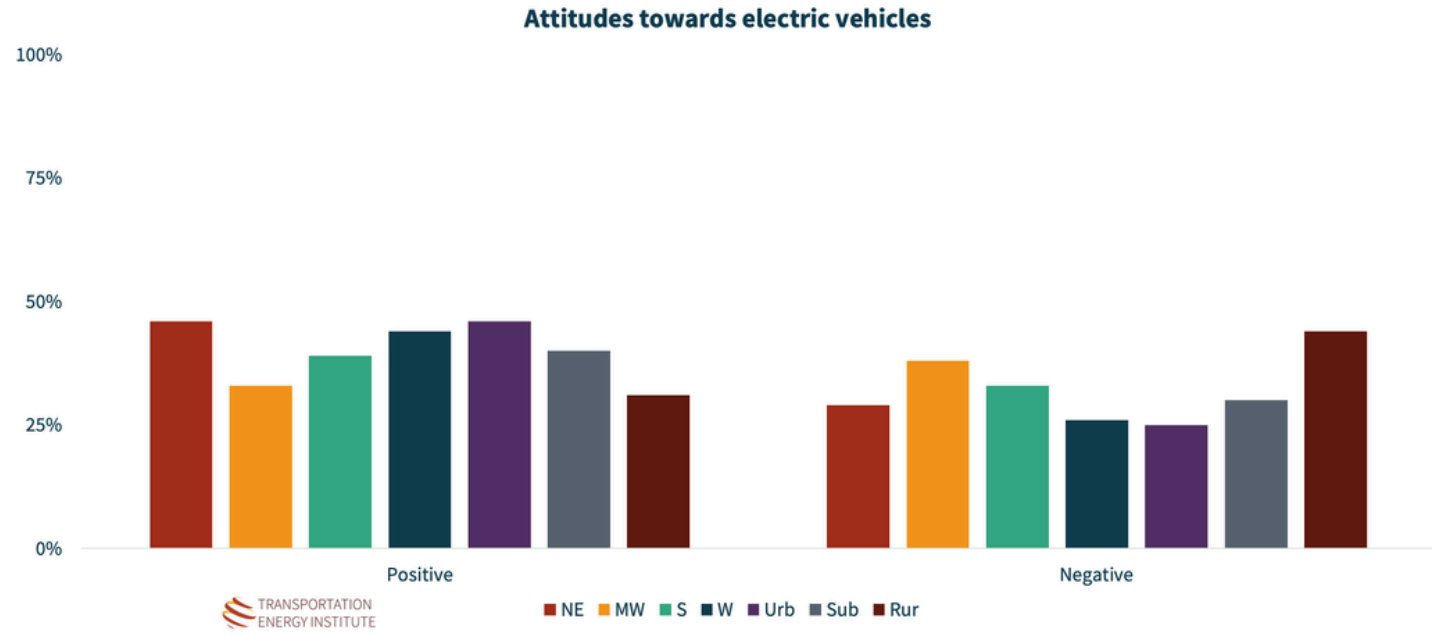


Figure 66



Only 25% of consumers had a positive attitude towards autonomous vehicles, with men and younger consumers more optimistic. Women and older consumer were quite skeptical, as were those in suburban and rural markets.

Figures 67 - 68 – Please indicate your attitude towards autonomous (self-driving) vehicles?

Figure 67

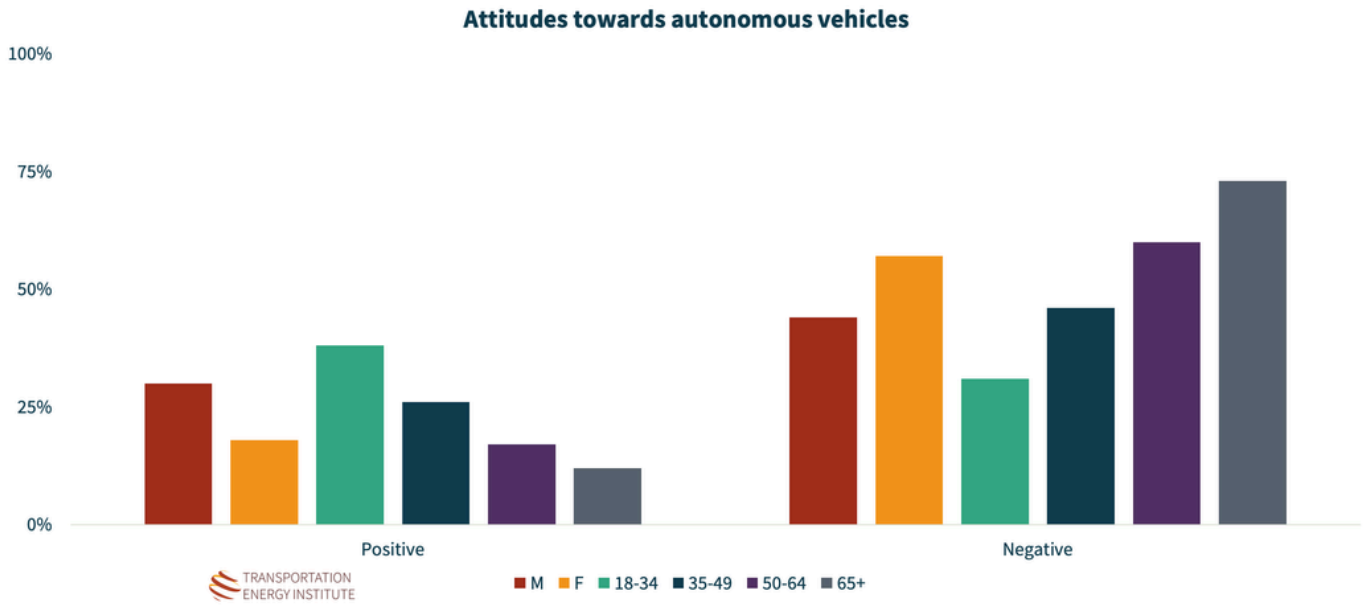
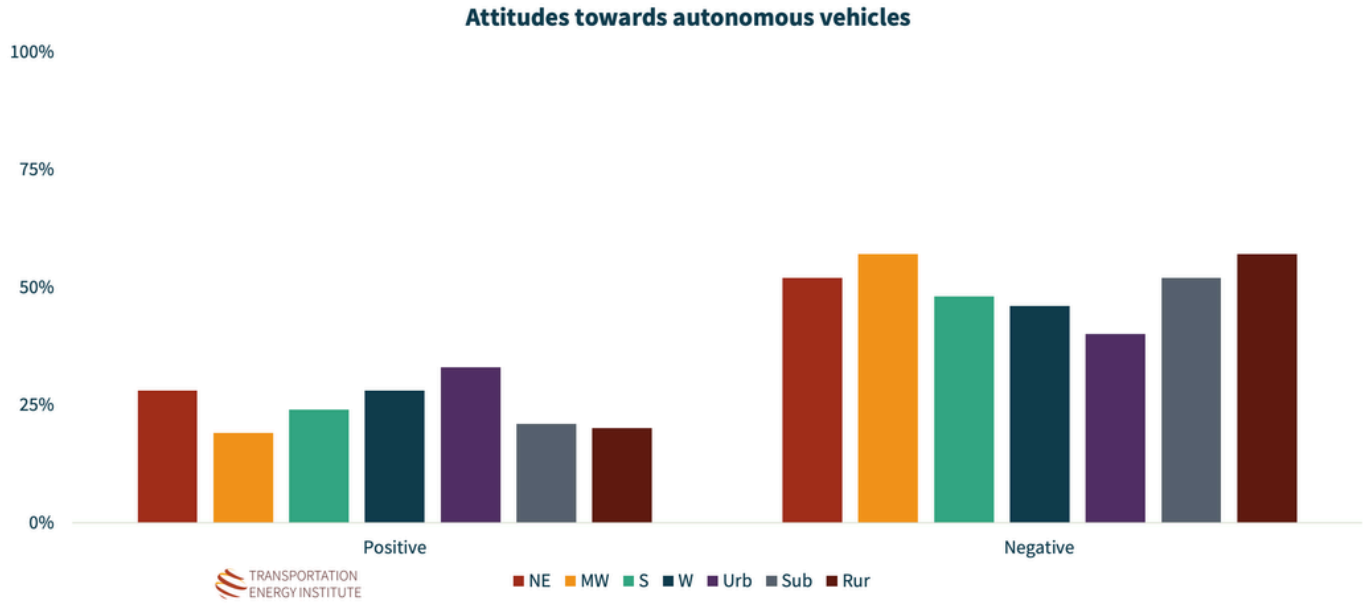


Figure 68



5. Electric Vehicle Charging

When asked where electric vehicle charging stations should be located, consumers overwhelmingly agreed (71%) that convenience stores and gas stations should offer charging services. Hotels (61%), grocery stores (58%) and malls (57%) were also popular responses. It is worth noting that these options were provided to respondents and more than one selection was permitted. There was no significant variation among demographic groups or regions.

Figures 69-71: In your opinion, where should EV chargers be located? Please select all that apply

Figure 69

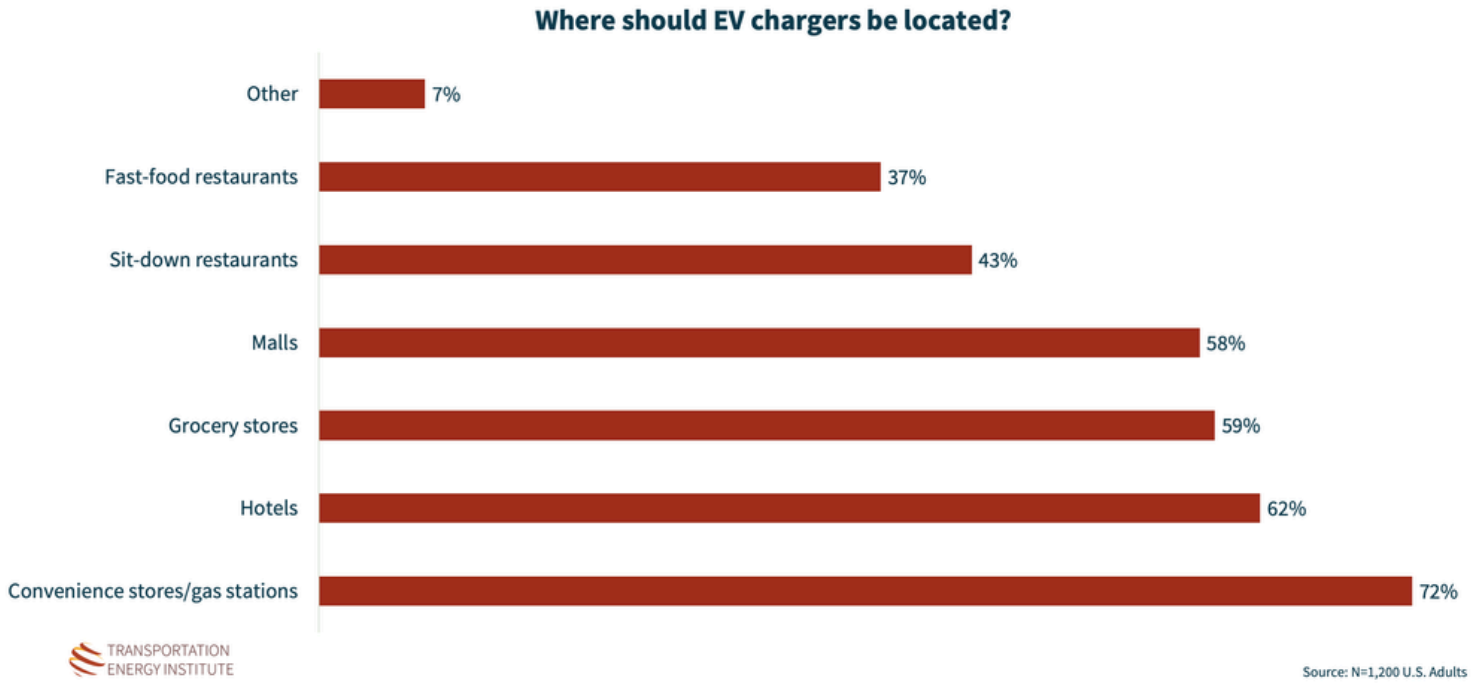


Figure 70

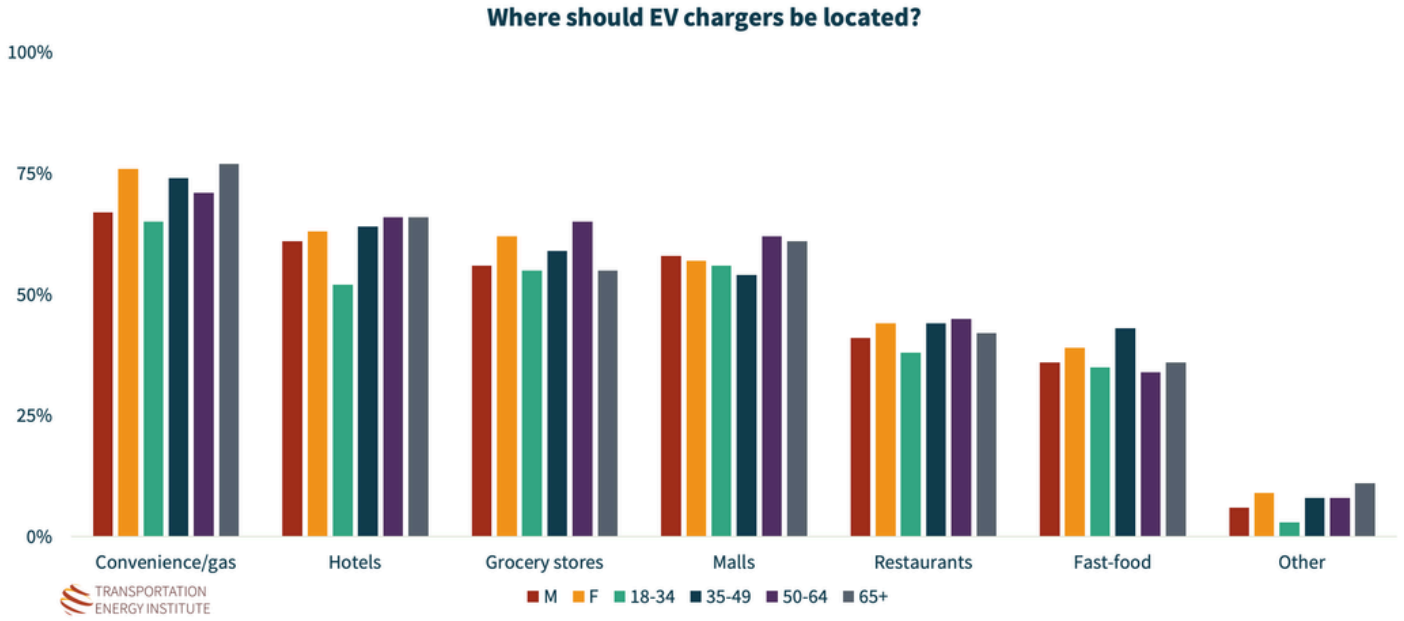
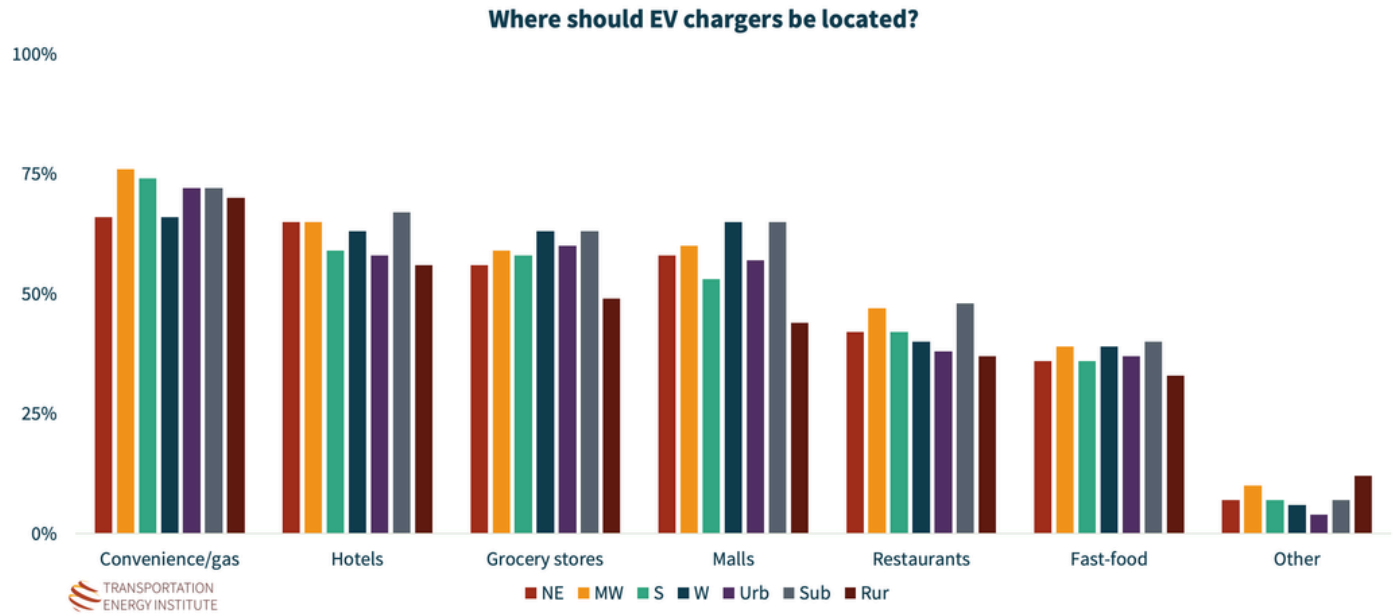


Figure 71



When asked the maximum amount of time they would be willing to wait to charge an electric vehicle, consumers on average said 44 minutes, whereas the median response was 20 minutes. It's important to mentally contrast this with current reality for most ICE drivers: approximately 5 minutes to refuel a vehicle and an average of about 3.5 minutes spent inside a convenience store. Men, younger drivers and those in the South seemed to be more open to a longer charging time whereas those in the West seemed to be the most impatient. That said, the median response was relatively consistent, with notable exceptions among younger and older drivers and those in urban environments.

Figures 72- 73: If you were driving an Electric Vehicle, what is the maximum amount of time (in minutes) you would be willing to wait to recharge a vehicle while on the road?

Figure 72

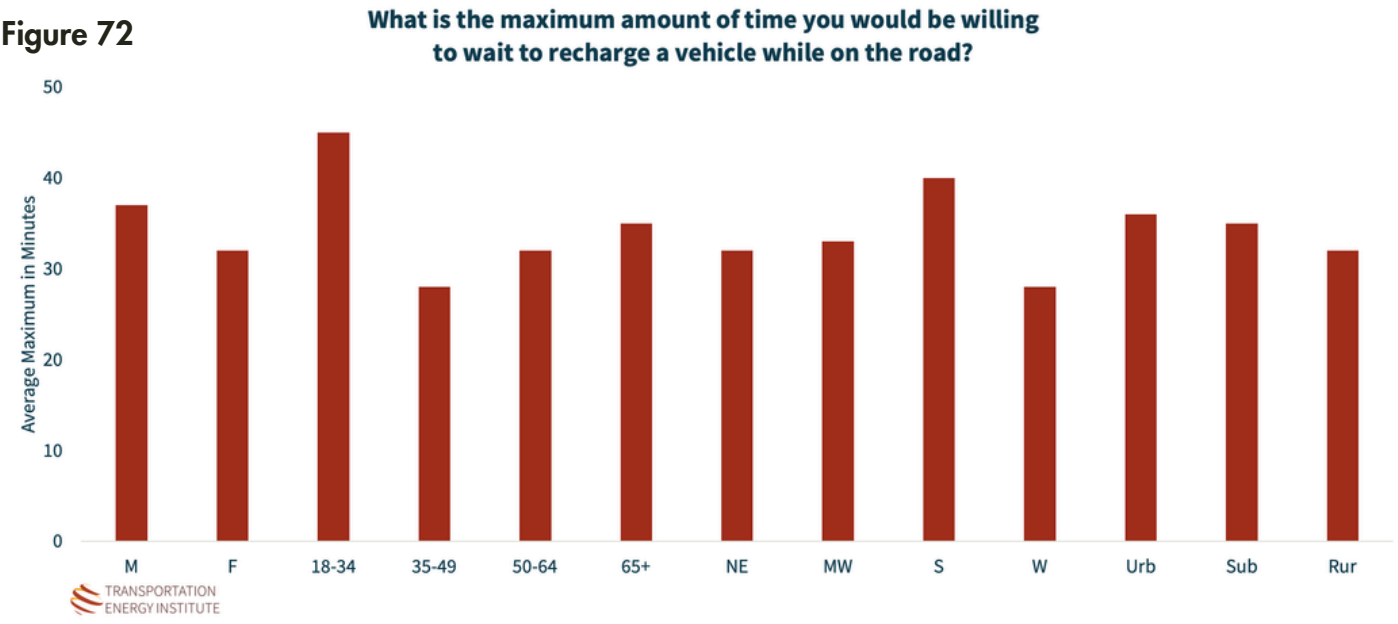
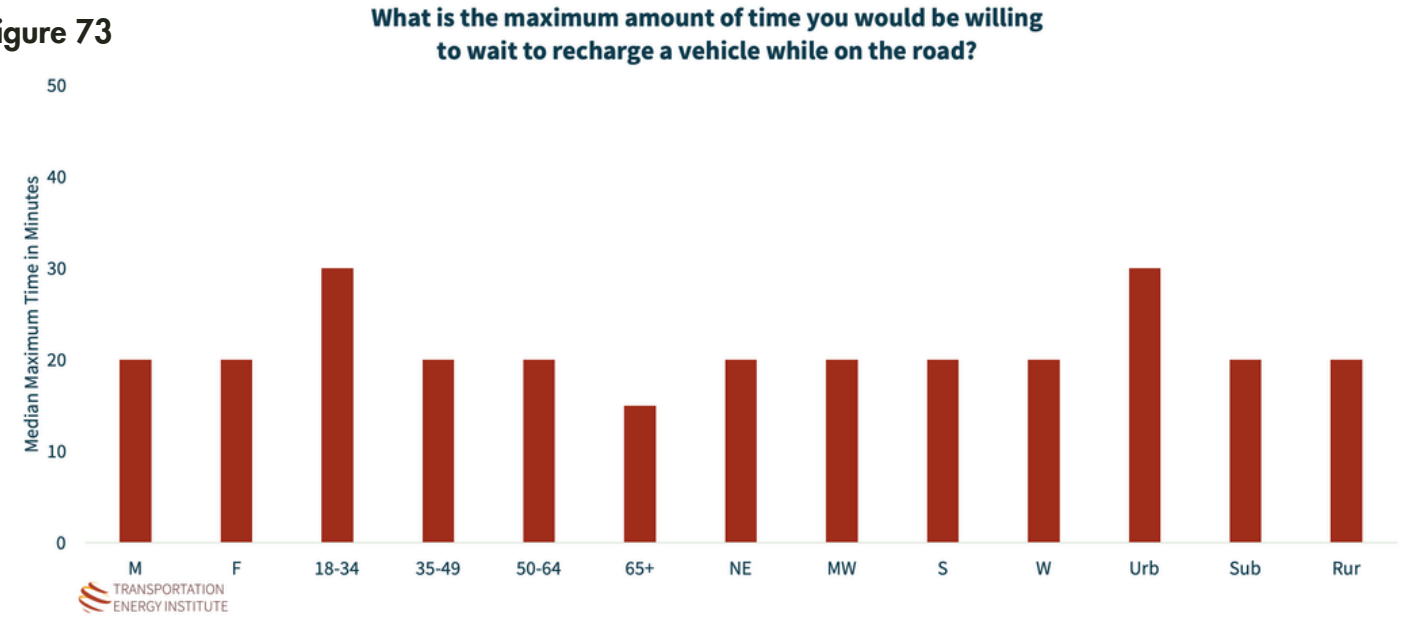


Figure 73



Figures 74 - 75: In your opinion, do you think charging an Electric Vehicle (EV) outside of your home would be…

Figure 74

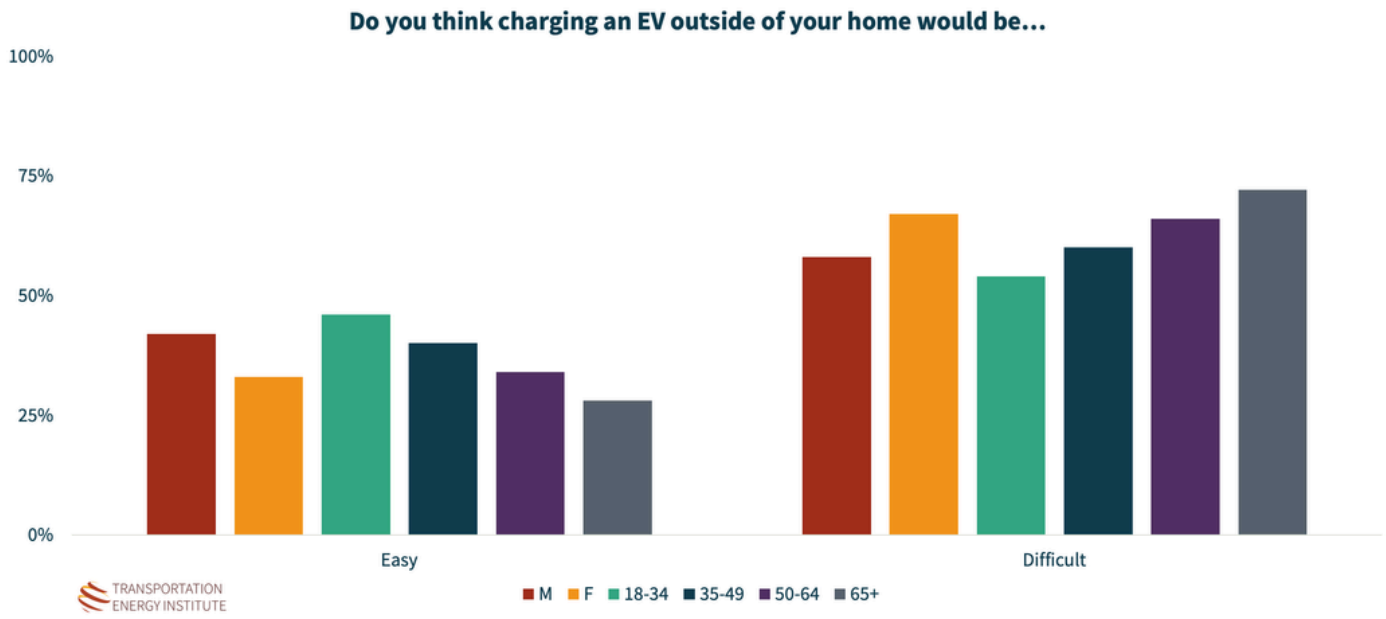
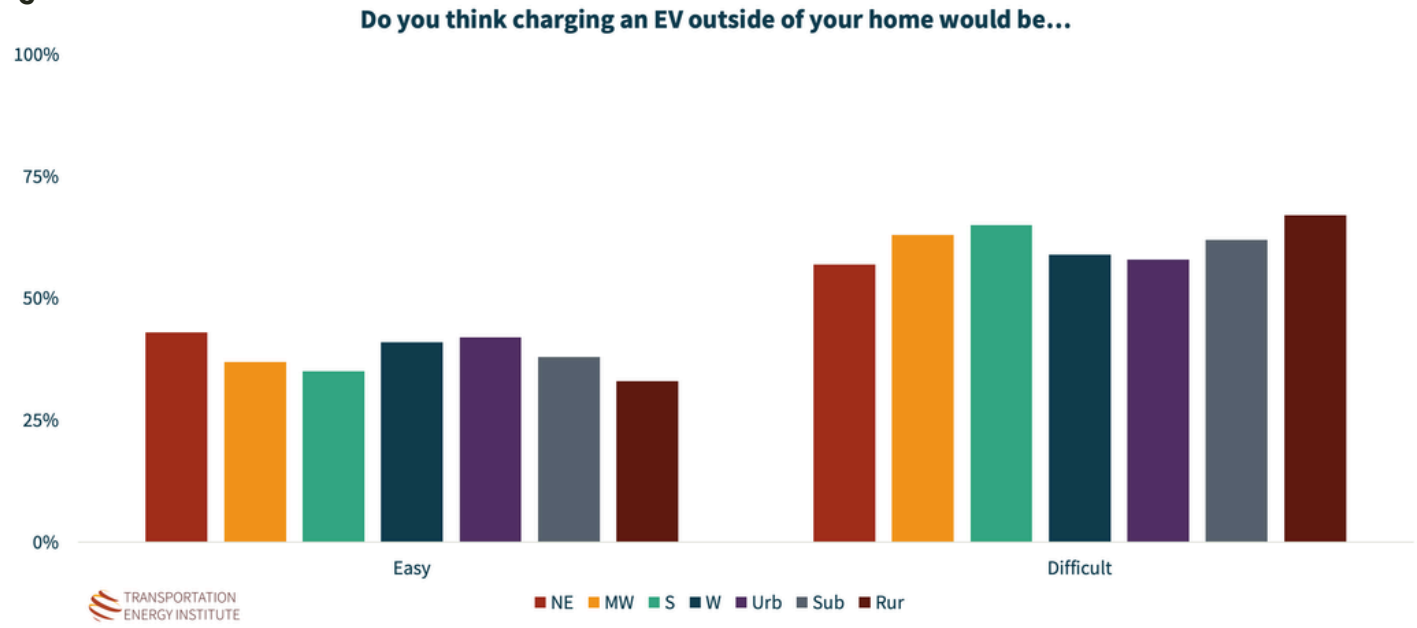


Figure 75

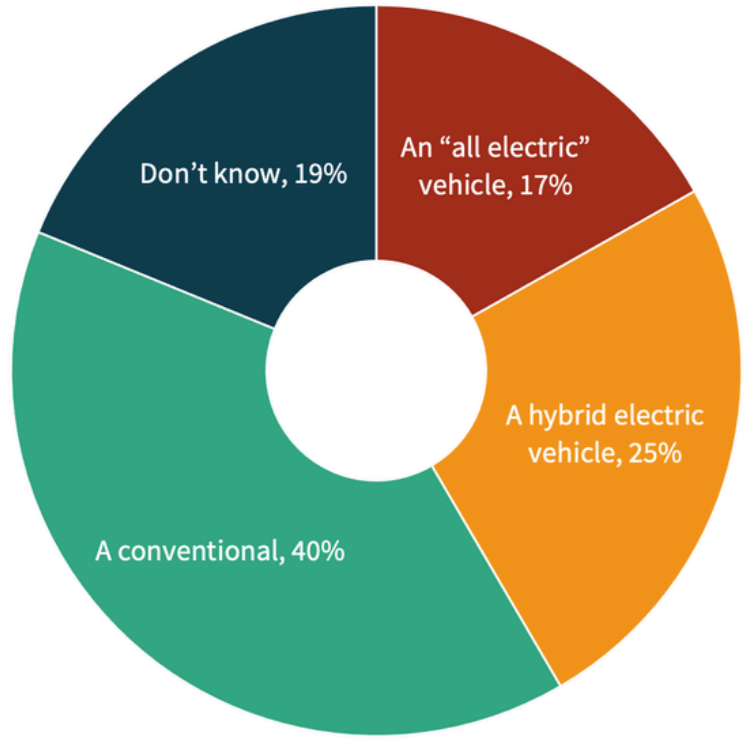


When asked which vehicle they thought would have the lowest total cost of ownership, conventional vehicles led the field with 39% of consumers. Younger drivers and those in the West and Urban markets were more optimistic about the economics of electric vehicles than other demographic groups, whereas older and rural consumers were more optimistic about conventional vehicles.

Figures 76 -78: Considering everything from purchase cost to the expense of fueling / charging, in your opinion which has a lower overall cost of ownership?

In your opinion, which has the lower cost of ownership?

Figure 76



TRANSPORTATION ENERGY INSTITUTE

Source: N=1,200 U.S. Adults

Figure 77

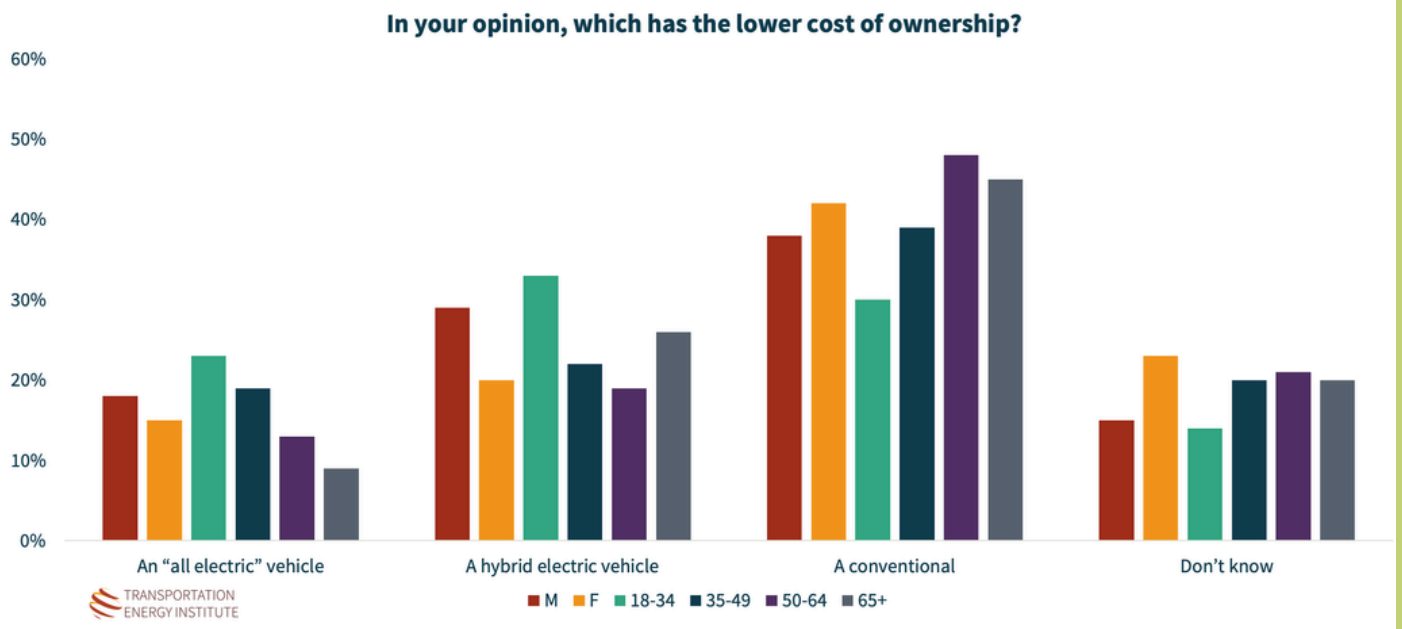
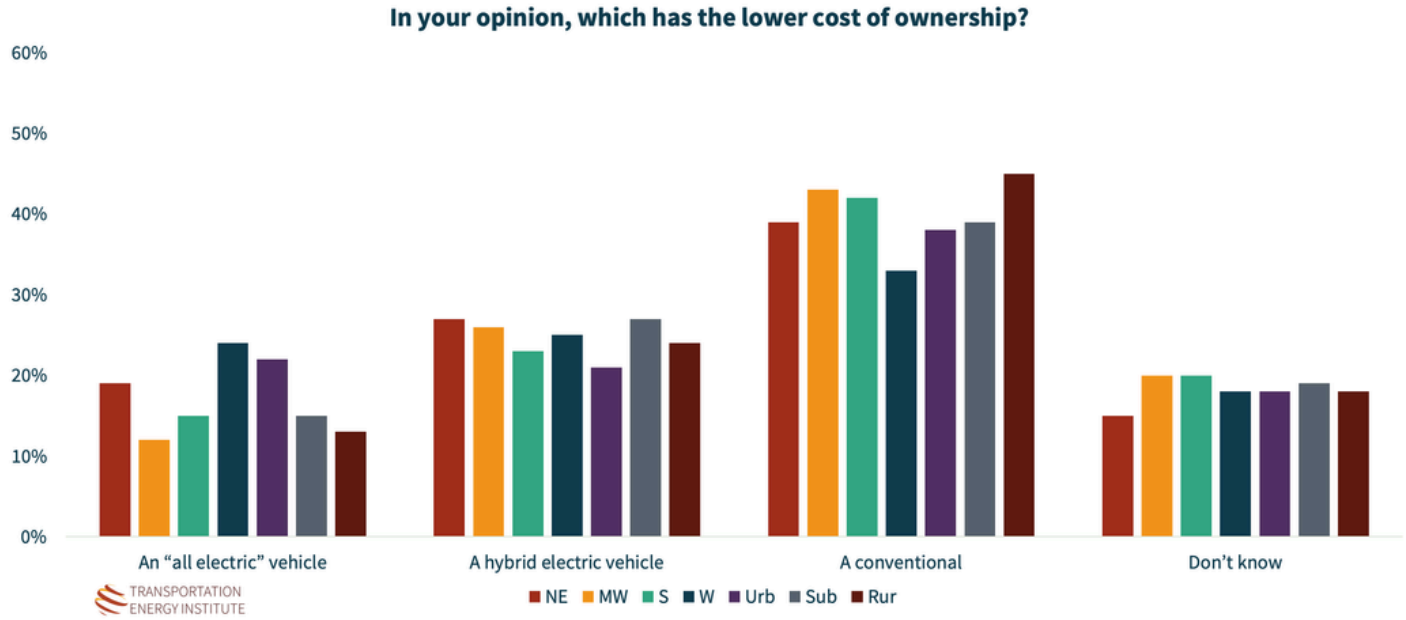


Figure 78



6. Conclusion

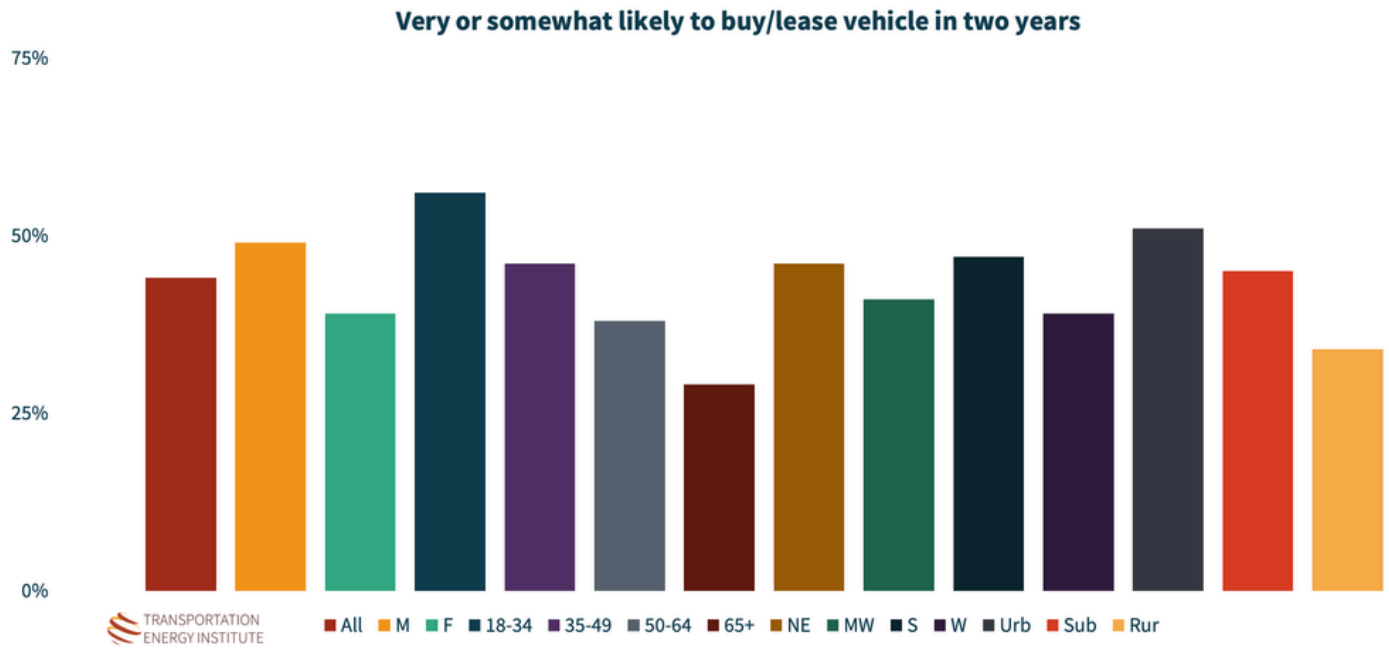
Surveys measure specific thoughts and attitudes at a given moment in time, but they can provide predictive insight to help guide those seeking to serve the transportation sector in the near future. The results of this survey appear to shed light on a divide among demographics groups regarding their attitudes and opinions about alternative transportation options. Older consumers and those in the rural markets seemed least optimistic about the economy, which corresponds with older and rural consumers being the least likely to acquire a vehicle within two years. By contrast, younger and urban consumers were both more optimistic about the economy and likely to acquire a vehicle in the near future.

Attitudes about alternative transportation were likewise split, with older and rural consumers holding less positive attitudes towards rideshare, electric, and autonomous vehicles. Meanwhile, younger and urban consumers were the most positive about each option. In fact, consumers aged 18 – 34 were the only age group in which a majority (53%) held positive views about electric vehicles and these consumers said they were willing to spend more time charging their vehicle than any other age group. As older consumers age out of the car buying market, the future of the transportation sector will be more heavily influenced by these younger buyers. It will be very important to pay attention to their evolving perspectives over time and ensure that vehicles, energy and infrastructure satisfy their needs and interests.

While these summary observations are generalizations of society, they do provide some insight to help guide expectations regarding where transformation may blossom and where it may struggle. Tapping into consumer sensitivities regarding energy and vehicle pricing, along with their preference for acquiring energy for their vehicles, can help guide strategies to successfully introduce transportation alternative options.

Figure 80 – How likely are you to buy or lease a new or used vehicle in the next two years? (Summary of those who responded "Somewhat Likely" or "Very Likely")

Figure 78



Figures 81-82 – Please indicate your attitude towards the following: (Summary of those who responded "Somewhat Positive" or "Very Positive")

Figure 81

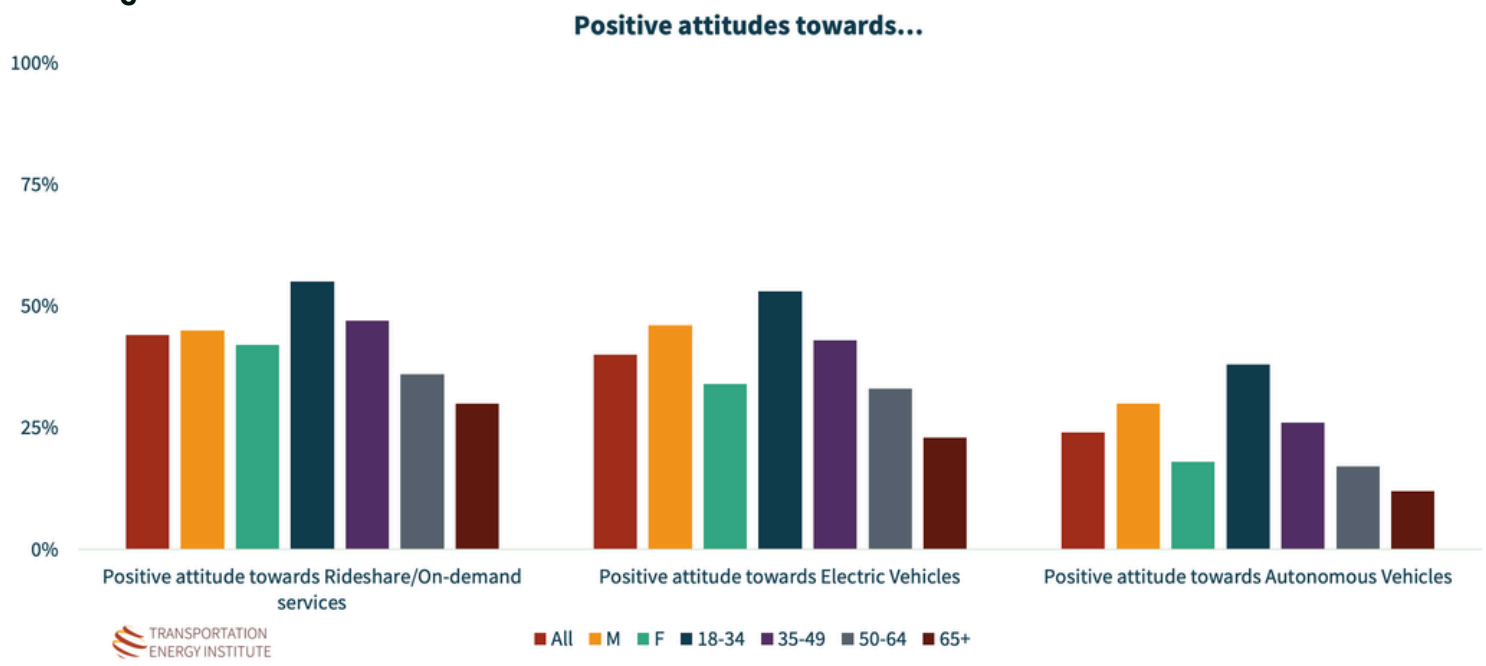
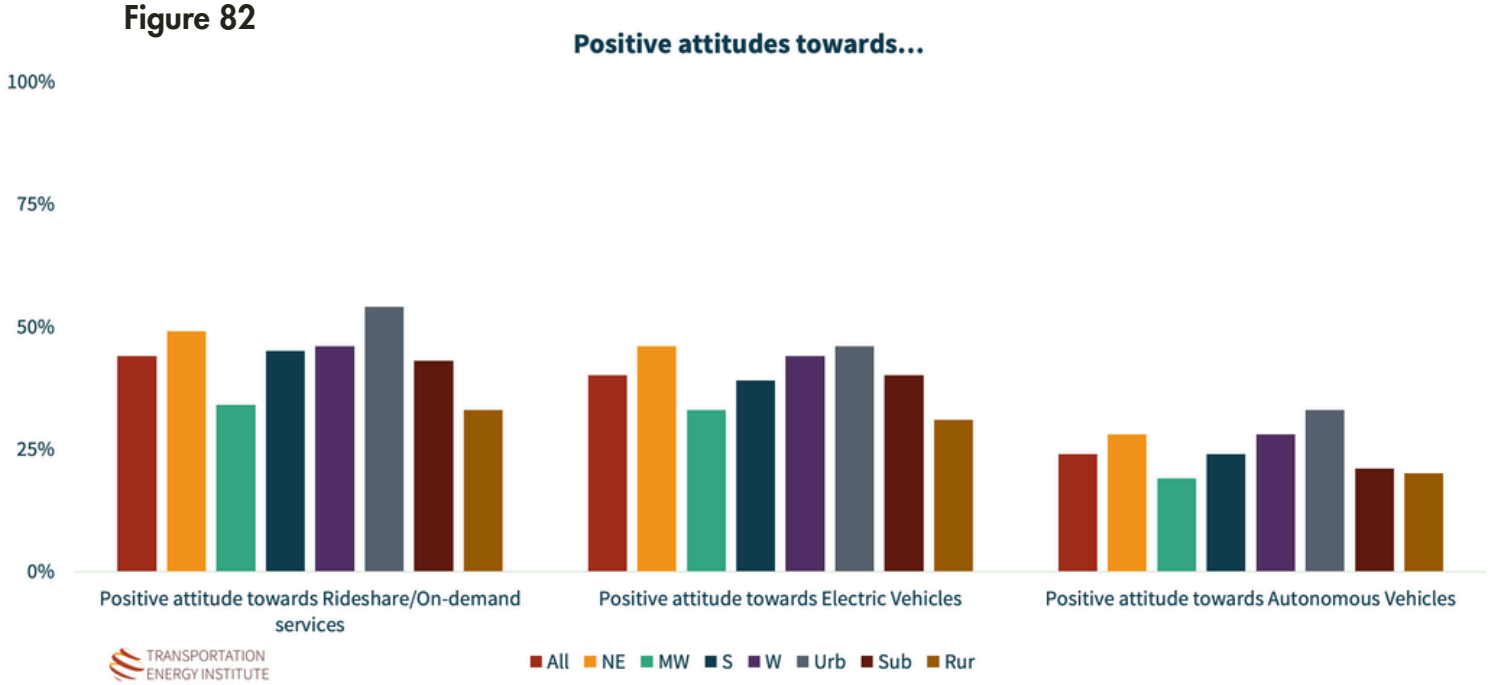


Figure 82



About TEI

The Transportation Energy Institute is a non-advocacy research organization dedicated to studying transportation energy. We are the most diverse organization in the fuels and vehicles markets, creating a place in which stakeholders of all persuasions can come together to collaborate, share perspectives and commission objective research analyzing the challenges and opportunities facing the market.
https://www.transportationenergy.org/

In addition to publishing research on a variety of subjects, TEI operates a broad spectrum of committees which delve into subject matter in great detail, enhancing the insights the Institute can deliver and enabling business leaders to engage with one another on critical issues facing the market.

The Electric Vehicle Council members share insights and experiences relative to infrastructure deployment and operation and initiate original research and education projects to fill in gaps in knowledge. The Council is dedicated to supporting a charging business environment that delivers value to businesses and drivers alike.

The Medium and Heavy-Duty Committee is a forum for TEI contributors involved in this sector to discuss the unique challenges the market faces with respect to decarbonization and emissions reductions and recommends specific research projects to address those challenges.

The Canadian Transportation Council provides a venue for transportation stakeholders with operations in Canada to come together, evaluate the issues facing the Canadian market and seek objective insights to help address issues that are specifically affecting Canadians. The Council further advises the TEI Board to support a broader North American analysis of transportation issues.