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**2019 Deloitte Global Automotive
Consumer Study**

Advanced vehicle technologies
and multimodal transportation

Americas



To learn more about the Global
Automotive Consumer Study, visit
www.deloitte.com/autoconsumers

For a decade, Deloitte has been exploring consumers' changing automotive expectations and the evolving mobility ecosystem.

Key insights from our Global Automotive Consumer Study over the years:



The Global Automotive Consumer Study helps inform Deloitte’s work and insights into the evolution of mobility, smart cities, connectivity, transportation, and other changes transforming the movement of people and goods.

2019 Deloitte Global Automotive Consumer Study

From September to October 2018, Deloitte surveyed more than 25,000 consumers in 20 countries to explore opinions regarding a variety of critical issues impacting the automotive sector, including the development of advanced technologies. The overall goal of this annual study is to answer important questions that can help companies prioritize and better position their business strategies and investments.

Key insights



Consumers “pump the brakes” on interest in AVs

As the technology gets ever closer to scalable, real-world application, consumers are questioning if autonomous vehicles (AVs) are safe, which is causing some people to take a more cautious approach to the idea.



Electric vehicles finally showing potential to scale

Electric vehicle (EV) demand is growing in Asia Pacific (AP) and the European Union (EU) due to supportive environmental policies, big-brand bets, and shifting consumer attitudes. But low fuel prices in North America (NA) are keeping consumers away.



Consumers may be reluctant to pay for connectivity

Consumer opinions are mixed while interest in time-saving features is high, but significant concerns remain over privacy and data security. Original equipment manufacturers (OEMs) also face an uphill battle getting people to pay for it.



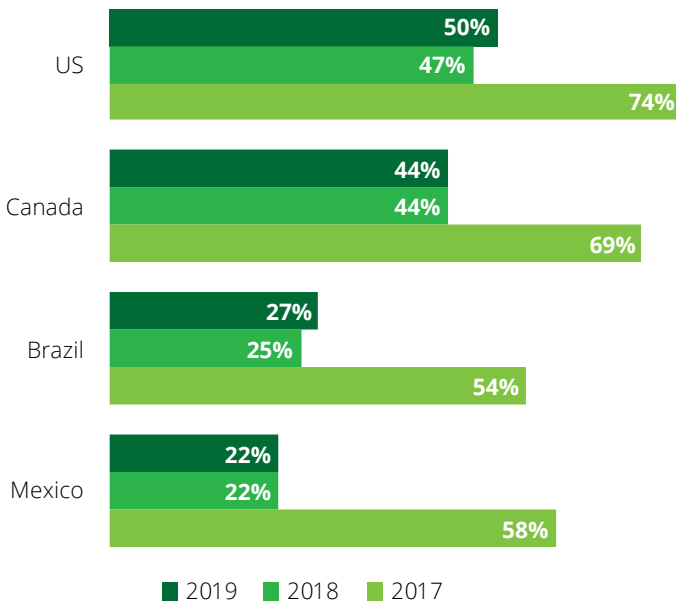
Mobility revolution faces significant headwinds

Overall consumer behavior is proving difficult to change. A shared mobility future may hinge on younger people that have fully embraced the precepts of a digitally enhanced existence.

Consumers “pump the brakes” on interest in AVs

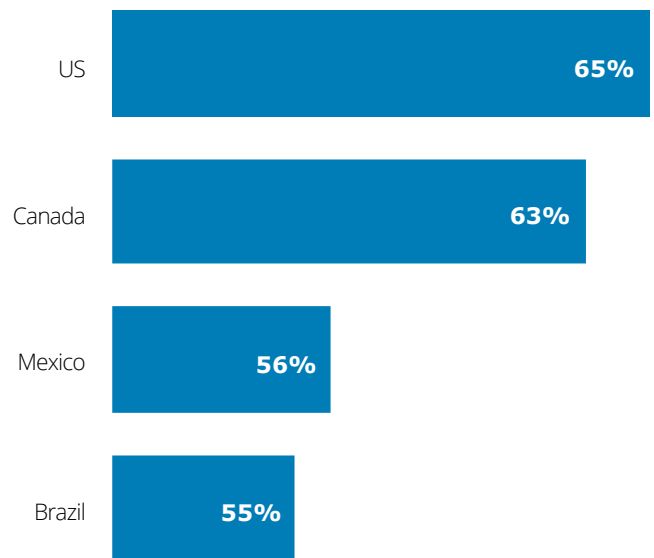
Consumer perception regarding the safety of self-driving vehicles has stalled in the last year ...

Percentage of consumers who agree that autonomous vehicles will not be safe



... as reports of accidents involving AVs have had a significant impact on consumers’ view of the technology.

Percentage of consumers who feel that media reports of accidents involving AVs have made them more cautious of the technology



Note: Percentage of respondents who strongly agreed or agreed have been added together.

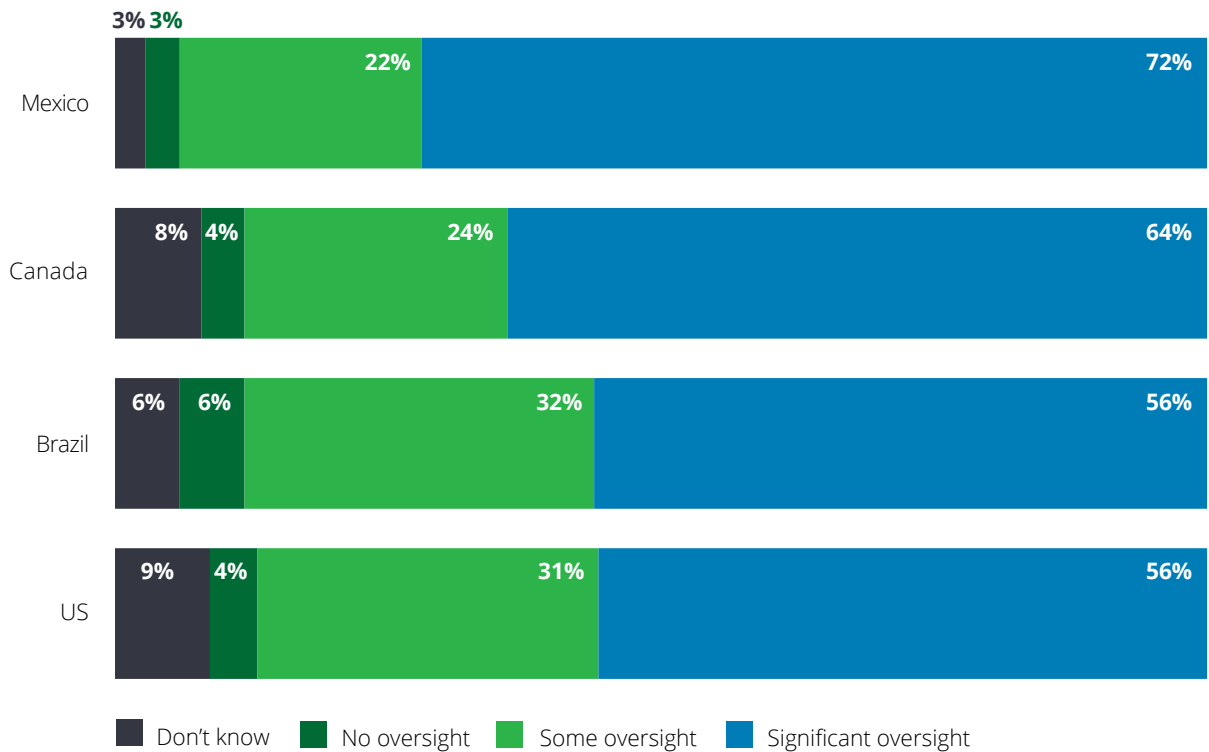
Q3: To what extent do you agree that fully self-driving cars will not be safe?
 Sample size: US=1,720 [2019], 1,730 [2018], 1,634 [2017]; Canada=1,250 [2019], 1,225 [2018], 1,117 [2017]; Mexico=1,226 [2019], 1,231 [2018], 1,193 [2017]; Brazil=1,236 [2019], 1,243 [2018], 1,161 [2017]

Note: Percentage of respondents who strongly agreed or agreed have been added together.

Q3: To what extent do you agree that media reports of accidents involving autonomous vehicles make you cautious of the technology?
 Sample size: US=1,680; Canada=1,234; Mexico=1,204; Brazil=1,208

A majority of consumers want their governments to exert a significant amount of control over the development and use of AVs.

Level of government involvement desired regarding the development and use of AVs

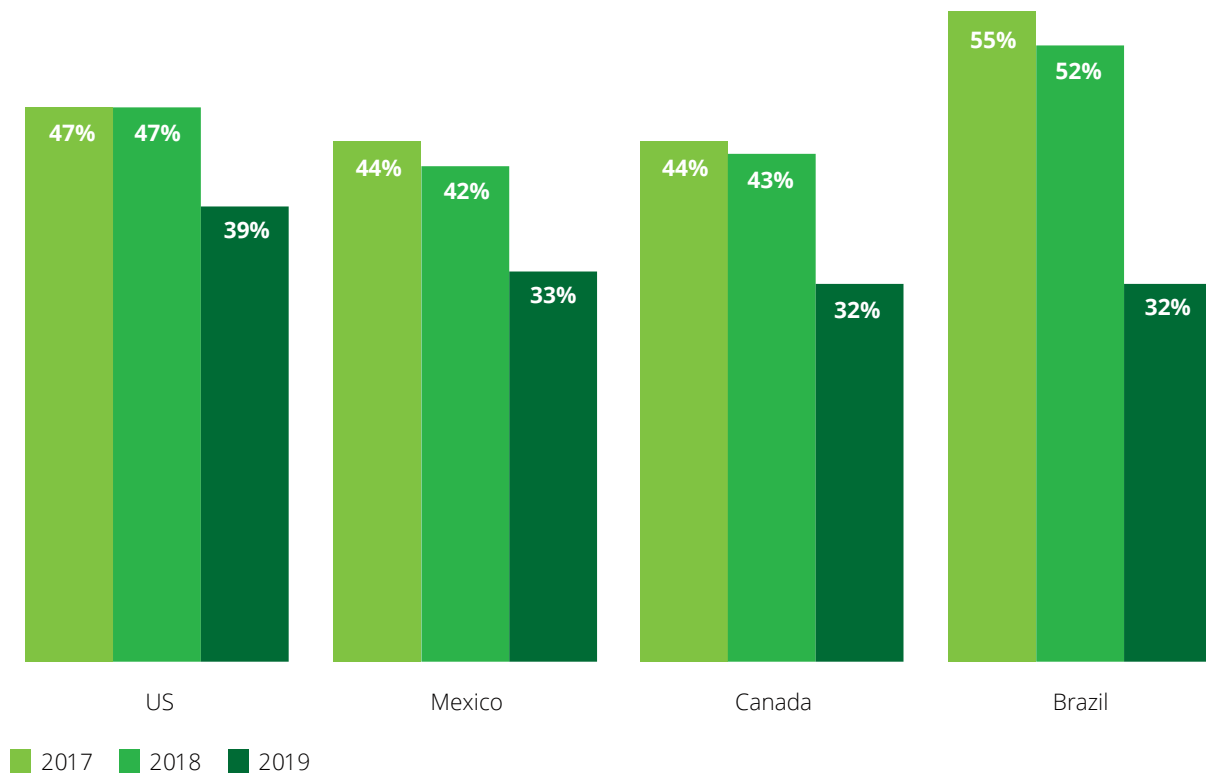


Q7: To what extent do you think government should be involved in the development and use of autonomous vehicles by providing oversight and standards?

Sample size: US=1,750; Canada=1,278; Mexico=1,256; Brazil=1,262

Consumer trust in manufacturers to bring AV technology to market continues to erode across most core global auto markets.

Percentage of consumers that would most trust traditional automakers to bring fully autonomous technology to market

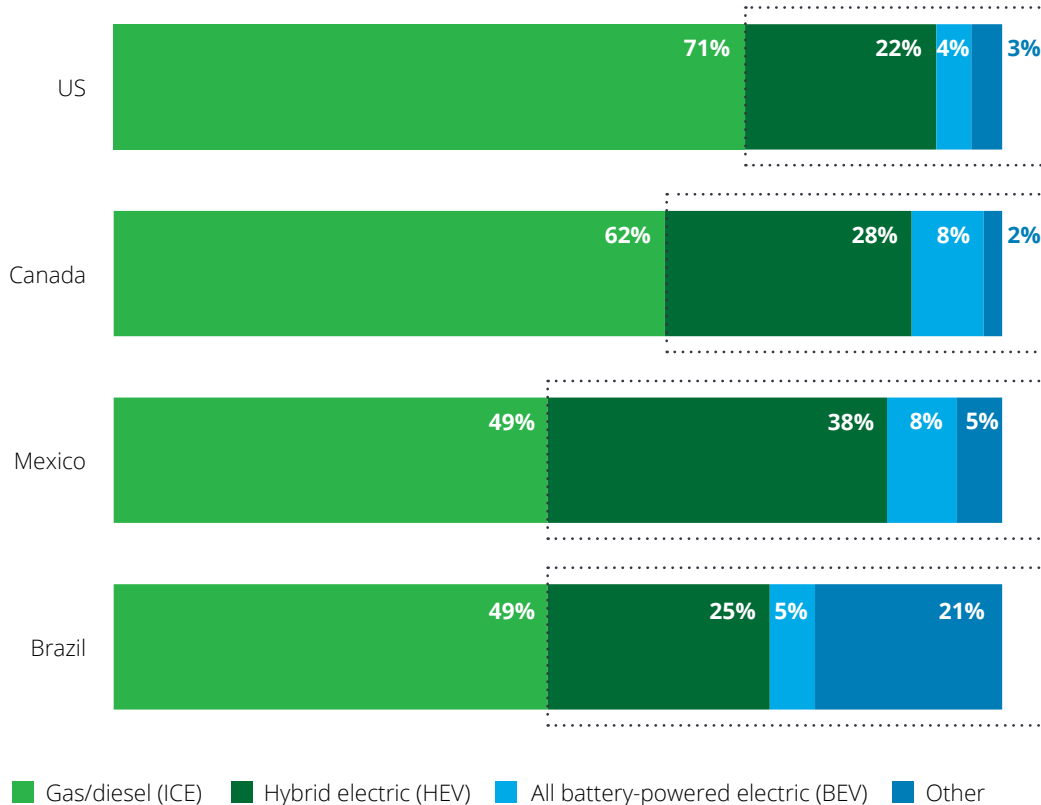


Q10: Which of the following type of company would you trust the most to bring fully autonomous (self-driving) vehicle technology to the market?
Sample size: US=1,720 [2019], 1,760 [2018], 1,762 [2017]; Canada=1,278 [2019], 1,262 [2018], 1,261 [2017]; Mexico=1,256 [2019], 1,270 [2018], 1,246 [2017]; Brazil=1,262 [2019], 1,256 [2018], 1,259 [2017]

Electric vehicles finally showing potential to scale

Interest in alternative powertrain technology continues to expand as fewer people want traditional internal combustion engines (ICE) in their next vehicle.

Consumer powertrain preferences for their next vehicle



Alternative powertrain YoY

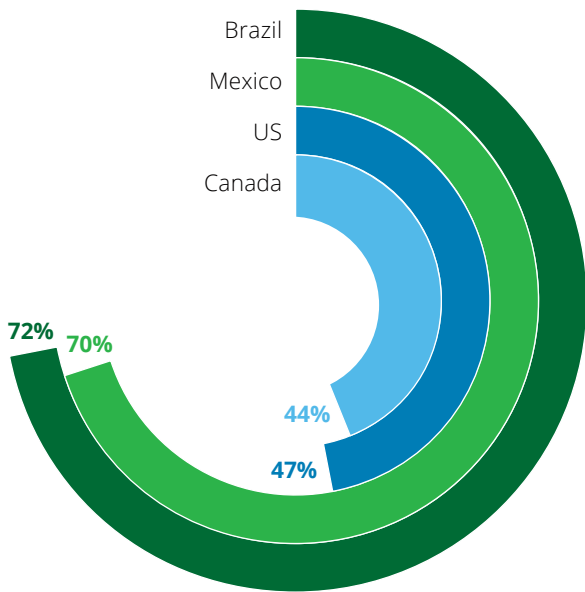


Note: "Other" category includes ethanol, CNG, and fuel cell.
 Q45: What type of engine would you prefer in your next vehicle?
 Sample size: US=1,471; Canada=1,057; Mexico=1,167; Brazil=1,099

Consumers may be reluctant to pay for connectivity

When it comes to vehicle connectivity, consumer opinion is split. Consumers in Brazil and Mexico are embracing the idea in significantly greater numbers than either Canada or the US.

Percentage of consumers who feel that increased vehicle connectivity will be beneficial



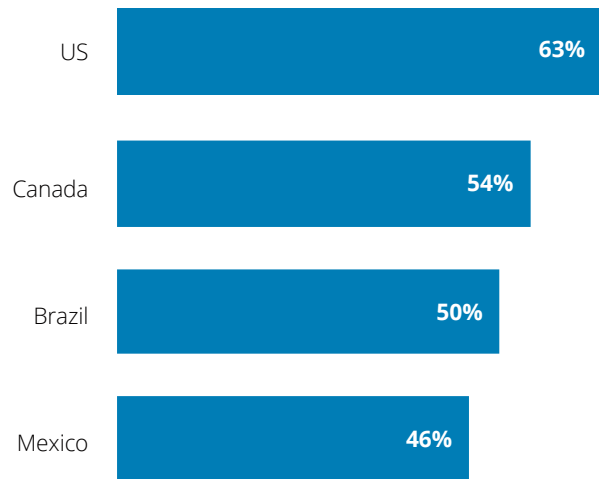
Note: Percentage of respondents who strongly agreed or agreed have been added together.

Q3: To what extent do you agree that as vehicles become more connected via wireless internet, they are more beneficial?

Sample size: US=1,689; Canada=1,225; Mexico=1,221; Brazil=1,210

Consumer opinions also differ on specific concerns around connectivity, including the security of biometric data* generated and shared by connected vehicles.

Percentage of consumers who are somewhat/very concerned about the concept of biometric data being captured and shared with external parties



* Biometric data refers to information about the vehicle occupant(s) such as heart rate, blood pressure, blood alcohol level, etc.

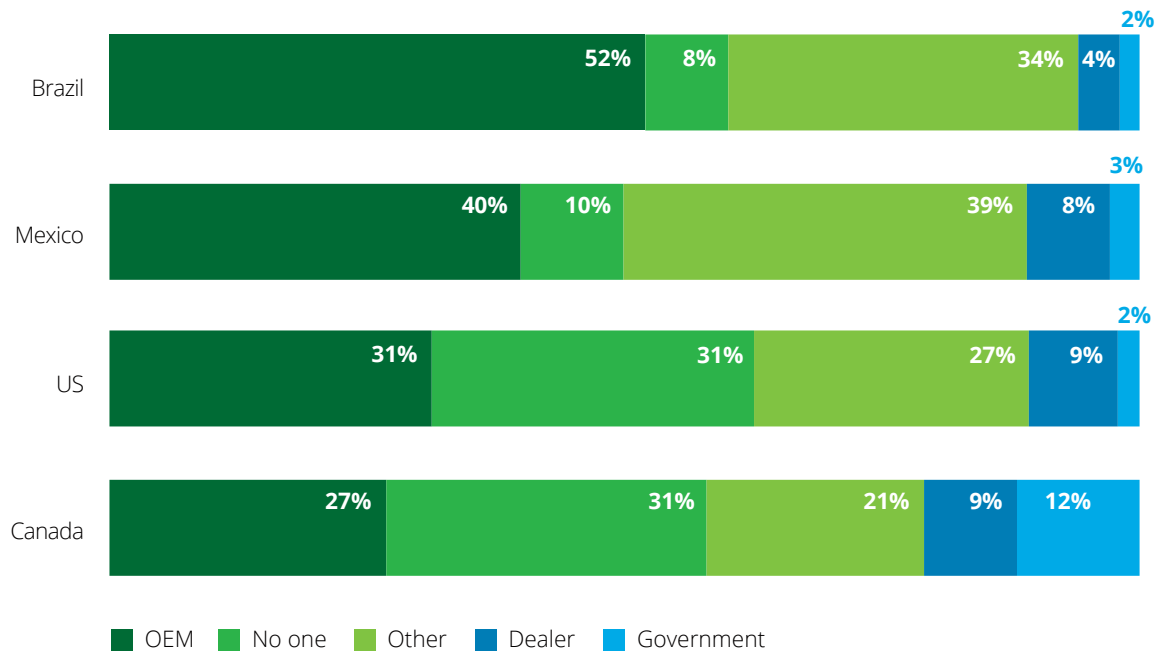
Note: Percentage of respondents who are somewhat concerned and very concerned have been added together.

Q22: As vehicles become more and more connected to the internet, how concerned would you be if the following types of data were shared with your vehicle manufacturer, dealer, insurance company, and/or other third parties?

Sample size: US=1,432; Canada=997; Mexico=1,009; Brazil=885

Consumer concern also extends to who would manage the data being generated and shared by the vehicle. Some people would choose the OEM, but a lot of people would choose anybody else.

Consumer preference regarding the type of company they would most trust to manage the data being generated and shared by a connected car



Note: "Other" category includes financial service providers, insurance companies, cellular service providers, and cloud service providers.

Q23: In a scenario where you owned a connected vehicle, which of the following entities would you trust the most to manage the data being generated and shared?

Sample size: US=1,432; Canada=997; Mexico=1,009; Brazil=885

What do people want? Save me time and ensure my safety.

Percentage of people interested in each connected vehicle feature

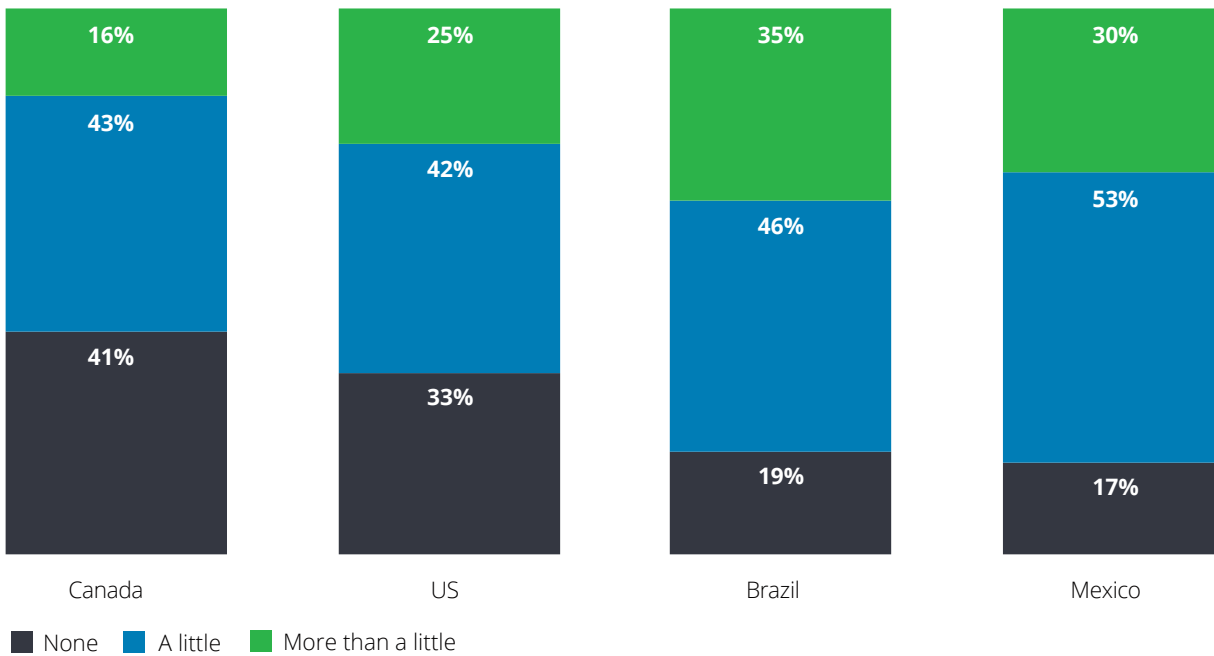
| | Category | Canada | US | Mexico | Brazil |
|--|--------------------|--------|-----|--------|--------|
| Updates regarding traffic congestion and suggested alternate routes | Time | 75% | 75% | 87% | 88% |
| Suggestions regarding safer routes | Safety | 68% | 72% | 88% | 88% |
| Updates to improve road safety and prevent potential collisions | Safety | 69% | 71% | 87% | 88% |
| Customized/optimized vehicle insurance plan | Cost | 56% | 55% | 83% | 78% |
| Maintenance updates and vehicle health reporting | Cost | 68% | 71% | 85% | 84% |
| Maintenance cost forecasts based on your driving habits | Cost | 59% | 58% | 78% | 81% |
| Customized suggestions regarding ways to minimize service expenses | Cost | 58% | 58% | 83% | 78% |
| Over-the-air vehicle software updates | Performance | 52% | 53% | 79% | 73% |
| Access to nearby parking (i.e., availability, booking, and payment) | Services | 64% | 61% | 79% | 81% |
| Special offers regarding non-automotive products and services related to your journey or destination | Services | 36% | 41% | 59% | 66% |
| Receiving a discount for access to a Wi-Fi connection in your vehicle | Services | 53% | 55% | 74% | 75% |

■ Top feature

Note: Percentage of respondents who are somewhat or very interested have been added together.
 Q21: How interested are you in the following benefits of a connected vehicle if it meant sharing either your own personal data or the data generated by the operation of your vehicle?
 Sample size: US=1,432; Brazil=885; Canada=997; Mexico=1,009

OEMs, however, may also struggle to get consumers to pay for advanced connectivity features in most markets, even when it means increasing road safety.

Extra amount that consumers would pay for a vehicle that could communicate with other vehicles and road infrastructure to improve safety



Note: Definition for "a little" is less than or equal to: Canada (CAD 750); US (\$500); Brazil (Reals 1,500); Mexico (Pesos 10,000).

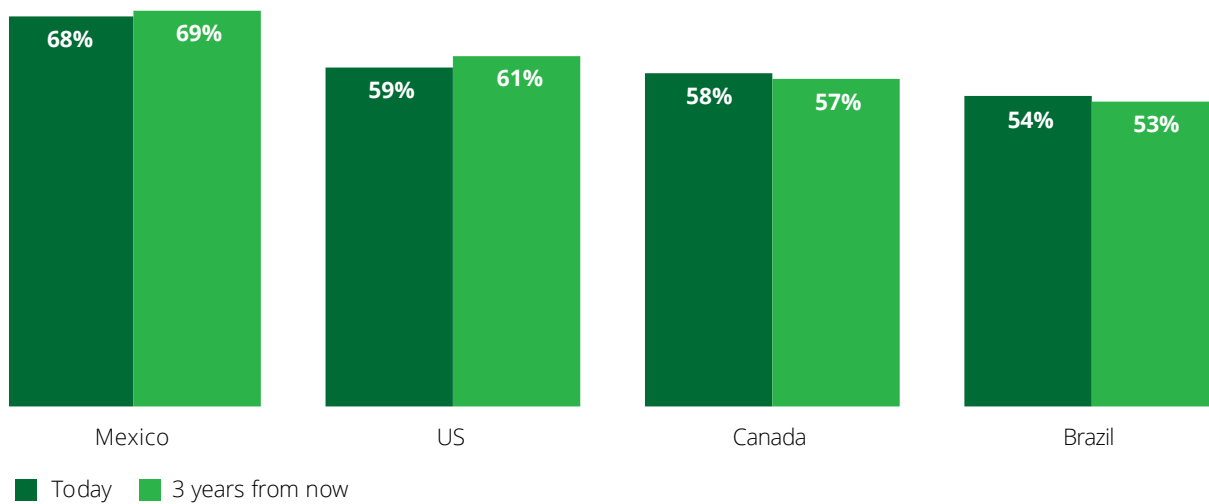
Q25: How much more would you be willing to pay for a vehicle that had the following connectivity technologies?

Sample size: Canada=997; US=1,432; Mexico=1,009; Brazil=885

Mobility revolution faces significant headwinds

Daily usage of personally owned vehicles is quite high in some markets, but even where usage is lower, the expectation is to maintain the “status quo” into the next decade.

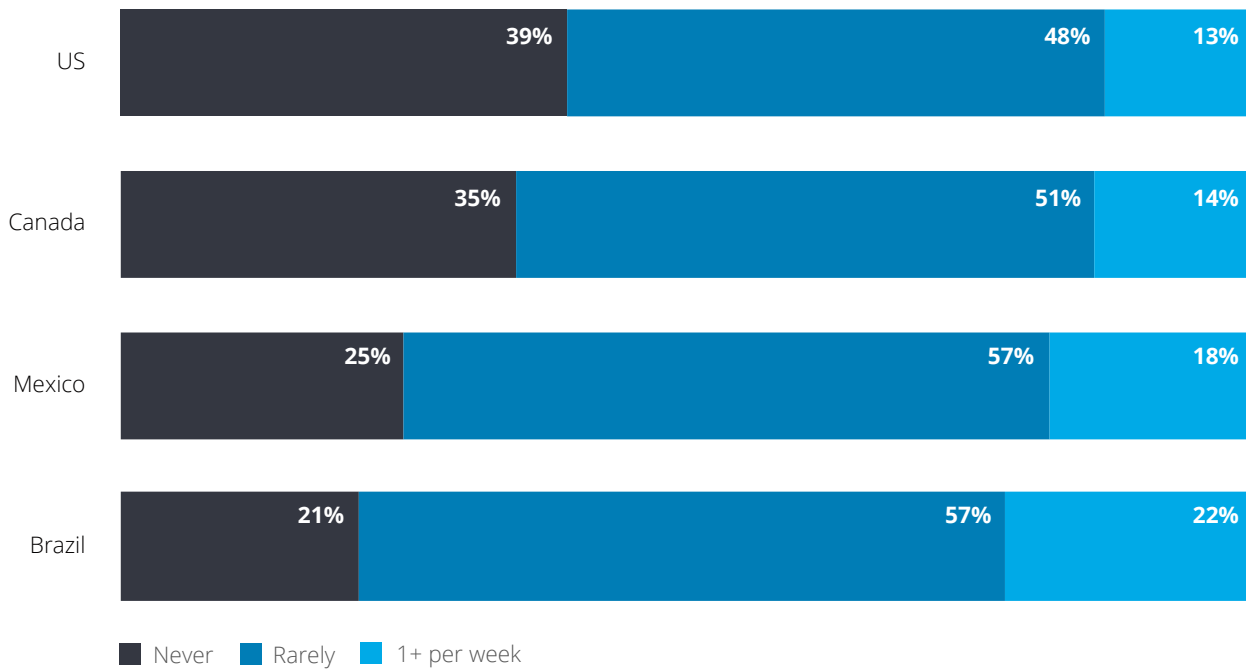
Percentage of consumers that use their own vehicle every day



Q26-Q27: Please indicate how often you use each transportation method (today vs. three years from now).
Sample size: US=1,750; Canada=1,278; Mexico=1,256; Brazil=1,262

The idea of combining different modes of mobility into one trip remains largely an occasional behavior for most consumers.

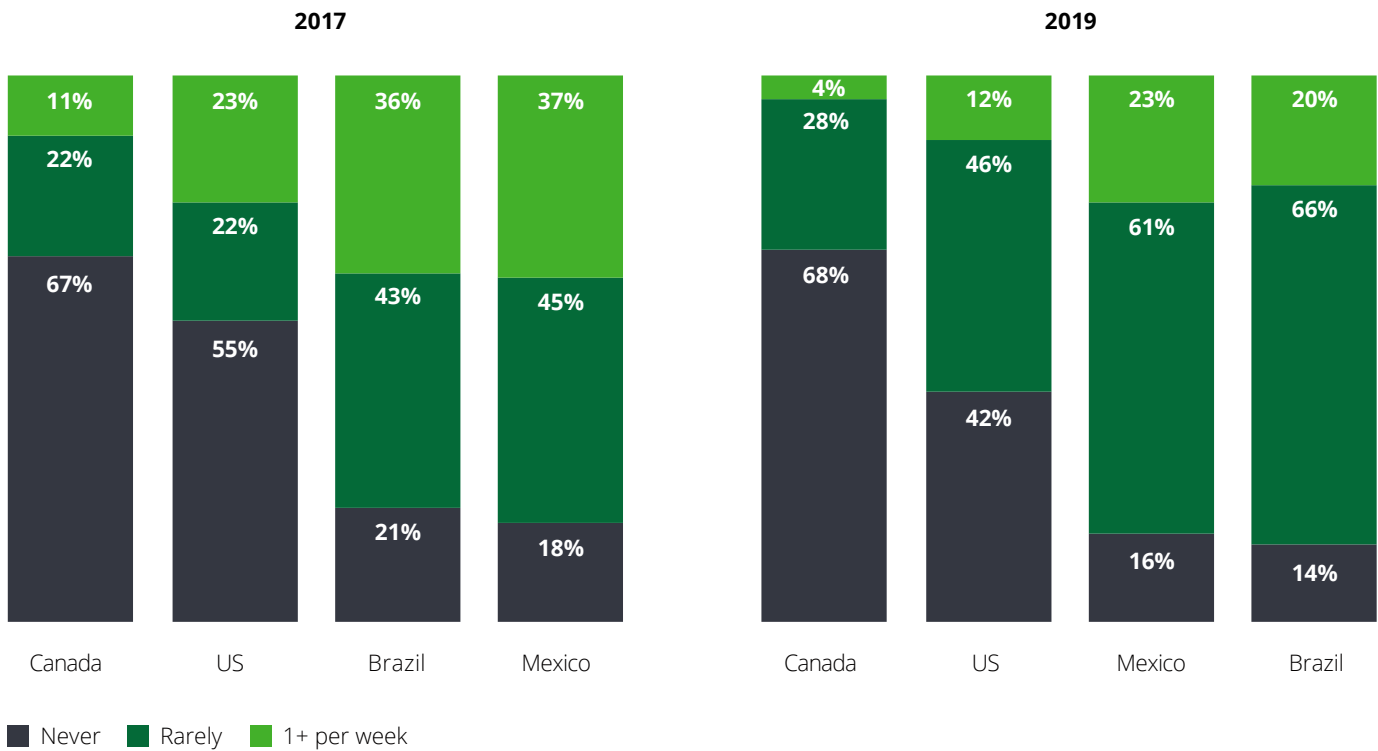
Frequency that consumers use multiple modes of transportation in the same trip



Q29: How often do you use multiple modes of transportation in the same trip (e.g., a trip using a subway, commuter train, and your own vehicle)?
Sample size: US=1,750; Canada=1,278; Mexico=1,256; Brazil=1,262

Even though ride-hailing has been integrated into some markets, the number of people reporting regular usage has actually decreased in the last two years.

Frequency of ride-hailing usage

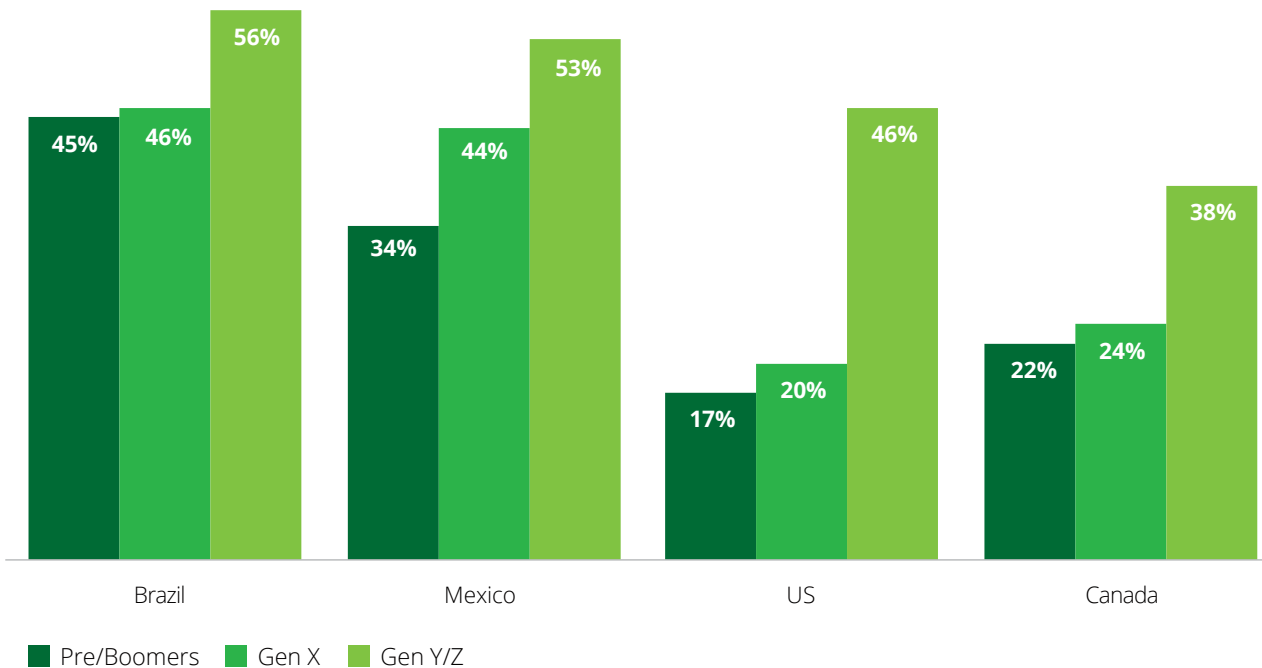


Q36: How often do you currently use ride-hailing services?

Sample size: US=1,750 [2019], 1,768 [2017]; Canada=1,278 [2019], 1,265 [2017]; Brazil=1,262 [2019], 1,261 [2017]; Mexico=1,256 [2019], 1,250 [2017]

Having said all that, maybe the answer lies in waiting out the “old guard” as young people seem to be getting the idea of shared mobility in greater numbers.

Percentage of ride-hail users that question whether they need to own a vehicle going forward (by generation)



Q36c: Does your use of ride-hailing services make you question whether you need to own a vehicle going forward?

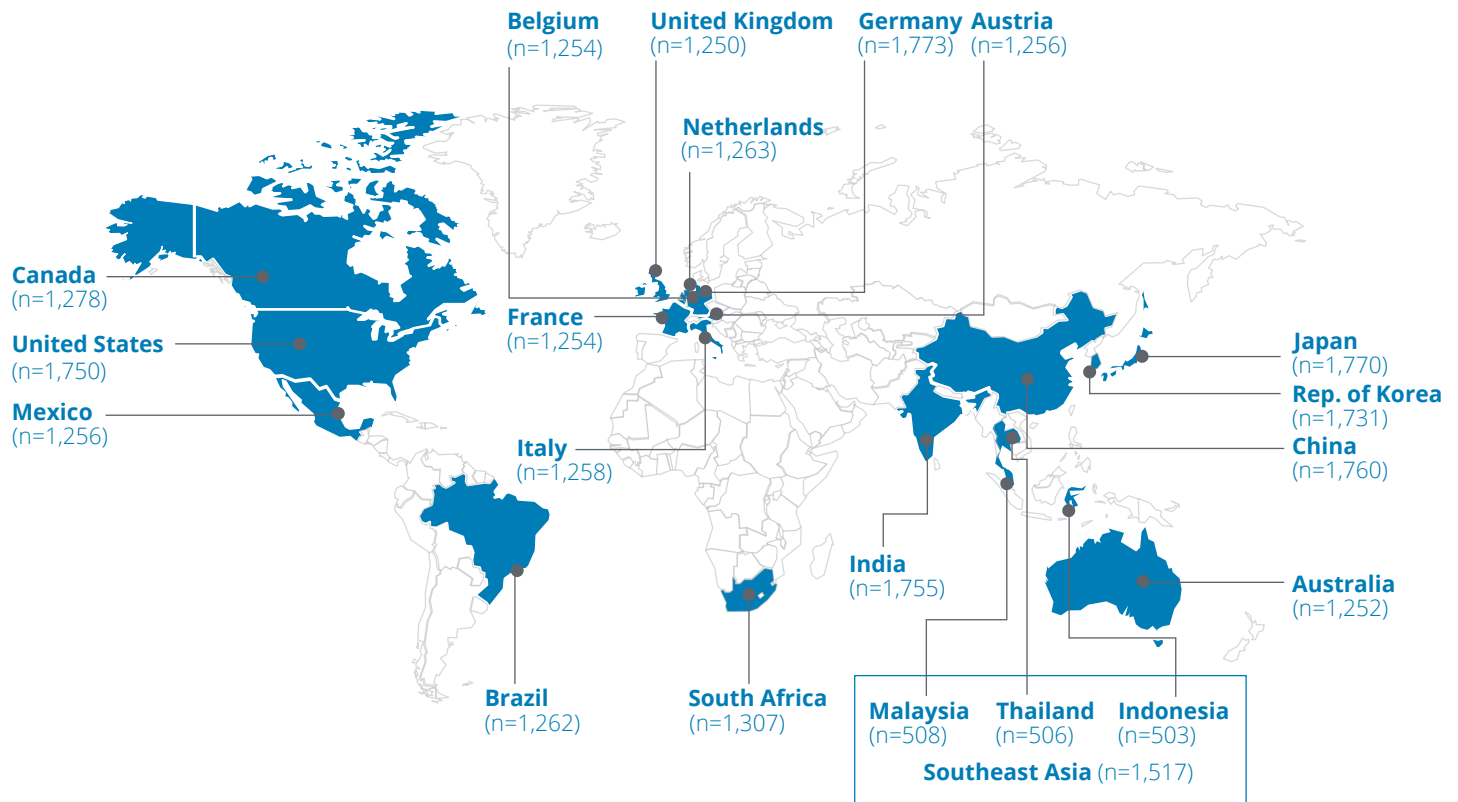
Sample size: Canada=[Pre/Boomers=82; Gen X=71; Gen Y/Z=252]; Brazil=[Pre/Boomers=240; Gen X=210; Gen Y/Z=607]

Mexico=[Pre/Boomers=191; Gen X=211; Gen Y/Z=677]; US=[Pre/Boomers=254; Gen X=187; Gen Y/Z=572]

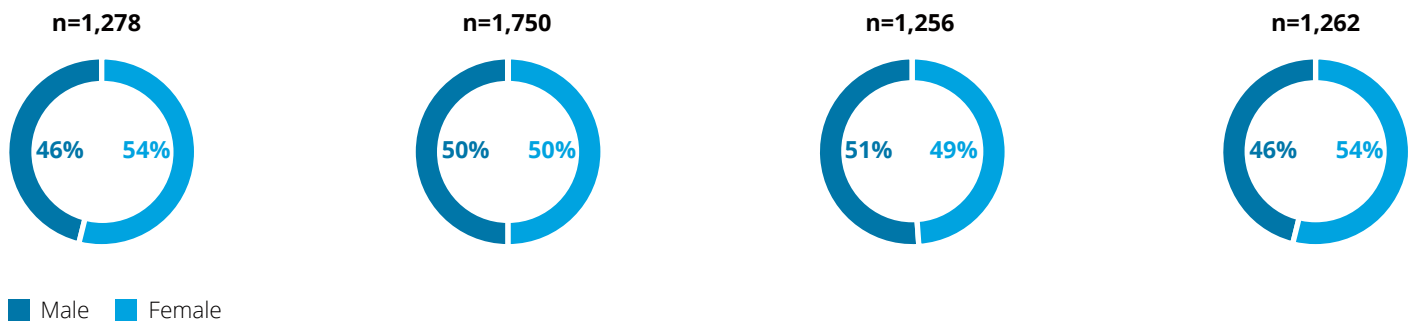
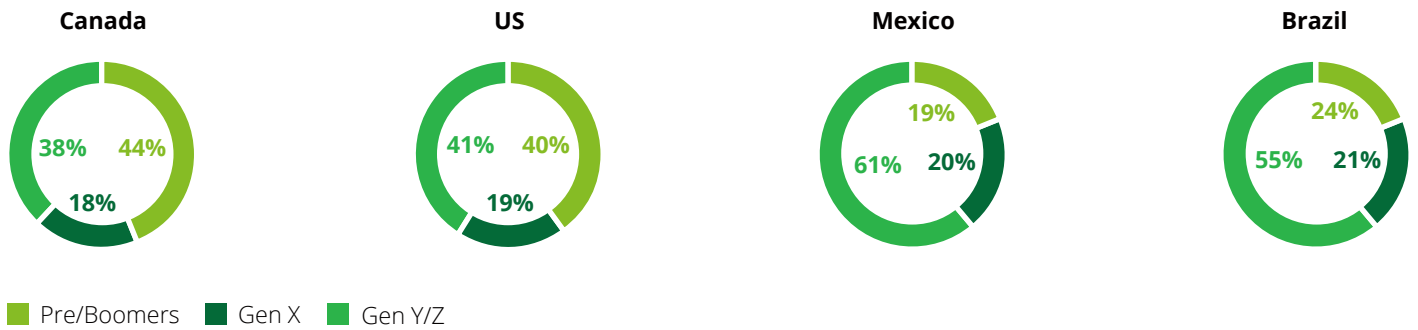
Note: Pre/Boomers: Born before 1965; Gen X: Born 1965–1976; Gen Y/Z: Born after 1976 (sample excludes consumers under 16 years of age).

About the 2019 Deloitte Global Automotive Consumer Study

The 2019 Deloitte Global Automotive Consumer Study includes more than 25K consumer responses across 20 global markets.



The study is fielded using an online panel and designed to be representative of the population in each market.



Note: Pre/Boomers: Born before 1965; Gen X: Born between 1965 and 1976; Gen Y/Z: Born after 1976 (sample excludes consumers under 16 years of age).

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