2016 Car Tech Impact Study

January 2016

Objectives & Methodology

- Objectives
  - Identify vehicle technologies that are currently being used and that are “must haves” for future vehicle purchases
  - Determine how much consumers would be willing to pay for “must have” features
  - Gauge reaction to the concept of autonomous/self-driving vehicles

- Methodology
  - 20 minute online survey with 1,012 licensed U.S. drivers conducted between September 9 – September 17, 2015
  - The following target groups were tracked:
    - ❑ Millennials (n=342)
    - ❑ Non-Millennials (n=670)
    - ❑ Males (n=466)
    - ❑ Females (n=546)
    - ❑ Used Car Owners (n=542)
    - ❑ New Car Owners (n=470)

Key Consumer Insights

Today's consumers are highly connected via their mobile devices, but yet their vehicles are their transportation hubs.

65%

Car Buyers Have Regular Access to a Smartphone

**Automotive Buyer Influence Study 2014*

U.S. adults spend nearly **3 hours** of **non-voice time on** their **mobile devices each day***

*eMarketer.com

7 in 10

Spend **MORE THAN 30 MINUTES** a day in their vehicle

4 in 10 spend **more than 60 minutes** in their vehicle each day

People under the age of 50 spend the most time in their vehicle and are 1.5 times more likely to spend more than 30 minutes.

Consumers will continue to use their smartphones until feature integration is seamless or built-in functionality is fully realized.

56% use their phone in some capacity while driving (making calls, texting, using apps, etc.)

- ❖ **39%** use their phone to make calls (not including hands-free)
- ❖ **34%** use a navigation aid on their smartphone
- ❖ **22%** use their phone to send texts
- ❖ **15%** use apps on their smartphone that play through the vehicle's sound system and is connected via Bluetooth
- ❖ **14%** use apps on their smartphone that play through the vehicle's sound system and is connected via an A/C cord

This increases to 66% among Millennials (significantly higher than Boomers (54%) and Pre-Boomers (34%)).

Consumers want their vehicles to fit in with their lives, not the other way around. Many view their vehicle as an extension of themselves and find it important their vehicle syncs with other technology…

55% Over Half

See their vehicle as an extension of themselves

- More so among Millennials
  - 27% (25-34) *Strongly Agree*, 18% (18-24)
- 17% Males *Strongly Agree*, 10% Females
- Truck owners (25%) most likely to Strongly Agree

52% Over Half

Agree that it is important that their car syncs with all other technology in their life

- iPhone users (65%) Agree (Strongly/Somewhat) more than Android (53%)
- New buyers (17%) Strongly Agree more than Used (11%)

46% Nearly Half

Expect their vehicle's technology to be able to do all the things that a smartphone can do

- Males (15%) Strongly Agree more than Females (7%)
- Those with commutes greater than 30 mins more likely to Agree
- Those with children (17%) more likely to Strongly Agree than those without (9%)

28% Over 1/4

Would rather use smartphone to access apps and entertainment

- More common among Males (32%) vs. Females (24%)
- More common among those with children (35%) vs. without (26%)
- More common among those who are single (34%) vs. married (26%)

Ultimately, development suggestions lean slightly toward 'smarter' phone integration over built-in vehicle tech.

57%

Would rather see manufacturers focus on:
better integrating smartphones into a generic system that would be available in vehicles from all manufacturers

Should OEMs...

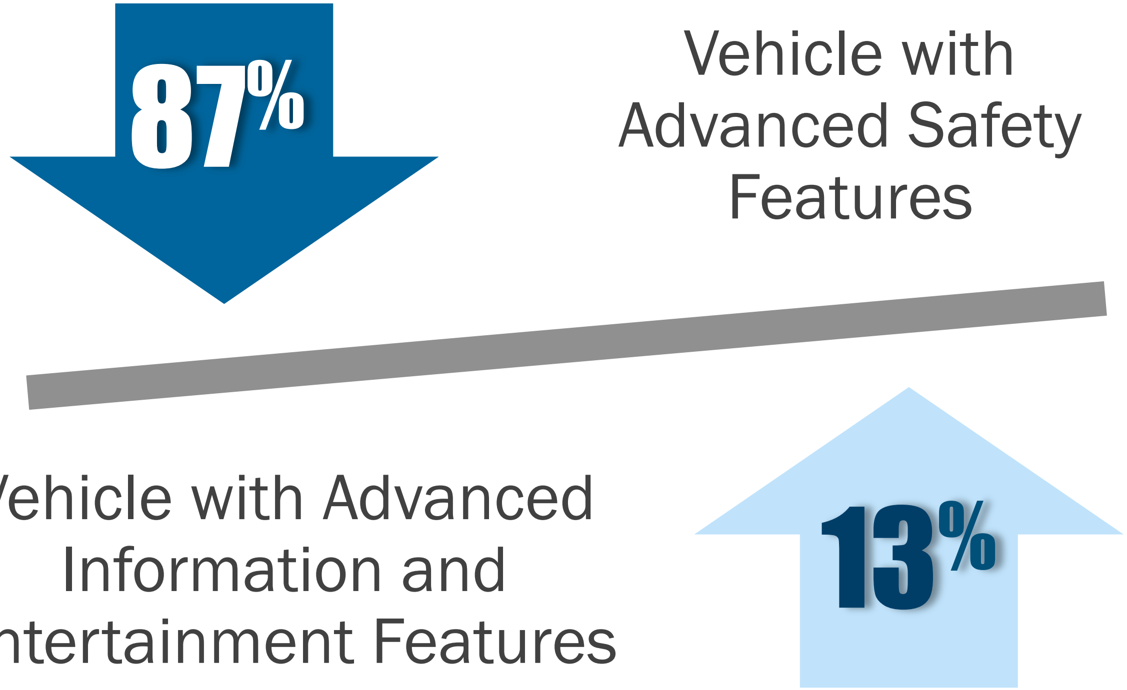
Those who want manufacturers to better integrate smartphones into a generic system are more likely Millennials, early tech adopters, own an iPhone and think their car should sync with other technology.

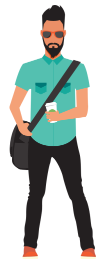
Better integrate smartphones into generic system:	Make their own system better:
❑ 31% are Millennials	❑ 47% are Baby Boomer +
❑ 48% are iPhone owners	❑ 24% own a phone that is not a smartphone
❑ More likely mainstream / early tech adopters	❑ More likely laggard / late tech adopters
❑ 58% agree their car should sync with other technology	❑ 45% agree their car should sync with other technology
❑ 53% willing to wait 6 months or more for all "must haves"	❑ 52% willing to wait less than 6 months for all must haves

Safety vs. Infotainment

What is more important?

When asked which is <u>MORE IMPORTANT</u>, consumers chose a vehicle with advanced safety features over a vehicle with advanced information and entertainment features nearly 7 to 1.



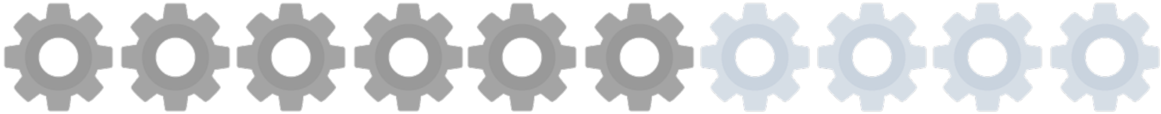


Over 1/3 of Millennials would pick a vehicle with info and entertainment features over safety

When it comes to INTEREST in features in their next car, 6 out of 10 consumers have at least 1 'Must Have' feature they are willing to wait for.

More safety & comfort/convenience features than infotainment features are selected as 'must haves' among this group, and they are more willing to pay for safety features.

INTEREST IN FEATURES FOR NEXT VEHICLE:
How Many Have At Least 1 MUST HAVE Feature They Would Wait For?



	Infotainment Features	Safety Features	Comfort/Convenience Features
❖ Proportion of Features Tested That Are Must Haves	40%	48%	47%
Willingness to Pay For Must Haves:			
I would NOT pay extra	43%	38%	49%
Less than $500	26%	29%	26%
$500 or More	31%	33%	25%

❖ *8 Infotainment Features Tested; 13 Safety Features Tested; 10 Safety Features Tested*

Consumers looking to buy a car in the next 12 months are more willing to wait for a vehicle with all of their must haves than any one particular feature.

51% Willing to wait 6 months or more if it meant they could get all the **“must haves”**

- 33% willing to wait more than 1 year
- 18% would never wait

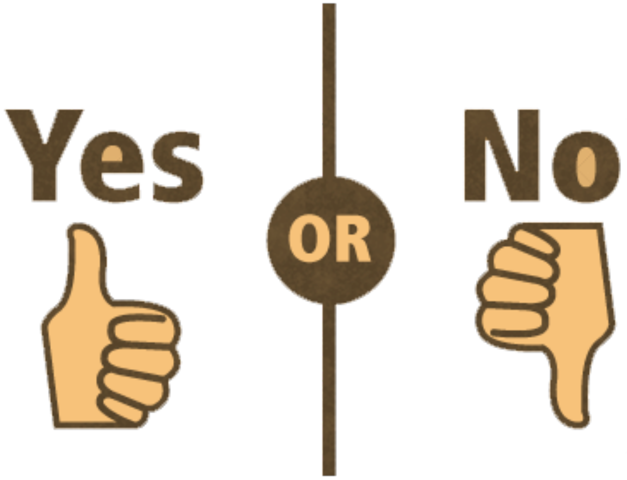
41% Willing to wait 6 months or more if it meant they could get **one particular feature**

- 28% willing to wait more than 1 year
- 23% would never wait

Vehicle Technology Impacts on the Purchase Process

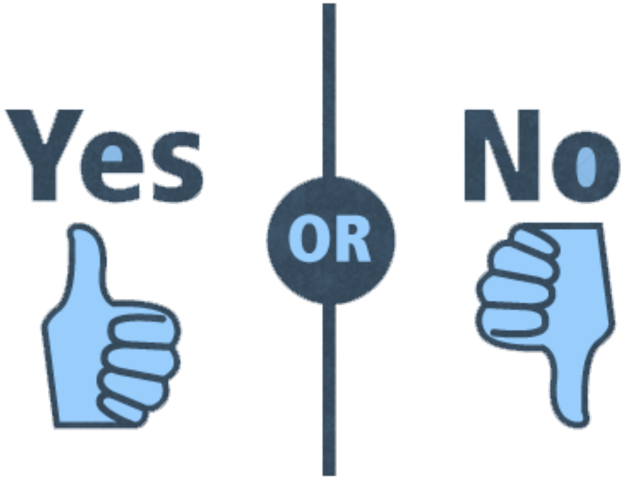
Usability of vehicle features is not as important as their availability.

If the brand of vehicle you were considering does not offer the technology features you want, but another brand did, would you switch to that other brand?



65% 35%

If you were interested in a vehicle and it included technology features that were difficult to figure out, would you still look for a different vehicle?



30% 70%

Autotrader 2016 Car Tech Impact Study

Consumers need time to test out the features of a vehicle. Enhancing the test driving process to provide more opportunity to learn features could lead to higher usage.

55%

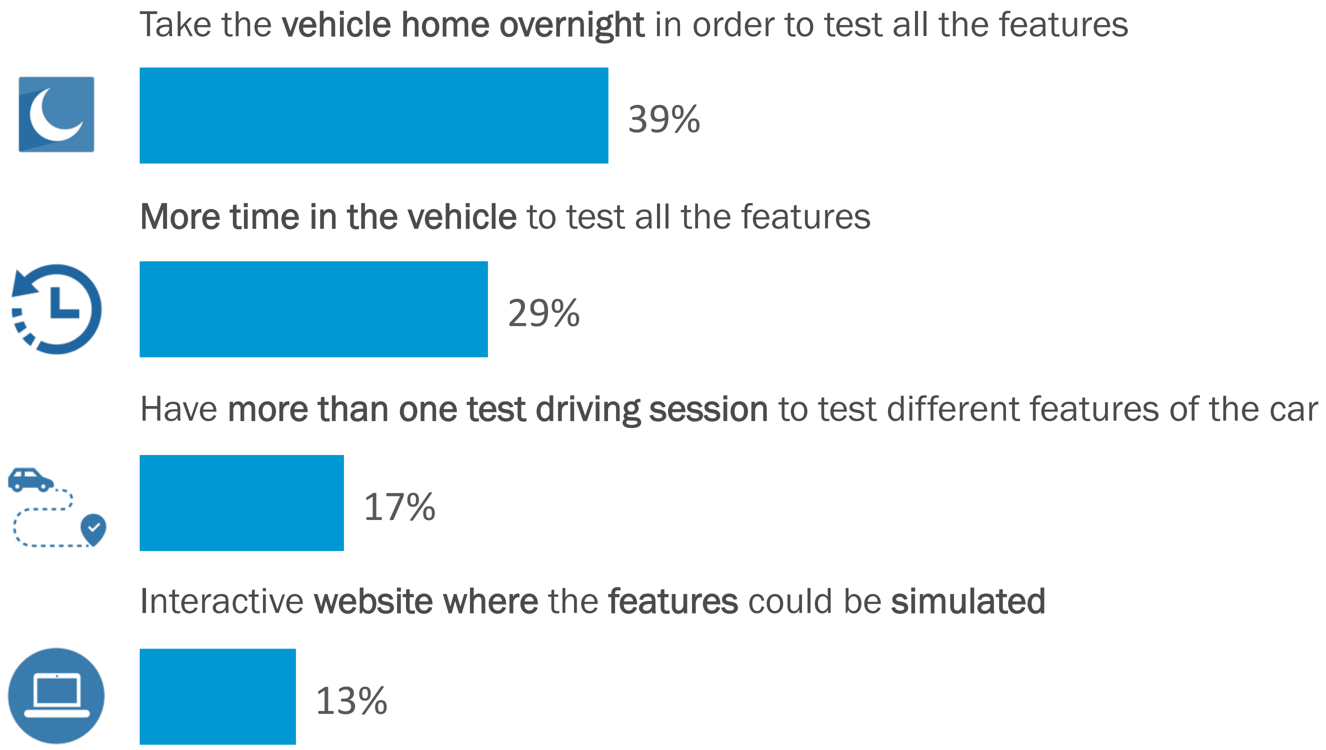
Don’t think there’s enough time to test new vehicle technology and safety during a test drive

57%

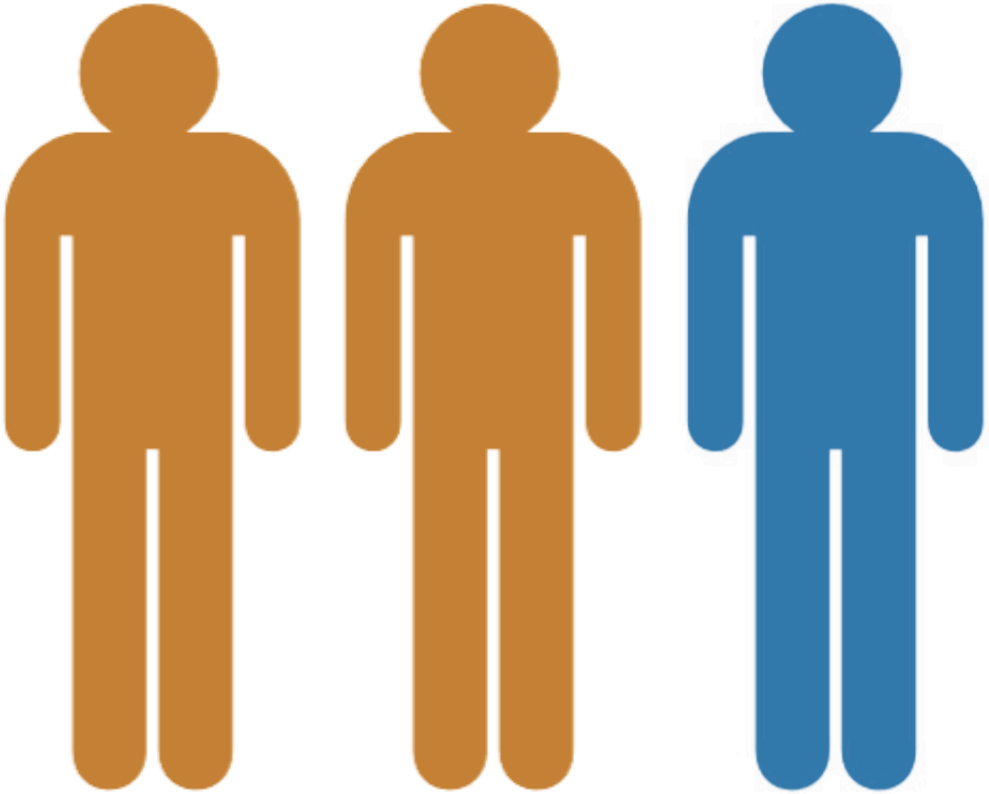
Think it should take 30 mins or more to learn all of the new features in their next vehicle

Preferred Way To Test Drive Features

(ALL OWNERS)



Consumers are Not Ready to Go Fully Autonomous



2 out of 3 have heard of Autonomous or Self-Driving vehicles prior to the survey

(q975) Had you ever heard of completely autonomous or self-driving vehicles before participating in this survey?
Base: Overall (n=1012)

70%

Likely to consider a vehicle with autonomous features during next purchase

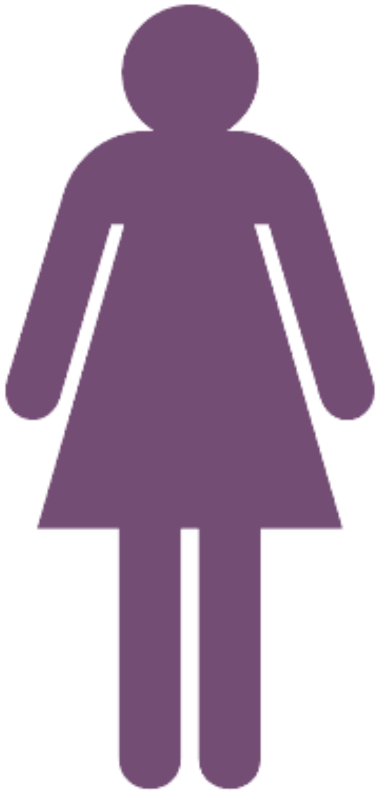
- **Higher income HH's** more likely to consider
  (75% *$75k+* VS. 66% *<$75k*)
- Those in **Urban areas** were more often **very likely** to consider
  (23% *Urban*, 17% *Suburban*, 12% *Rural*)
- **More likely to consider** autonomous features **if average daily commute** is **more than 30 mins**

Base: Overall (n=1012)
(q960) When buying your next vehicle, how likely are you to consider a model that offers autonomous features, such as parking assist, collision avoidance with automatic braking, etc.?

Males more likely to have positive opinion of autonomous vehicles

38%

positive



24%

positive

Millennials more likely to be positive than other generations

Base: Overall (n=1012)
(q980) What is your overall opinion about autonomous and self-driving vehicles?, (q985) How comfortable would you be about driving or riding in a vehicle with self-driving technology?

Consumers are split on the impact of autonomous features.

41%

Make people
better drivers

Millennials more likely to say this than Boomers+

35%

Make people
worse drivers

Base: Overall (n=1012)
(q970) How do you think vehicles with autonomous features will impact how people drive?

Consumers are uncomfortable with self-driving vehicles.

47%

While I'm driving/ riding in one, I'd feel uncomfortable.

Millennials more comfortable than other generations

Base: Overall (n=1012)
(q980) What is your overall opinion about autonomous and self-driving vehicles?

Consumers need more time to warm up to the idea of self-driving vehicles.

Agree

60%

*"Self-driving vehicles are a **dangerous idea**"*

Disagree

66%

*"I would **trust** a self-driving vehicle"*

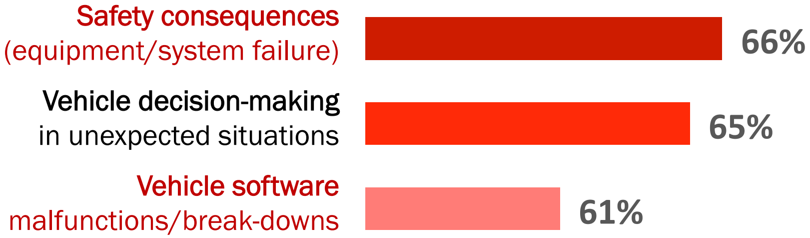
Boomers+ are the most likely to disagree

Base: Overall (n=1012)
(q845) How much do you agree or disagree with each of the following statements?

Consumers would still want to watch the road in self-driving vehicles.

Would still watch the road
even though they would not be driving

Top Concerns



Base: Overall (n=1012)
(q990) Which, if any, of the following are you concerned about related to completely autonomous or self-driving vehicles?, (q995) If you were to ride in a completely autonomous or self-driving vehicle, how would you use the extra time instead of driving?

Generational Preferences

Millennials

A vehicle is generally their most expensive purchase so far. They are much more attached and view it as a status symbol.

- *My vehicle is a way I show what I've accomplished in my life* (60% 18-24, 55% 25-34)
- *I've named my vehicle* (45% 18-24, 46% 25-34)
- *People would say I have a love affair with my vehicle* (34% 18-24, 40% 25-34)

2 in 5 spend more than 60 minutes in their car each day

Vehicle technology should integrate with and enhance their smartphone experience

- *Being able to use streaming music services (like Pandora, Spotify and others) in my vehicle makes driving more enjoyable.* (94% 18-24, 84% 25-34)
- *I wish my vehicle had WiFi (72% 18-24, 61% 25-34)*
- *I expect my vehicle's technology to be able to do all the things that a smartphone can do* (64% 18-24, 54% 25-34)
- *I would prefer to use the navigation system on a smartphone rather than the one built into my vehicle (56% 18-24, 53% 25-34)*

Data shown are % 'Agree (Net)'

Generation X

Vehicles are less personal, more functional. Many use time in their vehicle to think

- ❑ *I do some of my best thinking when I'm driving (76% 35-50)*

2 in 5 spend more than 60 minutes in their car each day

Gen X preferences for Vehicle technology similar to older Millennials, it should integrate with and enhance their smartphone experience

- ❑ *It's important that my car syncs with all other technology in my life (57% 35-50)*
- ❑ *Being able to use streaming music services (like Pandora, Spotify and others) in my vehicle makes driving more enjoyable.* (72% 35-50)
- ❑ *I wish my vehicle had WiFi (70% 35-50)*
- ❑ *I expect my vehicle's technology to be able to do all the things that a smartphone can do* (56% 35-50)

Data shown are % 'Agree (Net)'

Boomers+

Boomers have much more basic vehicle technology needs, greater focus on safety

- ❑ *A basic CD/AM/FM radio in my vehicle meets all of my entertainment needs (62% 51-65, 74% 65+)*
- ❑ *Having "A vehicle that has advanced safety features" nearly always more important than infotainment features (91% 51-65, 96% 65+)*

2 in 5 spend less than 30 minutes in their car each day

Vehicle technology has little recognized impact on their driving experience

- ❑ *The way I drive has changed because of new technology features (61% 51-65, 68% 65+)*
- ❑ *Greater interest in some safety features (Forward Collision Avoidance/Warning, Lane Departure Warning) but not enough to wait for these features*

There's a lack of trust with emerging safety features

- ❑ *Disagree that "I would trust a self-driving vehicle" (74% 51-65, 71% 65+)*

Use of smartphones lower than others, so less interest in integration

- ❑ *It's important that my car syncs with all other technology in my life (39% 51-65, 37% 65+)*

Data shown are % 'Agree (Net)'

Questions?

Contact
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Appendix

92%

Have Tech Features

Many of the future 'must have' TECH features are current or anticipated table stakes

	Must Have Features in Next New Car (THOSE PLANNING TO BUY NEW)		Current Features		
	Must Have (Net)	*Must Have, & Would Wait*	*Current Feature (2010+ Models)*	*Current Feature (All Owners)*	*Used In a Typical Day*
Standard cruise control	64%	33%	74%	71%	45%
Diagnostics alerts	56%	29%	52%	41%	39%
USB charging port	55%	28%	68%	44%	55%
Bluetooth	54%	29%	70%	40%	74%
Steering wheel controls	53%	27%	68%	51%	64%
Keyless entry	52%	29%	58%	45%	91%
Device integration via USB	42%	18%	39%	25%	42%
Mobile WIFI	37%	18%	12%	7%	48%
Adaptive cruise control	36%	15%	13%	8%	38%
Wireless device charging	35%	19%	18%	12%	44%
Remote vehicle access	35%	17%	16%	11%	54%
Push to start ignition	34%	17%	33%	18%	93%
Interactive dashboard	34%	16%	23%	13%	51%
Parking Spot Assistance	26%	12%	6%	4%	41%
Text-to-speech reading technology	25%	12%	16%	9%	37%
Heads-up display	23%	11%	6%	4%	71%
Hands-free driving	21%	10%	9%	6%	58%
In-Vehicle Concierge	20%	9%	9%	6%	53%
Perfume atomizer	13%	5%	1%	1%	61%

Base: Planning New (n=521), 2010+ Models (n=421), All Owners (n=912)
(q825a) Which of the following features does your primary vehicle have?
(q910) When buying your next vehicle, using the scale below, how interested would you be in each of the following features?

Letters indicate significant differences between groups at the 95% confidence interval

39%

Have Safety Features

Backup cameras moving to a mandatory SAFETY feature

	Must Have Features in Next New Car (THOSE PLANNING TO BUY NEW)		Current Features		
	Must Have (Net)	*Must Have, & Would Wait*	*Current Feature (2010+ Models)*	*Current Feature (All Owners)*	*Used In a Typical Day*
Backup camera	56%	29%	49%	27%	90%
Backup sensors	53%	27%	28%	17%	69%
Blind spot detection	48%	22%	17%	9%	57%
Forward collision avoidance	38%	18%	6%	4%	32%
Lane change assist	37%	17%	9%	6%	55%
Forward collision warning	37%	18%	9%	6%	32%
Automatic crash notification	37%	17%	6%	4%	34%
Lane departure warning	34%	15%	9%	5%	58%
Adaptive laser headlights	31%	13%	11%	7%	48%
Lane keeping support	30%	14%	4%	3%	44%
Automatic parking	24%	13%	5%	3%	30%
Texting disablement	19%	8%	4%	3%	32%

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