

Future Attribute Demand Study (FADS)

More than ever before, vehicles are defined by the features and technologies that they offer. The Future Attribute Demand Study (FADS) provides a clear picture of the hottest features, who wants them, and which vehicles should have them. Since 1994, AutoPacific has been helping vehicle manufacturers and suppliers fully understand consumer demand for future vehicles features and technologies, including powertrain and vehicle type through FADS. With **138 features** ranging from autonomous driving technologies to seating features, FADS is the perfect go-to source during vehicle planning and development.



Methodology

- Internet survey of licensed drivers in the United States intending to purchase a new vehicle within the next 3 years
- Includes next vehicle type and powertrain intention, as well as future brand consideration, to enable in-depth analysis of future feature demand for specific vehicles (i.e., ICE mid-size sedan vs EV mid-size sedan)
- Respondents are asked to identify their desired vehicle characteristics and features for their next intended vehicle

138 features and attributes surveyed

- Respondents are provided with a feature price for reference
- Respondents are provided with a feature glossary and descriptive image

Sample Size

- 11,776 new car and light truck intenders

Study & Database Contents

- Overall feature demand ranking
- Overall feature demand by category (safety, seating, infotainment, etc.)
- Feature/characteristic demand by next vehicle segment intention
- "AutoPacific's Take" analyst commentary on each feature

- Individual feature/characteristic demand analysis

- Demand by
 - age
 - price planning to pay
 - demographic
 - future brand consideration
 - engine intention

Investment

- Contact us for pricing information and options: deborah.grieb@autopacific.com

Deliverables

- Electronic report in PDF format
- FADS data in mTab database (additional mTab charges may apply if not already an mTab license holder)
 - Demographics
 - Future segment intention
 - Next vehicle price, timing, features, and characteristics

Future Attribute Demand Study (FADS): 2023 List of Features

Autonomous Driving

1. Hands-off, fully-autonomous driving for all speeds to a pre-specified destination with no steering wheel and NO option to manually drive the vehicle, driver attention NOT required (+\$15,000 + \$15/month)
2. Hands-off, fully-autonomous driving for all speeds to a pre-specified destination with option to still drive the vehicle when desired, driver attention NOT required (+\$12,500 + \$15/month)
3. Hands-off, semi-autonomous all-speed driving to a pre-specified destination, driver attention required (e.g. Tesla Full Self Driving, +\$10,000 + \$15/month)
4. Hands-off, semi-autonomous driving for highway use only (e.g. GM Super Cruise, Ford BlueCruise) (+\$2,000 + \$15/month)
5. Hands-off, semi-autonomous driving while towing for highway use only (e.g. GM Super Cruise, Ford BlueCruise) (+\$2,500 + \$15/month)
6. Remote Parking (+\$1,500)
7. Remote Summon (+\$1,500)
8. Unresponsive driver stop assist (+\$500)

Comfort & Personalization

1. Adaptive suspension (\$700)
2. Air suspension (+\$2,000)
3. Auto Dimming 2nd and/or 3rd Row Glass (\$1,000)
4. Backlit Interior Trim (+\$150)
5. Driver profile settings (+\$50)
6. Eco-friendly interiors (+\$800)
7. Electronic noise cancellation system (+\$100)
8. Electronically enhanced interior engine/motor sound (+\$100)
9. Fold-out mobile office work surface (+\$50)
10. Heated front seatbelts (+\$250)
11. Heated steering wheel (+\$75)
12. Interior ambient lighting with selectable colors (+\$100)
13. Interior/exterior welcome lighting (+\$100)
14. Panorama sunroof/all glass (+\$1,250)
15. Reconfigurable digital gauge cluster (+\$500)
16. Refrigerated Center Console (\$100)
17. Remote-controlled selectable exterior 360-degree zone lighting (\$200)
18. Selectable vehicle drive settings (e.g., sport, eco-modes) (+\$100)
19. Sun-shades for rear passengers (+\$100)
20. Sunroof/moonroof (+\$800)
21. Special exterior paint colors (+\$500)

Convenience Features

1. Automatic power folding outside mirrors (+\$75)
2. Upgraded high-voltage power outlet to enable use of power tools, heaters and other accessories that require more power (\$995)
3. Household 110v outlet (+\$100)
4. Load leveling rear suspension (+\$200)
5. Power opening and closing doors (+\$500)
6. Power sliding front center console (+\$500)
7. Self-cleaning exterior view cameras / safety sensors (+\$100)
8. Trailer camera (+\$350)
9. Trailer light check (+\$25)
10. Wireless charging pad for portable electronic devices for front passengers (+\$50)
11. Wireless charging pad for portable electronic devices for rear passengers (+\$50)

Driver Assistance Features

1. Adaptive cruise control with stop and go AND active lane centering (e.g. Nissan PROPIlot Assist, Hyundai Highway Drive Assist) (+\$500)
2. Adaptive cruise control with stop and go (+\$300)
3. Automatic parking system (+\$300)
4. Built-in trailer brake controller (+\$150)
5. Distracted or drowsy driver monitoring system (+\$50)
6. Dynamic trailer backup assist (+\$500)
7. Emergency evasive steering assist (+\$90)
8. Four-wheel steering (+\$1,200)
9. Green light traffic alert (+\$25)
10. Lane change assist (+\$250)
11. Rear cross traffic alert with rearward automatic emergency braking (+\$150)
12. Rearward automatic emergency braking (+\$50)
13. Smart hitch assist (\$250)
14. Steer-by-wire (+\$1,000)

Exterior Features

1. Illuminated brand logo (+\$100)
2. LED accent lighting with welcome and goodbye animation
3. LED fog lights (\$200)
4. Off-road high performance package (+\$4,000)
5. On-road high performance package (+\$4,000)
6. Rugged/off-road appearance package (+\$1,000)
7. Sport appearance package (\$1,000)

Infotainment Technology

1. The ability to securely purchase products, technologies, and vehicle upgrades directly from your vehicle's center infotainment screen, as well as receive notifications, if desired (\$15 monthly in-vehicle data connection required)
 1. Securely purchasing non-automotive goods and services from outside sellers, such as gasoline, parking spots or food.
 2. Securely purchasing new or upgraded technology or convenience features for my vehicle from an online "store," such as autonomous drive functions, heated seats, or upgraded audio. The feature is instantly activated or unlocked once purchased.
 3. Receiving pop-up recommendations for trial subscriptions for downloadable/unlockable technology or convenience features for your vehicle, such as autonomous drive features, heated seats, or upgraded audio, that can be tried out for free for a set period of time, after which it can be kept for a price or subscription fee, or canceled.
2. Browsing the internet from the center infotainment screen while the vehicle is in park, as you would on your home computer's or tablet's internet browser.
3. Partaking in video conferencing using the center infotainment screen while the vehicle is in park.
4. Playing video games directly on the center infotainment screen while the vehicle is in park.
5. Streaming video content directly onto the center infotainment screen (e.g. YouTube, Netflix, Hulu) while the vehicle is in park.
6. Branded (Brand name) premium audio (+\$750)
7. Hazard Notification with Re-Routing (\$100 +\$15 monthly in-vehicle data connection required for all online services)
8. Internet connection enables connected features and includes Wi-Fi hotspot (\$15 monthly in-vehicle data connection for all online services required)
9. Navigation system with over the air map updates (factory installed, annual subscription) (+\$400 + \$100 subscription per year)
10. Passenger side infotainment screen (+\$1,000)
11. Phone/smartwatch as the vehicle key / Digital key (\$100)
12. Rear seat infotainment screen (+\$800)
13. Remotely control some vehicle functions via smartphone or other similar devices (+\$10 per month)
14. Remotely control your home (use a voice assistant such as Amazon Alexa to remotely control [unlock/lock doors, turn on/off lights, etc.] from your vehicle (\$40 +\$15 monthly in-vehicle data connection required for all online services)
15. Remote Notification and Livestreaming of Vehicle Events (\$400 +\$15 monthly in-vehicle data connection required for all online services)
16. Sharing of Driving Behavior Data with Insurance Company to Lower Premiums (\$100 +\$15 monthly in-vehicle data connection required for all online services)
17. Wireless Apple CarPlay / Android Auto (+\$100)

Safety & Security Features

1. Adaptive smart headlights (+\$600)
2. All wheel drive (AWD) / 4x4 (+\$1,750)
3. Augmented reality head-up display (+\$1,000)
4. Biometric vehicle operation (+\$250)
5. Dash camera (+\$250)
6. Head-up display (+\$500)
7. Headlights that turn with front wheels (+\$300)
8. Night vision system (+\$1,000)
9. Parking sensors, front and rear (+\$400)
10. Pedestrian messaging display (+\$500)
11. Rear occupant (child/pet) video monitor (+\$175)
12. Safe vehicle exit alert (+\$50)
13. Smart rear view "mirror" screen for backup camera (+\$500)
14. Surround (360°) view monitor/camera (+\$350)
15. Traffic sign recognition (+\$50)

Seating

1. Adjustable/extendable thigh support (+\$100)
2. Auto seat adjustment (+\$450)
3. Built-in child booster seats (+\$150)
4. Driver's power-operated "lounger" seat (+\$600)
5. Heated and ventilated/cooled front seats (+\$550)
6. Heated and ventilated/cooled rear seats (+\$550)
7. Heated rear seats (+\$150)
8. High quality leather (upgraded genuine leather) seats (+\$2,000)
9. Leather (genuine leather) seats (+\$1,000)
10. Leatherette (leather alternative) seats (+\$300)
11. Massaging front seats (+\$1,000)
12. Memory driver's seat position (+\$100)
13. Memory front passenger's seat position (+\$100)
14. Power front passenger seat (+\$300)
15. Power fully adjustable 2nd row seats (+\$600)
16. Power lumbar driver's seat adjustment (+\$100)
17. Release handles in cargo area to fold down rear seats (+\$75)
18. Second row power leg rests (+\$500)
19. Sustainable leatherette (leather alternative) seats (+\$600)

SPECIALITY FEATURES

EV Intenders Only

1. DC Ultra Fast Charging (+\$600)
2. Full-length pass-thru for hauling long cargo items (+\$500)
3. Extended range battery pack (+\$7,500)
4. Hands-free open/close front trunk ("frunk") (+\$100)
5. Cooled front trunk ("frunk") (+\$100)
6. Unlock more power for better acceleration (+\$2,000, or \$600 annually or \$100 monthly, +\$15 monthly in-vehicle data connected for all online services required)
7. Included Level 1 charging cord (+\$75)

EV/PHEV Intenders Only

1. Bi-directional charging (\$250)
2. Real-time public charging infrastructure updates (+\$15 monthly in-vehicle data collection for all online services required)
3. Wireless electric vehicle charging (+\$2000)

Pickup Intenders Only

1. Built-in payload scale (+\$650)
2. Deployable pickup tailgate step (+\$250)
3. In-bed lockable waterproof storage compartment (+\$500)
4. Integrated, sealed and lockable exterior storage accessed from the side of the truck (+\$1,000)
5. Lockable tonneau cover (factory-installed) (+\$1,200)
6. Multi-function tailgate (+\$500)
7. Pickup bed extender (+\$350)
8. Pickup bed LED lighting (+\$100)
9. Pickup bed tie down rail system (+\$150)
10. Pickup power tailgate (+\$250)
11. Pickup rear lockable under seat storage (+\$200)
12. Third row jump seats (+\$1,000)

SUV/Crossover/Minivan Intenders Only

1. 2nd row captain's chairs (\$300)
2. Hands-free power-sliding side doors (+\$1,000)
3. Power fold flat 3rd row seat (+\$350)
4. Power liftgate with hands-free open/close (+\$500)
5. Roof rack cross bars (+\$300)
6. Sliding cargo deck (\$300)
7. Swiveling second row captain's chairs (+\$500)

Pickup/SUV/Crossover/Minivan Intenders Only

1. Power retractable side steps (+\$500)
2. Sliding rear seats (+\$1,000)

WIRELESS APPLE CARPLAY / ANDROID AUTO (+\$100)



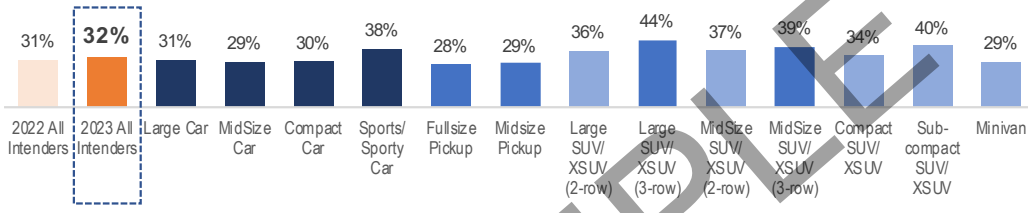
ABOUT THE FEATURE

SURVEY DEFINITION: Smartphone apps and functions (such as audio content, messaging, and directions) are displayed and operated on the vehicle's center screen without needing to connect a physical cable between the vehicle and the smartphone.

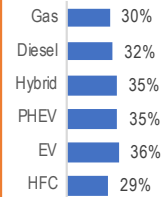
AUTOPACIFIC'S TAKE: With wired Apple CarPlay/Android Auto becoming increasingly common on vehicles, consumers also are more ready to cut the cord and go wireless for this infotainment must-have. 32% of all new vehicle intenders want wireless Apple CarPlay/Android Auto, with strong demand across most segments and powertrains. Intenders of sports/sporty car and pretty much every SUV/XSUV segment want this feature the most as do most age groups, though demand begins to taper beyond age 60. AutoPacific recommends combining wireless Apple CarPlay/Android Auto with wireless charging pad for portable electronic devices for front passengers for seamless operation and convenience.

Rank: 22 (2023)
Rank: 31 (2022)
 out of 107 ranked features

Overall Intender Demand and Demand by Next Segment Intended



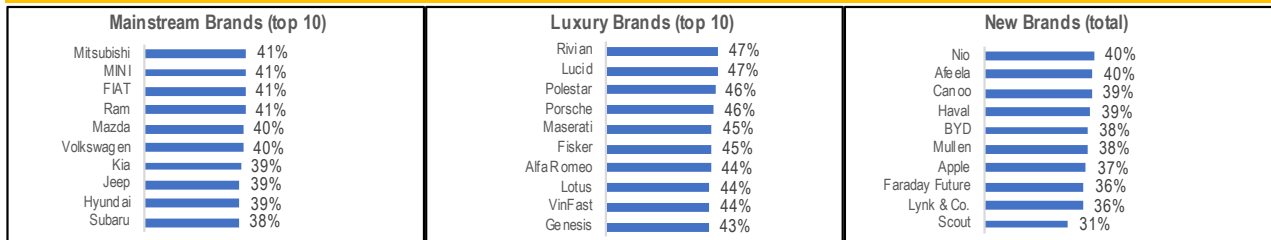
% Demand by Powertrain Intended



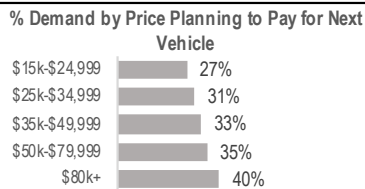
What Other Features Are They More Likely to Want? (top 10 compared to total intenders)

Feature	Total Intender Demand	Demand from Subject Feature Intenders	%pt diff
In-Bed Lockable Waterproof Storage Compartment (\$500)	33%	52%	19%
Lockable tonneau cover (factory-installed) (+\$1,200)	36%	55%	19%
Pickup rear lockable under seat storage (+\$200)	32%	50%	18%
Heated and ventilated/cooled front seats (+\$550)	38%	56%	18%
Multi-function tailgate (\$500)	30%	48%	18%
Wireless charging pad for portable electronic devices for front passengers (+\$50)	48%	65%	17%
Memory driver's seat position (+\$100)	29%	46%	17%
Parking sensors, front and rear (+\$400)	34%	51%	17%
Power front passenger seat (+\$300)	31%	48%	17%
Phone/smartwatch as the vehicle key / Digital key (\$100)	29%	46%	17%

Which Brand Considerers are Most Likely to Want the Feature? % of Brand Considerers Who Want Feature



Which Vehicle Price Ranges are Most Ideal for Feature Implementation?



Demographics

% of respondents in each demographic category who want the subject feature

