



AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



INFOTAINMENT SYSTEM* DEMAND RATING

Very High Demand



The Chrysler 300C's Uconnect® infotainment system generated very high demand. The vehicle's accurate and quickly-processed voice commands are overshadowed by a poorly organized touch-screen menu and highly demanding navigation and text messaging functions.

ABOUT THE STUDY

Researchers evaluated 30 new 2017 vehicles' infotainment systems* to measure overall demand** placed on a driver when using voice command, touch screen and other interactive technologies to make a call, send a text message, tune the radio or program navigation, all while driving down the road.

WEAKNESSES

- Sending a text message via voice takes drivers on average 43 seconds* to complete and imposed high cognitive (mental) and visual (eyes-off-road) demand.
- Looking up turn-by-turn directions via voice is overly time-consuming.
- The touch screen does not restrict access to any calling and dialing functionality while the vehicle is in motion.



2017 CHRYSLER 300C

Standard and Optional Features in the 2017 Chrysler 300

	Limited	300S	300S Alloy	300C	300C Platinum
○ Optional					
● Standard					
Android Auto	●	●	●	●	●
Apple CarPlay	●	●	●	●	●
Mobile App Support	●	●	●	●	●
Text Messaging	●	●	●	●	●
Navigation	○	○	○	●	●
Touch Screen	●	●	●	●	●
Gesture Control					
Heads-Up Display					
Voice Commands	●	●	●	●	●
Console Control					

STRENGTHS

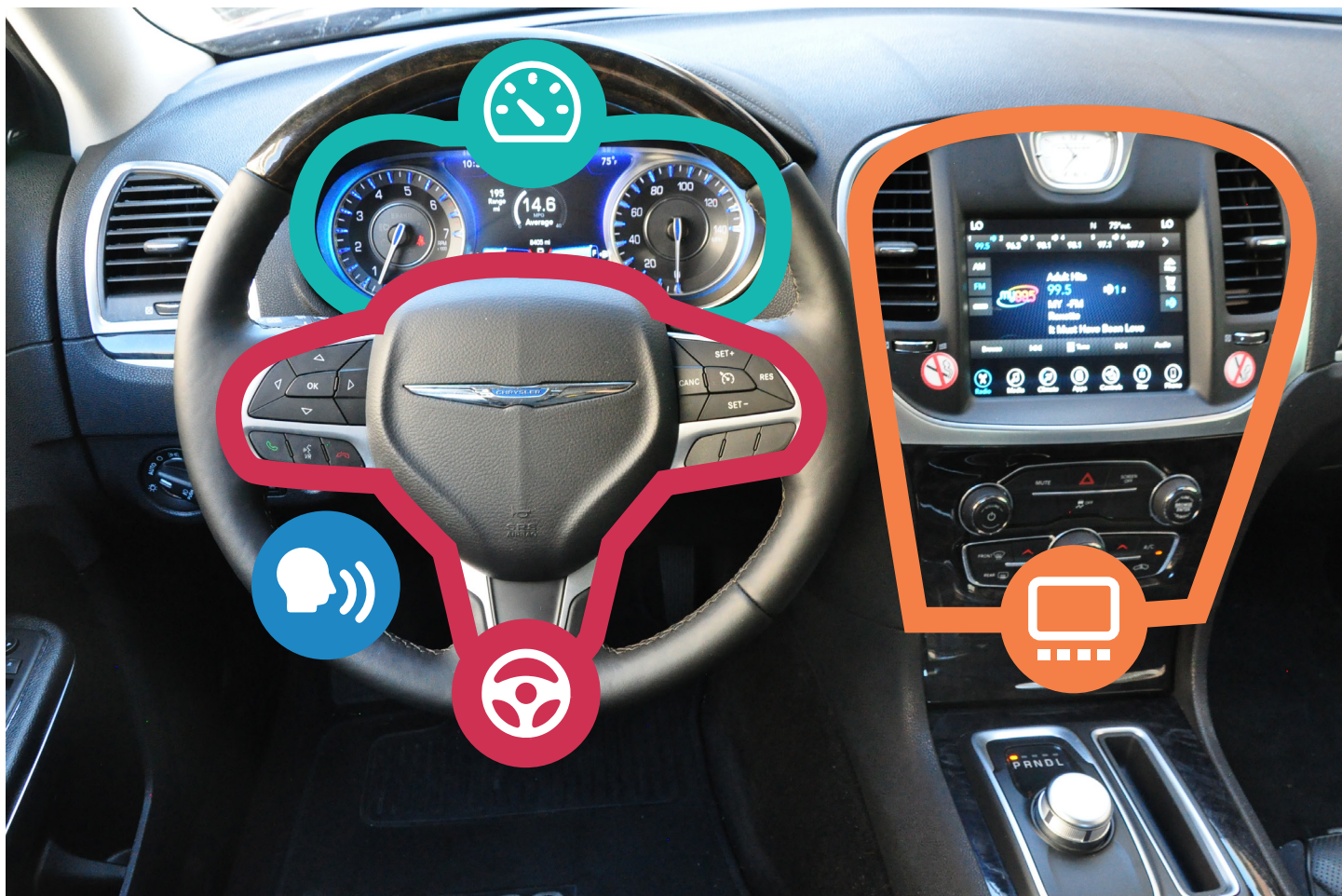
- The voice system can accept a range of intuitive commands.
- When the vehicle is in motion, the touch screen restricts drivers from viewing incoming messages and sending new messages.

* Infotainment System: Vehicle system that combines entertainment and information content

**Overall demand measured: visual (eyes-off road), cognitive (mental), and time-on-task

♦ Compared to a recommended maximum of 24 seconds

VEHICLE OVERVIEW: CONTROLS AND DISPLAYS



VOICE COMMANDS



STEERING WHEEL COMMANDS



INSTRUMENT CLUSTER



CENTER STACK

INFOTAINMENT SYSTEM

The Uconnect® In-Vehicle Infotainment System offers the following features:

CALLING AND DIALING



The Chrysler 300C's Uconnect® infotainment system allows drivers to make phone calls with a paired phone. Pairing a phone is a simple process drivers can complete using the touch screen when the vehicle is stopped. Once paired, the system allows drivers to dial numbers and call contacts stored on the phone via voice commands or the center stack, with some limited functionality also available via steering wheel buttons. The touch screen does not restrict access to any calling and dialing functionality while the vehicle is in motion.

Voice commands for accessing calling and dialing functions imposed a moderate demand, according to the on-road study. While tasks were kept short, due to intuitive commands and the accurate and quick processing of the system, drivers did experience high cognitive (mental) demand when using voice commands.

Drivers using the touch screen to access phone functions were met with high demand. Tasks took 20 seconds♦ on average, but were coupled with high cognitive (mental) demand and very high visual (eyes- off-road) demand. Researchers^ found the display visually cluttered.

Overall, the Chrysler 300's calling and dialing system generated high demand.

TEXT MESSAGING



The infotainment system supports text messaging via voice and the center stack touch screen when a phone is paired. When the vehicle is in motion, the touch screen restricts drivers from viewing incoming messages and sending new ones, only allowing them to listen to a selected message. Voice commands can be used to send one of 18 predefined messages, which the system reads aloud one at a time. This can be cumbersome and too verbose for drivers to listen to and process while driving.

Voice commands to use text messaging functions place very high demand on drivers. Sending a text message, a multi-step process, took drivers an average of 43 seconds♦ and imposed high cognitive (mental) and visual (eyes-off-road) demand. Upon activating the text messaging process, the voice system requires multiple user commands.

Drivers using the touch screen to access text message functions were met with moderate demand. Task times were short, as drivers were only able to listen to messages stored in the phone's inbox. However, drivers still experienced high levels of cognitive (mental) and very high visual (eyes-off-road) demand, possibly due to the densely-packed graphics of the inbox sub-menu.

The Chrysler 300C's text messaging system via the touch screen locks out most functionality while driving, lessening some demand. However, the process of sending a message via voice is highly time-consuming and text messaging overall produced high demand on drivers.

♦ Compared to a recommended maximum of 24 seconds

^ Researchers with expertise about how humans interact with technology evaluated the usability of the infotainment system in stationary vehicles.

AUDIO ENTERTAINMENT



The audio entertainment system includes: AM, FM and XM radio; Bluetooth; USB; Apple CarPlay and Android Auto audio support. Drivers can access all audio sources via voice and the touch screen, with some limited functionality also available via steering wheel buttons. Functions are not locked out while driving.

Drivers using voice commands to access audio entertainment were met with overall moderate demand. While tasks were relatively quick, due to the accurate and quick processing of the intuitive commands available, drivers in the on-road study experienced high visual (eyes-off-road) and cognitive (mental) demand.

On-road data showed that using the touch screen to access audio entertainment functions placed moderate demand on drivers. Drivers were able to make selections quickly from the touch screen, but at the cost of very high visual (eyes-off-road) and high cognitive (mental) demand. The touch screen executed selections quickly, but some screens had an overabundance of text.

TURN-BY-TURN NAVIGATION SYSTEM



The turn-by-turn navigation system provides directions to a set destination via voice commands and the center stack touch screen. To set a destination, drivers can look up a point of interest choosing from a variety of categories.

Voice commands to access navigation functions were very highly demanding on drivers in our study. Task times were excessive, with multiple steps required to complete a selection. Drivers also experienced high levels of visual (eyes-off-road) and cognitive (mental) demand while accessing the navigation system. When making selections using voice commands, drivers must reference the touch screen display, which displays a high amount of information to read, including multiple selection categories. Moreover, the navigation system seems to process commands more slowly and with less accuracy compared with other functions on this vehicle.

Using the touch screen to access the navigation system imposed a very high demand overall. The touch screen had lengthy interaction times, with very high visual (eyes-off-road) demand and high cognitive (mental) demand required of drivers. Menu layout inconsistencies from screen to screen can be quite confusing. As an example, the “back” button is not consistently placed and is even unavailable on some screens.

The turn navigation system had an overall very high demand on drivers, regardless if it was accessed via voice commands or the touch screen. Researchers^{*} suggest the system’s navigation menu structure should be trimmed down and reorganized for a more user-friendly experience.

^{*} Researchers with expertise about how humans interact with technology evaluated the usability of the infotainment system in stationary vehicles.

VEHICLE CONTROLS AND DISPLAYS

INSTRUMENT CLUSTER



The Chrysler 300C's instrument cluster, located behind the steering wheel, features a 7-inch digital display that provides access to audio entertainment, vehicle messages and a variety of vehicle information. Drivers can customize the screen layout and access its controls via buttons on the steering wheel. Familiar analog gauges are situated on either side of the display.

STEERING WHEEL CONTROLS



The steering wheel contains 19 buttons, six of which are found on the back side of the steering wheel. These buttons give access to audio entertainment, phone functions, text messaging, cruise control, the cluster display and the voice command system.

CENTER STACK



The center stack comes equipped with an 8.4-inch full-color touch screen that houses menus for the Uconnect® infotainment system's core functions: calling, dialing, text messaging, audio entertainment and turn-by-turn navigation. The touch screen also includes climate controls and a variety of applications. Four buttons located below the touch screen provide additional access points to the infotainment system. Farther down the center stack, buttons and dials give access to climate settings.

VOICE COMMANDS



The 300C includes a voice command system that allows drivers to access phone functions, text messaging, audio entertainment, turn-by-turn navigation and some limited climate control. To activate the voice system, drivers can press the designated voice command button on the steering wheel. The system plays back a synthetic female voice.

VEHICLE SALES SUMMARY

The 2017 Chrysler 300 is the fourth best-selling vehicle in the large sedan segment (94th best-selling vehicle overall), with 53,241 units sold during 2016¹.

¹ Source: Automotive News at autonews.com; Wall Street Journal at wsj.com; Forbes at forbes.com; FleetCarma at fleetcarma.com – data updated to 6/25/2017.