



AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



2017 KIA SORENTO LX



INFOTAINMENT SYSTEM* DEMAND RATING

High Demand



The 2017 Kia Sorento LX's UVO infotainment system generated overall high demand on drivers in the study.

Standard and Optional Features in the 2017 Kia Sorento

○ Optional

● Standard

	L	LX	EX	SX V6	SXL V6
In-Vehicle Infotainment System (IVIS)					
Android Auto		○	●	●	●
Apple CarPlay		○	●	●	●
Mobile App Support		○	●	●	●
Text Messaging		○	●	●	●
Navigation				●	●
Touch Screen		●	●	●	●
Gesture Control					
Heads-Up Display					
Voice Commands		○	●	●	●
Console Control					

Additional trim levels are available.

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

- The small touch screen makes accurate selection of desired options difficult.
- Finding and selecting contacts using the center stack is time-consuming and mentally demanding.
- Dialing a phone number uses atypical commands and requires extra, long steps.
- The voice system requires system-specific commands in an unusual format to change audio, leading to very high cognitive (mental) demand.

STRENGTHS

- Drivers are able to quickly adjust audio entertainment using either voice commands or the center stack.

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

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

VEHICLE OVERVIEW: CONTROLS AND DISPLAYS



VOICE COMMANDS



STEERING WHEEL COMMANDS



INSTRUMENT CLUSTER



CENTER STACK

INFOTAINMENT SYSTEM

The UVO In-Vehicle Infotainment System offers the following features:

CALLING AND DIALING



Drivers can use Kia Sorento LX's UVO system to place calls to contacts and dial phone numbers using the center stack or voice commands. Incoming calls can be answered and ended using color-coded buttons on the steering wheel. In order to pair a phone, the vehicle must be stopped. However, no phone functions are locked out while driving once pairing is complete.

Overall, calling and dialing generated very high demand on drivers in the study.

In the on-road study, using the voice command system demonstrated very high levels of cognitive (mental) demand over 31 seconds* on average. While calling contacts is a straightforward process, dialing phone numbers involves multiple steps and verbose instructions.

Similar to the voice system, the center stack's phone functions require very high levels of cognitive (mental) and visual (eyes-off-road) demand for extended periods of time. Researchers^ observed that the small touch screen made calling contacts and dialing phone numbers not only challenging, but also highly visually demanding. Only three contacts are displayed in a small font, making scrolling a difficult process. Dialing phone numbers using the small dial pad is difficult to do without making errors. Evaluators suggest limiting access to the contacts list and dial pad while driving.

AUDIO ENTERTAINMENT



The Kia Sorento's audio entertainment system includes: AM, FM, and XM radio; CD player; Bluetooth; USB; and auxiliary jack audio input. Drivers can access audio using the center stack touch screen or physical buttons, as well as voice commands and steering wheel buttons.

Drivers were able to tune the radio and make audio selections with overall moderate demand. However, using either center stack or voice commands required very high levels of cognitive (mental) demand.

The simple touch screen menu structure facilitated interaction times, allowing drivers to change the audio quickly. The touch screen is uncluttered and responsive, but button sizes remain small and difficult to accurately press.

Commands accepted by the voice system are flexible and easy to guess, likely resulting in quick interaction times. However, should a driver make an error, the system does not explain the type of error committed or how to recover from it, creating a frustrating and confusing experience.

* 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.

VEHICLE CONTROLS AND DISPLAYS

VOICE COMMANDS



The voice command system is activated using the clearly labeled button on the steering wheel and plays back an automated female voice that speaks at a comfortable pace. Voice commands can be used to make phone calls and adjust audio. Command hints relevant to the current menu selection are displayed on the touch screen.

INSTRUMENT CLUSTER



The instrument cluster, located behind the steering wheel, comes equipped with a 3.5-inch LCD display in its center that shows vehicle performance and settings and audio information. Familiar gauges, such as the speedometer and tachometer, on either side of the screen, indicate vehicle status.

STEERING WHEEL CONTROLS



Four buttons and two switches on the right side of the steering wheel provide access to the instrument cluster and cruise control. Five buttons and two switches on the left side control audio entertainment, limited phone functions, and the voice command system. All buttons are easily reachable and are grouped according to function.

CENTER STACK



The center stack features a 4.3-inch touch-screen display from which drivers can access audio entertainment, phone functions and system settings. Infotainment menus are accessed using large buttons on either side of the screen instead of through a standard home screen.

VEHICLE SALES SUMMARY

In 2016, the Kia Sorento was the 44th best-selling vehicle in the United States, with 114,733 Sorentos sold¹.

¹ Source: <http://www.goodcarbadcar.net/2017/01/usa-2016-vehicle-sales-by-model-manufacturer-brand.html> – data updated to 1/06/2017.