



## AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



2017 HYUNDAI SANTA FE SPORT

Standard and Optional Features in the 2017 Hyundai Santa Fe

○ Optional

● Standard

|                    | Sport | Sport 2.0T | Sport 2.0T Ultimate |
|--------------------|-------|------------|---------------------|
| Android Auto       | ○     | ●          | ●                   |
| Apple CarPlay      | ○     | ●          | ●                   |
| Mobile App Support |       |            |                     |
| Text Messaging     |       |            |                     |
| Navigation         | ○     |            | ●                   |
| Touch Screen       | ●     | ●          | ●                   |
| Gesture Control    |       |            |                     |
| Heads-Up Display   |       |            |                     |
| Voice Commands     | ●     | ●          | ●                   |
| Console Control    |       |            |                     |

### STRENGTHS

- Accurate voice recognition system.
- Touch screen is quick and responsive.

### INFOTAINMENT SYSTEM\* DEMAND RATING

#### Moderate Demand



The Hyundai Santa Fe Sport's Blue Link® system placed overall moderate demand on drivers in the on-road study. The Hyundai Santa Fe had simple and quick interactions. A drawback noted was the relatively small size of the touch screen, which presented information in a neat, but cramped format.

### 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

- Small touch screen shows small amounts of information at once, making drivers scroll repeatedly to get to a desired screen.
- Dialing a number via voice requires an unusual two-step process that likely drove lengthier interaction times and high cognitive demand.

\* 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 Blue Link® Infotainment System offers the following features:

## CALLING AND DIALING



Drivers can pair a phone using the touch screen and access phone features using either voice commands or the touch screen while the vehicle is stopped. With a phone paired, the system lets drivers call contacts and dial numbers.

On-road data showed that drivers accessing calling and dialing through the touch screen were able to keep interactions short, but the screen's display created very high visual (eyes-off-road) demand. The touch screen was simple to interact with, but its small size made the phonebook menu text-dense.

Drivers took longer to place calls using voice commands than with touch-screen interactions during the on-road study. However, touch-screen interactions generated higher demand. Researchers<sup>^</sup> found that while the voice system processing is accurate and commands are simple, dialing a number requires a two-step process. The driver must first say "dial," wait for the system to load, and then iterate the number they wish to dial. This delay is likely what drove the lengthier interaction times and high cognitive (mental) demand.

The Hyundai Santa Fe's calling and dialing functionality demonstrated overall high demand while driving. The system could be improved with more streamlined dialing processes and a larger display.

## AUDIO ENTERTAINMENT



The Santa Fe Sport's audio entertainment system is fully accessible through voice commands and the touch screen, with some limited functionality through steering wheel buttons. The system offers AM and FM radio, Bluetooth and USB audio.

The touch screen generated overall moderate demand in the on-road study. Interaction times were short, but there was still high cognitive (mental) and very high visual (eyes-off-road) demand.

Drivers in the on-road study were able to use voice commands to quickly make audio selections but also experienced very high cognitive (mental) demand and high visual (eyes-off-road) demand. Researchers<sup>^</sup> found the audio-related voice commands to be simple and intuitive, but the only prompts displayed on the touch screen are phone-related.

Audio entertainment functions in the Hyundai Santa Fe can be accessed relatively quickly with an overall moderate demand. Drivers may benefit from a larger display.

<sup>^</sup> 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 instrument cluster, located behind the steering wheel, has a familiar set of gauges detailing vehicle status as well as a 3.5-inch LCD display that provides access to audio settings, vehicle settings and driving features.

### STEERING WHEEL CONTROLS



The steering wheel has 16 multi-use buttons that control the instrument cluster LCD display and the center stack touch screen. Buttons on the steering wheel control some audio entertainment, and drivers can access voice commands.

### CENTER STACK



The 5-inch touch screen within the center stack is the main display for the infotainment system. Drivers can access the core infotainment features, such as audio and phone, through the six buttons that surround the touch screen, rather than through a main menu. A single fan speed knob is located underneath the touch screen, surrounded by other climate control buttons used to adjust the temperature and fan direction.

### VOICE COMMANDS



Drivers can speak voice commands after pressing the designated voice command button or phone button on the steering wheel. Recommended phone commands are displayed on the touch screen. Voice commands can be used to control both phone and audio entertainment features.

## VEHICLE SALES SUMMARY

The 2017 Hyundai Santa Fe is the 34th best-selling vehicle in United States, with 131,257 vehicles sold in 2016<sup>1</sup>.

<sup>1</sup> Data are for the Santa Fe and Santa Fe Sport combined. Source: [goodcarbadcar.net](http://www.goodcarbadcar.net/2017/01/usa-2016-vehicle-sales-by-model-manufacturer-brand.html); <http://www.goodcarbadcar.net/2017/01/usa-2016-vehicle-sales-by-model-manufacturer-brand.html> – data updated to 01/06/2017