



AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



2018 LINCOLN NAVIGATOR SELECT L



Standard and Optional Features in the 2018 Lincoln Navigator

	Premiere	Select	Select L	Reserve	Reserve L	Black Label
Android Auto	●	●	●	●	●	●
Apple CarPlay	●	●	●	●	●	●
Mobile App Support						
Text Messaging	●	●	●	●	●	●
Navigation			○	○		
Touch Screen	●	●	●	●	●	●
Gesture Control						
Heads-Up Display		○	○	○	○	●
Voice Commands	●	●	●	●	●	●
Console Control						

STRENGTHS

- Changing the radio and to place phone calls using both voice commands and the touch screen required short interaction times.
- The voice command system utilizes intuitive and natural language.
- Menus are well labeled and feature familiar, easily recognizable icons.

INFOTAINMENT SYSTEM* DEMAND RATING

Moderate Demand



The 2018 Lincoln Navigator Select L SYNC 3 infotainment system* placed overall moderate demand** on drivers in the study. Use of the system generated high visual (eyes-off-road) demand. Short, simple commands and a easy to use touch screen design allowed for short interactions to change the radio, send text messages and place phone calls. However, navigation tasks required lengthier interactions.

ABOUT THE STUDY

Researchers evaluated 2017 & 2018 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.

WEAKNESSES

- Audio entertainment menus and features displayed on the touch screen are visually distracting.
- Higher overall demand was generated when interacting with 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 2018 Lincoln Navigator Select L SYNC 3 In-Vehicle Infotainment System offers the following features:

CALLING AND DIALING



While the Lincoln Navigator is in park, a phone can be paired with the touch screen via either the phone or settings menus. After a phone has been paired, drivers can utilize calling and dialing functions through the steering wheel, voice commands, and center stack's touch screen. The full contact list is blocked if the vehicle is traveling over 5mph.

Limited phone functions are accessible on the steering wheel via one left-right toggle button. Rocking the button to the right will access call history or answer an incoming call. Rocking the button to the left hangs up calls and will exit voice commands if activated.

Calling contacts and dialing numbers via the voice command system can be completed using general phrases (i.e., system accepts both "Dial John Doe" and "Call John Doe"). Using the voice commands to place calls generates high visual (eyes-off-road) and cognitive (mental) demand; however, these interactions can be completed relatively quickly. On average, drivers could place calls to contacts and dial numbers in 17 seconds*.

There are two ways for drivers to access a connected phone on the home menu. Both options open the phone menu, where drivers are presented with the following options: recent call list, contacts, connected device, do not disturb, phone keypad, text messages, and change device. While interactions were short, averaging 16 seconds*, this full array of features diverted driver's visual (eyes-off-road) and cognitive (mental) attention, generating high levels of demand.

TEXT MESSAGING



The system will read text messages aloud when accessed either from the center stack or via voice commands.

Text message functions via the touch screen are limited. While the vehicle is in motion, drivers are only able to listen to messages in the inbox and are unable to reply. Because of these built-in limitations, interactions are very short, averaging 12 seconds*. When viewing the inbox, a quick play feature is available that will read new unread messages without entering the thread. An alternate option that performs the same action is the "hear it" button that is displayed when a message thread is selected by the driver. High visual (eyes-off-road) and cognitive (mental) demand was generated while interacting with the touch screen to play message content aloud.

The most recent message in the inbox can be replied to via voice commands, using the 15 predefined replies provided. Voice command interactions placed drivers under high levels of visual (eyes-off-road) and cognitive (mental) demand for an average of 18 seconds*.

AUDIO ENTERTAINMENT



The steering wheel, touch screen and voice commands can all be used to interact with audio entertainment functions in the 2018 Lincoln Navigator. Drivers can play music from AM, FM and Sirius XM radio sources, and connect media devices via Bluetooth or two USB ports.

Buttons on the steering wheel allow drivers to quickly change songs and audio sources. Radio functionality is limited by only allowing the driver to cycle through FM/AM specific presets. If media device is connected, drivers have the option to access the "Now Playing" media or can play all available songs on the device.

+ 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 vehicle

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

The broad selection of audio entertainment functions available via the touch screen generated very high levels of cognitive (mental) demand. It took drivers an average of 20 seconds⁺ to change the music selection. Audio entertainment functions on the touch screen appear cluttered with text and on-screen buttons. The radio screen offers a preset bar along the bottom with a direct tune option to quickly change stations, accompanied by a manual knob for tuning. If a media device is connected, drivers have access to the full music library with no scrolling limitations while the vehicle is in motion.

Short, flexible and easy-to-use voice commands can be completed in a one-shot style, such as “97.1 FM” or “Play ‘Thriller.’” These short commands allowed drivers to change music quicker than with the center stack, averaging only 13 seconds⁺.

While the Lincoln Navigator infotainment system^{*} generated high visual (eyes-off-road) and cognitive (mental) load when accessing audio entertainment, interactions were very short.

TURN-BY-TURN NAVIGATION SYSTEM



The SYNC 3 navigation system in the 2018 Lincoln Navigator generated high overall demand. Navigation functions on the touch screen can be accessed via the navigation icon along the bottom menu ribbon or the map tile on the home screen. Once navigation functions are accessed, a map screen displays the vehicle’s current position along with menu and map options. To set a new destination, drivers must select the destination button, where a tile menu displays four quick-select categories located on the main destination menu, accompanied with a “See All” option along the top row. On the bottom row, drivers can select previous destinations, home or work, or access customizable favorite destinations. Once a destination has been selected, drivers have the option to call the destination, save, or start navigation. Using any combination of calling, saving, or starting navigation, drivers took an average of 25 seconds⁺ to set the navigation guidance.

Via the steering wheel, drivers can access a button, on the center stack screen, that provides navigation to their home destination, previous destinations, favorites and points of interest nearby. Selecting “home” automatically initiates route guidance while other menus yield access to multiple destinations from which to select. “Points of interest nearby” displays the driver’s four most frequently navigated categories, with eight destinations within each category. Favorite and previous destinations also provide a maximum of eight destinations from which to choose.

Navigation voice commands are short and efficient; drivers are able to activate voice recognition and say “Find a coffee shop” or a specific location. In spite of these short commands, navigation tasks still took drivers an average of 28 seconds⁺ to complete. The system guides the driver through the process by suggesting commands and displaying what step they are currently on. This may mitigate confusion, yet drivers still experienced high levels of mental and visual demand while trying to navigate using SYNC 3 voice commands.

VEHICLE CONTROLS AND DISPLAYS

VOICE COMMANDS

The 2018 Lincoln Navigator Select L comes equipped with a voice command system that allows drivers to access navigation, phone, texting and audio entertainment functions. A female voice prompts the driver with “Please say a command” following a button press on the steering wheel. Potential commands are listed on the touch screen, but drivers cannot interact with them via touch screen. If utilizing the touch screen, the voice command system will be canceled. After the driver says the command “Help,” extensive dialogue is available to assist the driver with voice command interactions.

⁺ 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 vehicle

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INSTRUMENT CLUSTER

The instrument cluster located behind the steering wheel features a 12-inch display, which drivers can control using buttons on the steering wheel. The cluster display features two large circular dials, on a 12-inch full color LCD display, that houses the tachometer and speedometer. The fuel gauge is located directly below the speedometer, and the engine temperature is displayed below the tachometer on the left. Along the top of the instrument cluster, the compass direction, current audio selection and outside temperature are displayed. The current gear is centered at the bottom of the screen.

Drivers can interact with the instrument cluster display via the buttons on the steering wheel. An up/down toggle can be used to scroll through lists and make selections. Menu functions accessible via the instrument cluster include tire pressure, trailer status information (if present), odometer, fuel economy, audio entertainment, navigation and phone options.

STEERING WHEEL CONTROLS

The steering wheel contains 12 buttons, six on each side. Each cluster includes one button on each side of an up/down toggle and three buttons stacked directly below the toggle. The buttons' functions include voice activation, audio selections, navigation, phone pickup and hang-up, dash display setup, audio entertainment, cruise control and settings.

CENTER STACK

The center stack features a 10-inch full-color LCD touch screen, and buttons are located between the center console and center stack. The manual controls include two knobs (one for volume and one for tuning), an audio power button, seek left and right buttons and a source button. The home screen displays large tiles for navigation, current audio, connected phone and heated steering wheel controls. A menu ribbon along the bottom of the screen displays shortcut icons that correspond with navigation, audio entertainment, phone, applications and settings. Current time, outside temperature, passenger temperature, system Wi-Fi and cellphone coverage are also displayed on the screen. The 2018 Lincoln Navigator offers dual climate control, and 10 buttons below infotainment give access to HVAC functions.

SALES DATA

The 2018 Lincoln Navigator Select L is the 141st bestselling vehicle in the United States, with 15,766 vehicles sold during 2018¹.

¹ Source: Auto sales data and statistics at goodcarbadcar.net; data updated to 12/04/2018.

+ Compared to a recommended maximum of 24 seconds

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