**Title: Exploratory Advanced Research Project**

**Intelligent Situation Awareness Navigation Aid**

**Demonstration at Department of Transportation Headquarters**

*[U.S. DOT Federal Highway Administration logo appears and light music plays]*

*[Video starts with a visually impaired woman walking through a corridor and being directed to a door on her left by an automated voice]*

ISANA: “Half right. You have arrived R&D Office on your half-left, three feet.  It’s your final destination, E84-463, R&D Office.” *[Applause]*

Narr:  Federal Highway Administration’s Exploratory Advanced Research Program demonstrated the Intelligent Situation Awareness and Navigation Aid, or “ISANA” at the U.S. Department of Transportation Headquarters in Washington, DC.

*[Two researchers set up the ISANA device and introduce it to the test subject.]*

ISANA: “Welcome to assisted navigation!”

Researchers equipped Barbara Campbell, a visually-impaired test subject, with ISANA’s tablet-based, wearable technology. Using ISANA, and with additional assistance, she successfully navigated USDOT Headquarters from the main security entrance in the West Building to the eighth floor of the East Building. *[The test subject opens a door and navigates hallways at Department of Transportation Headquarters.]*

A fish-eye lens on the back of ISANA’s tablet device and its custom software interpreted the visual environment in real-time.

*[Researcher looks at device while walking through building’s corridors.]*

*[Video continues with the test subject walking through a hallway with ISANA alerting her to obstacles.]*

ISANA: “Obstacle front. You are approaching door on your front, two feet.”

Then, ISANA provided Campbell with GPS-like voice guidance to help her navigate potential obstacles and provide situational awareness of her surroundings.

ISANA and two other wayfinding technologies were funded through FHWA’s Exploratory Advanced Research Program, and conducted in coordination with the Volpe Center, Federal Transit Administration and the Intelligent Transportation Systems – Joint Program Office.  *[Logos for the groups involved in the research program are shown.]*

ISANA: “Half-left.  Approaching waypoint.  Walk straight.  Your next waypoint is approximately three feet away.  Left.” *[Test subject continues to be guided by ISANA.]*

The multiyear project is focused on developing technology that provides guidance assistance to visually-impaired pedestrians navigating in large, unstructured environments. These new technologies are in the earliest stages of research. A finished solution is still 18 months to 2 years away.

ISANA: “Walk straight. Your next waypoint is approximately 18 feet away.”

*[Light music plays over the U.S. DOT Federal Highway Administration logo]*