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Next Phase of THEA's Connected Vehicle Pilot Brings Together Auto Manufacturers and Road Operators

Tampa, Fla., October 15, 2020 – Since September 2015, the Tampa Hillsborough Expressway Authority (THEA) has been working with the United States Department of Transportation (USDOT) as a Connected Vehicle Pilot site. The next step in the Connected Vehicle space is to begin working with the auto industry manufacturers. To that end, THEA is proud to announce that it is collaborating with Honda R&D Americas, LLC, Hyundai America Technical Center, Inc. (HATCI) and Toyota Motor North America to deploy vehicles with connected vehicle technology already installed. Original Equipment Manufacturer (OEMs) vehicles and hardware provide the next evolution of delivering safer transportation.

This collaboration is among the first of its kind where multiple OEMs are coming together in an existing Connected Vehicle (CV) deployment. The OEM vehicles will not only interact with one another but also the existing CV Pilot participants. Each of the OEMs has selected DENSO, a leading mobility supplier with over 15 years of vehicle-to-everything (V2X) experience, as its onboard unit (OBU) provider. Building on the CV Pilot apps, DENSO will develop a common set of CV apps for the OEMs, enabling the rapid communication between vehicles and surrounding infrastructure.

This is an important step in continuing the testing of transportation safety applications to provide drivers with the best information possible. THEA's CV Pilot applications have proven that information from connected infrastructure can benefit drivers, automakers,



and road operators as a means to transmit crucial safety information. In the past 18 months, the THEA CV Pilot has warned 14 wrong-way drivers on interchange ramps, nine potential trolley crashes, and has given over 1,500-speed advisories a month on freeway exit ramps, to state a few examples.

This collaboration with Honda, Hyundai and Toyota is the next step in making connected roadways a reality in Tampa Bay. Connecting roadways and infrastructure lays the foundation toward a technology-based transportation system – a true “Smart City.”

“Through connected vehicle and infrastructure deployment like our Smart Intersection technology in Ohio, Honda has gained an understanding of the early benefit of vehicle-to-everything (V2X) from the infrastructure side,” said Sue Bai, Chief Engineer, Automobile Technology Research Division, Honda. “The Tampa CV Pilot offers another great opportunity to collaborate with government entities and road operators to expand V2X deployment and help bring safety and mobility benefits to our customers and society sooner, ultimately working toward Honda’s vision for a collision-free society.” “The Tampa CV pilot provides an opportunity for Hyundai Motor Group to continue research the safety, mobility, and ecological benefits of a connected vehicle in a real-world environment,” said John Robb, Director, Electronic Systems Development, Hyundai Motor Group. “Deployment of prototype On-Board Units (OBUs) by retrofitting them into participants’ vehicles in Tampa enables us to collect data and understand customers’ experiences of this V2X technology.”

“Toyota is excited to support the V2X deployment initiative in Tampa because realization of cooperative transportation systems, with V2X technologies is important for creating a more safe and eco-friendly mobility future,” said Jeff Makarewicz, Group Vice President -- Advanced Mobility Research & Development, Toyota Motor North America.

In September 2020, phase 4 of the THEA CV Pilot kicked off to begin the planning for incorporating the OEMs into the pilot. The current plan is for the OEMs to deploy six of the CV Pilot apps. One new app will be added as well. A demonstration showcase will



likely be held in Q4 of 2021. At that time, Honda, Hyundai, Toyota and THEA will highlight how OEM vehicles, equipped with prototype CV technologies, can interact with the CV Pilot vehicles and roadside units.

“This next step – integrating multiple auto manufacturers onboard technology, will show how connected vehicle technology can be incorporated into the cars coming off the line. Honda, Hyundai and Toyota have been great to work with and have always put safety of their customers first. This new collaboration shows just how much they are willing to work together to achieve their goal,” said Bob Frey, Innovation Director and CV Project Manager.

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About DENSO

DENSO is a \$47.6 billion global mobility supplier that develops advanced technology and components for nearly every vehicle make and model on the road today. With manufacturing at its core, DENSO invests in its 221 facilities in 35 countries to produce thermal, powertrain, mobility, electrification, & electronic systems, to create jobs that directly change how the world moves. The company’s 170,000+ employees are paving the way to a mobility future that improves lives, eliminates traffic accidents, and preserves the environment. Globally headquartered in Kariya, Japan, DENSO spent 9.9 percent of its global consolidated sales on research and development in the fiscal year ending March 31, 2020. For more information about global DENSO, visit <https://www.denso.com/global>.

In North America, DENSO is headquartered in Southfield, Michigan, and employs 27,000+ engineers, researchers and skilled workers across 51 sites in the U.S, Canada and Mexico. In the United States alone, DENSO employs 17,700+ employees across 14 states (and the District of Columbia) and 41 sites. In fiscal year ending March 31, 2020, DENSO in North America generated \$10.9 billion in consolidated sales. DENSO is committed to advancing diversity and inclusion inside the company and beyond – a principle that brings unique perspectives together, bolsters innovation and pushes



DENSO forward. Join us, and craft not only how the world moves, but also your career: www.denso.com/us-ca/en/. For more information, go to <https://www.denso.com/us-ca/en/>.

About Honda R&D Americas, LLC

Honda R&D Americas, LLC (HRA) began operations in America in 1975 as Honda Research America in California. Today, HRA operates 10 facilities in the U.S., responsible for creating advanced products and technologies that provide new value to Honda and Acura customers. HRA conducts all phases of product development in the U.S., from market and technology research and styling through engineering design to prototype fabrication and testing, local parts procurement and support for mass production preparation. With major facilities in California, Ohio, North Carolina and Florida, HRA is engaged in the development and testing of Honda and Acura automobiles, Honda powersports and power equipment products, and also plays a lead role in the development of leading-edge safety, driver assistive and environmental technologies. Learn more at <http://www.hondaresearch.com/>.

About Hyundai America Technical Center, Inc.

As one of Hyundai Motor Group's (HMG) seven global centers focused on research and development (R&D), HATCI was established in 1986 in Ann Arbor, Michigan. HATCI is HMG's design, technology and engineering division for North America. As HMG solidified its position as one of the top five global OEMs, HATCI has grown to include a strong network of engineering disciplines and increased business-focused activities to support North America's Voice of the Customer.

HATCI supports new model development for HMG's North American operations and global programs from our dedicated engineering facilities and support staff at affiliate sites located throughout the United States (Alabama, California, Georgia, Michigan, and Washington D.C.). HATCI's success in satisfying the demands of increasingly sophisticated consumers is a direct result of HMG's commitment to the future of American automotive engineering. HATCI upholds a strong R&D philosophy hinged on the creative and passionate input of all team members. This philosophy is paramount to HMG's North American operational strategy and serves as the foundation for



engineering excellence and technological advancement. More information about Hyundai Motor and its products can be found at www.hatci.com, <http://worldwide.hyundai.com>, or <http://globalpr.hyundai.com>

About THEA

A public agency led by local citizens and operating with no tax dollars, the Tampa Hillsborough Expressway Authority (THEA) provides safe, reliable, and financially sustainable transportation services to the Tampa Bay region while reinvesting customer-based revenues back into the community. From being the owner and operator of the Lee Roy Selmon Expressway to offering real-time testing and showcasing of connected vehicle and autonomous vehicle technologies, to the design and operation of the world's first reversible all-electronic toll road, THEA continues to drive the conversation on cutting-edge transportation solutions. For more information, visit www.tampa-xway.com.

The THEA CV Pilot employs state-of-the-art technology that allows vehicles to communicate to roadside infrastructure and other vehicles about traffic, hazards, and other potential factors affecting pedestrian, vehicle, and bicycle safety.

About TMNA R&D

Toyota Motor North America Research & Development (TMNA R&D) aims to redefine next-generation cars as not simply a form of transportation, but as a fully connected vehicle. In fact, since 2003, Toyota has been awarded more patents than any other automaker, including autonomous vehicle patents (more than 1,400). Centered in Ann Arbor, Michigan, Toyota puts the brightest thinkers from all across America together to focus on letting people live more safely and comfortably. Globally, Toyota spends approximately \$1 million per hour on R&D to ensure that Toyota rapidly and continuously develops cutting-edge, high-quality, and appealing vehicles.