Colleges & Campus News

UCF Helps Lead $12M Smart Transportation Project

New Safety Features Coming to Campus and Central Florida

UCF will help advance several intelligent transportation system technologies across Central Florida aimed at enhancing pedestrian safety and easing congestion, thanks to a nearly $12 million federal grant.

The Federal Highway Administration just awarded $11.9 million to a team of experts from the Florida Department of Transportation (FDOT), the University of Central Florida, and MetroPlan Orlando to test several smart cities transportation technologies locally and make recommendations, which could lead to national models.

Because Orlando is a rapidly-growing region, as well as one of the world's busiest tourism destinations, it offers an ideal place to test out technologies that show promise.

“Partnerships are powerful,” said Engineering Professor and Chair of the Civil, Environmental and Construction Engineering Department Mohamed Abdel-Aty, who leads the Smart Cities initiative at UCF. “That’s why this is possible. And because UCF is a little city, we are in a good position to test these technologies in real world situations. The goal is to improve pedestrian safety and congestion. We aim to become a showcase for the future.”

UCF will use its research capabilities and existing Smart Cities initiative to advance the project, while leading data collection and analysis efforts. In addition to being liaison with state and federal governments, FDOT will ensure the project can be scaled appropriately for other locations and applications and will contribute software development, operations, and data management expertise. MetroPlan Orlando will make sure projects meet their intended purposes and will facilitate collaboration among agencies and local governments.

Intelligent transportation systems equipment will be installed on and around UCF’s main campus. Among technologies to be tested:

- PedSafe, an innovative pedestrian and bicycle collision avoidance system
- GreenWay, which uses advanced traffic signal technology
- SmartCommunity, for trip planning apps
- SunStore, which integrates FDOT data
- Autonomous and Connected Vehicles

The PedSafe system also will be tested in Pine Hills, a community that has faced significant challenges with pedestrian safety.

“This project puts Central Florida on the cutting-edge of technology in transportation – and it’s only the beginning. Once the technology is tested, we can then take the lessons learned and expand it to all of Central Florida,” said MetroPlan Orlando Executive Director Harry Barley. “MetroPlan Orlando will be the forum where local governments and transportation organizations will come together to discuss how this can be deployed regionally.”

Plans call for applying the technology into development of Creative Village in Downtown Orlando, where UCF Downtown is under construction, which will open in 2019. The Village has office space, housing, commercial properties and facilities for Valencia College and Orange County Public Schools programs. Creative Village – catering to high-tech, digital media, and creative companies — is adjacent to LYNX Central Station and SunRail and is served by LYMMO bus rapid transit, positioning it to be one of the largest transit-oriented developments in the Southeast.

The safety and technology project was created to address some of Central Florida's most pressing transportation challenges, including traffic-related crashes and fatalities, traffic congestion, and access to transportation options.

UCF is uniquely positioned to advance smart transportation systems technologies. It is home to the nationally recognized Center for Advanced Transportation Systems Simulation, which conducts research in the area of traffic safety, intelligent transportation systems, traffic simulation, transportation demand analysis, and transportation planning concepts and methods.

"Technology is the future of U.S. transportation," said Acting Federal Highway Administrator Brandye L. Hendrickson. "With innovations like those Florida is using in one of the most heavily traveled areas of the state, grants like this are making it easier for states to use the cutting-edge tools needed to fight the problem of congestion nationwide."

The federal agency provided 10 Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grants worth $54 million. The Orlando collaboration received the biggest grant and was the only Florida recipient.

FDOT continues to "focus and plan for how projects connect communities," said District 5 Secretary Steve Martin in a cover letter to U.S. Secretary of Transportation Elaine Chao, as part of the grant application. "USDOT's ATCMTD Initiative is an extraordinary opportunity to advance key connection opportunities in East Orlando and the Central Florida region by leveraging local, regional and state resources with federal funds to improve mobility and safety."

MetroPlan Orlando is the metropolitan planning organization for Orange, Osceola, and Seminole counties, setting priorities and determining how federal and state transportation dollars are spent in the region. The organization leads long range transportation planning efforts in Central Florida and coordinates with elected officials, industry experts, and the community to shape a future system that offers diverse travel options.

The federal agency's program funds technologies that are ready to be deployed to improve traffic capacity for commuters and businesses. The program was established under the Fixing America's Surface Transportation (FAST) Act. The FHWA got 68 applications from 52 localities requesting more than $362 million. Hendrickson said the number of applicants indicates intense interest in the program and recognition that innovative solutions are needed to improve highways. Other projects receiving grants are in Arizona, California, Idaho, Michigan, Ohio, South Carolina, Texas, Virginia and Washington.

By Zenaida Kotala