

Toyota Mobility Foundation Supports May Mobility to Bring Autonomous Shuttle Service to Hoosier Residents

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Creating a thriving mobility ecosystem requires teamwork and efficient collaboration. That's why the Toyota Mobility Foundation worked with May Mobility — a leader in autonomous vehicle technology development and deployment — for its Together in Motion Indiana initiative to help get people where they need to go easily and sustainably.

Two six-month pilot programs were established to shuttle people in Indianapolis and Fishers, Indiana, via five hybrid Lexus RX 450h vehicles and one wheelchair-accessible Polaris® GEM® fully electric vehicle. . Retrofitted with advanced technology developed by May Mobility, the already luxury hybrid SUV was the perfect vehicle to transport riders. The route in Indianapolis launched in June 2021, and the deployment in Fishers got underway in December 2021.

“The Toyota Mobility Foundation is a key strategic partner of ours, and we're always seeking new and innovative ways to collaborate,” says Nicole Kelly, vice president of Customer Operations at May Mobility. “Collaborating for May Mobility deployments in Indianapolis and Fishers was a great opportunity for us to work together.”

May Mobility works with its partners to identify the routes that best meet the communities' needs and partners' priorities, as well as those that best showcase its technology.

With assistance from Energy Systems Network, a local advanced energy nonprofit, the team launched Toyota Mobility Foundation's Together in Motion initiative in central Indiana. The group also collaborated with IndyGO, the public transportation authority for the Indianapolis region

“We tested, piloted and evaluated various mobility applications in this district to advance their commercialization of broader transit and mobility services,” Kelly says. “The collaboration provided us with great learnings to further our goal of creating more safe, sustainable, equitable and accessible transportation.”

Driving Innovative Connections

Developed in the hopes of making Hoosiers' lives easier, the route at Indiana University-Purdue University Indianapolis (IUPUI) was designed to bridge the city by connecting passengers to a station along IndyGO's Red Line (bus rapid transit) in downtown Indianapolis and beyond, as well as to places of work and school by means of additional modes of transportation.

“The pilot worked to expose high-probability promoters — specifically students and health care workers — to innovative self-driving technology, improving traffic by locating operations near and around IUPUI, thus creating a higher-occupancy transit service that benefited traffic downtown,” Kelly explains.

This area was also an ideal test location for Together in Motion Indiana and May Mobility, whose primary goal was to connect IndyGO's Red Line to IUPUI.

Trey Ingram, program manager at the Toyota Mobility Foundation added, “The area in and around the IUPUI campus was a natural fit for this type of service. It's an urban campus near downtown Indianapolis, and working with May Mobility, using full-sized vehicles matched the use case that the program was looking to address.”

In Fishers, the route offered riders the only public transportation service connecting popular destinations like parks, trails, local restaurants, shopping areas, multifamily living districts and more.

Utilizing Trailblazing Technology

Similar to traditional shuttle services, both pilots operated on fixed routes. Riders waited at a designated spot where one of the vehicles stopped about every 10 minutes. Wheelchair-accessible vehicles were readily available on demand. While anyone could use the service, riders under the age of 12 had to be accompanied by an adult.

To put these deployments safely and effectively in motion, technological innovations were at the center of execution.

“Every second, May Mobility’s proprietary Multi-Policy Decision Making (MPDM) system imagines thousands of potential futures by simulating both probable and high-risk scenarios to determine which actions worked the best,” says Kelly. “To bring that to life, our perception technology consists of multiple LiDAR (light detection and ranging) radars and cameras to perceive the surrounding environment. The perception system is designed to aggregate data from each of the various sensors to accurately define the environment.”

Utilizing the right vehicle was also crucial to successful implementation. The Lexus RX 450h was an ideal vehicle to outfit with this technology and bring this shuttle service to fruition.

“The Lexus RX 450h represented an advancement in our mobility platform offering, introducing a hybrid with improvements to ride comfort, readily available drive-by-wire system and seating for four,” Kelly says.

Leaning Into Learnings

What’s a shuttle service without riders? Increasing ridership was a top priority and marketing strategies were put into place to attract the most passengers.

“It appeared from the start that a particular pickup and drop off location near the Red Line had the potential to be the most popular stop along the route,” says Ingram. “So, marketing and communications were redirected to try to attract those riders to facilitate their movement from the Vermont Station on the Red Line to the IUPUI campus. We collaborated with IndyGO to get onboard bus advertising, which really helped boost visibility to potential riders already riding the Red Line buses. And throughout the entire project, that pickup and drop off location was by far the most popular.”

Surprisingly, putting potential passengers at ease with the autonomous technology didn’t require as much strategizing.

“The openness of the riders as they learned about what we do and how we do it without the fear of a self-driving car was a big surprise,” says Kelly. “Generally, people are a little more skeptical about new technology, but our riders were curious and wanted to know more about the service, sometimes taking additional rides or taking the ‘full loop’ to see how the car would react and see what locations our route covered.”

Initially, most riders were excited to simply check out the technology. In fact, according to a ridership survey conducted by May Mobility, about half just wanted to see how it worked.

“For the first couple of months, about 50% of the responses from riders were to just test it out,” says Ingram. “As time went on and as ridership grew, the responses actually flipped quite a bit. The majority of the riders were using it to go to work and to go to school for the last several months of the deployment, from where the program started out initially. So that tells us that people found the service useful. They also found it reliable. They were finding it to be a pleasurable experience to help them get from A to B.”

As a result, ridership grew exponentially.

“The route around IUPUI increased ridership by 90% over the course of the service, with an average of 50 riders per day,” Kelly says.

Not only were riders finding it useful, but some also felt it improved the quality of their lives.

A rider named Melanie shared how much she appreciated the pilot in Fishers. “My husband and I live in the Nickel Plate District,” she told May Mobility. “We love having access to the car service for dining or shopping. It has brought the quality of living here up a notch.”

The Power of Collaboration

While this particular service may not be an option after June, Hoosier riders can rest assured that there will be more innovative transportation services in the future.

“We have met many potential collaborators through our deployments in Indiana,” Kelly says. “I am personally excited to continue conversations with IndyGO, and we have also had several exploratory conversations with Purdue University. We can’t say enough great things about how welcoming the Indiana ecosystem has been for us.”

To create a fully mobile society, companies and organizations must work together and utilize their respective skills, resources and knowledge. This partnership is a shining example of how collaboration is essential to improving lives in an eco-conscious way that’s beneficial for all.

“We strive to make transportation more safe, accessible, equitable and affordable for everyone through our autonomous technology,” says Kelly. “Strategic partnerships are key for companies like May Mobility in achieving global scalability and expanding in platform, technical capabilities and geographic reach. It is incredible to have the support of an organization like the Toyota Mobility Foundation whose mission and vision align so closely to ours — because that is what we are here for: to make mobility more accessible and equitable for everyone.”

For more information, please see the video below.