

SunTrax is a large-scale test facility that will be developed jointly by FDOT, Florida Polytechnic University, and industry partners. This cutting-edge facility will offer unique opportunities for the testing of emerging transportation technologies in safe and controlled environments.

The 2.25 mile long track will provide an opportunity for high-speed testing, while the 200-acre infield will allow for the testing of a multitude of different technologies. Many of the opportunities are related to Automated and Connected Vehicles (AV/CV), and the entire site would be a connected environment for the testing of Vehicle-to-Infrastructure (V2I) and Vehicle-to-Vehicle (V2V) communications. Some of the potential features and facilities have been illustrated below. SunTrax is uniquely poised to become a central hub for the research and development of these state-of-the-art technologies.



1 Toll Collections Testing

Testing Opportunities

- Dynamic toll pricing and managed lanes software builds
- Toll equipment hardware & Interoperable tolling systems
- Emerging smart phone based payment technologies

Potential Features

- Multiple toll gantries for concurrent testing of different tolling equipment
- Two reversible straightaways with buffer separated express lanes, each nearly 1 mile long

2 Central Business District

Testing Opportunities

- Testing of signal interference conditions with moveable building facades that would simulate urban city centers
- Complex navigational environments for automated vehicles including mechanized pedestrians/bikes, adjustable lighting, varied pavement markings, etc.
- Connected/automated intersections testing on multiple complex urban intersections with equipment such as antennas, sensors, and software systems
- Human factors testing, simulations, real-time data collection and analytics, back-office processing, and software/application development

Potential Features

- Multi-tier parking garage for use both as a testing environment and by facility staff
- Building spaces such as laboratories, workshops, public event spaces, simulator testing spaces, and product testing and certification facilities
- Solar powered vehicle charging stations & charging pads with wireless inductive charging technology

3 High-Speed Freeway Environment

Testing Opportunities

- High-speed merges and entrance and exit ramps
- High-speed testing of connected platooning trucks and vehicles with minimal headways
- Deployment of movable barrier systems to provide flexible lane configurations and to test construction zone safety technology
- Machine vision and materials testing of pavement types, pavement markings, lane lines, and signs

Potential Features

- Three-level interchange bridges and a tunnel allowing for GPS connectivity testing
- Pond systems allowing testing of stormwater systems and unmanned/automated watercraft
- Severe heavy rainfall event simulation equipment

4 Urban Arterial Environment

Testing Opportunities

- Automated vehicle testing on a network of high-volume connected multi-lane roadways with a series of large signalized intersections with multiple turn lanes and potential conflict points, as well as a variety of different signing and traffic control devices
- Automated vehicle parking and retrieval testing
- Unmanned aerial vehicle testing

Potential Features

- Varying intersection configurations such as skewed intersections, roundabouts, and highway ramp terminals.
- Large open paved surfaces that could be used for adjustable road courses, fleet vehicle parking, vehicle calibration areas, automated parking and retrieval testing, etc.

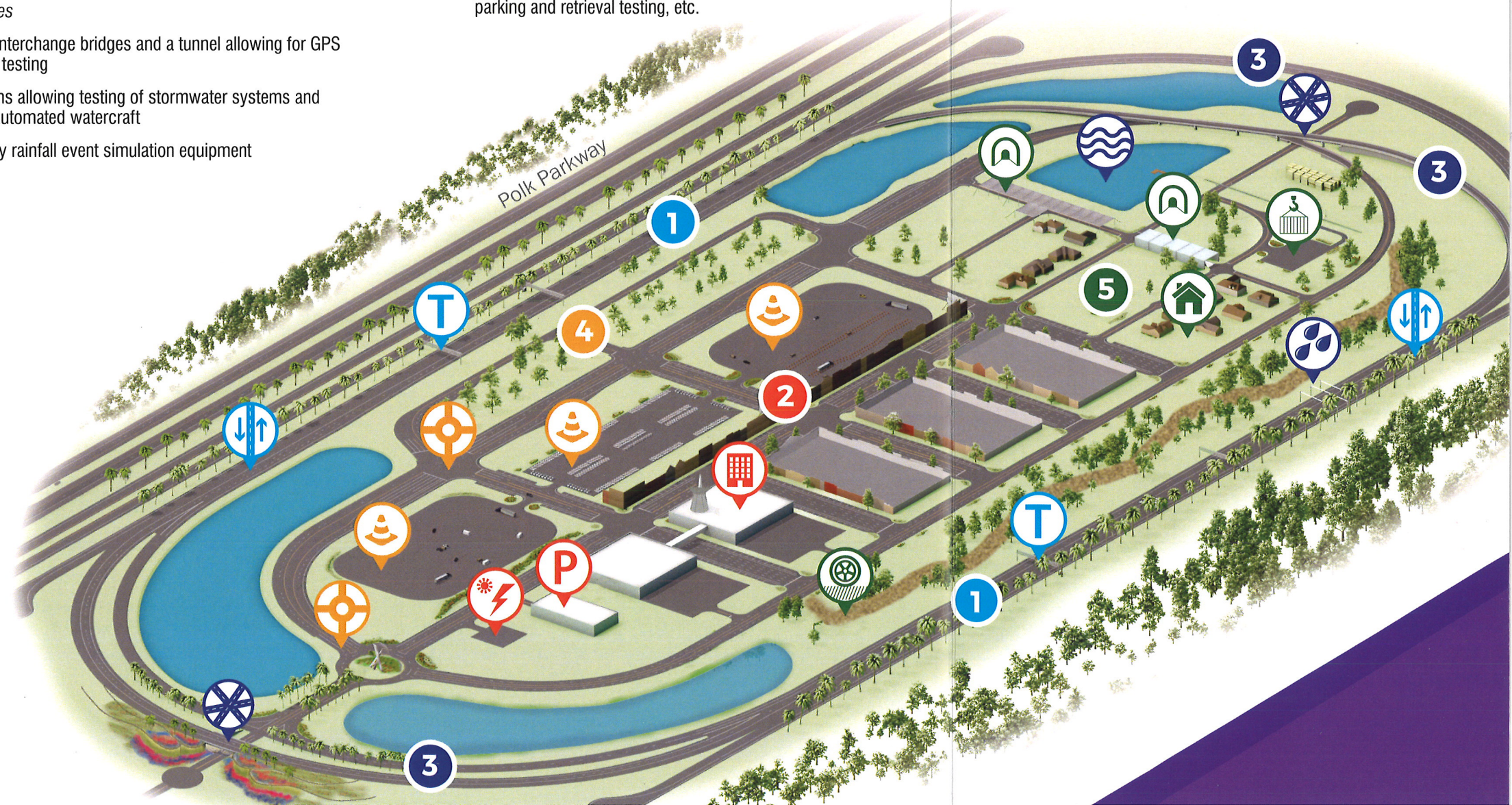
5 Residential, Rural and Freight Testing Environments

Testing Opportunities

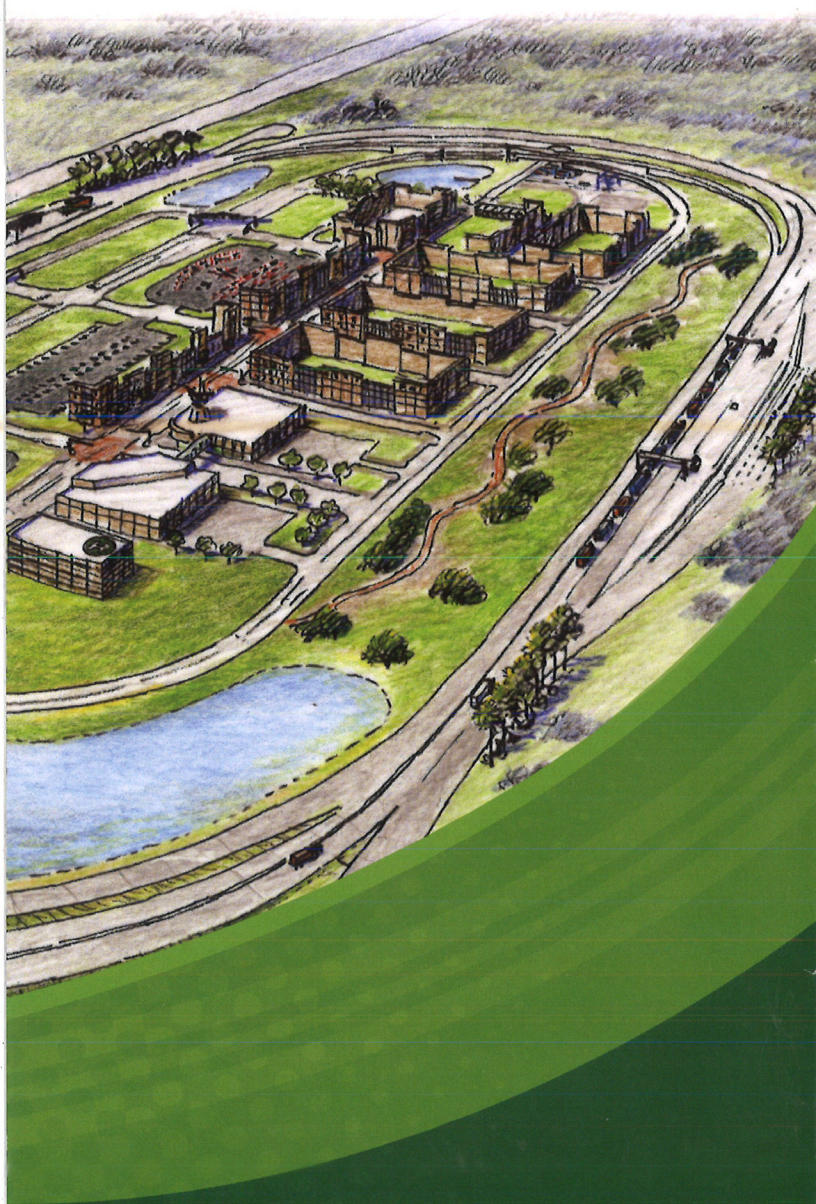
- Testing in a suburban environment with features like small traffic circles, traffic calming devices, cul-de-sacs, and speed bumps

Potential Features

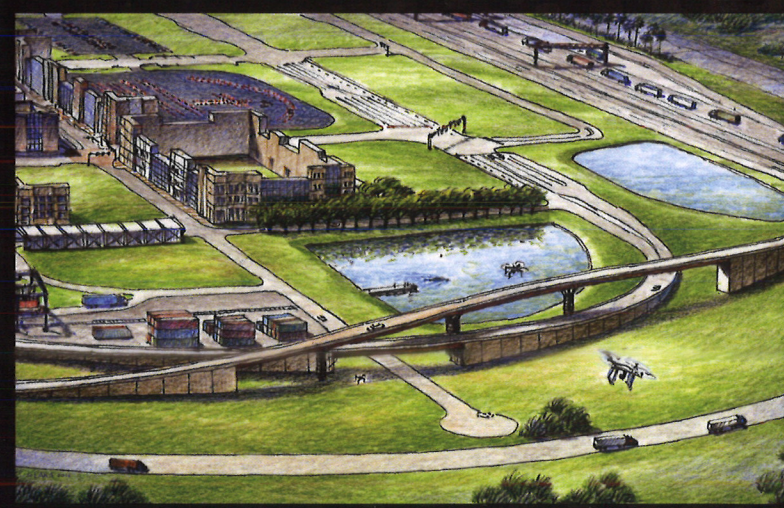
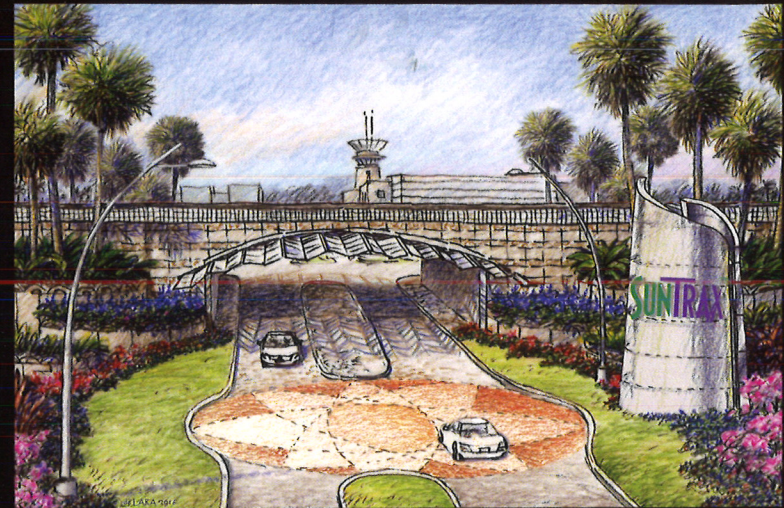
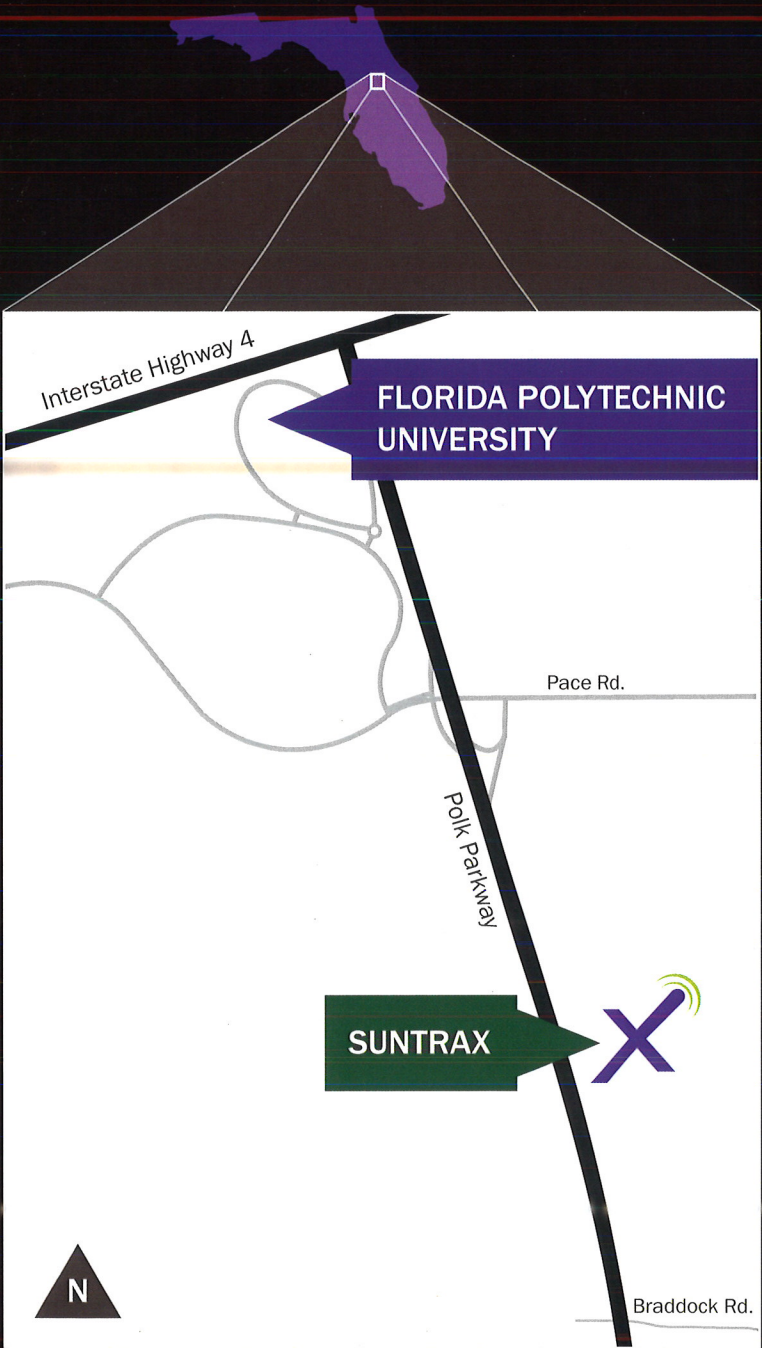
- Overhead canopies that simulate tree-lined streets and simulated tunnels for signal blockage
- House facades, simulated school crossings, and unmarked unpaved driveways
- Varying roadway surfaces such as dirt, cobblestone, and gravel that could confound automated vehicle sensors
- Automated freight and container movement testing area



A TESTING ENVIRONMENT
FOR MOBILITY &
TRANSPORTATION INNOVATION



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