INNOVATION ZONE GUIDELINES

Why Innovation Zones? The Texas population is booming and new technologies are available to make roads safer, reduce congestion, increase accessibility, and optimize limited resources. An Innovation Zone will facilitate your region to apply for federal funding in order to deploy advanced technologies that address local challenges. The following guidelines provide a framework for working with your team to develop an Innovation Zone. They are not requirements, but rather suggestions to refine your concepts.

What is an Innovation Zone? An Innovation Zone is a district where stakeholders collaborate to test, deploy, and scale creative transportation solutions.

What grants are relevant for an Innovation Zone? There are several federal grants available through the Infrastructure and Investment Jobs Act (IIJA) from FY22-FY26.

Electrification CFI Grants
NOFO link | Due May 30, 2023
Community and Corridor discretionary grants for public EV charging infrastructure

Reconnecting Communities Program (RCP)
Program information | Expected late Spring 2023
Planning and Construction grants for removal, retrofit, or replacement of facilities that divide communities.

Safe Streets and Roads for All (SS4A)
NOFO link | Due July 10, 2023
Grants to support Vision Zero planning and implementation efforts

SMART
Program information | Expected Fall 2023
Projects focused on advanced technologies to improve efficiency and safety.

Intersection Safety Challenge
NOFO link | Due September 29, 2023
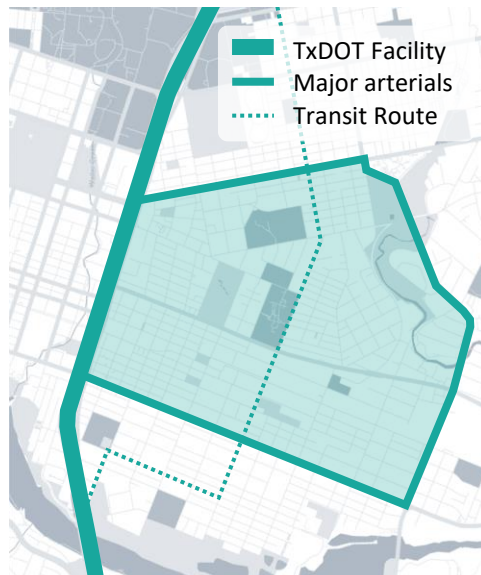Focuses on using emerging technologies to improve intersection safety

FTA's Low/No
Program information | Expected Early 2024
Funding for agencies to acquire zero- and low-emission buses and supporting facilities.

Team Members

- ❏ TxDOT District
- ❏ City
- ❏ County
- ❏ Transit Agency
- ❏ MPO/COG
- ❏ RMA
- ❏ University
- ❏ Port/Intermodal Facility
- ❏ Community Partners
  - – Medical Center
  - – Economic Development
  - – Local Nonprofits

Geographic Characteristics

TxDOT Facility
Major arterials
Transit Route

Equity Metrics

Justice40 Initiative

- Low income, persistent poverty
- High unemployment
- Racial and ethnic segregation
- Linguistic isolation
- Housing cost burden
- Low transportation access
- Access to healthcare
- Climate impact

Technology Toolkit

CONNECTED VEHICLES
Demonstrate vehicle-to-infrastructure applications such as work zone warning or transit signal priority

SENSORS
Install sensors and cameras to improve traffic flow, detect flood risks, and address maintenance concerns

ELECTRIFICATION & SMART GRID
Identify public charging stations and support smart metering

FREIGHT & LOGISTICS
Optimize freight movement and last-mile delivery services

AUTOMATED VEHICLES
Deploy on-demand transit services, low-speed circulators, or personal delivery devices

TRAFFIC SIGNALS & MANAGEMENT
Improve traffic flow by optimizing signal timing and integrating real-time traffic alerts using third-party data

UNMANNED AIRCRAFT SYSTEMS
Test UAS for package delivery, bridge inspections, or disaster response

SYSTEMS INTEGRATION
Integrate technologies across jurisdictions to improve safety and mobility

Data Use Cases

Data is crucial for planning and performance measurement. There are several third-party data sources available that can support your Innovation Zone. TxDOT has established a statewide data contract with INRIX, Wejo, and Replica that is available to Texas public agencies. Below are some potential use cases to consider:

Connected Vehicle Applications

Work Zone Safety
Wrong Way Driver Alerts
Queue Warning
ATIS Alerts
Signal Priority
Pedestrian Detection

Planning and Equity

Vehicle Movements by Mode
Historic Traffic Patterns
EV Charging Siting
Safety Hotspots
Equity Atlas and Justice40

Traffic Operations

Real-time Traffic Alerts
Incident Management
Curb Space Management
Parking Availability
Road Weather Warning
High Water Crossing

Maintenance

Asset Management
Predictive Maintenance
Pavement Condition Monitoring
Low Bridge Height Warning
Bridge Impact Detection

Innovation Zone Development

In preparation for the Innovation Invitational, please work with your team to develop a concept for an Innovation Zone. Below are key components to serve as a guide through the development process.

Challenge & Location

Identify potential location(s) and describe the particular challenge(s) your team is focused on addressing.

Vision Statement

How can the Innovation Zone support the vision and mission of your region?

Solution Development

Summarize a concept and partners for using multiple technologies (2-3 recommended) to address the previously identified challenge.

Technology Toolkit

- o Connected Vehicles
- o Automated Vehicles
- o Electrification & Smart Grid
- o Unmanned Aircraft Systems
- o Sensors
- o Traffic Signals & Management
- o Freight & Logistics
- o Systems Integration
- o Other?

Performance Metrics

List performance metrics to measure the success of your Innovation Zone.

Community Impact

Capture the community benefits that will result as outcomes of your Innovation Zone.