

Smart Mobility Framework

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Northern Virginia Transportation
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What is Smart Mobility?

- Applying technology to the transportation system
- Collecting, analyzing & applying data to optimize transportation network

Why?

- Improve how we travel by supporting more mobility choices and improving safety
- Improve travel time and maximize efficiency + reliability

How are we using it?

- Organizing existing + future efforts under one umbrella
- Laying the groundwork for emerging technologies



**Code is the new
concrete!**

Smart Mobility: Guiding Principles



Safety

Eliminate traffic fatalities and severe injuries while increasing healthy mobility.



Mobility

Improve accessibility and transportation options.



Forward-looking

Proactively plan for emerging and future technologies.



Sustainability

Improve environmental quality and resiliency.



Traffic Management

Optimize movement in and about the City



Transparency

Improve decision-making through data and analytics while broadening public access to information.

9 INTERCONNECTED PROGRAMS:



TRANSIT



PARKING



PUBLIC SAFETY



ROAD WEATHER



MOBILITY ON DEMAND



TRAFFIC SIGNALS



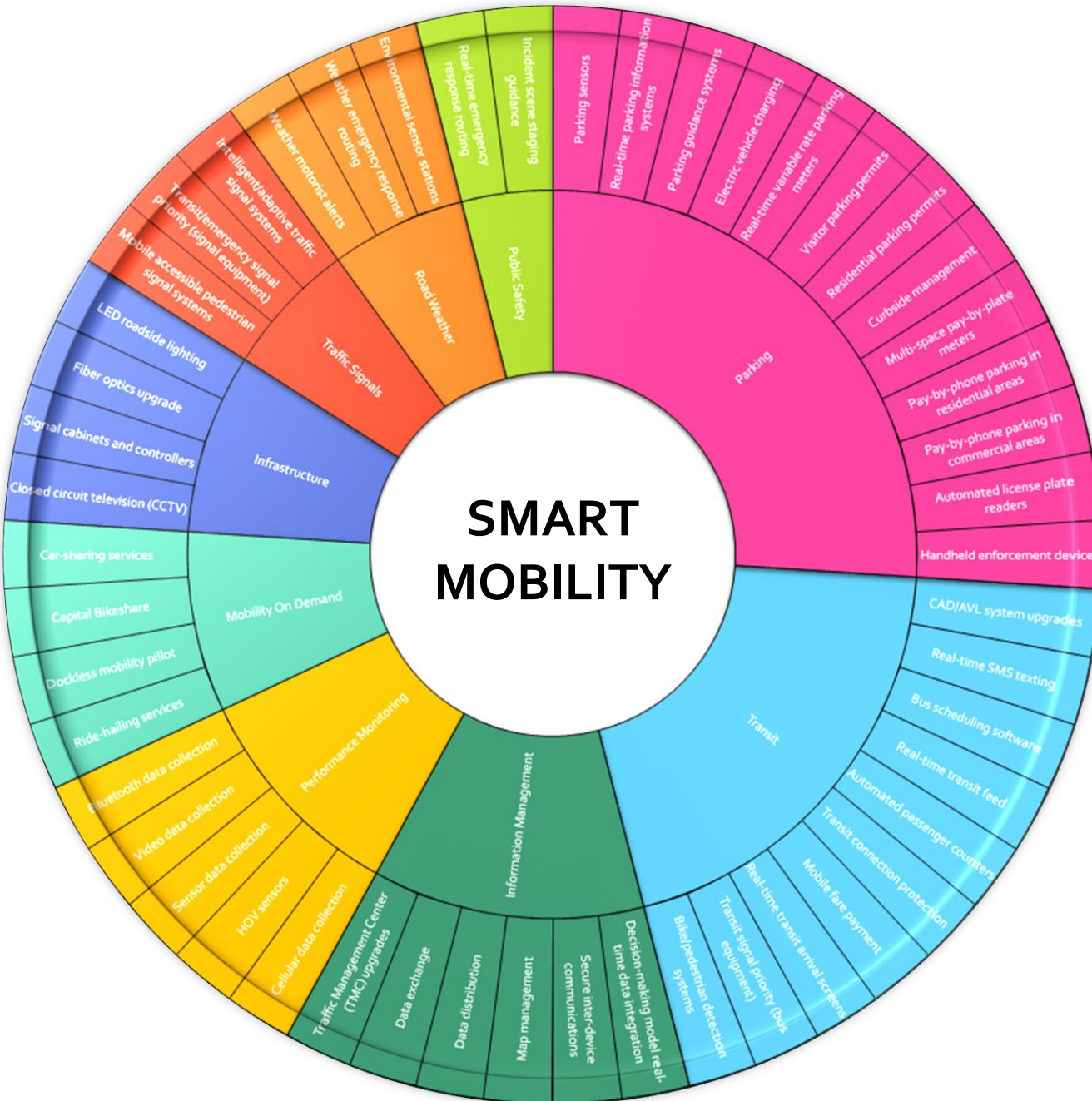
PERFORMANCE MONITORING



INFRASTRUCTURE



INFORMATION MANAGEMENT



Smart Mobility: TRANSIT

What we're doing:



- **Transit signal priority**
- Mobile fare payment
- Real-time arrival screens
- Real-time transit feed

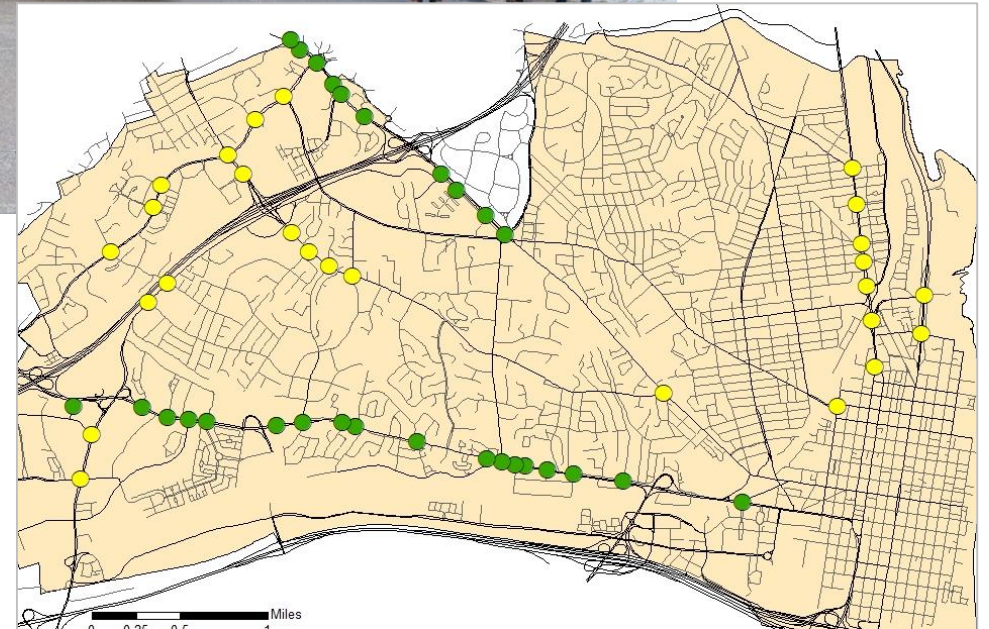
What it means:

- ✓ Faster bus service
- ✓ Easier trip planning
- ✓ Easier trip payment



TSP Legend:

-  DASH & WMATA
-  WMATA



© Smart Mobility: PARKING

What we're doing:

- Streamlined enforcement
- Pay-by-phone parking
- **Real-time parking intelligence for City & people trying to park**

What it means:

- ✓ Less time searching for parking & happier customers
- ✓ Less illegal parking
- ✓ Easier parking payment



Smart Mobility: PUBLIC SAFETY

What we're doing:

- Emergency routing support
- **Emergency vehicle preemption**

What it means:

- ✓ Faster emergency response times



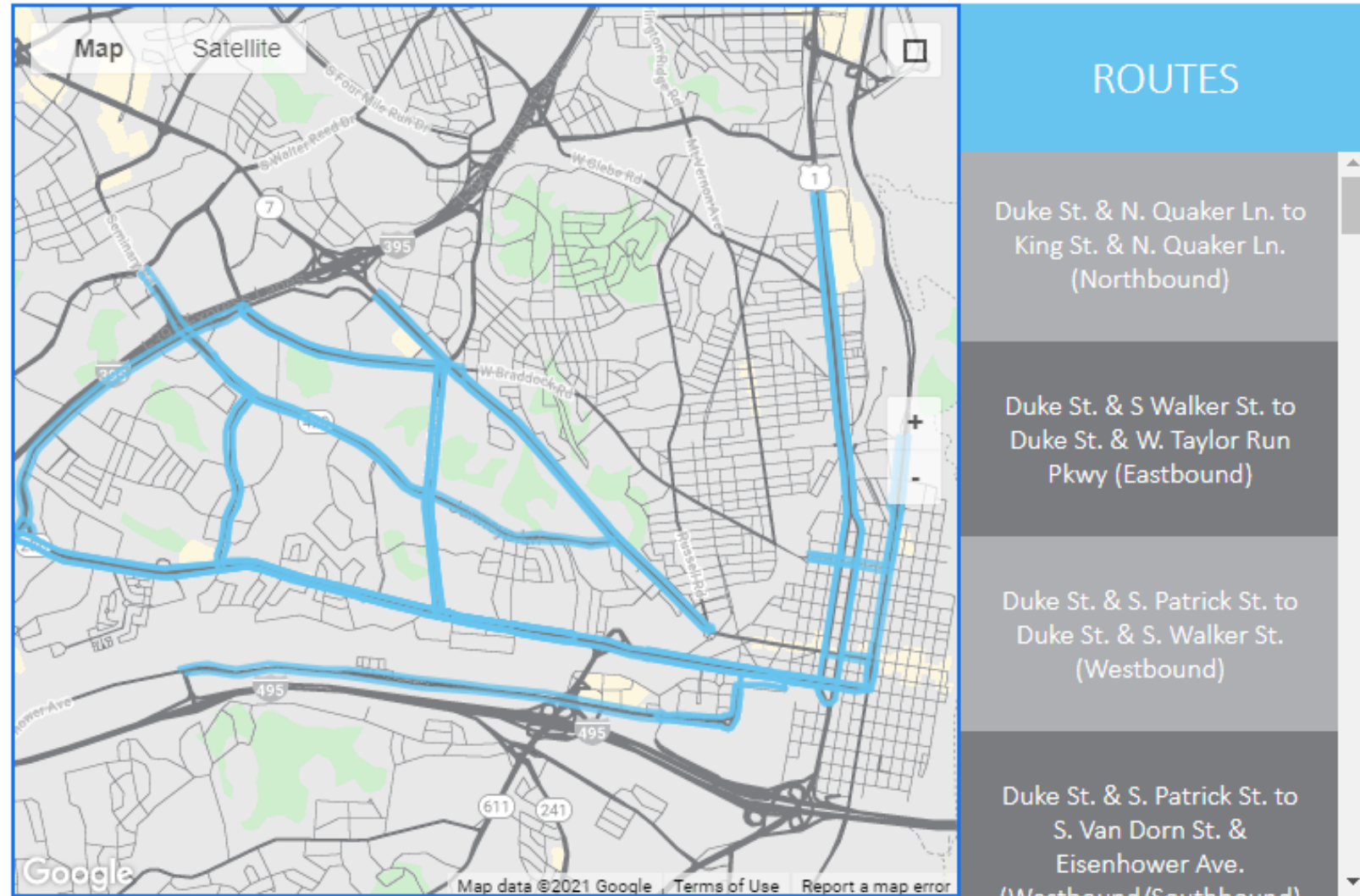
Smart Mobility: PERFORMANCE MONITORING

What we're doing:

- Expanding bluetooth and sensor data collection
- Researching HOV sensors and video and cellular data collection

What it means:

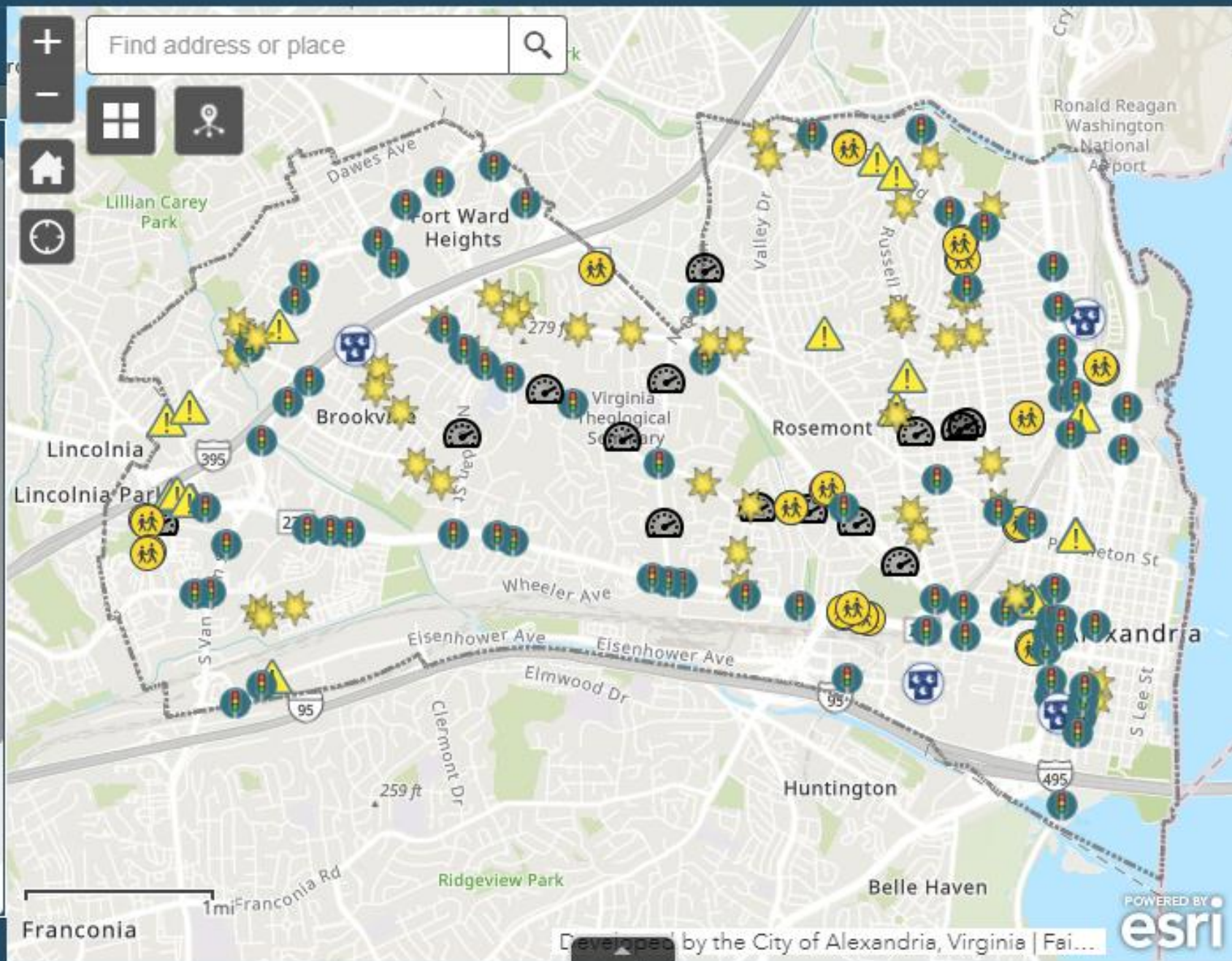
- ✓ Better-managed traffic flow
- ✓ Results-based road management





Signal Types and Feature Filters

- HAWK Signals ☒
- Warning Flashers ☒
- Transit Signal Priority ☒
- School Speed Flashing Sign ☒
- Speed Feedback Signs ☒
- Leading Pedestrian Intervals ☒
- Flashing Pedestrian Cross Signs ☒
- Bike Signals ☒
- Emergency Vehicle Pre-emption Signal ☒



CHALLENGES

- Decision-maker buy-in
- Finding & retaining staff
 - ✓ Data analysts + traffic engineers
- Data privacy policy

OPPORTUNITIES

- City fiber initiative
- Great funding partners like NVTA
 - \$43 million program
- \$1B Virginia Tech Innovation Campus, Landmark Mall...



Questions?
Thank you!