CITY OF ORLANDO
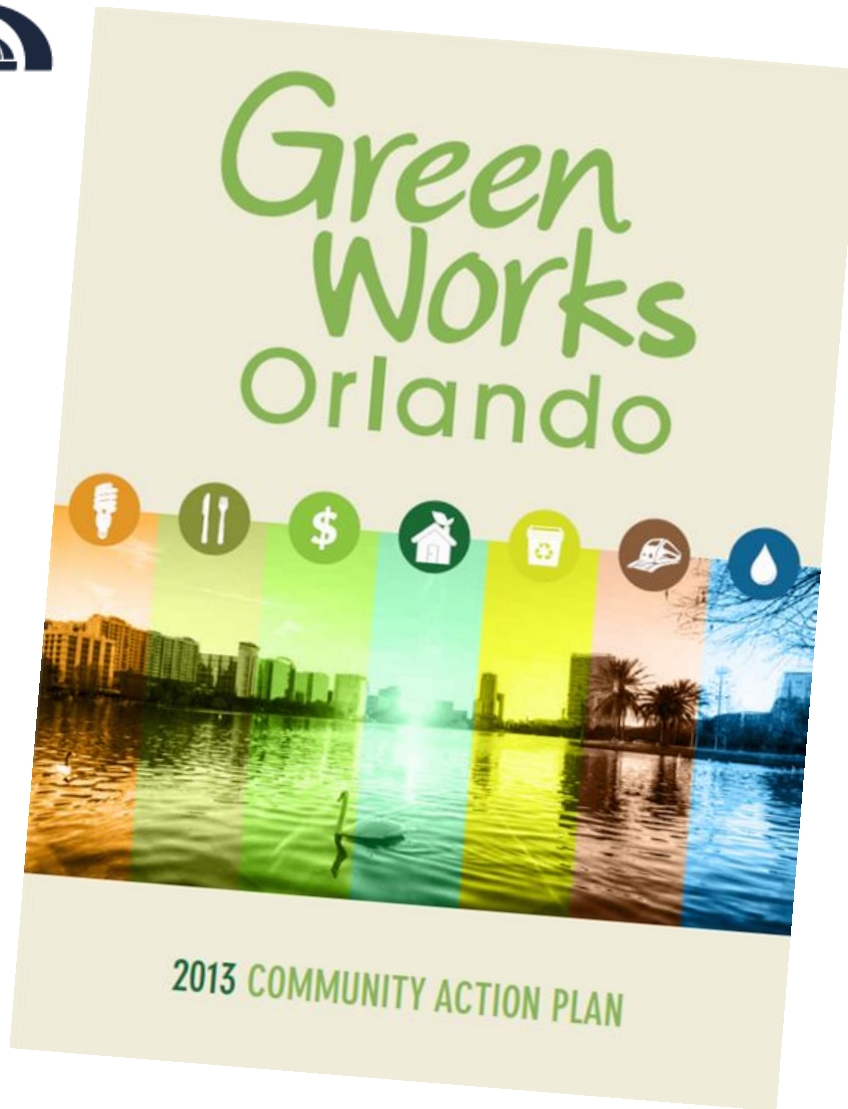
Smart ORL
The future of urban sustainability

FSEC Advisory Board meeting
March 3rd, 2017

Sustainability   **Resilience**   **Security**

US DOT Smart Cities Challenge, Dec 2015

1,400 local officials, companies, academics and non-profits joined our webinars

800 people participated in our Smart City Forum

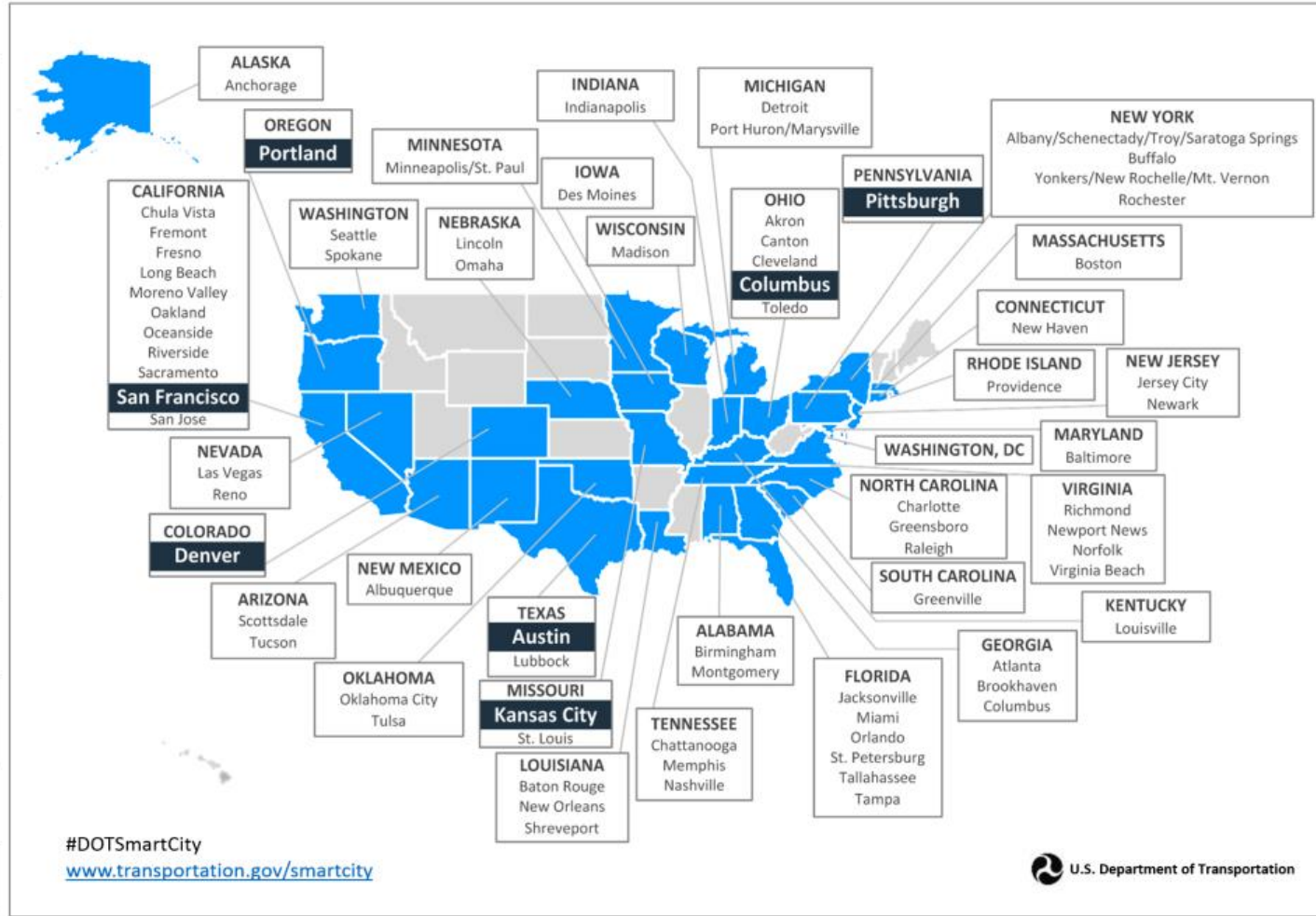**300** companies have expressed interest in partnering

78 applications received for the Smart City Challenge

7 Smart City Challenge Finalists announced in March at SXSW

1 Smart City Challenge Winner announced in June

ALASKA — Anchorage

OREGON — **Portland**

CALIFORNIA — Chula Vista, Fremont, Fresno, Long Beach, Moreno Valley, Oakland, Oceanside, Riverside, Sacramento, **San Francisco**, San Jose

WASHINGTON — Seattle, Spokane

MINNESOTA — Minneapolis/St. Paul

NEBRASKA — Lincoln, Omaha

INDIANA — Indianapolis

IOWA — Des Moines

WISCONSIN — Madison

MICHIGAN — Detroit, Port Huron/Marysville

OHIO — Akron, Canton, Cleveland, **Columbus**, Toledo

PENNSYLVANIA — **Pittsburgh**

NEW YORK — Albany/Schenectady/Troy/Saratoga Springs, Buffalo, Yonkers/New Rochelle/Mt. Vernon, Rochester

MASSACHUSETTS — Boston

CONNECTICUT — New Haven

RHODE ISLAND — Providence

NEW JERSEY — Jersey City, Newark

MARYLAND — Baltimore

WASHINGTON, DC

VIRGINIA — Richmond, Newport News, Norfolk, Virginia Beach

NORTH CAROLINA — Charlotte, Greensboro, Raleigh

SOUTH CAROLINA — Greenville

KENTUCKY — Louisville

GEORGIA — Atlanta, Brookhaven, Columbus

NEVADA — Las Vegas, Reno

COLORADO — **Denver**

NEW MEXICO — Albuquerque

ARIZONA — Scottsdale, Tucson

TEXAS — **Austin**, Lubbock

OKLAHOMA — Oklahoma City, Tulsa

MISSOURI — **Kansas City**, St. Louis

ALABAMA — Birmingham, Montgomery

TENNESSEE — Chattanooga, Memphis, Nashville

FLORIDA — Jacksonville, Miami, Orlando, St. Petersburg, Tallahassee, Tampa

LOUISIANA — Baton Rouge, New Orleans, Shreveport

#DOTSmartCity
www.transportation.gov/smartcity

U.S. Department of Transportation

How does Orlando define a 'Smart City'?

- Using *digital technologies* to enhance the livability, workability and sustainability of Orlando.

- Making the critical infrastructure management and services of our city more "**Open**", **intelligent**, **interconnected**, **efficient** and **continually renewing**

  - Citizen & Visitor Engagement
  - Administration
  - Public Safety (Police & Fire)
  - Built environment
  - Diverse modes of access and mobility
  - Water
  - Energy & Utilities
  - Waste Management
  - Economic Development
  - Inclusion of vulnerable & under-served groups

Smart ORL Leadership Team

- **Orlando Smart Cities Steering Committee**

  – Charles Ramdatt, Deputy
    – Convener

  – Chris Castro, Sustainability Director, Co-chair

  – Richard Howard, Director of Public Works

  – Rosa Akhtarkhavari, Chief Information Officer

- **Orlando Smart Cities Internal Team**

  - **Mayor's Office**- Kathy Devault
  - **Sustainability** - Chris Castro
  - **Facilities & Fleet** - Ian Lahiff, David Dunn
  - **Public Works** - Rick Howard, Charles Ramdatt, Jim Hunt, Lisa Henry, Michael Carroll, Scott Zollars
  - **Families, Parks & Recreation** - Lisa Early & John Perrone
  - **Economic Development (EDV)** – Mike Rhodes
  - **Transportation** – Billy Hattaway
  - **Information Technology (IT)** - Rosa Akhtarkhavari, Matt Broffman
  - **OPD** - DC Orlando Rolon, DC Robert Anzueto
  - **OFD** - DC Richard Wales & Keith Maddox
  - **Orlando Venues** - Kirk Wingerson

External Partners

- NASA Kennedy Space Center
- University of Central Florida (MetroLab Network)
- Florida Solar Energy Center (FSEC)
- Florida Department of Transportation (FDOT)
- Orlando Utilities Commission
- Orange County Government
- Orlando Inc. / Greater Orlando Chamber of Commerce
- Economic Development Commission
- LYNX
- Siemens
- Cisco
- Amazon Web Services
- Lockheed Martin
- Harris Corporation
- General Motors
- 20+ additional partners (US DOT Challenge Partners)
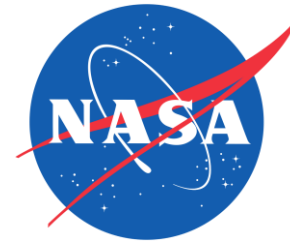
MetroLab Network

- White House initiative launched 2015

- 3-way partnership for Smart Cities R&D

    – **Autonomous & Connected Vehicles**

    – **Solar harnessing for EV's + V-2-X**

    – **Real-time Travel information for all mobility**

Previous & Current Smart Cities Projects in Orlando

- TravTek In-vehicle Navigation
- ITS (traffic signal priority, AVL, etc.)
- Open Data
- Smart Parking Meters
- Garage Modernization
- Smart Buildings
- Distributed Generation (solar)
- Electric Vehicles
- IRIS and City-wide Surveillance
- Water Monitoring
- Smart Policing Predictive Analysis
- EDIS Route Optimization
- Special Event Management

TravTek: In-vehicle Navigation Systems

Smart Waste Management

- **GOAL: Become Zero Waste by 2040**

- Expanding recycling and food waste collection in Downtown core.

- Established 10+ recycling bins at Lake Eola

- Establishing 20+ bins, including Big Belly Solar Trash Compactors in Spring 2017

DOWNTOWN ORLANDO.

W Amelia St   E Amelia St

SOLAR COMPACTOR

PAPER BOTTLE & CAN   RECYCLING ONLY

E Anderson St

Downtown Orlando Community Redevelopment Agency

Big Belly

Free Standing

City of Orlando, Economic Development Department, January 2017

Smart Vehicles

- **GOAL: 100% alternative fuels by 2030**

- EV's for City Hall motor pool

- Purchasing EV Motorcycles for OPD

- Testing EV buses for LYNX and LYMMO

- Deploying 150+ EV charging stations around City

Smart Buildings

- Municipal EE Project

- $17.5 million municipal bond
  - 110 Buildings Total
    - Phase I – 55 Buildings

- **Goal $2.4 Million annual savings**
  - Fund future EE investments
  - Pay down bond debt

Smart Energy: 420KW Solar PV array

Expanding On-site Solar PV

- **GOAL: 100% Renewable Energy by 2030**

- Solar R&D Platform

- 2+ MW of rooftop PV

- 4 MW brownfield community solar farm

SolSmart designation

- U.S. DOE recognition program to help local governments reduce barriers to solar energy growth.

- Focuses on the "soft-costs" of solar

- Developed "Roadmap-to-Gold"
  - Planning / Permitting staff training
  - LDC definition of "Solar equipment"

UCF Digital Smart Grid Lab

- $750,000 grant

- Partnership with SIEMENS, Duke Energy, OUC, and City of Orlando

- Simulation of UCF electric grid

US DOT Autonomous Vehicle Proving Grounds WINNER

- 1 of 10 cities nation-wide
- Developed "Central Florida Automated Vehicle Partnership (CFAVP)"
- R&D for new vehicle technologies, including electric, connected, and autonomous vehicles
- Focus on all modes of travel
  - Freight, Transit, Automobile, Bike/ped

2017 Smart Cities Council Readiness Challenge WINNER!

- 1 of 5 cities nation-wide
  - Orlando, Miami, Austin, Philadelphia, Indianapolis

- Develop comprehensive 'smart cities' roadmap

- Deploy cutting-edge smart cities technologies

Smart District:
Creative Village / Downtown UCF

CITY OF ORLANDO