

Smart City...

What is it?

Smart City

- ▶ A developed area with an internet connected population, infrastructure, work place, homes, devices, and vehicles that can exchange data or communicate to each other wirelessly.
- ▶ Intended to enhance quality of life and the area economy: economy, mobility, environment, people, living, and government services
- ▶ Columbus Ohio won the Smart City Challenge with a plan to increase poor people's access to new transportation options.
\$50M + \$90M

Internet of Things (IoT)

- ▶ IoT is required to be a Smart City.
- ▶ The Internet of Things (IoT) is a system of internet connected devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.
- ▶ any object that can be assigned an IP address and can transfer data over a network

Why Smart City?

▶ Better Living

- Enhance Safety and Mobility
- Reduce Congestion and Emissions
- Minimize Travel Time Delays
- Ease in Communication, Data Sharing/Transfer & Connection

▶ Support Economic Development

- Minimize Travel Issues that Impact Employee Production
- Reduce Parking Demands & Repurpose Existing Parking Facilities
- Alternative Means to Communicate and Produce

Communications - Connections

- COMMUNICATIONS

- V2V - Vehicle to Vehicle
- V2I - Vehicle to Infrastructure
- V2X - Vehicle to Ped, Bicyclist, and others
- Emergency Vehicles
- Mass Transit Vehicles
- DSRS Broadcast
- - Dedicated Short Range System
- Cellular Communication
- OBU - On Board Unit
- RSU - Roadside Unit

- MESSAGES

- SPaT - Signal Phase and Timing
- BSM - Basic Safety Message
- PSM - Personal Safety Message
- EVP - Emergency Vehicle Priority
- TSP - Transit Signal Priority

Smart City

- ▶ Which technology will you adopt?