

PLANNING FOR AUTONOMOUS VEHICLES IN THE SMART CITY

ADDRESSING PROMISE
& PROBLEMS

"Eight key aspects that define a Smart City:



smart governance

smart energy

smart building

smart mobility

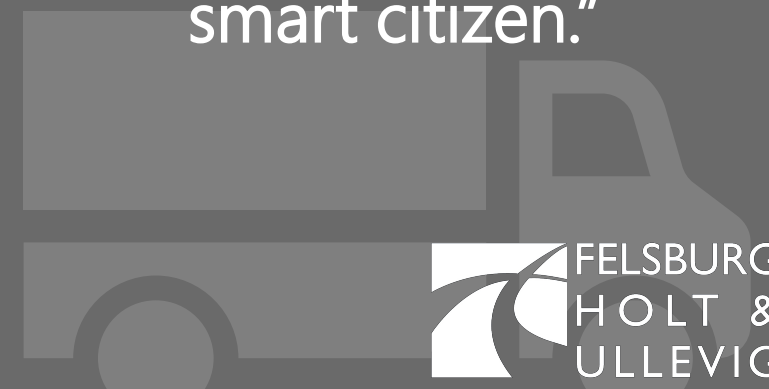
smart infrastructure

smart technology

smart healthcare

smart citizen."

- Frost & Sullivan

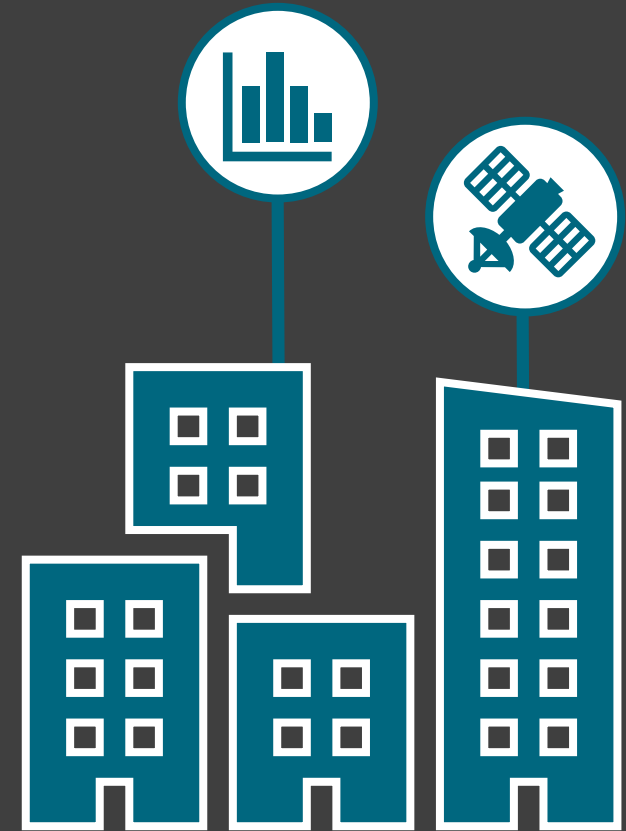
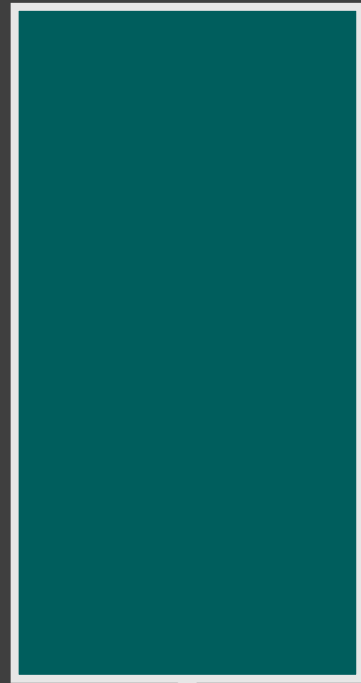




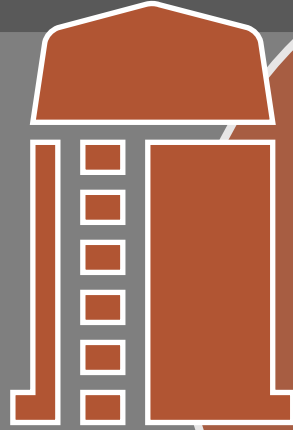
“**EFFICIENCY** is doing things right;
EFFECTIVENESS is doing right things.”

- Peter Drucker

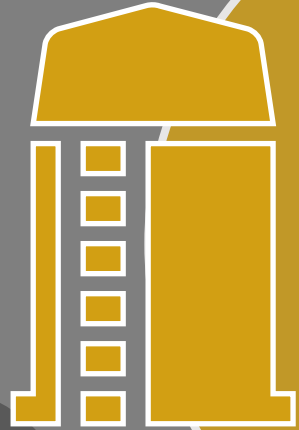
SMART MOBILITY in the SMART CITY



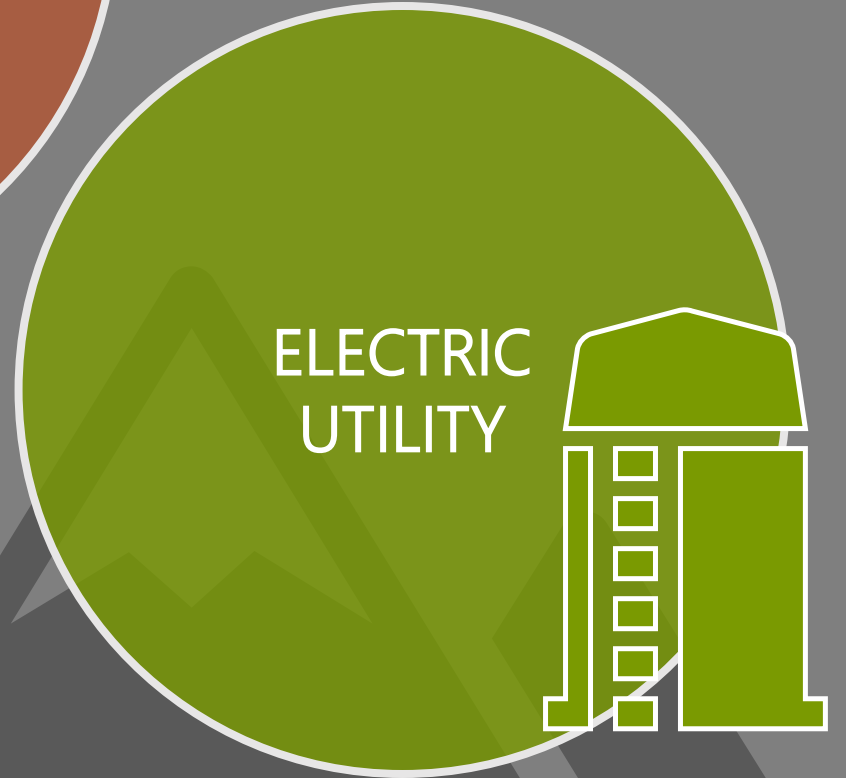
TODAY'S LANDSCAPE



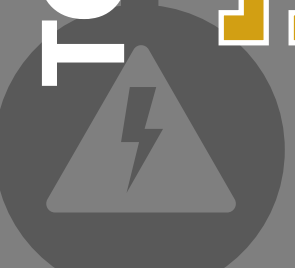
TRANSPORTATION
INFRASTRUCTURE



AUTO
INDUSTRY



ELECTRIC
UTILITY



FUTURE SCENARIOS



AUTO
INDUSTRY

TRANSPORTATION
INFRASTRUCTURE

ELECTRIC
UTILITY



SMART INFRASTRUCTURE & SMART MOBILITY

- V2X
- Advanced Traffic Management
- EV Model Options
- Autonomous EVs



OPPORTUNITIES

Universal Standards

Data Collection



SMART INFRASTRUCTURE & SMART ENERGY



- Real-time Traffic Management
- V2X & the IoT
- Smart Street Lights
- Home EV Charging



OPPORTUNITIES

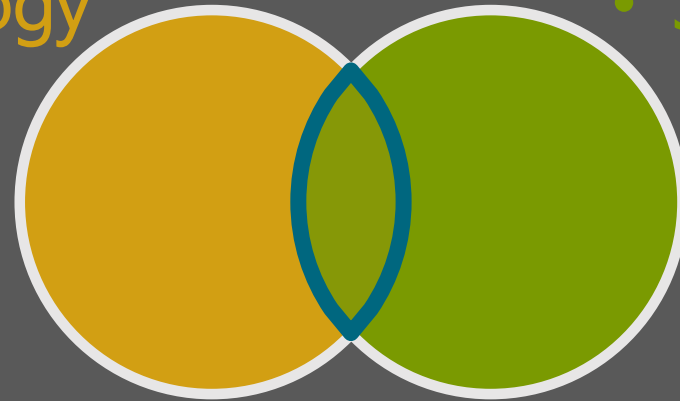
Public Charging Infrastructure

Data Collection & Data Management

SMART MOBILITY & SMART ENERGY

- EV Model Options
- Battery Technology

- Smart Meters
- Smart Grid



OPPORTUNITIES

Vehicle-to-Grid (V2G)

Distributed Storage



THE MOBILITY UTILITY CONCEPT



- Being developed by universities in collaboration with utilities in Europe
 - Utility that owns and leases electric vehicles
 - Vehicle batteries are mobile energy storage
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Potential to:

- Balance demand for energy and mobility
- Efficient use of renewable energy resources
- Provide mobility options as a public good

Striving Towards the **SMART CITY**

eMobility mobility-as-a-service **IoT**
electric vehicles **smart grid** green energy
V2X **SMART CITY** **V2G**
distributed storage **autonomous vehicles**
advanced traffic management smart meters

connected vehicles
integrated mobility services



GETTING THERE...

