

Creating & Leading a SMART CITY

Insights from Portland, Maine



Jon Jennings, City Manager

Portland, Maine

One of the smallest, largest cities in US - but with an international focus & connections to the world

- International port
- Craft beer industry
- Cruise ship industry
- International sister-city relationships





Mission:

- **Back to Basics**
- **Take care of delayed infrastructure projects**
- **Create an Innovation Hub: Use data & technology to create efficiencies and opportunities**

Portland, ME



WELCOME TO PORTLAND



Call Us



City News



Live-Stream



NotifyME



City Council



CityPortland



Place



Notices



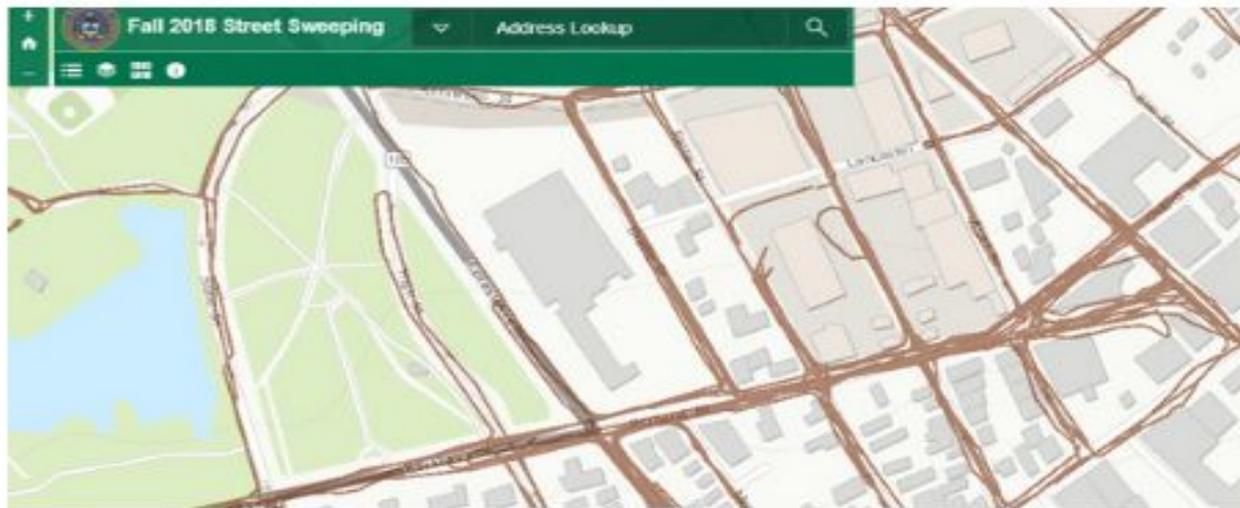
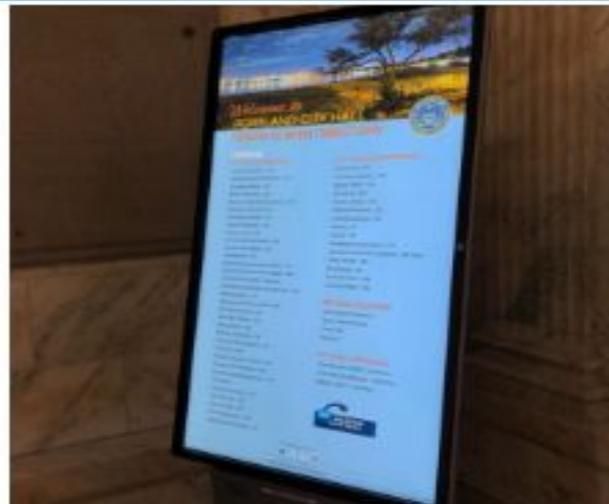
Issues



Profile

PARK, PAY, BE ON YOUR WAY

With the PassportParking mobile app, you can handle your parking with your smartphone.





The Game Changer

NEW RULE:

*Cities in Maine Now
Allowed to Purchase
Their Street Lights
from the Utility
Company*

**Portland is first city
in Maine to do this!**



The Problem? \$1.1 Million Each Year

- Spent on street light costs annually from the City's operating budget
 - For the light pole rentals, maintenance, and energy costs



The Opportunity

Purchase
Lights from
Utility Company
No more rental costs



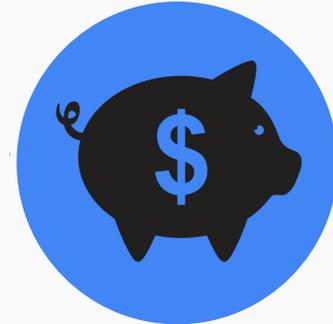
Convert to LED

Save on maintenance and
energy costs

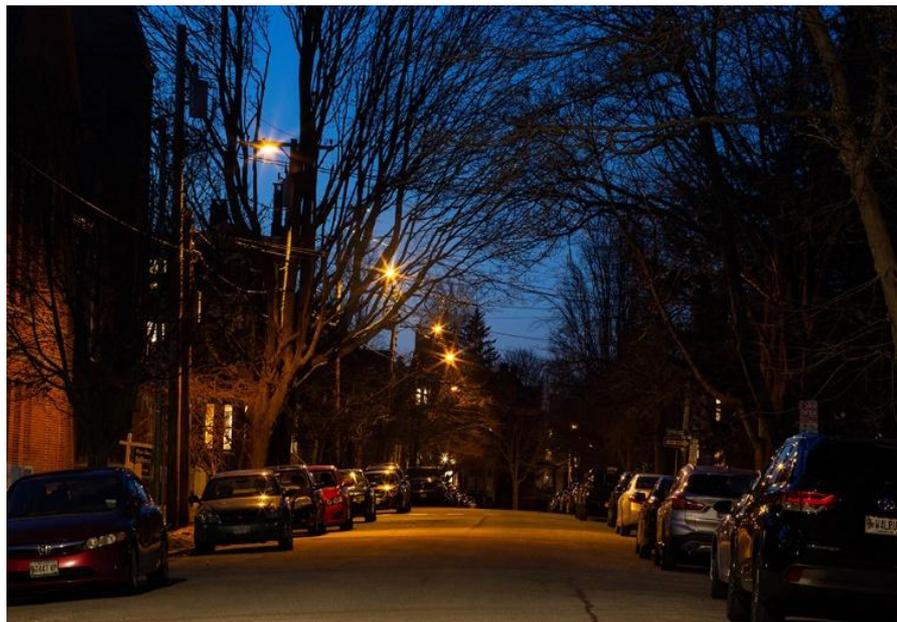


Save \$1 Million
a Year

Use savings for smart
cities technologies



LED Lighting Success



Before

After

Emery Street, Portland

A photograph of a city park at dusk. In the foreground, a large fountain with multiple jets of water is illuminated with warm lights. The water jets are reflected in the dark water of the pond. In the background, there are several buildings, including a large brick building with many windows, a building with a radio tower on top, and a building with "EASTLAND" written on it. The sky is dark blue with some clouds. There are trees and a street lamp in the middle ground. A colorful banner is strung across the park. The overall scene is a mix of natural and urban elements.

The Smart City Journey

**Use savings
from LED Street
Light Project to
invest in
smart cities
technologies**

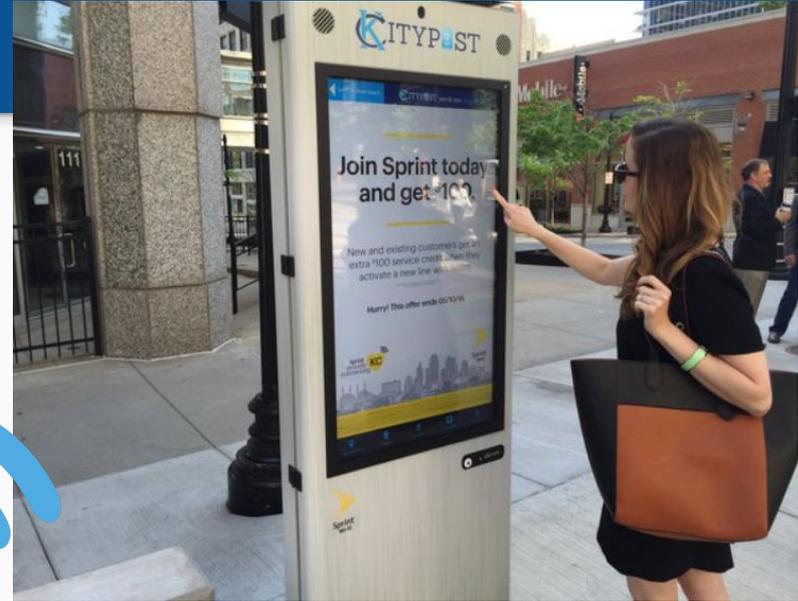
Public WiFi & Kiosks

EV Charging Stations &
Environmental Sensors

Smart Signals to Ease Traffic
Congestion & Spur Economic
Development

Smart City: Phase One

- **Public WiFi pilot complete**
- **Researching vendor to install public information kiosks for wayfinding & city news**
- **Added EV Charging Stations**
- **Environmental sensors at key intersections**



Smart City: Phase One Adaptive Traffic Control

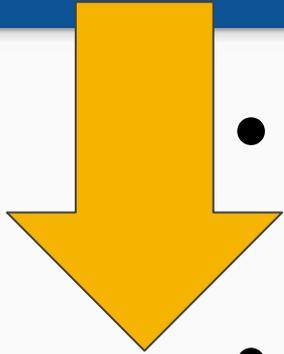


Case Study: Morrill's Corner

- Deploy SurTrac System - CMU Tech
- Use artificial intelligence to predict and respond to road conditions in real time.
- Started with major bottleneck for east/west commute



Morrill's Corner Results



- **20% Reduction in Wait Times Following Few Months of Use**
- **Next Up: Install SurTrac system along the rest of the Forest Ave corridor to further improve traffic congestion along rest of the commuter artery**



Smart City: Phase Two Highly Automated Vehicle Strategy



© Corey Templeton 2015

INRIX[®]



Source: AAA



The Problem: Increasing Congestion

- Increasing development, existing businesses, tourism, new employers
- Safety concerns
- Rising parking costs pricing service industry & marine industry workers out of the market
- Demand for parking exceeds available spaces in peak tourist months



The Problem: Increasing Congestion



FRANKLIN & COMMERCIAL STREETS

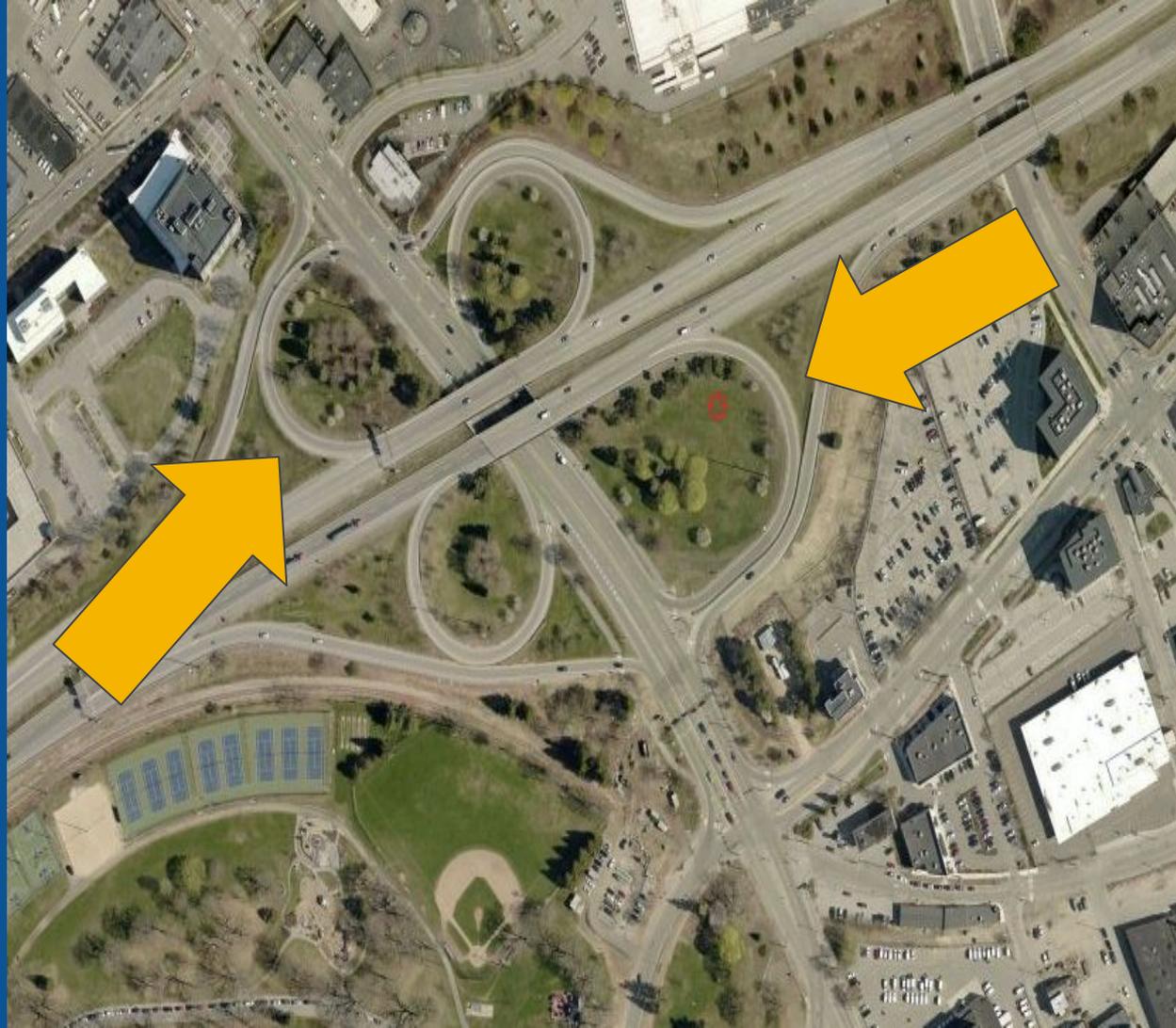
- Direct routes from I-295
- Commercial St - 14,000-17,000 vehicles per day + significant visitor activity
- Franklin St - 30,000 vehicles per day near I-295 section; greatest daily volume of any street in the city
- Both experience congestion - especially with seasonal traffic

The Problem?

Not enough available land.

Need better land use.

- Free up space for remote parking



PROPOSAL

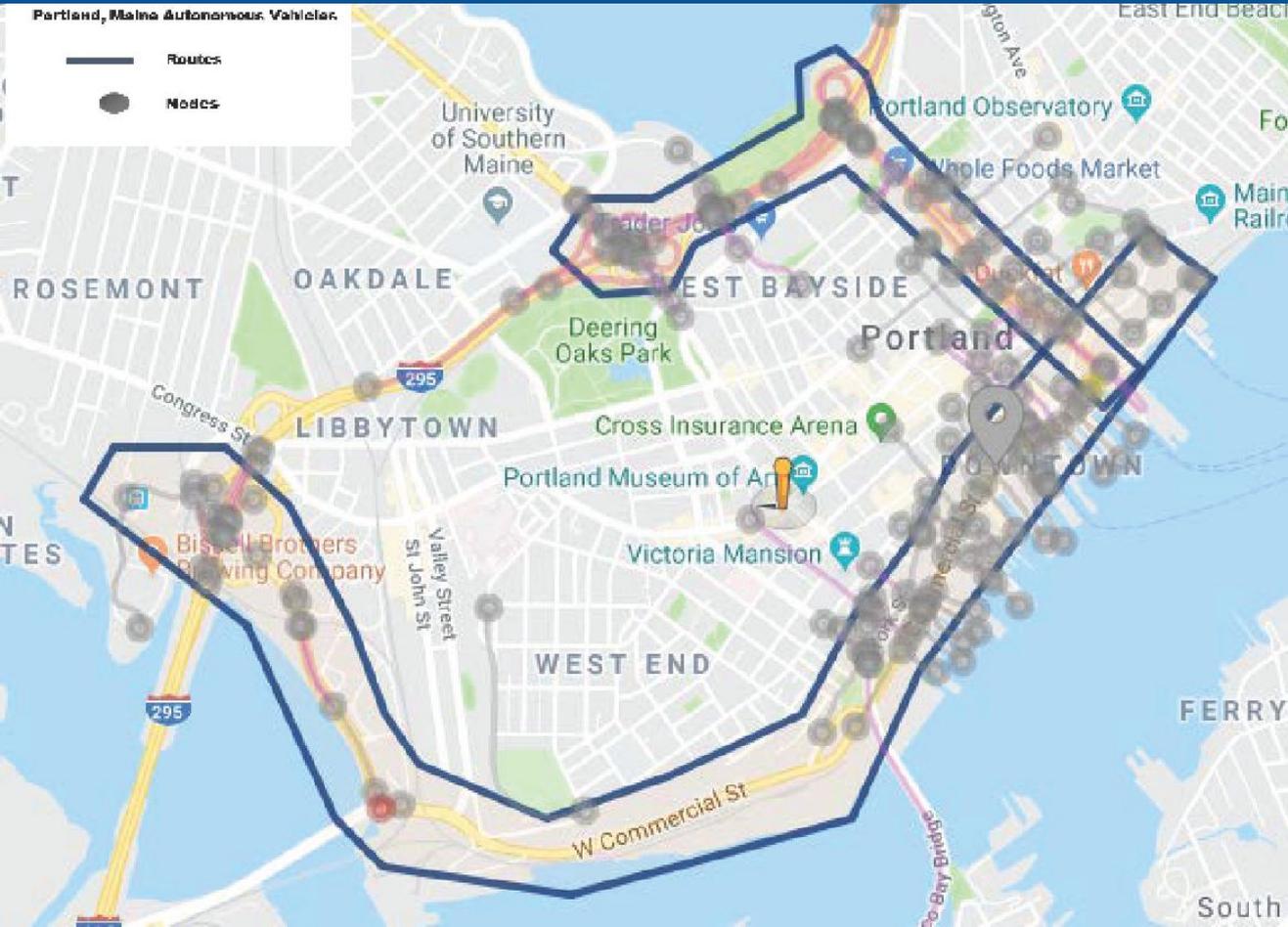
Autonomous Shuttle Between Remote Parking



INRIX Road Rules for Franklin & Commercial Streets

- Map corridors to lay groundwork for HAVs
- Establish remote parking options as links in autonomous shuttle route
- Collaborate with Maine DOT regarding use of HAVs on public streets
- RFP for AV shuttle providers – low speed, electric
- Upgrade & add traffic signal infrastructure on these corridors: Ped activated HAWK, intelligent signals
- Improved infrastructure benefits all road users

INRIX Road Rules Corridors



- Digitize “rules of the road”
- Catalogue existing rules & control infrastructure
- Improve deficient infrastructure / amend traffic rules as needed
- Improve safety & accessibility for all users

WHAT'S NEXT?

Making the Innovation Hub a Reality

- **PPP: Health care analytics institute, tech & innovation center**
- **Growth: WEX, Inc., Vets First Choice & more**
- **Efficiency: Deploying more smart cities technologies**



Q & A

Thank you!

Contact:

innovation@portlandmaine.gov