smartLINK sL

Our Panelists

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What is a smart city?

Example Smart City Framework

IEEE Smart city frame work – Developed in KY "Snapshot"

IoT deployments must protect and respect the privacy of citizens and visitors. Cities should be committed to being open and transparent about the context of data collection, transmission, processing and storage.

| Connectivity	Version	Label	Description
	1.1	Wire Frame	Smart cities should begin with wireframe digrams showing how the smart city as a whole will work. Once this definition is created components can be added in a structured manner.
	1.2	Outcome	IoT devices and platforms (e.g. how data is collected, analyzed and used) should be designed with the outcome in mind (e.g. predicting traffic demand based on data patterns, weather and events) which will optimize benefits which created insights from data collection (e.g. routing transit vehicles more efficiently). Data exchanges should be targets for data which provide relevant business and historical data from IoT platforms.
	1.3	Minimize data	Data measurement will require collection and categorization in an efficient manner. Goals for data systems should be to send the least amount of data to ensure outcomes are achieved. (e.g. send voltage .01 to signfy density is 1 percent in a given area)
	1.4	Control	IoT data should be indexed rather than collect from disparate systems. Searching can be done effiectly cross platform in this manner. Sending of data should only be done if a system requires the communication for function to achieve outcome. All connections should be completed through open standards such as application programming interfaces (API's), as well as software development kits (SDKs) where possible.
	1.5	Market place	Citys should have a defined data exchange made available for buy side, sell side and general use (For city needs / open portal). Data portals should have documented interfaces including API's and SDKs which utilize a tierd data structure for production, testing, archiving. See security controls regarding access requirements.
	1.6	Portals	Open portals should utilize democratized processes ensuring development, curation, and refinement benefits are had by all. (e.g. user 1 joins 2 tables and waits for the indexing to occur. That join should not be made available for all others)
	1.7	Validation	All Iot Devices systems should be paired in such a way that validation occurs seamlessly. (e.g. all temperature sensors should be categorized and groups with other like devices for comparatize results). All sensors should require GPS coordinates and labeling to ensure tracking and identification is capable on the system. Robust active security and end of life protocols should be enforced.
	1.8	Management	All IoT systems will be controlled through platforms which monitor health, validity, and location for all devices. These platforms should be capable of sending information to a central platform (Platform on Platform) if required by city for governance.
	1.9	Testing	Test driven development methodology should be implemented to automatically QA all data ingested into central repositories. This lower operating costs and create a more efficient data enviroment.
	2		Centralized Platform on platform technology should be designed to ensure all devices have proper governance. Requirements such as API / SDK along with TDD (Test Driven Development) protocols will allow the city to create a data enviroment which has all asset information including but not limited to network type, Security protocols, service levels,

Columbus Ohio

Columbus competed against 77 cities nationwide to win the Smart City Challenge in 2016, to:
- ▸ Improve people's quality of life
- ▸ Drive growth in the economy
- ▸ Provide better access to jobs and ladders of opportunity
- ▸ Become a world-class logistics leader
- ▸ Foster sustainability

$40 million - U.S. Department of Transportation and $10 million - Vulcan Inc., a company founded by Microsoft billionaire Paul Allen, Columbus

http://video.foxnews.com/d5af15d6-5cb8-41be-87ef-221d7e154e87

Northern Kentucky – Projects / Innovation
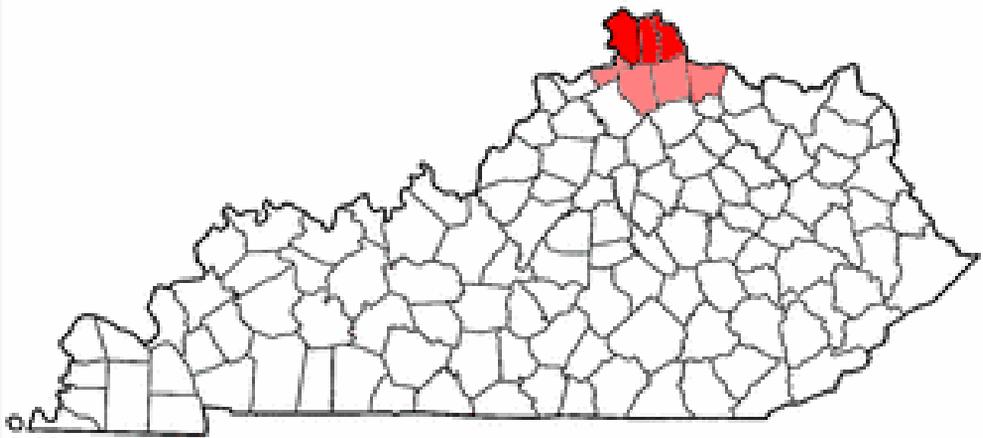
Newport Kentucky – Working "Smarter"

- **Partnering with Others**
- Smartlink Nodes (SmartLink/Nexigen)
- Public Wifi project (Small Business – Monmouth Street)
- OpenGov
- SWAT bot (NKU / DUKE Energy)
- LED's for street lighting (Duke Energy)
- EPAD/PACE Program (GCEA)
- Regional Smart Meters (Duke Energy)
- Smart Signals (KYTC)

Newport Kentucky + smartLINK

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- How it started
- Benefits of the system
- Enhanced data collection – market data
- Information / Communication
- Universal Access
- Overview of MyLo 1.0
- Challenges
- Next Steps / Broader Applications

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Structure
Stainless steel, Brushed aluminum, Carbon Fiber, and galvanized parts available.

Endurance
Airflow management, active cooling and heating systems, outdoor ready, rugged by design.

Warranty
5 year warranty on all parts available.

Engage
Advanced SAAS solution allowing for interaction across all channels.

Analysis
Advanced business intelligence utilizing all 10 sensors included with the MyLo

Connectivity
Fiber hand off
Fixed wireless hand off
Wireless Mesh, Point to point, Point to multi point solutions available

smartLINK process

The journey to becoming a smart environment
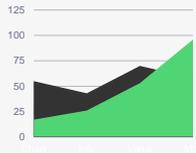
DISCOVER SMARTLINK

smartLINK then provides business cases for each kiosk that is laid out across the environment. We propose the marketing study to 1 of our national media purchasing partners and ensure the location is represented by the lens that best fits its culture desired revenue outcome and local business growth expected.

Begin

Discover
Discovering smartLINK is your first step into bridging your digital and physical worlds.

PHASE 1: FINANCIAL FEASIBILITY / MARKETING STUDY

technology deployment survey consisting of wireless, wired, and IoT infrastructure. We want to understand the proper standards in place to ensure we fit our technology into the city in a way that is cohesive and beneficial to the visitors and the data analytics platforms in place.

PHASAE 3: URBAN STRATEGY

PHASE 2: TECHNOLOGY ASSESSMENT / INFRASTRUCTURE

smartLINK works with the countries premier Urban Strategist who have tackled very challenging complex and broadly scoped urban projects to ensure our clients entire cultural and urban environment will be satisfied by our solution stack.

PHASE 4: DELIVER MANAGED TECHNOLOGY SOLUTION

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Projects

Projects Deploying in 2017

Ohio / Kentucky — 30

California — 10

Florida — 40

Australia — 10

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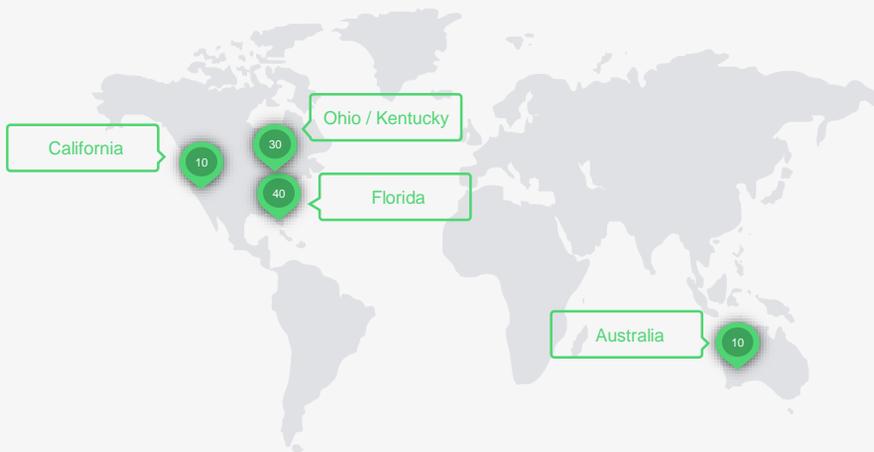
Covington: Public Wi-Fi as Revitalization Strategy

Public Private Partnership
- Driven by Renaissance Covington, 501(c)3
- Privately funded
- Supported by City of Covington
- Partnership with Cincinnati Bell

How it works
- Access Points
- Captive Portal
- Web-based content and integrated communication tools
- Custom designed data dashboard
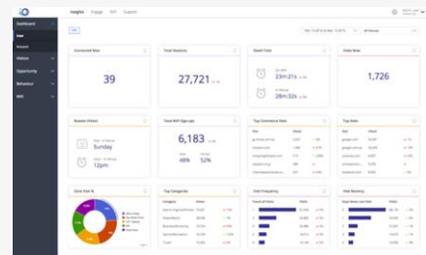

Covington: Public Wi-Fi as Revitalization Strategy

Tool for Social and Economic Revitalization
- Web-based wayfinding
- Mission driven narrative
- Development of public spaces
- Data analytics to support small business development, measure outcomes and inform property development analysis

Challenges

City of Edgewood - Engage

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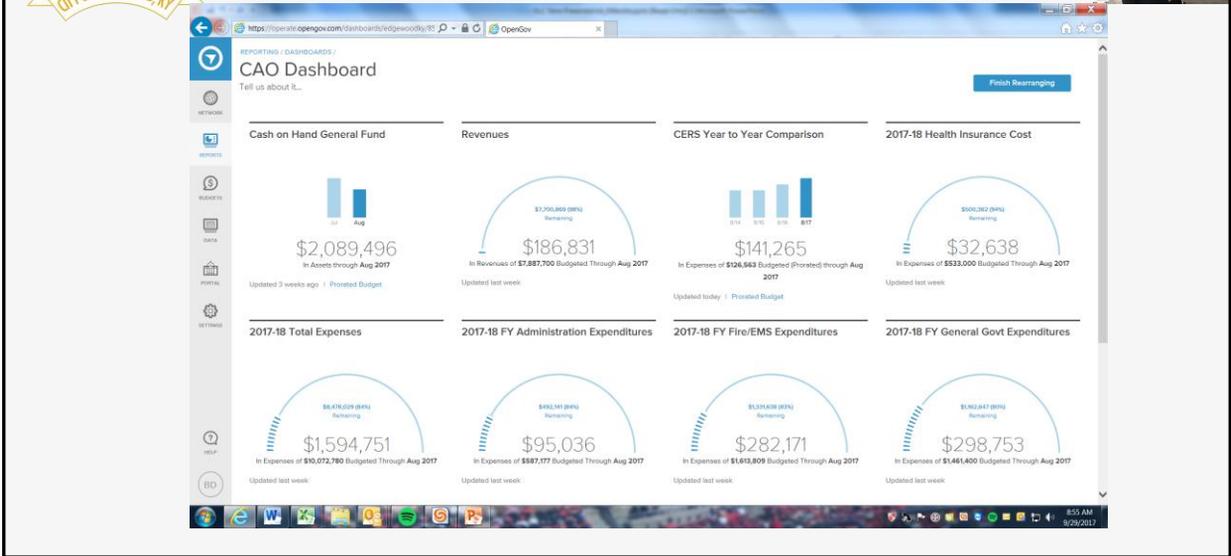# City of Edgewood – Engage
Heat Mapping
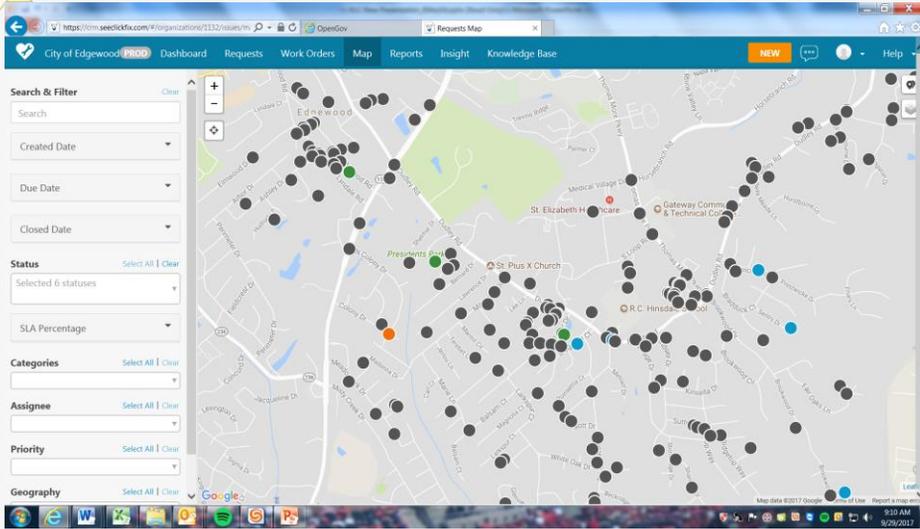
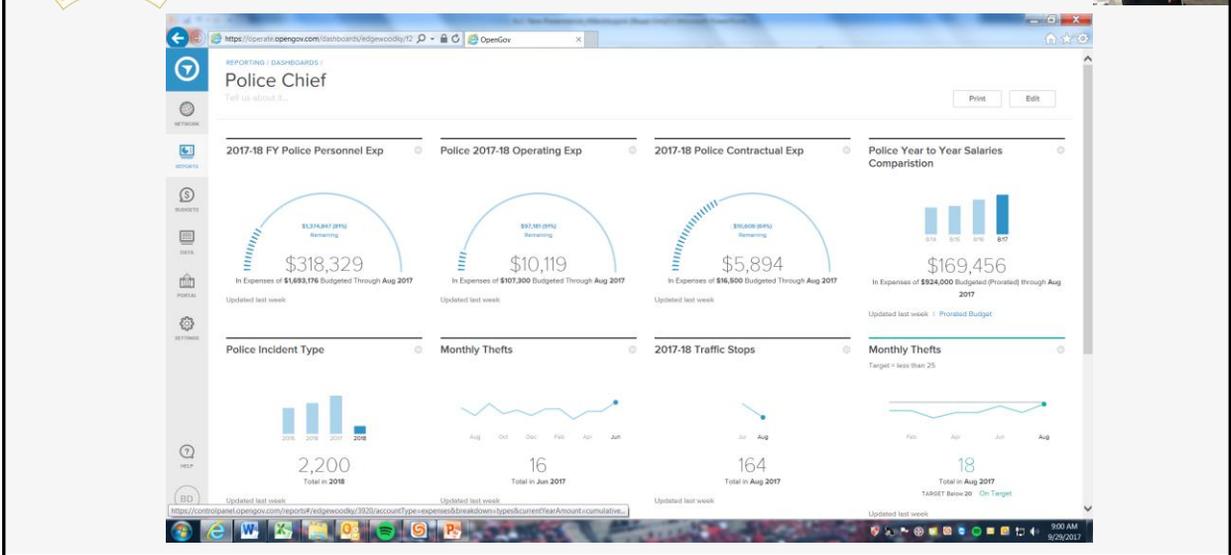# City of Edgewood – Engage Reports
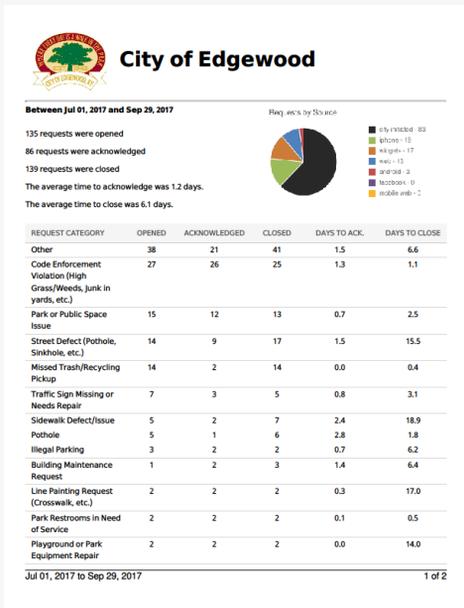
City of Edgewood – OpenGov Dashboards

City of Edgewood – OpenGov Dashboards

Common Challenges - All

- Broad Understanding – How do you talk to your community about the topic?
- Siloed Implementation
- Resources – Staff and Fiscal
- Regulation
- Regional Entities Control much of the "framework" responsibilities

Questions?

- How to get started?
- Risks?
- Opportunity?
- Collaborate?
- Benefits?
- Ideas?

Thank you