

Alaska Smart Communities

APA Alaska Planning Conference
November 14, 2017

What does Smart Community mean to you?

- ▶ Broadband access
- ▶ Sensors on light poles and signs
- ▶ Traffic management
- ▶ Single view about a customer, case, property, neighborhood...
- ▶ Integrating information from many sources
- ▶ Transparent government
- ▶ Easier to do business
- ▶ Easier to know services, projects in community
- ▶ Mobile tools, efficiency, speed...

A Smart Community is where...

- ▶ ...**data, tools and partnerships** are used to better serve citizens with information they can use.
- ▶ ...**mobile devices** enable people to get information, locate places, use services.
- ▶ ...**notification systems** provide reminders and alerts to subscribe to or push out.
- ▶ ...**sensors** help monitor traffic, weather, parking spaces, emergency vehicles, etc.
- ▶ ...and **more**.

Smart Community Framework

- ...an **urban area** in which multiple sectors, such as education, transportation, public safety and utilities, **cooperate with each other and** develop an agreement to achieve sustainable outcomes by **sharing their operational data and information** for context-driven citizen services.
- ...**citizens** (residential and businesses) **receive smart city services** not only through governments, but also through service providers and cooperation among the public sector, businesses, nongovernment organizations and citizen organizations.

Involves Spatial (Map) & Non-Spatial Data

Showing all Inspection Results

Rescale Axes on Filter

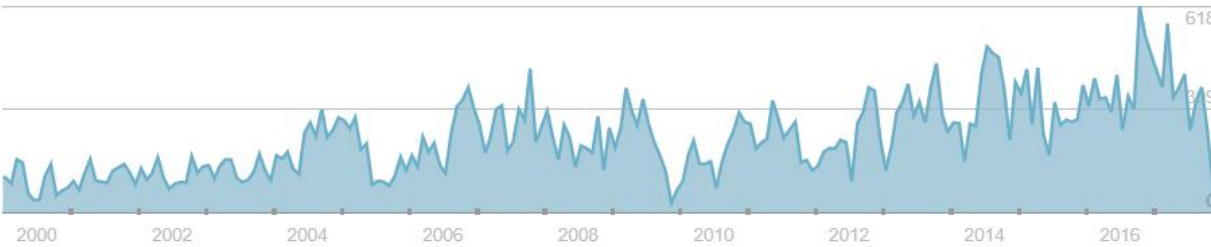
business_location



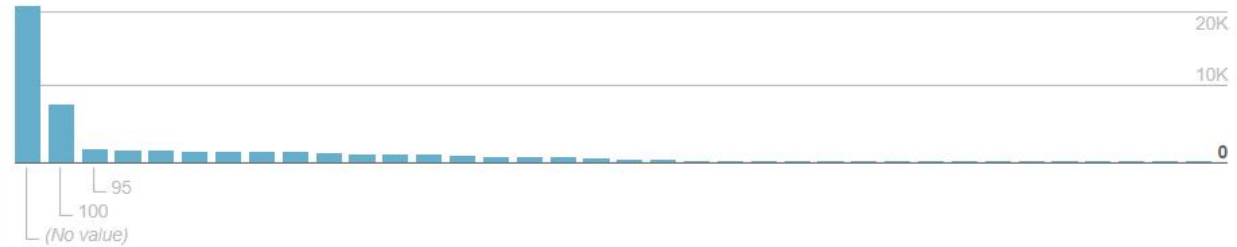
Number of Inspection Results by business_location — Community Councils



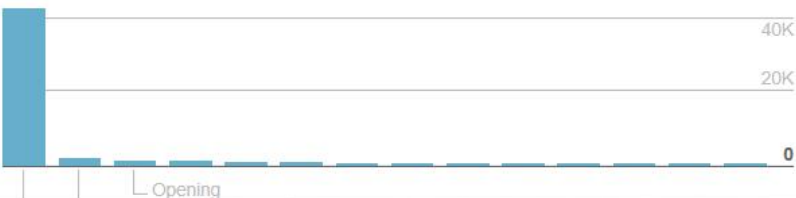
Number of Inspection Results by inspection_date



Number of Inspection Results by inspection_score



Number of Inspection Results by inspection_type

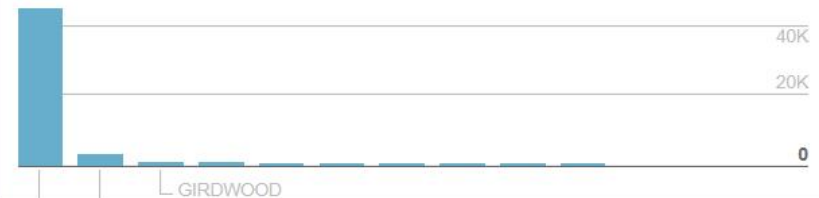


business_name

Search

Type some text and press Enter to search
(Examples: 'APPLEBEE'S RESTAURANT' or 'BENIHANA RESTAURANT')

Number of Inspection Results by business_city



Value Proposition

- ▶ Deliver useful information in useful way
 - ▶ Combined info (multiple sources)
 - ▶ One place (portal)
 - ▶ Relevant to where you are (maps)
 - ▶ Everyone contributes (crowdsourced)
- ▶ More informed, supported citizens
- ▶ More informed decisions
- ▶ Less redundant data and work effort
- ▶ Data available for value-added analysis by other organizations
- ▶ More efficiency, transparency

Smart Community Examples

➤ Rancho Cucamonga

- Mobile apps; “distributed authoritative sources”

➤ New York**

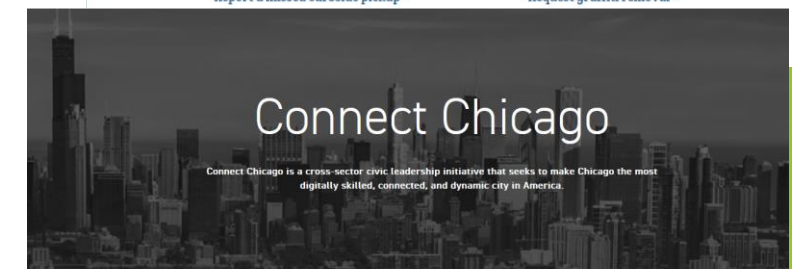
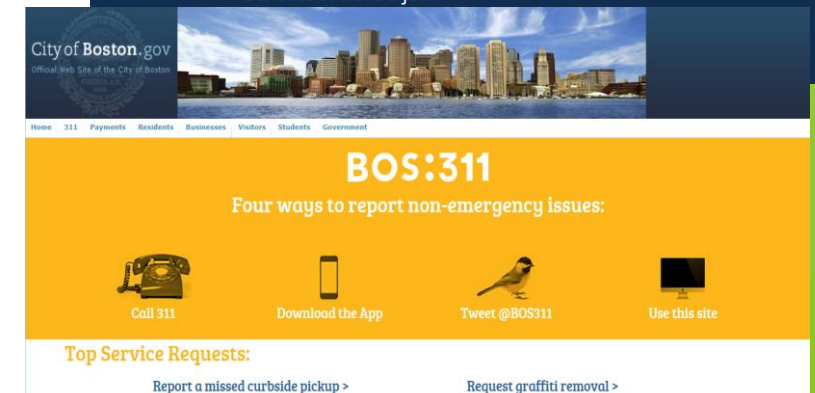
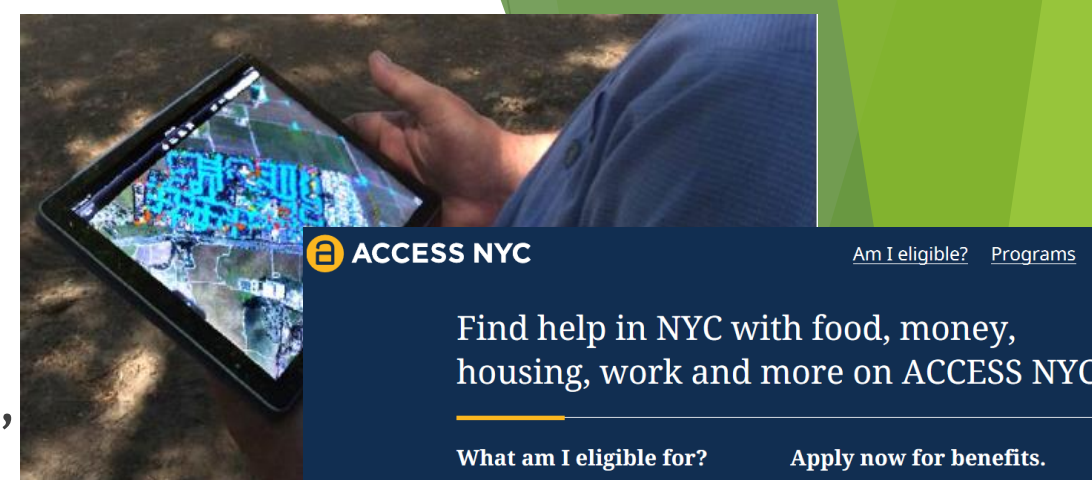
- “AccessNYC” network of available social programs
- Complete understanding about a client across programs

➤ Boston**

- “BOS:311” to make service requests & report issues
- “City Worker” to access systems to respond faster

➤ Chicago**

- “Connect Chicago” for tech training, internet access



Browse Trainings & Toolkits

Browse resources that will help you get trained and meet your personal technology goals.

[Read More](#)

Come to our next Connect Chicago Meetup

Join our dynamic community of trainers, teachers, professionals, and corporate partners.

[Read More](#)

Tell us your story

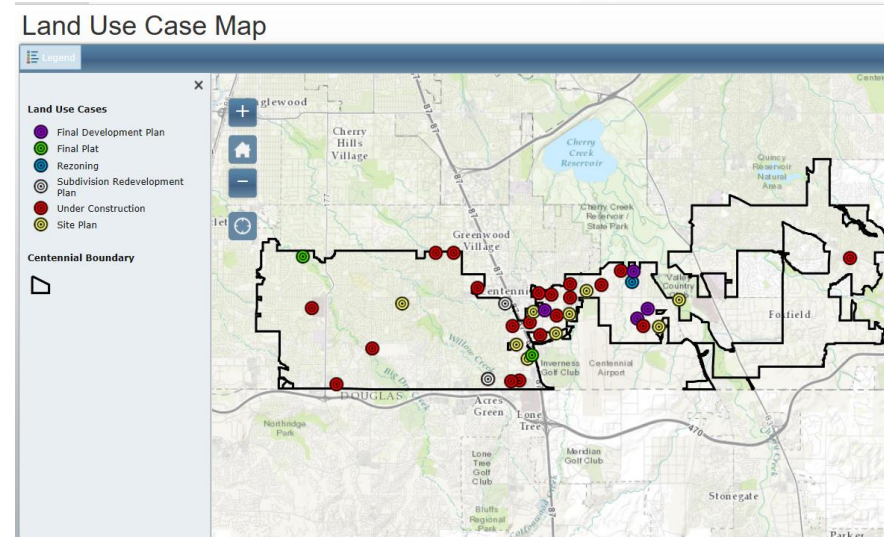
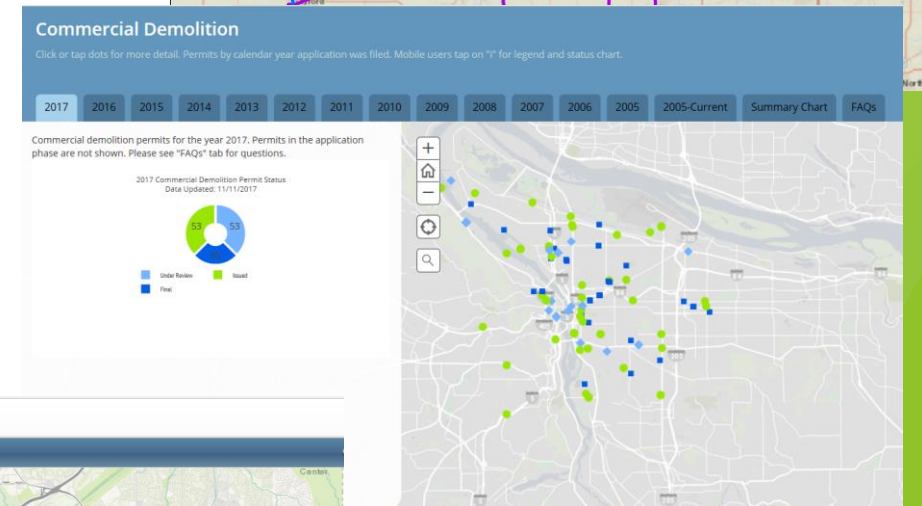
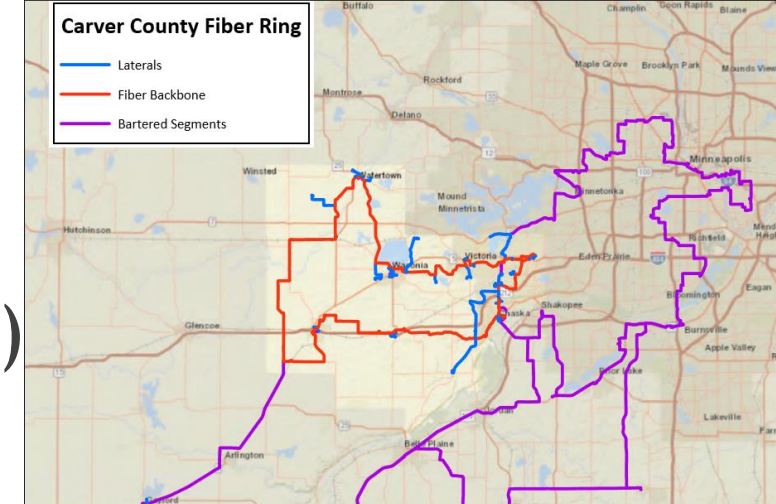
Tweet about how access to the Internet and digital training has impacted your life in Chicago. #ConnectChicago

[Read More](#)

** Source: “The Responsive City”, Stephen Goldsmith and Susan Crawford, 2014.

Smart Community Examples

- Carver County, MN (fiber; 6-7 cities on system)
- Pinellas County, FL (24 cities on system)
- City of Portland, OR (inter-dept. support)
- Centennial City, CO (service contracts)



Pinellas County, FL - Field Ops Dashboard



Field EOC Operations Dashboard

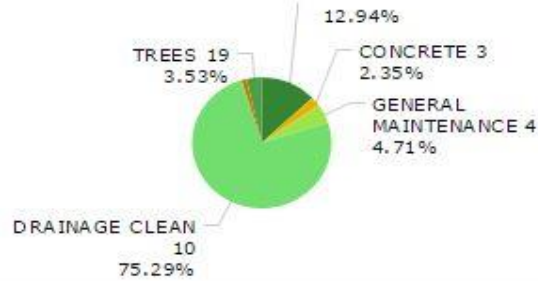
+ Add Widget

✓ Save

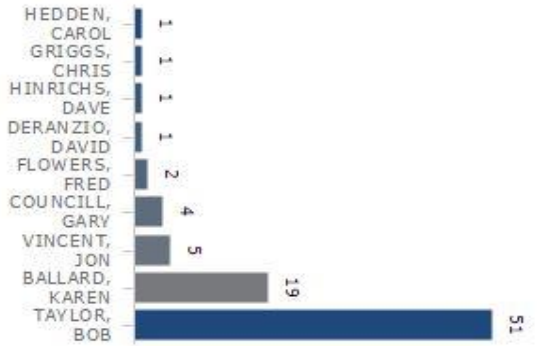
Bryan



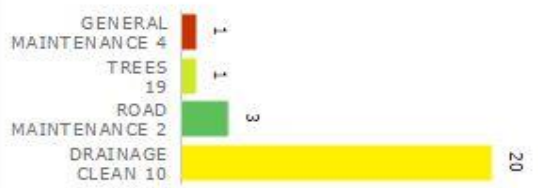
Agile Work Request Type



Work Requests by Inspector



Work Requests Completed



Latest Calls

- #1594601 ()
NEED HIGH WATER SIGNS INSTALLED (PER KAREN)
- #1594598 (RODGERS, JOHN)
CITIZEN STATED COUNTY CAME OUT TWICE AND ADVISED PIPE CORRODING UNDER YARD AND SHOULD BE RE-LINED. NOW HOLE IS GETTING BIGGER NEAR DRIVEWAY AND INTEGRITY OF DRIVEWAY IS A FACTOR. THE PIPE GOES INTO JOE'S CREEK. CITIZEN STATED EMERGENCY DUE TO DRIVEWAY IMPACTED SOON.
- #1594597 (SCF 2857840)
WATER FROM THE DRAINAGE DITCH BEHIND CALAIS IS OVERFLOWING ONTO TOWN APARTMENTS PROPERTY. WITH CONTINUED RAIN OUR DOWNSTAIRS UNITS WILL SOON FLOOD. MAYBE PRIVATE, BUT SAW DRAINAGE PIPES ON MAP.
- #1594596 (DEFABBRIO, SUSAN)
THE DRAINAGES IN THE DEAD END ARE FILLED WITH GARBAGE AND NOW THE STREET IS FLOODED!
- #1594595 (COLEMAN, TAMMY)
DRAINAGE ISSUE AS 5 STORM DRAINS ARE NOT DRAINING POSSIBLY CLOGGED & THIS IS AT BOTH THE NORTH & SOUTH ENDS OF THE ROADWAY (WATER IS KNEE DEEP)
- #1594593 (KENDALL)
TREE FELL ON VACANT HOME POSSIBLY PRIVATE & ON SUNDAY MORNING & YESTERDAY THE NEXT DOOR NEIGHBORS STARTING CUTTING IT UP & LEFT ON ROW & NOW ITS BLOWN INTO THE ROADWAY & IS BEING HIT BY VEHICLES & WORRIED ABOUT THE STORM & WANTS REMOVED
- #1594592 (GORDON)
POT HOLE IN FRONT OF PROPERTY
- #1594591 (TIFFANY)

Road Blocks

11

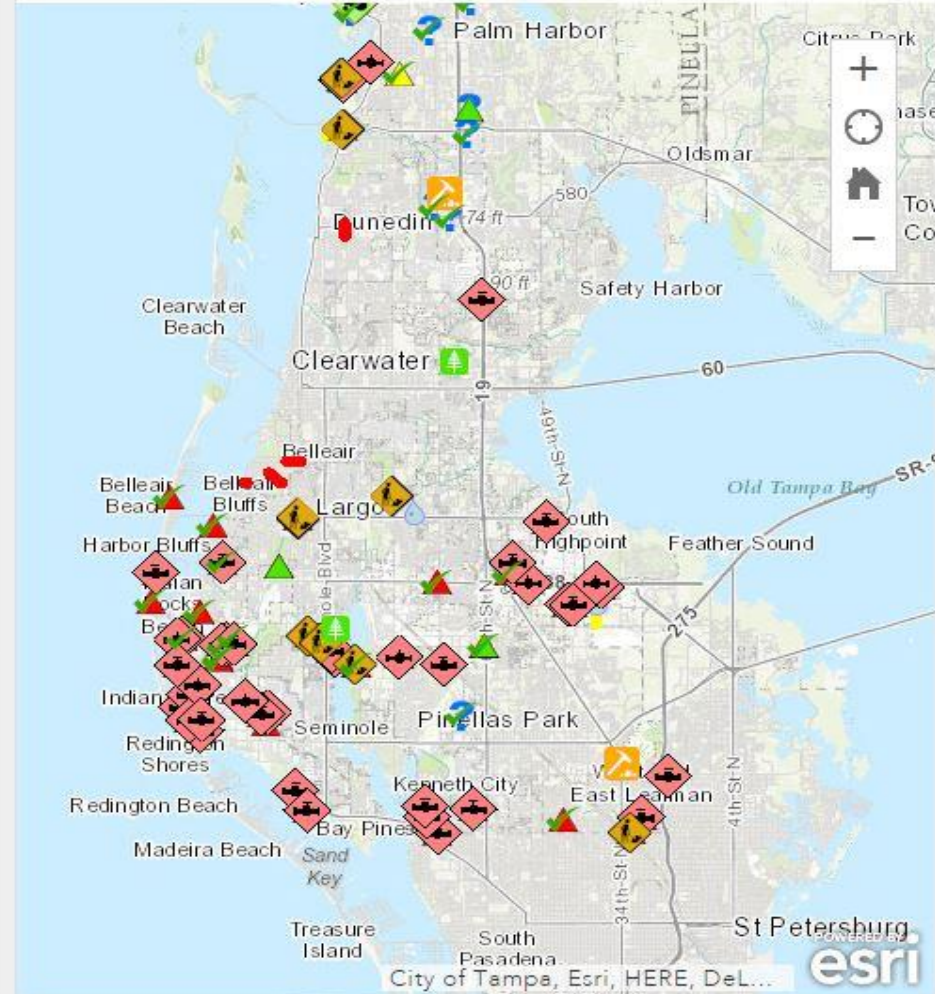
Road Closures

20

Road Detours

0

Field EOC Operations



Alaska DNR Open Data



Alaska Department of Natural Resources ArcGIS Online

[Sign In](#)

Welcome to Alaska Department of Natural Resources Open Data

Your gateway to accessing geo-spatial land and resource data, applications, maps, and publications produced and maintained by the Department of Natural Resources.



This is the community's public platform for exploring and downloading open data, discovering and building apps, and engaging to solve important local issues. You can analyze and combine Open Datasets using maps, as well as develop new web and mobile applications. Let's make our great community even better, together!

Need help searching for data?

Use the search bar to find data based on keywords, or explore data by selecting a category below. For further assistance, [help documentation](#) is available.

DNR Open Data Categories



Alaska Department of Natural Resources ArcGIS Online

Sign In

Explore Data Categories



Administrative



Classification



General Land Status



Reference Grid



Elevation



Geology



Infrastructure



Land Activity



Mineral Activity



Natural Resource



Ownership



Physical Feature



Recreational



State Surveys &



Water

DNR Open Data - Dataset Example



Alaska Department of Natural Resources ArcGIS Online

Find



My Data

Sign In



Fiber optic Cable 1:63,360

OBJECTID	68441
MAPPABLE_OBJECT_ID	
SOURCE	MSP
NAME	N/A
SOURCE_DATE	12151979
INFRA_TYPE	5
DISPLAY	Y
COVER	rinfra
SCALE	31680
CREATED_USER	GIS
CREATED_DATE	February 8, 2014

Fiber optic Cable 1:63,360

Custom License 5/7/2007 Spatial Dataset 920 Rows

This data depicts infrastructure locations in Alaska as digitized primarily from 1:24,000, 1:63,360, and 1:250,000 USGS quadrangles. The source document that represented the newest information and best geographic location was used to capture the data. All infrastructure from the primary source document was digitized and then supplemented with the information from other source documents for additional or updated infrastructure or attributes.

Favorite

Download

APIs

About

Shared By: irm_admin

Data Source: dnr.alaska.gov

[View Metadata](#)

[Create Webmap](#)

[Create a Story Map](#)

Matsu Open Data

Matanuska-Susitna Borough

Sign In

Open Data

For a Smarter City

This site provides easy access to the latest Matanuska-Susitna Borough spatial data, web applications, and documents that help support the Borough's Smart Community initiative. We are a member of the [Alaska Smart Communities Forum](#). Scroll down this page or enter a search to see what is available.

Find Data



Matsu Open Data Categories

Matanuska-Susitna Borough

Sign In

Explore Our Data

You can search, browse by category, or browse the entire catalog. This data can be used for maps, consumed by the Web or Smart Phone Apps, or just be downloaded for analysis. Use it how you want. Associated "metadata" record that describes how the data was collected, how often it is updated, known limitations, etc. This information is stored in the [MSB GIS Data Dictionary](#)



Administrative



Aerial Imagery



Cadastral



Environment



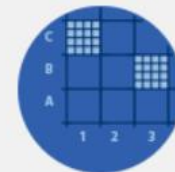
Infrastructure



Public Safety



Recreational



Reference Grids

Matsu Open Data “Applications”

Matanuska-Susitna Borough

Sign In

Applications

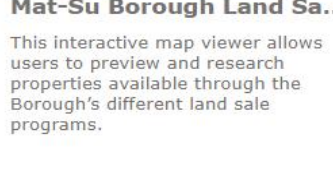
Apps provide simple access to information and tools, so that citizens can better understand their community. Click any of the links below to explore the apps.



MSB
Fire Insurance PPC
Public Protection Classificatio...



MSB
Wetlands Viewer
Mat-Su Borough Wetlands Vi...



Mat-Su Borough Land Sa...
This interactive map viewer allows users to preview and research properties available through the Borough's different land sale programs.

[View App](#)



MSB
myProperty
myProperty



MSB
Parcel Viewer
Parcel Viewer



MSB
Public Safety
The Mat-Su Borough Public S...



MSB
Parcel Shift Story
Spatial Accuracy of Our Maps



MSB
Aerial Imagery
Recurring Aerial Imagery Pro...



Matsu Example - Old/New Flood Maps ([link](#))

MSB Flood Map Update

Existing Flood Layers



- 1
- 2
- 3
- 4
- 5
- 6

Flood Map Update

Welcome to the MSB Flood Map Update Viewer! To compare the existing floodplain to the new, simply grab the vertical line near the center of the page and slide it back and forth from left to right. Sliding the line to the right shows the existing flood data and sliding it to the left reveals the new preliminary data.

You can pan and zoom, or search for your property using the search box tool in the upper right corner of the viewer. Clicking on the numbered tabs in the upper left corner of this page will take you on a tour that

Legend

Parcels	Parcels
Existing	Preliminary
Floodway	Floodway
Floodplain	Floodplain



Matsu Example - Time lapse ([link](#))

The Mat-Su Borough Public Safety Communications System Presentation



Assembly Brief

Full Details



Public Safety Communications Briefing

The Growing Borough

Overview

- 30+ year old system.
- Increased population.
- More buildings.
- More roads.
- Increased safety challenges.

Single Channel Issues

Today's challenges

- Paging and radio communication are on the same single channel.
- Dispatch continues to relay channel communication while also trying to

Mat Su Buildings Built By Year



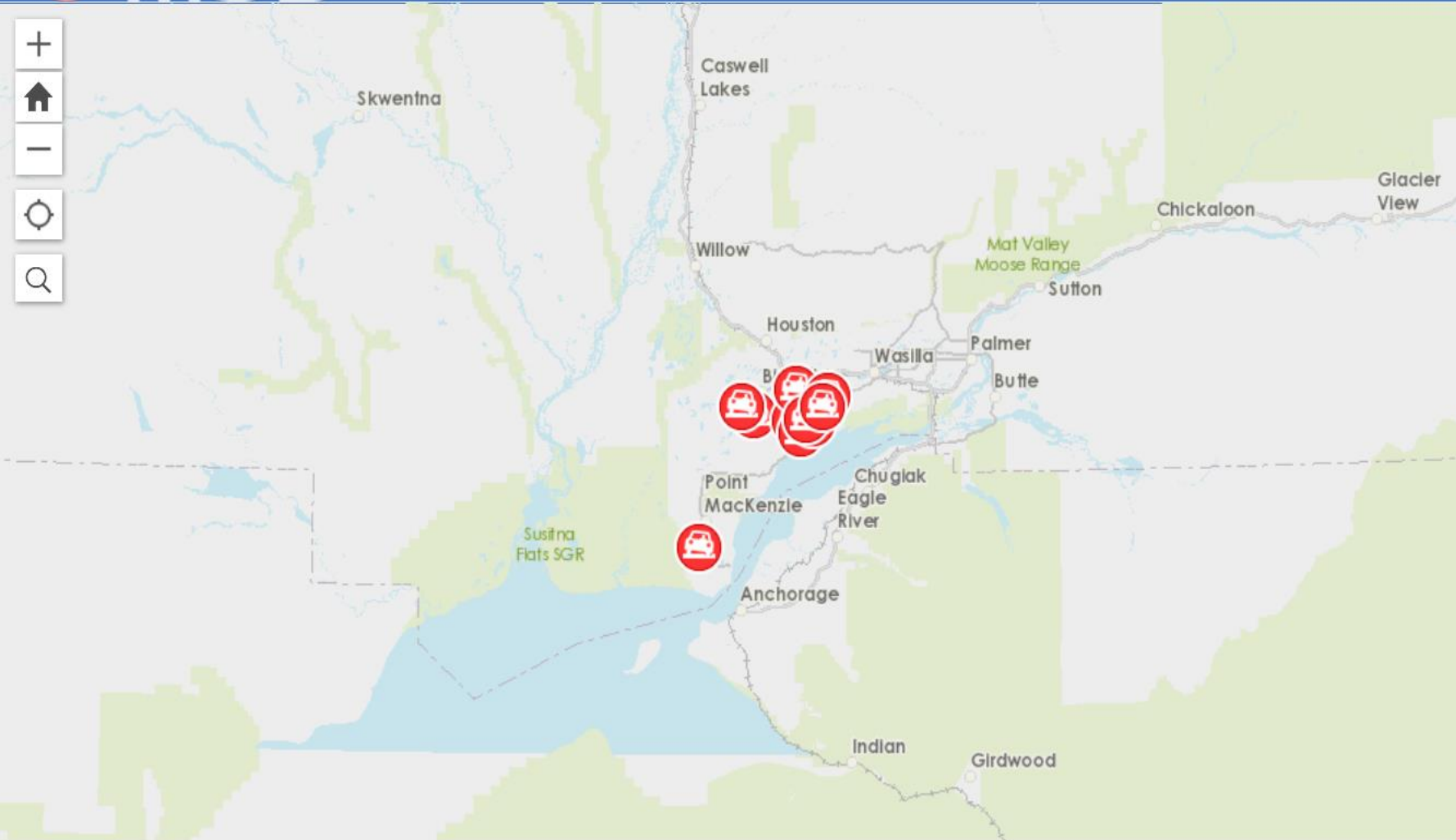
Matsu Problem Reporter ([link](#))



MSB

Mat-Su Problem Reporter

Sign In



MSB
Abandoned Vehicles



Abandoned Vehicles



MSB
Trash Problems



Trash Problems



eCommerce - Save the Drive, Buy Online

Sign In



[eCommerce](#)

[Account Info](#)

[Shopping Cart](#)

[Contacts](#)

MSB eCommerce Services

Business



Business Licenses

Bi-Annual Business License

Emergency Services



Ambulance Fees

pay MSB Ambulance Fees

▲ *convenience fee applies*



Fire Code Fees

Pay Fire Code Fees

▲ *convenience fee applies*

Personal



Parking Passes

Parking for Borough Parks and Trails.



Swimming Lessons

Register for Swimming Lessons

Taxes



Bed Tax

Pay your Quarterly Bed Tax

▲ *convenience fee applies*



Business Inventory Tax

Sometimes called Personal Property Tax

▲ *convenience fee applies*



Real Property Tax

Property Taxes, due twice a year.

▲ *convenience fee applies*

Muni Open Data

Welcome to Anchorage's Open Data Portal

"Making Anchorage an open data city will give Anchorage cutting edge transparency and improve engagement and access to the Municipality." – Mayor Ethan Berkowitz



Restaurant Inspection Data Lens



Homeless Data



Property Data



Childcare Inspection Data Lens



Crime Data



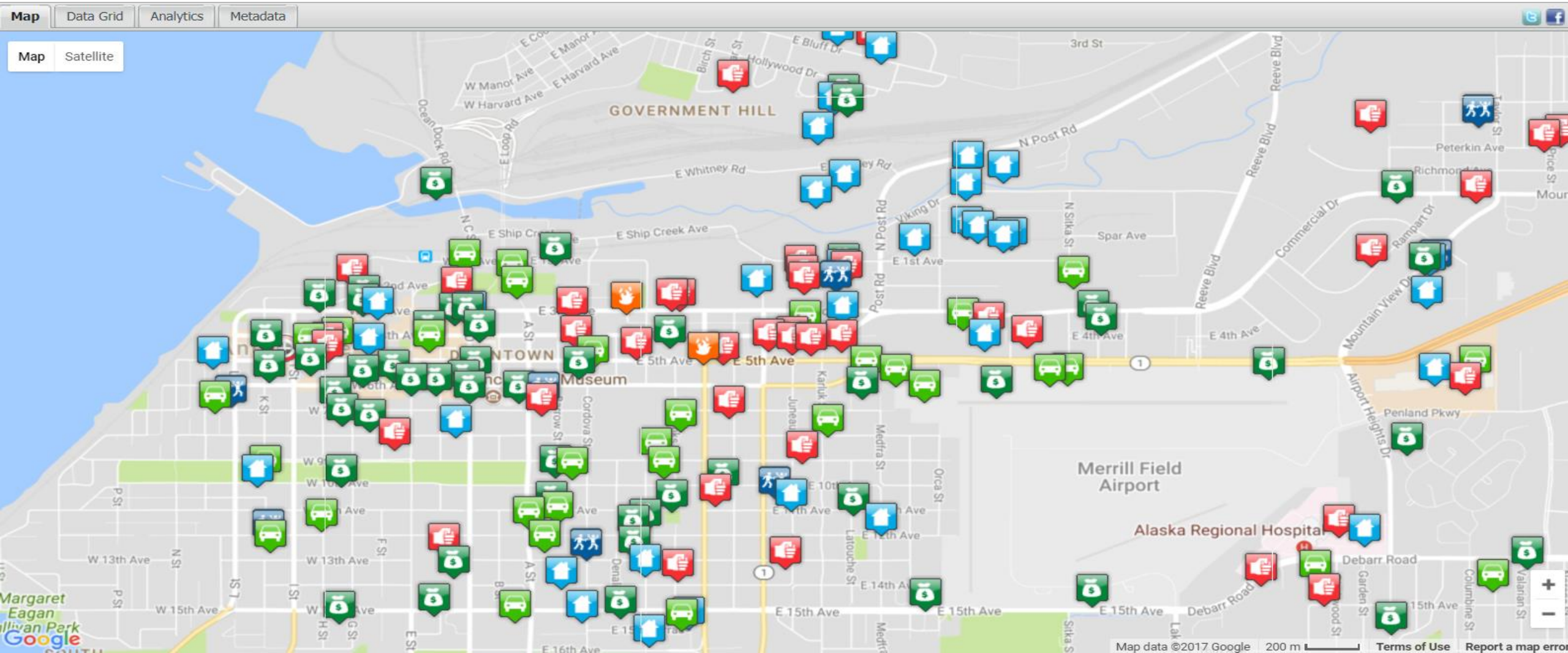
Maps

Muni Example - Crime Map

Community Crime Map

Sign up for crime alerts

Clear Filters



Muni Restaurant Inspections ([link](#))



Restaurant Inspection Data Lens

SOURCE DATASET [Restaurant And Food Inspections](#)

This visualization shows a map of all inspections to date, count over time, the ability to search by business name, and the ability to filter by inspection type and location.

Export

API

Showing all Inspection Results

Rescale Axes on Filter

business_location



Number of Inspection Results by business_location — Community Councils



Muni Web Monitoring for What's of Interest



analytics.muni.org

About this site

73

people on municipal web pages now

Top Pages

Now

7 Days

30 Days

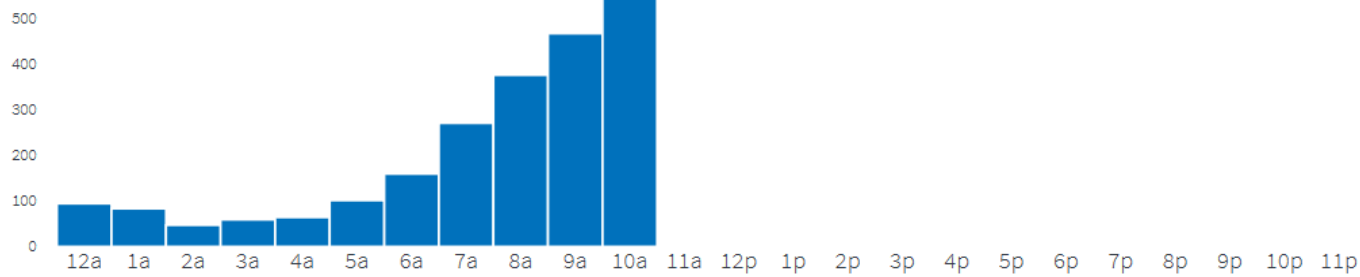
90 Days

365 Days

People on a *single, specific page* now. Download the dataset: (CSV) (JSON)

Library	13
Anchorage, Alaska: The Official Municipality of Anchorage, Alaska...	5
Property Appraisal	3
Animal Control	3
Property Information Research	2
Central Transfer Station	2
Veterans Day 2017	2
Route Maps and Bus Stop Lists	2
Property Information	2
analytics.muni.org MOA Web Stats	1
Candidates	1
Elections	1

Visits Today



Alaska Time

Visits in the Past 90 Days

There were **785,298** visits over the past 90 days.

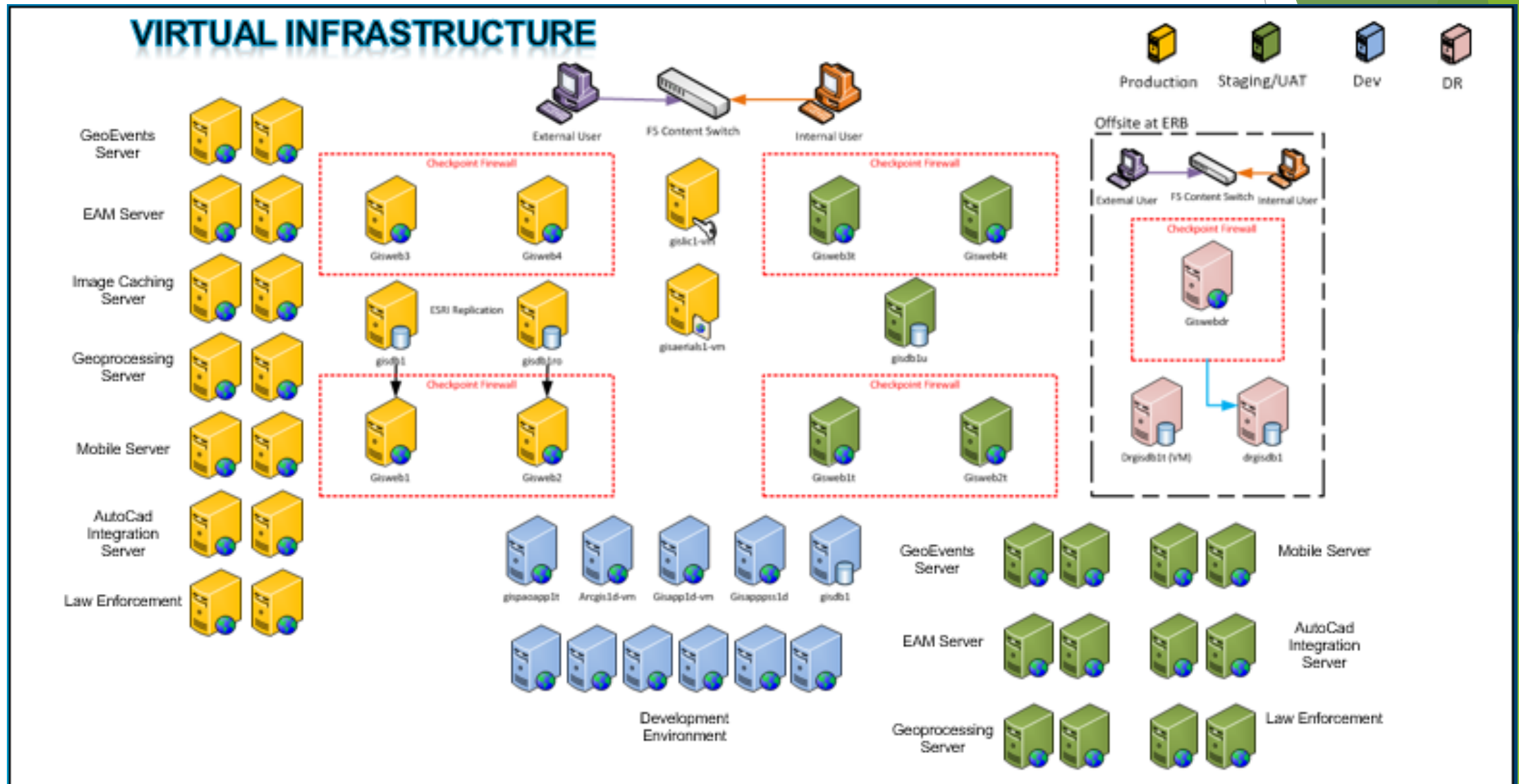
Alaska Smart Communities Forum

Overcoming Challenges

Challenges for Smart Communities

- ▶ Data silos
- ▶ Decreasing budgets
- ▶ No common data standards
- ▶ Incompatible technologies
- ▶ Opinions on who owns data
- ▶ Concerns about sharing data; privacy
- ▶ Inability to respond to overwhelming public response
- ▶ Lack of broad stakeholder participation
- ▶ Keeping information relevant; not tech for tech's sake
- ▶ Sustainability; how do we continue?

Making it Easy can be Complex



How to Respond to Challenges

- ▶ Forums to learn, partner, address concerns
- ▶ Define common data standards and interoperability
- ▶ Create partnerships toward common goals/objectives
- ▶ Support joint projects that benefit multiple cities, boroughs
- ▶ Technology Advancements and Maturity

Example of a Forum in Practice

Austin CityUP is a public/private consortium to collaborate on activities that advance Austin through digital technologies, data collection, analytics, and modeling



HEALTH & WELLNESS

Which neighborhoods have the highest rate of diabetes and is there a community center or clinic available in that neighborhood?



MOBILITY

What alternative routes do people take to avoid congestion, and can they be improved with signage and lane markings? Which mode of transportation suits my needs?



SAFETY

What is the safest and most well-lit route from the restaurant to the parking garage?



AFFORDABLE HOUSING

What community programs are available for economically challenged citizens? Which neighborhoods have transportation and job resources nearby?



WORKFORCE DEVELOPMENT

What are the available training opportunities next month sponsored by businesses or technology meet-up groups?



ENVIRONMENT QUALITY

How should I prepare for an upcoming weather emergency? What is the air quality today? Is there a noise pollution issue nearby?



ENERGY & SUSTAINABILITY

How can I help my company save money by going green? How can technology integrate sustainability into my day-to-day activities?



CITY SERVICES

Which resources would most residents use in the new downtown library?

Methods and Technologies are Advancing

- ▶ First Wave
 - ▶ Package and distribute model
 - ▶ Made shapefiles and database files available via web site
 - ▶ Exposed more data but did not enforce data currency and documentation
- ▶ Second Wave
 - ▶ Public access to ArcGIS Online, API's and Web Mapping services
 - ▶ Fits model of being an authoritative source of data, providing metadata
 - ▶ Users download, but access data sources directly

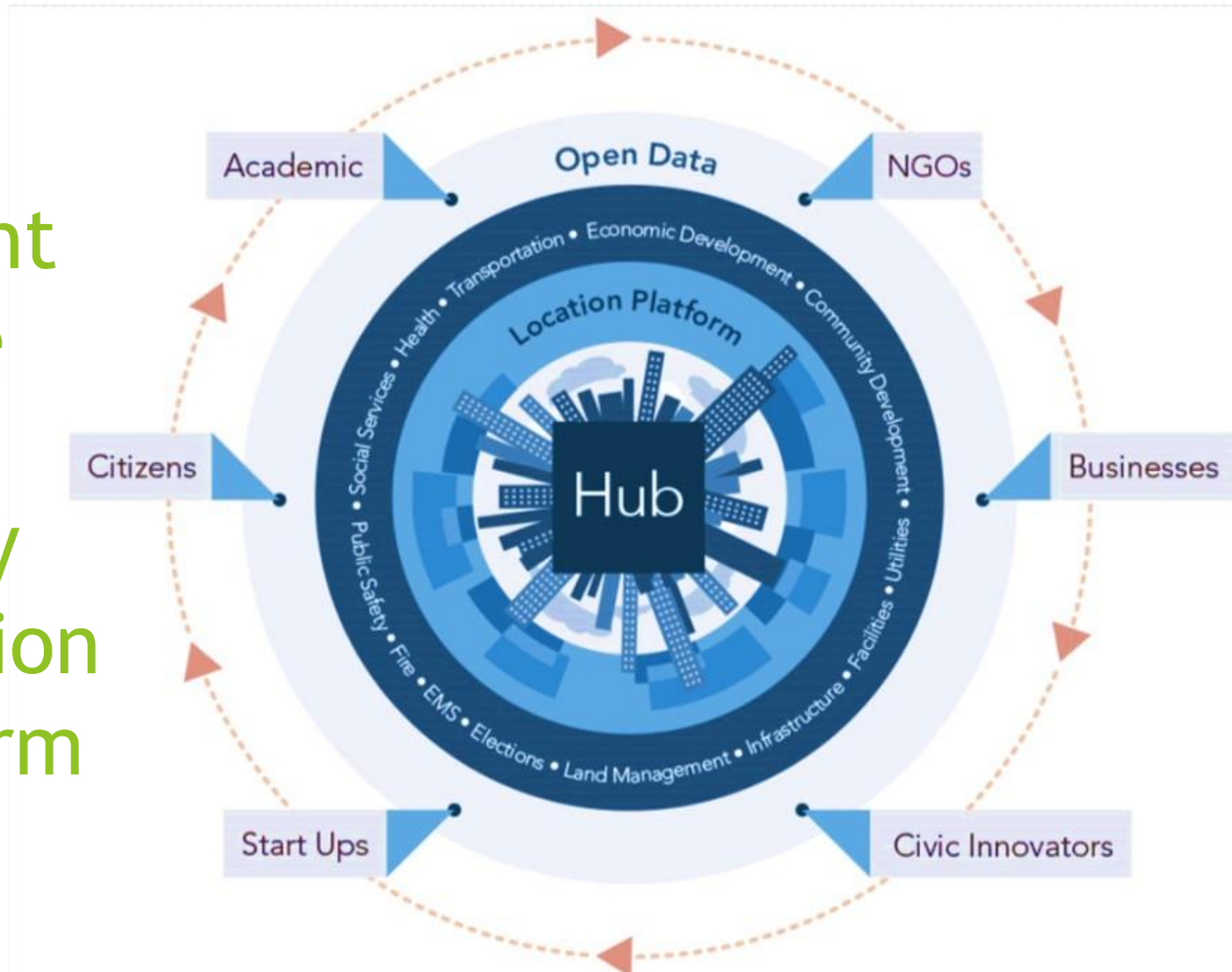
Source: Based on comments from City of Portland, OR

Methods and Technologies are Advancing

- ▶ Advancements in technology and data collection can help communities tackle challenges by working smarter instead of harder.
- ▶ Just about anything can be tracked and monitored using sensors.
- ▶ Smartphones, with apps, are ubiquitous.
- ▶ Cloud computing keeps getting better.
- ▶ We can share data online and visualize plans in 3D.
- ▶ With the right technology, every community can become a smart community; a place that is more livable, sustainable, and economically vibrant.

Source: *“What It Takes to Be a Smart Community”*, ESRI, June 2015

Government can enable Smart Community Collaboration and Platform



Alaska Smart Communities Forum

Creating a Forum for
Collaboration in Alaska

Situation

- ▶ Cities, boroughs, agencies collect vast amounts of data
- ▶ Citizens want easier ways to get information, get services, and better know their community
- ▶ Smart Communities implement solutions that integrate data to help meet these needs.
- ▶ Need to bring government, business, non-profits, and public together

Alaska Smart Communities (AKSC) Forum

▶ Vision

- ▶ Catalyst for education, partnerships, data exchanges, tools, shared projects and resources to deliver more useful information and tools to citizens, customers, and businesses.

▶ Scope/Focus

- ▶ Data & Apps: Collecting and visualizing data through apps
- ▶ Education: Learning from other smart communities
- ▶ Partnerships: Share data, systems and staff

AKSC Forum Goals

- ▶ Provide useful, integrated information and services
- ▶ Reduce duplication in data collection and tools
- ▶ Enable employees to be efficient, responsive, effective
- ▶ Enable citizens to...
 - ▶ be better informed of resources, services and economic opportunities
 - ▶ be better engaged with and aware of government services and actions
 - ▶ create value-added services from better integrated data, tools

AKSC Forum - Invitees (Anyone is Welcome)

- ▶ Municipality of Anchorage
- ▶ Matsu Borough
- ▶ Cities of Palmer, Wasilla, Valdez
- ▶ Denali Borough
- ▶ Mat-Su School District
- ▶ Anchorage School District
- ▶ MEA, MTA, ML&P, Chugach
- ▶ Alaska Railroad
- ▶ State of Alaska
- ▶ University of Alaska, ISER
- ▶ GCI
- ▶ Radio Free Palmer
- ▶ Matsu Visitors & Convention Bureau
- ▶ AWWU
- ▶ North Slope Borough
- ▶ Fairbanks-North Star Borough
- ▶ City & Borough of Juneau
- ▶ Cities of Kenai, Ketchikan, Sitka, Soldotna
- ▶ Fairbanks NorthStar Borough School District
- ▶ Alaska Pacific University
- ▶ JBER
- ▶ Mat-Su Regional Medical Center
- ▶ Alaska Communications
- ▶ Code For Anchorage

Initial Suggestions that Entities Have or Want

Data You Have

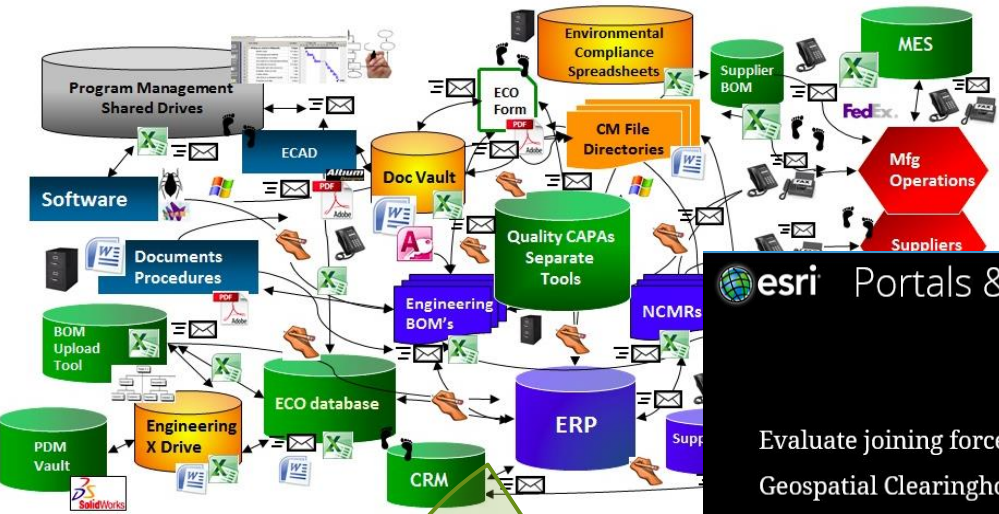
- ▶ Electric service area, expansions
- ▶ GIS Imagery and property data
- ▶ Facility use, registration
- ▶ Zoning, future land use
- ▶ Transportation systems
- ▶ Housing availability, accessibility
- ▶ Media updates
- ▶ Utilities information
- ▶ Property data
- ▶ Emergency services data

Data You Want

- ▶ Utility infrastructure, availability
- ▶ Real estate sales
- ▶ Subdivision and construction locations
- ▶ Roads, ped facilities, ride-share, bus
- ▶ Locations for career, tech education
- ▶ “Current” GIS imagery, lot dimensions
- ▶ Interactive guide for social, medical
- ▶ Health costs, preventive health srvc
- ▶ Tourism (trends, repeats, age)
- ▶ Real-time subdivision plats

Drive Action on “GeoPortal” (“portal of portals”)

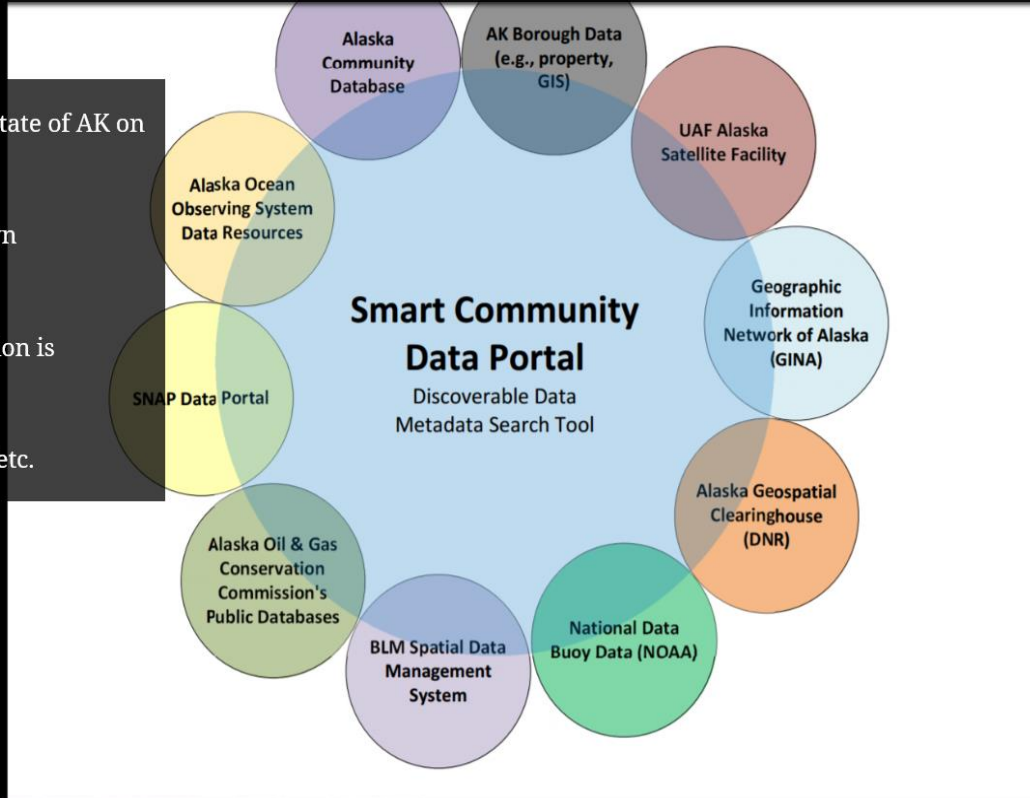
The Alaska Geospatial Council is driving design, software installation, and data standardization for 350+ datasets now thru January 2018



Single portal to connect to 100's of authoritative data sources that have data in a standard form

esri Portals & Data Catalog Working Group

- Evaluate joining forces with State of AK on Geospatial Clearinghouse
- Build partnerships with known organizations
- Define what the hosting solution is
- Continue to gather and track data/documents/applications/etc.



2017 Highlights

- ▶ Forum Charter & Goals
- ▶ Quarterly events; 20+ entities at each event
- ▶ Multi-agency progress to create statewide **GeoPortal** and data standards (e.g. “portal of portals”)
- ▶ Matsu Problem Reporter; Flood maps; GIS upgrades
- ▶ Muni data on homelessness, health inspections & crime; GIS upgrades
- ▶ First technology partnering agreement for Palmer to have shared use of Matsu systems

2018 Highlights

- ▶ Add more open data and apps
- ▶ Progress on statewide GeoPortal (“portal of portals”)
- ▶ Better digest of data available
- ▶ Partnering agreements among participants
- ▶ Work with more local organizations and technology groups

Measuring Success

- ▶ **Community Success**
 - ▶ Livability in the community
 - ▶ Economic growth
 - ▶ Transparent government
 - ▶ More engaged citizens
 - ▶ More informed decisions
- ▶ **Forum Success**
 - ▶ Education and knowledge gained from Forum events
 - ▶ Number and type of opportunities identified
 - ▶ New information and services provided
 - ▶ Level of resource sharing and partnerships

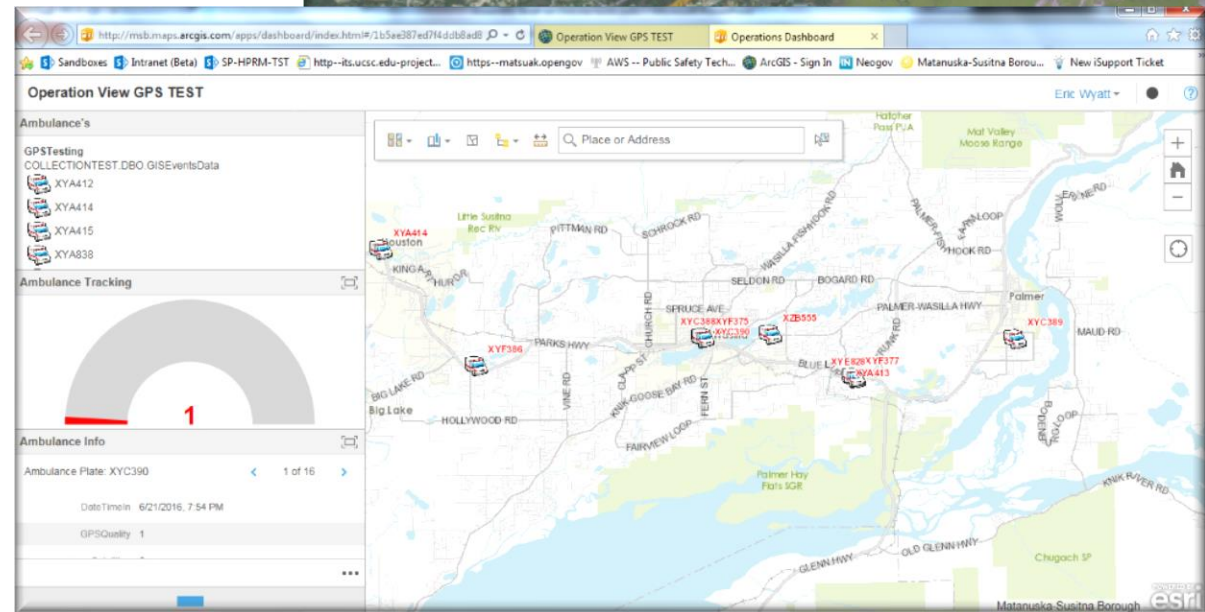
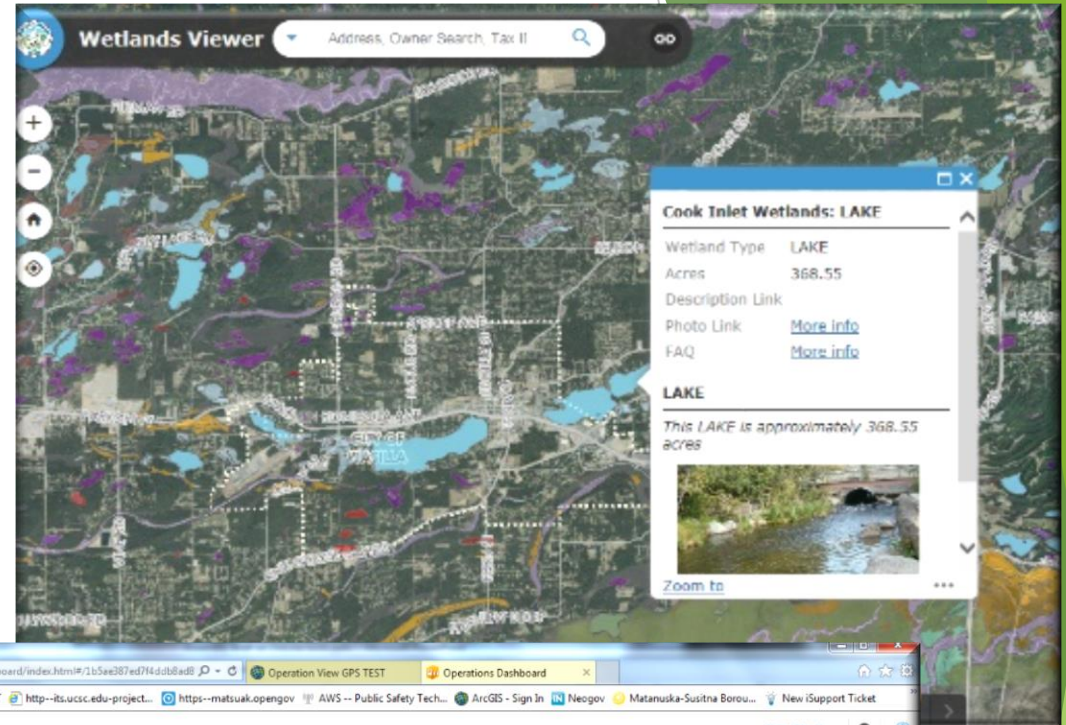
Contributors to Success

- ▶ Partnerships
- ▶ Understanding of GIS as a Foundational Enterprise IT System
- ▶ Governance
- ▶ Executive Sponsorship
- ▶ Commitment to Best Practices
- ▶ Commitment to COTS with Oversight
- ▶ Entrepreneurial Attitude

Highlights of Lessons from Smart Cities

- ▶ Recommendations
 - ▶ City as platform
 - ▶ Start with the issues you want to address
 - ▶ Connect, not re-create data sources
 - ▶ More attention to visualized data
 - ▶ Engage the tech community and citizen groups
 - ▶ Build up analytic capacity, skills
- ▶ Outcomes
 - ▶ Empower employees to be responsive and effective
 - ▶ Engage citizens in providing important services to the public

IT provide the tools,
integration &
technical expertise



How can departments and agencies foster smart communities?

- ▶ Look at your own operations and customers
- ▶ Consider what to make easier for citizens and businesses
- ▶ Engage with citizens and businesses on what they want
- ▶ Engage exec management and departments on common goals
- ▶ Avoid more data silos/islands

More information

- [Matsu Open Data](#)
- [Matsu eCommerce Online](#)
- [Muni Open Data](#)
- [Muni Geographic Data & Information Center](#)
- [Alaska DNR Open Data](#)
- [Alaska Smart Community Forum](#)
- [Austin CityUP](#)
- [Sunlight Foundation](#)
- [Code for America](#)
- [Bloomberg Philanthropies](#)
- [Digital Cities 2016](#)
- [Alaska Geospatial Council](#)

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