

ANCHORAGE  
i-team

**Ben Matheson**

Data Analyst

Anchorage Innovation Team

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343-6980

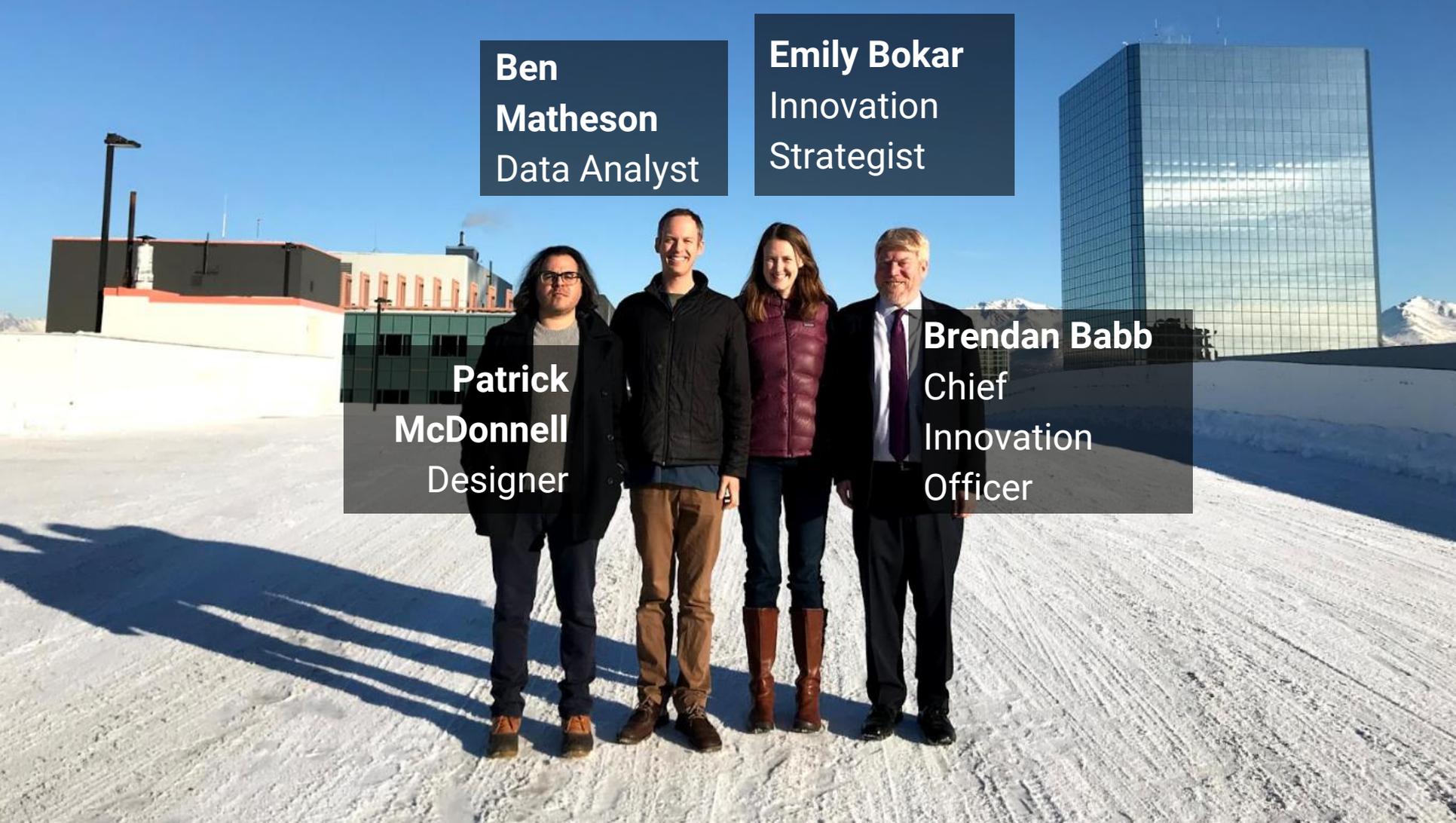
- **i-team intro**
- **Open data**
- **3 Case studies**





City Hall



A group of four people (three men and one woman) are standing on a snowy rooftop. In the background, there is a modern glass skyscraper and a lower industrial-style building. The sky is clear and blue. The people are dressed in winter clothing. The image is overlaid with semi-transparent dark boxes containing their names and titles.

**Ben  
Matheson**  
Data Analyst

**Emily Bokar**  
Innovation  
Strategist

**Patrick  
McDonnell**  
Designer

**Brendan Babb**  
Chief  
Innovation  
Officer

A group of four people (two men and two women) are standing on a snowy rooftop. They are dressed in winter attire. In the background, there is a modern glass skyscraper and other buildings under a clear blue sky. The scene is brightly lit, suggesting a sunny day.

**Human centered design**

**Data**

**Technology**

# Solve problems in Anchorage



# Improve the lives of residents





**Bloomberg  
Philanthropies**

INNOVATION TEAMS (i-teams)

# Bloomberg Philanthropies has invested in 29 cities across 4 countries



**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



# Restaurant Inspection Data Lens

SOURCE DATASET [Restaurant And Food Inspections](#)

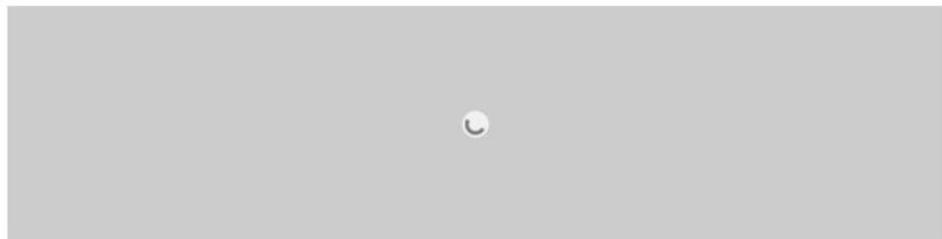
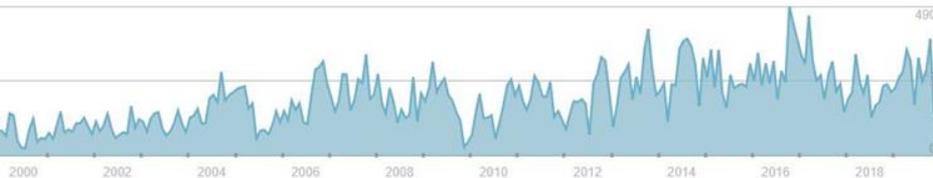
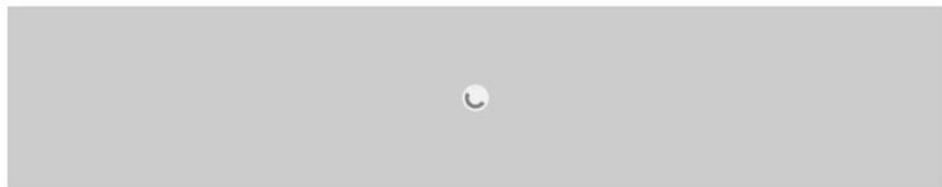
This visualization shows a map of all inspections to date, count over time, the ability to search by business name, and the ability to filter by inspection type and location.

[Export](#)[API](#)

Showing all Inspection Results

 Rescale Axes on Filter

business\_location

Number of Inspection Results by  
business\_location — Community CouncilsNumber of Inspection Results by  
inspection\_dateNumber of Inspection Results by  
business\_location — Census TractsNumber of Inspection Results by  
inspection\_scoreNumber of Inspection Results by  
inspection\_type

A / TRUSTEES

## MARX BROTHERS CAFE

**business\_id** [object Object]  
**business\_address** 627 W 3RD AVE  
**business\_city** ANCHORAGE  
**business\_state** AK  
**business\_postal\_code** 99501  
**business\_phone\_number**  
**inspection\_date** 02/28/2017  
**inspection\_score** 93  
**inspection\_description**

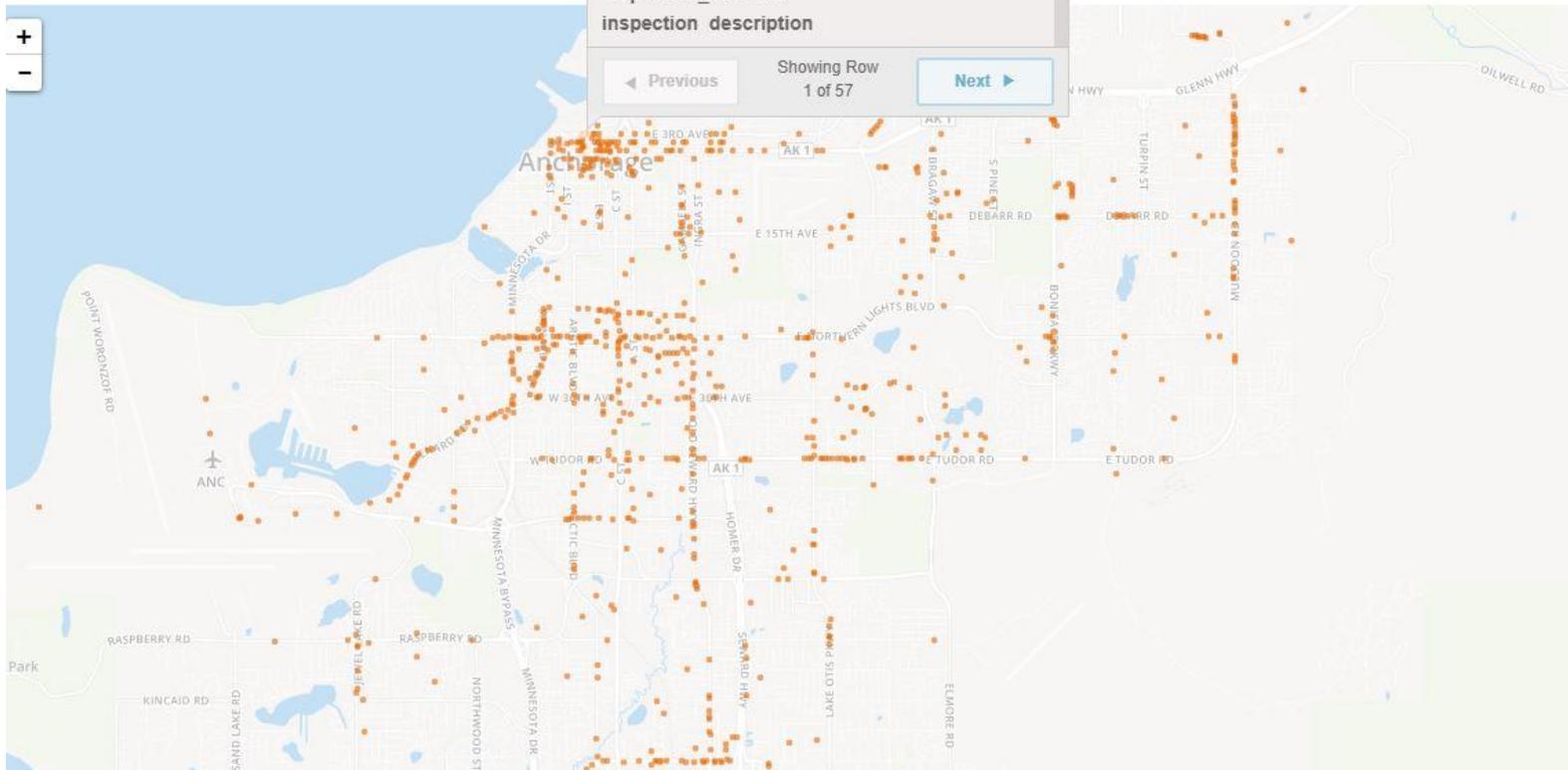
◀ Previous

Showing Row  
1 of 57

Next ▶

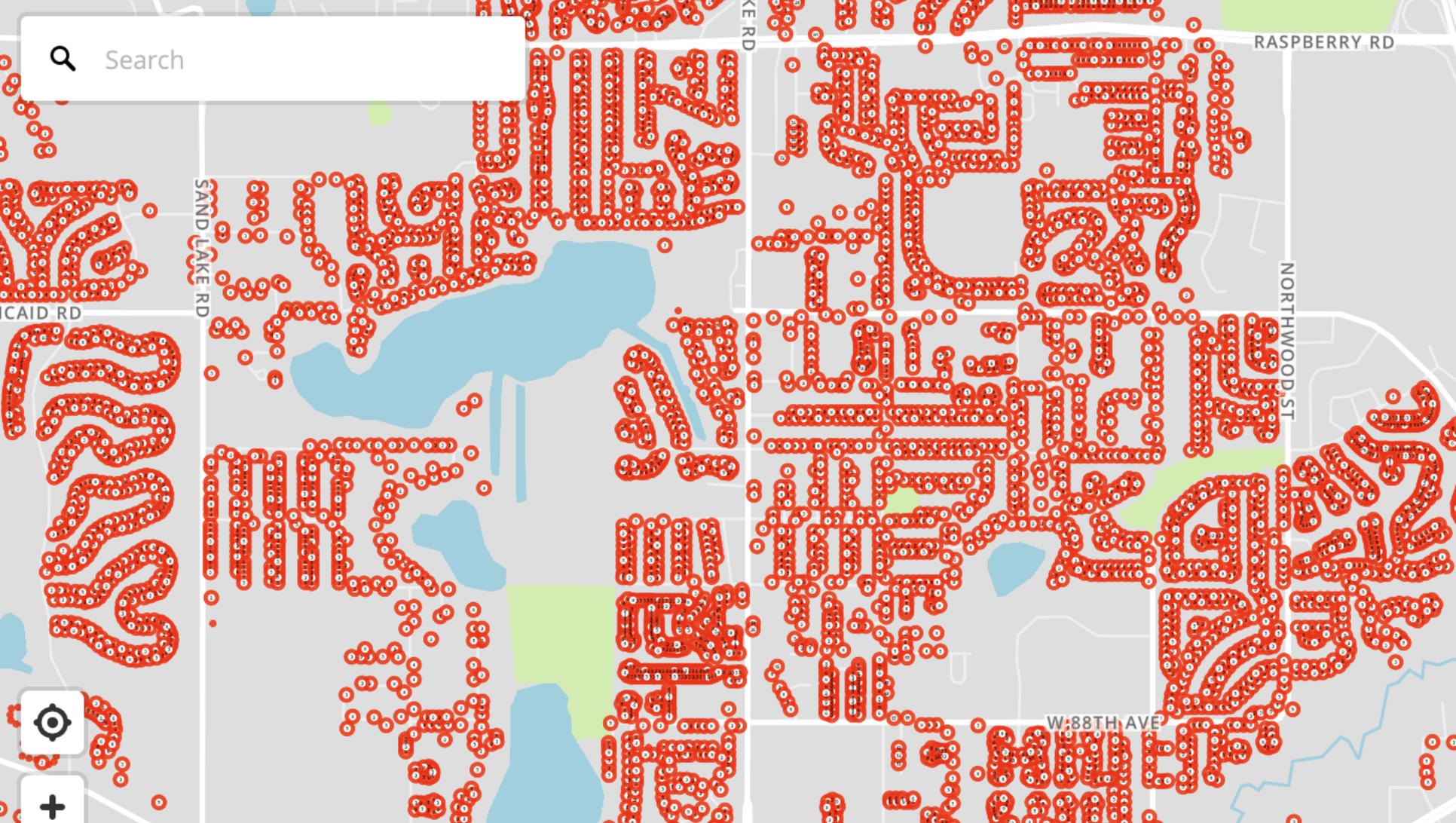
Rescale Axes on Filter

business\_location





Search



## CAMA Property Inventory - Residential with Details

Residential properties in the Municipality of Anchorage including data elements that are specific to residential properties.




[More Views](#)

[Filter](#)

Appraisal Year	ParcelID	Parcel ID URL	Property Type	Class	Land Use	Owner Line 1	Owner Line 2	Owner Line 3
2019	0010211100301	<a href="#">001-021-11-003-01</a>	Residential	Commercial	Leasehold Master	SHIP CREEK PROPERTY LLC		
2019	0010310300001	<a href="#">001-031-03-000-01</a>	Residential	Residential	Single Family	KOZIOL FRANK S &	HALEY PAULA M	
2019	0010310400001	<a href="#">001-031-04-000-01</a>	Residential	Residential	Single Family	RUSKIN DAVID B 50% &	RUSKIN BERNADINE E 50%	
2019	0010310500001	<a href="#">001-031-05-000-01</a>	Residential	Residential	Single Family	BECKWITH MARTHA		
2019	0010310700001	<a href="#">001-031-07-000-01</a>	Residential	Residential	Single Family	TREADWELL MEAD & CAROL 2002	REVOCABLE TRUST	
2019	0010310800101	<a href="#">001-031-08-001-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	ALASKA INNS INC		
2019	0010310800201	<a href="#">001-031-08-002-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	BRADLEY THOMAS C		C/O PARAGON PROPERTIES
2019	0010311000101	<a href="#">001-031-10-001-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	CHURCH EMILY C		
2019	0010311000201	<a href="#">001-031-10-002-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	SCHWAMM LIVING TRUST		
2019	0010311100001	<a href="#">001-031-11-000-01</a>	Residential	Residential	Triplex	AVEY FAMILY TRUST	AVEY JAMES D & DONNA A / TTES	
2019	0010311200101	<a href="#">001-031-12-001-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	FOSTER JAMES K		
2019	0010311200201	<a href="#">001-031-12-002-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	KELLY MARION C		
2019	0010311200301	<a href="#">001-031-12-003-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	DOZZO JOSEPH A & SANDRA		
2019	0010311200401	<a href="#">001-031-12-004-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	ERNOUF WILLIAM S		
2019	0010311900001	<a href="#">001-031-19-000-01</a>	Residential	Residential	Single Family	MORAN M E LIVING TRUST	MORAN MARY E / TRUSTEE	% JADCO PROPERTY MANAGEMENT
2019	0010311900002	<a href="#">001-031-19-000-02</a>	Residential	Residential	Single Family	MORAN M E LIVING TRUST	MORAN MARY E / TRUSTEE	% JADCO PROPERTY MANAGEMENT
2019	0010312000001	<a href="#">001-031-20-000-01</a>	Residential	Residential	Single Family	PHELPS GREGORY L &	PEPE JULIE A	
2019	0010312100001	<a href="#">001-031-21-000-01</a>	Residential	Residential	Duplex	PHELPS GREGORY L &	PEPE JULIE A	
2019	0010312100002	<a href="#">001-031-21-000-02</a>	Residential	Residential	Single Family	PHELPS GREGORY L &	PEPE JULIE A	
2019	0010312300001	<a href="#">001-031-23-000-01</a>	Residential	Residential	Mixed Residential/Commercial	MOA	MOA 5501	
2019	0010312610101	<a href="#">001-031-26-101-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	GAGNON BRUCE E & SHARON D		
2019	0010312610201	<a href="#">001-031-26-102-01</a>	Residential	Residential Condo	Condominium (Fee Simple)	MASSIE FAMILY TRUST	MASSIE THOMAS H &	CYNTHIA A / TRUSTEES

# Residential Building Count by Year Built - 1913 - 2016

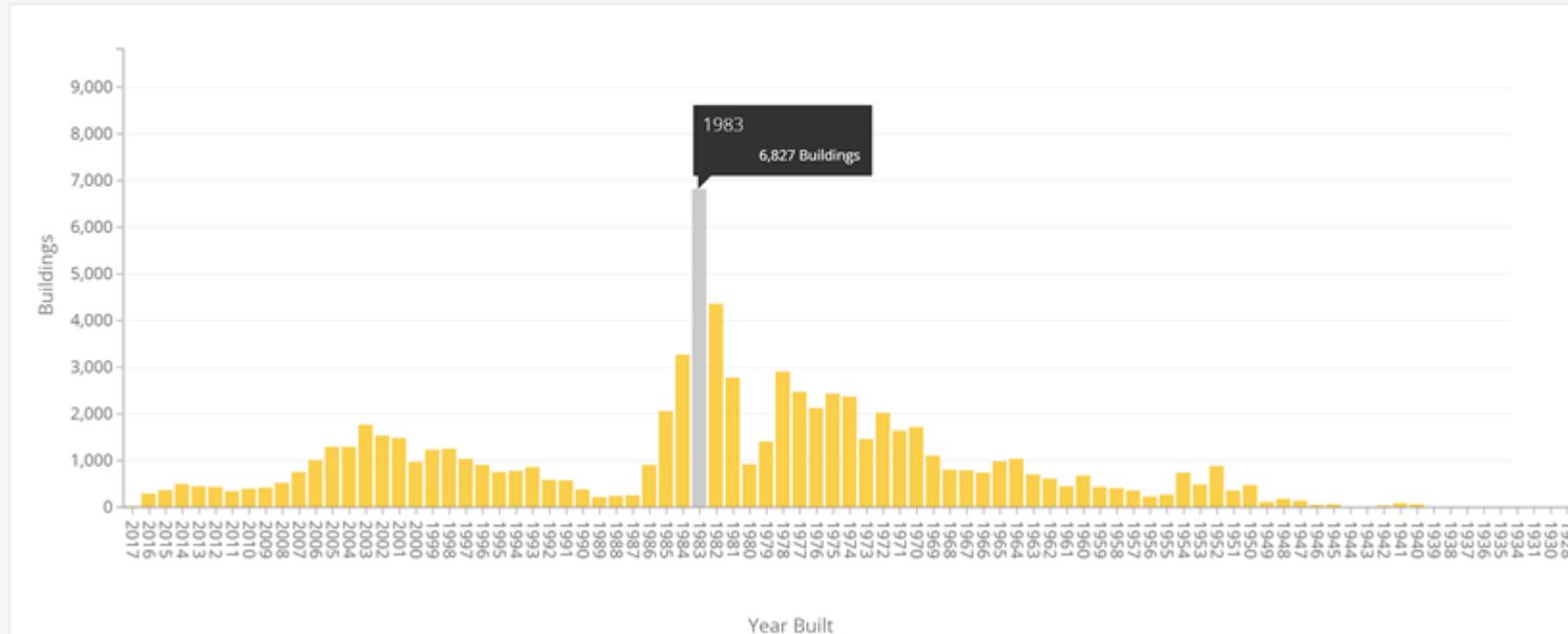
Housing and Homelessness

Export

More Info ▾

Year Built

Select... ▾



## Access this Dataset via SODA API



The Socrata Open Data API (SODA) provides programmatic access to this dataset including the ability to filter, query, and aggregate data.

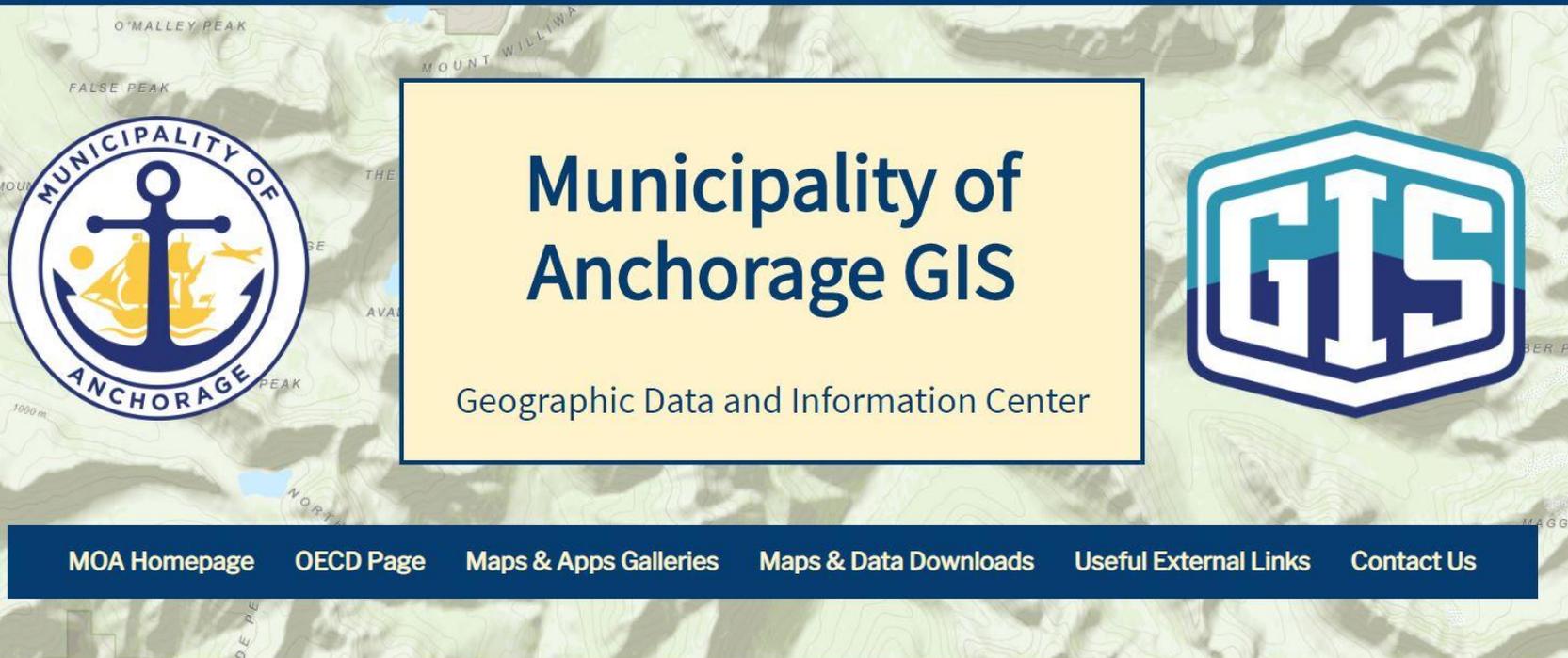
[API Docs](#)[Developer Portal](#)

### API Endpoint

`https://data.muni.org/resource/r3di-nq2j.json`

JSON

Copy



# Municipality of Anchorage GIS

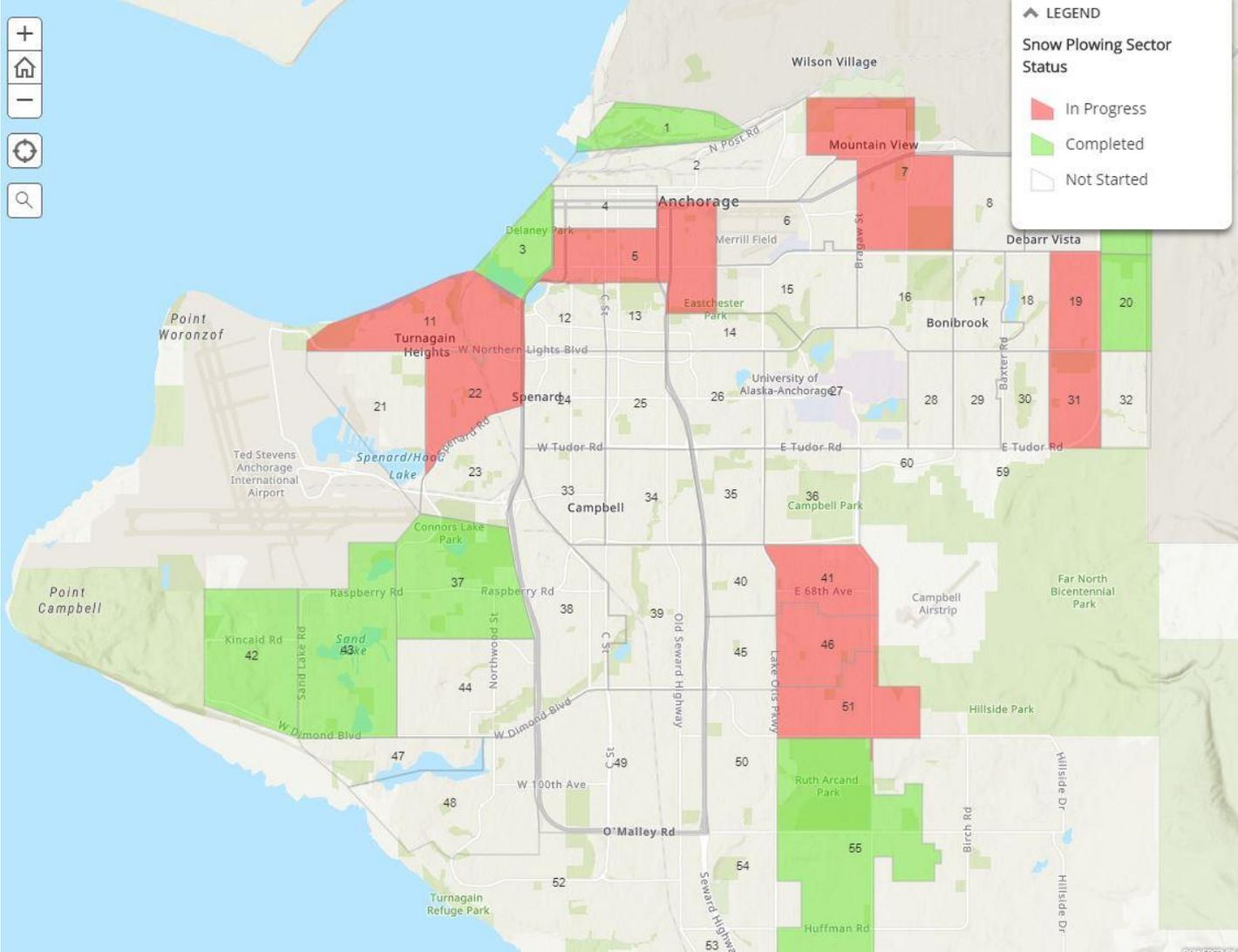
Geographic Data and Information Center

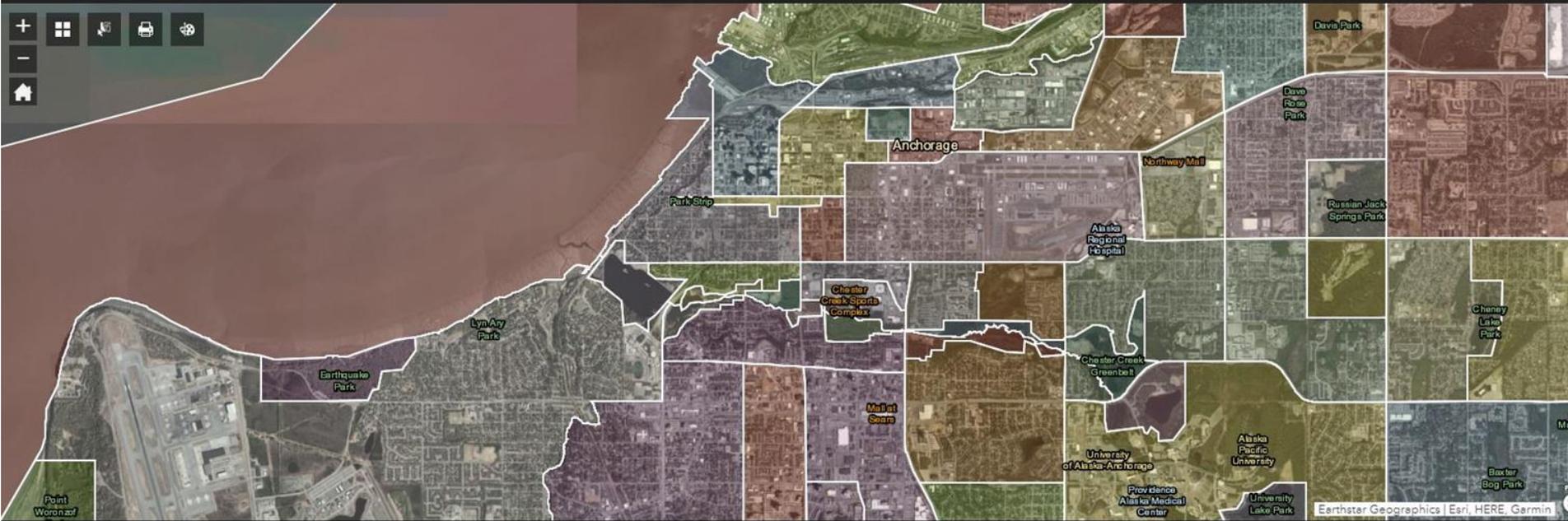
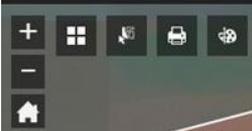


- [MOA Homepage](#)
- [OECD Page](#)
- [Maps & Apps Galleries](#)
- [Maps & Data Downloads](#)
- [Useful External Links](#)
- [Contact Us](#)

The Geographic Data and Information Center supports all municipal departments by providing geographic data, data management, products and services.

 [ancgis@muni.org](mailto:ancgis@muni.org)





Cleaning Information



[Click here for cleaning information.](#)

Structures Posted and Abated this year

**441 Tents/Structures**



These prohibited structures have been posted/abated this year.

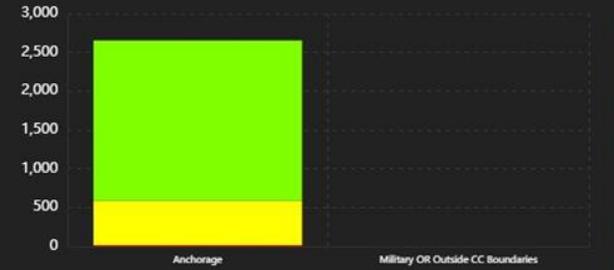
Invalid Reports this Year

**1,114 Invalid Reports**



These reports of structures were invalid at the time of field verification.

# Earthquake Inspections In Map Area by Region



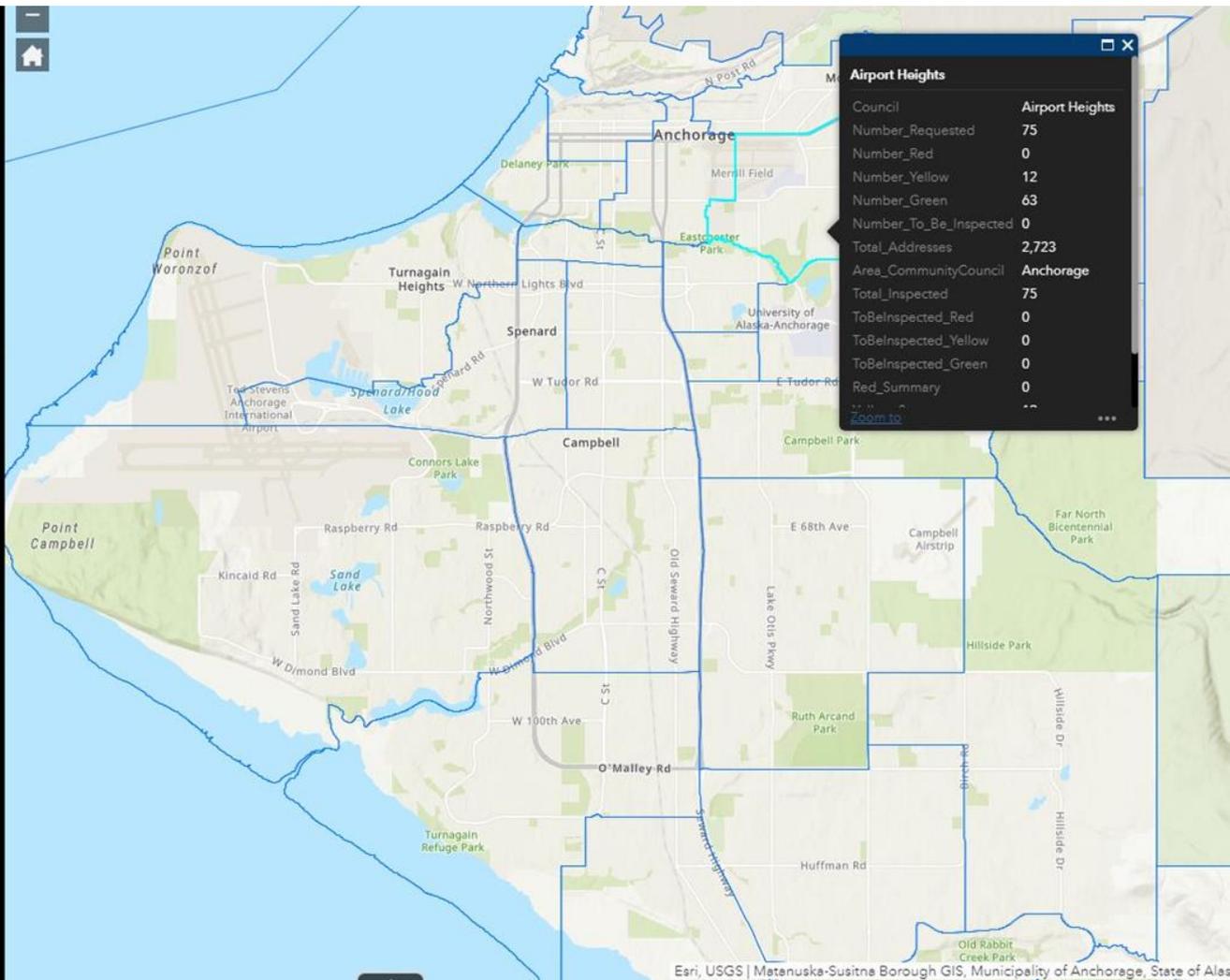
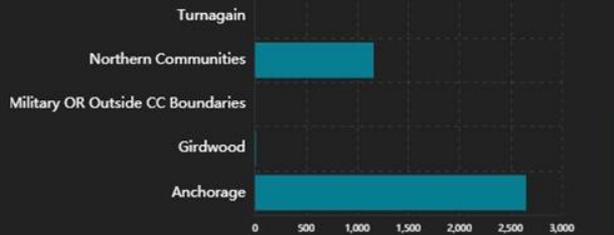
Red Placard Buildings    Yellow Placard Buildings    Green Placard Buildings

Current Red Placard

**69**

Number of Building Inspections

## Number of Inspections



**[data.muni.org](https://data.muni.org)**

**[moa-muniorg.hub.arcgis.com](https://moa-muniorg.hub.arcgis.com)**

# Case Studies:

- SNAP Texting
- Property Tax Exemption Review
- Building energy prototype

# What's a good data and automation problem?

**Finding a needle  
in the haystack**

**Early warning  
tools**

**Prioritizing for  
impact**

**Automating the  
mundane**

**data**

**partners**

**timely metrics**

**right-sized  
problem**

Case Study:

# **SNAP Texting**



2:21



(907) 891-8913 >

Text Message  
Today 2:21 PM

Snap

Hi! It's the SNAP Team at the Food Bank of Alaska. How can we help?  
A) New SNAP Application  
B) Renewal for SNAP  
C) Check Case Status  
D) Other

Text Message



Q W E R T Y U I O P

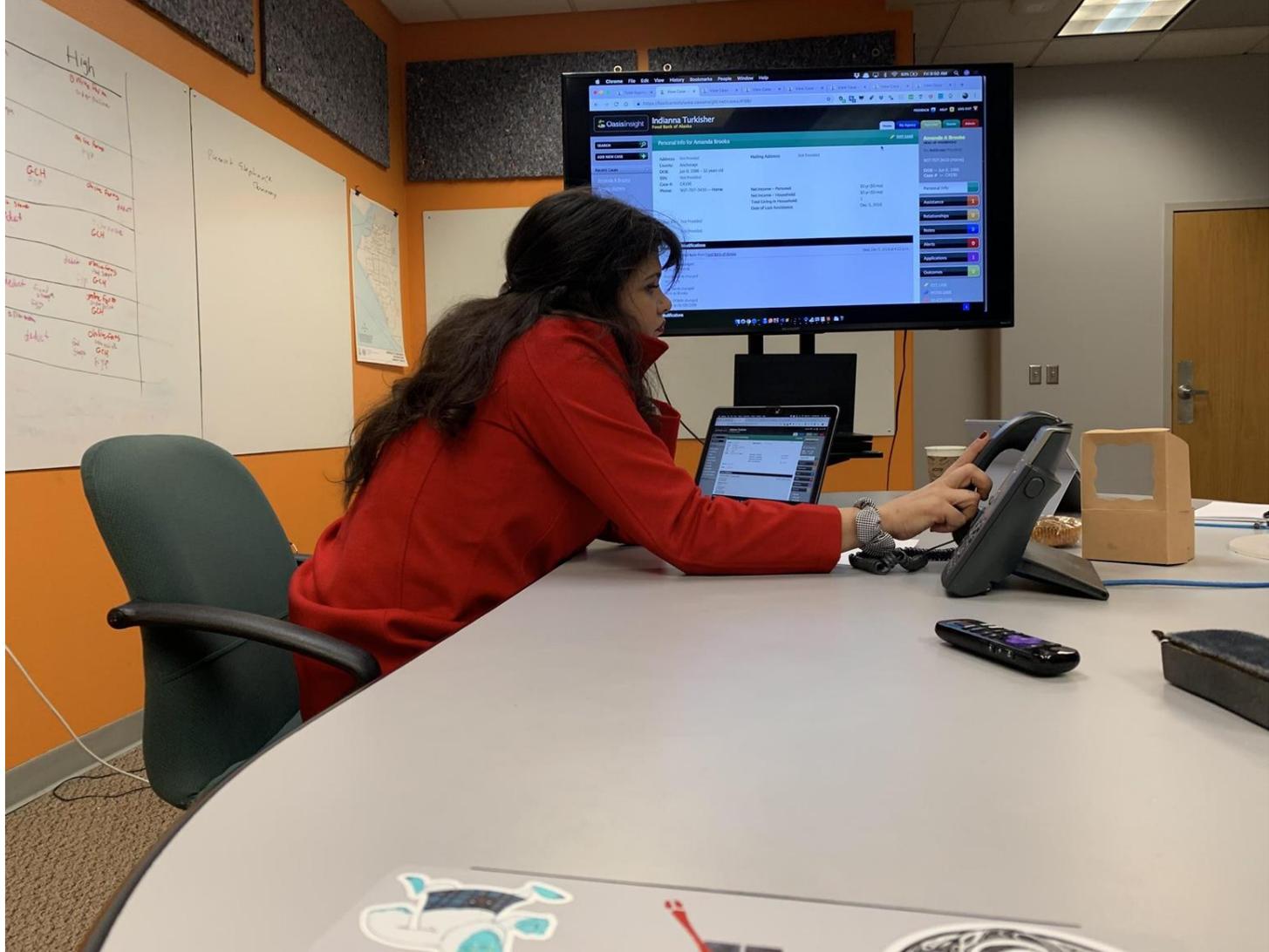
A S D F G H J K L

↑ Z X C V B N M ↵

123

space





Present Stephanie  
January



Do you get SWAPP?

A hand-drawn diagram on a whiteboard showing a central point with three lines extending outwards, resembling a tree or a simple organizational chart. The lines are drawn in green marker.



**Food Bank of Alaska**

Sponsored · 🌐



We can help you fill out an application over the phone in 15 minutes.

**Alaska families average \$410 per month for food stamps**



ALASKASNAP.COM

**Food Bank of Alaska Can Help You Apply**

**SIGN UP**



Like



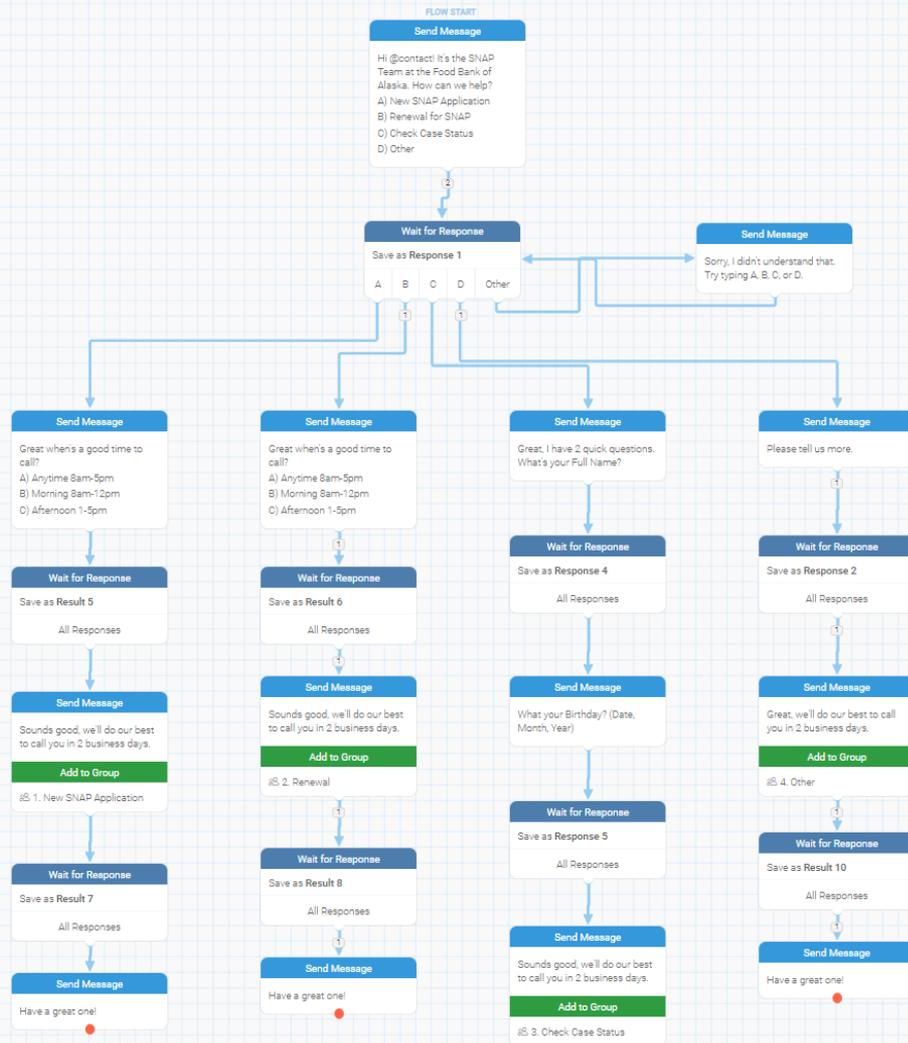
Comment



Share







# What's a good data and automation problem?

**Finding a needle  
in the haystack**

**Early warning  
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mundane**

# What's a good data and automation problem?

**Finding a needle  
in the haystack**

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mundane**

Case Study:

# **Increasing Equity for Property Tax Exemptions**



An aerial photograph of a suburban neighborhood. The foreground and middle ground are filled with residential houses, many with swimming pools, surrounded by green lawns and trees. In the background, there is a large parking lot with many cars, a body of water, and an industrial or airport area with large hangars and runways. A semi-transparent grey horizontal band is overlaid across the middle of the image, containing the text.

**\$46 billion**  
real estate value

An aerial photograph showing a suburban residential area in the foreground, characterized by numerous houses with dark roofs and green lawns. In the background, there is a large industrial or commercial area with several large white buildings and parking lots. A road with many cars is visible between the residential and industrial zones. The text is overlaid on the image.

**\$46 billion**

**\$11 billion**

**Exempted (not taxed)**

**\$50,000 residential**

**\$150,000 senior citizen/  
disabled veteran**

**48,000 properties  
with exemptions**

**48,000 properties  
with exemptions**

*\*not all proper exemptions*

- **People move**
- **Rent out home**
- **Give home to grown kids**
- **Life changes**

Bankers Box



A top-down view of a cardboard box filled with a massive stack of white papers. The papers are tightly packed and their edges create a dense, textured surface. A semi-transparent horizontal band is overlaid across the middle of the box, containing the text '~100,000' in a large, bold, black font. The box is set against a dark, textured background.

**~100,000**





### CAMA Property Inventory - Residential with Details

Residential properties in the Municipality of Anchorage including data elements that are specific to residential properties

More Views Filter Visualize

Deed Page	Deed Date	Plat Number	Appraised Land Value	Appraised Building Value	Appraised Total Value
32,721	08/28/2018	18-0048			
64,403	09/22/2006		\$238,500	\$325,600	\$564,100
85,917	12/21/2006	67-0030	\$272,300	\$334,300	\$606,600
619	02/12/1998	67-0030	\$437,400	\$419,900	\$857,300
52,778	09/17/2012	67-0030	\$449,400	\$182,100	\$631,500
37,390	05/24/2004	67-0030	\$0	\$1,233,000	\$1,233,000
7,746	02/18/2010	67-0030	\$0	\$345,400	\$345,400
26,895	07/20/2018		\$0	\$845,400	\$845,400
7,306	03/13/2019		\$0	\$845,400	\$845,400
10,189	03/17/2016	67-0030	\$364,700	\$278,800	\$643,500
935,070	12/10/2002		\$0	\$294,800	\$294,800

< Previous Next >

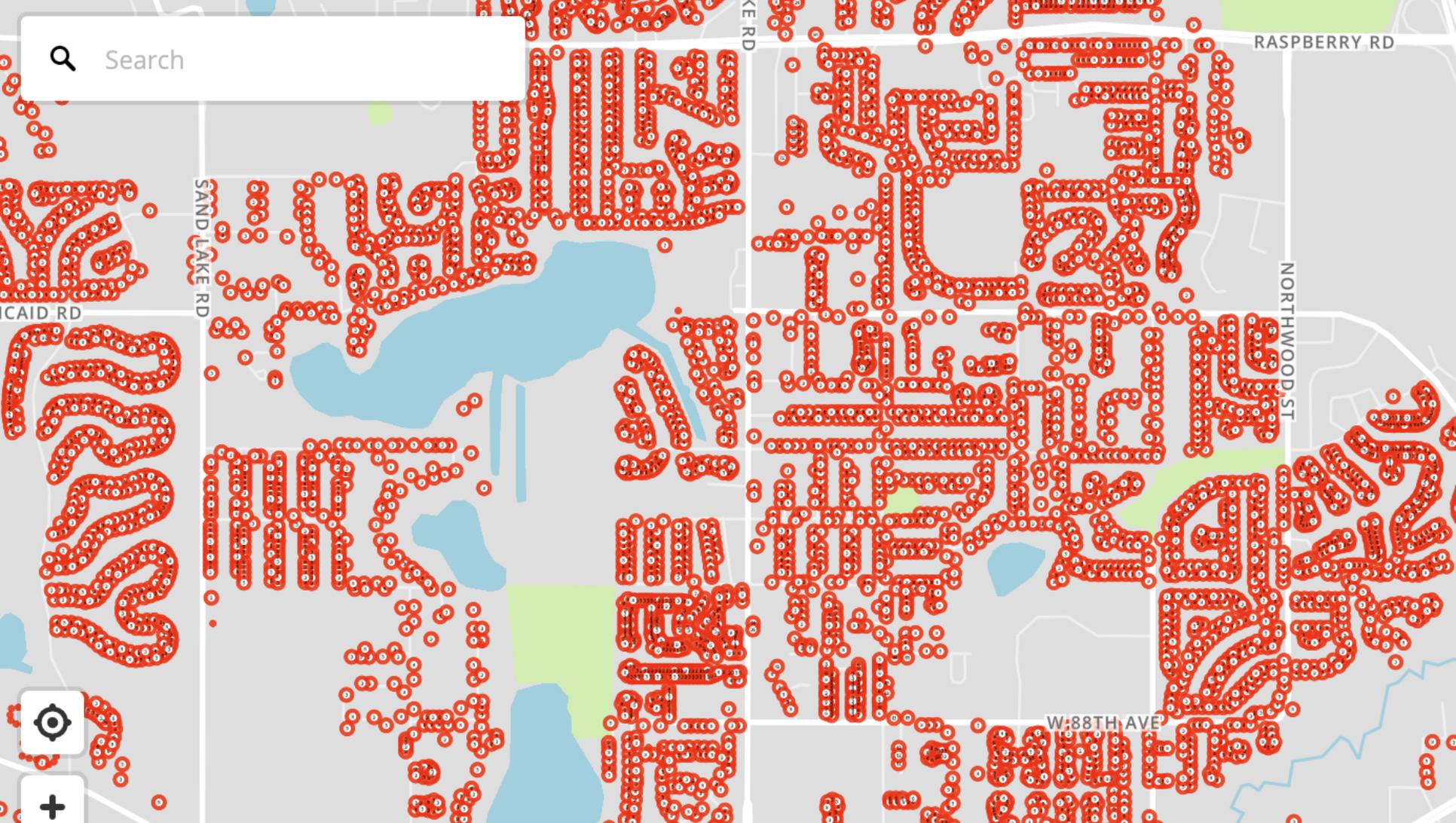
Automatic flagging of **suspicious** exemptions and validation of **good** exemptions.

If we **remove improper**  
exemptions, we can **lower**  
**taxes** for residents.

We can **find senior citizens**  
who **should** get the  
exemption, but don't.



Search



SAND LAKE RD

RASPBERRY RD

NORTHWOOD ST

W 88TH AVE



Use modern **data science tools** to **flag properties** for review

**Finding a needle  
in the haystack**

**Early warning  
tools**

**Prioritizing for  
impact**

**Automating the  
mundane**

**Finding a needle  
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impact**

**Automating the  
mundane**

Matheson Benjamin J      06-01-2000      CAMA  
1110 East 20th Avenue, Anchorage, AK 99503

Matheson Benjamin J	06-01-2000	CAMA
Matheson Ben Joel	06-10-2000	PFD
Matheson Ben	06-10-2000	PFD

Matheson Benjamin J	06-01-2000	CAMA
Matheson Ben Joel	06-10-2000	PFD
Matheson Ben	06-10-2000	PFD

Matheson Benjamin J

06-~~01~~-2000

CAMA

Matheson Ben Joel

06-~~10~~-2000

PFD

Matheson Ben

06-~~10~~-2000

PFD

**fuzzy matching**

```
matchFunctionBoth <- function (eachCama, exemptionType, pfdList) {  
  
  camaDf <- exemptionType %>% filter (`camaParcelId` == eachCama)  
  pfdDfMain <- pfdList %>% filter(pfdDOB == camaBday)  
  
  outputDfMain <- stringdist_inner_join(camaDf, pfdDfMain, by = c("scName" =  
"pfdFullName"), method="lv", max_dist=25, distance_col = "distance")  
  # outputDfMain <- outputDfMain %>% filter(scNameBdayFormat == pfdDOB)  
  
  outputDfMain <- outputDfMain %>% filter(first5Letters == camaName5)  
  minDistance = min(outputDfMain$distance)  
  outputDfMain <- outputDfMain %>% filter(distance == minDistance)  
  outputDfMain <- outputDfMain %>% mutate(addressDiff =  
stringdist(camaParcelAddress, pfdPHY_ADDR1, method="lv"))  
  outputDfMain <- outputDfMain %>% mutate(addrNumMatch =  
ifelse(parcelAddressNumbers == pfdAddressNumbers, TRUE, FALSE))  
  outputDfMain <- outputDfMain %>% mutate(firstLastMatch = ifelse(scLast == pfdLast  
& scFirst == pfdFirst, TRUE, FALSE))  
  outputDfMain <- outputDfMain %>% mutate(lastMatch = ifelse(scLast == pfdLast,  
TRUE, FALSE))  
  
}
```

```

matchFunctionBoth <- function (eachCama, exemptionType, pfdList) {

  camaDf <- exemptionType %>% filter (`camaParcelId` == eachCama)
  pfdDfMain <- pfdList %>% filter(pfdDOB == camaBday)

  outputDfMain <- stringdist(pfdDfMain, by = c("scName" =
"pfdFullName"), method = "jw", max_dist=25, distance_col = "distance")
  # outputDfMain <- mutate(outputDfMain %>% filter(scNameBdayFormat == pfdDOB)

  outputDfMain <- outputDfMain %>% filter(scName5 == camaName5)
  minDistance = min(outputDfMain$distance)
  outputDfMain <- outputDfMain %>% filter(distance == minDistance)
  outputDfMain <- outputDfMain %>% mutate(lastMatch =
stringdist(camaParcelAddressNumbers, pfdParcelAddressNumbers, method="lv"))
  outputDfMain <- outputDfMain %>% mutate(lastMatch =
ifelse(parcelAddressNumbers == pfdParcelAddressNumbers, TRUE, FALSE))
  outputDfMain <- outputDfMain %>% mutate(lastMatch = ifelse(scLast == pfdLast
& scFirst == pfdFirst, TRUE, FALSE))
  outputDfMain <- outputDfMain %>% mutate(lastMatch = ifelse(scLast == pfdLast,
TRUE, FALSE))

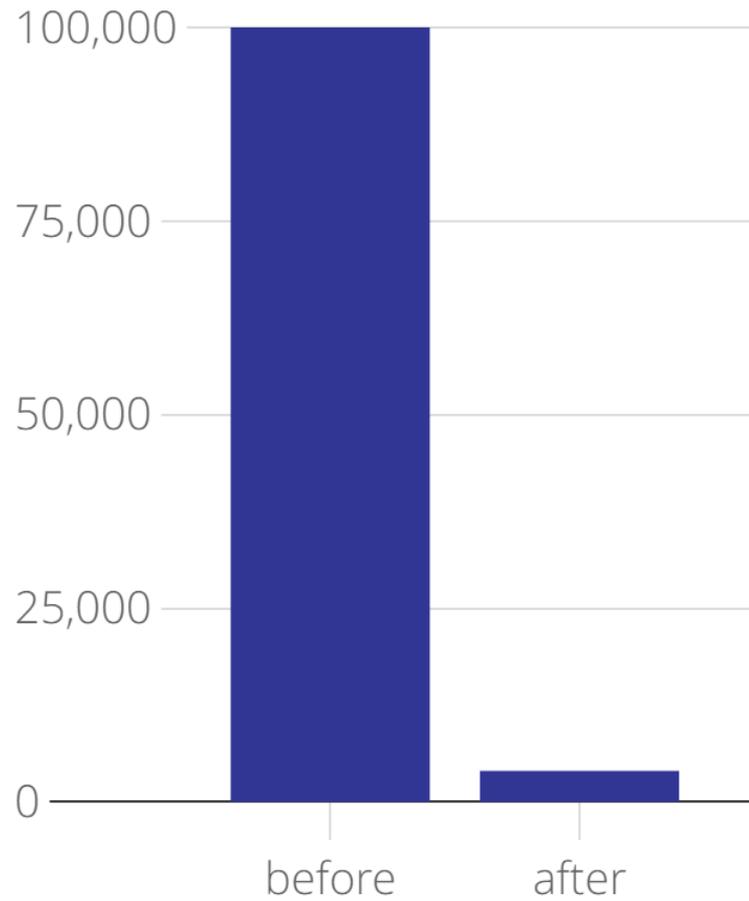
}

```

# ~93% properties matched

- The vast majority verified **“good”**
- ~4,000 **flagged** for follow-up

# Exemptions to Review



# Senior Letter

Senior citizens who **should** get an exemption but don't



Municipality of Anchorage

Ethan Berkowitz, Mayor

<<Date>>

<<Owner>>

<<Mailing Address>>

<<City>><<State>><<Zip>>

Dear [First Name],

Our records show that you may qualify for the Senior Citizen Property Tax Exemption which could significantly **lower your property taxes**. On average, residents who qualify **save \$2,400 per year**.

**94% of eligible Anchorage residents take advantage of this tax exemption**, and we want to make sure you do too! You may qualify if you are at least 65 years old by December 31, and your property is your primary residence. See the full list of requirements on the back of the application.

**APPLY NOW: See if you qualify for lower taxes**



**Fill out:**  
The enclosed application



**Take photos of:**  
→ Signed **application**  
→ **Driver's license**  
or **state ID**



**Email photos to:**  
[propappcs@muni.org](mailto:propappcs@muni.org)  
Or mail paper copies to the address on the application

**Questions?** Our property appraisal customer service team is here to help! You can reach them at 907-343-6700 or [propappex@muni.org](mailto:propappex@muni.org).

Sincerely,

Mayor Ethan Berkowitz

**PS - Make sure to apply now, so you don't forget and miss out on this big tax break!**

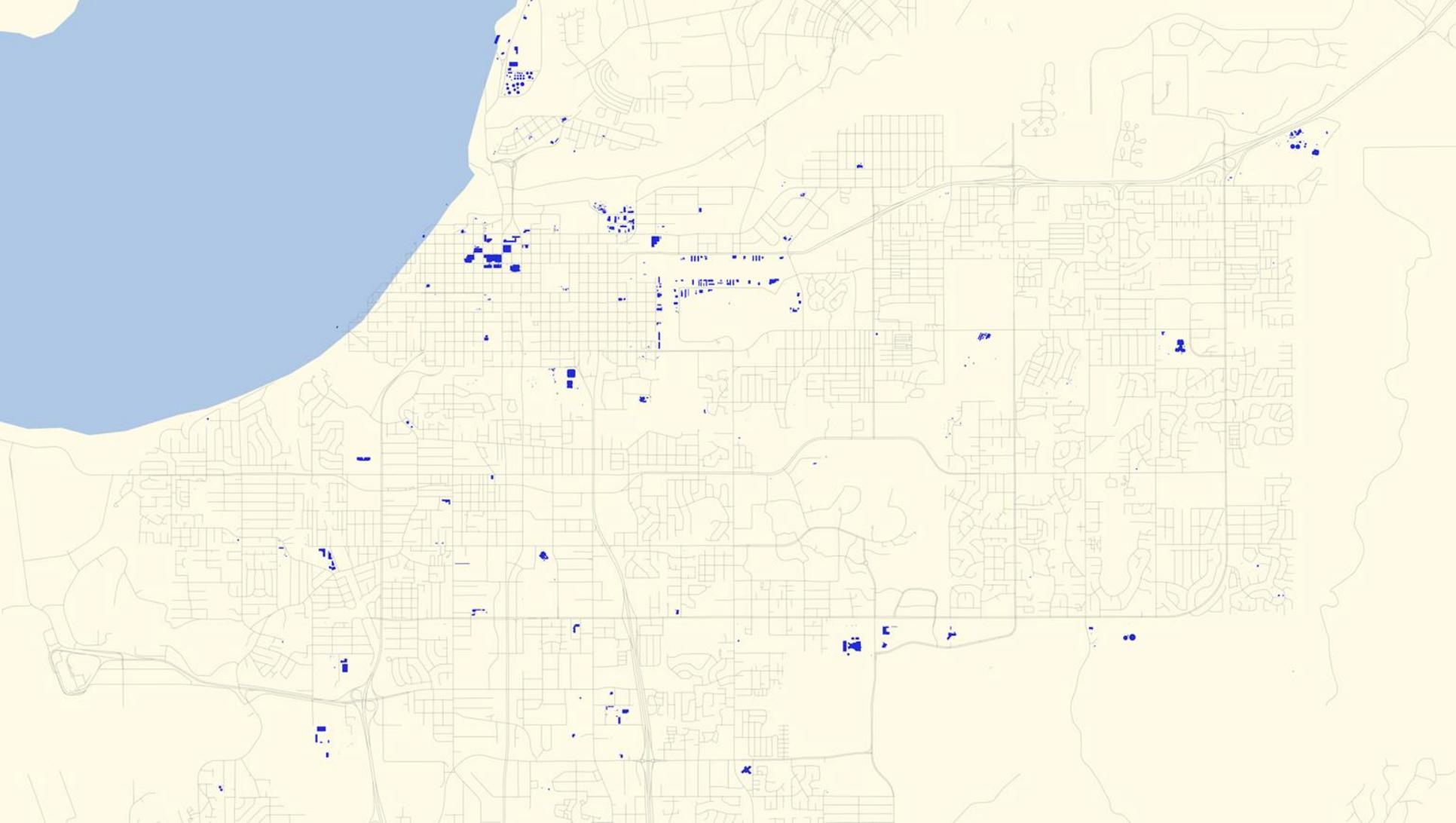
\*Up to \$150,000 of your home's assessed value may be exempt from taxes, so if you qualify, the amount you'll save depends on your home's value, tax rate, etc.

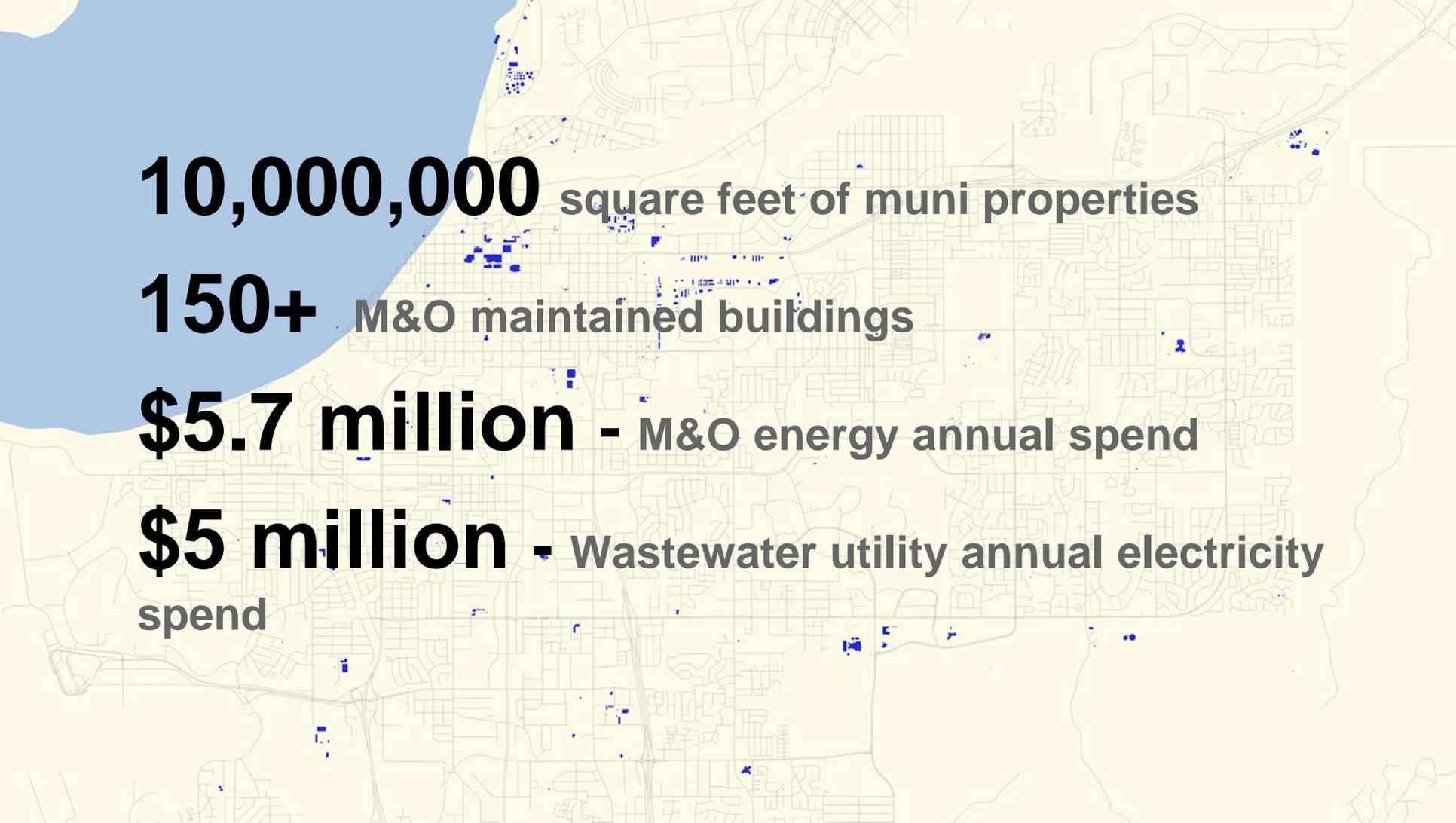
- **Loss aversion**
- **Timeliness**
- **Chunking**
- **Saliency**
- **Head start**

Case Study:

# **Energy Project**

*(underway)*





**10,000,000** square feet of muni properties

**150+** M&O maintained buildings

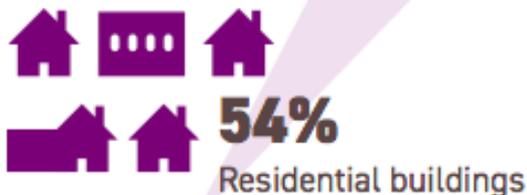
**\$5.7 million** - M&O energy annual spend

**\$5 million** - Wastewater utility annual electricity spend

## Where Do Our Emissions Come From?



## Who Uses Electricity and Heat in Anchorage?



Our goal: help facility  
managers **use data** to save  
energy through immediate  
**no/low-cost** solutions

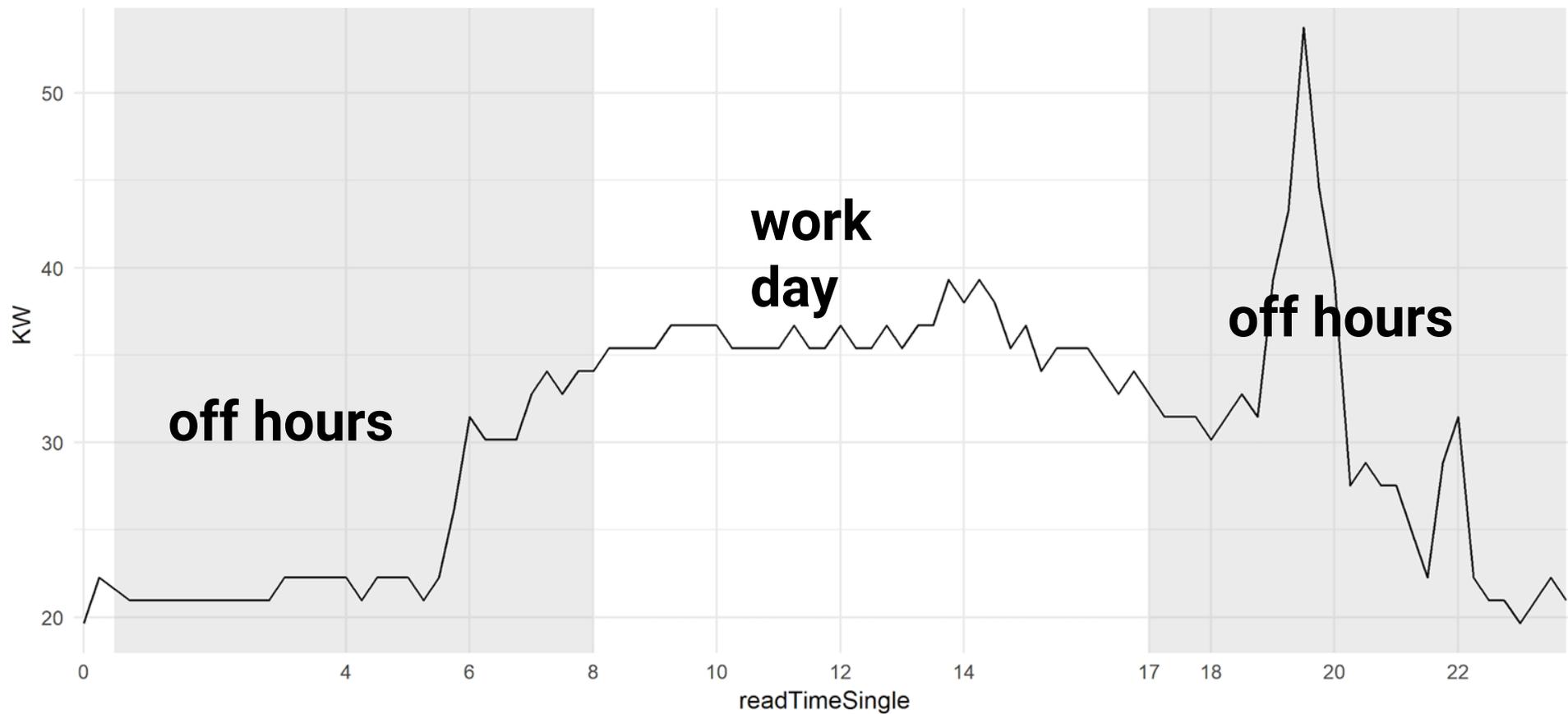
	readDate	kWh	dayWeek	timeHour	night	rolling5	rolling10	rollingDiff	rollingDiffPos	readWeek	readMonth	readTime	readTimeSin
03936	2019-08-27 00:00:00	0.053248	Tue	0	night	17.03936	17.82579	-5.684342e-14	5.684342e-14	35	8	2019-08-27 00:00:00	00:00:00
35008	2019-08-27 00:15:00	0.057344	Tue	0	night	17.82579	17.95686	-5.242880e-01	5.242880e-01	35	8	2019-08-27 00:15:00	00:15:00
03936	2019-08-27 00:30:00	0.053248	Tue	0	night	17.30150	17.69472	2.621440e-01	-2.621440e-01	35	8	2019-08-27 00:30:00	00:30:00
35008	2019-08-27 00:45:00	0.057344	Tue	0	night	17.56365	17.95686	-7.864320e-01	7.864320e-01	35	8	2019-08-27 00:45:00	00:45:00
35008	2019-08-27 01:00:00	0.057344	Tue	1	night	18.08794	18.21901	-2.621440e-01	2.621440e-01	35	8	2019-08-27 01:00:00	01:00:00
35008	2019-08-27 01:15:00	0.057344	Tue	1	night	17.56365	17.82579	-7.864320e-01	7.864320e-01	35	8	2019-08-27 01:15:00	01:15:00
35008	2019-08-27 01:30:00	0.057344	Tue	1	night	17.30150	17.56365	-1.048576e+00	1.048576e+00	35	8	2019-08-27 01:30:00	01:30:00
03936	2019-08-27 01:45:00	0.053248	Tue	1	night	17.56365	17.82579	5.242880e-01	-5.242880e-01	35	8	2019-08-27 01:45:00	01:45:00
03936	2019-08-27 02:00:00	0.053248	Tue	2	night	17.82579	17.82579	7.864320e-01	-7.864320e-01	35	8	2019-08-27 02:00:00	02:00:00
03936	2019-08-27 02:15:00	0.053248	Tue	2	night	17.56365	18.08794	5.242880e-01	-5.242880e-01	35	8	2019-08-27 02:15:00	02:15:00
35008	2019-08-27 02:30:00	0.057344	Tue	2	night	18.08794	17.95686	-2.621440e-01	2.621440e-01	35	8	2019-08-27 02:30:00	02:30:00
35008	2019-08-27 02:45:00	0.057344	Tue	2	night	18.35008	18.35008	0.000000e+00	0.000000e+00	35	8	2019-08-27 02:45:00	02:45:00
35008	2019-08-27 03:00:00	0.057344	Tue	3	night	17.82579	18.21901	-5.242880e-01	5.242880e-01	35	8	2019-08-27 03:00:00	03:00:00
35008	2019-08-27 03:15:00	0.057344	Tue	3	night	18.35008	18.48115	0.000000e+00	0.000000e+00	35	8	2019-08-27 03:15:00	03:15:00
35008	2019-08-27 03:30:00	0.057344	Tue	3	night	18.61222	18.61222	2.621440e-01	-2.621440e-01	35	8	2019-08-27 03:30:00	03:30:00
35008	2019-08-27 03:45:00	0.057344	Tue	3	night	18.08794	18.35008	-2.621440e-01	2.621440e-01	35	8	2019-08-27 03:45:00	03:45:00
35008	2019-08-27 04:00:00	0.057344	Tue	4	night	18.08794	18.48115	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:00:00	04:00:00
35008	2019-08-27 04:15:00	0.057344	Tue	4	night	18.61222	18.61222	2.621440e-01	-2.621440e-01	35	8	2019-08-27 04:15:00	04:15:00
35008	2019-08-27 04:30:00	0.057344	Tue	4	night	18.08794	18.35008	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:30:00	04:30:00
35008	2019-08-27 04:45:00	0.057344	Tue	4	night	18.08794	18.08794	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:45:00	04:45:00
66080	2019-08-27 05:00:00	0.061440	Tue	5	night	18.35008	18.74330	-1.310720e+00	1.310720e+00	35	8	2019-08-27 05:00:00	05:00:00
35008	2019-08-27 05:15:00	0.057344	Tue	5	night	18.08794	18.08794	-2.621440e-01	2.621440e-01	35	8	2019-08-27 05:15:00	05:15:00
03936	2019-08-27 05:30:00	0.053248	Tue	5	night	18.08794	18.21901	1.048576e+00	-1.048576e+00	35	8	2019-08-27 05:30:00	05:30:00

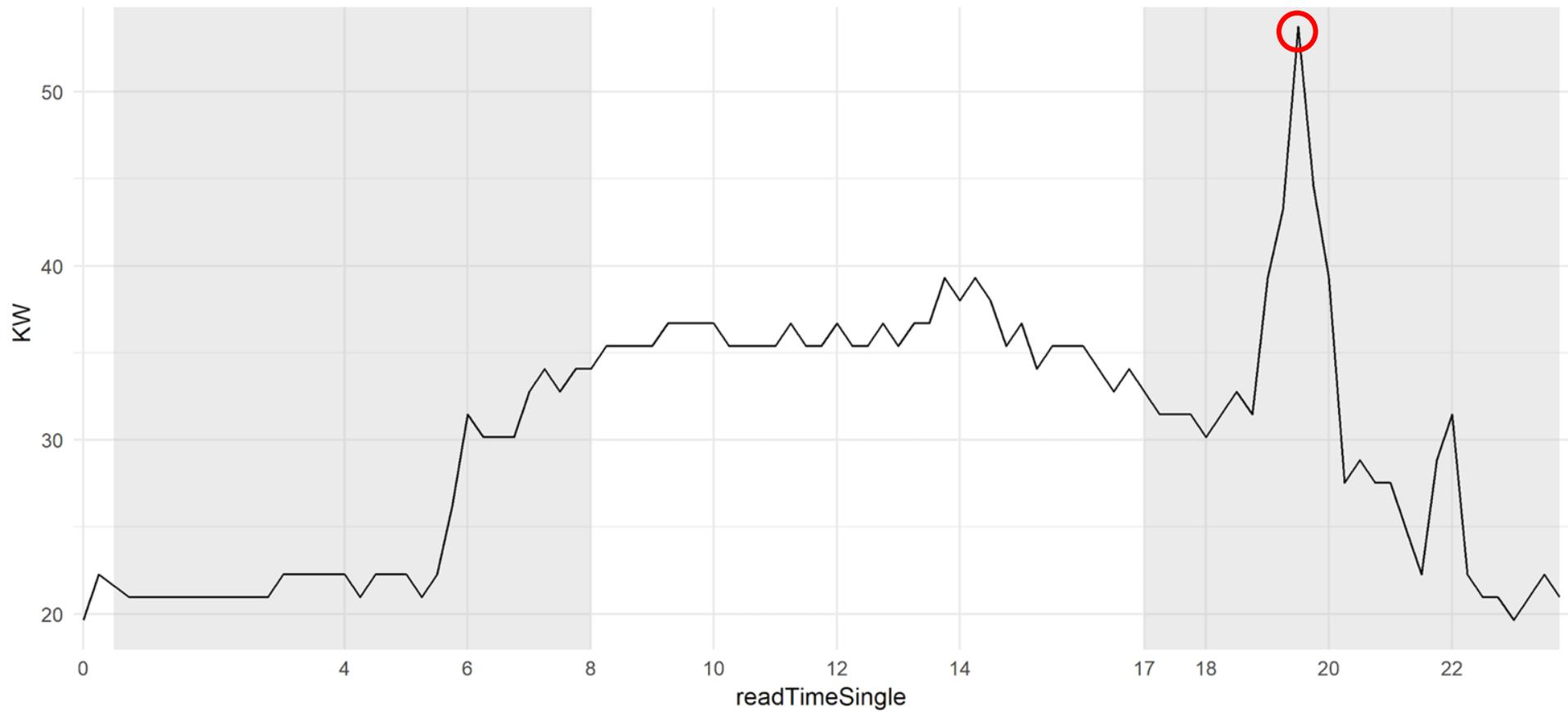
readDate	kWh	dayWeek	timeHour	night	rolling5	rolling10	rollingDiff	rollingDiffPos	readWeek	readMonth	readTime	readTime5m
2019-08-27 00:00:00	0.053248	Tue	0	night	17.03936	17.82579	-5.684342e-14	5.684342e-14	35	8	2019-08-27 00:00:00	00:00:00
2019-08-27 00:15:00	0.057344	Tue	0	night	17.82579	17.95686	-5.242880e-01	5.242880e-01	35	8	2019-08-27 00:15:00	00:15:00
2019-08-27 00:30:00	0.053248	Tue	0	night	17.30150	17.69472	2.621440e-01	-2.621440e-01	35	8	2019-08-27 00:30:00	00:30:00
2019-08-27 00:45:00	0.057344	Tue	0	night	17.56365	17.95686	-7.864320e-01	7.864320e-01	35	8	2019-08-27 00:45:00	00:45:00
2019-08-27 01:00:00	0.057344	Tue	1	night	18.08794	18.21901	2.621440e-01	-2.621440e-01	35	8	2019-08-27 01:00:00	01:00:00
2019-08-27 01:15:00	0.057344	Tue	1	night	17.56365	18.08794	-1.048576e+00	1.048576e+00	35	8	2019-08-27 01:15:00	01:15:00
2019-08-27 01:30:00	0.057344	Tue	1	night	17.30150	17.56365	-1.048576e+00	1.048576e+00	35	8	2019-08-27 01:30:00	01:30:00
2019-08-27 01:45:00	0.053248	Tue	1	night	17.56365	17.82579	5.242880e-01	-5.242880e-01	35	8	2019-08-27 01:45:00	01:45:00
2019-08-27 02:00:00	0.053248	Tue	2	night	17.82579	17.82579	7.864320e-01	-7.864320e-01	35	8	2019-08-27 02:00:00	02:00:00
2019-08-27 02:15:00	0.057344	Tue	2	night	17.56365	17.95686	-5.242880e-01	5.242880e-01	35	8	2019-08-27 02:15:00	02:15:00
2019-08-27 02:30:00	0.057344	Tue	2	night	18.08794	18.21901	2.621440e-01	-2.621440e-01	35	8	2019-08-27 02:30:00	02:30:00
2019-08-27 02:45:00	0.057344	Tue	2	night	18.35008	18.35008	0.000000e+00	0.000000e+00	35	8	2019-08-27 02:45:00	02:45:00
2019-08-27 03:00:00	0.057344	Tue	3	night	17.82579	18.21901	-5.242880e-01	5.242880e-01	35	8	2019-08-27 03:00:00	03:00:00
2019-08-27 03:15:00	0.057344	Tue	3	night	18.35008	18.48115	0.000000e+00	0.000000e+00	35	8	2019-08-27 03:15:00	03:15:00
2019-08-27 03:30:00	0.057344	Tue	3	night	18.08794	18.21901	2.621440e-01	-2.621440e-01	35	8	2019-08-27 03:30:00	03:30:00
2019-08-27 03:45:00	0.057344	Tue	3	night	18.08794	18.08794	2.621440e-01	-2.621440e-01	35	8	2019-08-27 03:45:00	03:45:00
2019-08-27 04:00:00	0.057344	Tue	4	night	18.08794	18.48115	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:00:00	04:00:00
2019-08-27 04:15:00	0.057344	Tue	4	night	18.08794	18.08794	2.621440e-01	-2.621440e-01	35	8	2019-08-27 04:15:00	04:15:00
2019-08-27 04:30:00	0.057344	Tue	4	night	18.35008	18.35008	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:30:00	04:30:00
2019-08-27 04:45:00	0.057344	Tue	4	night	18.08794	18.08794	-2.621440e-01	2.621440e-01	35	8	2019-08-27 04:45:00	04:45:00
2019-08-27 05:00:00	0.061440	Tue	5	night	18.35008	18.74330	-1.310720e+00	1.310720e+00	35	8	2019-08-27 05:00:00	05:00:00
2019-08-27 05:15:00	0.057344	Tue	5	night	18.08794	18.08794	-2.621440e-01	2.621440e-01	35	8	2019-08-27 05:15:00	05:15:00
2019-08-27 05:30:00	0.053248	Tue	5	night	18.08794	18.21901	1.048576e+00	-1.048576e+00	35	8	2019-08-27 05:30:00	05:30:00

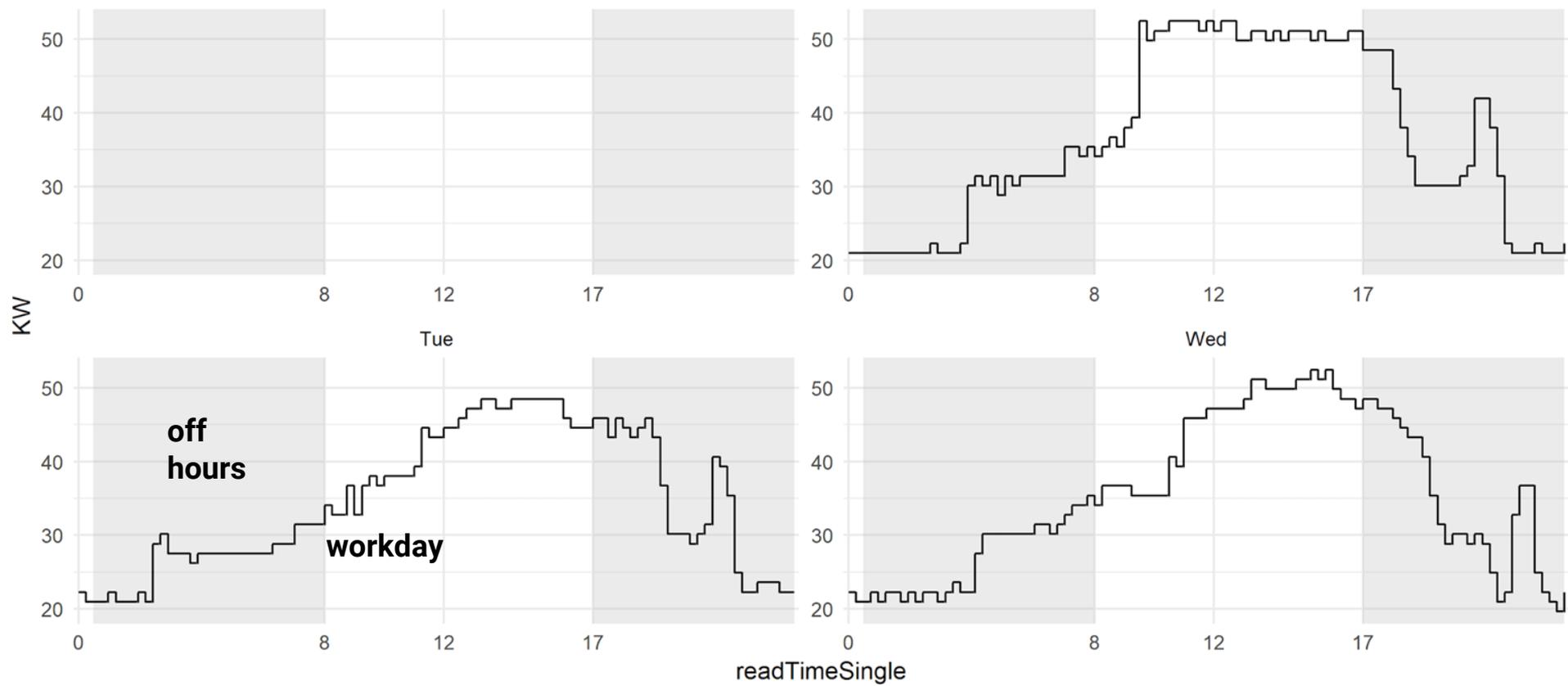
# Source data: Utility Interval Data

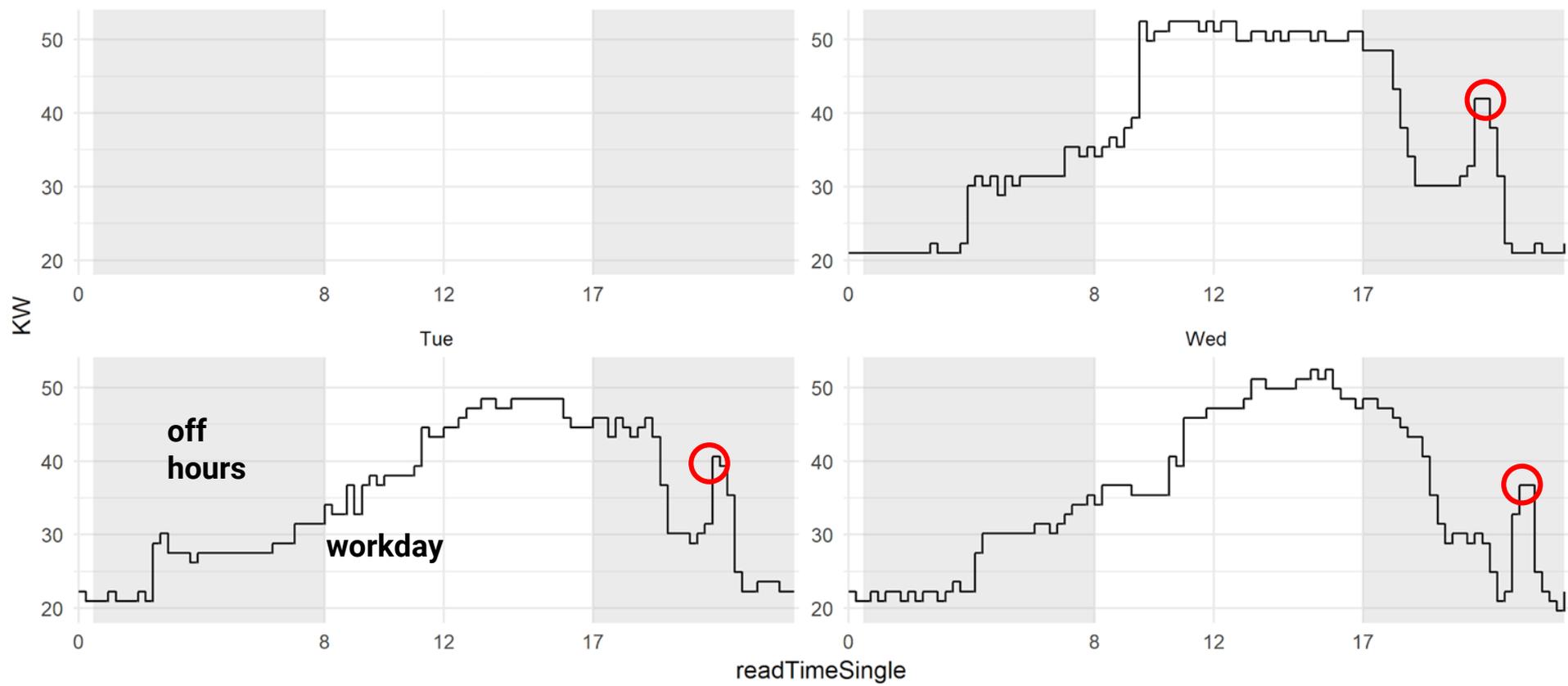
15-minute readings

69,000+ readings between October, 2017 and October, 2019



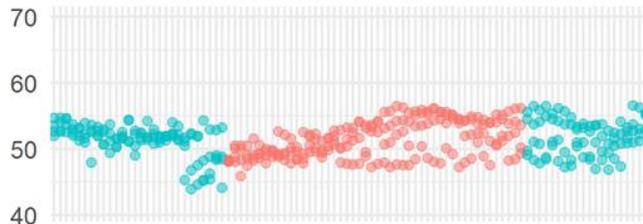




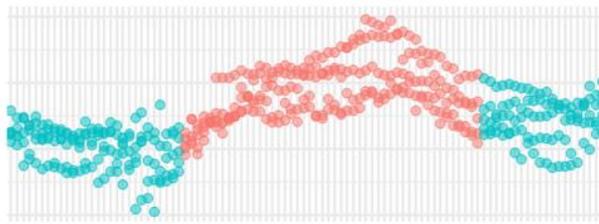


# KwH by Day of Week

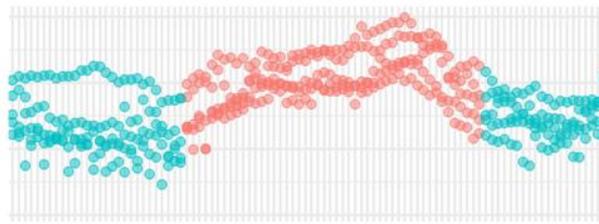
Sun



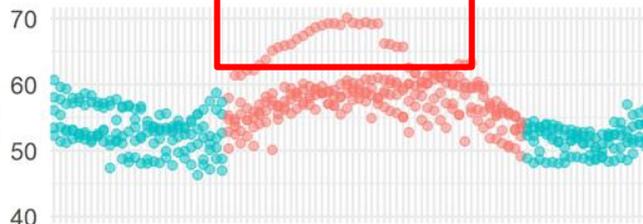
Mon



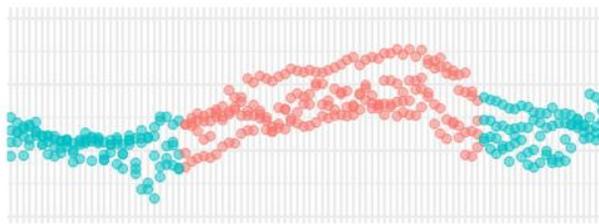
Tue



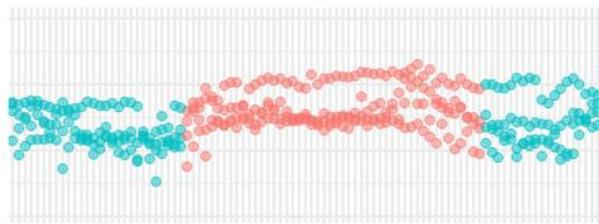
Wed



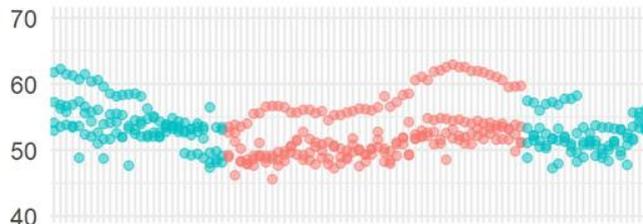
Thu



Fri



Sat



Time of Day

# What's a good data and automation problem?

**Finding a needle  
in the haystack**

**Early warning  
tools**

**Prioritizing for  
impact**

**Automating the  
mundane**

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**Stay in Touch:**

**[bit.ly/ancinnovation](https://bit.ly/ancinnovation)**

**Ben Matheson**

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**343-6980**