



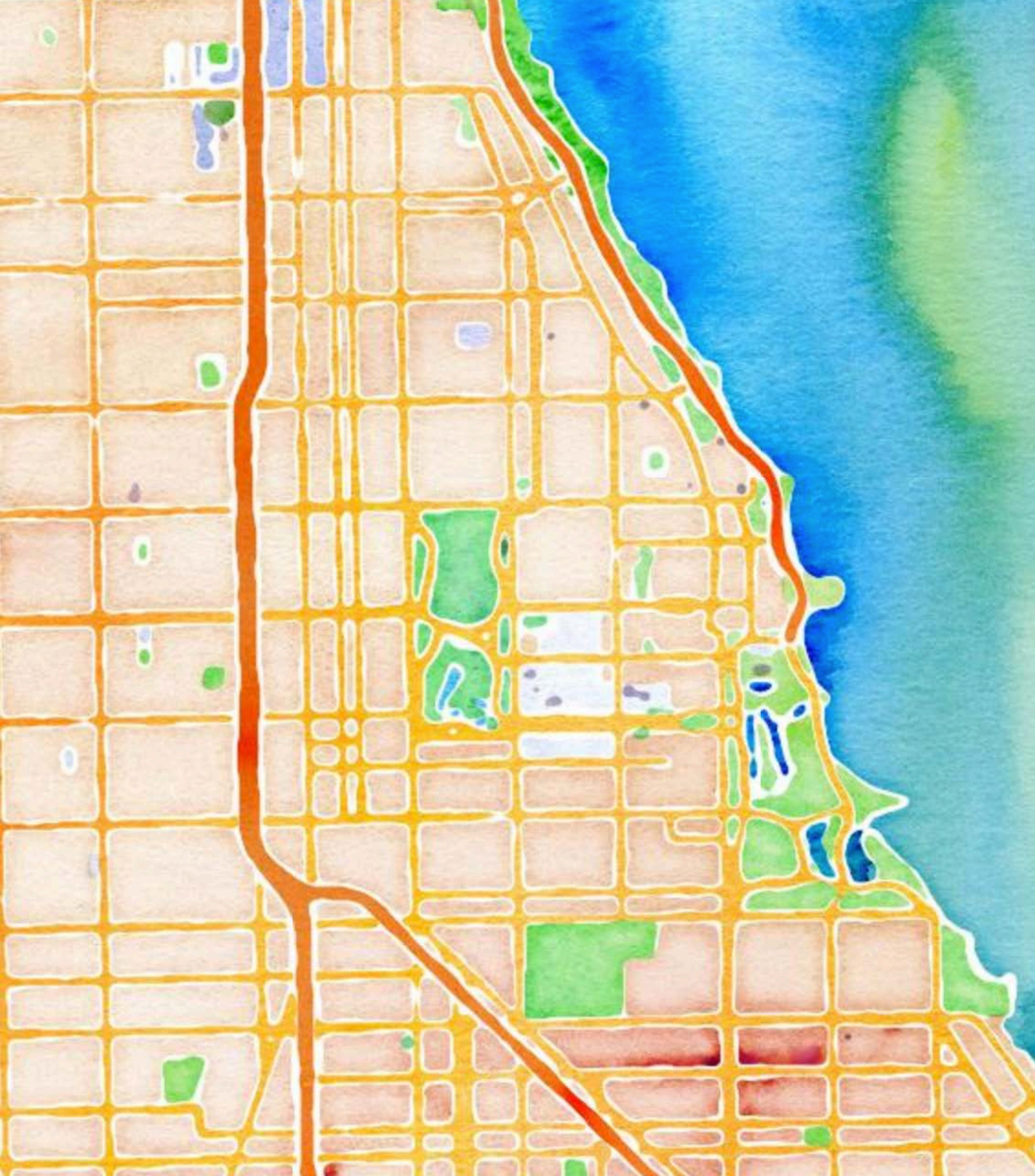
*Image/Map Credit: Stamen Design*

# EMPATHY & ECOSYSTEM

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*@abhinemani | CAPP 30130 | University of Chicago*





# AGENDA

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- ▶ **Why civic tech?** (Or challenges & opportunities)
  - ▶ Policy <-> Technology
  - ▶ Userbase
  - ▶ Market Size
- ▶ **How civic tech?** (Or why not yet?)
  - ▶ Today: Empathy
  - ▶ In the future: Lean, Data, Users, Sustainability
- ▶ **What civic tech?** (Or what's already out there)
  - ▶ Overview of featured apps



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**POLICY <-> TECHNOLOGY**

---



“

Or, as Andrew Maier, another CfA fellow turned USDSer, put it, “digital is a manifestation of policy.” But digital is also a path to better policy.

*-Jennifer Pahlka*



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# MARKET SIZE & USER BASE

---

*Hint: It's big.*



“

GovTech is a **\$400B** market hidden in plain sight

*-Ron Bouganim*

“

22 Million government employees =  
15% of entire US labor force  
4x all employees from DJIA companies DJIA

*-Ron Bouganim*



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# HOW CIVIC TECH?

---



# CIVIC TECH: KEYS TO SUCCESS

---

## *Empathy*

- ▶ Build with, not for
- ▶ Talk to users
- ▶ Understand behavior
- ▶ Learn what's out there

## *Lean*

- ▶ It's more than just a technical process
- ▶ Expect failure
- ▶ Only build what's necessary
- ▶ Test, test, test

## *Data*

- ▶ Data "lives" everywhere
- ▶ Be ready to scrape
- ▶ Open data is your friend
- ▶ ETLs are your best friend

## *Users*

- ▶ ~~If you build it they will come~~
- ▶ Listen and learn
- ▶ Define metrics
- ▶ Find partners

## *Sustainability*

- ▶ Consider your options: startup, open source, non-profit, academic, etc
- ▶ Tech -> Policy
- ▶ Expect to train everyone
- ▶ Document everything

# CIVIC TECH: KEYS TO SUCCESS

---

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## *Sustainability*

- ▶ Consider your options: startup, open source, non-profit, academic, etc
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- ▶ Expect to train everyone
- ▶ Document everything

“

It's hard to build software for somebody else.  
It's hard to solve a problem if it's not a problem  
that you've seen yourself.

*-Abhi Nemani*

“

We have a *scarcity of empathy*  
but an *abundance of capacity*.



# CUT GROUP

---

- Organized by Smart Chicago
- Designed to get civic apps into the hands of real users
- Held at neutral locations (eg libraries)
- Participants were “rewarded” for their participation (gift cards)
- Ancillary benefit was not just user feedback/learning but also user adoption
- See Dan O’Neil’s chapter in *Beyond Transparency*

# WAYS TO SEE BEHIND THE COUNTER

---

## ➤ *Programs*

- **Startup-in-Residence (STIR):** Several month program where startups respond to “RFIs” from government agencies tailoring their existing solutions to their needs. Network of dozens of cities, and promise of contracts for winning companies.
- **Fuse Corps:** Year-long innovation fellowship with cities designed around policy, but with a technology tangent. Fellows work very closely with senior leadership in cities and are assigned a specific policy area (eg inclusive development)
- **Presidential Innovation Fellows:** Year-long technology fellowship through the White House designed around policy, designed to support USDS & 18Fs efforts to revitalize federal technology. Fellows work very closely with senior leadership in cities and are assigned a specific agency.
- **Code for America fellowship:** (Now known as the community fellowship) Fellows are selected from a small group of partner cities where there are CfA Brigades (volunteer groups) but work full-time for 6-months on a specific issue in one of CfA’s policy areas: criminal justice, food safety, or workforce development.

## ➤ *Events*

- **Hackathons/Designathons, etc:** Casual events where government partners engage local technologists, bringing their expertise, connections and data (eg ChiHackNight)
- **App Contests:** Formal competitions where teams work together and compete around civic issues for a cash prize or investment(eg StartupWeekend)
- **Blogs / Media / Books:** Follow #gov20, #opengov, #civictech, and #govtech on twitter to track what’s happening.



# TIPS FOR ENGAGING GOVERNMENT OFFICIALS

---

- ▶ Everyone will talk to you if you don't seem to want to "sell" anything
  - ▶ "As a fellow, you'll always get a free lunch" - DJ Patil (fmr US CDO)
- ▶ Do your homework
  - ▶ Know what they've been working on / what they are proud of
- ▶ Talk to people up and down the organization chart
  - ▶ Don't just talk to the CIO/CTO/ED
  - ▶ Talk to officials on-the-ground, who know what tools are actually being used
    - ▶ DO A RIDE ALONG

# THE ECOSYSTEM

---

*What's been going on?*





# CIVIC TECH MEANS POLICY AND TECHNOLOGY

---

*This isn't going to be your typical CS course...*

@abhinemani





# TRANSIT

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*The OG civic tech*

@abhinemani





PRODUCT ▾

CUSTOMERS

REQUEST A DEMO

LOG IN

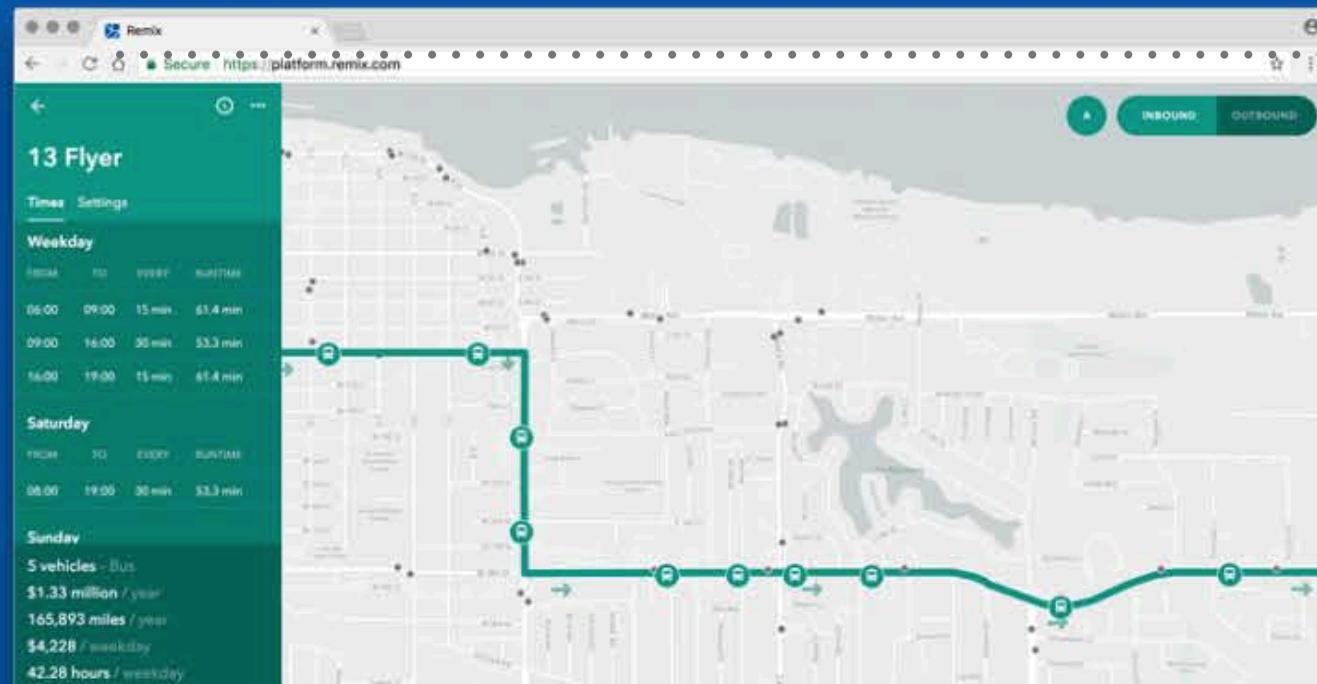
# Design and manage your city's transportation future

Remix is the first platform that brings together the entire transportation picture. 300+ cities worldwide trust Remix to manage how public transit, streets, and private mobility work together.

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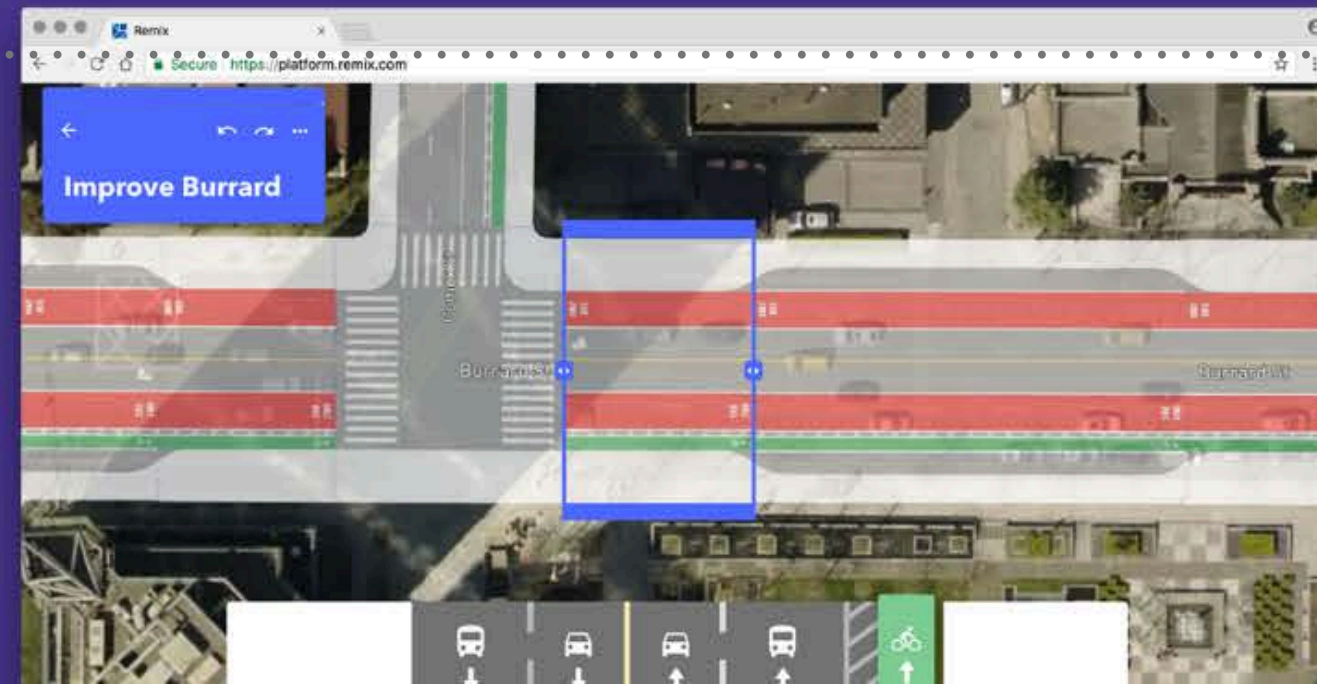
## Public Transit

Plan public transportation from vision through implementation.



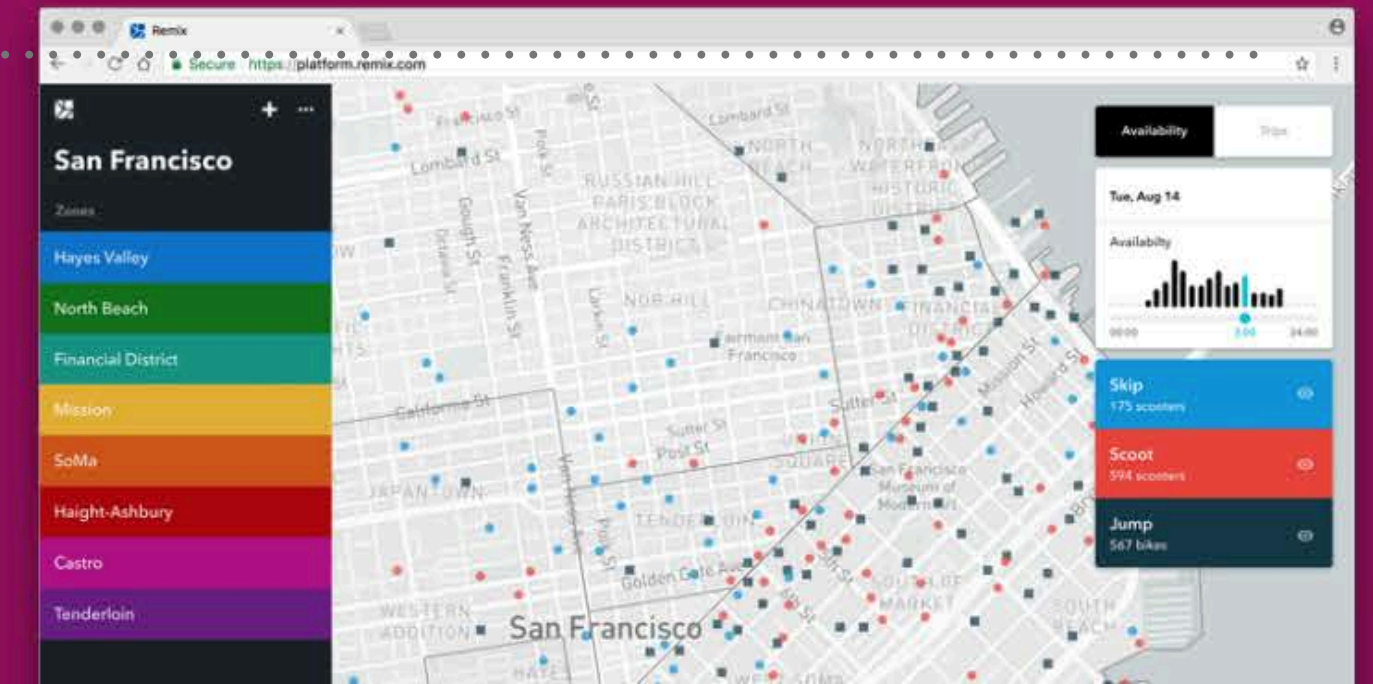
## Streets

Envision, plan, and design streets for the multimodal city.



## New Mobility

Manage scooters and bikes, shape policy, and enforce regulations.





Metro

Going Metro >

Projects >

About Us >

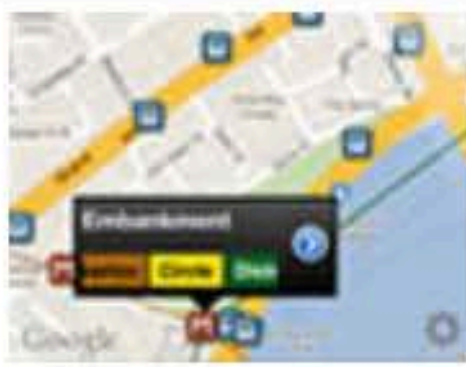
Search

Translate >

Partners >

Comments

Website Help



### allSchedules

Check public transit schedules & real-time predictions: +500K stops in +100 cities in one app!

iPhone, iPad \$



### AnyStop: LA Metro

Get real-time transit information for Metro Los Angeles in Los Angeles California with AnyStop!

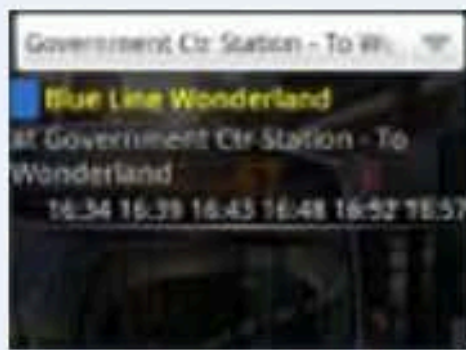
Android Free



### Busboy

Tired of waiting for the bus? See when your bus is actually coming, with updating time timetables and maps.

iPhone, iPad, iPod Touch Free



### Buster

Stop times, where you are, instantly

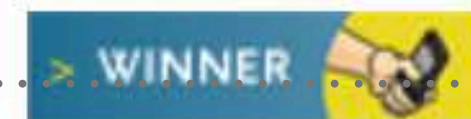
Android \$



### CSULA Transit

Real-time updates on all buses arriving at Cal State LA; also displays Metrolink train arrivals.

iPhone Free



### Dabnab

Get transit directions by text message

SMS Free

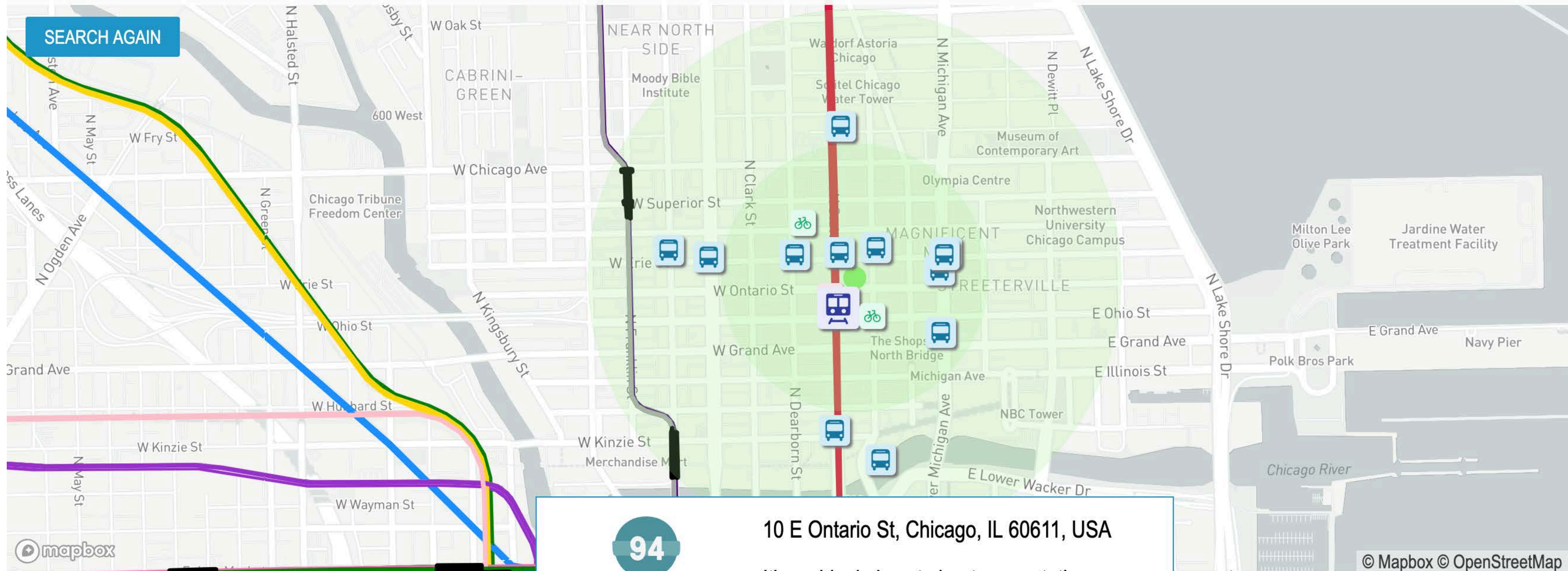


### Dash! Transit

iPhone, Free

@abhinemani

SEARCH AGAIN



10 E Ontario St, Chicago, IL 60611, USA

It's an ideal place to be, transportation-wise. [Learn more about your score.](#)

Excellent Mobility!

Share Tweet

VIEW A NEARBY TRANSITSCREEN

Anything I can help you with?



@abhinemani

# COMMUNITY “EMPOWERMENT”

---

*Act like a citizen*



# WELCOME TO CHI311

Request, track, and explore City of Chicago non-emergency services.

Enter keywords (e.g. Potholes) or a service request number



## SERVICE REQUEST

Submit a new service request or track an existing request



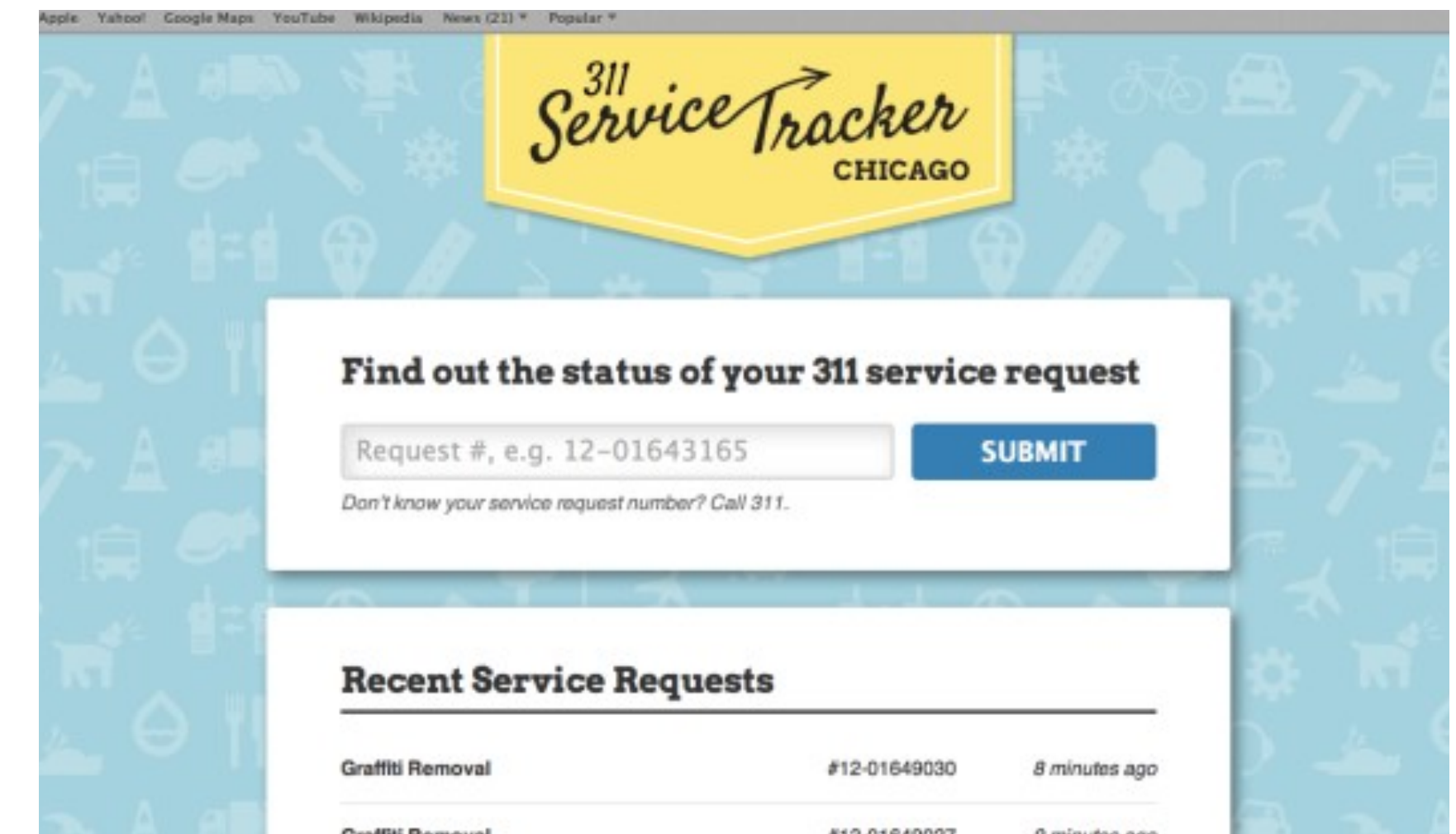
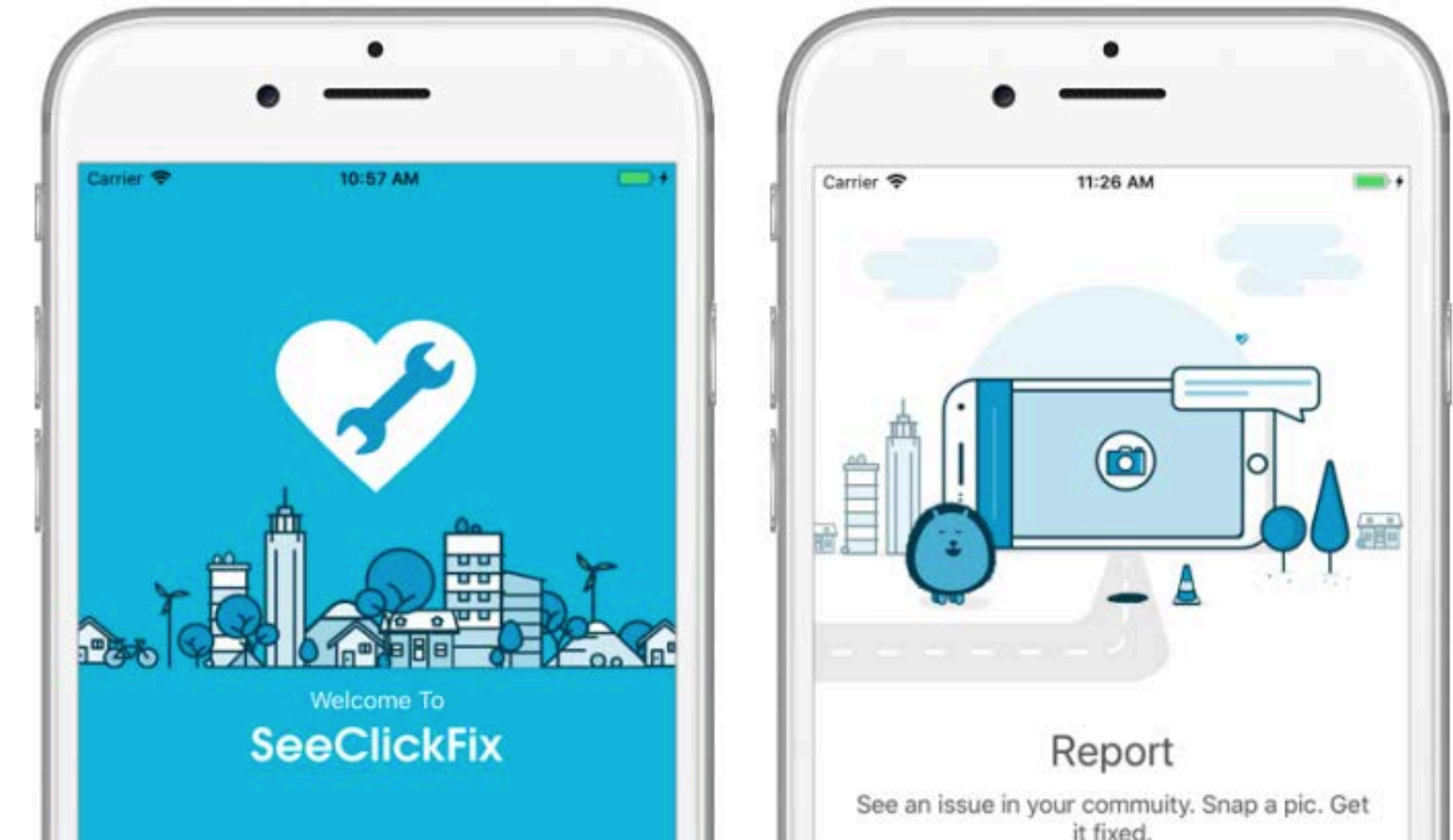
## EXPLORE

See what we're doing in your neighborhood



## ARTICLES

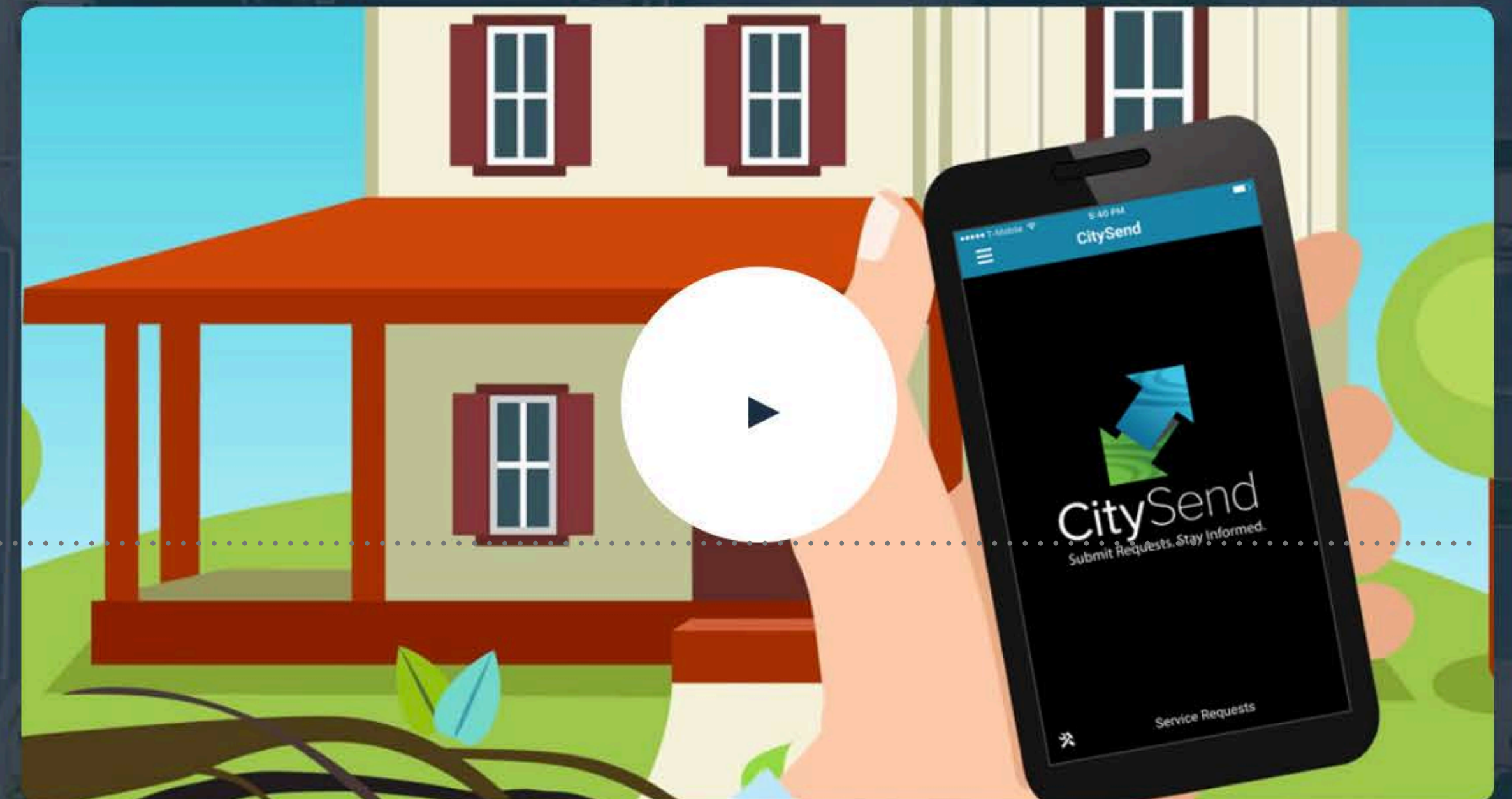
View popular knowledge articles and frequently requested services



*311 is often called the “gateway drug” for civic engagement, as it gives citizens an easy way to engage with they government around highly visible issues.*

# One Citizen App to Rule Them All

Make your citizen's life easy! CitySourced is the only citizen engagement platform that offers cities and counties a one-stop, native mobile app solution for your citizens.



# Chicago City Council, demystified

Search Chicago legislation

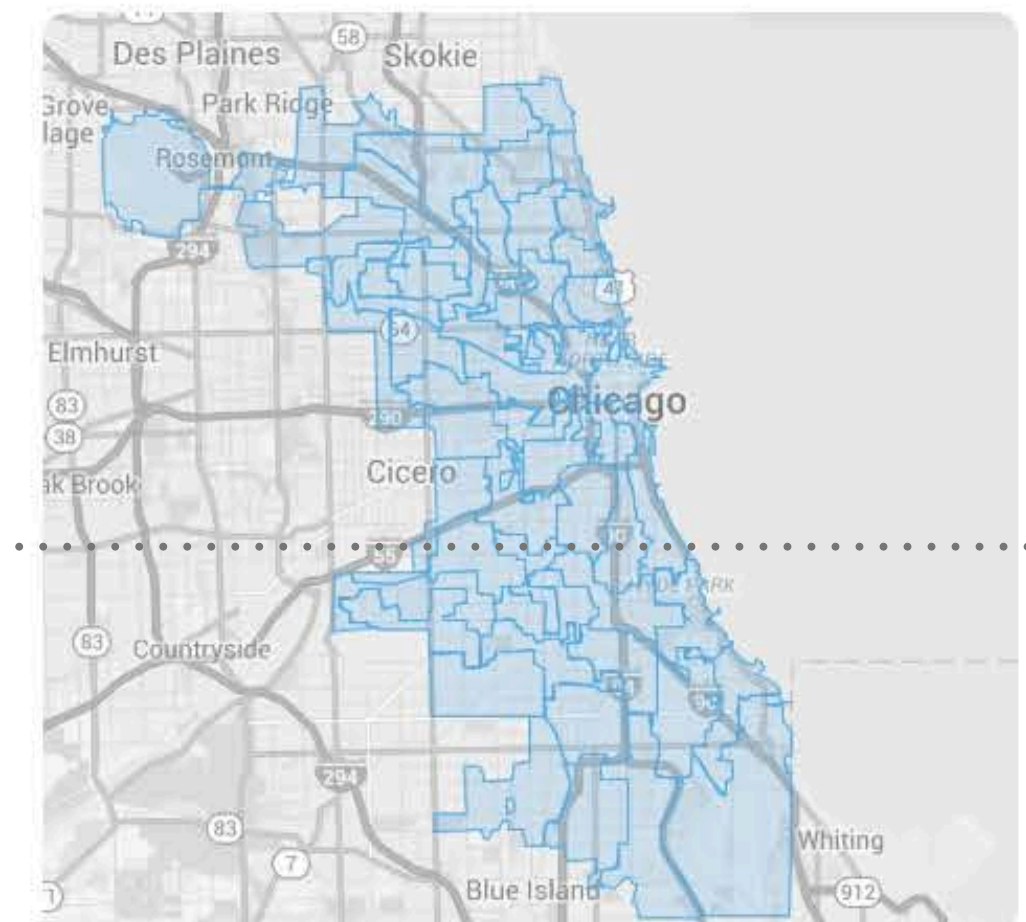
police, zoning, O2015-7825, etc.

Chicago City Council consists of **50 elected aldermen** and meets monthly to shape the city. The council works with **Rahm Emanuel**, the Mayor, and **Anna Valencia**, the City Clerk.

**Chicago Councilmatic** tracks all things related to Chicago City Council:

- the **legislation** introduced and passed
- its various **committees** and the **meetings** they hold
- the **aldermen** themselves

Read more about how **City Council works** »



Chicago's 50 Wards



@abhinemani

# PERMITTING/PLANNING

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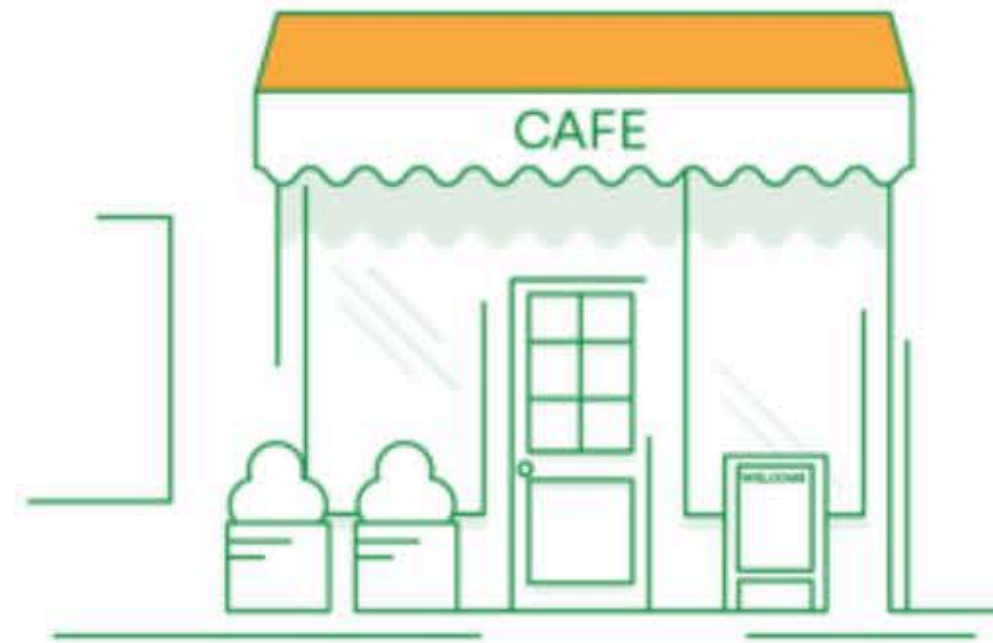
*“Moving on up”*



## OpenCounter Business Portal

Help entrepreneurs to understand the costs and requirements of starting a business.

[Learn more](#)



## OpenCounter Residential Portal

Show homeowners how to stay in compliance on home improvement projects.

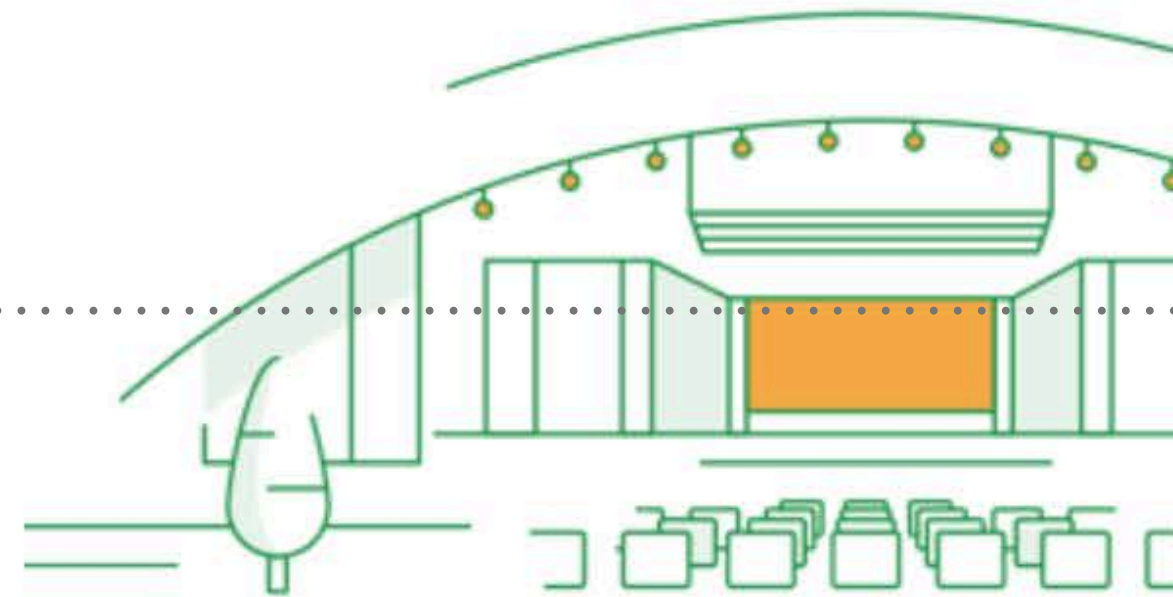
[Learn more](#)



## OpenCounter Special Events Portal

Guide event planners through the process of organizing large-scale events in public spaces.

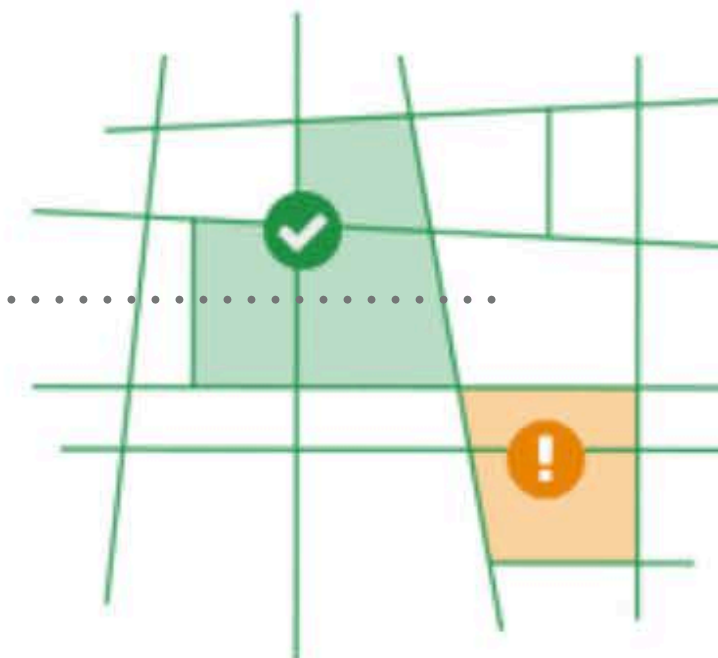
[Learn more](#)



## OpenCounter Zoning Portal

Help applicants to understand how the zoning ordinance will impact site selection and project requirements.

[Learn more](#)



CityGrows [Settings](#) [Permissions](#) [More](#) Published [View](#) [Edit](#)

### (Sample) Garage/Yard Sale Permit Application

[+ Add step](#)

- Instructions
- Garage/Yard sale application
- Staff reviews and approves
- Resident makes payment
- Staff finalizes permit application
- For office use only

**Who will fill out this information?**

**THE APPLICANT**  
The non-team member who launched this process.

Modifiable

Unless the process is complete, the applicant will be able to go back and edit this info after they complete this step.

Require signature

Applicant will be prompted for a signature to complete this step

**A TEAM MEMBER**  
Someone internal to your organization

**Information to collect / input**

Garage Sale Information		
Applicant Name	Text	<input type="checkbox"/> <input type="checkbox"/>
Applicant/Sale address	Address	<input type="checkbox"/> <input type="checkbox"/>
Sale Date	Date	<input type="checkbox"/> <input type="checkbox"/>


(Sample) Garage/Yard Sale Permit Application [Download PDF](#) [Show discussion](#) [Show activity Log](#)  
CityGrows 2 minutes ago Active [Manage tags](#) PROCESS #4

- Instructions
- Garage/Yard sale application
- Staff reviews and approves
- Resident makes payment
- Staff finalizes permit application
- For office use only

**Garage Sale Information**

Applicant Name\*  
Bob Smith ✓

Applicant/Sale address\*  
555 Fake Street, Springfield Illinois ✓




Sale Date\*

March 2019						
Su	Mo	Tu	We	Th	Fr	Sa
24	25	26	27	28	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16

CityGrows [Settings](#) [Permissions](#) [More](#) Published [View](#) [Edit](#)

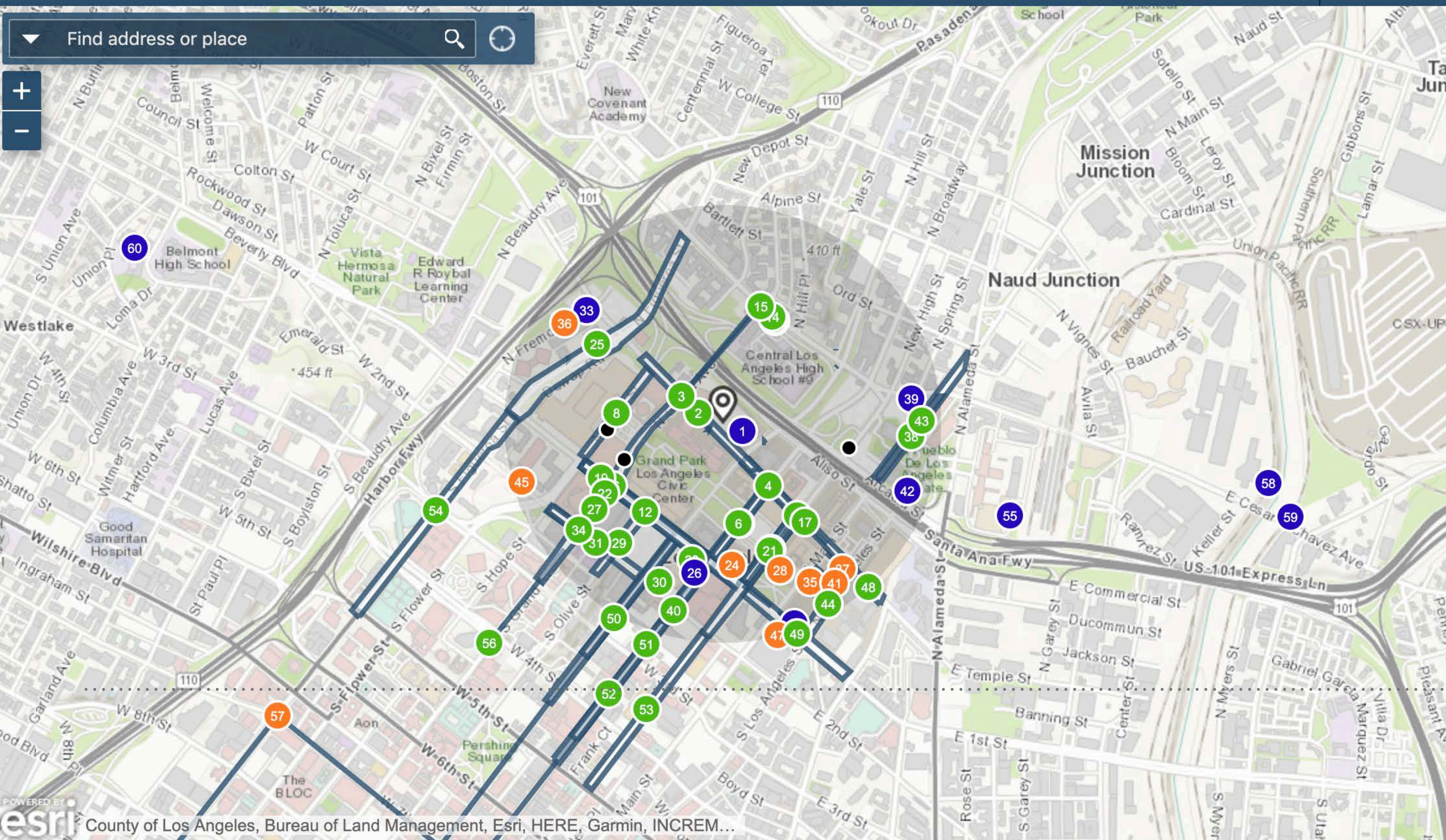
(Sample) Garage/Yard Sale Permit Application [Use template](#)

<b>1</b> Launched last 30 days	<b>\$0.00</b> 30 day revenue	<b>3</b> Currently active	<b>1</b> Completed	<b>0</b> Halted	<b>1 Minute</b> Median time to complete
-----------------------------------	---------------------------------	------------------------------	-----------------------	--------------------	--



*CityGrows is a workflow management solution for local governments to manage systems such as permitting (for free — a different kind of business model: freemium).*

Find address or place



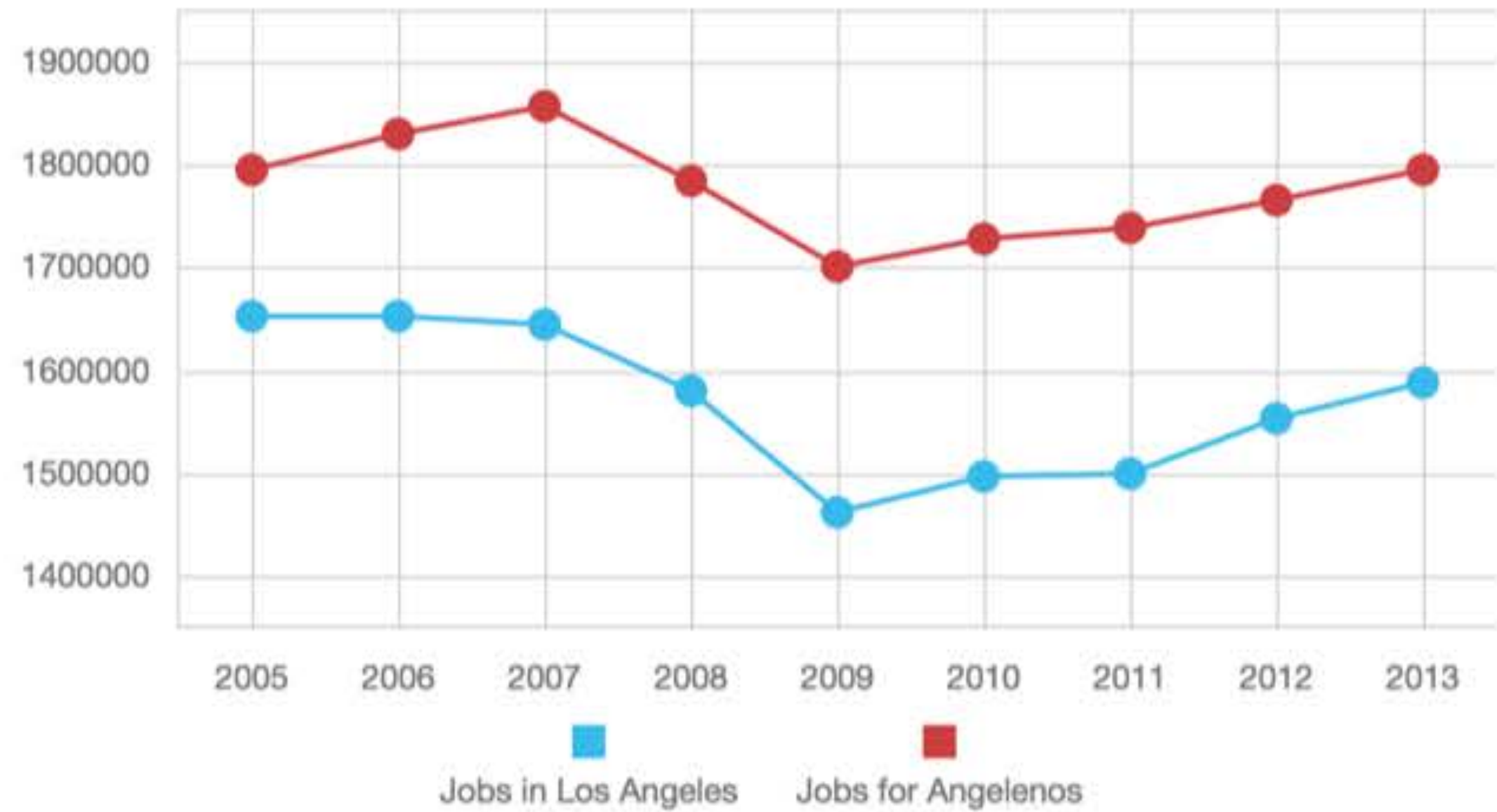
**82**  
Projects

Search Radius (0.5 mi)

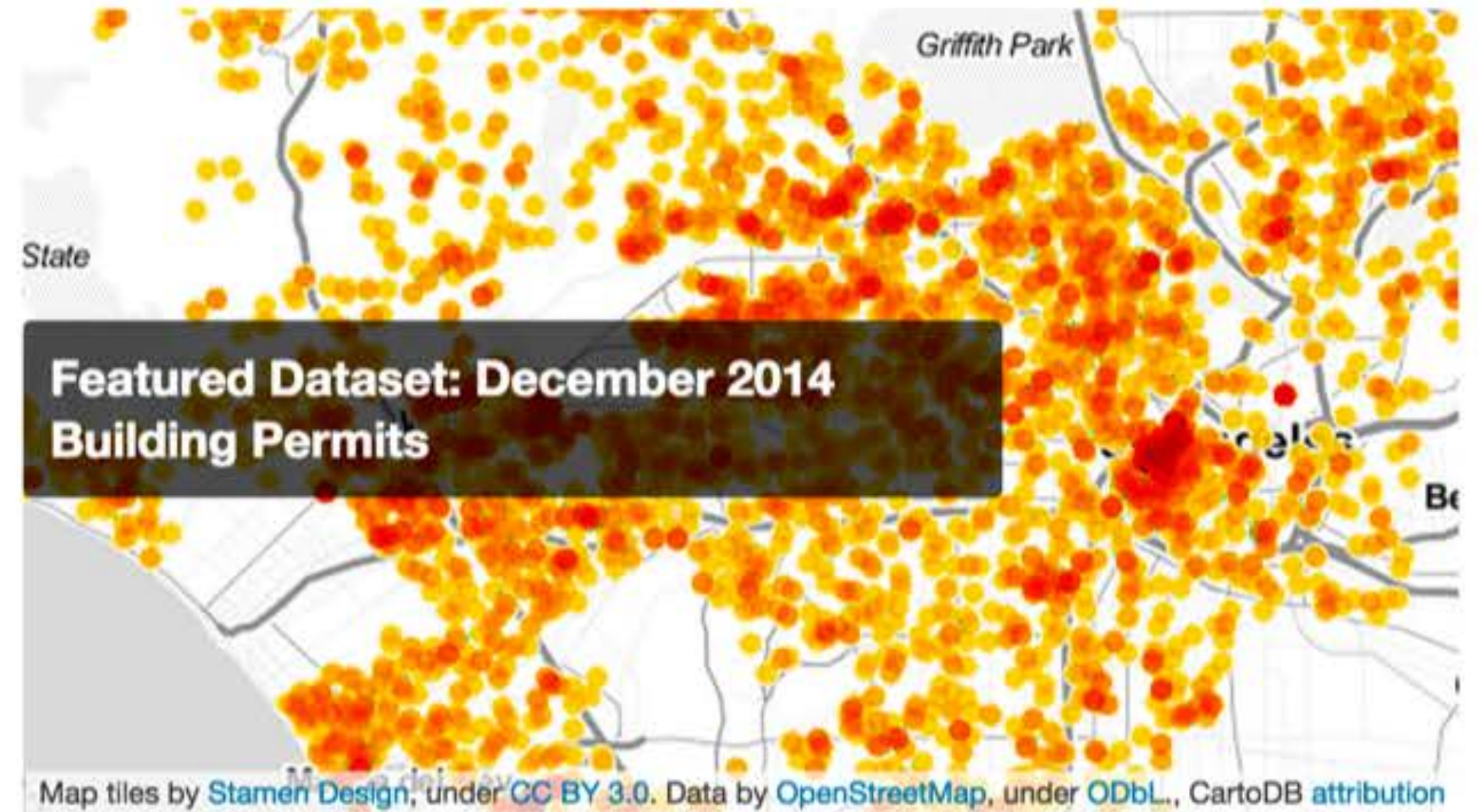
Earliest Date: **Apr 05, 2019**   
Latest Date: **Oct 05, 2019**

- 1** Street Excavation  
0.05 MILES Starts In: 2 days
- 2** Special Events  
0.06 MILES Starts In: 3 weeks
- 3** Special Events  
0.11 MILES Starts In: 12 days
- 4** Special Events  
0.17 MILES Starts In: 6 weeks
- 5** Special Events  
0.23 MILES Starts In: 3 weeks
- 6** Special Events

### Job Growth



### Building Permits



**NEW PAYROLL JOBS**  
74,022

DEC | SINCE: 7/1/2013

Goal: 120,000 by FY17

**JOBS IN LOS ANGELES**  
1,614,435

DEC | Y.O.Y.: 1.80%

Goal: 1,653,776

**JOBS FOR ANGELENOS**  
1,854,581

DEC | Y.O.Y.: 3.30%

Goal: 1,865,901

**EMPLOYMENT GROWTH Y.O.Y. COMPARED TO CA**  
0.70%

DEC | Y.O.Y.: N/A

Goal: Maintain growth above CA rate



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# PUBLIC SAFETY

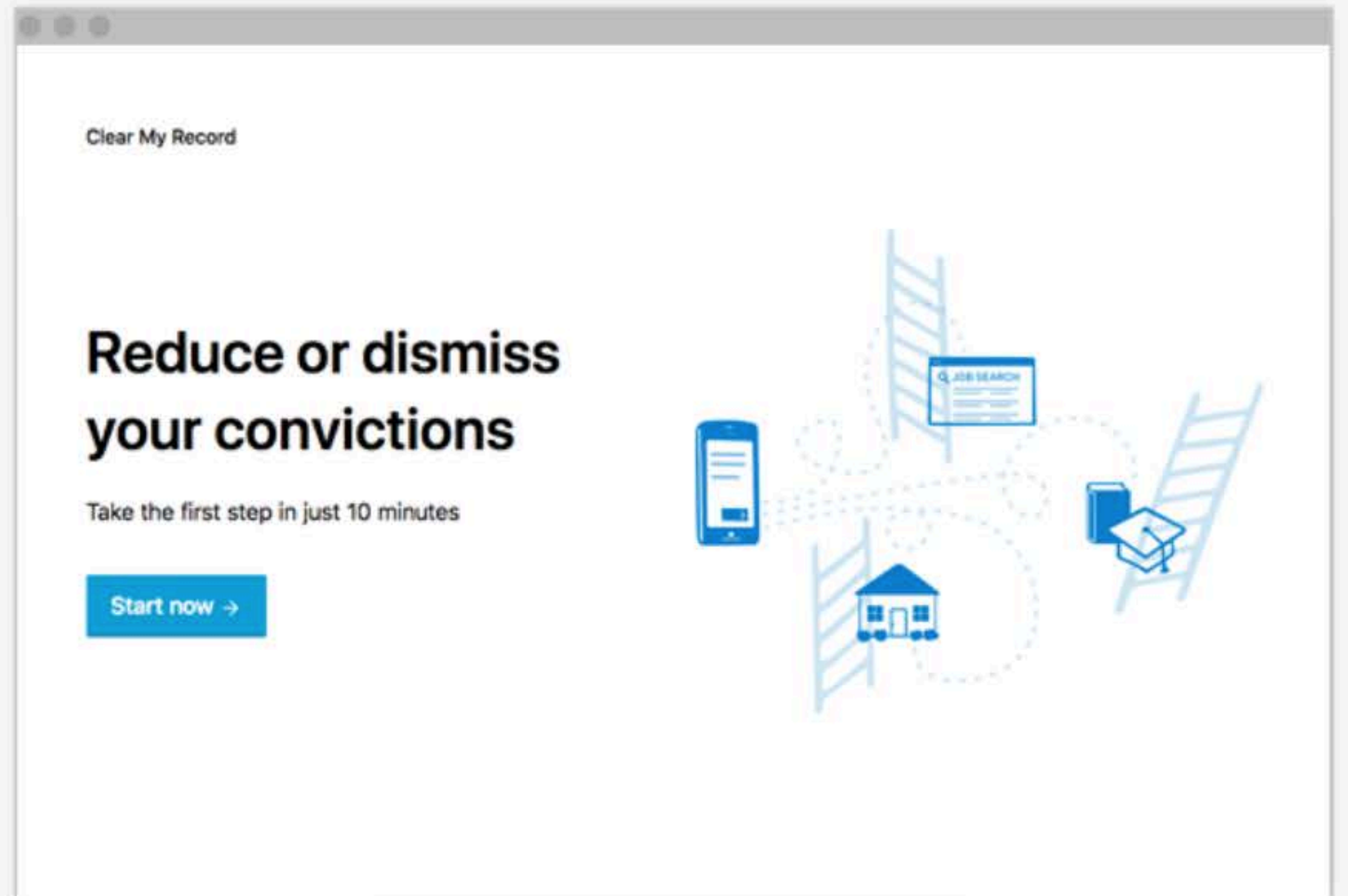
*The biggest sector of the industry*



# ClearMyRecord

Giving people a second chance to get jobs and housing by clearing past convictions.

[Learn more](#)

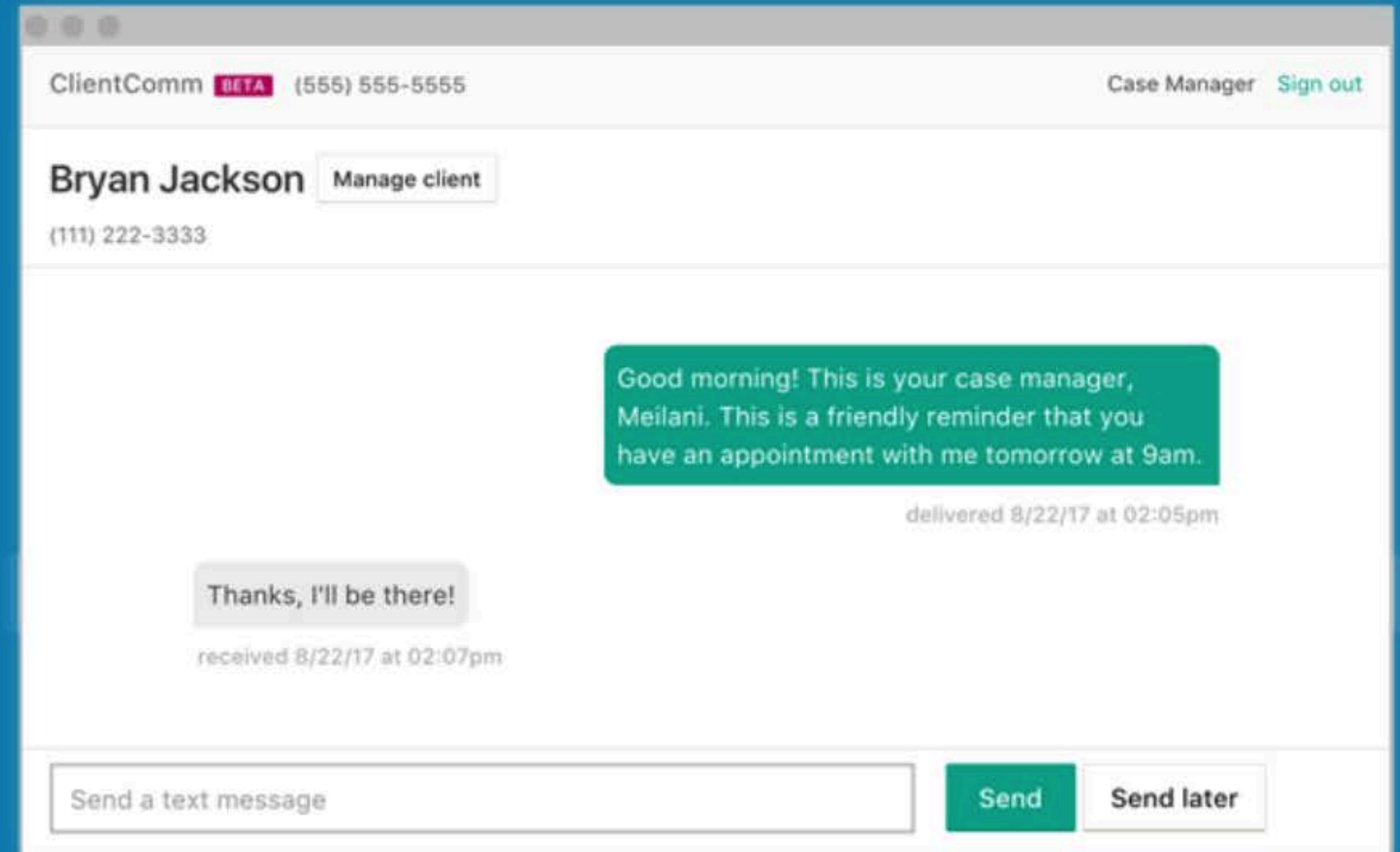


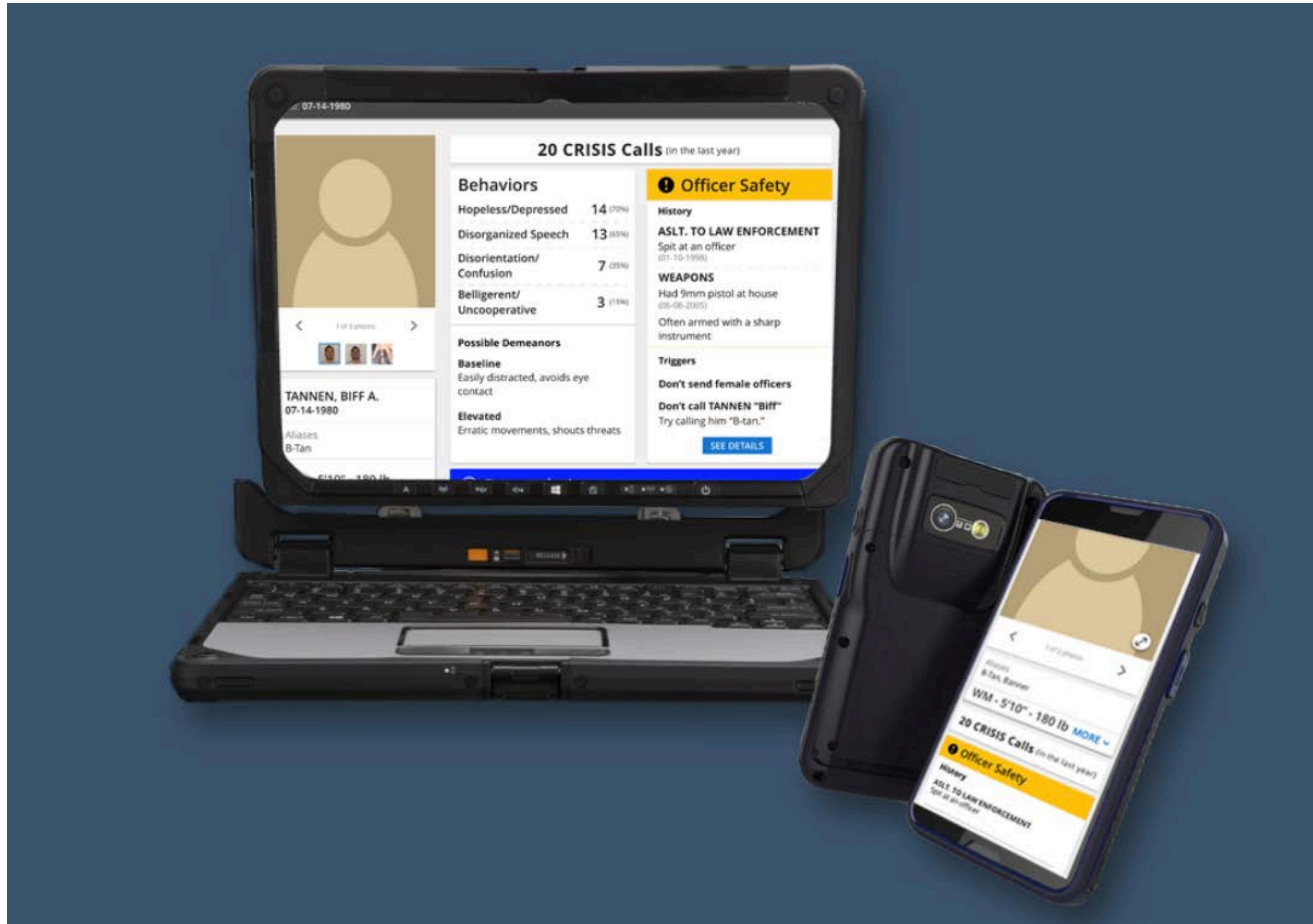
The screenshot shows a web browser window with the title "Clear My Record". The main heading is "Reduce or dismiss your convictions" in a large, bold, black font. Below this, a sub-headline reads "Take the first step in just 10 minutes". A prominent blue button with the text "Start now ->" is positioned below the sub-headline. To the right of the text, there is a conceptual illustration featuring a large, faint number "5" in the background. Overlaid on this are several icons: a smartphone, a document labeled "JOB SEARCH", a house, and a graduation cap with a diploma. Dotted lines connect these icons, suggesting a process or journey.

# ClientComm

Keeping people out of jail by connecting them with case managers via text.

Learn more





#### Tailored profiles

Shows recent history, interaction tips, and information from service providers.



#### Mobile, Desktop, and MDCs

Works on tablets, smartphones (Android, iOS, and Windows smartphones), desktop computers, and MDCs.



#### Regulatory Compliance

Built to comply with federal regulations, including CJIS and HIPAA.



#### Real-Time Information

Synced with data systems continuously so that the most updated information is at your fingertips.



#### Case Management

Tools to manage information for the people who are the most at risk, and identify who needs outreach.



#### Data Collection

Easily, quickly collect information in the field about key interactions with residents.



#### Contact Information

Get tap-to-dial and email notifications for case managers, family members, and other service providers.



#### Easy Reporting

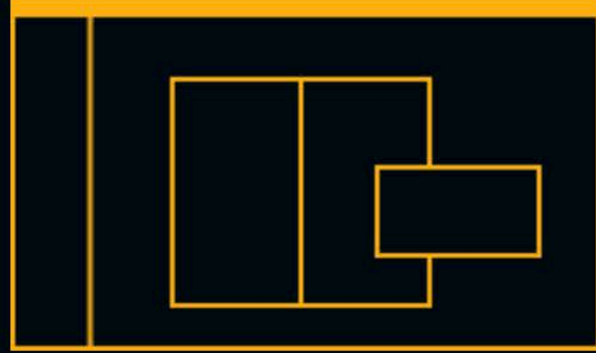
Data structured in an accessible way, ready for report generation and import into analytics systems.



*RideAlong's software (RECENTLY ACQUIRED) gives city and county frontline workers the context they need to help residents. Police officers and healthcare workers alike have the tools to serve residents efficiently, safely, and empathetically.*

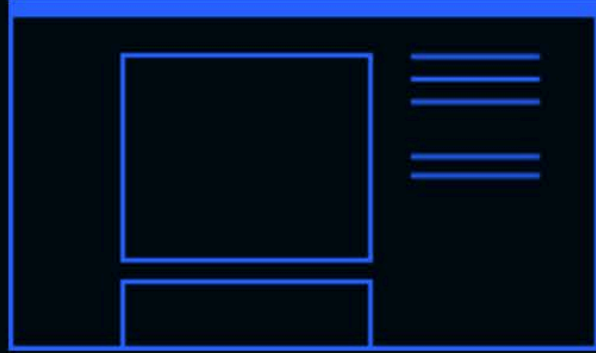
**MARK43** WHY MARK43? PLATFORM CAREERS BLOG REQUEST A DEMO

# MARK43 PLATFORM



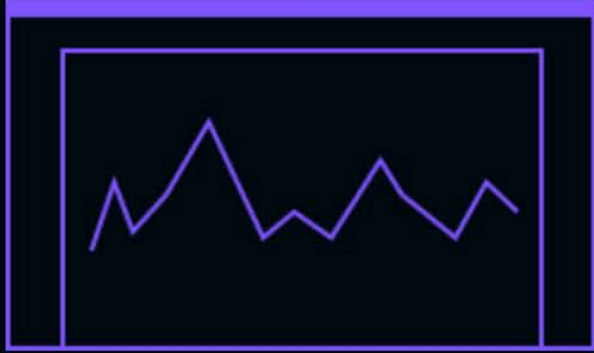
**MARK43 CAD**  
Computer Aided Dispatch System

→



**MARK43 RMS**  
Records Management System

→



**MARK43 ANALYTICS**  
Data Analytics & Intelligence

→

## MARK43 RMS

Records Management System

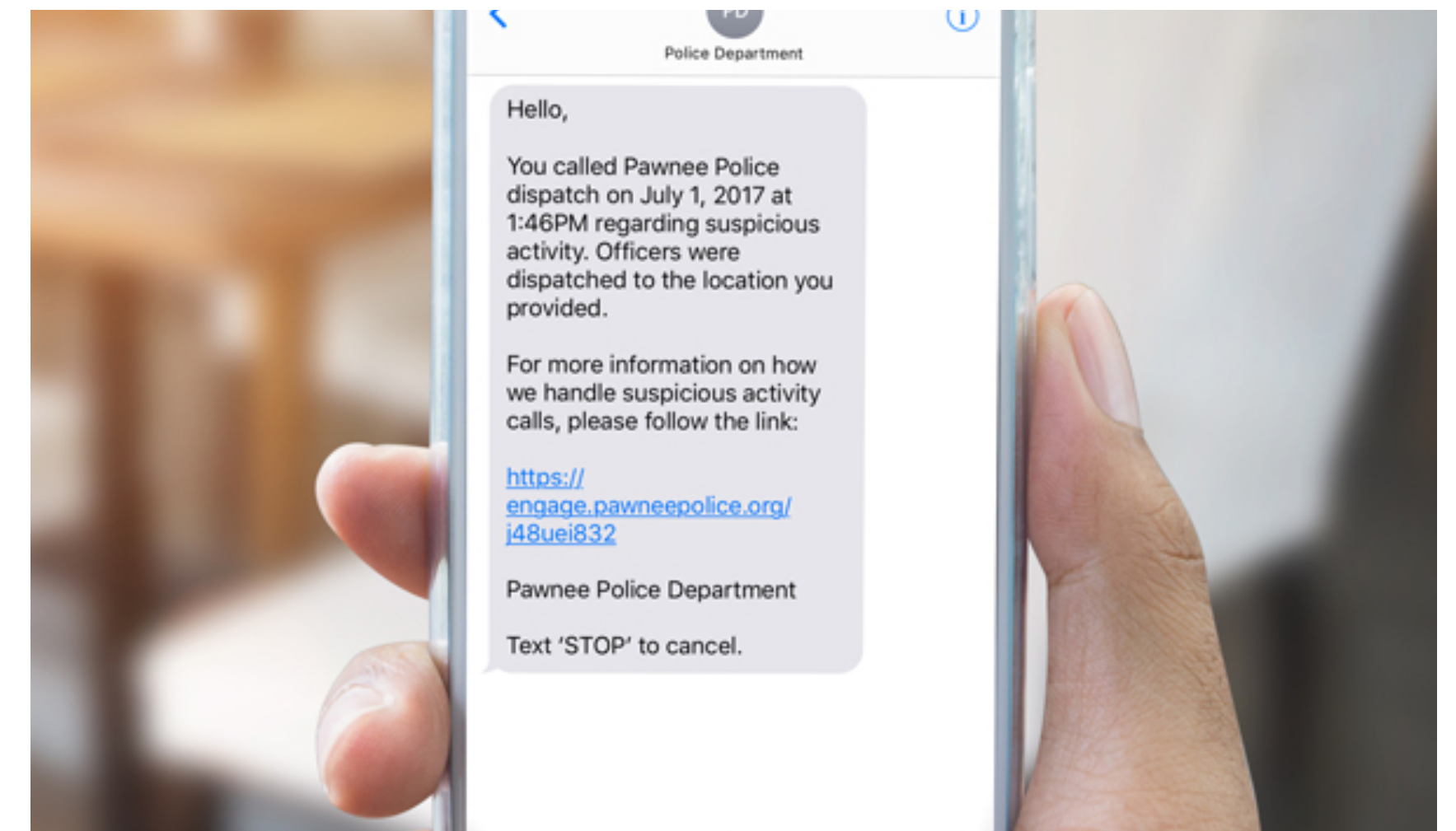
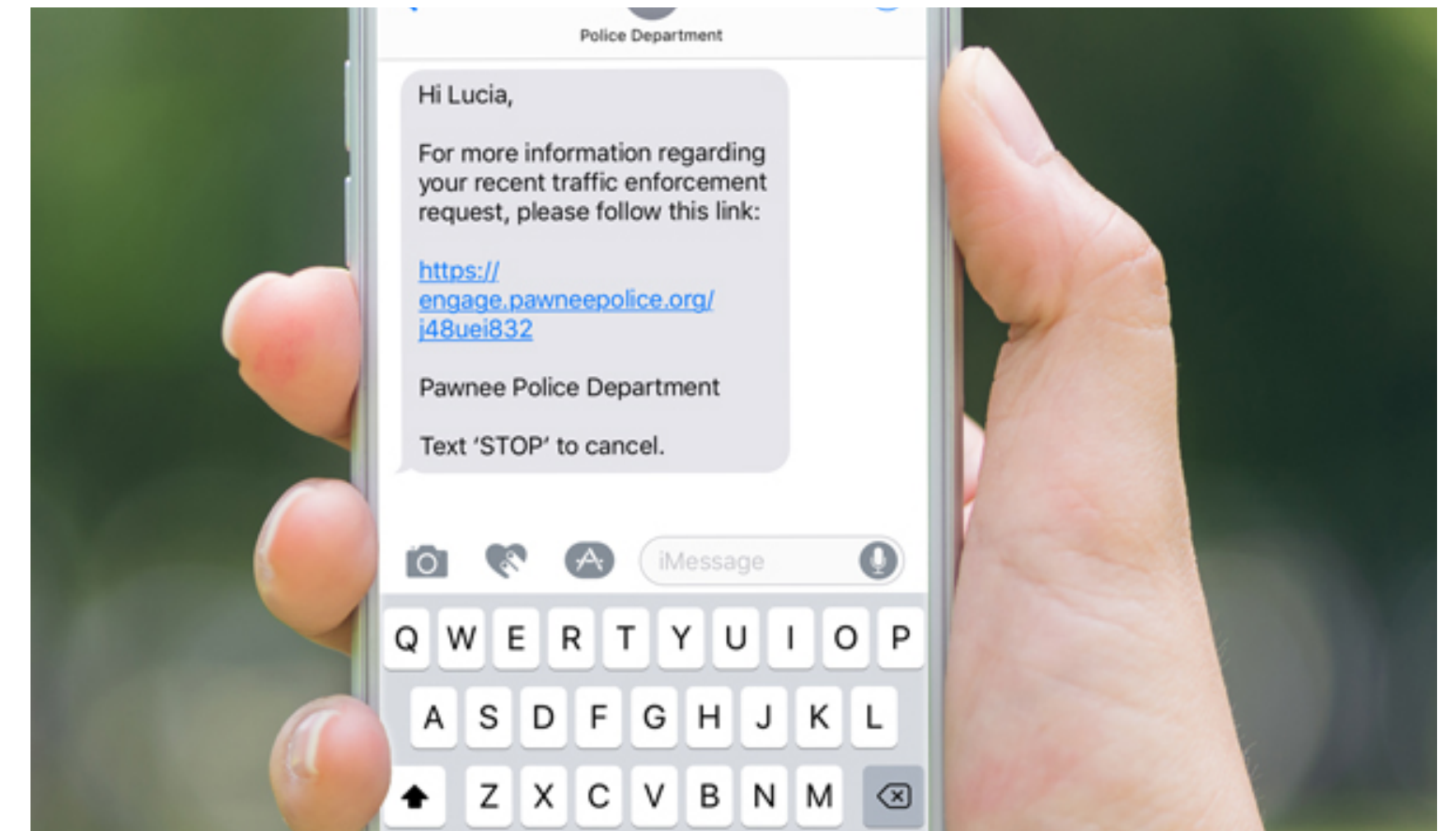
The screenshot displays the MARK43 RMS interface. On the left, a profile for Christopher Burns is visible. The main area shows an 'Arrest Report' for 'REN TL041116E' with details such as 'Event Date: Jun 25, 2014 13:00 - Jun 25, 2014 13:15' and 'Event Location: 110 2ND STREET SE WASHINGTON, DC 20003'. A sidebar on the right lists 'CURRENTLY VIEWING' items like 'Report', 'Event Information', and 'Arrest # H21500028'. Below this, there are sections for 'NOTIFICATIONS' and 'REPORTING PERSON (COMPLAINANT)'.

## MARK43 ANALYTICS

Data Analytics & Intelligence

The screenshot shows the MARK43 Analytics interface across multiple devices. It features several data visualizations, including line graphs showing trends over time, bar charts, and pie charts. The interface is clean and modern, with a dark theme and clear data labels.

*Mark43's applications for dispatch, records, and analytics form a set of platform-wide tools purposefully designed to break down information silos and optimize interoperability.*



*SPIDR Tech enables law enforcement agencies to automatically send one-to-one text messages, emails and mobile-friendly surveys to their customers.*



@abhinemani

# PUBLIC HEALTH

*Literally life-saving technology*

Balompie Cafe - Inspection X  
www.yelp.com/inspections/balompie-cafe-san-francisco

Find tacos, cheap dinner, Max's Near San Francisco, CA

Sign Up Log In

Balompie Cafe > Health Inspections

## Balompie Cafe

February 4, 2014 — Routine Inspection

### Violations

- Inadequate or unsanitary refuse containers or area or no garbage service [ date violation corrected: 2/4/2014 ]
- Improper storage of equipment utensils or linens [ date violation corrected: 2/4/2014 ]
- Moderate risk food holding temperature [ date violation corrected: 2/4/2014 ]

### Previous Inspections

Date	Inspection Type	Violations	Score
August 1, 2013	Routine	3	89
January 23, 2013	Routine	6	81
August 22, 2012	Routine	0	100
August 14, 2012	Routine	5	78

### Health Score

# 92

out of 100

### About Yelp Health Scores

We collect public inspection data directly from your local health department. Due to the local health department's inspection schedule as well as the time it takes to pass that information on to us, it is possible that we may not display the most recent inspection data. Please report any unreasonable delay and data inaccuracies to your local health department via their [website](#) or email.

CoInspect Product Use Cases Pricing Contact Blog About Us Resources Support Request Demo

## Avoid Expensive Redundancy

Archaic processes, extensive labor requirements, and poor systems have created an expensive and inefficient inspection process requiring spendy third-party auditors. With greater transparency, you can reduce the need for multi-layer systems.

Download on the App Store Get it on Google play

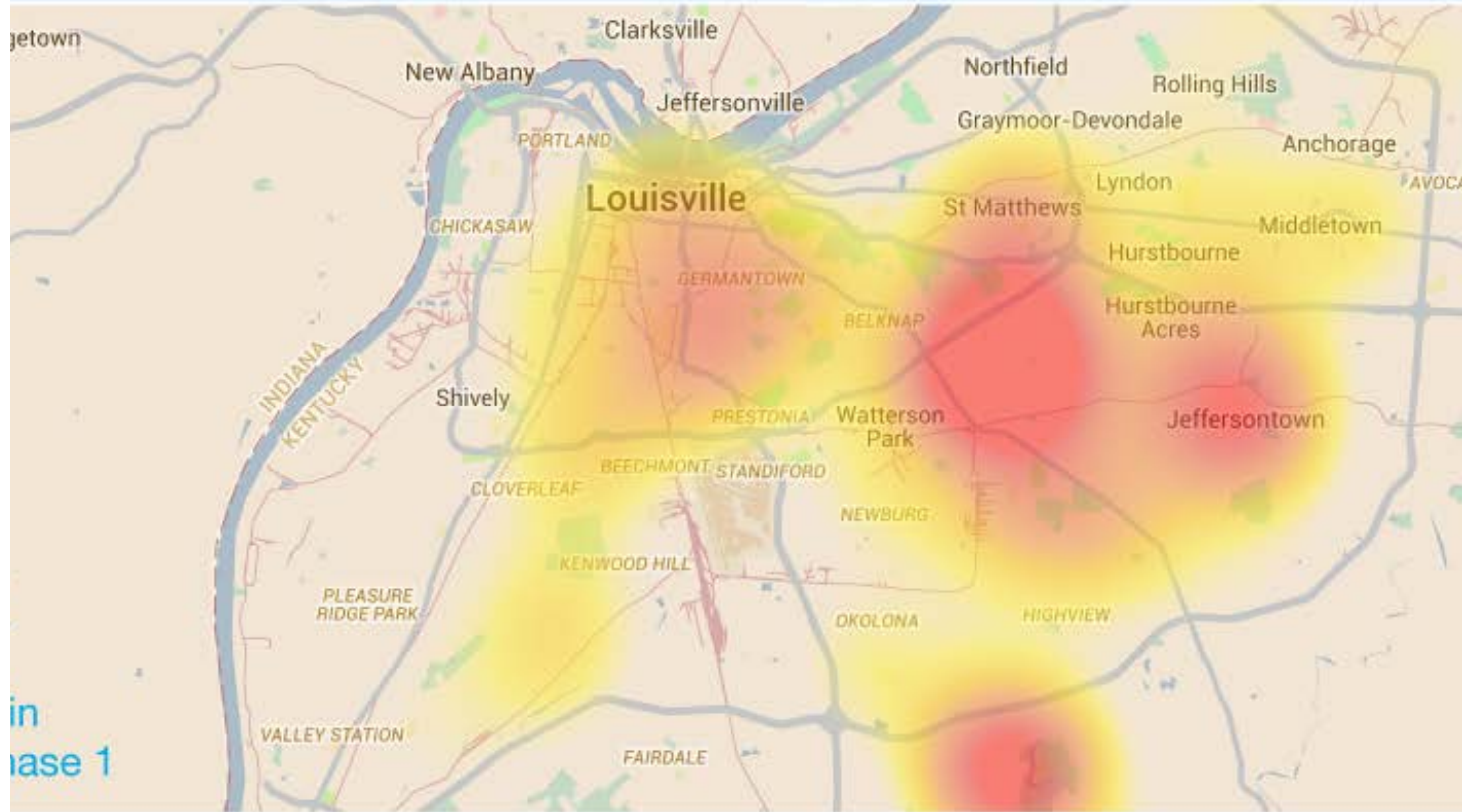
OF CHICAGO Inspections Predict

# FOOD INSPECTION FORECASTING

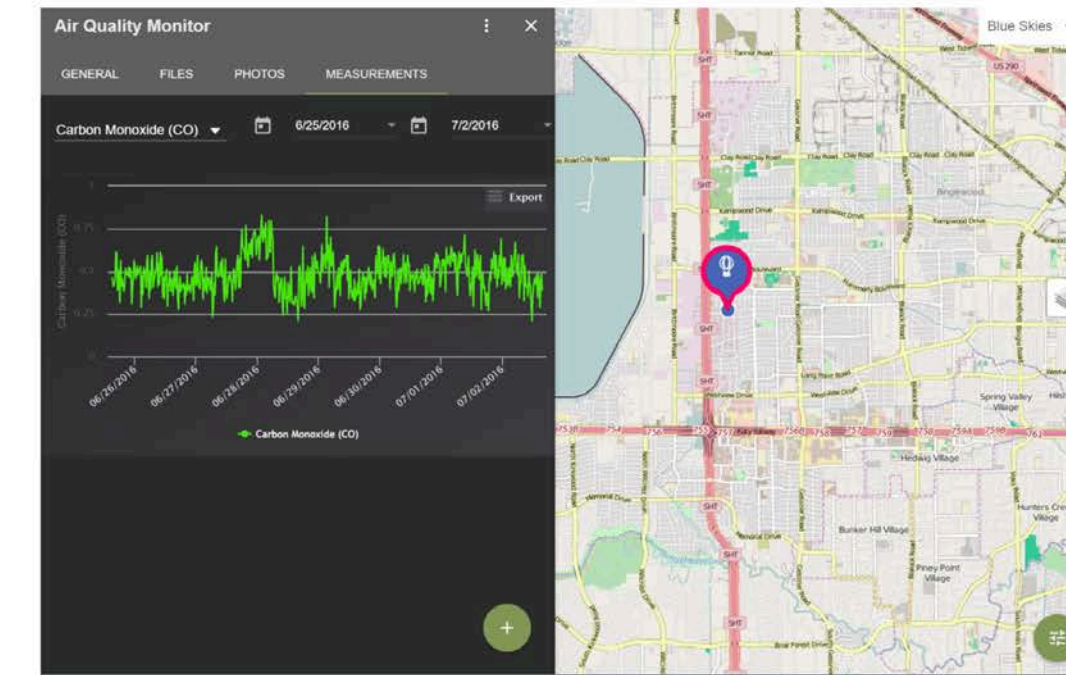
OPTIMIZING INSPECTIONS WITH ANALYTICS

*Restaurant (or food) inspections is a oft-discussed topic in civic tech, particularly around public health. Apps such as CoInspect enable easier monitoring and tracking, platforms like Yelp showcase the data, and data science projects such as the one by Chicago's data team leverage this information and data science to optimize inspection routes/warnings.*

# ASTHMA IS ACTIVE IN OUR COMMUNITY



## Air Quality Monitoring Station



Location  
10615 Shadow Wood Drive,  
Houston, TX 77043

Number of Employees  
11-25

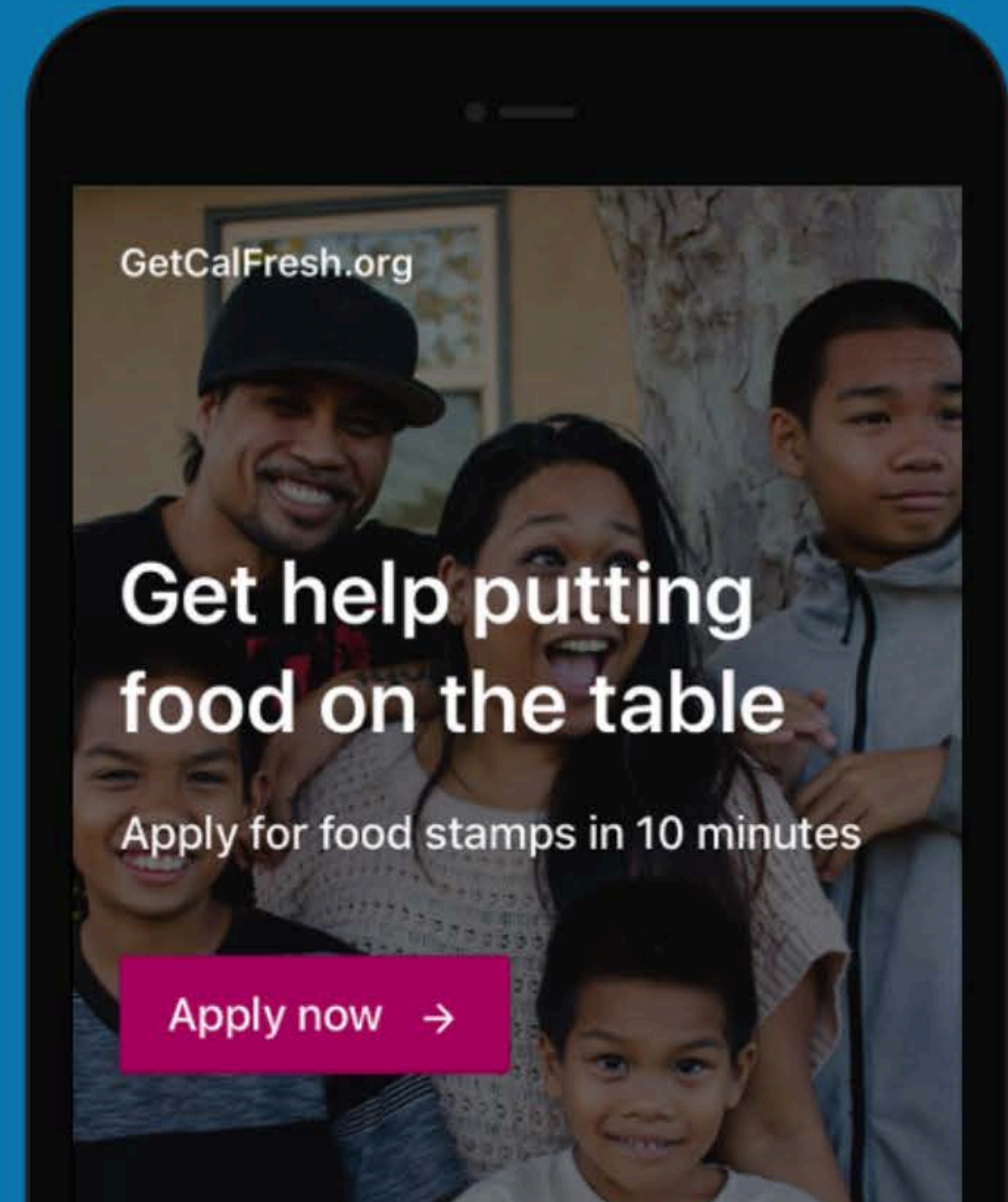


*Monitoring air quality merges the “internet of things,” civic app development, and data science to inform public health departments’ efforts to reduce asthma and other illnesses.*

## GetCalFresh

Improving how government delivers food assistance to families in need.

[Learn more](#)



**37**

counties using GetCalFresh

**20,000**

applications completed per month

**390,000**

people served with GetCalFresh

**8 min**

to complete an application

# Integrated Benefits Pilot States

## COLORADO

### Maintain and keep benefits.

A new change-reporting experience that enables client self-service while reducing burden for caseworkers.

Led by Code for America

## ALASKA

### Equitable access.

Digital tooling to improve access, visibility, and delivery of benefits in remote communities while reducing the need for in-office interactions.

Led by Code for America

## MICHIGAN

### Faster eligibility determination.

Deliver an integrated application interface and process that reduces the days to receive an eligibility determination.

Led by Code for America and Civilla

## VERMONT

### Simpler verifications.

Eliminate barriers for clients to meet verification requirements to allow quicker application processing and eligibility determination.

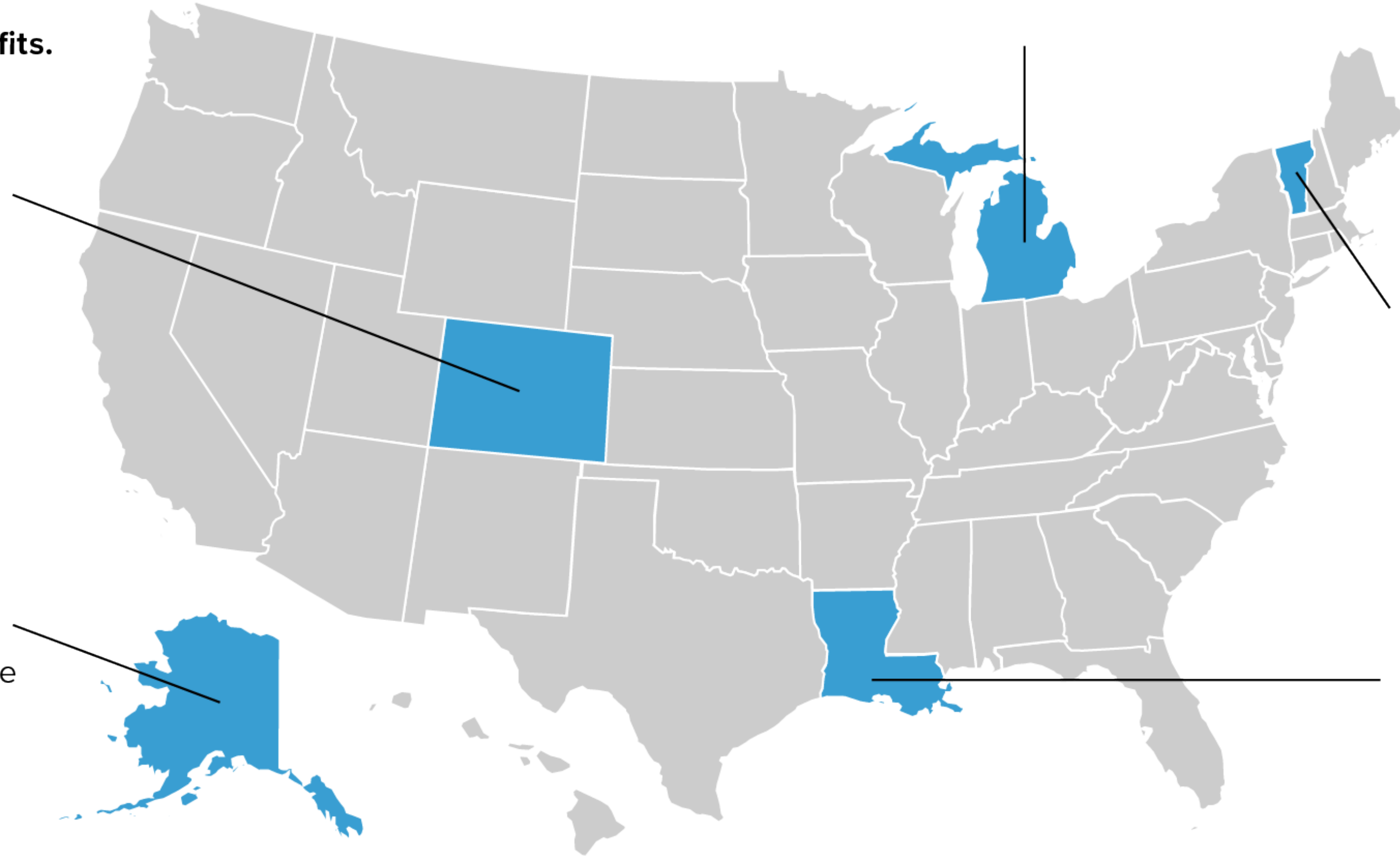
Led by Nava PBC

## LOUISIANA

### Unified experience.

Bridge the benefits experience for clients to reduce the number of touchpoints and time spent managing across benefits programs.

Led by Code for America



# ASSIGNMENTS: 4/8/2019

---

## ➤ Read

- Read through chapter 4 Eric Ries' Lean Startup
  - (You should already have gotten through Chapter 3)
- *Healthcare.gov and the Gulf Between Planning and Reality* by Clay Shirky

## ➤ Do

- Find one piece of civic technology
  - GovTech 100: <https://www.govtech.com/100/2019/>
  - Marketplace.city
  - Crunchbase
- Start a discussion about it on Canvas about it
  - Link (also post the link on the Assignments tab) and 1-2 sentences of what you find interesting about it