

LEAN CIVIC TECH

@abhinemani | CAPP 30130 | University of Chicago



AGENDA

- Case study: healthcare.gov
- Waterfall v Agile (Lean)
- Key takeaways from *The Lean Startup*
- Lean (civic tech) metrics
- Case study: LA's Dashboard
 - Tools and resources to quickly launch a civic app

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

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MARCH 10, 2014

Ukraine's Future / Minimum-Wage Wars / Wes Anderson

TIME

CODE RED_

Inside the nightmare launch of HealthCare.gov
and the team that figured out how to fix it

BY STEVEN BRILL



time.com

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“

The preferred method for implementing large technology projects in Washington is to write the plans up front, break them into increasingly detailed specifications, then build what the specifications call for. It's often called the waterfall method, because on a timeline the project cascades from planning, at the top left of the chart, down to implementation, on the bottom right.

-Clay Shirky

Software Development Methodologies



Agile

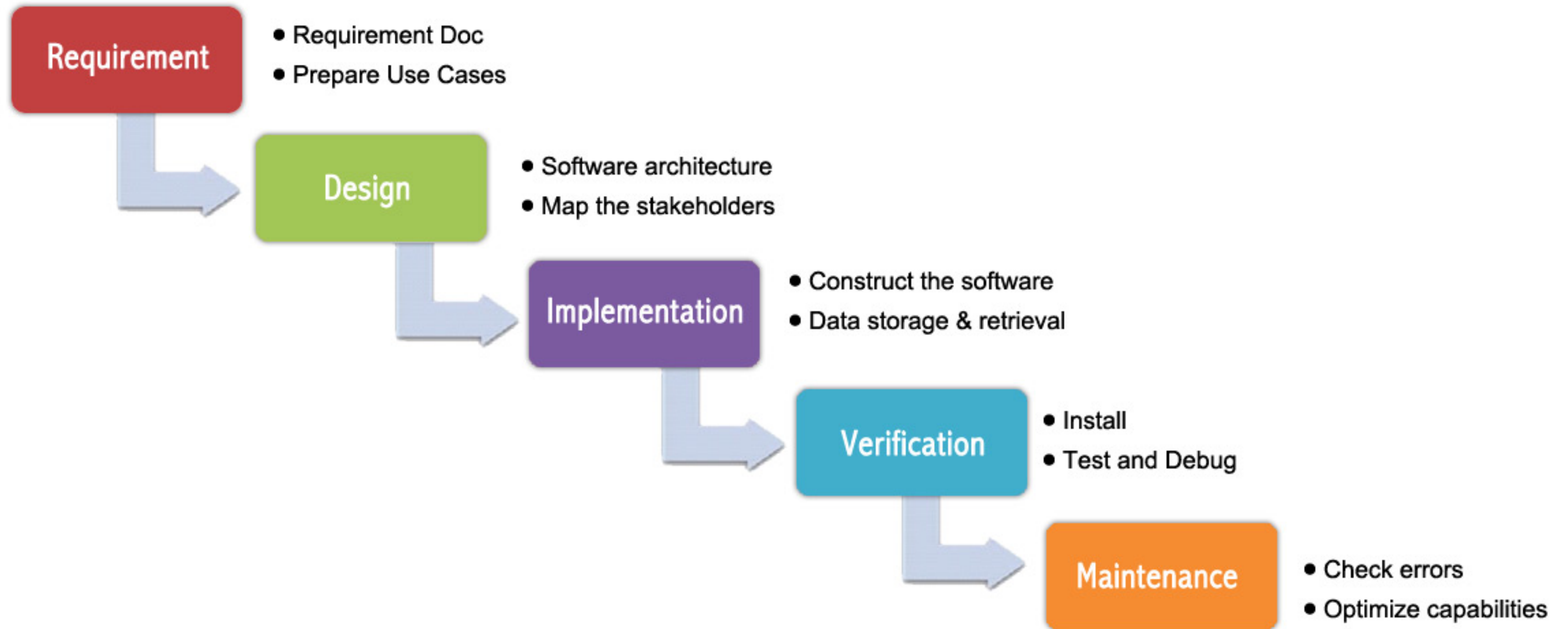
VS

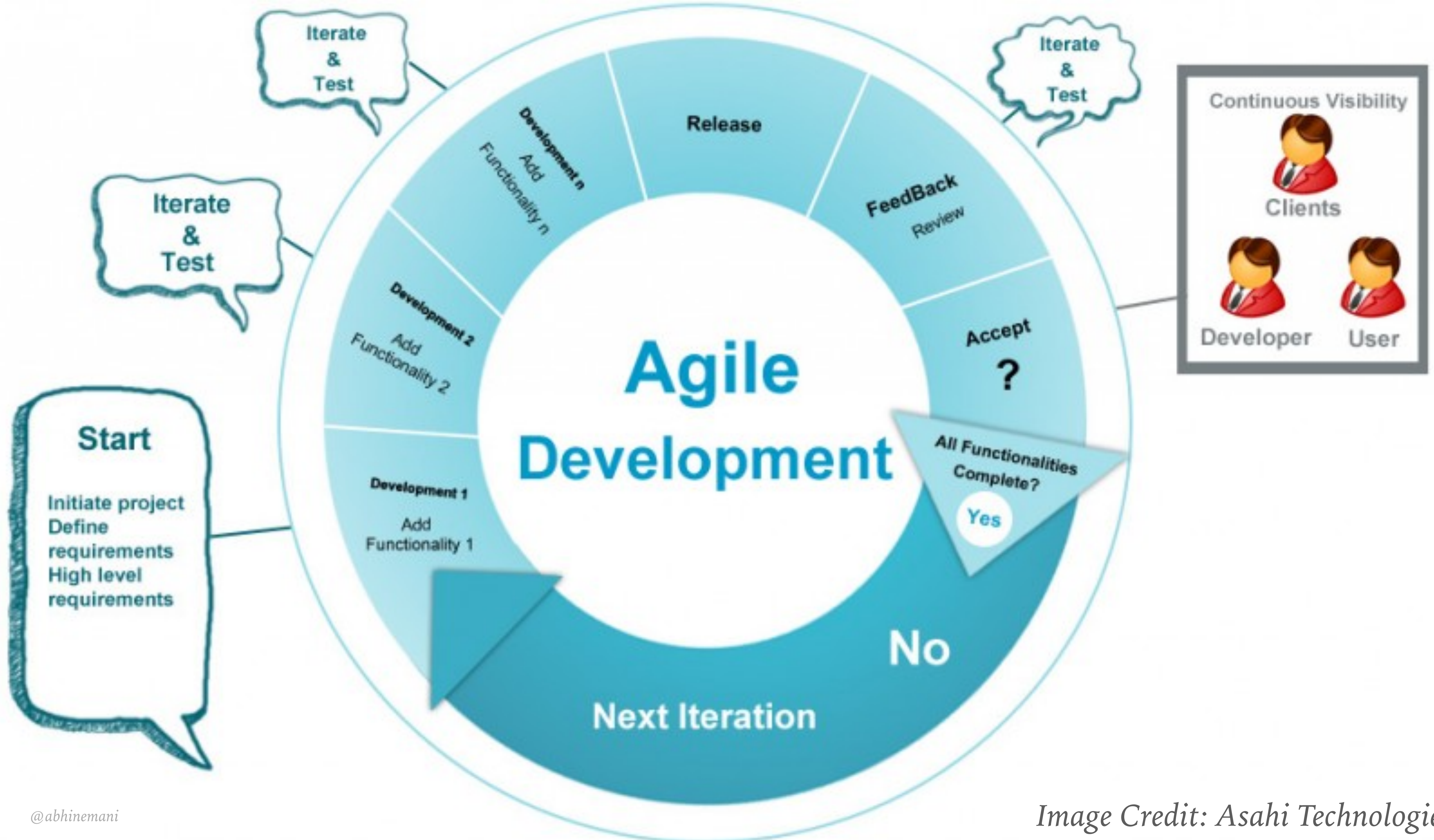


Waterfall

Image Credit: Asahi Technologies

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“A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty.” - Eric Ries, The Lean Startup

**GOVERNMENT OPERATES UNDER
CONDITIONS OF EXTREME UNCERTAINTY.
SO GOVERNMENT, LIKE A STARTUP,
SHOULD BE LEAN.**

KEYS TO LEAN (CIVIC) TECH

There's much more...



- Concierge “technology”
 - Technology is expensive, especially in government
 - Fake it, until you make it
- MVP & Iterate
 - Start with the minimally viable product (MVP)
 - Always be learning
 - Build. Measure. Learn.
- Pivots
 - Expect to fail (and make sure everyone knows it)
- Avoid “vanity metrics”
 - Measure what matters
 - Good metrics assess impact (which is hard)



DENVER'S PEAK ACADEMY

- Trains and collaborates with government employees to improve the customer and employee experience
- Housed in the budget office
 - Puts a focus on impact: savings
- Nearly every agency has participated
 - Mayor participated, giving an entire week to be trained, setting an example
- How they evaluate the program: savings, people trained, and agencies involved



LEAN METRICS FOR PIRATES

And how to use them in civic tech

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AARRR – DAVE MCLURE

- Acquisition
 - User comes
- Activation
 - User doesn't leave
- Retention
 - User comes back
- Referral
 - User tells people
- Revenue
 - User gives you “money”



AARRR – DAVE MCLURE

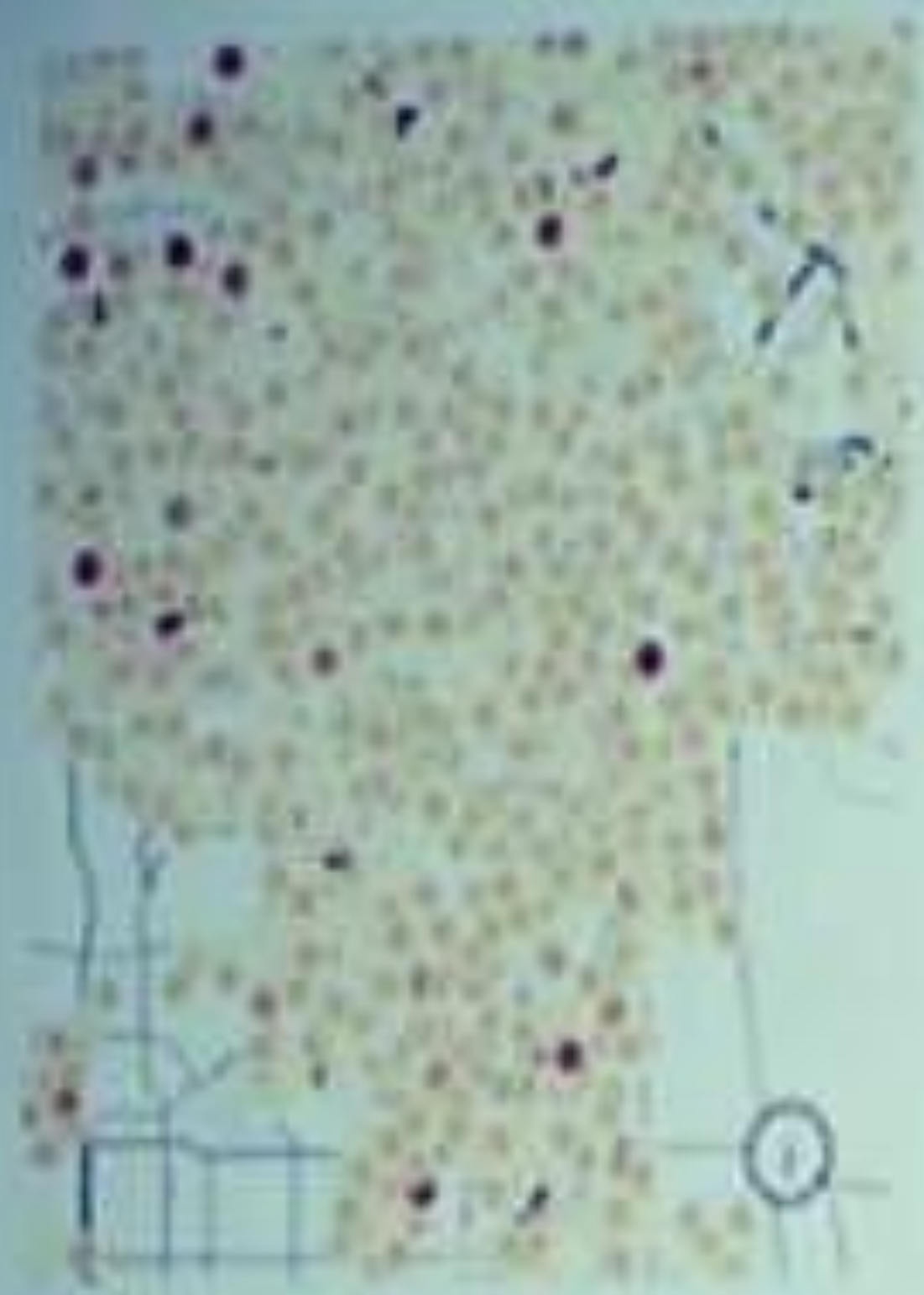
- Acquisition
 - Direct marketing
- Activation
 - Good product
- Retention
 - Email / message
- Referral
 - Viral marketing
- Revenue
 - Impact?
 - Example: Cost savings, program enrollment, time saved
 - Impact metrics should match or could inform policy



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CASE STUDY: LA DASHBOARD





DWP Call Wait...



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CONFERENCE
MAYORS



THE U.S. CONFERENCE
OF MAYORS



THE U.S. CONFERENCE
OF MAYORS



THE U.S.
OF



THE U.S. CONFERENCE
OF MAYORS

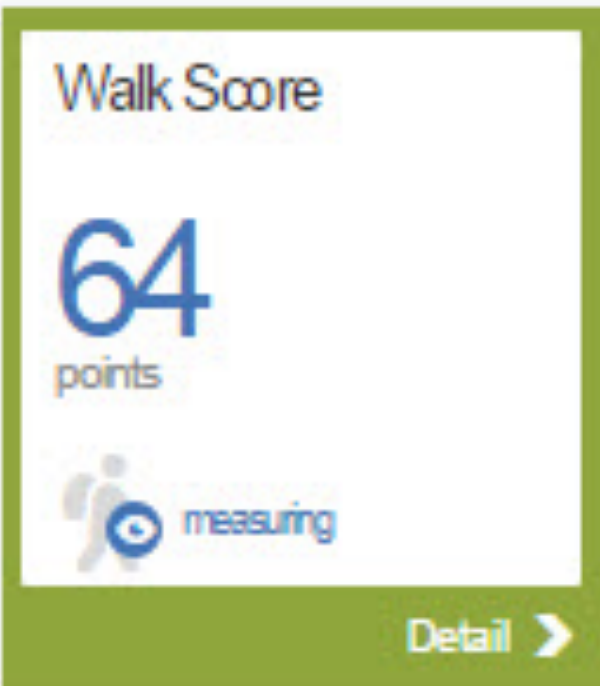
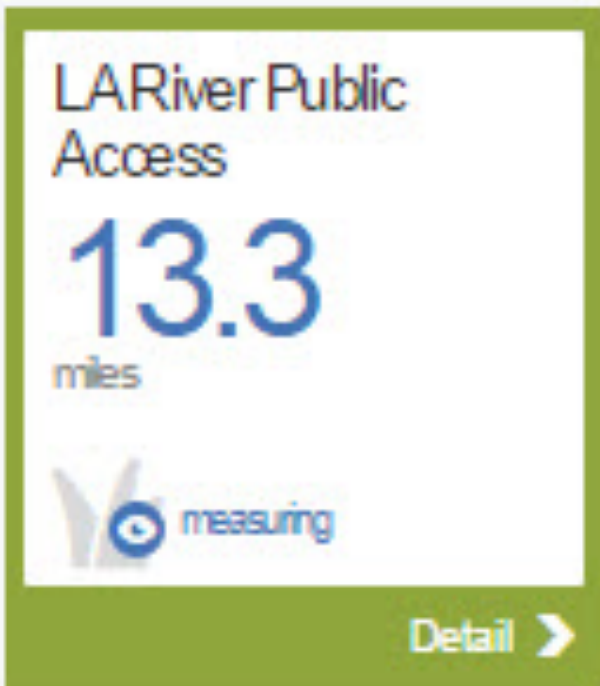
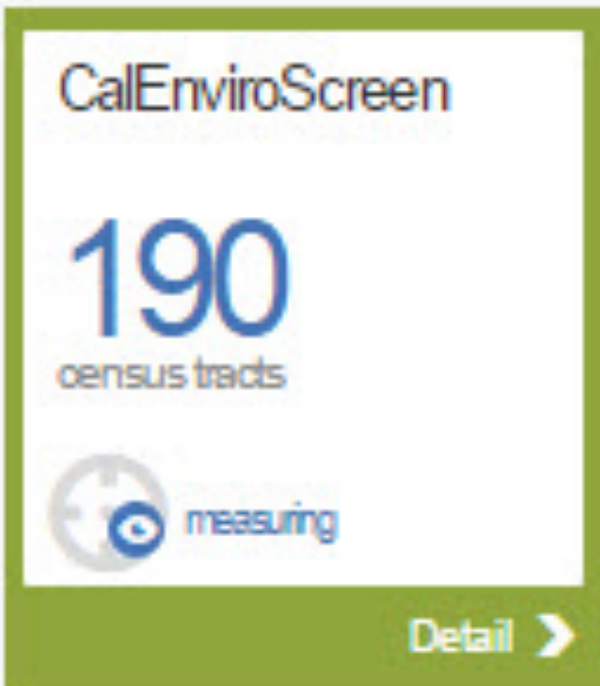
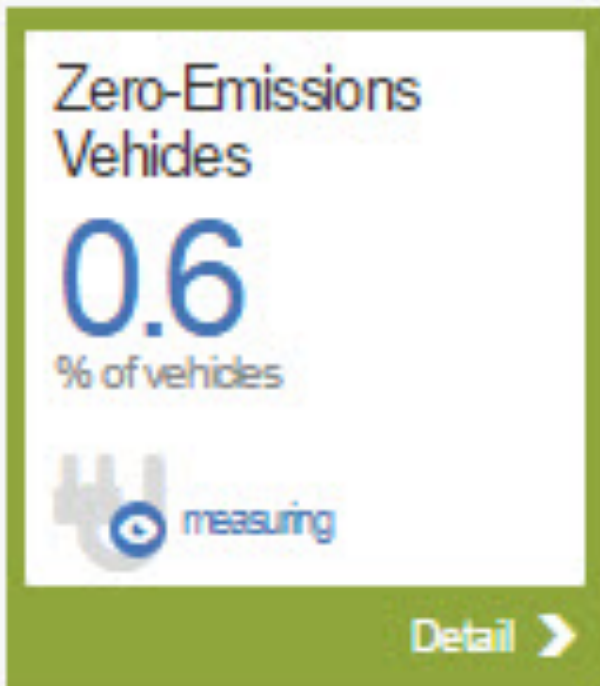
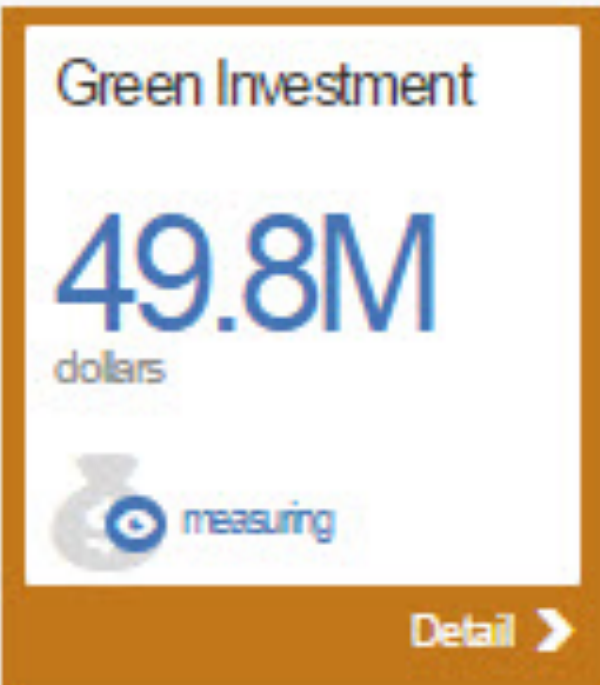
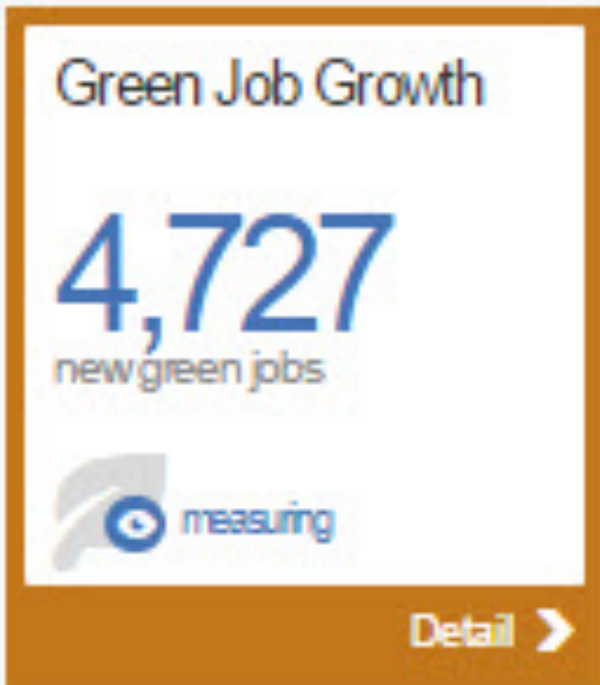
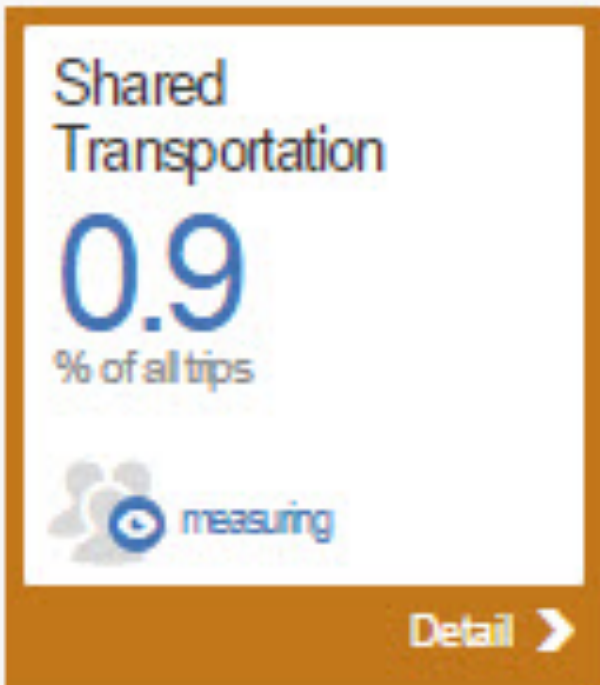
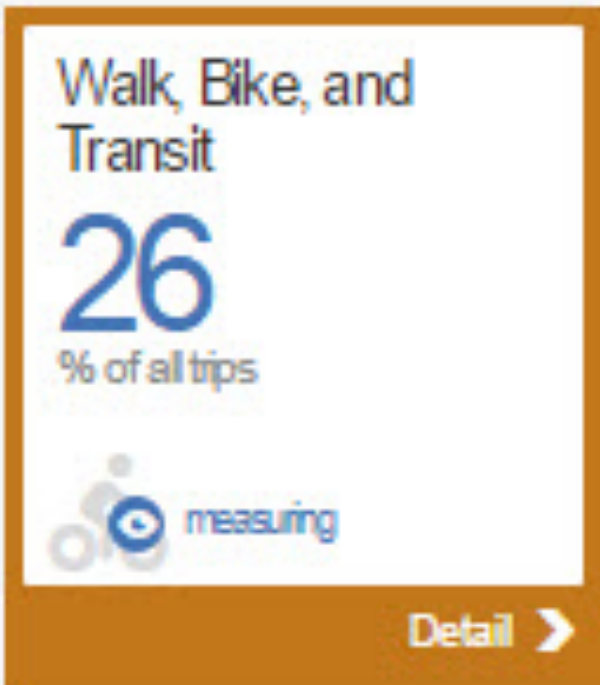
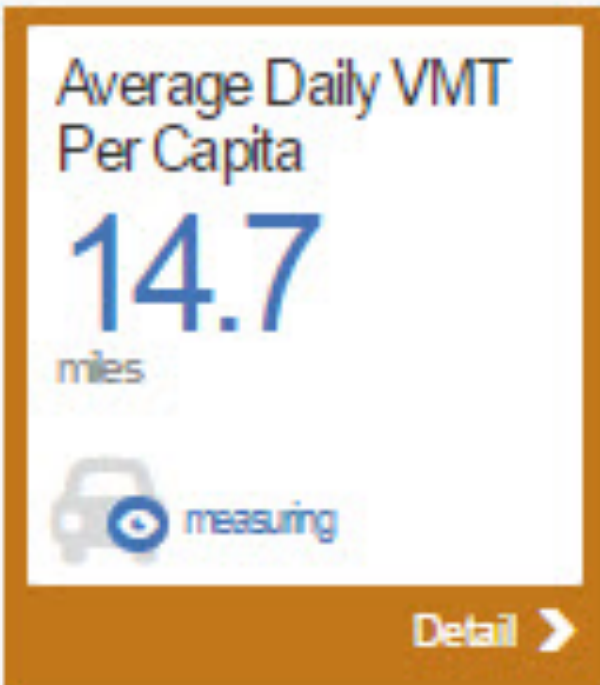
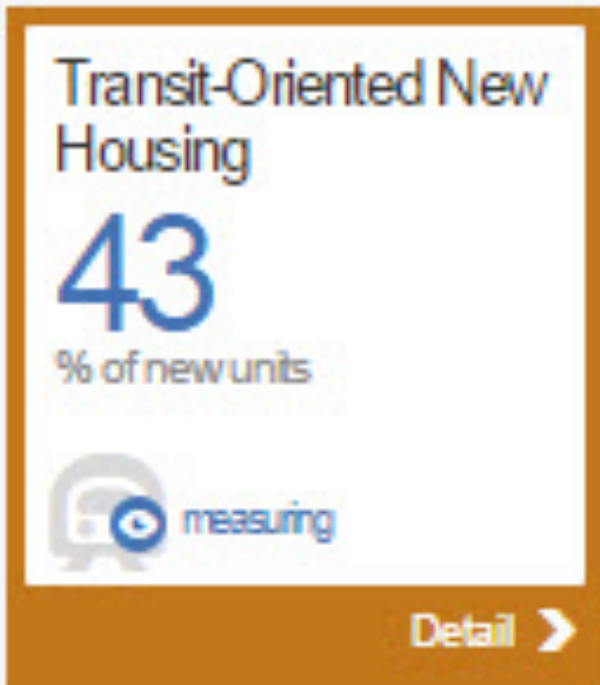


U.S. CONFERENCE
OF MAYORS

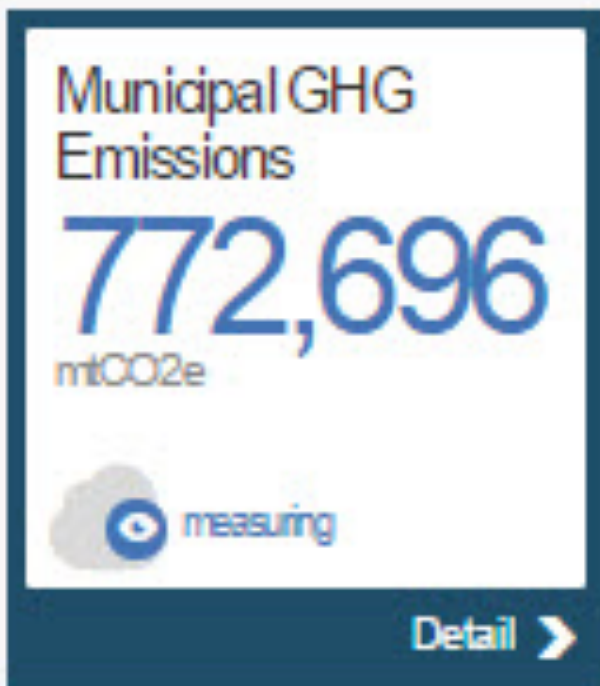


THE U.S. CONFERENCE
OF MAYORS

PHOTOGRAPH



MPLE



LIVABLE CITY



DWP CALL CENTER AVERAGE WAIT TIME = 10 MINUTES (TARGET IS 3 MINUTES)



\$3BILLION = MONEY RAISED FOR MTA PROJECTS



GALLONS OF WATER PER CAPITA USED DAILY = 136 GALLONS (TARGET IS 117)



76.40% DIVERSION RATE FY 13-14 (NO CHANGE FOR LAST THREE FY'S)



LIBRARY WEB TRAFFIC = 1,954,808 VISITORS IN AUGUST (2% DECREASE FROM JULY)



87.7 MILES OF MTA RAIL NETWORK
3,700 MILES OF MTA BUS NETWORK (BOTH METRO & METRO CONTRACTED LINES)



NUMBER OF GREAT STREETS CULTURAL / ART EVENTS = 3 IN THE MONTH OF OCT.



5.5% DECREASE IN WEEKDAY TRANSIT BOARDINGS (TARGET IS 2% INCREASE PER YEAR)



NUMBER OF COLLISIONS = 36,874 YTD (3.1% INCREASE FROM 2013)



932 LANE MILES PAVED FYTD = 38% OF FY GOAL

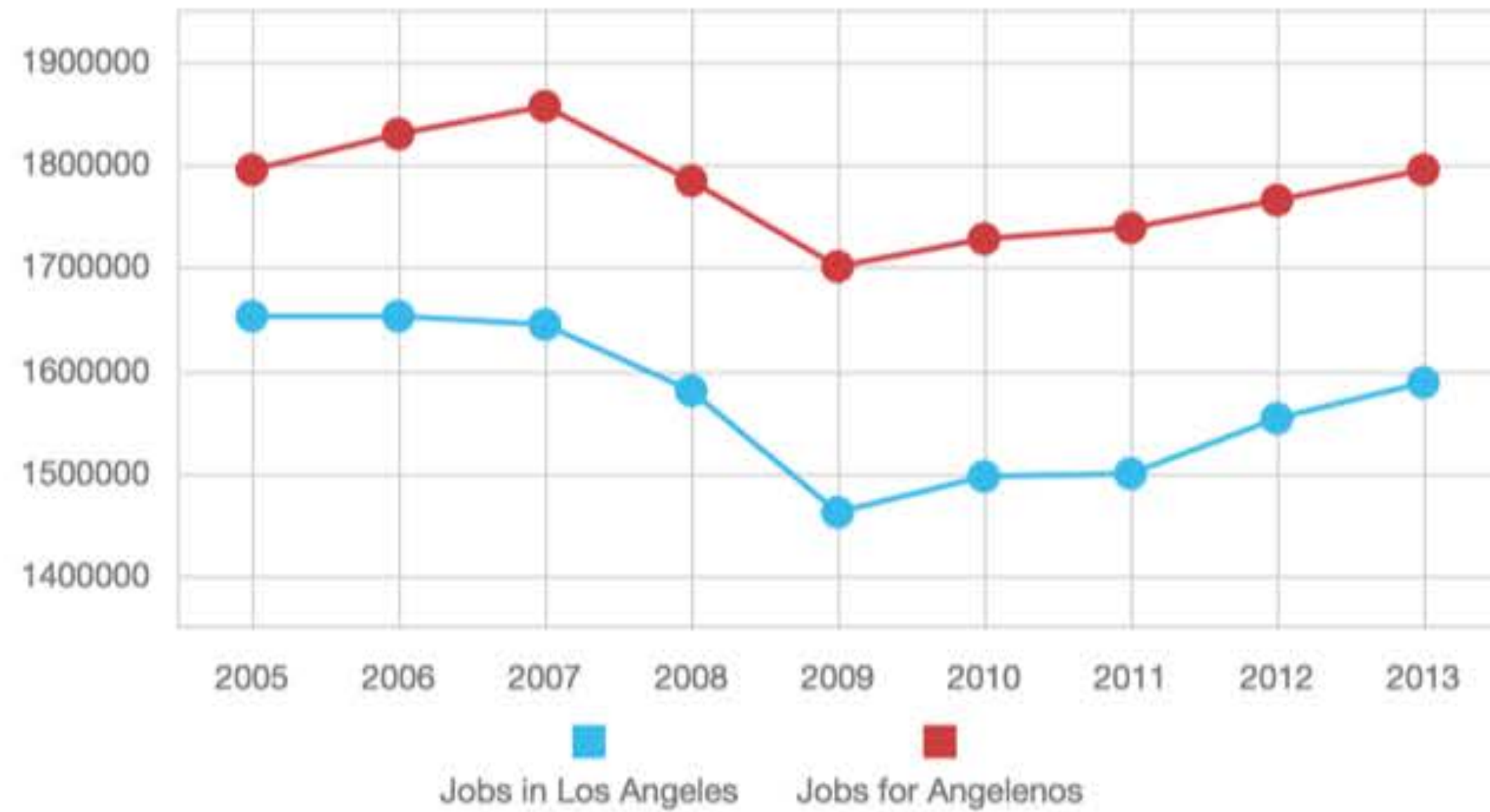


3.9 SIDEWALK MILES REPAIRED FY13-14 (NO SIDEWALK CONSTRUCTION THIS FY)

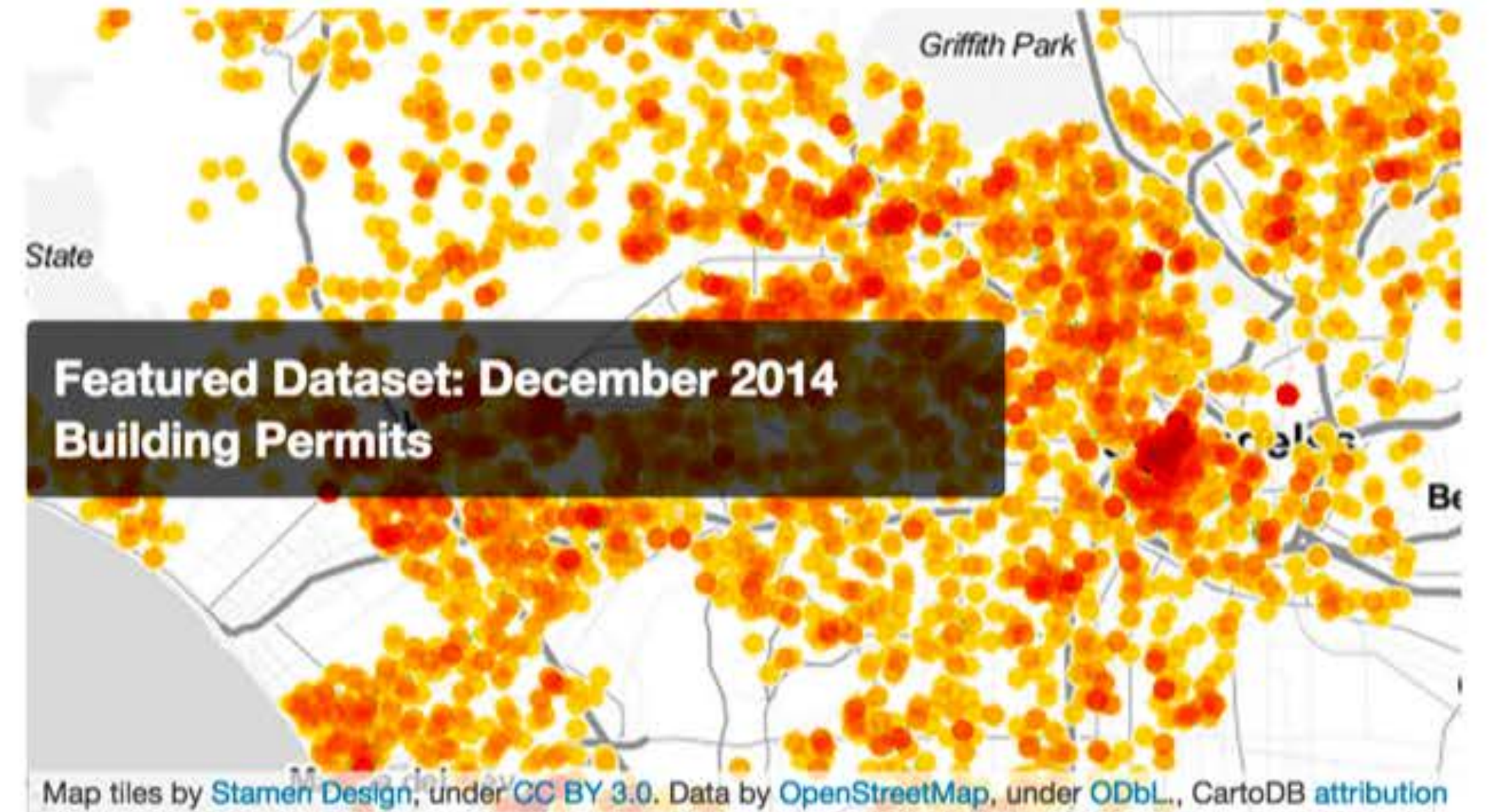


1,140 LED LIGHT REPLACEMENTS FYTD = 15% OF 7,500 LED LIGHT TARGET

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

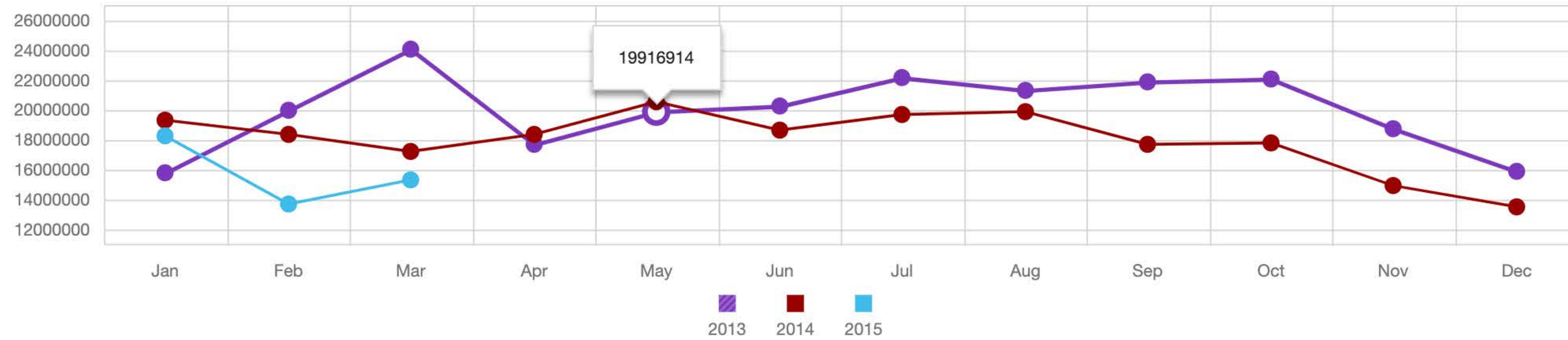


EMPLOYMENT GROWTH Y.O.Y.
COMPARED TO CA
0.70%

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

Goal: Maintain growth above CA rate

Municipal Water Use



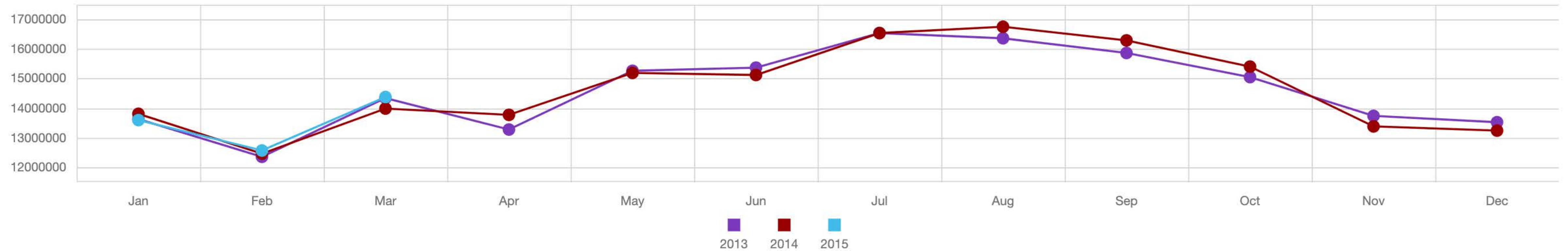
Goals for Improvement

- Low-Flow Faucets and Toilets
- Turf Removal
- Building Retrofits
- City Hall Chiller Retrofit
- Energy and Water Building Dashboard

Deep Dive: GSD



Municipal Electricity Use



V1 WAS FULL OF LOTS OF EVERYTHING

*But that's not what anyone wanted.
And so: Pivot.*



99.9%
SERVER UPTIME

RESULT
78% INCREASE



512
PHOTOS TAKEN

INCREASE
512 MORE PHOTOS



LIKES
12,425

LIKES P/ MONTH
41% MORE LIKES



CHAT LINES
520k

CHAT LINES P/ MONTH
82% MORE COMMUNICATION



to do list
Tasks

- ☒ Web Design
- ☐ Slicing
- ☐ WooCommerce
- ☐ Programming
- ☐ SEO Optimize

Add task...



08 March

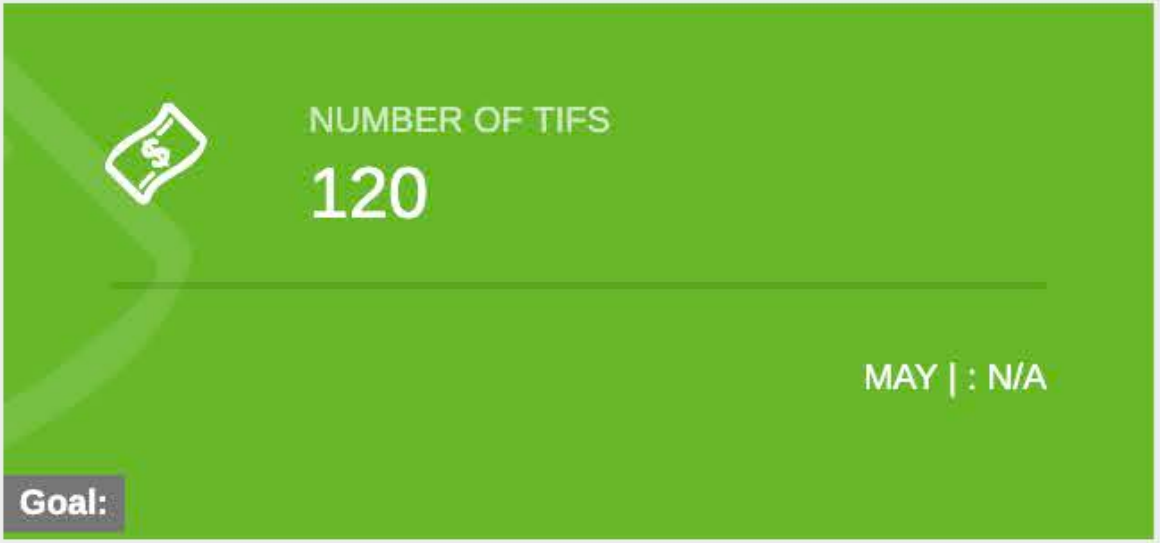
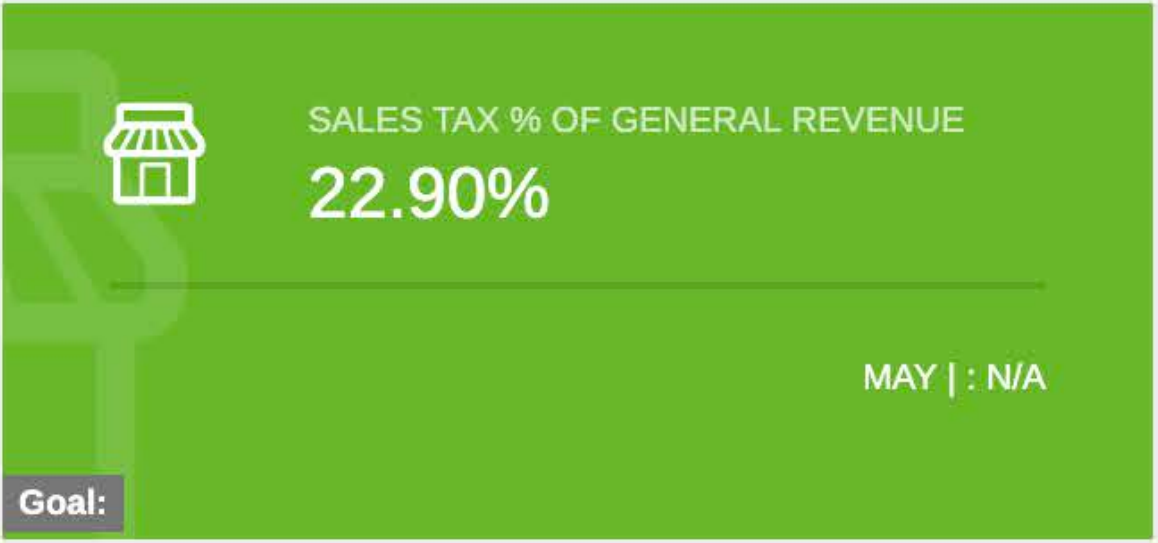
Fight against malnutrition
Aga Khan Bloomberg,
economic independence
inspire breakthroughs
benefit civil.

RETWEET

“

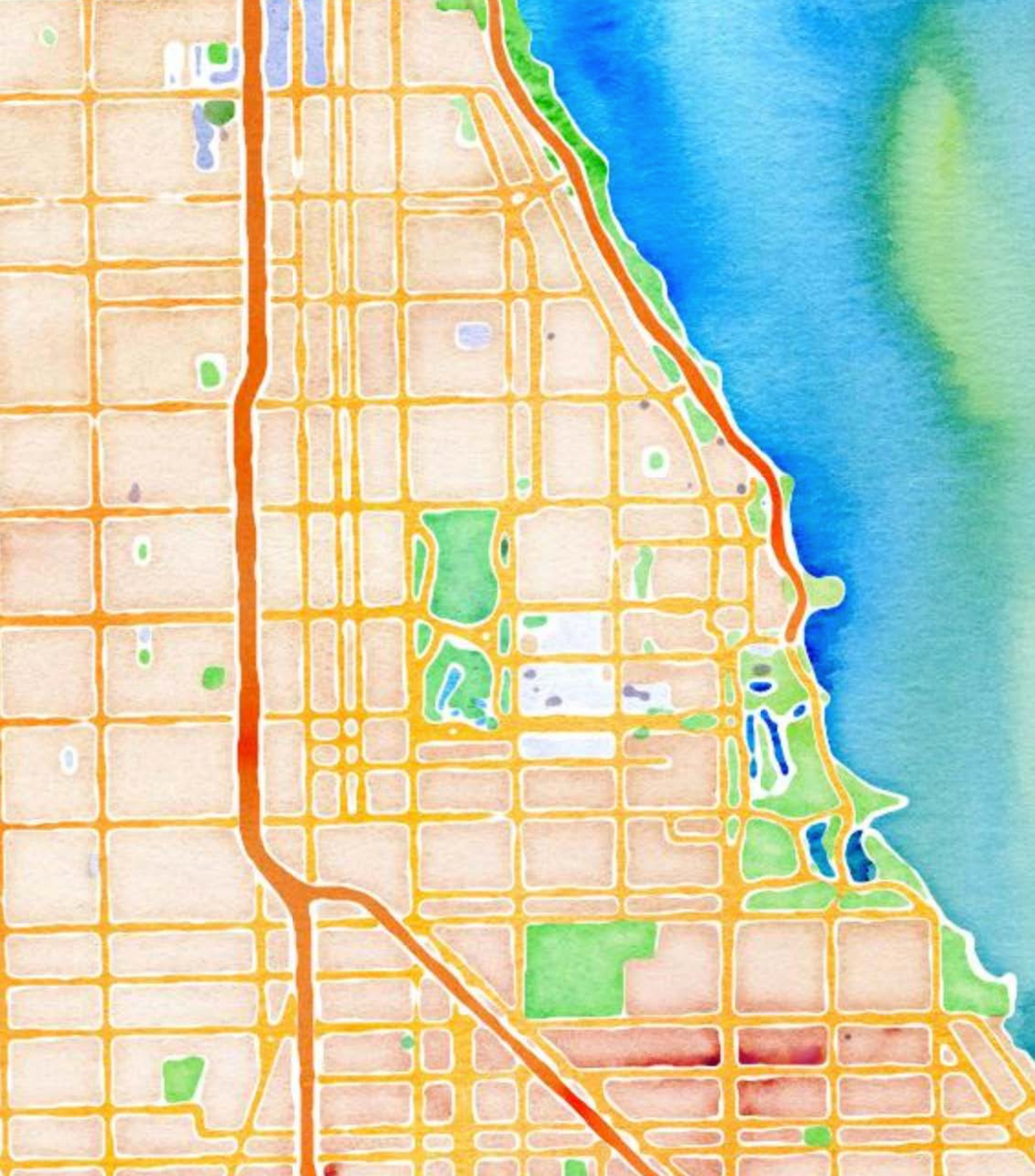
“As you consider building your own minimum viable product, let this simple rule suffice: remove any feature, process, or effort that does not contribute directly to the learning you seek.”

-Eric Ries



“SIMPLE, BEAUTIFUL, AND EASY TO USE”

Less was more.



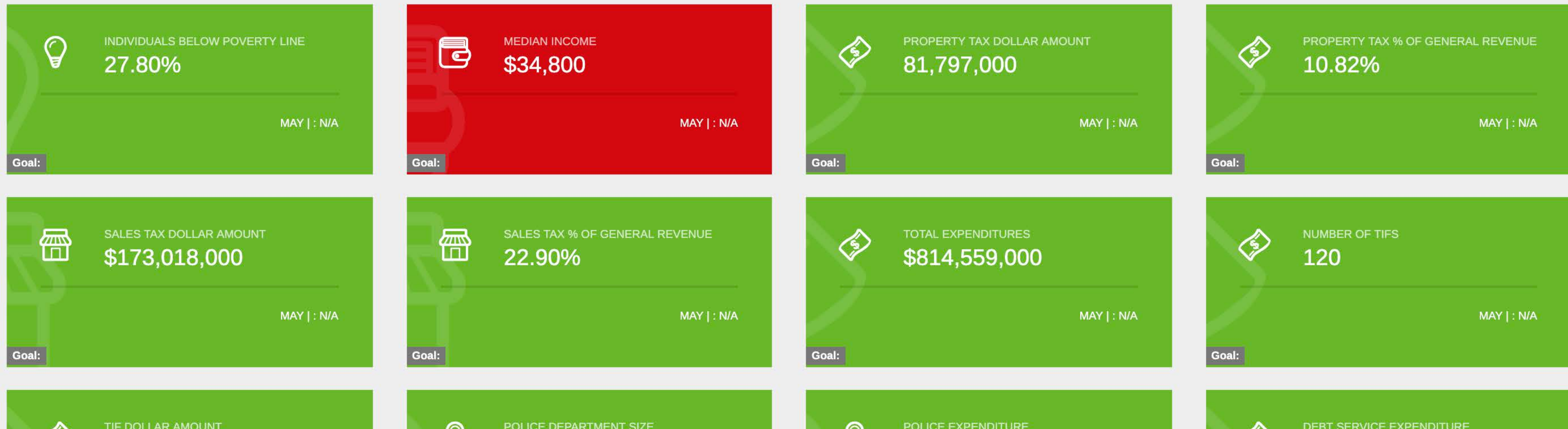
BENEFITS / DRAWBACKS

➤ Benefits

- No database; Google Spreadsheets powered
 - Revision history
 - Feels like Excel
- No login
 - Relies on existing g-suite account
- Relies on very common javascript library: JQuery
 - Only needs one more script to function
- Usage mirrors Jekyll

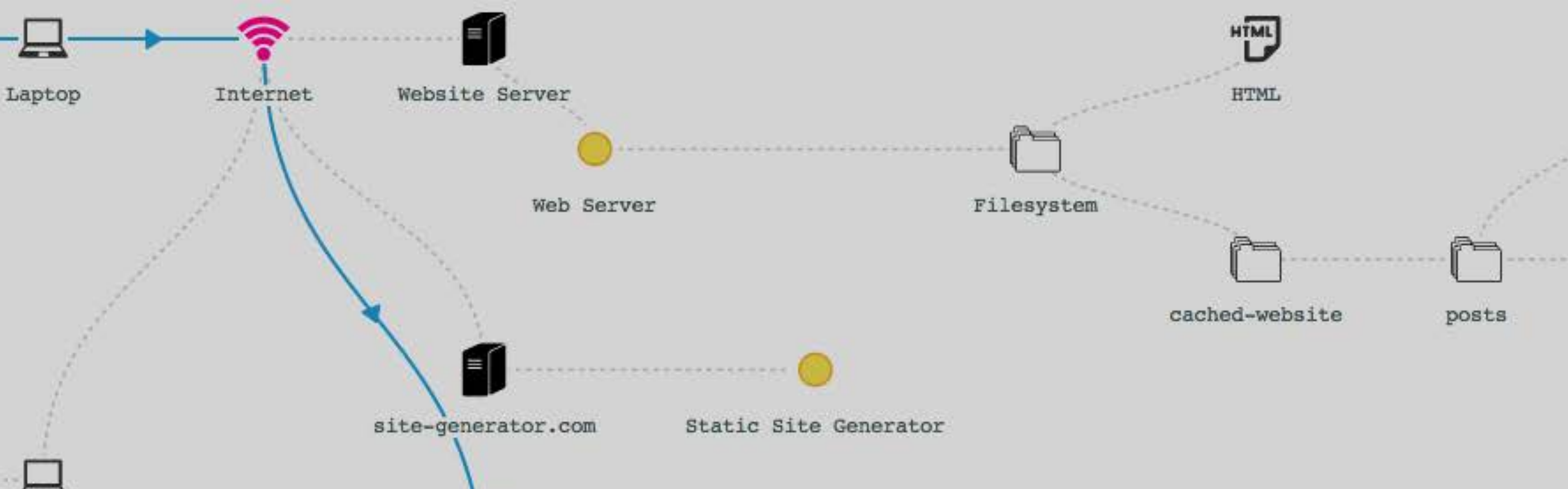
➤ Drawbacks

- No approval / workflow / management
- Data has to be public
- No file storage
 - Images must be stored elsewhere
- Individual sheets/documents needed for each page



“SO CAN YOU MAKE MORE?”

After the MVP, the challenge was building for scale.



JEKYLL

Multi-page websites sans database: <https://jekyllrb.com/>

Branch: master ▾

[bradley-tower](#) / [_posts](#) / 2015-06-28-mobi.html

Find file

Copy path



Abhi Nemani switched ownership

926ba1d on Oct 23, 2015

0 contributors

12 lines (12 sloc) | 253 Bytes

Raw

Blame

History



```
1 ---
2 layout: post
3 title: "MOBI"
4 date: 2015-06-28 08:12:25
5 categories: mayor
6 gdoc: 1_jkX0g0_jdskSpFve8xQqw9e1UAsiYD-lYWsi01uj0w
7 permalink: MOBI
8 ---
9 {% include viz/web.html %}
10 {% contentfor bottom %}
11     {% include viz/mobi-stat.html %}
12 {% endcontentfor %}
```

Homelessness

Veteran Homeless LA Monthly Housed



HOMELESS VETERANS HOUSED
4,630

JULY | :

Goal: 7,028 by 12/31/15



MONTHLY VETERAN HOMELESS
HOUSED (CITY)
184

JULY | :

Goal: 434



TOTAL CHRONIC HOMELESS HOUSED
(CITY)
2,798

JULY | :

Goal: 9,229 by 12/31/16



MONTHLY CHRONIC HOMELESS
HOUSED (CITY)
176

JULY | :

Goal: 513



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INCEPTION





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RISKS / GOALS / ANTI-GOALS



RISKS & ANTI-GOALS

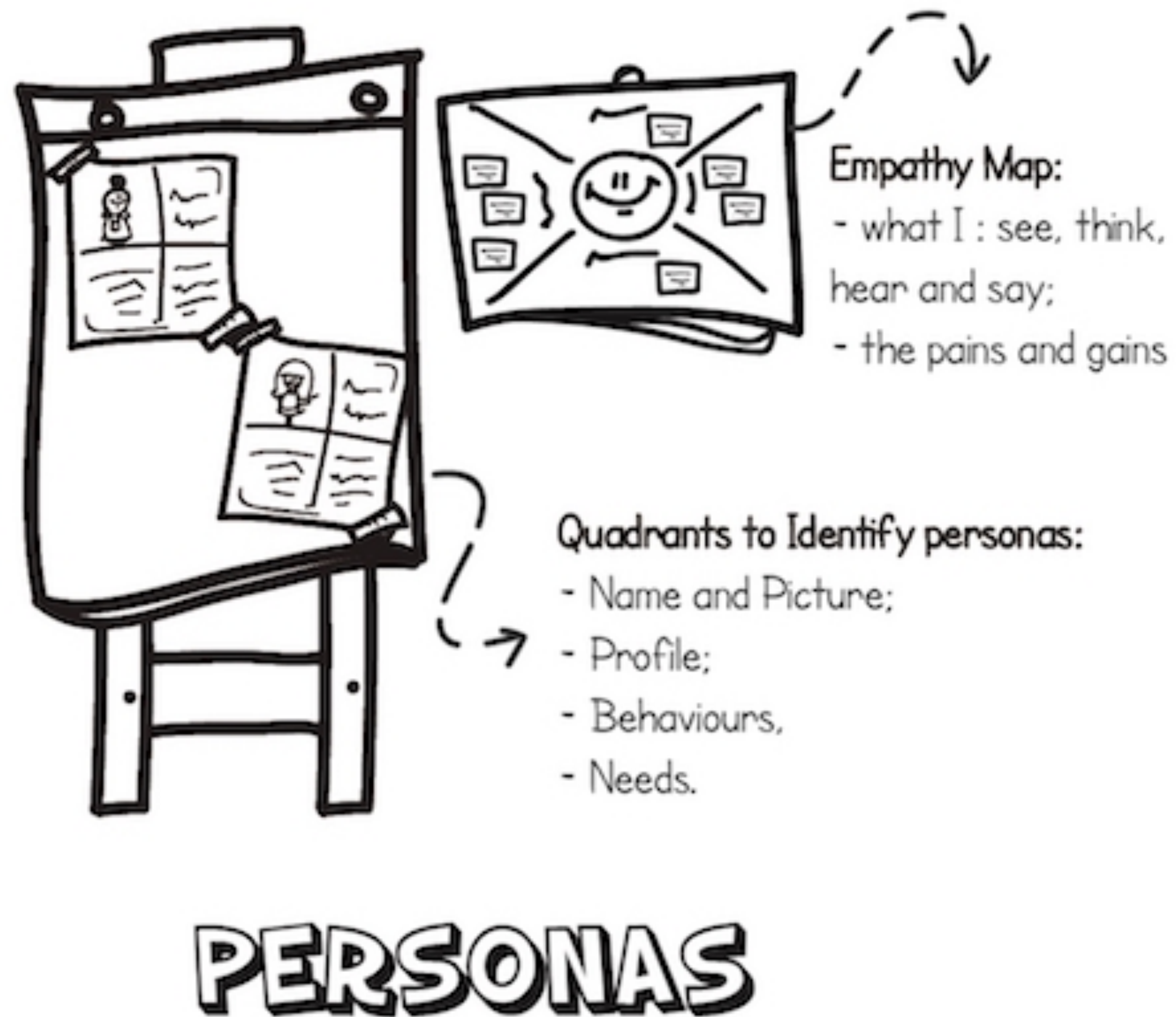
- Risks
 - Business risks
 - Technical risks
 - Legal / policy risks
- Anti-goals
 - What is out of scope?
 - What should we ***not*** worry about?



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PERSONAS





PERSONAS

- Personas put your user research to work
- “Fake” identities to design your app for
- Make them as real as possible
 - Picture
 - Bio / personality
 - Goals / frustrations
- Resources
 - <https://www.hubspot.com/make-my-persona>



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USER STORIES





USER STORIES

.....

- What would each persona want to do?
- Start big and then then break it up
 - Example
 - Sarah (Department head) updates Mayor on new monthly metri
 - Sarah creates account
 - Administrator authorizes account
 - Sarah logs into administrative view
 - Sarah changes metric
 - New metric approved by administrator
 - New metric published to publish dashboard
 - New metric(s) email generated for Mayor
 - Email edited by Sarah
 - Email approved by administrator
 - Email sent
 - New metric(s) text generated for Mayor
 - Text edited by Sarah
 - Email approved by administrator
 - Email sent
- Then PRIORITIZE

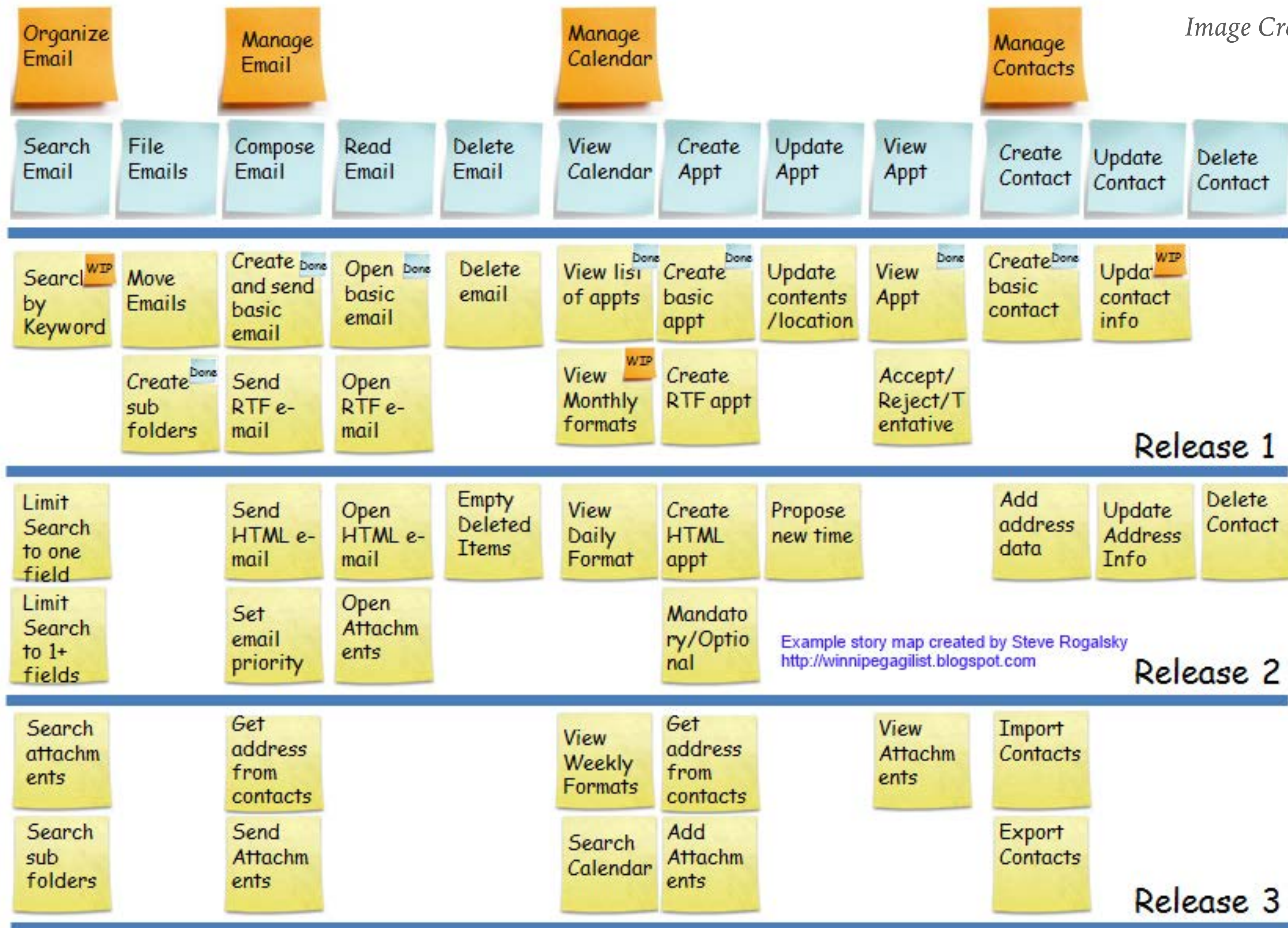




Image Credit: InfoQ

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➤ Then PRIORITIZE

MVP