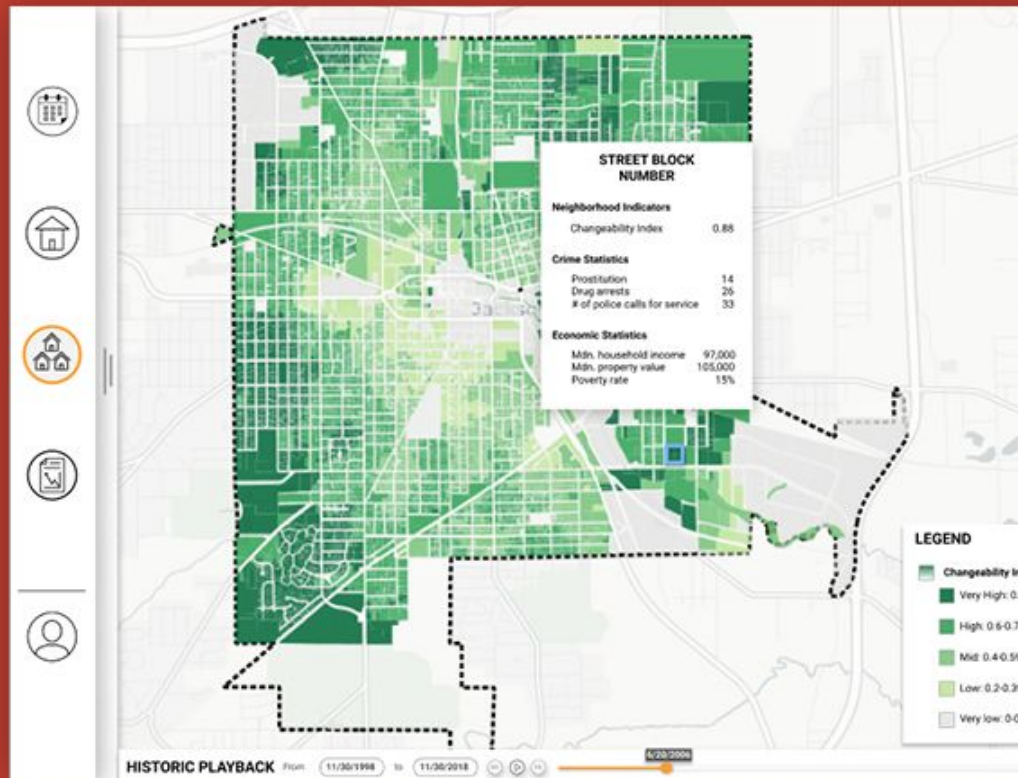


DYNAMO METRICS

Redesigning an urban data
repository platform

UX RESEARCH & DESIGN



THE PROJECT

infoLab

formerly Design Clinic
Semester-long
consulting project

Cross-functional

3 * UX designers
2 * data scientists

Local impact

Public-private partnership
between the client and city
government

THE CHALLENGE

How can Dynamo Metrics' data power optimize Jackson City code enforcement officers' daily inspection workflow?

THE PROCESS

Research

Background research

Heuristics evaluation

Competitive analysis

Contextual inquiry

Synthesis

Personas & Scenarios

Affinity diagram

Workflow analysis

Ideate

Brainstorming

Prototype

Individual design

Critic & refine

BACKGROUND RESEARCH

Getting started with the consulting project

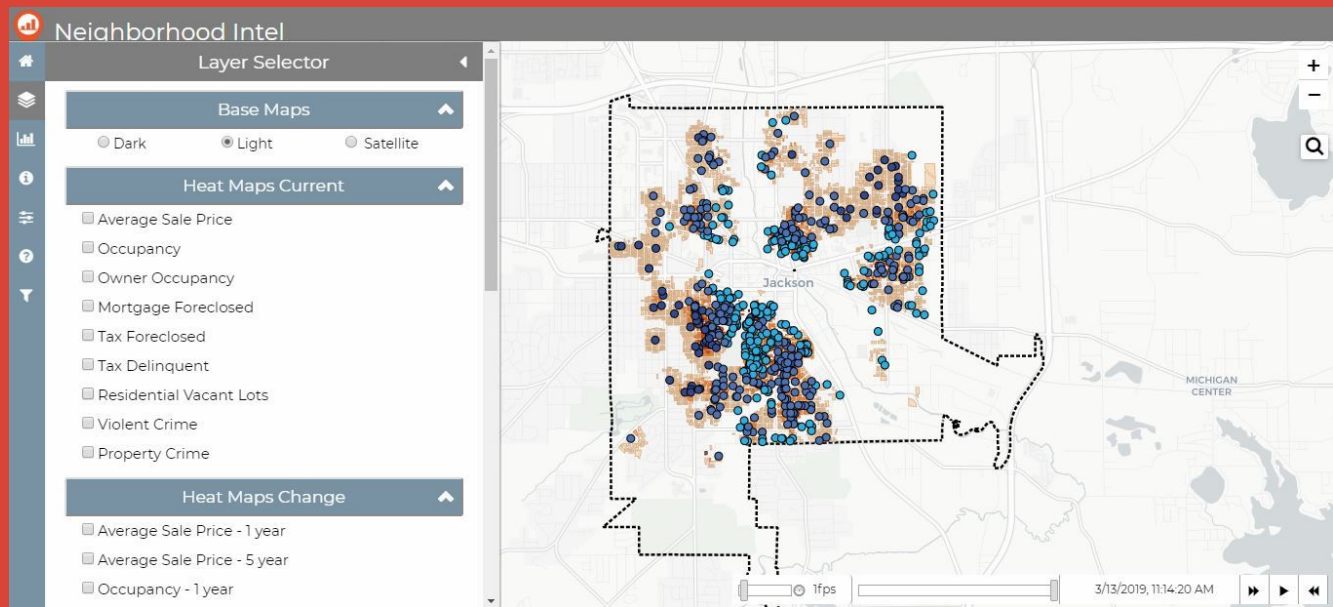
**Code
enforcement
responsibilities**

**Client's
past
projects**

**Current
platform
design**

HEURISTIC EVALUATION

**What do not
work well on
the current
platform?**



**Users need to rely
on memory**

Lack of legend panel on map

**Excessive
elements**

42 checkboxes

**No system
status**

Playback bar and layer order

COMPARATIVE ANALYSIS

What do others have that could be learned?

 **viewpoint**

citi  **enserve**

TOLEMI

 **GovPilot®**
Limitless Applications • Limitless Potential

MCSI
MUNICIPAL COLLECTION SERVICES INC.
Professional Revenue Recovery

 **SimplyAnalytics®**

Special metrics

Summative or predictive data

Officer

Need to identify blights efficiently and access data

Administrator

Need to access property data and support officers

SYNTHESIS

What do the users say?



Matthew Parker.
"I need an efficient, effective and evolving tool."

BIOGRAPHY
Matt handles training, supervision and planning along with code enforcement duties. Major goals include healthy, safe living environment in the city, improve economy, reduce crime. Has been in code enforcement for over 30 years. Works at the police department as second job.

TOOLS
Learns new tools via Youtube
BBQA
Phone
iPad
Computer
Printer in car


MOTIVATIONS

- Develop new collaborations with various departments - Latent programs for better training and community development
- To ensure healthy, safe living environment in the city, improve economy, reduce crime.
- Allocate and utilize resources efficiently.
- Monitor trends to predict problem areas.

FRUSTRATIONS

- No predictive tool to aid in identifying problem areas
- No trend visualization
- Switching between multiple devices and interfaces/regulations
- Too many departments and people involved in gather data and visualizing it.

Age: 52
Education: Bachelor
Job title: Head, Code Enforcement
Years in current job: 30



Peter Brown .
"The way we work is a bit like competition. I don't want to fall behind."

BIOGRAPHY
Peter is a code enforcement officer at City of Jackson. Prior to working at the code enforcement department, he worked at the law enforcement department. He grew up in the Jackson City and is thus very familiar with the city itself.

TOOLS
BBQA
Phone
iPad
Computer
Printer in car

MOTIVATIONS

- To be competitive, I hope I can split on many blights issues as possible.
- I hope to write concise and quick report, so I don't have to stay in office after 10:30
- I hope to learn as much about the property as I can in a quick way so I required with good preparation.

FRUSTRATIONS

- I need to switch gears when on the field, because the camera on the BBQA tablet has no resolution.
- Data is not easily accessible, such that I spend extra time looking for blighted areas.
- There are cases where the person responsible for blighted can park in violation.

Age: 34
Education: Bachelor
Job title: Code Enforcement Officer
Years in current job: 4



Sophie Green .
"I do plenty of things: permit issues, planning zoning engineering, housing inspections, exterior inspection of people's home for occupied properties, code enforcements, etc."

BIOGRAPHY
Sophie is a 44-year-old female administrator in Code Enforcement Office of City Jackson. Her daily job includes code enforcement coordination and support, file preparation, send out, and documentation and publish relationship.

TOOLS
BBQA
County GIS maps
Google maps
Computer, Printer & Scanner

MOTIVATIONS

- I hope to know more about garbage and debris because as they are related to crime.
- I am glad to be able to support my in-kind colleagues by giving information on what's happening for the neighbors of a property.
- Other officers and the about community information for help. I hope the data would be put out quickly.
- I hope to provide calling citizens accurate and sufficient information.

FRUSTRATIONS

- Attachment takes too long out they're getting a new sensor so that might be solved.
- Sometimes I will be overwhelmed by multi-tasking. I have to volunteer to work during weekends.

Age: 44
Education: Bachelor
Job title: Code Enforcement Administrator
Years in current job: 12

Head

Need effective enforcement
and make actual impact

Officer

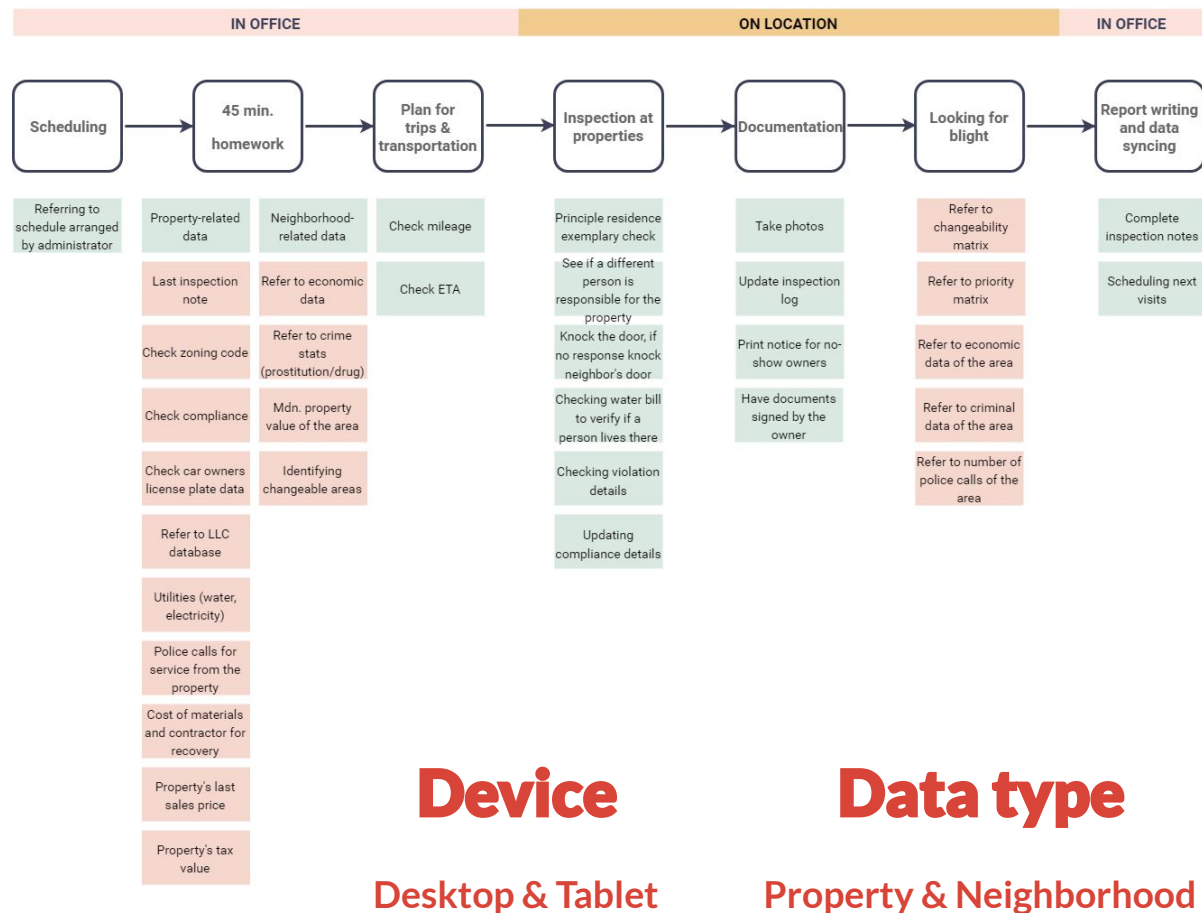
Need to identify blights
efficiently and access data

Administrator

Need to access property data
and support officers

WORKFLOW ANALYSIS

A typical workday at the code enforcement team



ITERATION

Low-fidelity prototype

Changes

- Add save location feature
- Move layer adding panel to the right
- Redesign the playback bar

Adding Layers and Filtering



Locating a District



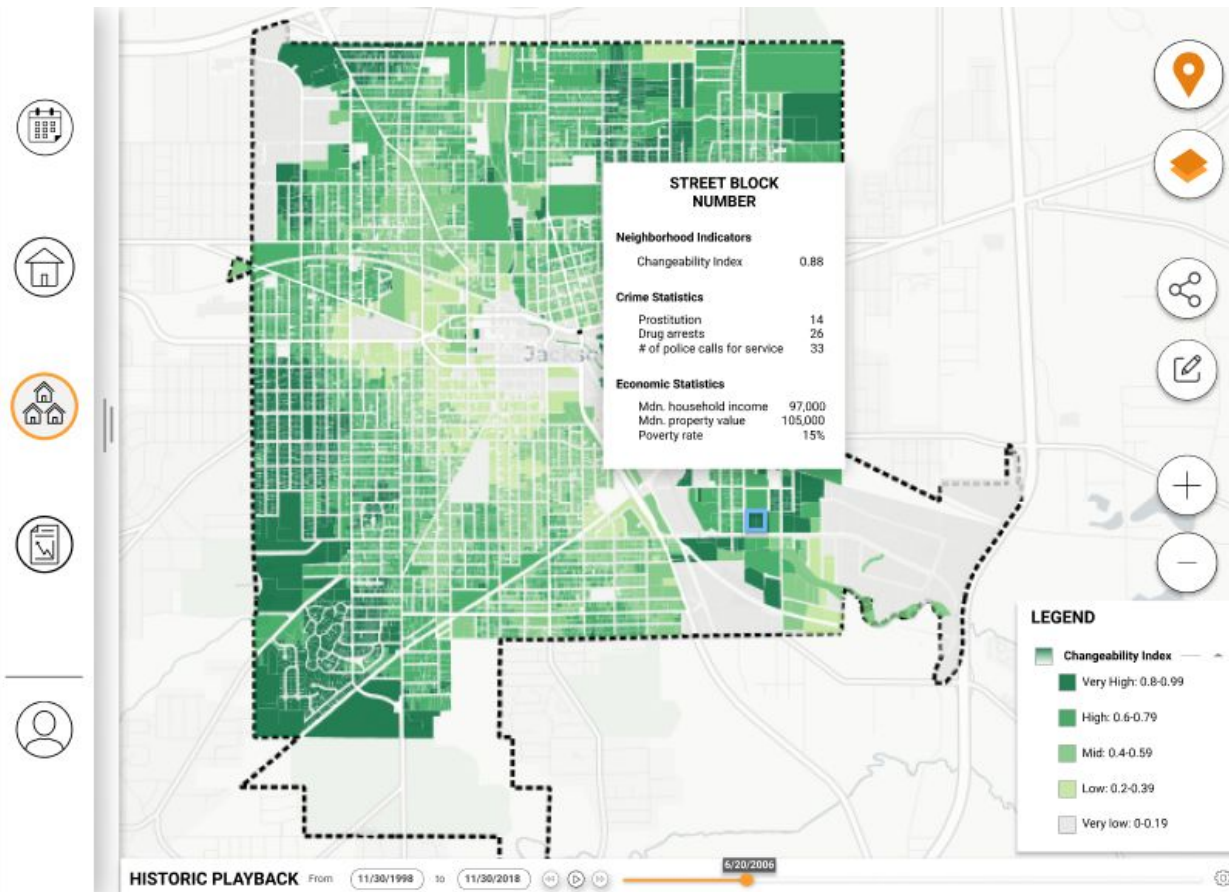
Hovering over a district



PROTOTYPE

Summary on hover

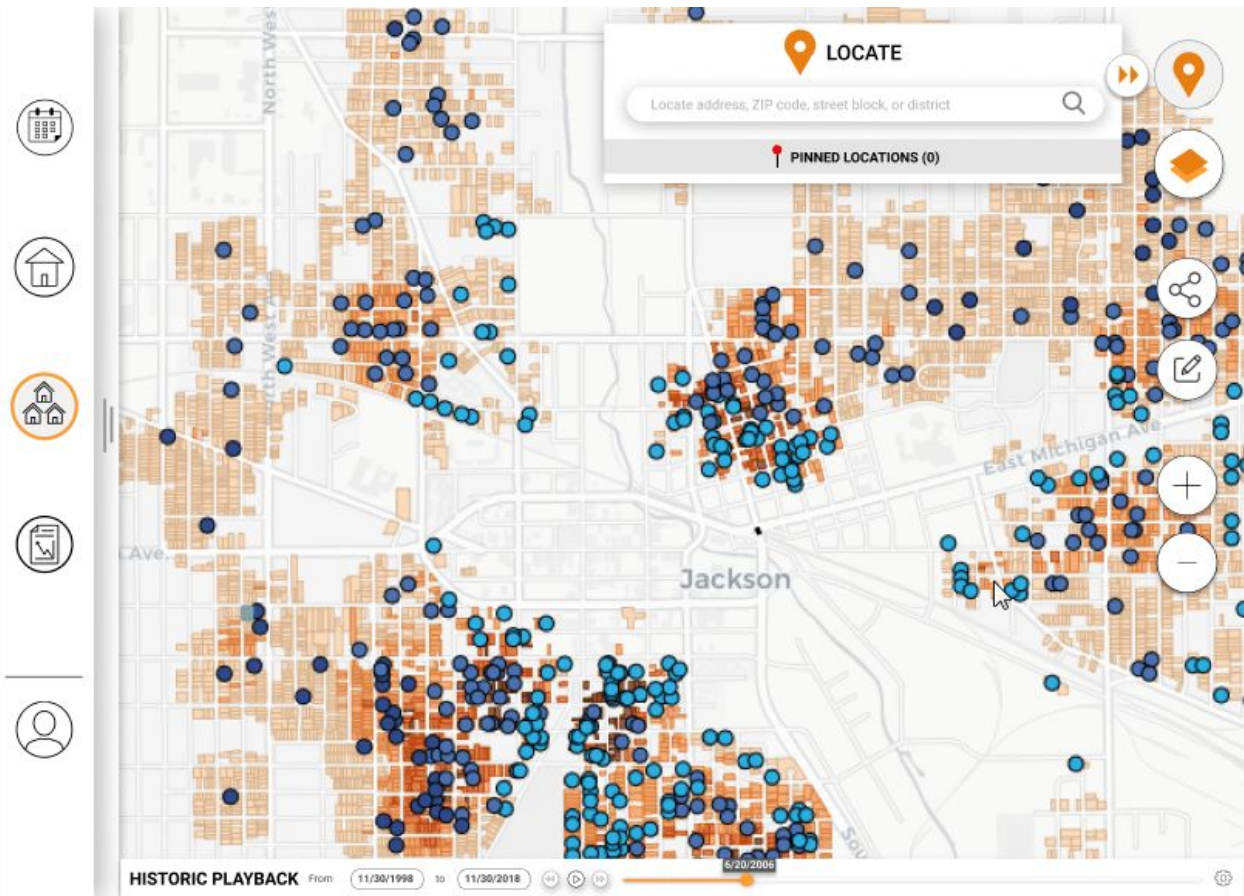
Show prioritization metric in a summative window when hovering over an area.



PROTOTYPE

Locate and save

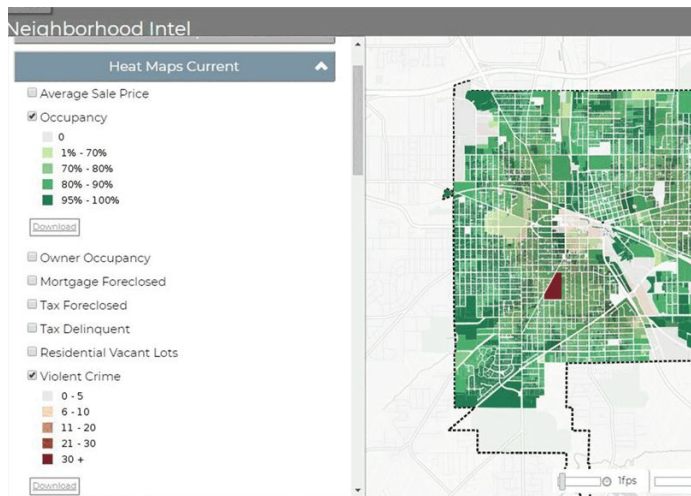
Quickly locate an area and pin to save for future reference.



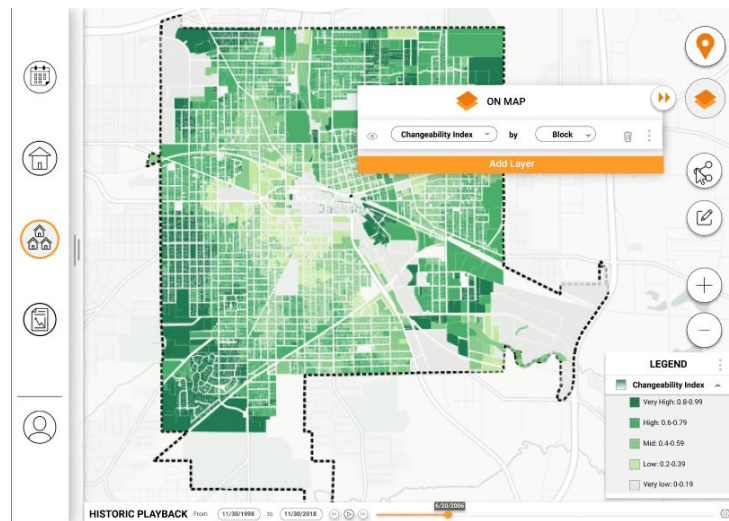
PROTOTYPE

New layer adding experience

Keeping only needed data types and break down layer adding process to reduce visual distractions.



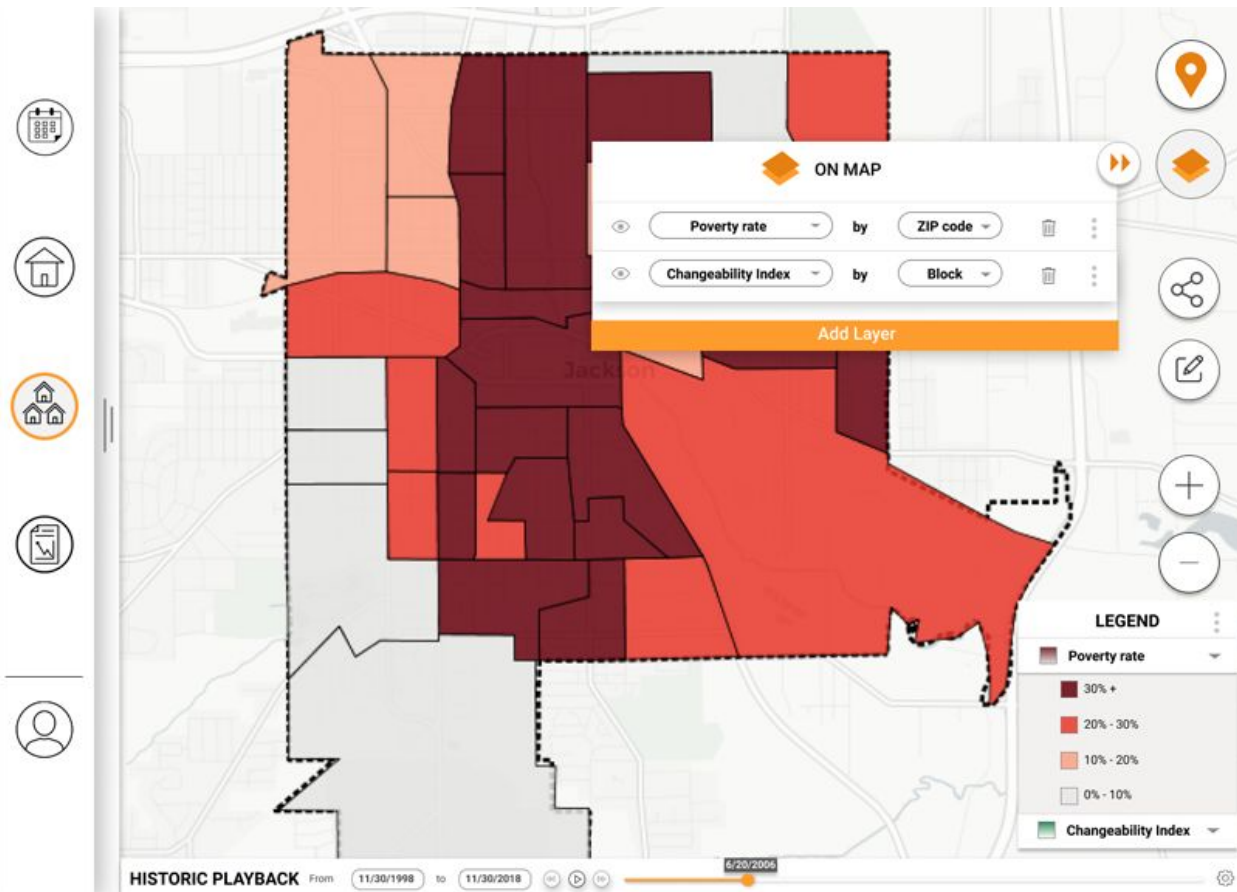
Before
After



PROTOTYPE

Managing data layers on map made easy

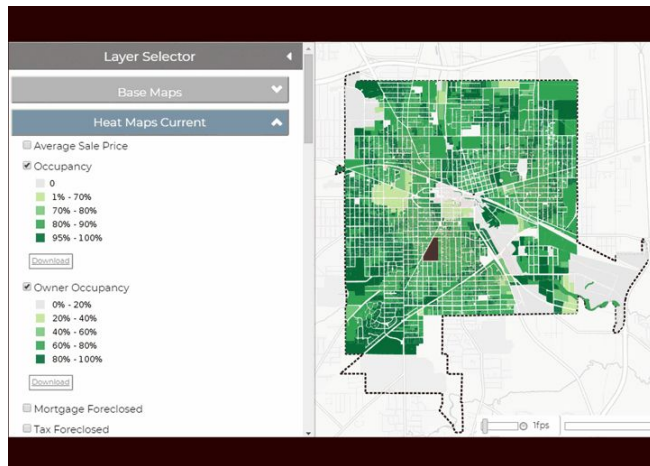
Clear overview of data types on map, with drag and drop feature to configure layer settings.



PROTOTYPE

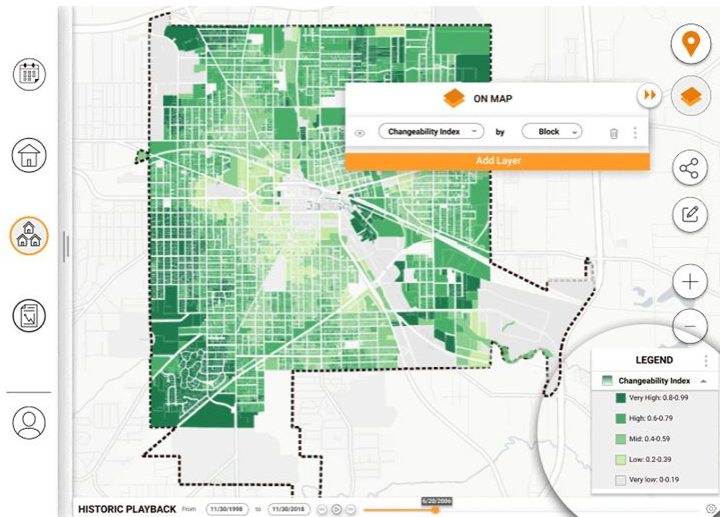
Added legend panel

Add draggable legend panel for quick data interpretation.



← Before

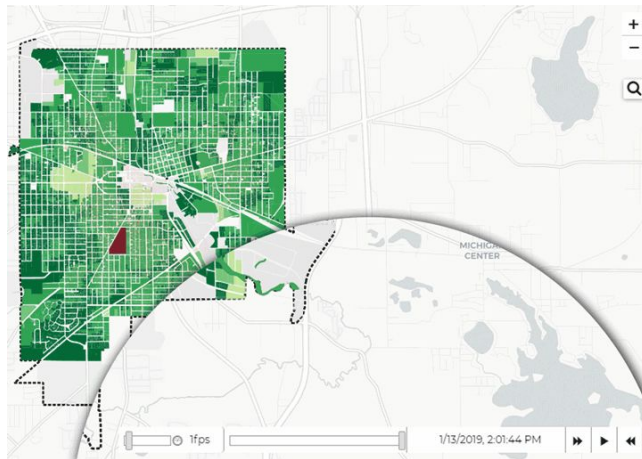
After



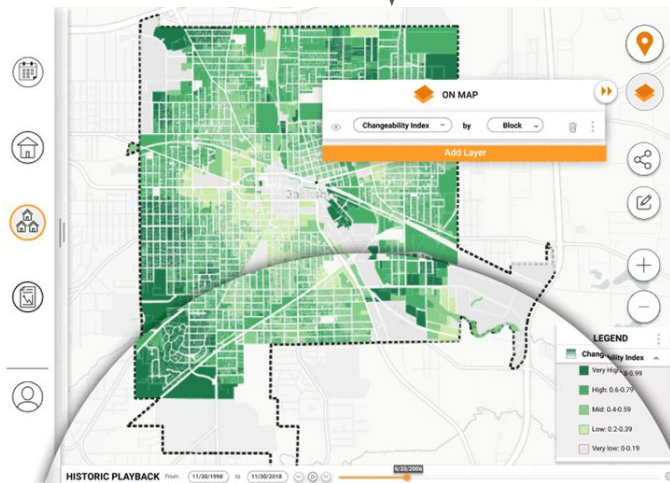
PROTOTYPE

Playback bar

Include starting and ending, as well as currently displaying points in time for quick trend tracking.



Before
After



THE OUTCOME

The client is adding new summative data to their repository and changing design elements suggested by us.

I am also invited by the client to continue with the UX work.