





Boston Under Water

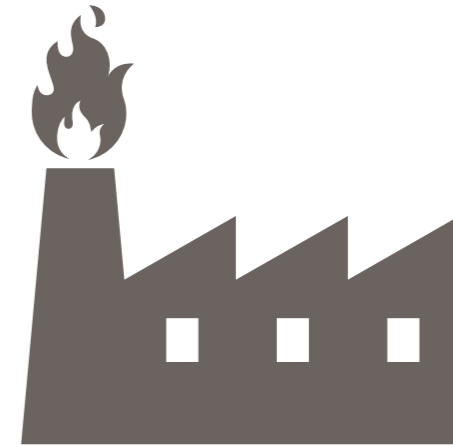
A Digital Approach to the Changing Climate:

*/ Erick Friis
/ Calvin Zhong*

*/ Michelle Gelberger
/ Maya Madhavan*

A Simple Task–

*Documenting the ways
humans have intervened
or can intervene in
Boston's land.*



The Team—

*Our interdisciplinary
team created this project
for CMS.633:
Digital Humanities*



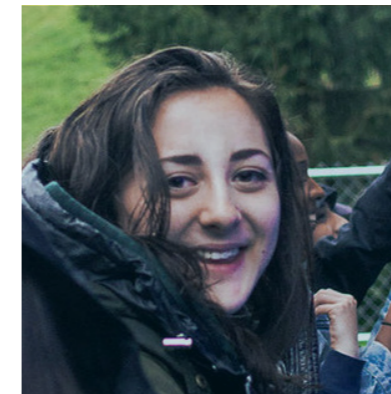
Erick Friis
Electrical Engineering & Computer Science

Web development
Technology coordination



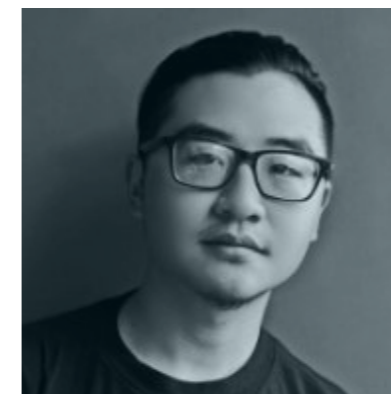
Maya Madhavan
Mathematics

Data collection & research
Narrative writing & documentation



Michelle Gelberger
Media Arts & Sciences

Project management
Interaction & experience design
Data visualization & graphics



Calvin Zhong
Architecture & Media Studies

Project management
Conceptual & narrative development
Mapping & data visualization

Towards Truth—

The rise of interactive digital journalism has powerful implications for news dissemination. In an effort to tackle a post-truth society, we hope to develop an idea focusing on the accurate representation, delivery, and accessibility of data in media. Our project will tie in qualitative information to create a holistic approach to representing the issue that takes a position, critically explains the data, and removes ambiguity between truth and alternative fact for the public.

This project will re-evaluate the role of data scientists, journalists, and designers in informing the public and making information, data, and factual evidence accessible for everyone once again, while providing a template for others to do the same.



Research Questions–

1 /

How can we effectively display some of the causes and effects of the rising sea level on Boston's topology in a way that audience members can easily understand?

2 /

The way information is disseminated has drastically changed since the introduction of the web. How can we apply technology to tell a truthful story about climate change and its far reaching impacts in the face of rampant false news?

Context—

Johanna Drucker

Edward Tufte

Daniel Rosenberg

Anthony Grafton

Clay Shirky

Vannevar Bush

Post-truth politics and media supercede the importance of truth; pertaining to an era or situation when truth is no longer significant or relevant; usually in a pejorative sense, uncaring of factual accuracy.



DIGITAL_HUMANITIES

ANNE BURDICK JOHANNA DRUCKER PETER LUNENFELD
TODD PRESNER JEFFREY SCHNAPP

Influences—

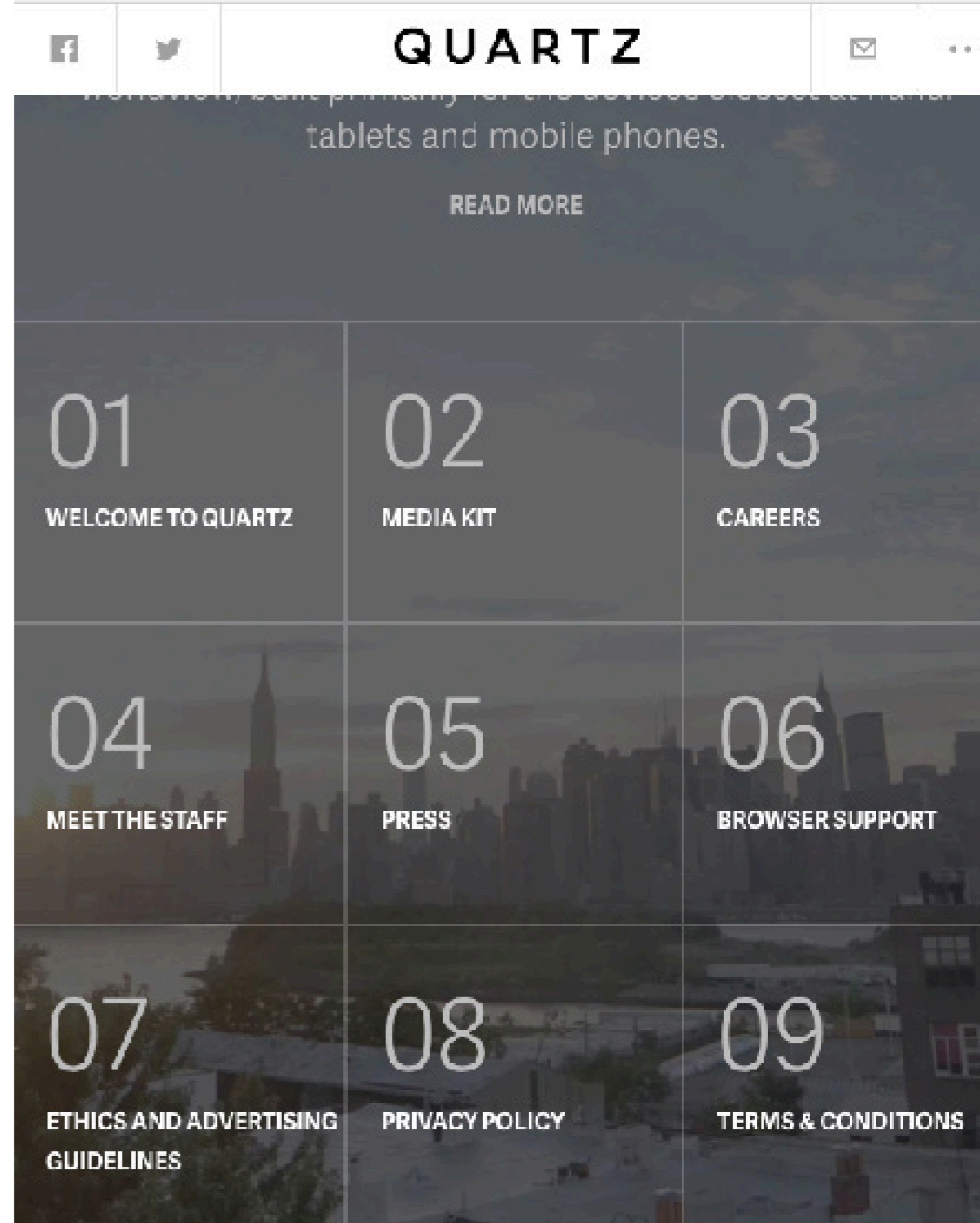
Sasaki: Sea Change

Quartz

Vox/AJ+ Videos

NYTimes Interactive

NOAA





KOCH

KOCH CARBON, LLC

ExxonMobil

Deabody
ENERGY

Prototype

Research-

Past: 2 Eras

Reclamation- Shaping Boston

Industrialization- Spurring Climate Change

Present:

Preventing and Defending Against the Rising Seas

What- Images, qualitative and quantitative info

Web based- gov't/educational sites, etc...

Future

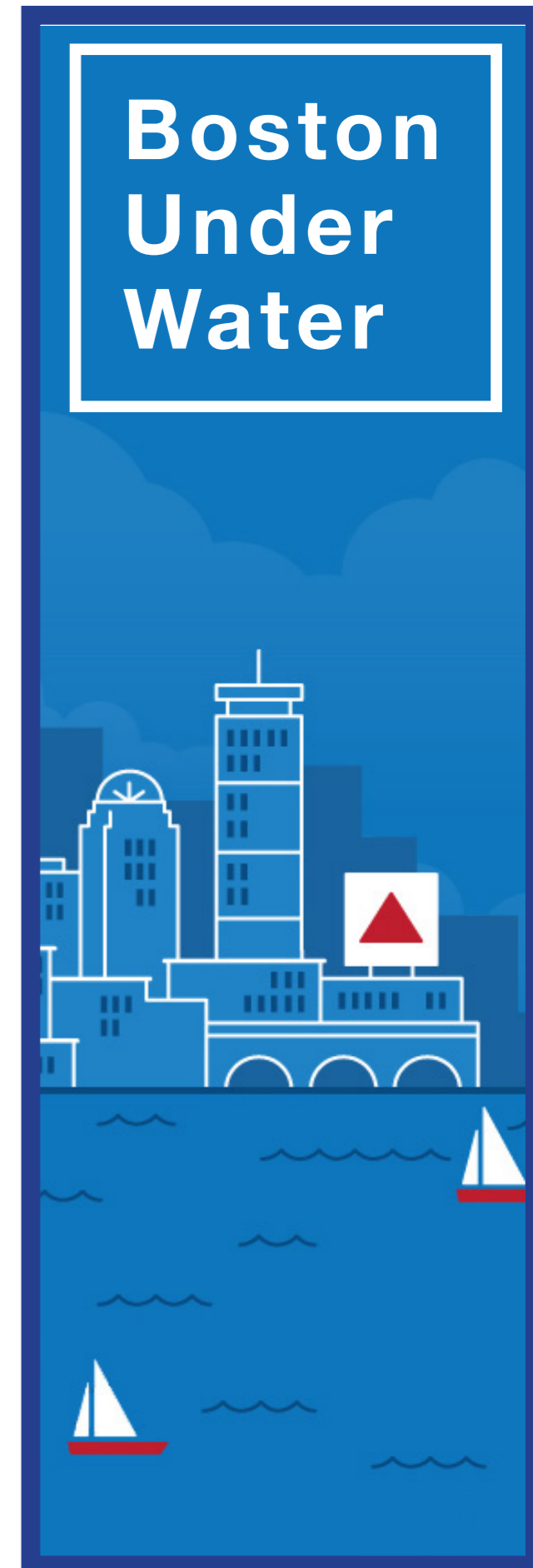
Conjectures ≠ Fact

Choices about Data



Audience –

- 1 / *A Young Student***
who knows nothing about climate change.
- 2 / *A Skeptic***
who can be convinced that climate change is an issue.
- 3 / *A Resident of Boston***
who is worried that climate change will affect their future.
- 4 / *A Climate Activist***
who wants to use this data to encourage people to act!



Journey Map –

What are you thinking?

You only care about the raw data and want to access it.

You want to know where this information is coming from.

You're unsure or disagree with one of our claims.

You want to adapt our digital storytelling to your own data.

How will we help?

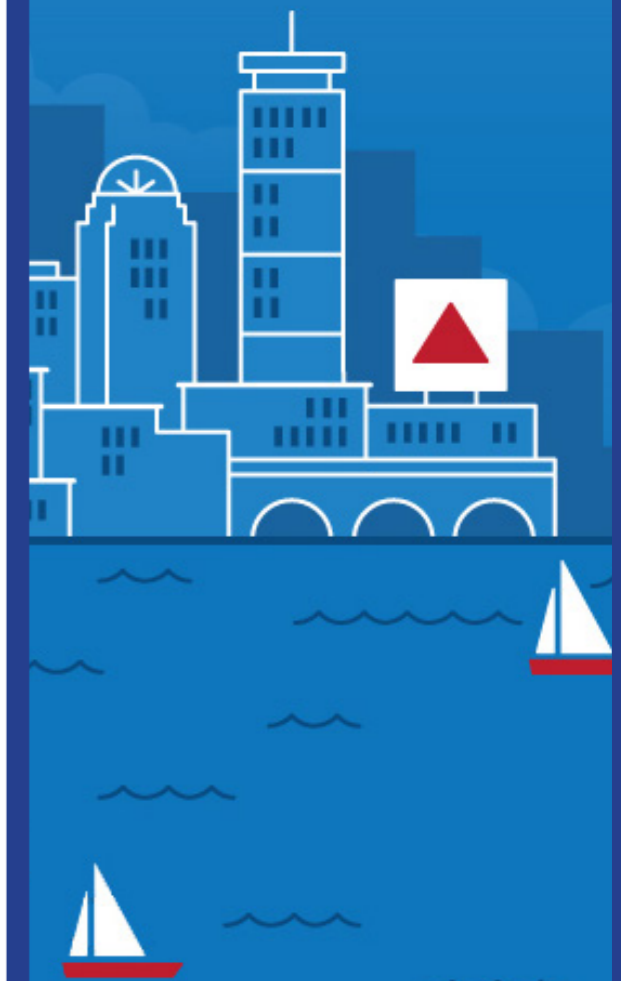
The data will be accessible in its original source.

Easily explore extensive representations and visualizations.

Documentation of our sources will be readily available for you.

You can use our article as a framework for your applicable data.

Boston Under Water



Development–

1 / *Sketches & Concept*

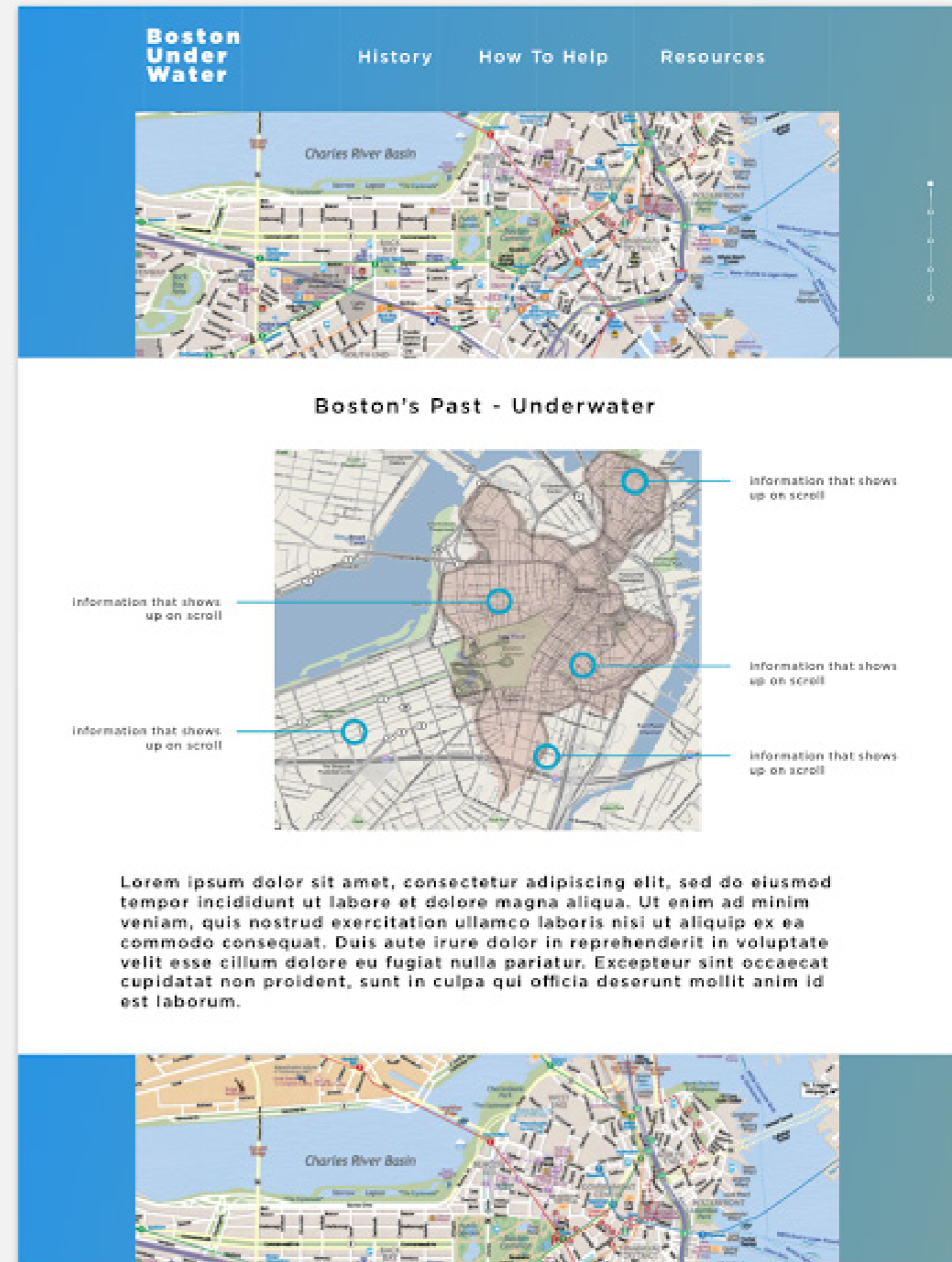
Whiteboard sketches + deciding on a website with compelling visualizations.

2 / *Static Prototype*

Digitizing static prototypes of our sketched out ideas, incorporating principles of user interface design and experience design.

3 / *Interactive Prototype*

Interactive prototype, solidifying data points, writing our narrative.



Development—

4 / *Web Prototype*

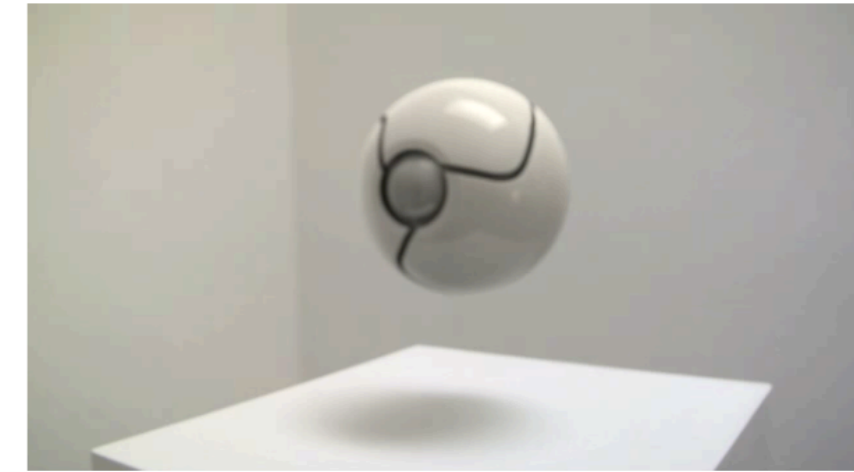
Simple web prototype with a first pass at our journalistic narration, and dynamic relevant map imagery.

5 / *High-Fidelity Prototype*

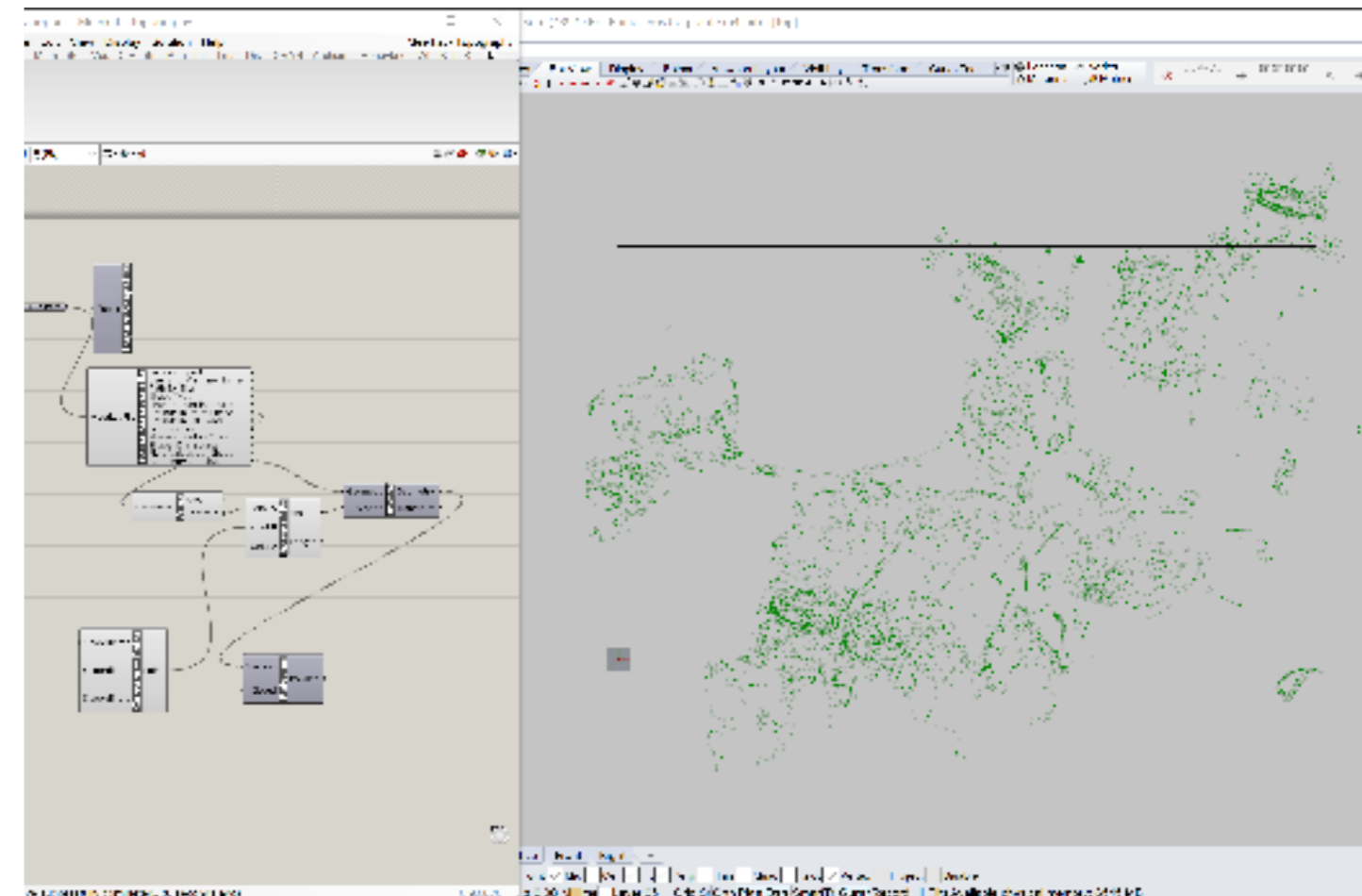
Fully implemented website prototype with narrative, interactive maps, call to action page, and an about/resources page.

Boston Underwater

Land Reclamation



In the early 1600s, approximately 1/6 of modern day Boston was underwater. The area was known to the locals as Shawmut. When William Blackstone, the first European settler in the area, first moved there in the 1620s. Boston



Flexible Technology-

```
// Adding to Storyline
```

```
{
```

```
  top: 100,  
  content: "In the early 1600s..."
```

```
},
```

```
{
```

```
  top: 4500,  
  content: "<h2>Industrialization</h2>"
```


```
}
```

Boston Under Water

History **How To Help**

Land Reclamation

In the early 1600s, approximately 1/6 of modern day Boston was underwater. The area was known to the locals as Shawmut. When William Blackstone, the first European settler in the area, first moved there in the 1620s, Boston was little more than a small peninsula surrounded by water and connected to mainland by a small land bridge named Roxbury Neck. Shawmut Peninsula was about 780 acres and was defined by three large hills called Copps Hill, Fort Hill and the Trimountain.



Flexible Technology–

```
// Adding to Storyline
```

```
{
```

```
  top: 400,
```

```
  bottom: 1400,
```

```
  type: “modal”,
```

```
  button: “Beacon Hill”,
```

```
  modal: {
```

```
    title: “Beacon Hill”,
```

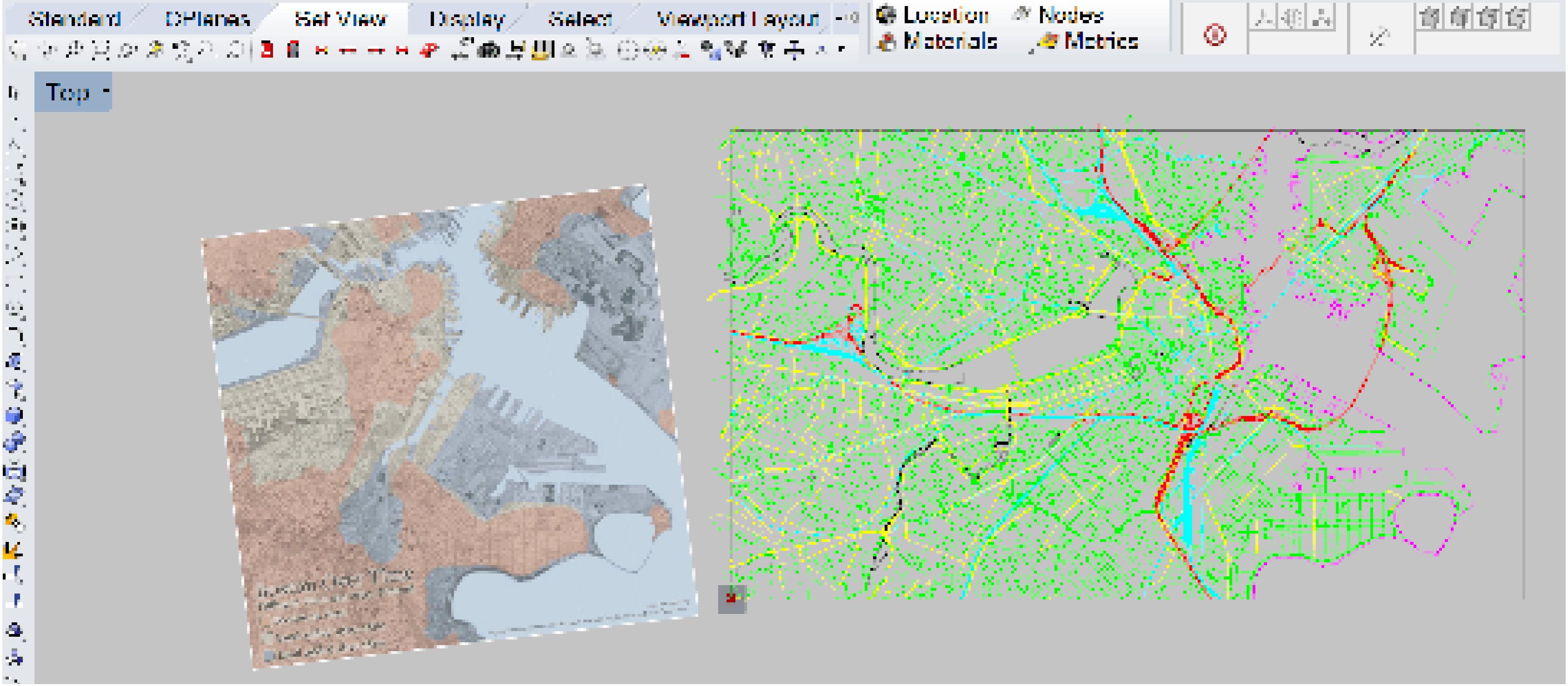
```
    body: “<p>It is a...</p>”
```

```
  }
```

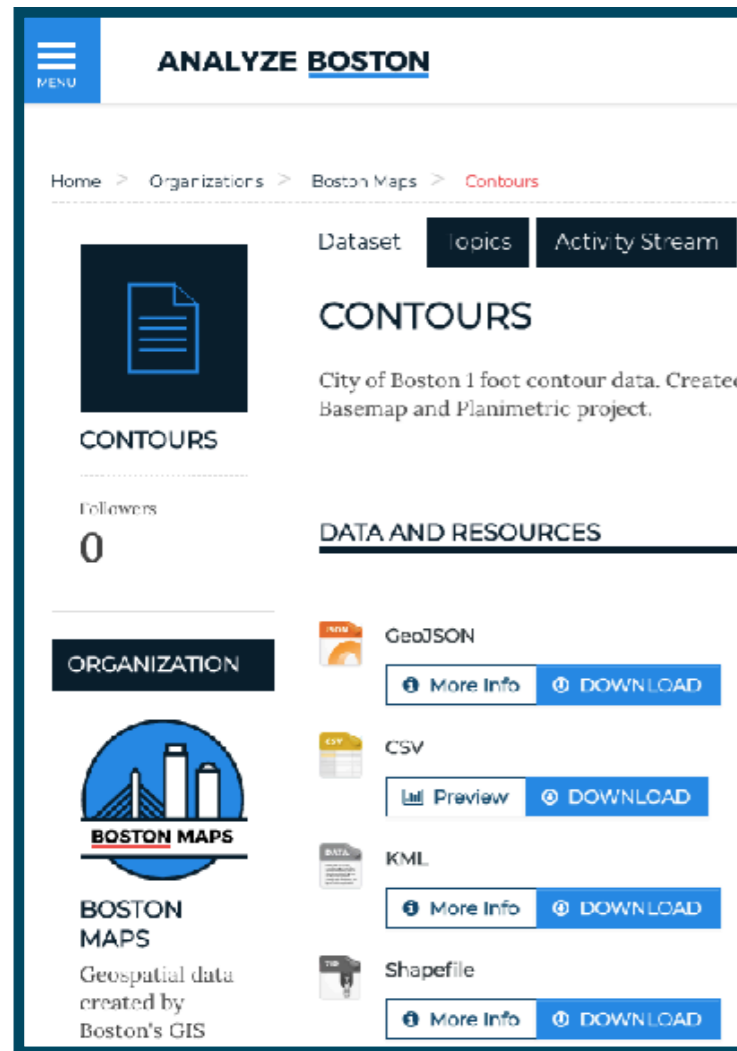
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Qualitative Data-

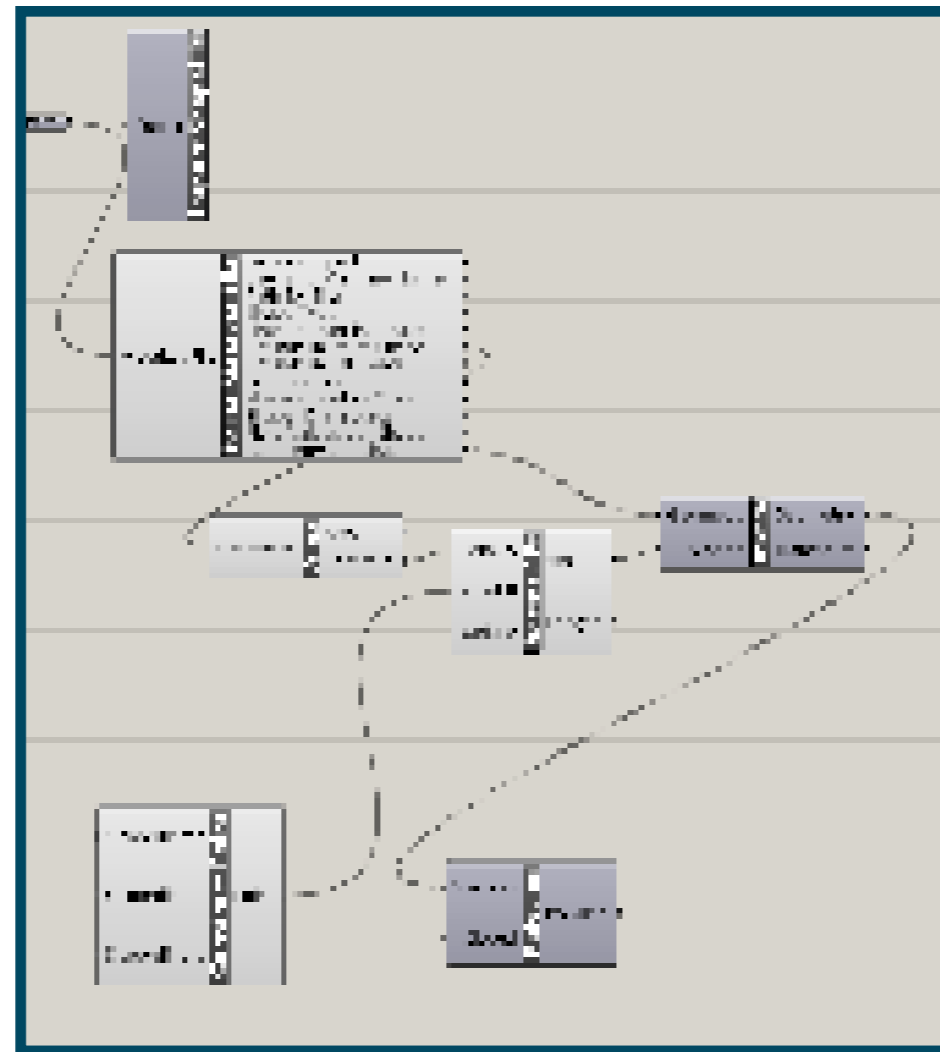


Quantitative Data-



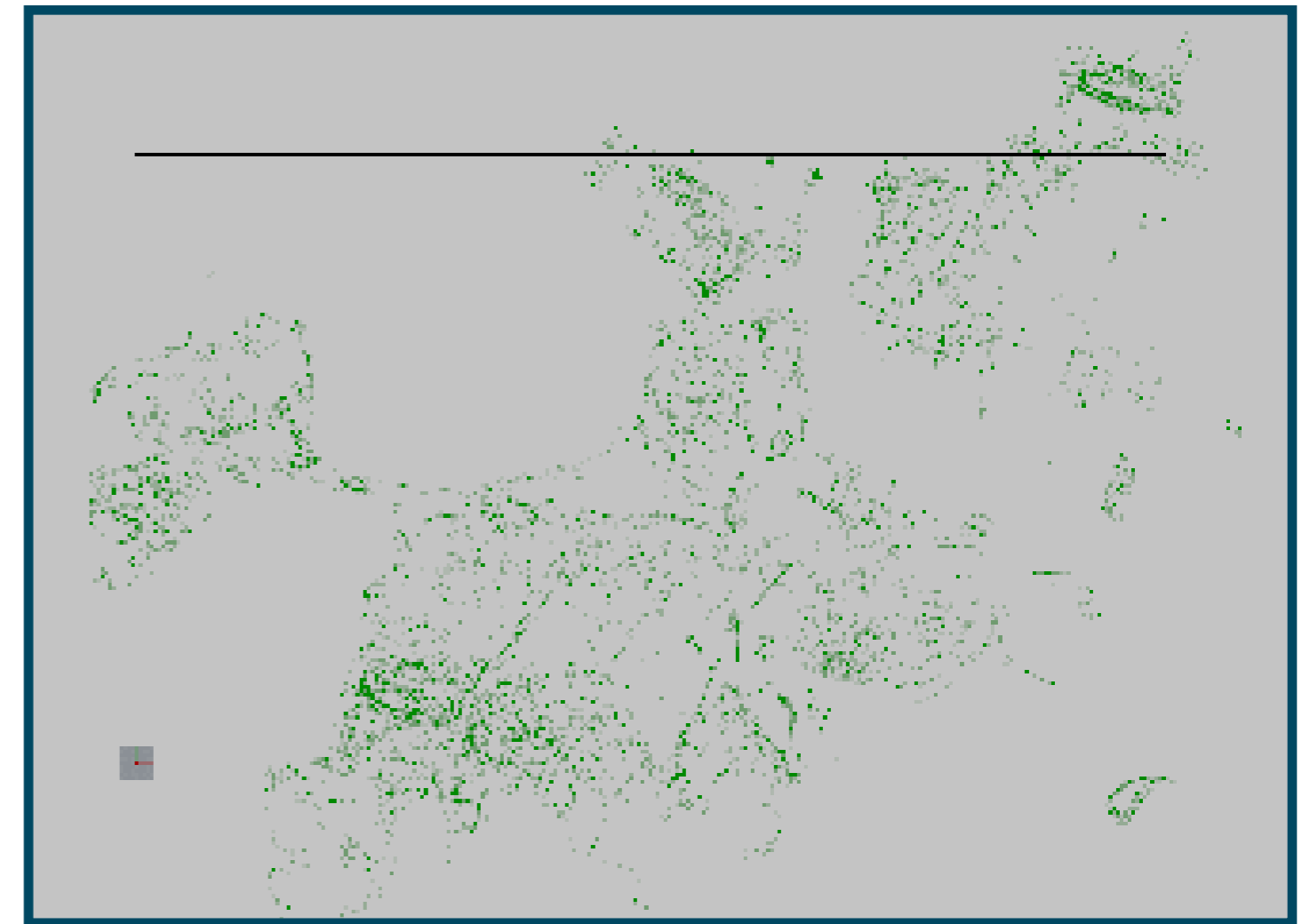
Raw Data (GIS)

data.boston.gov



Visual Programming

Grasshopper

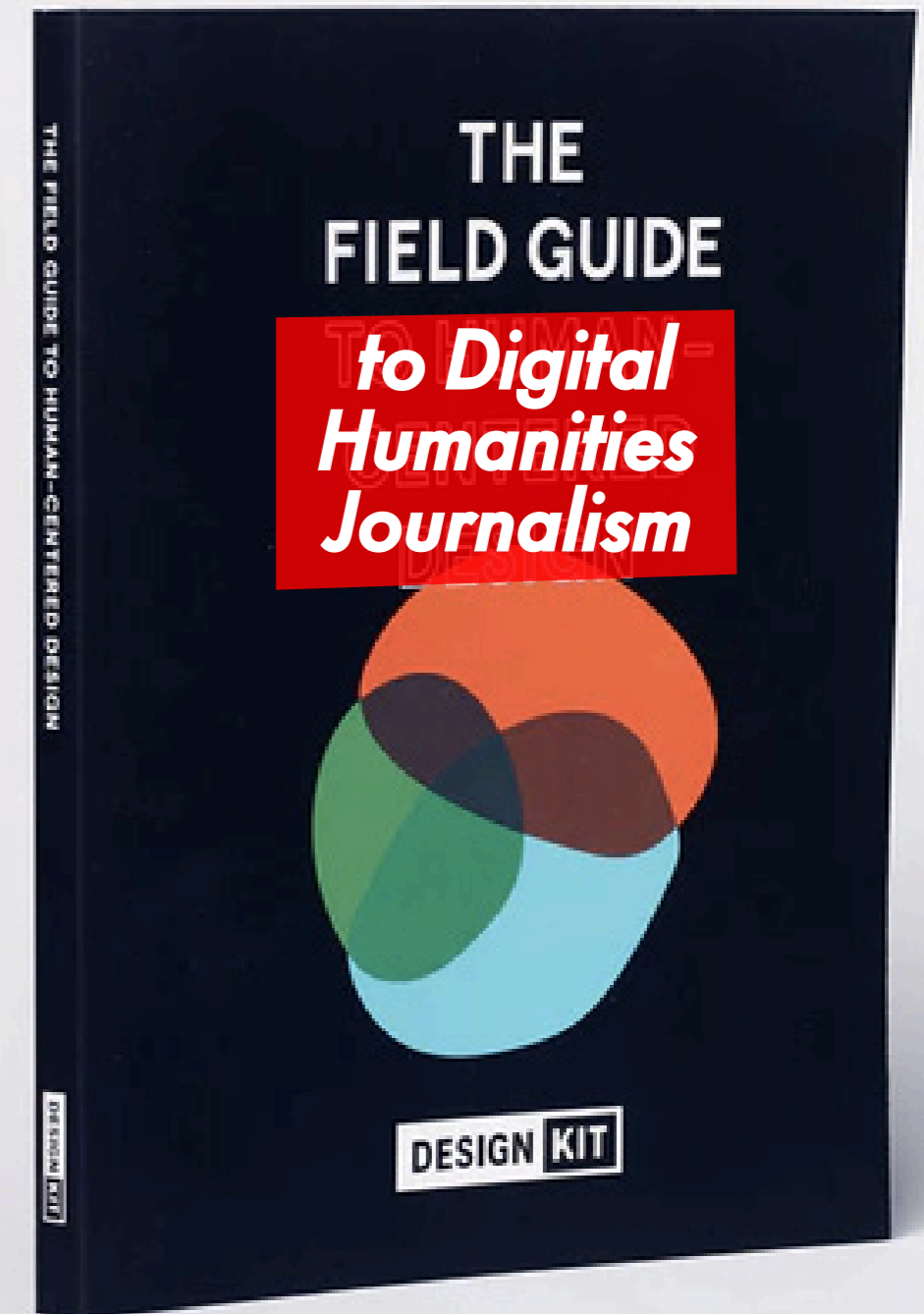


Generated Model of Data

Rhinoceros 3D

The Future—

- 1 / *Improving Data***
data.boston.gov does not have data that is easy and accessible for use.
- 2 / *Improving Design***
Solidifying our branding + iteration over our map designs
- 3 / *Extending the Ethos***
Applying this template to help other cities and topics

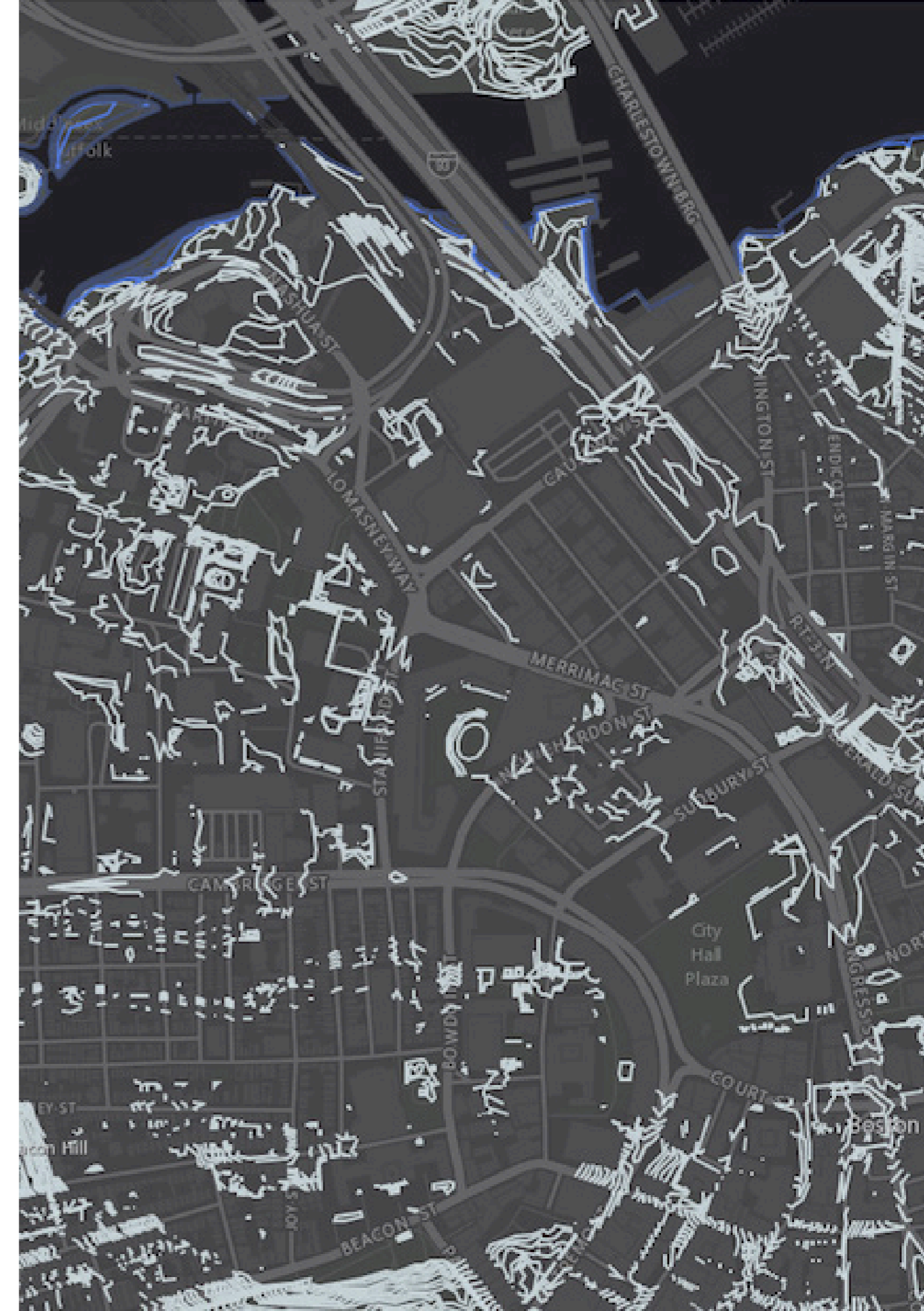



Conclusions—

We're presenting an issue, so we've also put together clear actions our visitors can take to mitigate the issue. We've looked at a multitude of organizations and groups aiming to convey this information, so we owe it to our visitors to give them access to the same information.

We've struggled with a lack of truly accurate data, so we're transparent to our visitors that the data they're consuming daily might not be as accurate as they think.

We've pivoted from focusing solely on compelling imagery to solidifying the holistic nature of our process. Our goal is templating data and information accessibility— in narrative, visual, and resource form.



An aerial photograph of Boston, Massachusetts, showing the city skyline, the Charles River, and Fenway Park. The image is overlaid with a semi-transparent blue filter. The text 'Boston Under Water' is enclosed in a white square box on the left side. The large text 'Thank You!' is centered across the middle of the image. The email address 'cmswater@mit.edu' is located at the bottom left.

**Boston
Under
Water**

cmswater@mit.edu

Thank You!