OHM Design Sprint

12/11/2018

Broad picture of OHM, thinking about biggest impact and usability of the project for editors and the public.

What changes over time, at what scale?

Global Scale: shorelines, ecoregions (Pangaea to present)

Regional Scale: political boundaries and place names, landscape features? Like forests, grasslands, etc.

Local Scale: Roads, buildings, parks, airports, local place names

Street Level Scale: Infrastructure like benches, fire hydrants, business/establishment names
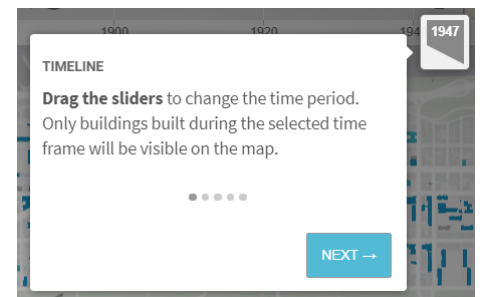
Difficult or impossible to map?

Geologic changes that affect hillshade, contour lines

Project / Tool Review

Morphocode Urban Layers

http://io.morphocode.com/urban-layers/

The application is intuitive. It doesn't need introjs tooltips even though they are helpful. Application could be operated by most map users without the introduction. Besides being very well designed, the other reason it doesn't need the tooltips is because the application is relatively simple. Novel to bring in a time slider on Manhattan building data, but this application is only that. It's limited in its scope and its functionality. Base map is basic gray to allow one data set to shine on top. While OHM will potentially have all of its types of layers change over time. Building footprints are overlaid on top of all other base map layers, including labels in Urban Layers, where OHM will need to figure out the best way to present all data layers and labels changing in concert. It's quite possible that OHM will not be able to have the same visual impact as Urban Layers, as there will not be one focus dataset. Something to consider when addressing visual impact of OHM.

Notes

1. Slider is very well done. Works well, looks nice. Makes sense to take up a large amount of real estate, since the focus of the map is change over time.
    a. Key question: what is right amount of real estate for the slider?
2. The graph within the slider makes sense for this application, though would get confusing within OHM. I recommend tick marks, similar to what we see in Google Earth's historical imagery functionality. Tick marks show where changes occur within the viewport. Works well from a UX perspective.

3. Mapbox GL is a nice choice here. Spinning the map, animated zoom are both great.
4. Gray base map works well in this map, where they can apply all colors to the data. This will not be possible in OHM, but worth recognizing.
5. Important note about building footprint data: it appears as though the buildings are only being shown once their most recent iteration is built. So, a building that appears in 2013 does not appear prior to that year. Even though there most likely was a building or buildings there before. Potentially a building built in 2013 was built in the same spot as two other buildings built in 1906 and 1908. OHM will have to visualize that level of detailed changes through time. I'd argue that a single-date slider is what is therefore feasible within OHM. And not only for visualization, but also for site performance.

American Panorama Overland Trail
https://dsl.richmond.edu/panorama/overlandtrails/
Similar to Morphocode's map, there's a focus on one main dataset (trails, and stops along the trail). There are custom overlay labels for these datasets, which makes sense because the data are overlays on a fairly blank map. Again, OHM will have to work with many different types of layers to show change over time, will probably be more subtle than these applications in visualizing the data changes, but we should have a focus on highlighting appropriate layers at appropriate scales.

Notes
1. Interesting idea to put basic current events near the slider to give historical context
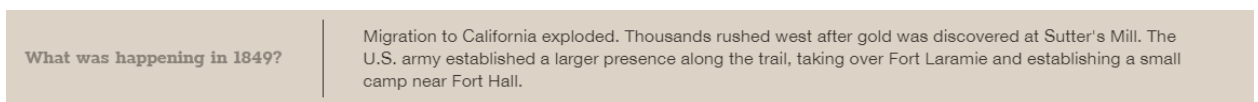
2. Filtering of data, also interesting, though don't know if it's logical to implement from a UX perspective in OHM.

3. Diary entries are clickable on the map. What, if anything, should be clickable in OHM?

Geography of the Post
http://cameronblevins.org/gotp/
Again, this map is a single layer application. And most notably, two things: this is a pretty much a single view map focused on the Western US. Limited zoom / pan, and you do not get much more information as you zoom / pan. And the application is slow. Important to think about performance from a user perspective. People will not tolerate this slowness for very long. This brings me back to the idea of a single-date time slider mentioned above in the Urban Layers section. We must think about performance, and a date-range slider would most likely make the application quite slow (to review with Gregor).

Notes

1. Sticking with performance, I note that as you drag the time slider, the map does not change until you stop dragging. Ideally, as you drag the slider, the map changes too.
    a. YES!
2. Chart height within the slider to show number of post offices in a given year is interesting. Works well here, and similar to the Urban Layers map. Wondering if there's anything to learn from this - maybe if we go with tick marks, dates that have many new features or changes could show as a more saturated gray to suggest more "activity" on those dates.

Morphocode Heritage of Sofia
http://io.morphocode.com/sofia/en
Notes from Jeff (with notes from Tim added)
- Persistent panel: Yes, nice to have, but I would suggest that a collapsible panel is important for users that want more map real estate. When not clicking on features or digging deeper into a particular feature, would be nice to have that panel disappear.
        - Interesting to consider the list view as a persistent panel. In this map, the list always shows all buildings. This is a set number of 836. Is that something that would even be possible in OHM? Maybe at street levels, but even then I can think of urban locations that would have an almost never ending list, and how to sort?
- Selectability cues - Buildings are highlighted when selected. Yes, good feature, though brings up a question for me about what would be selectable in OHM. Presumably, everything would be selectable, not just the individual building features, but also the city boundary, county boundary, country boundary below that building. Plus, countless other layers. How to determine what is being clicked and which feature's data is being displayed in the side panel. In this application, since it's just individual building footprints, there's an easy answer and approach to selection.
- Persistent selection - Yes, very nice and important when presenting lots of information (photos, metadata, etc). Change on hover, for instance, would be an awful UX here.
- Media: Very nice, not sure h\ow feasible in OHM. Not available in OSM right now?
- Metadata: Seems very feasible in OHM, similar to OSM.
- Lay-readable metadata: Seems very feasible in OHM, similar to OSM.

OldTO
https://oldto.sidewalklabs.com/
Bringing the concept of historical photos to a historical map. Great idea, seems workable within OHM as long as the infrastructure is there to handle this type of media. To consider, this includes videos, too? Also, how many photos / videos could be attached to a given feature? OldTO may not have a limit. Some locations have over 70 associated photos. Date-range time slider shows if a location has any photos in that date range. Also, photos are filtered by this date range. Photos would need to be tagged by date. In OHM, if we were to have a single-date time slider, finding particular photos would be a chore. Could possibly show two most contemporary photos to your chosen date, one on each side, in the future and in the past.

My question about sorting the list above in the Heritage of Sofia map is answered here by showing "popular" photos in the sidebar. These photos do not change based on the map in view,

and does not change based on time slider. Photos displayed for a particular location pop up in an overlay, and are sorted chronologically.
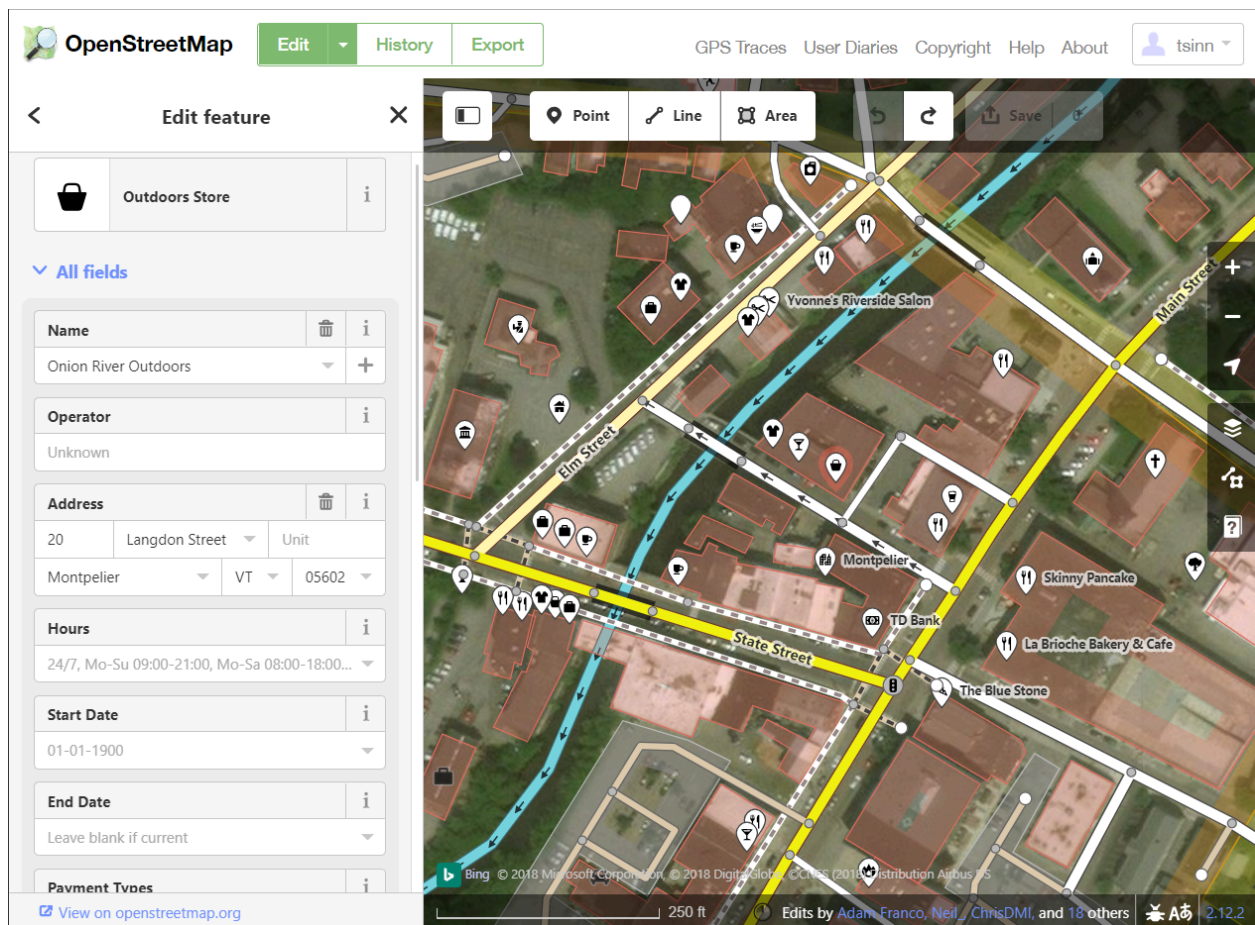
12/18/2018

OSM iD Editor

OpenHistoricalMap will port over a version of OpenStreetMap's iD Editor for use within OHM. Generally, the editor works very well and is easy to use. The editor does not have date tags for the data, so it is not yet readily usable for OHM. Biggest question to answer here is what would be our way forward for integrating iD into OHM. Are there additional features that we would like available within the editor? Would it be better to fork and build within OHM or to use OSM in its current form and request feature updates? I would argue that forking would ultimately leave us behind as OSM's iD editor continues forward with on its development path. Would we still be able to take advantage of the great work being put into iD?

For example: https://github.com/openstreetmap/iD/blob/master/CHANGELOG.md#2120

Unless there is an explicit split in the codebase that needs to happen, I would recommend advocating for a "simple" change such as below to capture date ranges of features.
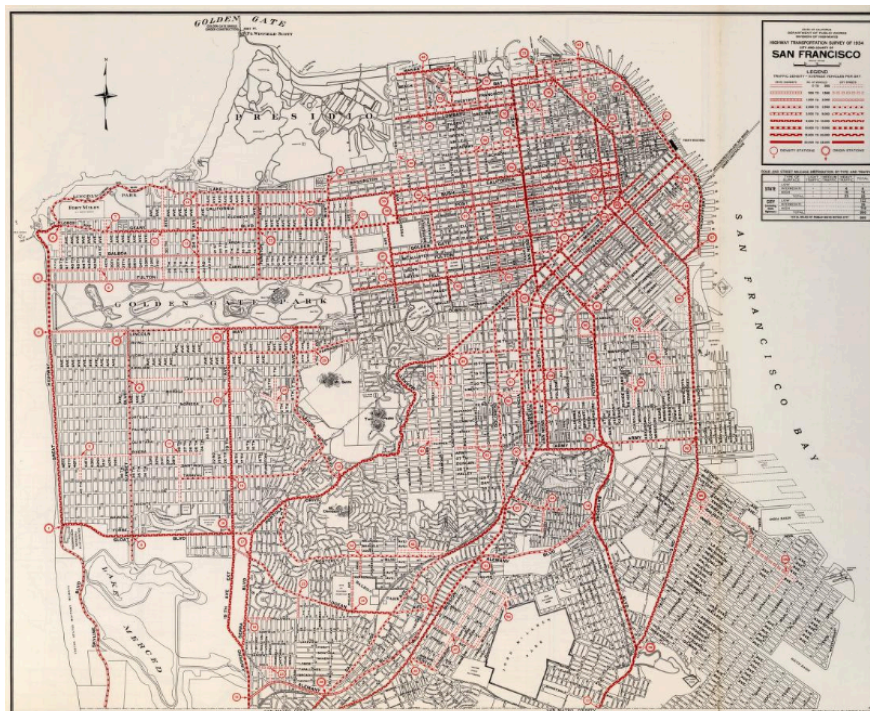
Historical Maps

We will be building a new base map style for OHM that evokes a historical view of the world while simultaneously providing users and viewers with all the necessary information they need to be able to view features and changes in features over time. Here is a list of historical map styles to review for inspiration and critique.

Rand McNally (1939)
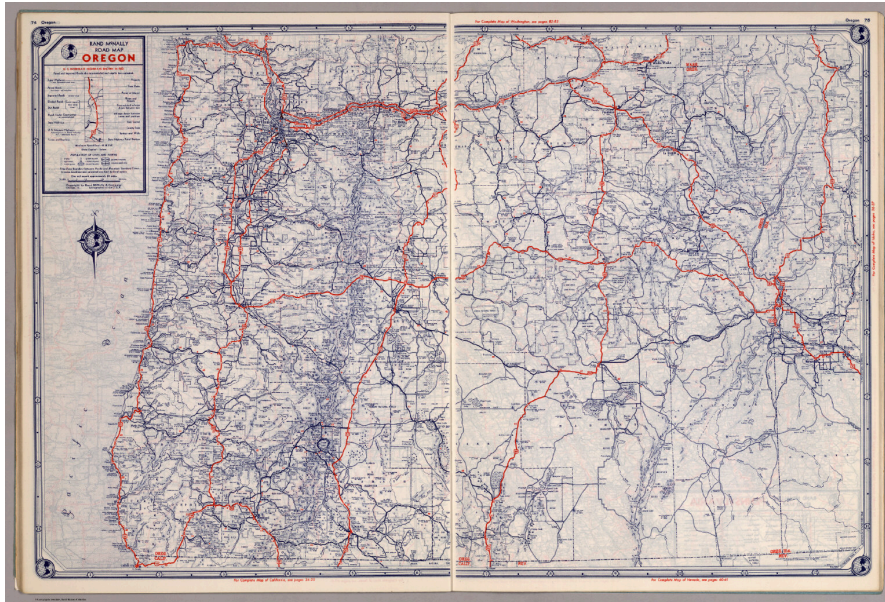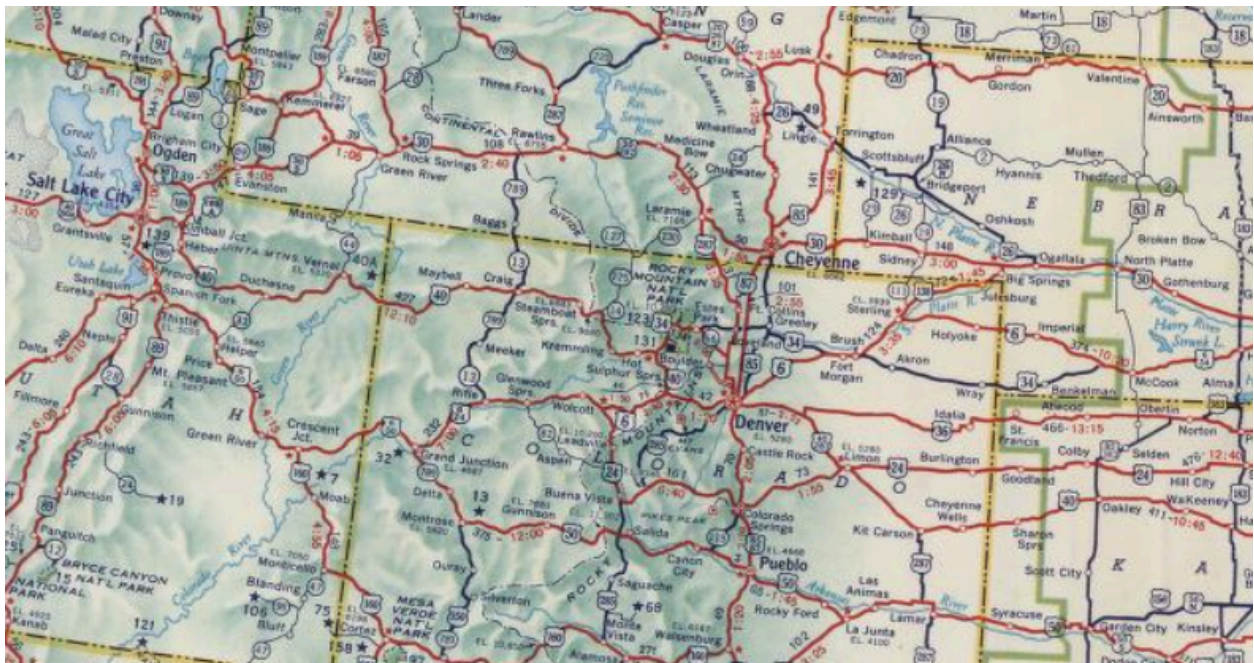

California Division of Highways (1935)
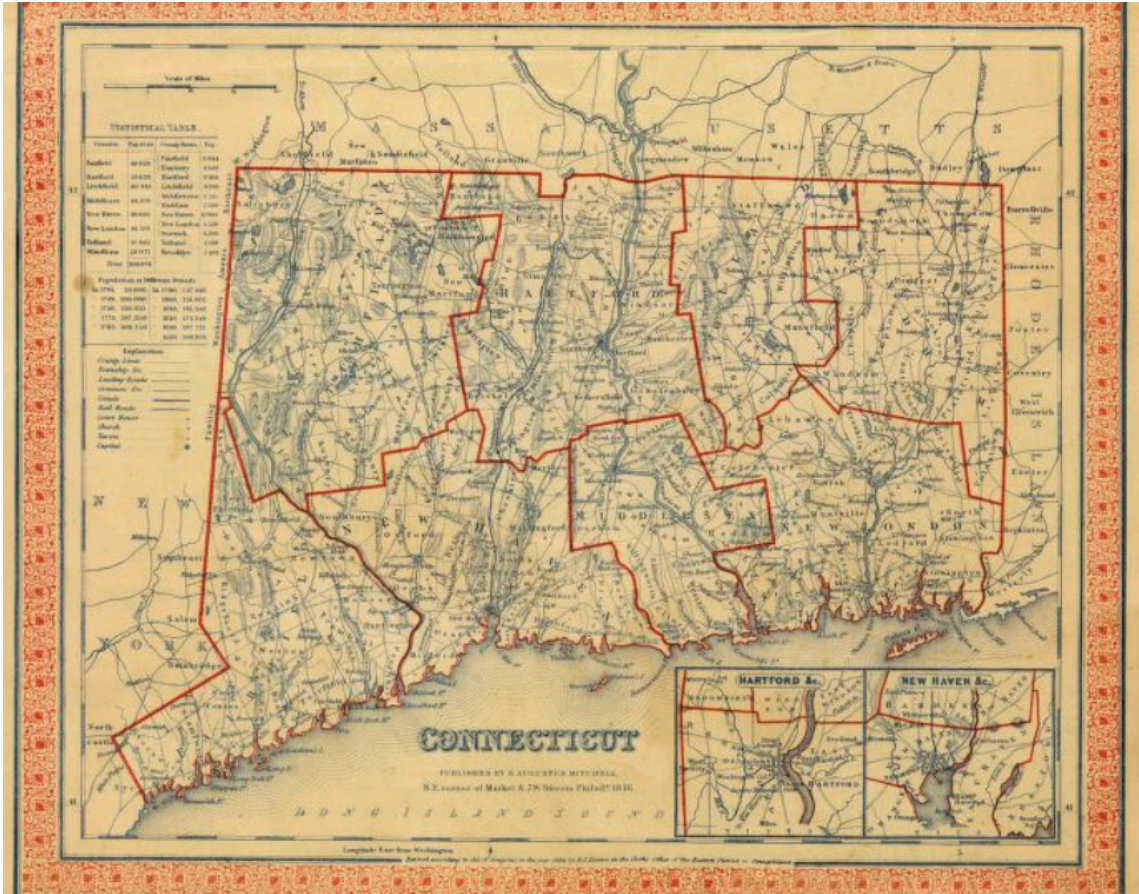
Standard Oil Company (1935)

Mapbox equivalent (https://www.mapbox.com/gallery/#map-14)

Shell Oil Company (1956)

Sanborn Insurance Map (1905)
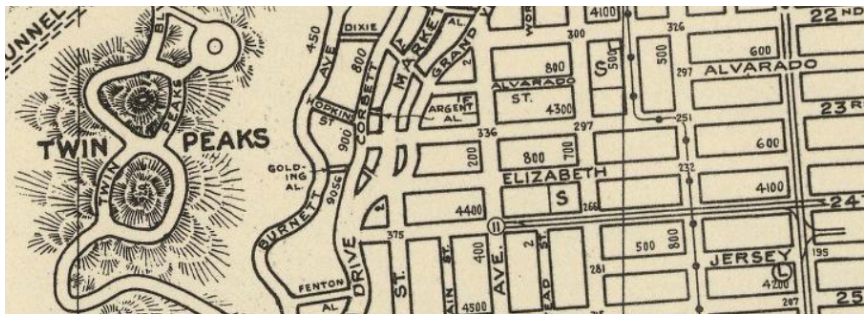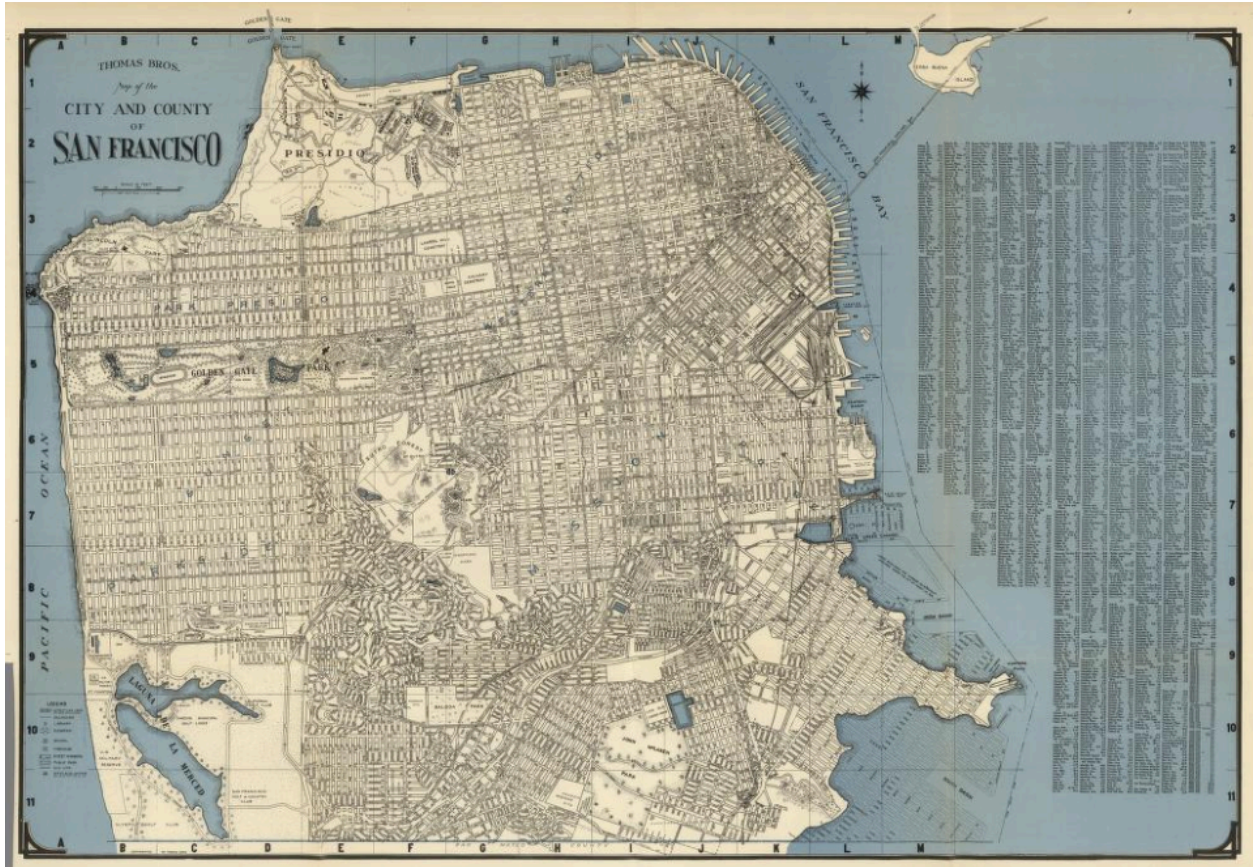
Erwin Raisz (1950)

Erwin Raisz (1964)

SA Mitchell (1946)

M. Pichon (1784)

Thomas Brothers (1938)

Joseph Christopher Enouy (1802)

TW Jones (1802)

GW & CB Colton & Co (1892)

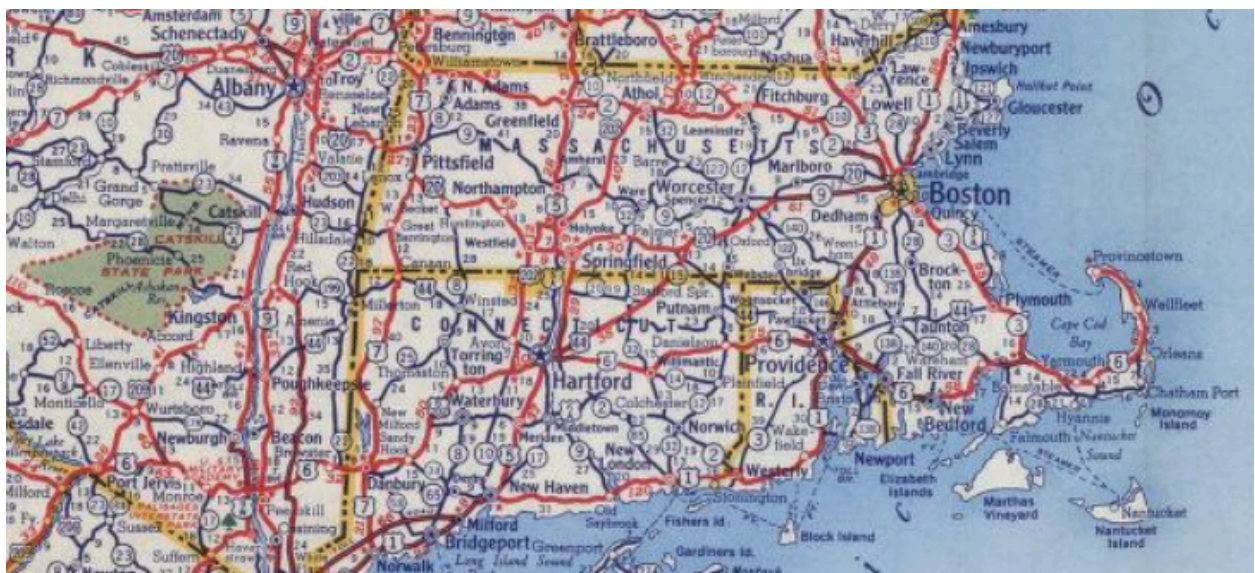
CS Mendenhall (1909)

Ormando Willis Gray (1878)

RD Servoss (1895)
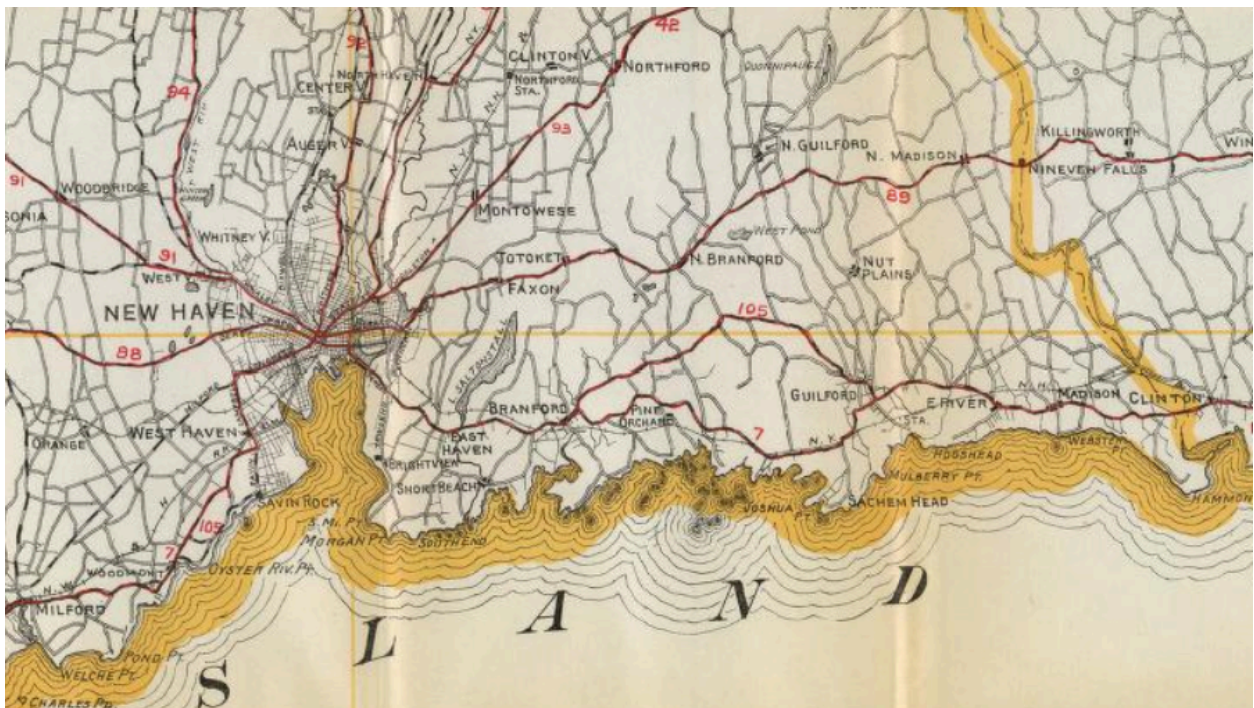
National Map Company (1927)
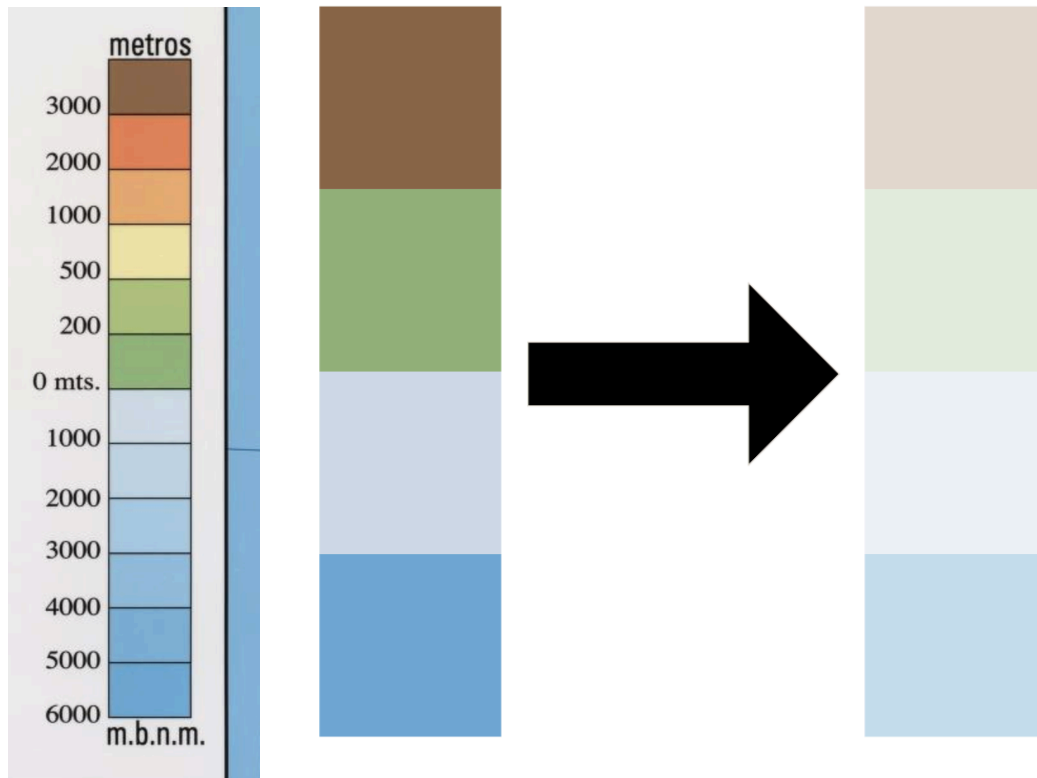

Shell Oil Company (1951)

Alexander Gross (1950)

American Automobile Association (1930)

Elevation/Landcover + Bathymetry inspiration

Mapbox Studio Designs:

Influenced by Alexander Gross (1950) highway map. Primarily focused on modern roadways. Major roads and highways have a classic rust red color. Interesting to think about cartography before major roads - how does this change the map? Added land use to both versions of Street Maps to bring in natural elements that change over time, and can be a part of the mapped landscape before the influence of humans.

https://api.mapbox.com/styles/v1/greeninfo/cjq6uaoi07c0v2rqja0602i9o.html?fresh=true&title=true&access_token=pk.eyJ1IjoiZ3JlZW5pbmZvIiwiYSI6Ik1HUWRtdEkifQ.aWQKcu787DGrDq7LN5r2iA#2/48.04/-32.36
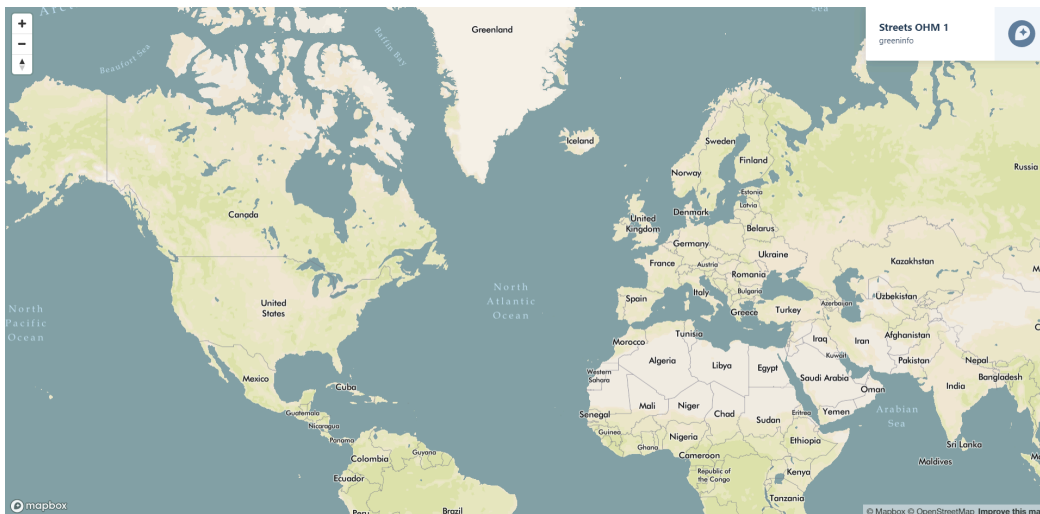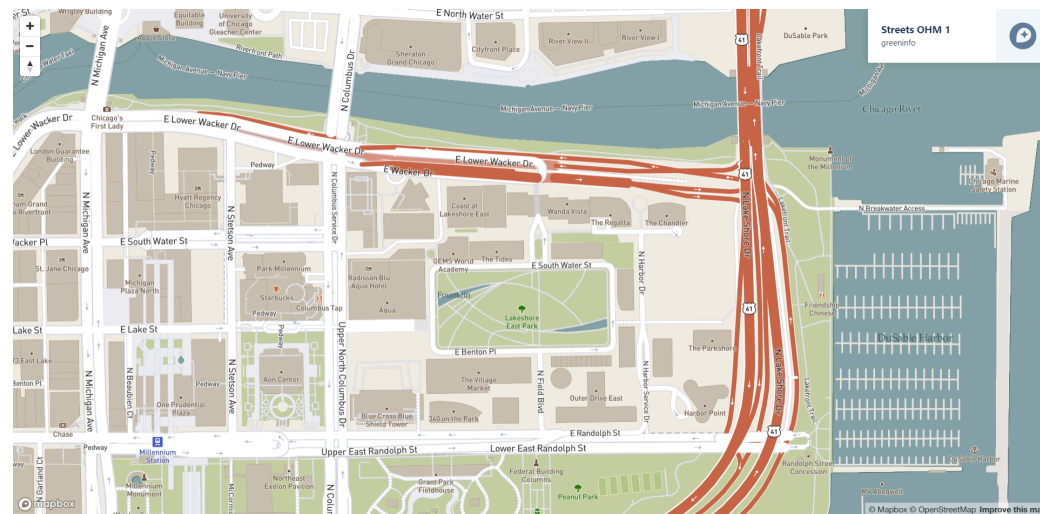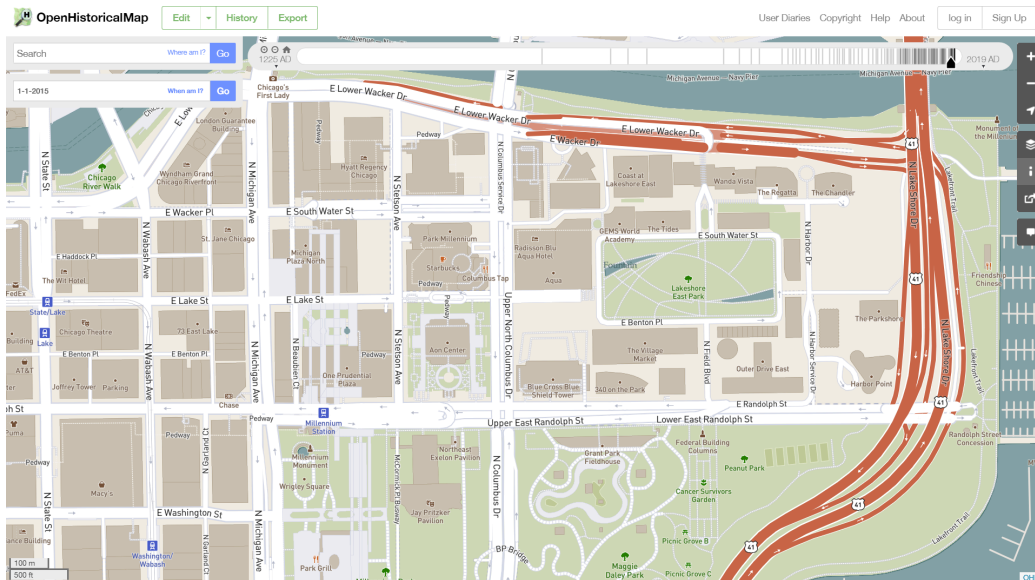
Influenced by Thomas Brothers (1938)

https://api.mapbox.com/styles/v1/greeninfo/cjran3xhs1khe2so0rv9uptgy.html?fresh=true&title=true&access_token=pk.eyJ1IjoiZ3JlZW5pbmZvIiwiYSI6Ik1HUWRtdEkifQ.aWQKcu787DGrDq7LN5r2iA#2/48.04/-32.36
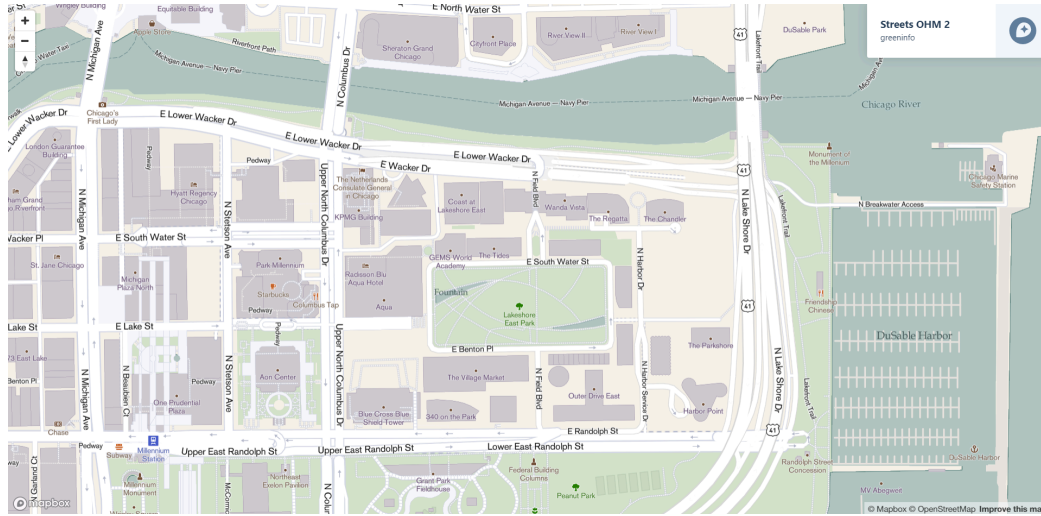
UI Design:

Focused primarily on the historical timeline. Trying to make it intuitive, visually compelling, but not overwhelming. Tick lines along the timeline show changes in history (when was a building built, when was a road constructed, etc). Each tick mark has a 20% opacity or so, many changes that overlay on top of each other increase opacity for a darker appearance along the timeline. A larger black arrow shows the current date snapshot being shown on the map. In this case, it's January 1, 2015. Manually slide the black arrow to select a different date or use the "When am I" search bar on the left side of the page. At either end of the timeline are the "start date" and "end date" to then easily select a particular date within those two dates. In the upper left of the timeline, a user can quickly zoom in and out along the timeline, or click the Home button to jump back out to the user-designated start and end dates. Jeff had asked for a more prominent way to display and change the current date, and this is where I came up with the idea of the "Where am I?" search bar. I'm not usually a proponent of multiple search bars. *Could* work here, but it's not yet set in stone.

Future Considerations:

"Roads" only exist so far back in history. Something from 100 BC. What should be the focus of the map? Modern basemap cartography

- Town names
- Can OHM objects have parent category types?
  - Ex: fortifications - fall under "human structures" that get styled uniformly?
  - SO we dont have to write GL-JS for each and every feature type
- **Borders**

○ **I think this is important. Many historians have compiled historical country boundaries. If we focus on making them polygons we can style them. I think this will make it a useful resource for many folks!**

- Buildings
- Forests??
- Rivers
- Harbors

Cartographic Focuses by era:

0 AD: Ports and shipping routes
1700: Infill
1800 Ports
1840 onwards: Railroads
1900 onwards: +Roads
1940 onwards: +Airports

Historical fluvial geomorphology (ex: Mississippi river history)

Data resolution??
- What if someone wants to use a statewide map to trace old roads? How to use as basemap? How to trace outside of z12?

Custom icons? (at some point, yes, though not for current design exercise, for time's sake - TS)

What font?