

Creating a transit map in Tilemill for a city with transit, but no GTFS [and otherwise bad maps]

Jessica @jllord Lord

CODE *for*
AMERICA

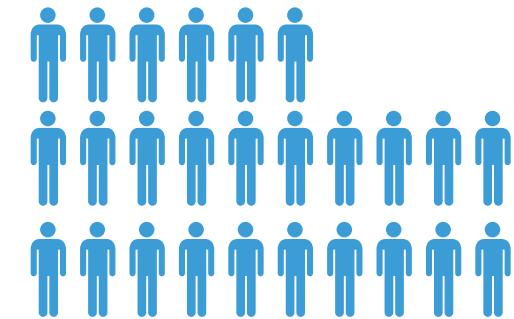
2012

Code for America Fellow

8 cities



26 fellows





Peace Corps *for* Geeks

Code for America **sparks civic innovation** by bringing technology and design to cities so that government is more open, efficient and responsive.

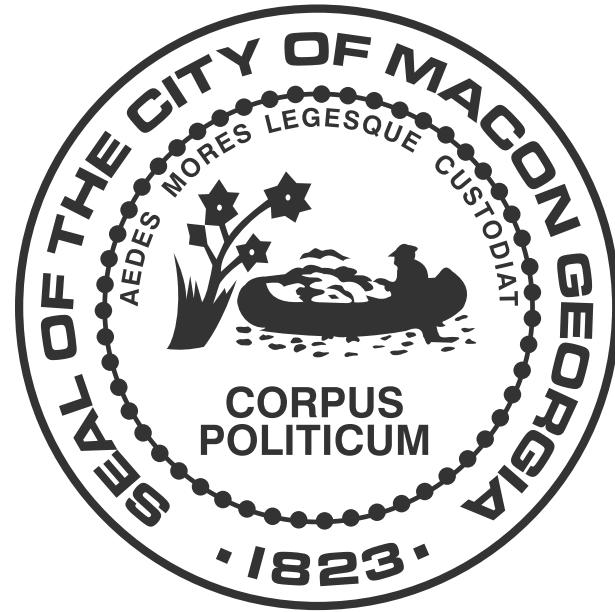


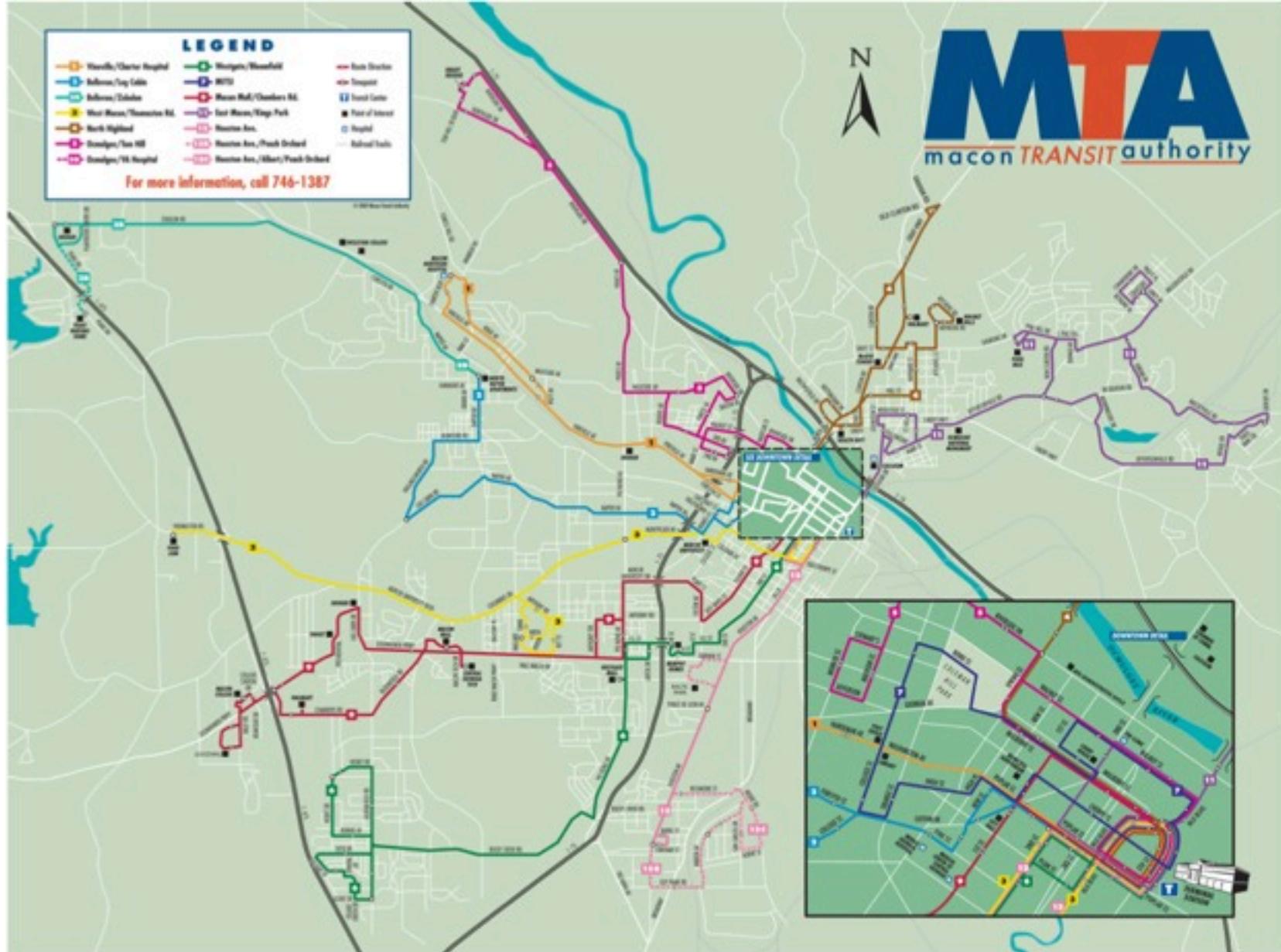
like Denny's, we're

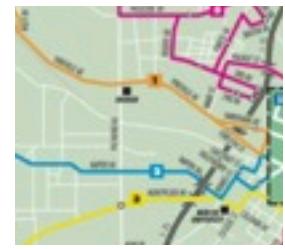
ALWAYS OPEN

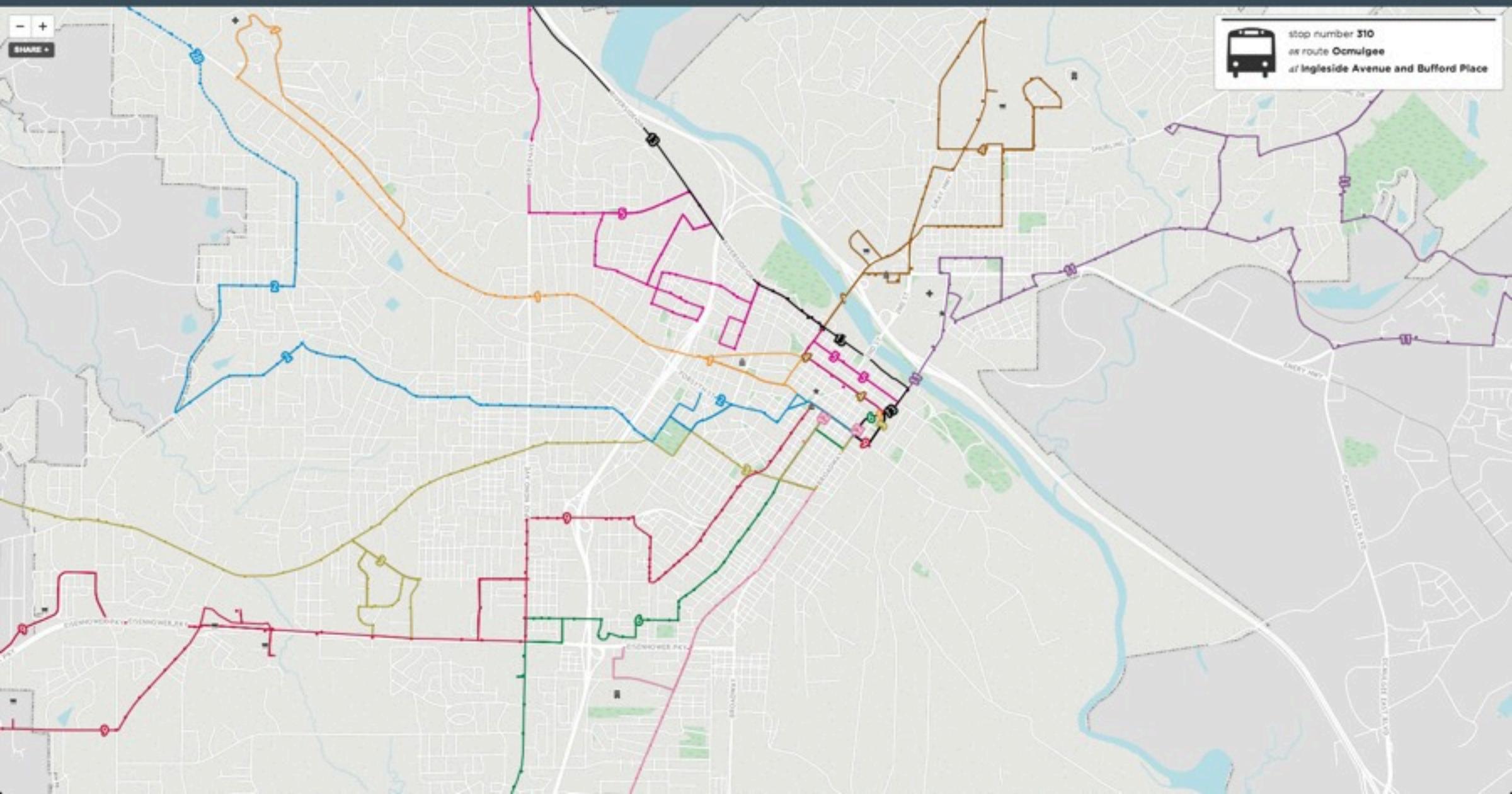
github.com/codeforamerica

(and we're in America and sometimes there are pancakes)









Everything I learned making the map.

MSS

ZOOM

DATA LAYERS

STYLING

TEASER

PRINT

MSS

It's CSS-y

Carto

Multiple sheets if your styles are lengthy.

Organize similar to CSS

You can use LESS

```
/* ---- BUS COLORS ---- */
```

```
@rt1color: #E99A3D;
@rt2color: #048FC8;
@rt3color: #b0a545;
@rt4color: #985C16;
@rt5color: #D40E89;
```

```
...
```

MTA Transit Map

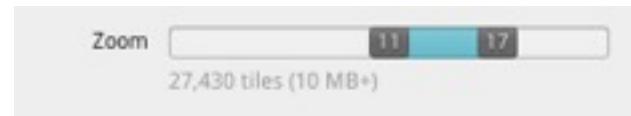
```
style.mss X +
```

```
77 ::shadow3 {
78   line-opacity: 0.12;
79   line-width: 2;
80 }
81 ::polygon {
82   polygon-pattern-file: url(greybg.png);
83 }
84   line-color:#333;
85   line-width: .5;
86   polygon-opacity:1;
87   polygon-fill:#E6E0EB;
88 }
89 /* -----STREETS----- */
90 #bibusSts[TYPE="primary"][zoom = 13] {
91   ::outline {
92     line-width: 2.5;
93     line-color: #acacac;
94   }
95   line-width: 2;
96   line-color: #fff;
97 }
98 #bibusSts[TYPE="trunk"][zoom = 13],
99 #bibusSts[TYPE="motorway_link"][zoom = 13],
100 #bibusSts[TYPE="motorway"][zoom = 13] {
101   ::outline {
102     line-width: 3;
103     line-color: #acacac;
104   }
105   line-width: 2;
106   line-color: #fff;
107 }
108 #bibusSts[TYPE="primary"][zoom >= 14] {
109   ::outline {
110     line-width: 4.5;
111     line-color: #acacac;
112   }
113   line-width: 4;
114   line-color: #fff;
115 }
116 #bibusSts[TYPE="residential"][zoom >= 14] {
117   ::outline {
118     line-width: 3;
119     line-color: #acacac;
120   }
121   line-width: 2.5;
122   line-color: #fff;
123 }
124 #bibusSts[TYPE="trunk"][zoom >= 14],
125 #bibusSts[TYPE="motorway_link"][zoom >= 14],
126 #bibusSts[TYPE="motorway"][zoom >= 14] {
127   ::outline {
```

ZOOM

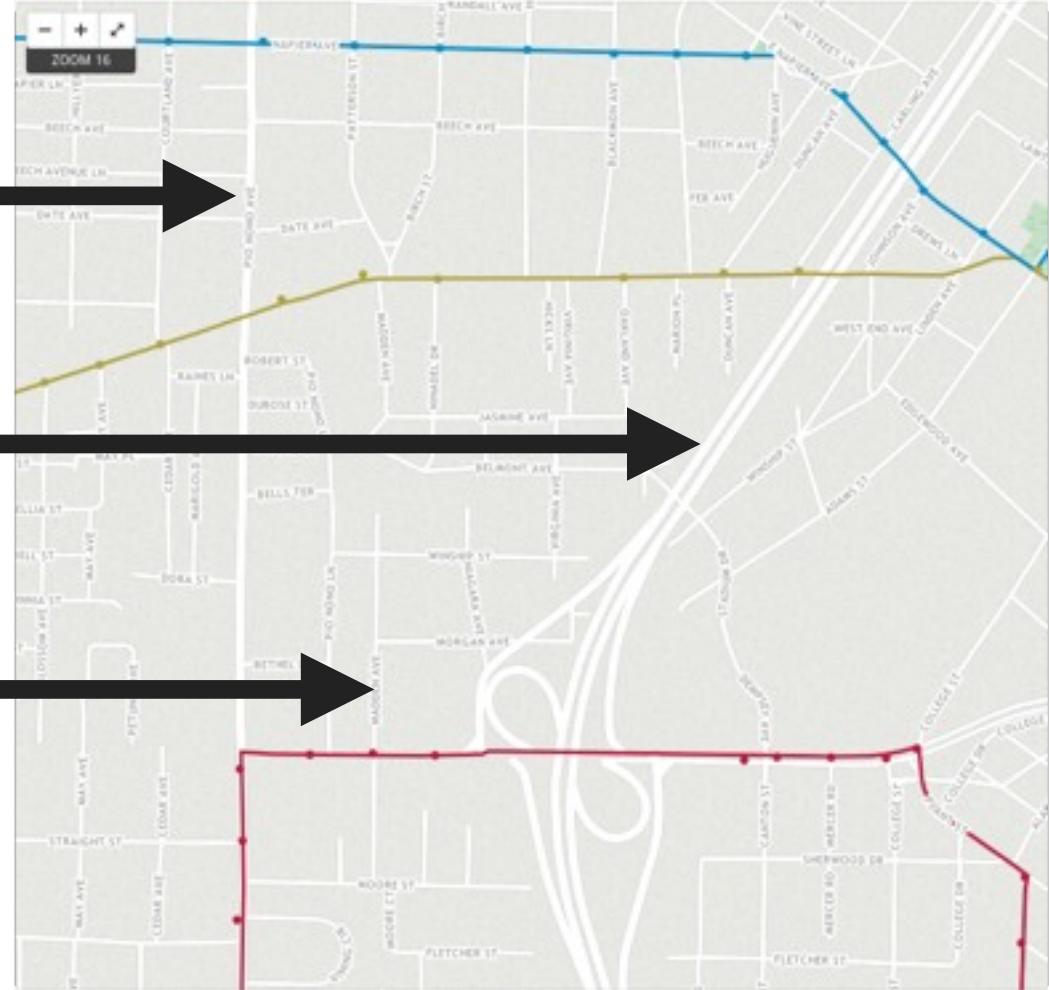
All the things.

Pick smallest zoom range necessary.



Street types

Primary



Highway



Residential



Use zoom to specify the first level you want data to appear.

```
/* don't show streets until zoom 13 */
#bibbSts[TYPE="primary"][zoom = 13] {
  ::outline {
    line-width: 2.5;
    line-color: #acacac;
  }
  line-width: 2;
  line-color: #fff;
}
```

MTA Transit Map

style.css X +

```
77  ::shadow3 {
78    line-opacity: 0.12;
79    line-width: 2;
80  }
81  ::polygon {
82    polygon-pattern-file: url(greybg.png);
83  }
84    line-color:#333;
85    line-width: .5;
86    polygon-opacity:1;
87    polygon-fill:#E6E0EB;
88  }
89  /* -----STREETS----- */
90
91  #bibbSts[TYPE="primary"][zoom = 13] {
92    ::outline {
93      line-width: 2.5;
94      line-color: #acacac;
95    }
96    line-width: 2;
97    line-color: #fff;
98  }
99  #bibbSts[TYPE="trunk"][zoom = 13],
100 #bibbSts[TYPE="motorway_link"][zoom = 13],
101 #bibbSts[TYPE="motorway"][zoom = 13] {
102    ::outline {
103      line-width: 3;
104      line-color: #acacac;
105    }
106    line-width: 2;
107    line-color: #fff;
108  }
109  #bibbSts[TYPE="primary"][zoom >= 14] {
110    ::outline {
111      line-width: 4.5;
112      line-color: #acacac;
113    }
114    line-width: 4;
115    line-color: #fff;
116  }
117  #bibbSts[TYPE="residential"][zoom >= 14] {
118    ::outline {
119      line-width: 3;
120      line-color: #acacac;
121    }
122    line-width: 2.5;
123    line-color: #fff;
124  }
125  #bibbSts[TYPE="trunk"][zoom >= 14],
126 #bibbSts[TYPE="motorway_link"][zoom >= 14],
127 #bibbSts[TYPE="motorway"][zoom >= 14] {
128    ::outline {
```



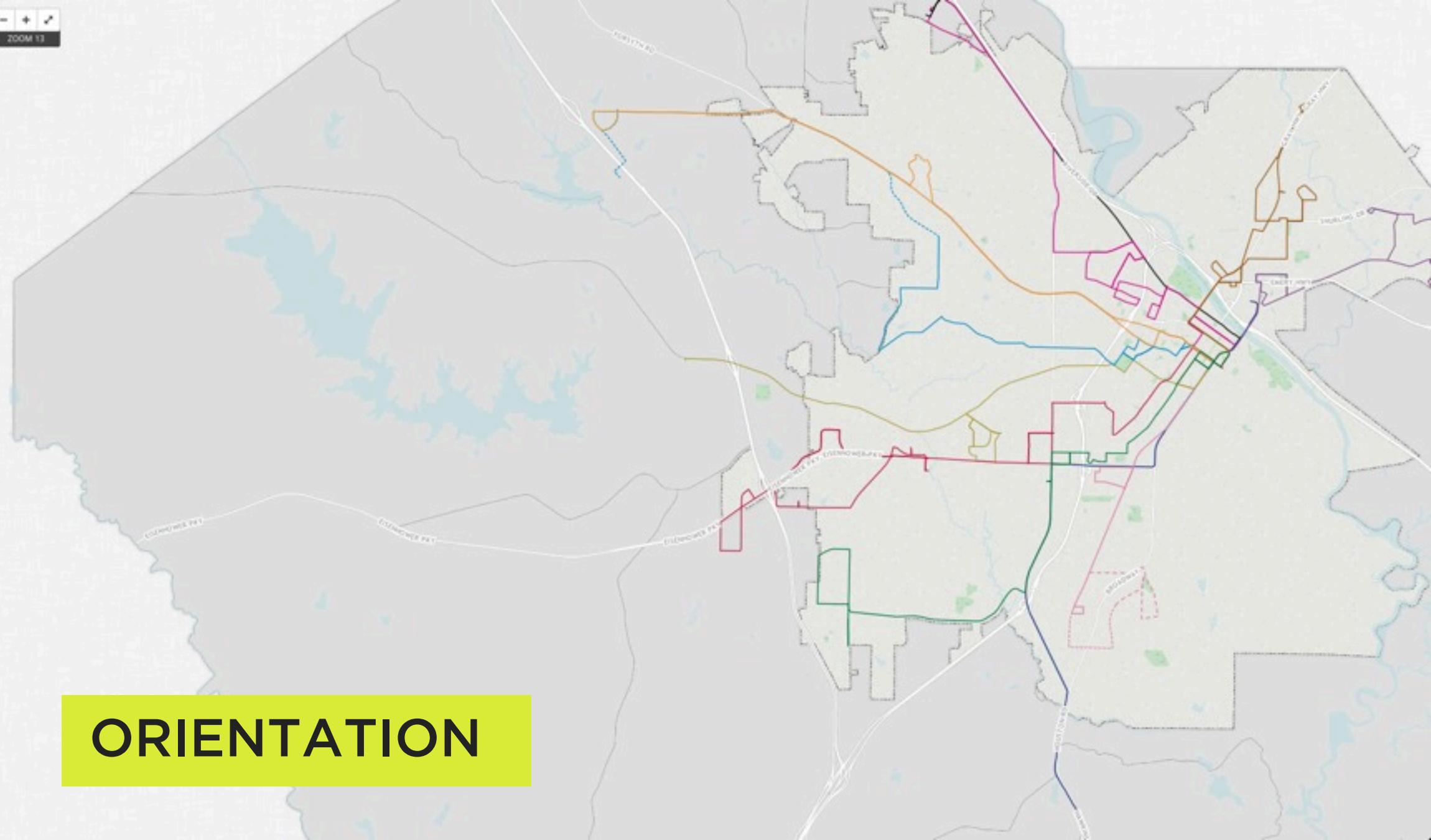
**What is the purpose of
each level for the user?**



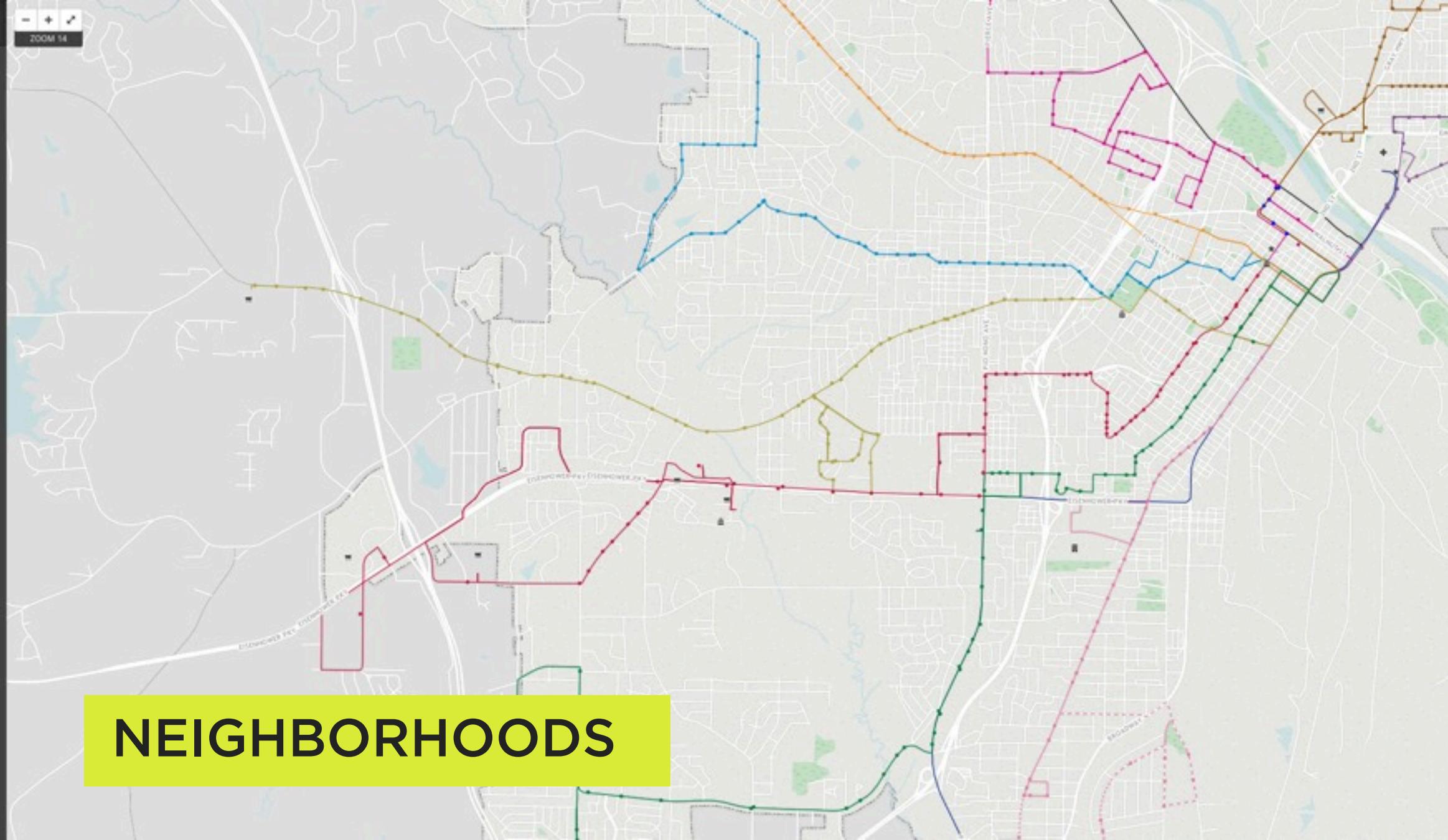
EXTENT OF SYSTEM



REGIONS



ORIENTATION



NEIGHBORHOODS

- + ↻ ZOOM IN

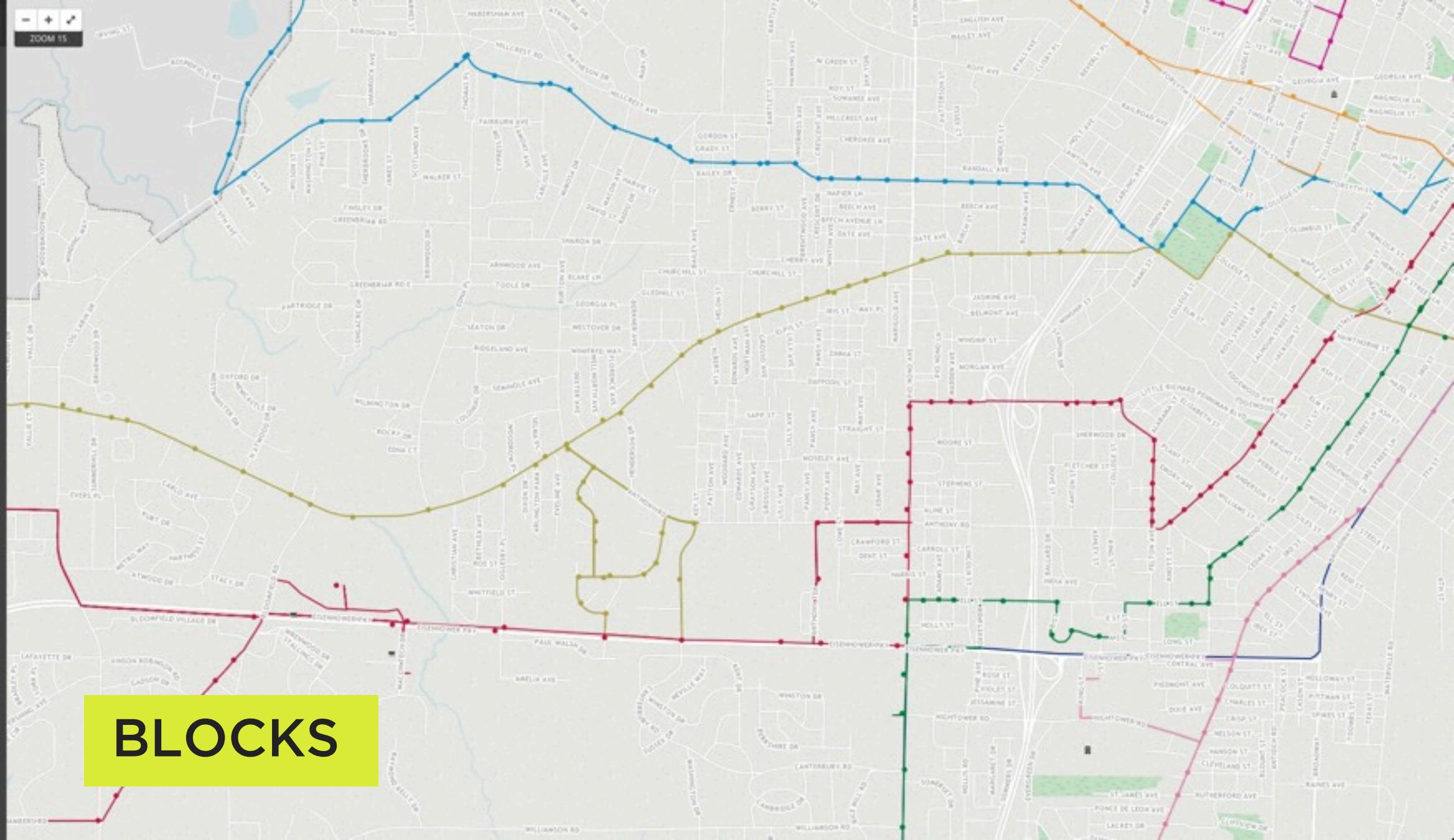
Editor

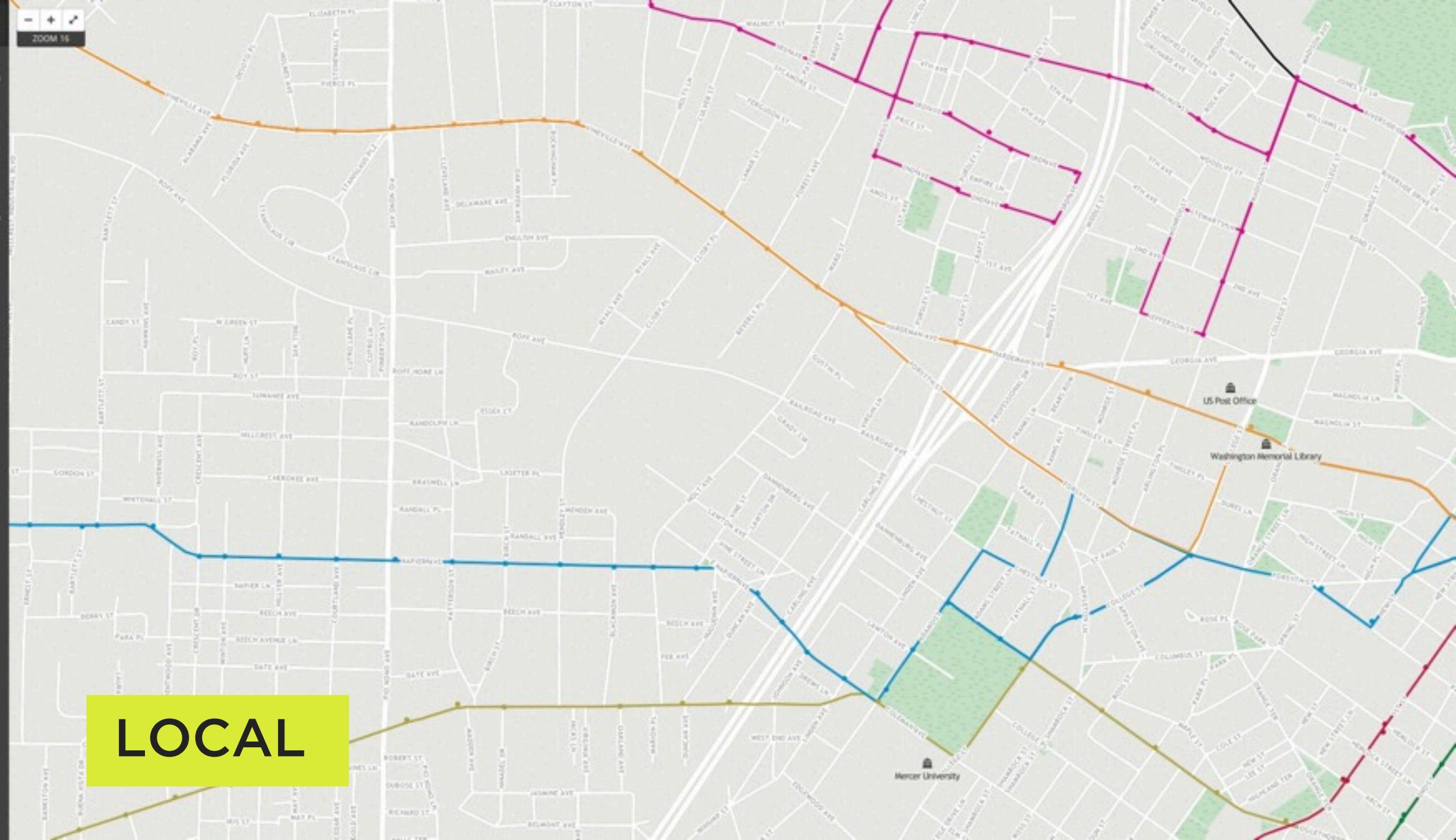
Projects

Manual

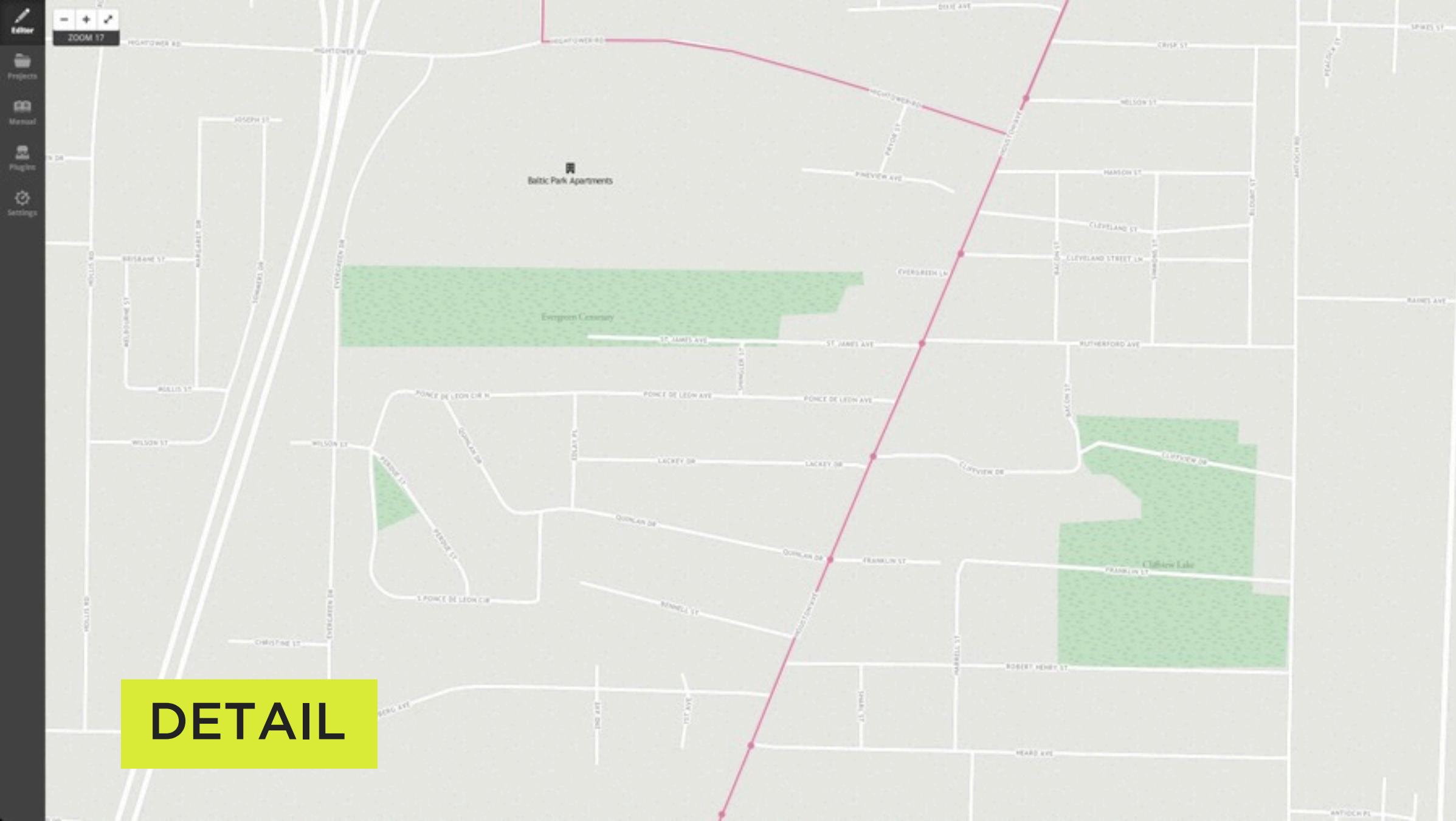
Plugins

Settings





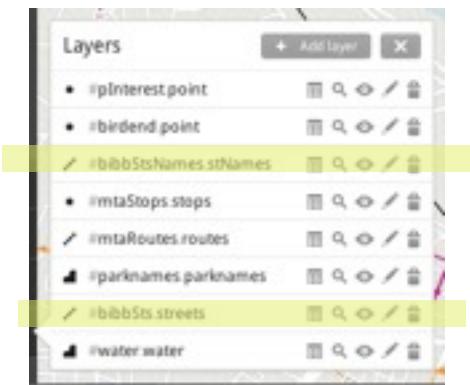
LOCAL



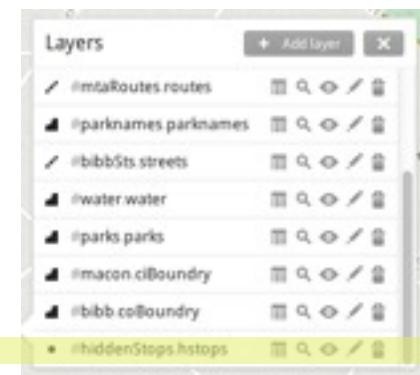
DATA LAYERS

Double up

To have street names on top of routes.



Create a buffer for teaser, duplicate layers and stack them appropriately.



Cleaning & Editing

Google Refine

QGIS

Google Earth

FileBakery.com



STYLING

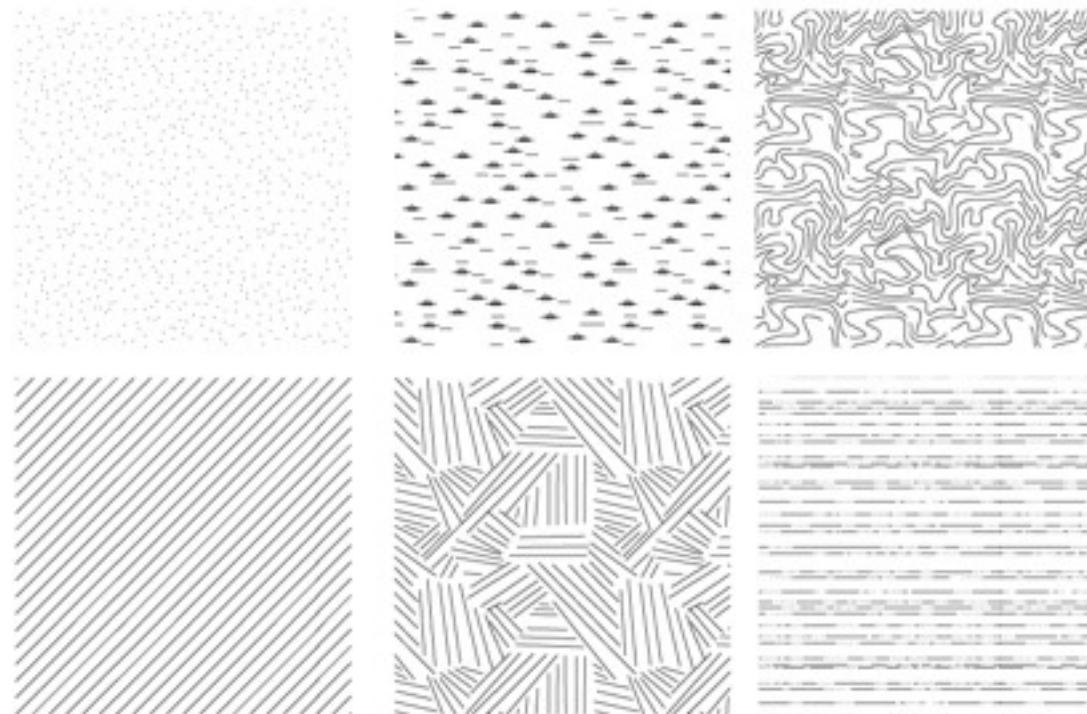
Textures and Patterns

Patterns: www.subtlepatterns.com

or make your own

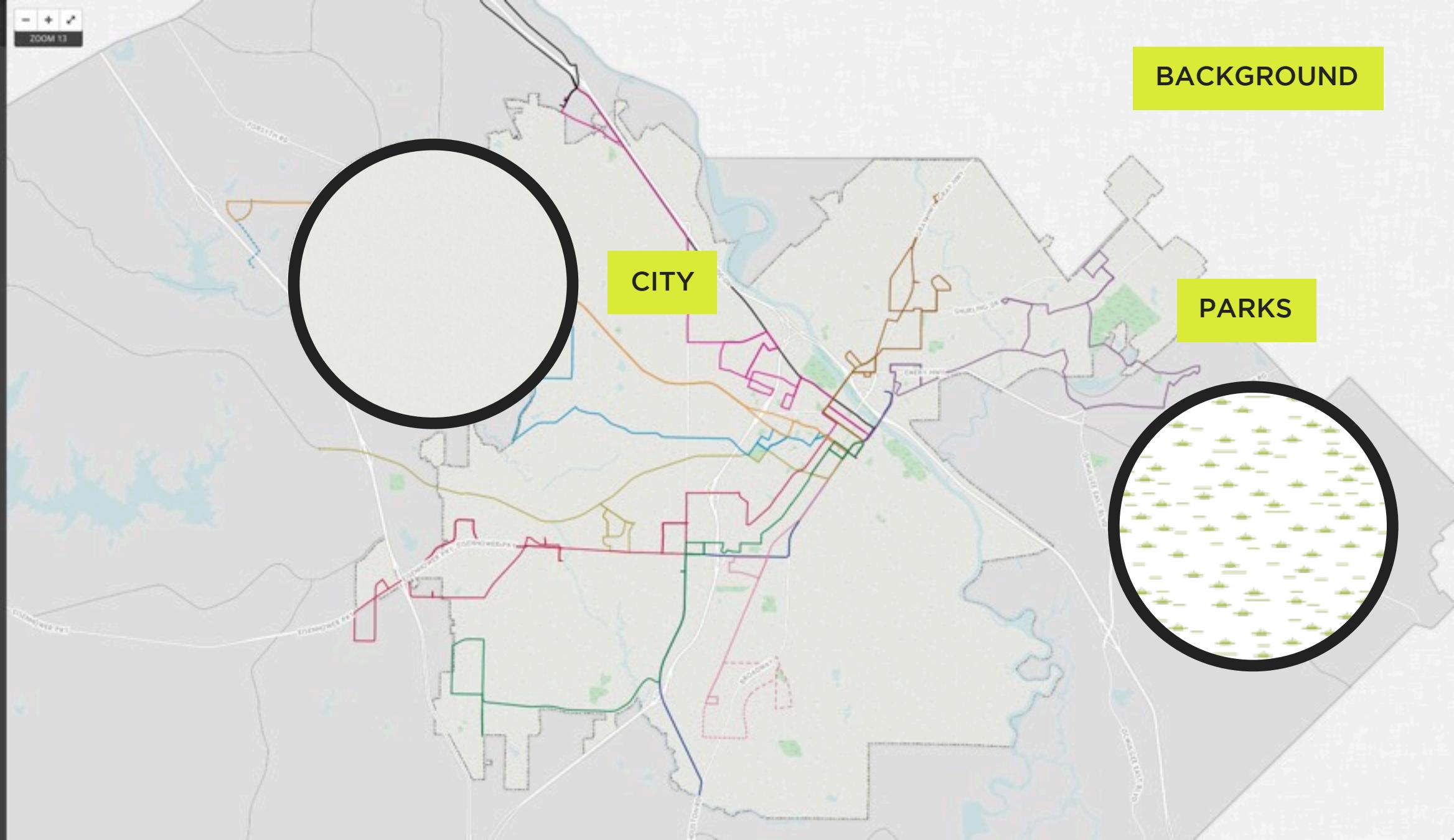
In Illustrator:

open swatch library >
patterns > basic
graphics > textures



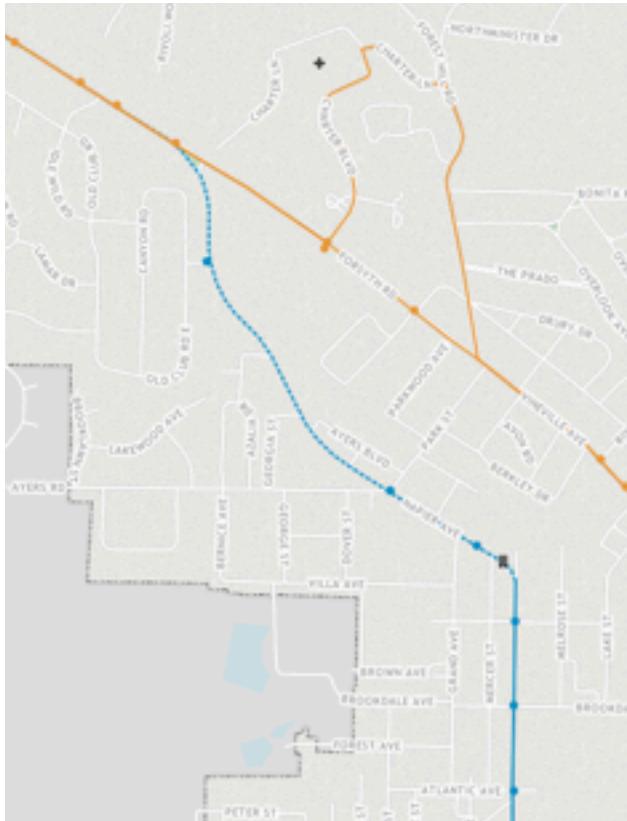
- + ✓
ZOOM 13

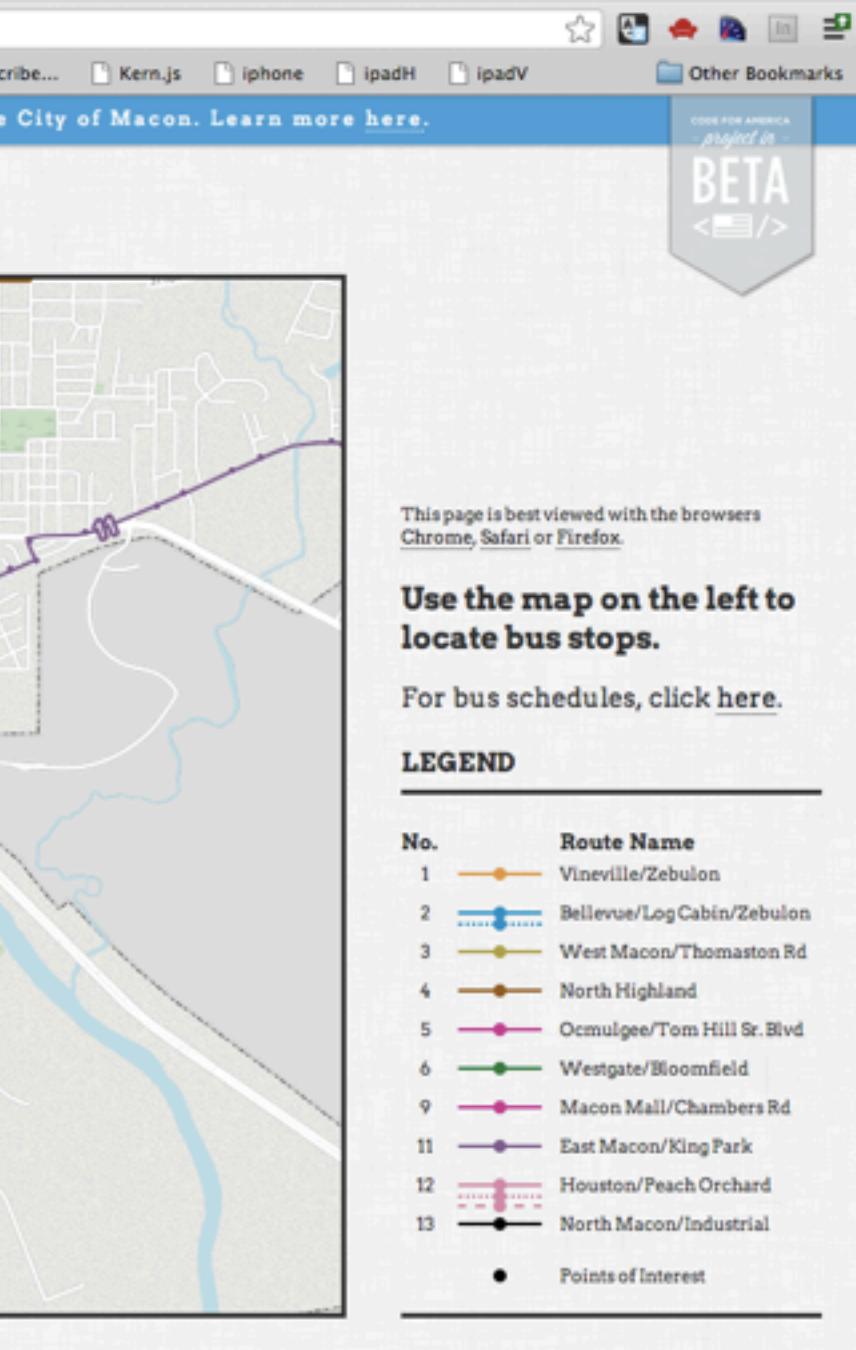
Editor
Projects
Manual
Plugins
Settings



Line Styles For different branches of routes

```
#mtaRoutes[Route_No="12B"]{  
    line-color: @rt12color;  
    line-dasharray: 3,3;  
    ::labels {  
        text-halo-fill:  
            @rt12color;  
    }  
}  
  
#mtaRoutes[Route_No="12C"]{  
    line-color: @rt12color;  
    line-dasharray: 5,5;  
    ::labels {  
        text-halo-fill:  
            @rt12color;  
    }  
}
```





CSS Legend

Using TileMill's legend or embed map on a page and add legend separately.

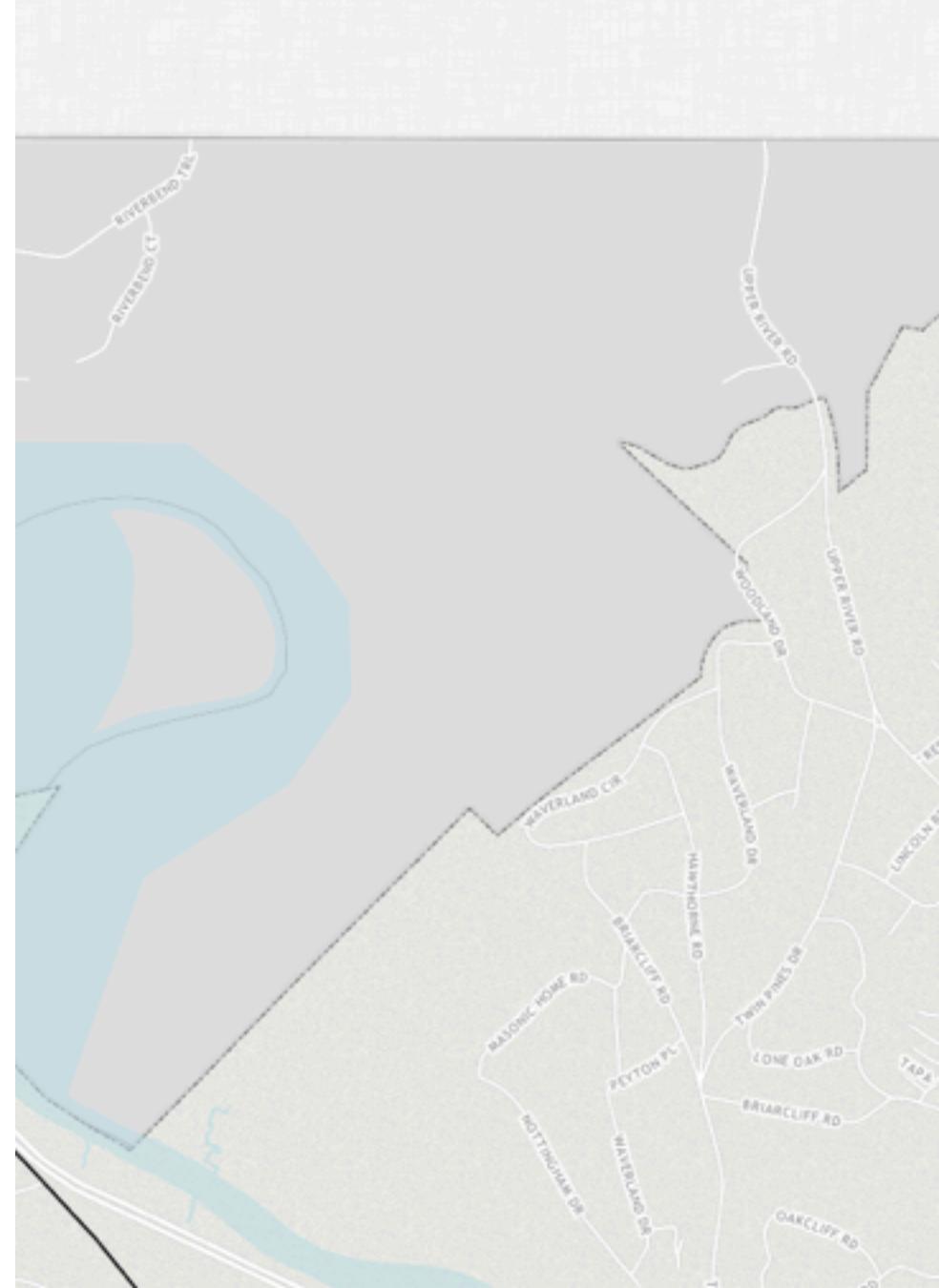
[github.com/codeforamerica/
Transit-Map-in-TileMill/
tree/gh-pages](https://github.com/codeforamerica/Transit-Map-in-TileMill/tree/gh-pages)

warning! be safe, make your own CSS classes.

Shadow

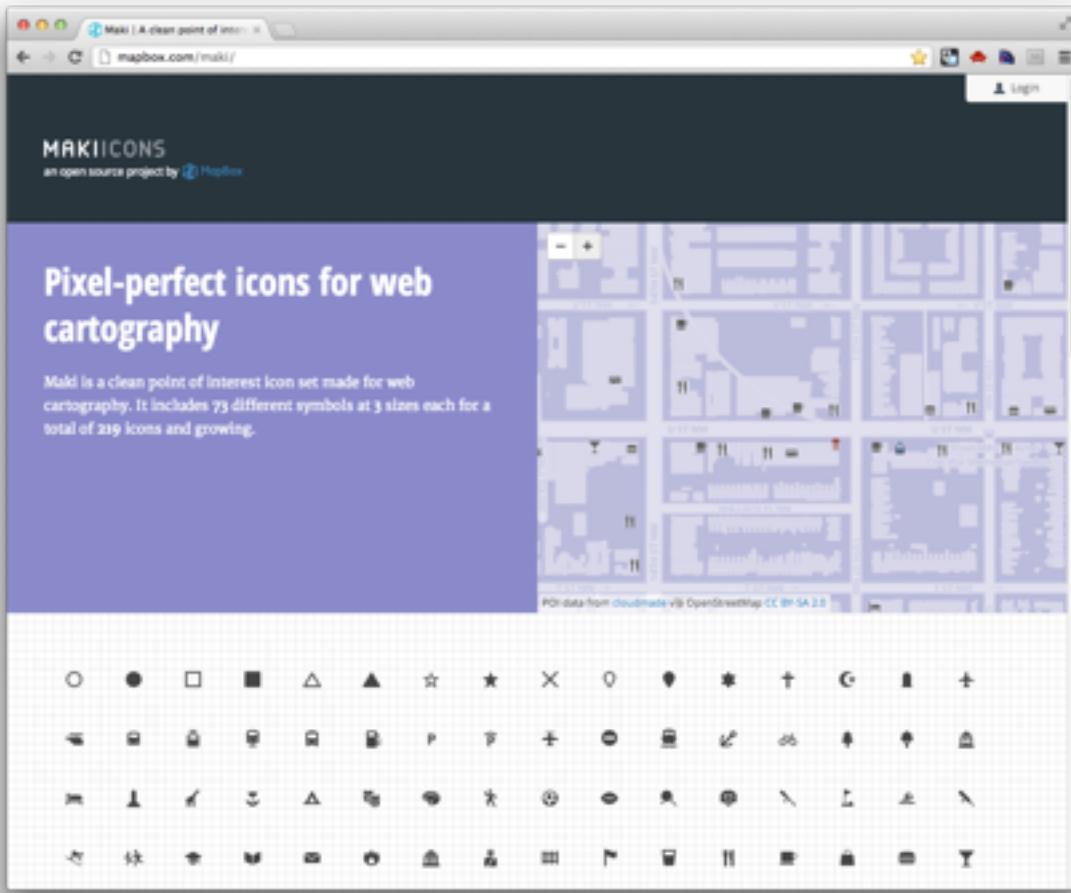
```
::shadow1, ::shadow2, ::shadow3 {  
  line-color: #333;  
  line-join: round;  
}  
  
::shadow1 {  
  line-opacity: 0.03;  
  line-width: 9;  
}  
  
::shadow2 {  
  line-opacity: 0.06;  
  line-width: 4;  
}  
  
::shadow3 {  
  line-opacity: 0.12;  
  line-width: 2;  
}  
  
the rest of you element's style...
```

Create 3 lines
wide and subtle
happy middle
narrow and dark



Icons and symbols

Maki icons



Make a points of interest map in Google Maps then export it as KML. If needed, Google Refine to edit it and export it as csv.

```
#pInterest[zoom > 15] {
    ::labels {
        text-name: "[name]";
        text-face-name: "Trebuchet MS Regular";
        text-placement: point;
        text-halo-radius: 3px;
        text-placement-type: simple;
        text-dy: 11;
        text-vertical-alignment: bottom;
        text-allow-overlap: true;
        text-halo-fill: #ecece6;
        text-fill: #333;
        text-size: 12;
    }
}

#pInterest[type="civic"] [zoom >= 14]
    {point-file: url(maki/town-hall-12.png);}
#pInterest[type="civic"] [zoom >= 16]
    {point-file: url(maki/town-hall-18.png);}
```

make some!

single point csv

Features (birdend)				
route name	lat	long	description	
BIRD min	min	32.6721823730387	min	-83.6246681213379
BIRD max	max	32.6721823730387	max	-83.6246681213379
BIRD	32.6721823730387	-83.6246681213379	The BIRD route continues south through Houston County to RAFFB.	

or no image, use
description as label



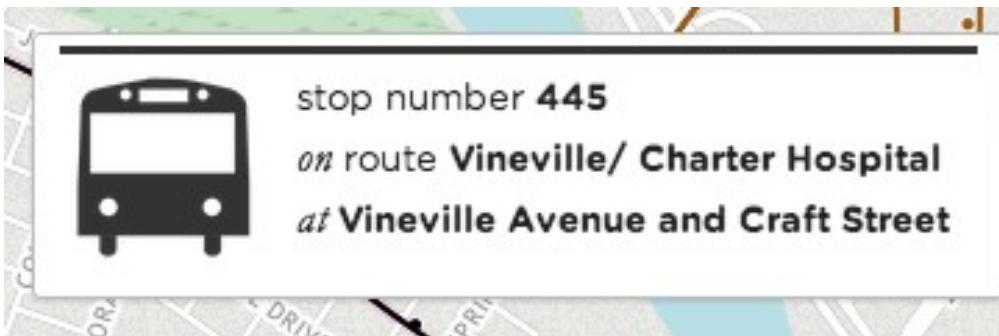
with image as point-file



TEASER

Do it up!

using data from a layer in TileMill



plates

Legend Teaser Full Location

int to be shown on hover or first tap (mobile).

```
.max-tooltip {max-width: 600px !important;}  
p {font-family: 'Quicksand', Gotham Rounded, Arial; font-size: 13px;}  
i {font-family: 'IM Fell French Canon', Garamond, Baskerville, Times New Roman; font-style: italic; font-size: 16px; font-weight: 400;}  
  
.max-tooltip {border-top: 3px solid #333; }  
#icon {float: left; margin: 2px 10px 0px 0px;}  
#info {float: left; margin: 7px 10px 0px 0px;}  
  
</style>  
<body>  
<div id="teaserbox">  
<div id="icon"></div>  
<div id="info">  
<p>  
stop number <b>{{OBJECTID}}</b><br>  
<i>on</i> route <b>{{Route}}</b><br>  
<i>at</i> <b>{{Location}}</b>  
</p>  
</div>  
</div>
```

hiddenStops Layer to use for interaction data

These Mustache tags will be replaced by data. You can also use the full Mustache template language to customize your tooltips.

Mustache tags used in the tooltip content:

- stop number {{OBJECTID}}
- on route {{Route}}
- at {{Location}}

With data outside of TileMill

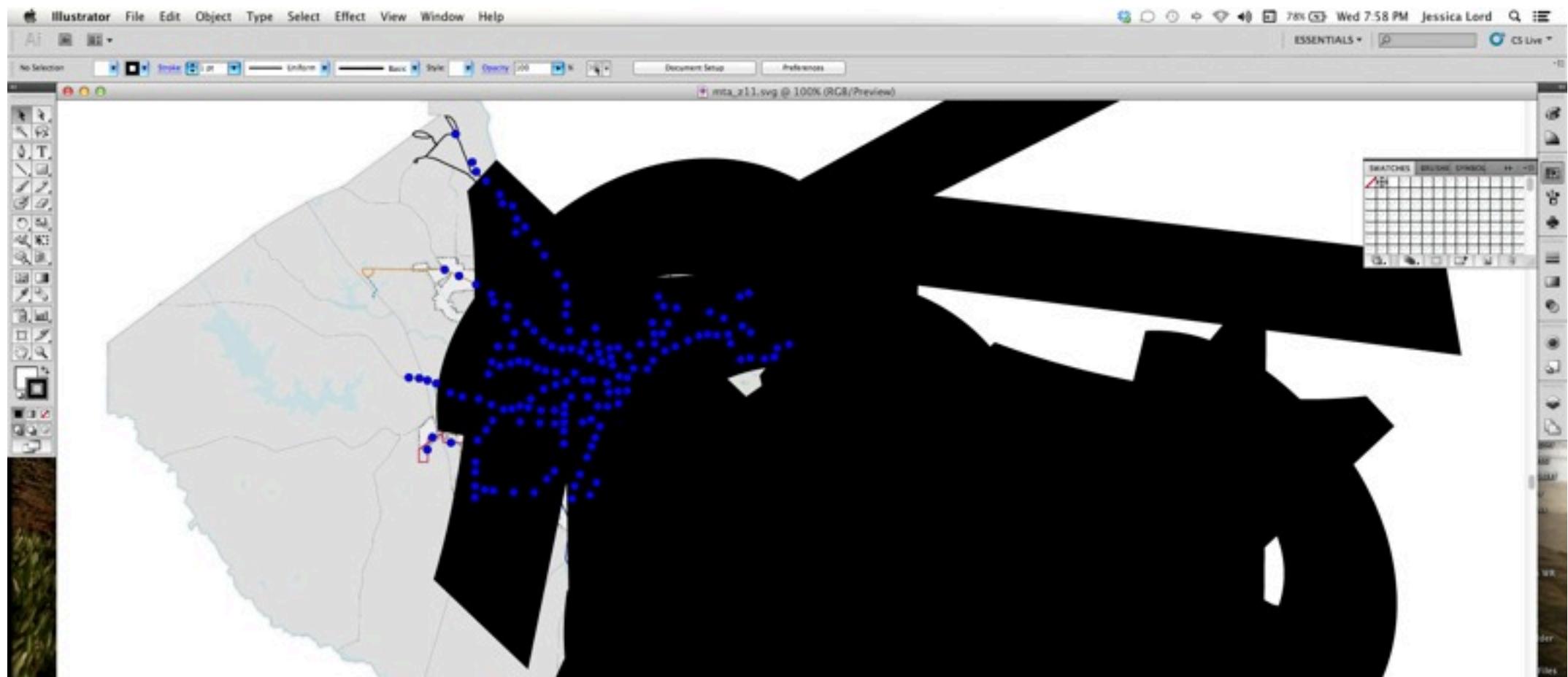
A screenshot of a tooltip on a map. It features a black bus icon on the left. To its right, the text "stop number 313" is displayed in bold. Below it, the text "on route Macon Mall" and "at 1st Street and Pine Street" is shown in a smaller font. At the bottom of the tooltip, there is a section titled "The next buses at this stop:" which lists " #9 Macon Mall: 6:14 am INBOUND, 6:09 am OUTBOUND". Below this, a note states: "An INBOUND bus's direction is towards Terminal Station; an OUTBOUND bus's direction is leaving Terminal Station."

PRINT

Oh, dang.

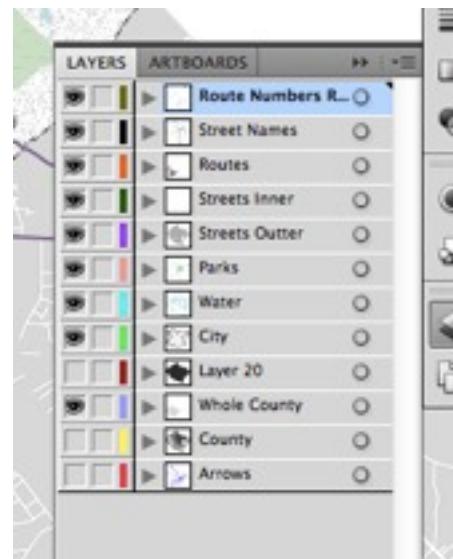
Save a copy of your MSS, then take out everything you don't need and remove all zoom conditions, remove text if you can.

Export it as a PDF. Trust me, SVG won't work.



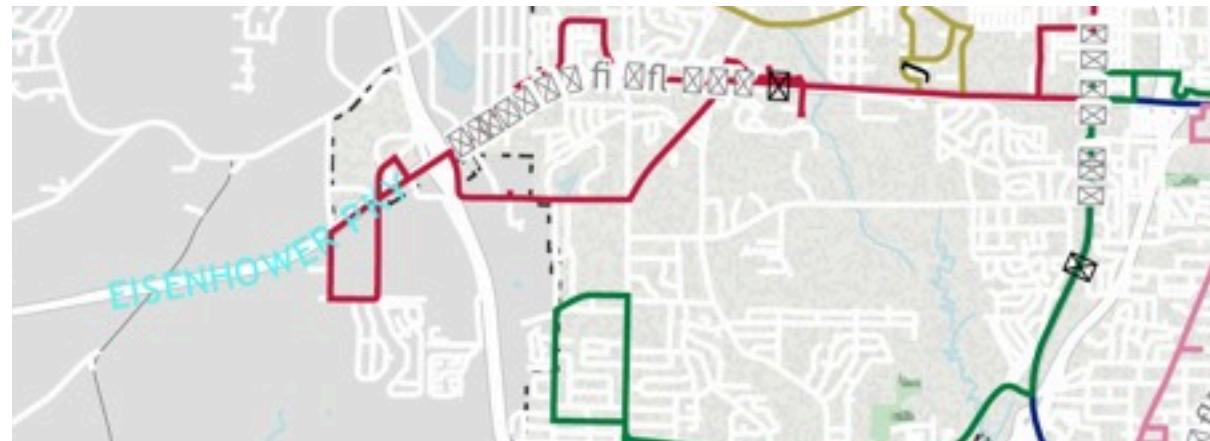
Clean it up.

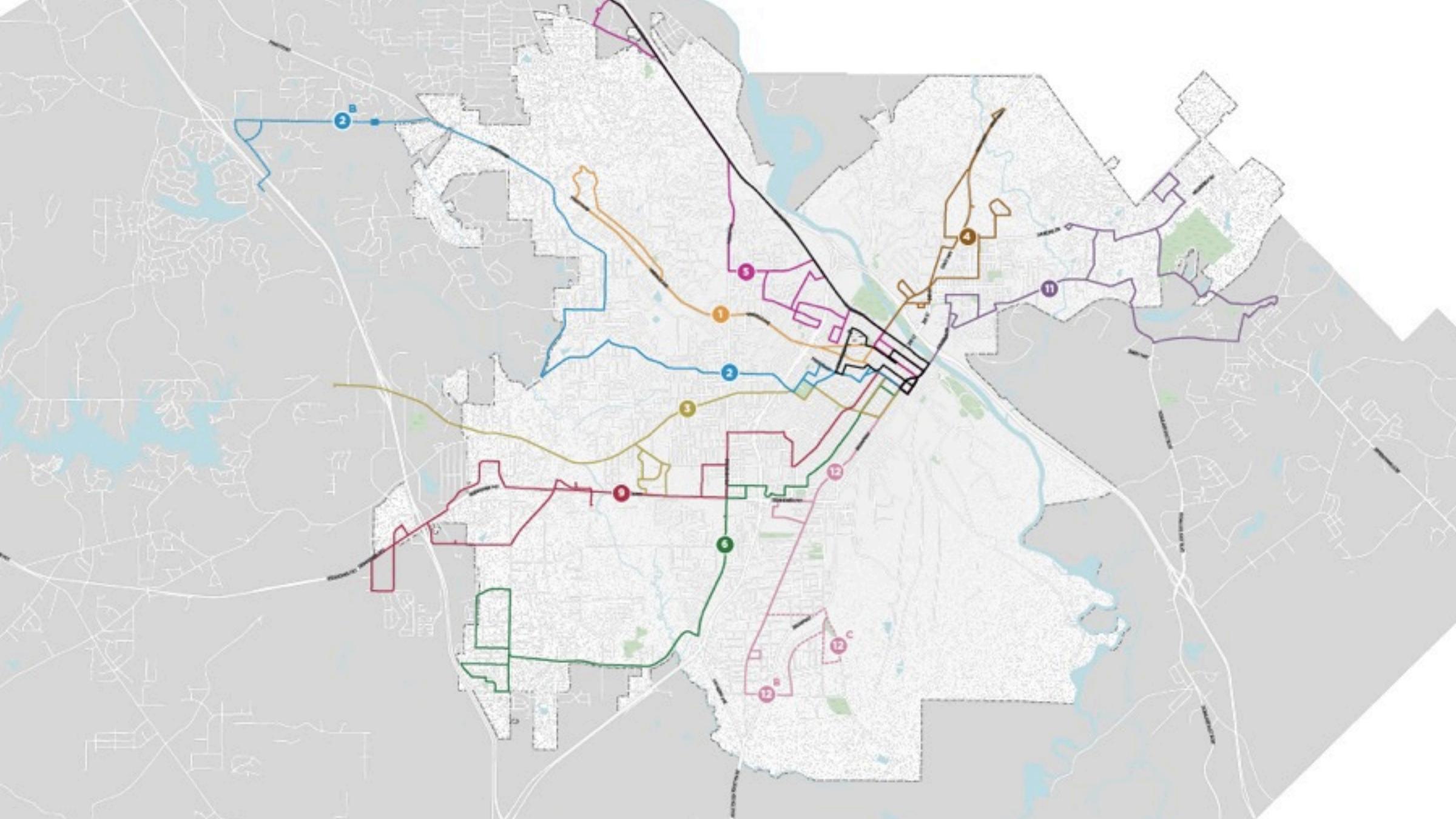
create layers, fill with content
select same > fill or stroke..



Text

If you must, get rid
of gibberish, turn
stroke to fill.





The Most Elegant Transit Maps Ever - Commute - The Atlantic Cities

Atlantic CITIES
PLACE MATTERS

JOB & ECONOMY COMMUTE HOUSING ARTS & LIFESTYLE DESIGN TECHNOLOGY POLITICS NEIGHBORHOODS FOCUS: RENEWAL

PHOTOS

The Most Elegant Transit Maps Ever

ERIC JAFFE OCT 01, 2012 1 COMMENT

Blocked Plug-in

explore cities

Search site go

Browse by city 1

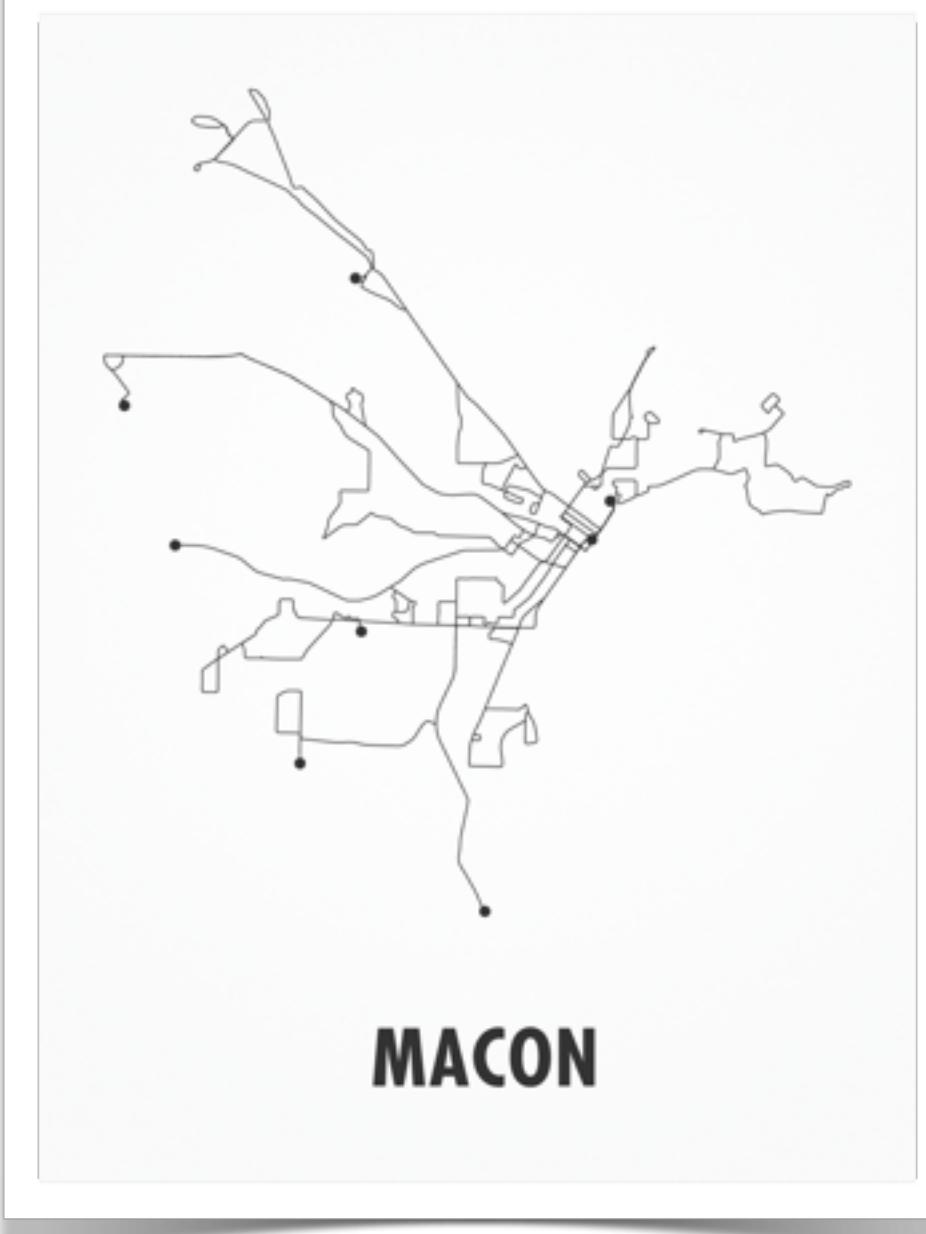
Browse features 1

Forward Thinking on Predictive Maintenance

"We used to fix things when they broke. Now we can fix things before they break." - Chris Conrad

Like 296 Tweet 107 Share 13 Share 3 Print Email

There's a [good deal of artistry](#) that goes into designing public transit maps. Landmarks and city centers are collaged, routes are stylized—all in the service of helping riders make



MTA Macon Bus System Map

www.mta-mac.com/map.html

Tumblr CIA CALL Read Later Google Bookmark Attribute + Pocket [blocks.org] Latitude and Long... Subscribe... Kern.js iPhone iPadH Other Bookmarks

MTA Macon County Transit Authority
We Keep Macon Moving

Home Alerts How to Ride Panorail Forms About MTA Contact Us Resources

System Map

Use this map to locate bus stops. Pass your mouse over a stop to see the next bus time. Click here for bus schedules.
Note: The bus stops map may not display correctly on older browsers. If you are using an older system, use this map.

The map displays the Macon Bus System's route network across a city area. The routes are color-coded and labeled as follows:

- Route 1: Worcester/Dekalb
- Route 2: Bellmead/Log Cabin/DeKalb
- Route 3: West Macon/Thomaston Rd
- Route 4: North Macon

Roads © 2012 OpenStreetMap contributors

LEGEND

No.	Route Name
1	Worcester/Dekalb
2	Bellmead/Log Cabin/DeKalb
3	West Macon/Thomaston Rd
4	North Macon



`github.com/
codeforamerica/
Transit-Map-in-Tilemill`

`@jllord`