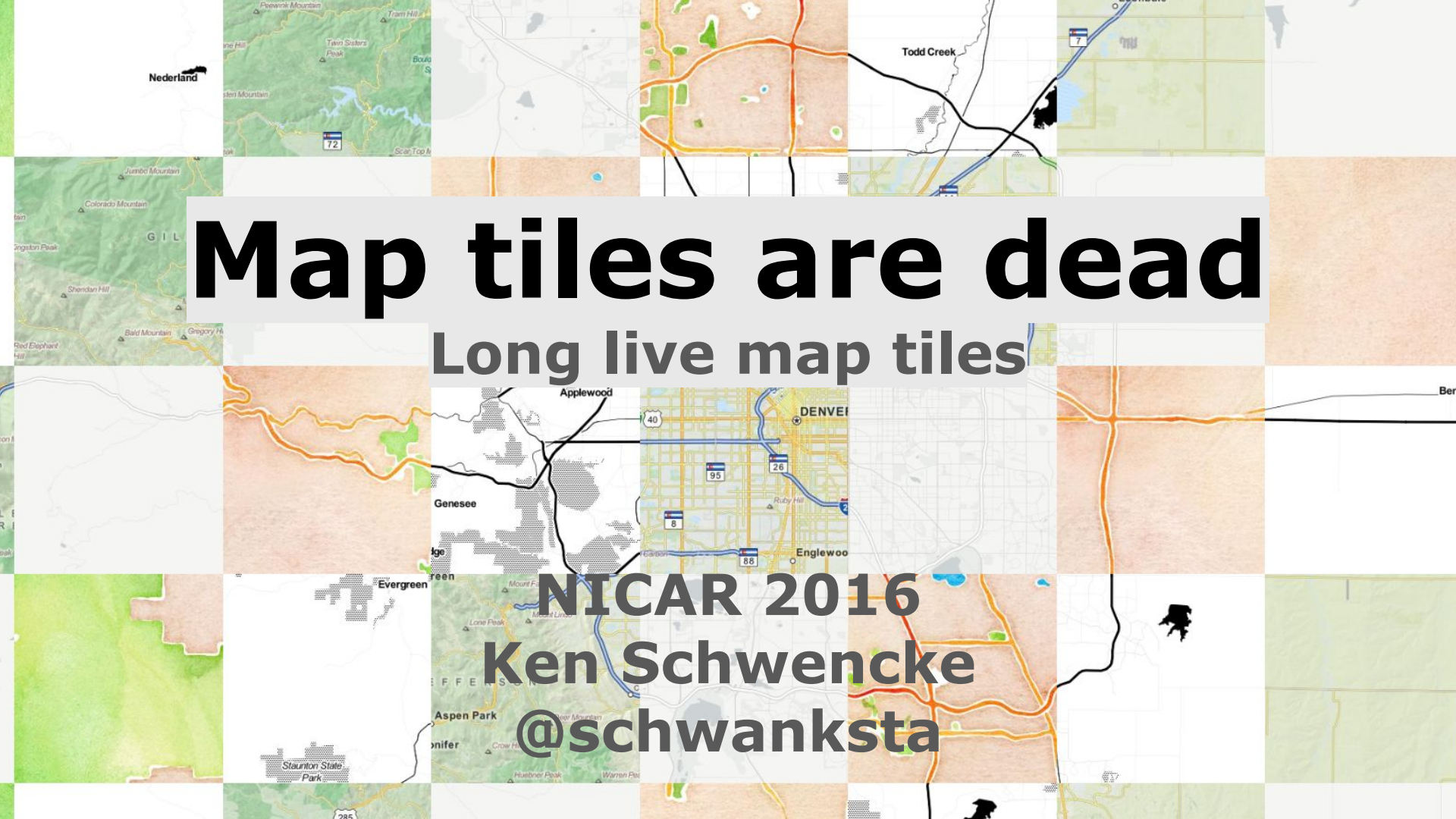
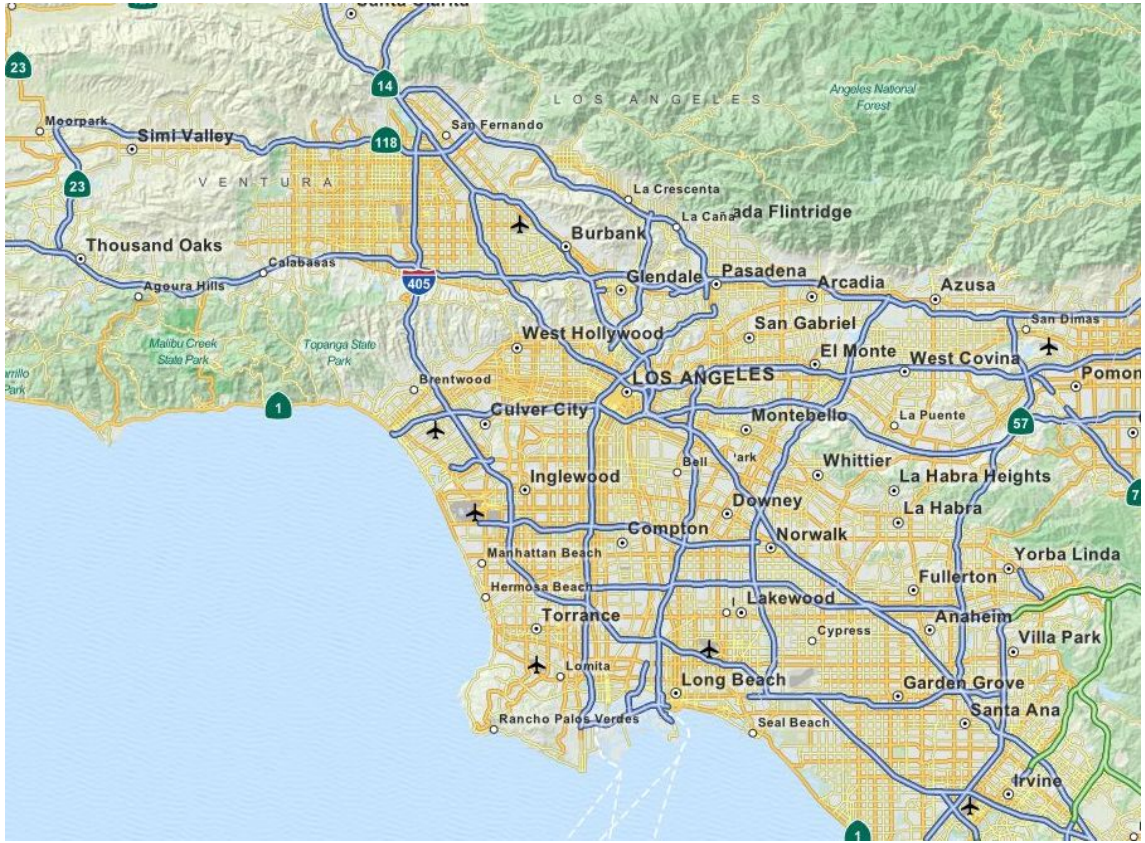


Map tiles are dead

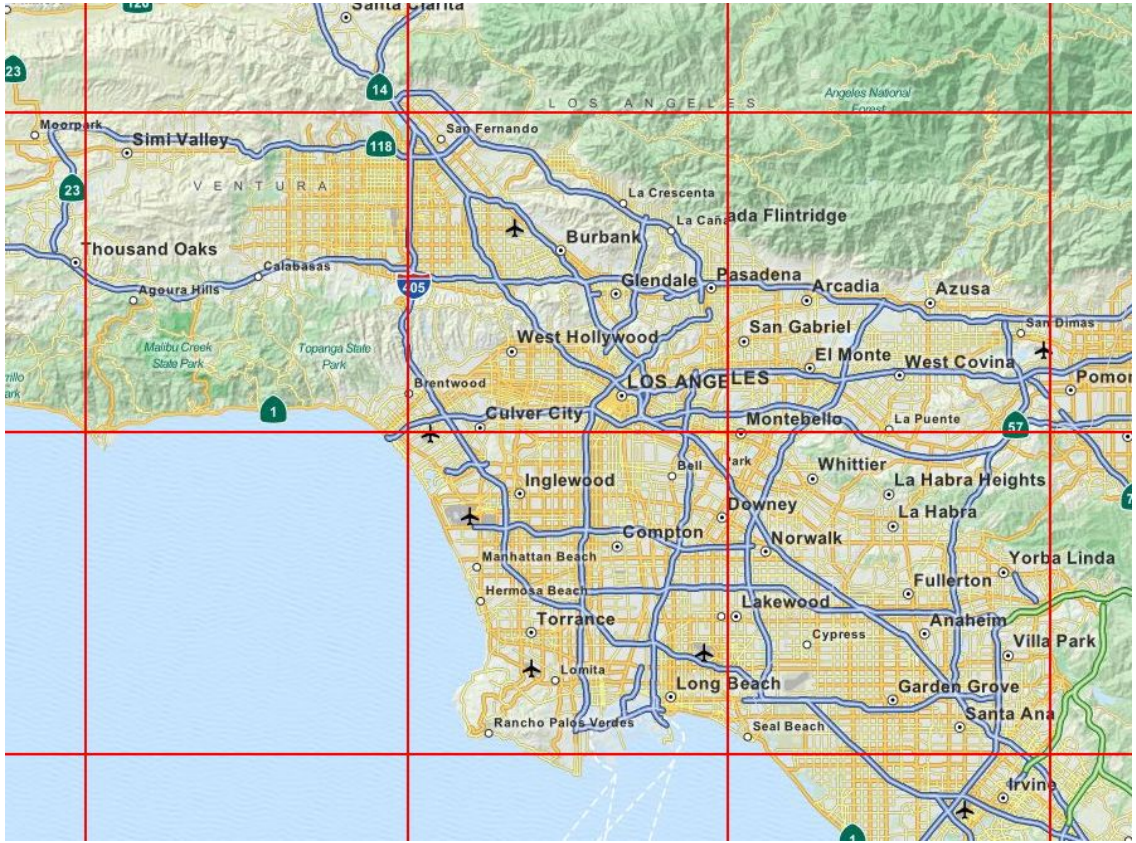
Long live map tiles

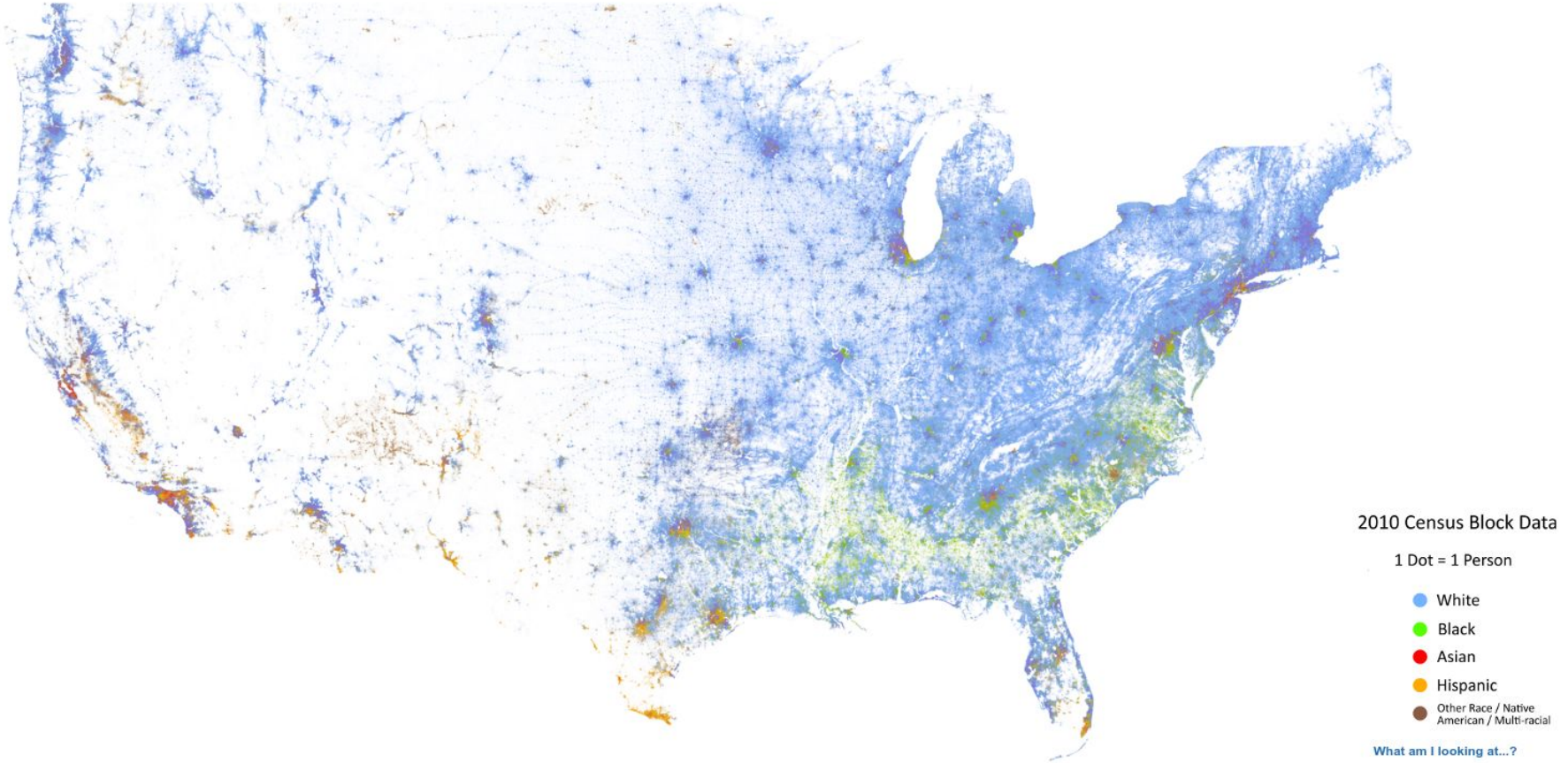
NICAR 2016
Ken Schwencke
@schwanksta

Briefly: What's a map tile?



Briefly: What's a map tile?




2010 Census Block Data
1 Dot = 1 Person
White
Black
Asian
Hispanic
Other Race / Native American / Multi-racial
What am I looking at...?

This is great!

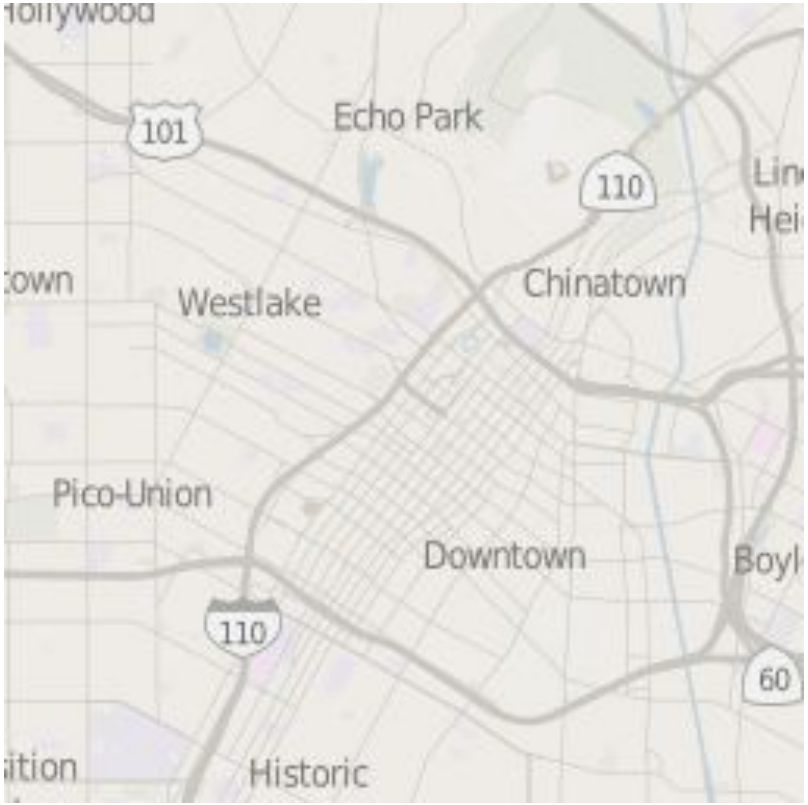
one problem.

FOR-

So what is a vector tile?

- They’re data! Think: Geojson
- Imagine taking a giant dataset -- say every census tract -- and slicing it up into squares for each zoom level. Each square only contains the data in that area.
- Further out zoom levels don’t need as much detail. You don’t need to see every twist and turn in a street from a wider view.
- Vectors scale! You don’t need a tile for every zoom level -- if you zoom in, your map library can just scale the map data for you.
- So you run your data through a program:
  - **Tippecanoe** - https://github.com/mapbox/tippecanoe (hold for joke)
- And serve up the resulting mbtiles file:
  - **Tessera** - https://github.com/mojodna/tessera
- Put it behind Varnish! It caches just like any of your HTML or JSON files.

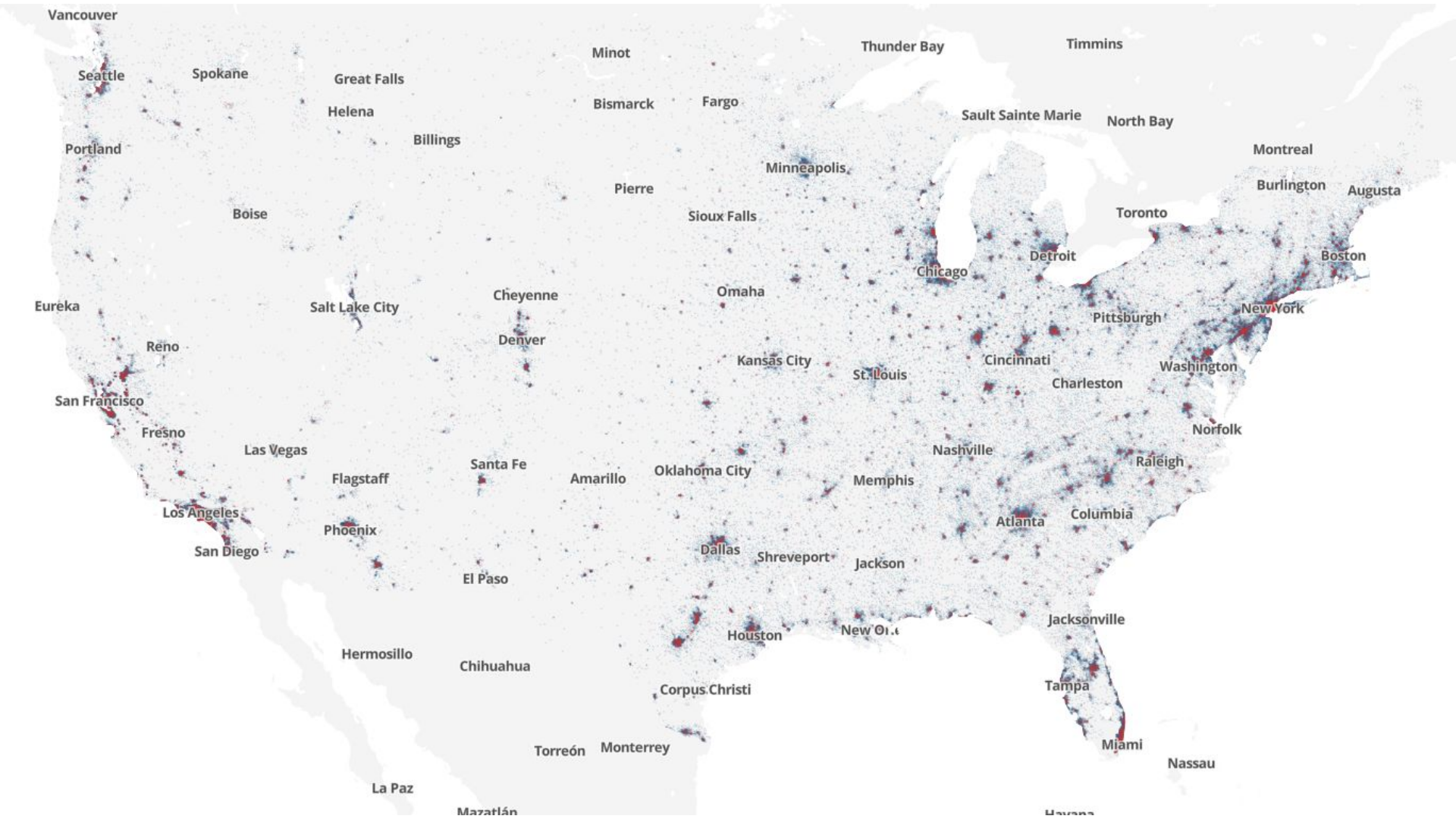
41px² / 1.39%

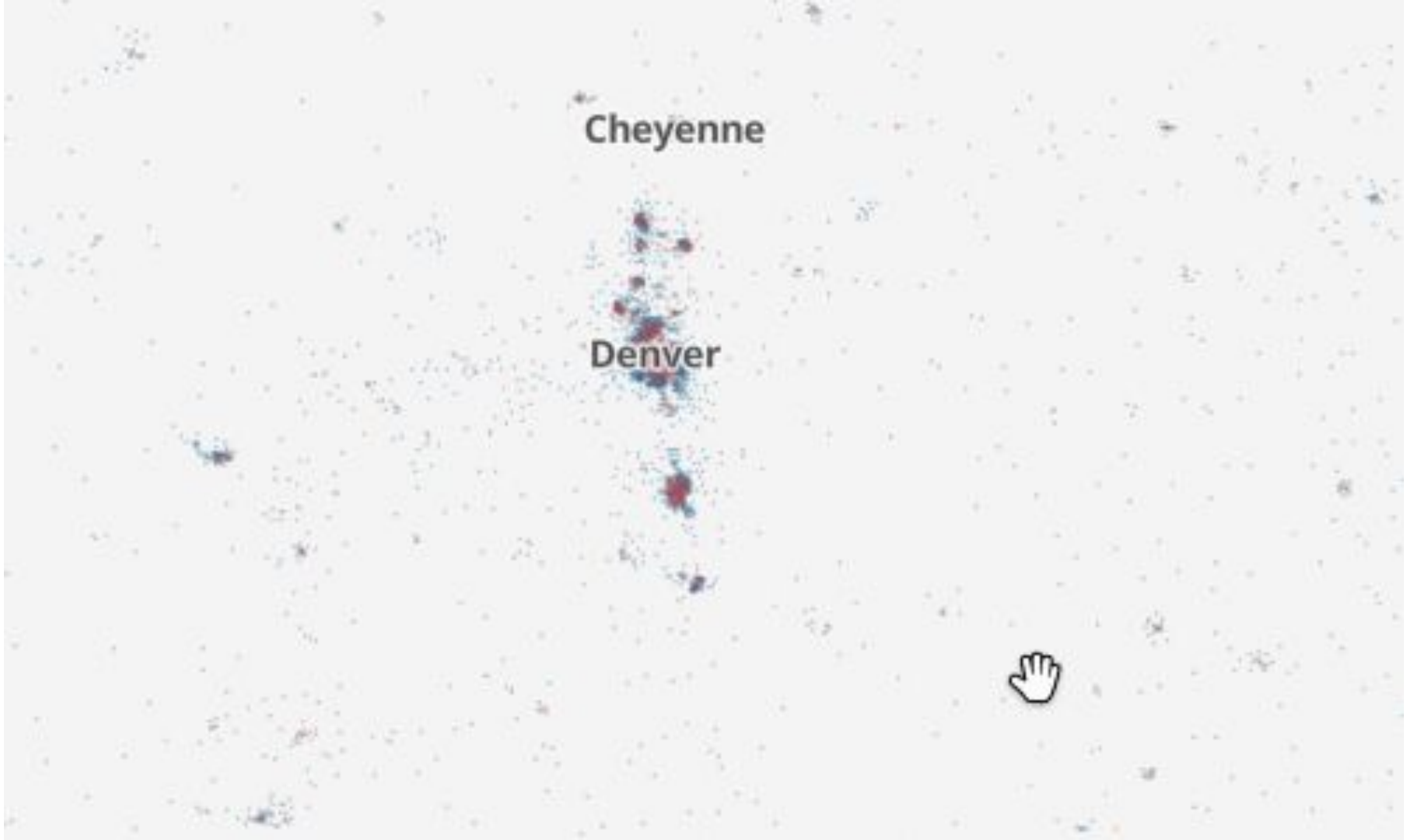

101
Echo Park
110
Chinatown
Westlake
Pico-Union
Downtown
110
60
Historic

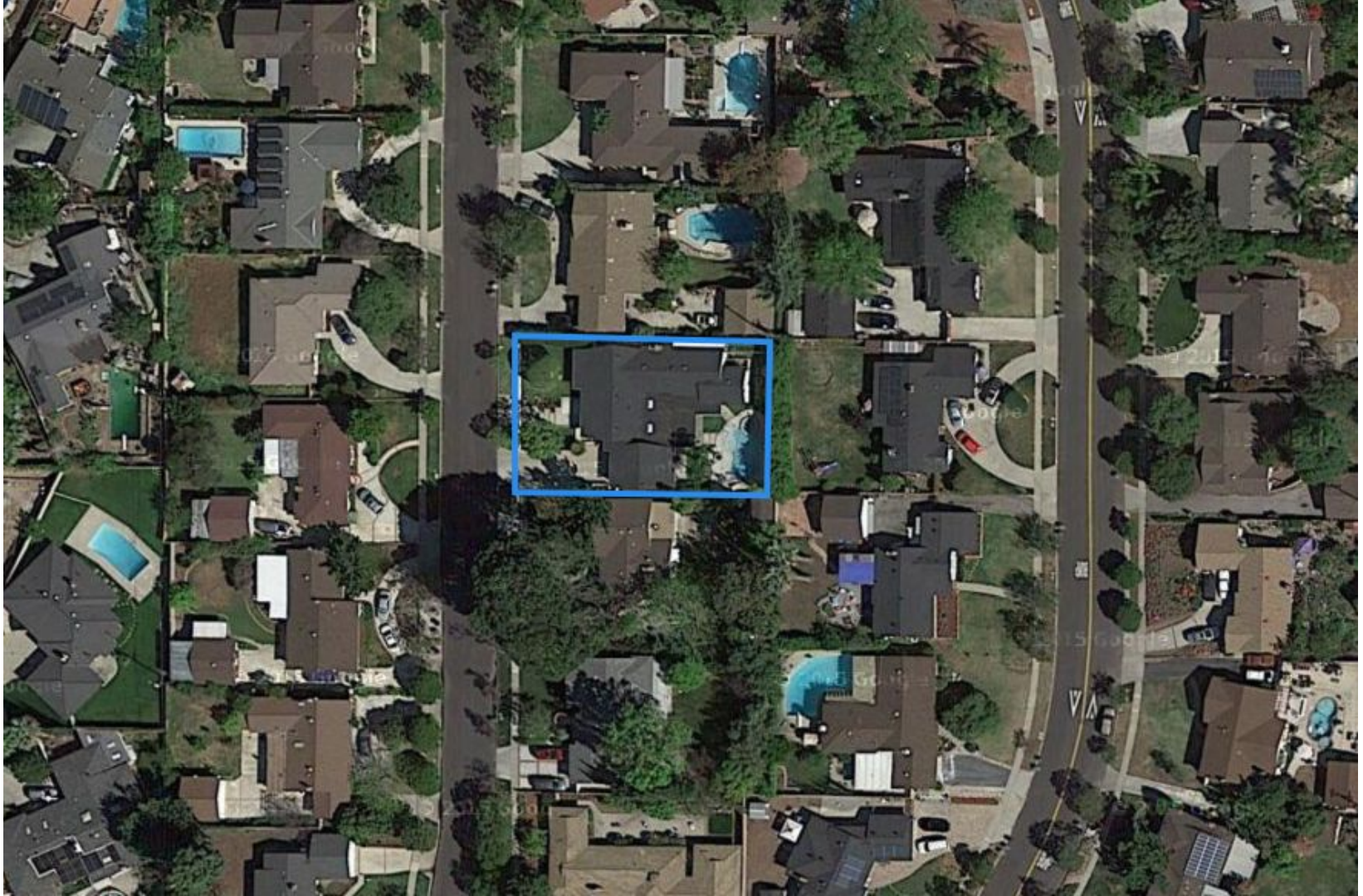
(23.3kb)

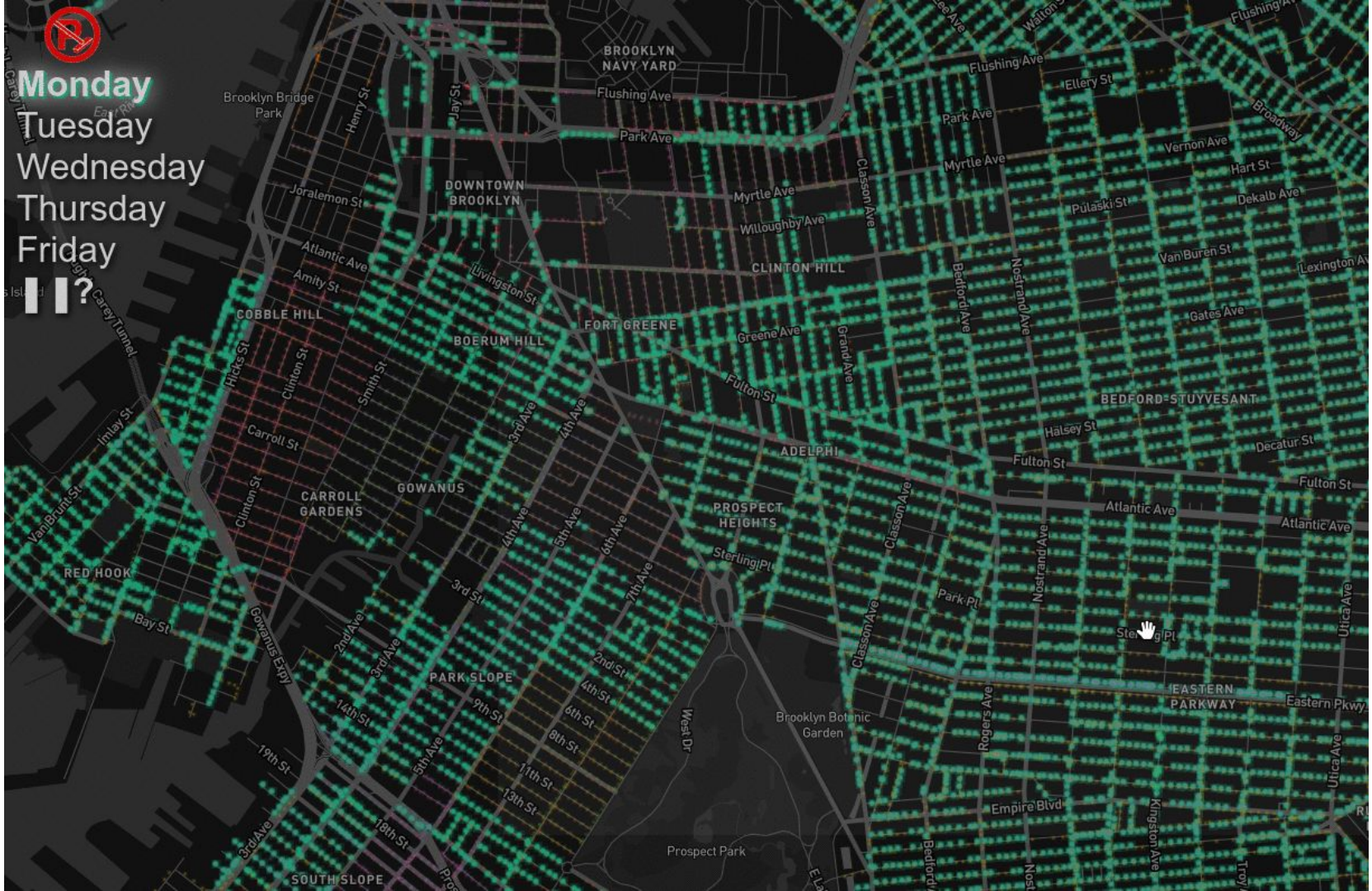
12/792/1635
Bicycle District
Elysian Park
Dayton Avenue
Echo Park
Angelino Heights
New Chinatown
Taylor Junction
Bunker Hill
Los Angeles
Los Angeles Union Station
Little Tokyo Historic District
Financial District
Arts District
Fashion District
Saint James Park
Pico-Blvd
Ninth Street Junction
Butte Street Junction
Jefferson

(13.1kb)


Vancouver
Seattle
Spokane
Great Falls
Minot
Thunder Bay
Timmins
Helena
Bismarck
Fargo
Sault Sainte Marie
North Bay
Billings
Portland
Minneapolis
Montreal
Pierre
Burlington
Augusta
Boise
Sioux Falls
Toronto
Detroit
Chicago
Boston
Omaha
Eureka
Cheyenne
Salt Lake City
Pittsburgh
New York
Denver
Reno
Kansas City
Cincinnati
St. Louis
Washington
Charleston
San Francisco
Norfolk
Fresno
Las Vegas
Nashville
Santa Fe
Raleigh
Flagstaff
Amarillo
Oklahoma City
Memphis
Los Angeles
Atlanta
Columbia
Phoenix
San Diego
Dallas
Shreveport
Jackson
El Paso
Jacksonville
Houston
Hermosillo
Chihuahua
Tampa
Corpus Christi
Miami
Torreón
Monterrey
Nassau
La Paz
Mazatlán
Havana


Cheyenne
Denver




Monday
Tuesday
Wednesday
Thursday
Friday
?
BROOKLYN NAVY YARD
Brooklyn Bridge Park
DOWNTOWN BROOKLYN
CLINTON HILL
COBBLE HILL
BOERUM HILL
FORT GREENE
BEDFORD-STUYVESANT
ADELPHI
CARROLL GARDENS
GOWANUS
PROSPECT HEIGHTS
RED HOOK
PARK SLOPE
EASTERN PARKWAY
Brooklyn Botanic Garden
Prospect Park
SOUTH SLOPE
Flushing Ave
Park Ave
Myrtle Ave
Willoughby Ave
Atlantic Ave
Amity St
Livingston St
Greene Ave
Fulton St
Carroll St
Hicks St
Clinton St
Smith St
Henry St
Jay St
Joralemon St
Imlay St
Van Brunt St
Bay St
Gowanus Expy
Carey Tunnel
Classon Ave
Grand Ave
Bedford Ave
Nostrand Ave
Halsey St
Decatur St
Sterling Pl
Park Pl
Rogers Ave
Empire Blvd
Kingston Ave
Utica Ave
Eastern Pkwy
Vernon Ave
Hart St
Dekalb Ave
Pulaski St
Van Buren St
Gates Ave
Lexington Av
Ellery St
Broadway
Walton St
Lee Ave
West Dr
2nd Ave
3rd Ave
4th Ave
5th Ave
6th Ave
7th Ave
2nd St
4th St
6th St
8th St
9th St
11th St
13th St
14th St
18th St
19th St
3rd St

Vector tile sources:

- Mapbox
  - Metered use of their vector tiles service
    - Paid tier for more map views
  - An amazing design studio to generate styles
  - Mapbox GL JS is a great map library
- Mapzen
  - Free use of their vector tile service*
  - Tangram, their map library, lets you use all the crazy features of WebGL

THANKS!