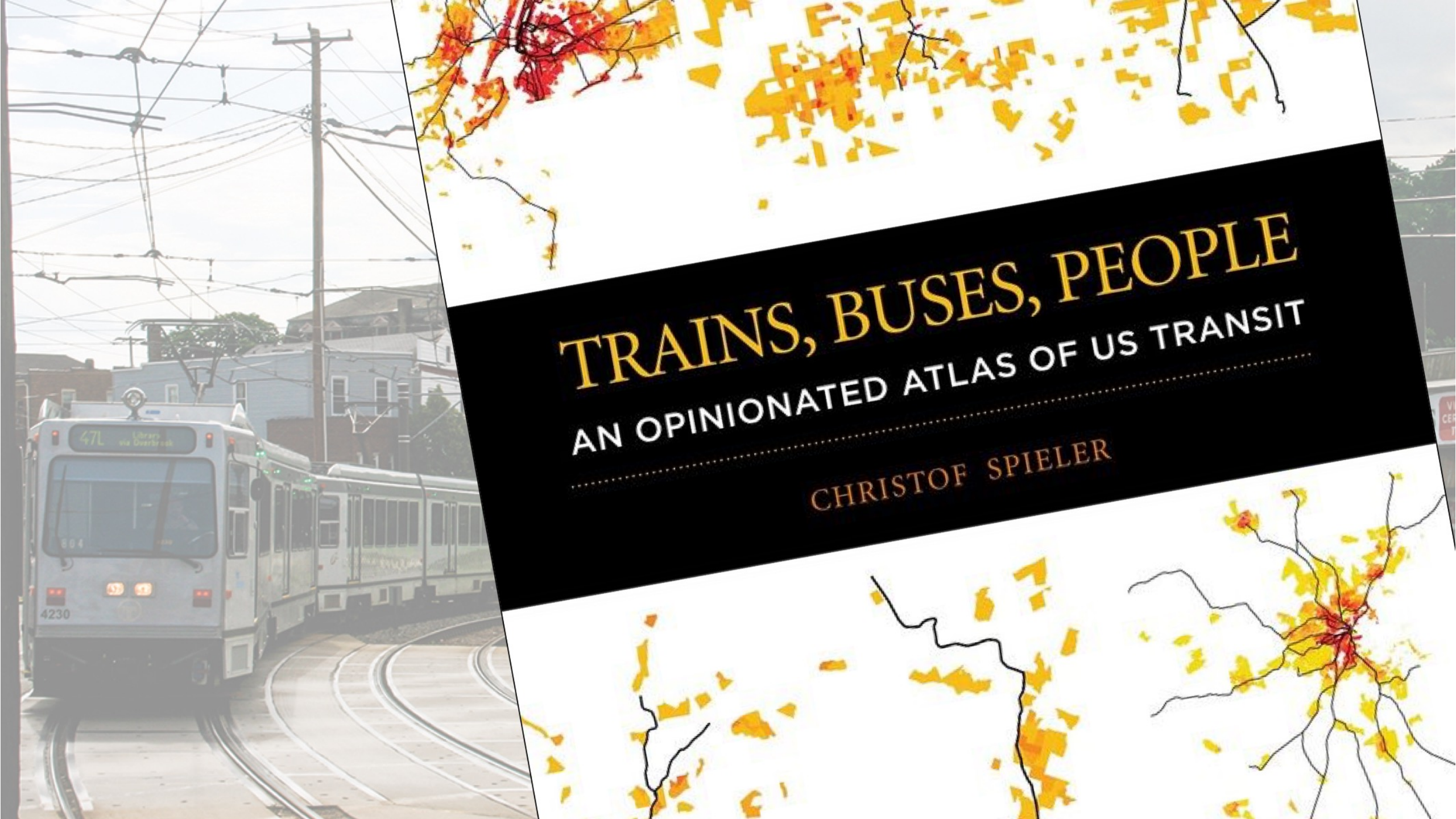
TRAINS, BUSES, PEOPLE
AN OPINIONATED ATLAS OF US TRANSIT
CHRISTOF SPIELER

FUNDING AND GOVERNANCE

Nothing—not physical geography, not population density, not existing service—does as much to determine where transit is built as the invisible structures of governance and funding.

The structure of modern American transit was largely set in the 1960s and 1970s. Transit had been operated by private, for profit companies. Confronted with increasing car ownership and competition from publicly subsidized roads, these companies began losing money. Faced with the loss of existing transit, governments stepped in, first subsidizing private operations and then acquiring them. At the same time, public demand for alternatives to congested freeways led to plans for new rail-transit lines. Sometimes new agencies were created to build these, and sometimes the same agencies tasked with preserving existing systems were also directed to build new transit. Several major organizational structures emerged from this era of crisis and restructuring.

Cities were the first public entities to operate transit; San Francisco's MUNI pioneered the idea in 1912. But city transit agencies have drawbacks, and most big cities have moved away from them. City agencies report to elected mayors and city council members, who have many other things to be concerned about. They generally compete for general tax funds with police, fire, roadways, and other city services. Generally, they are confined to the boundaries of their cities, which can lead to disconnected systems and forced transfers at the city limit. Municipal transit operations are common in small cities, but have been rare among large ones. For these reasons, San Francisco is now an outlier; most municipal transit agencies are in small cities. Recently, however, a few large cities have started providing their own streetcar or circulator bus service in addition to (and often duplicating) larger regional networks.

In a few places, **counties** operate transit service. With larger boundaries than cities, they can create more comprehensive networks. The bus system in Seattle and the bus and rail systems in Miami are county operated.

The most common structure for large systems today is an **independent agency**. Created by state legislatures and often ratified by a public vote, these agencies are independent of city, county, and state government, and they can have service areas that cover entire metropolitan regions, including multiple cities and counties. They are governed by boards, usually appointed by local elected officials, but sometimes elected. Generally, they have independent funding sources like sales taxes that insulate them from the give-and-take of municipal, county, or state budgets. In some cases, these agencies can be interstate, created by the agreement of two state legislatures to serve metropolitan areas that cross state lines.

Finally, some **states** operate transit service. This is more common in small states. Local buses in Baltimore, for example, are operated by the State of Maryland.

Most metropolitan regions have multiple transit agencies, often following multiple governance models. Sometimes these are divided geographically. Sometimes, they are divided by mode: one agency may operate only commuter rail. Frequently, they overlap. This can be done in an orderly and coordinated fashion. In the Seattle area, counties operate local bus service, and a regional agency, Sound Transit, operates regional bus, light-rail, and commuter-rail service. However, the system is seamless to passengers; schedules are coordinated, transfers are free, and a single fare card applies. But overlap can also be chaotic. In the 1990s, Pinole, a San Francisco suburb of 17,000 people, had three different agencies operating local bus service. All had their own governance boards and separate taxes, with no coordination of schedules and completely different fare structures.

Funding structures are equally confusing. Most transit funding, especially for operating costs, is local. This can come from sales tax, property tax, or a variety of other taxes and fees. In some cases, transit agencies are combined with agencies that operate toll bridges, allowing toll funds to be used to support transit. Many states provide additional funds; in some states, like Pennsylvania, this represents the bulk of transit funding. The federal government has been funding transit since the 1960s. These funds are largely for building projects, not operating them, and they always require a local match, usually 50%.

A few private transit operations remain. These are usually tourist-focused, like the Las Vegas Monorail or airport express buses. In Florida and Texas, private companies have taken on intercity rail projects. In Detroit, private foundations and donors fund streetcar operations. But, as long as governments subsidize roadways, it is unlikely that private companies can fund significant urban transit. Private companies are a big part of operating transit, though; many cities use public funds to contract operations of buses and rail to for-profit companies.

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Funding and Governance 15

In Pittsburgh (opposite), the Port Authority built a new $523-million light-rail extension at the same time that it was raising fares and cutting service due to lack of money. It seemed irrational, but the funds for the construction project came from different funding sources and couldn't be spent on operations. Of course, once the …

Walkability 23

Central Station in Downtown Houston (left) is surrounded by buildings; nearly the entire circle is full of useful destinations. The street grid creates great access. The area actually within a half-mile walk (light) covers nearly the entire half-mile circle.

Central Station

WALKABILITY

Nearly every transit trip begins or ends on foot or on a bike. Across the country, most local bus passengers walk to the bus stop. Passengers have been walking to the busy rail systems in Boston, New York, Philadelphia, and Chicago for a century. Even rail networks that serve auto-oriented suburbs and provide lots of parking get many of their riders on foot. San Francisco's BART has a total of 45,984 parking spaces at 34 of its 45 stations, but only half of passengers get from home to the train by car. Moreover, those passengers arriving in a car don't have a second car waiting on the other end of their trip; once they arrive, they, too, become pedestrians. Making walking convenient, comfortable, and safe builds ridership.

Walkability requires partnerships. Only some pieces of the pedestrian experience are shaped by the transit agency: public works departments build sidewalks, planning departments enforce building regulations, and developers build buildings.

Optimize the quarter mile. Every transit station creates a zone of pedestrian access. Most people will walk approximately a quarter of a mile to transit. Many will walk up to half a mile, particularly if pedestrian conditions are good. That walkable zone is the key to successful transit: whatever is in it is within the reach of a transit rider, whatever is outside is not. Putting station in the right place, where there are as many destinations as possible, maximizes the usefulness of transit and thus transit ridership. More development around that station adds more destinations.

Create complete networks. Passengers can walk only if there is a path for them to take. Traditional streets grids do that very well by providing a closely spaced interconnected network that never requires pedestrians to go out of their way. Suburban street patterns, with long blocks and cul-de-sacs, can force pedestrians onto long, roundabout paths. Making transit effective in such areas can require retrofitting streets, pedestrian paths, and bridges. The same strategy can be useful in older neighborhoods, too, when rivers, railroad lines, and old industrial sites break up the grid.

Create a great pedestrian environment. Pe… If walking is safe, comfortable, and enjoyable, … especially those in wheelchairs, or with … smooth surfaces. They need to be protect… when they walk along a street and when th… need shade during the day, light at night, … from wind and rain. They want a sense of … active buildings to keep them interested a…

Turn front doors to the pedestrian. T… coming to or from buildings. If those bui… doors that face onto the sidewalk, arri… on transit is easy. If the building is surr… parking lot, it isn't.

29. CINCINNATI

Cincinnati–Wilmington–Maysville, OH-KY-IN

population 2,208,450 (32nd) weekday trips per 1,000 31

METRO
Southwest Ohio Regional Transit Authority
independent agency
Frequent Bus

TANK
Transit Authority of Northern Kentucky
independent agency
Frequent Bus

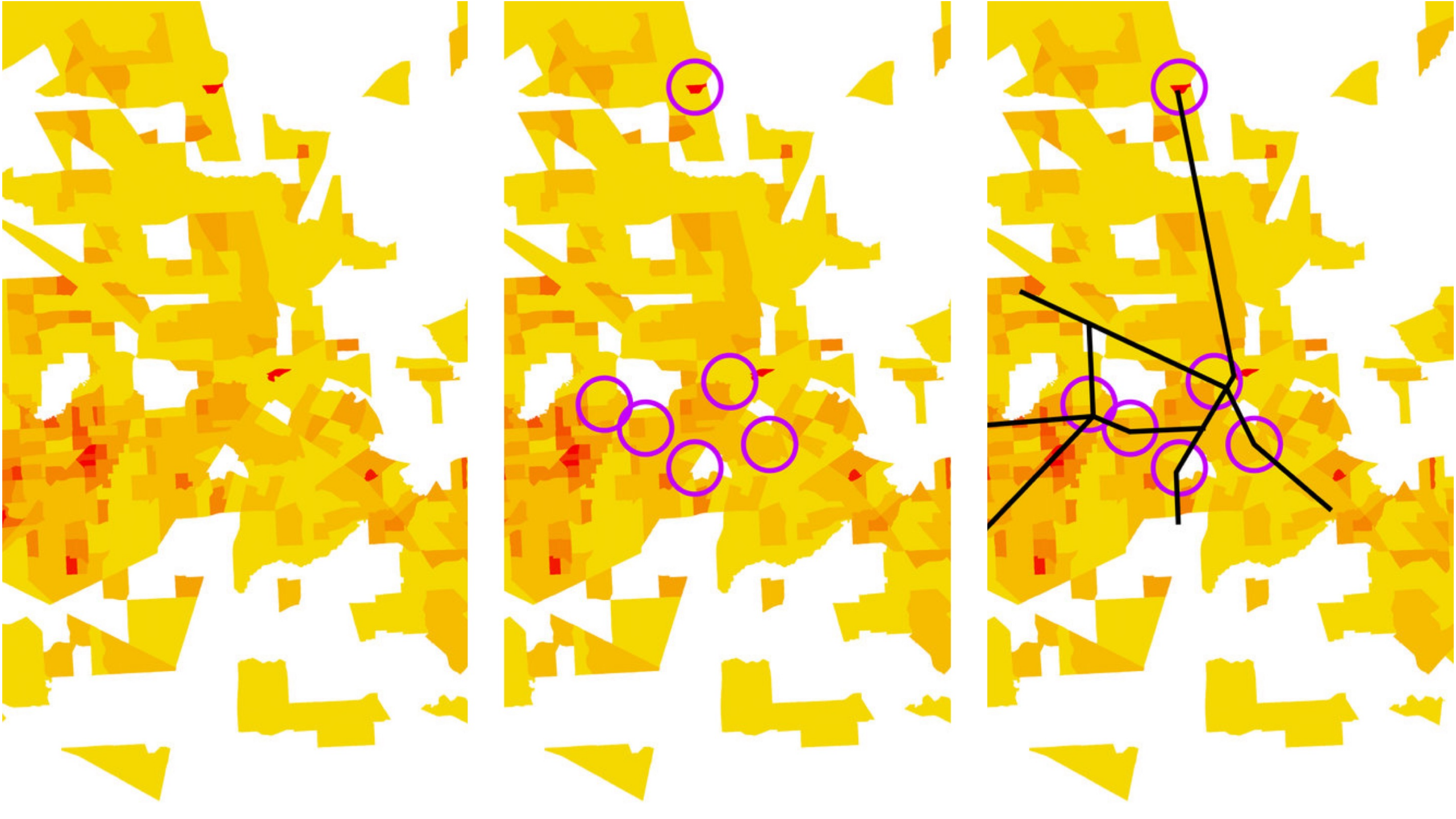
Cincinnati Streetcar
municipal
Streetcar

Cincinnati has an obvious primary transit corridor: from Covington, Kentucky, across the river through Downtown, and then up the hill to Uptown, the University of Cincinnati, and its medical center. Unfortunately, it has built only a third of that.

The Cincinnati streetcar, like many other recent streetcar systems, came out of a desire for economic development. The city's population peaked at 500,000 in 1950 and has been declining ever since, dropping below 300,000 by 2010. A 2013 presentation by the city manager identified "people," "businesses," and "development" as "what we need." A 2008 study concluded "the inadequate public transportation system puts Cincinnati and the region at a very serious competitive disadvantage" and recommended that "the City should aggressively pursue establishing a streetcar system, the first phase of which should link Downtown and Uptown, the city's two leading job-generation areas." A study forecast $1.48 billion in new development over 10 years. In 2008, Cincinnati City Council voted to move forward. The project was nearly stopped several times. Citywide referendums to block it failed in 2009 and 2011. In 2010, a new Republican governor canceled $52 million in state funds promised by his Democratic predecessor. In 2013, with construction underway, the city elected an anti-streetcar mayor.

Somehow, the streetcar project (right) survived and opened in 2016, but in much-reduced form. It extends a mile from the center of Downtown, stopping a mile and half—and a steep hill—short of Uptown, and it is on time only 40 percent of the time, compared to 85 percent for local buses. This …

Transit planning is simple...



Light Rail (METRORail)

HIGH PERFORMER

Opened: 2004

Last Expanded: 2016

Length: 22.3 miles

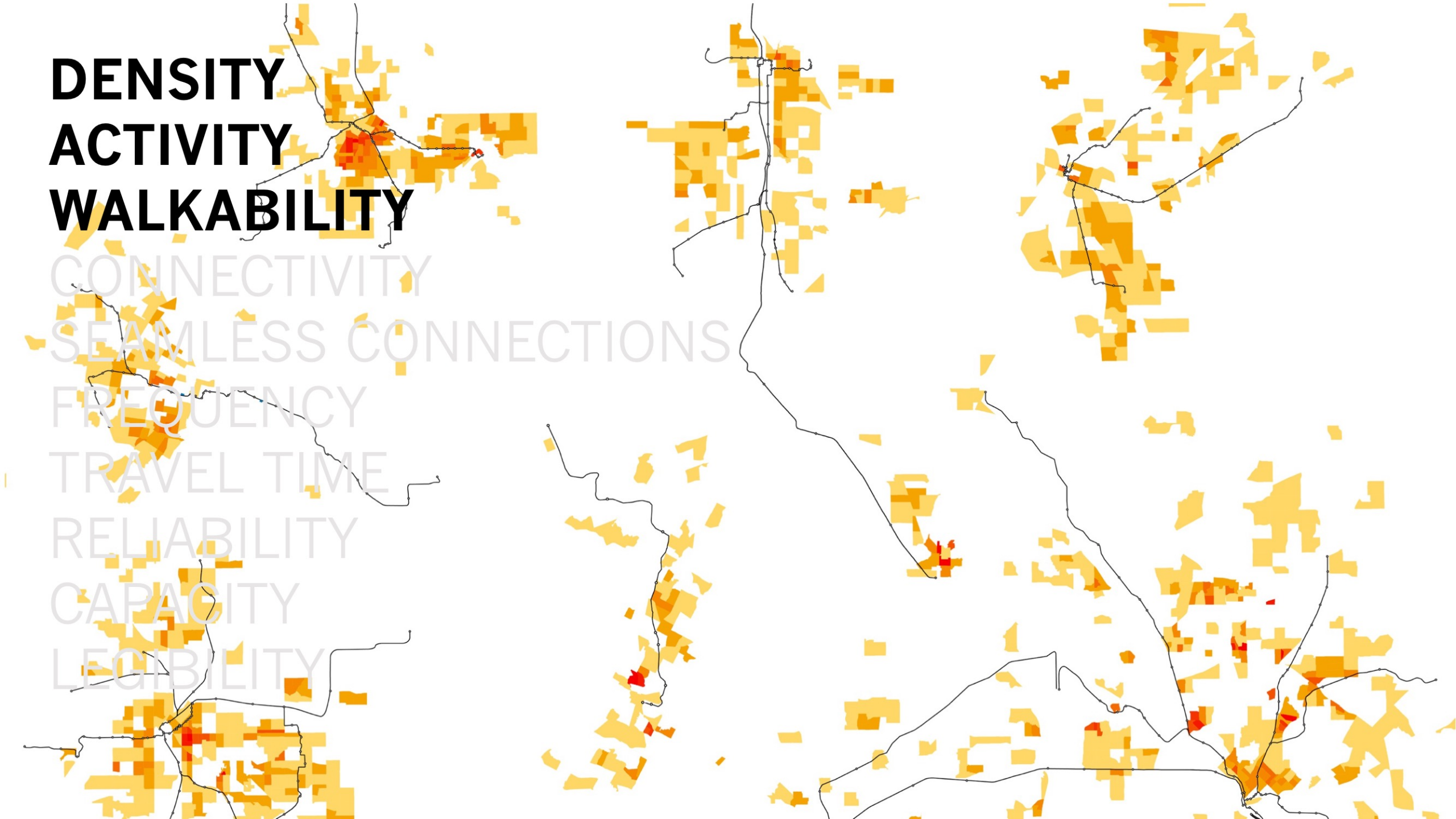
Stations: 39

Frequency: 6–12 min peak/midday, 6–18 evenings/weekends

Avg weekday ridership: 58,665

Ridership per mile: 2,631

But we don’t do this very well.


DENSITY
ACTIVITY
WALKABILITY
CONNECTIVITY
SEAMLESS CONNECTIONS
FREQUENCY
TRAVEL TIME
RELIABILITY
CAPACITY
LEGIBILITY

Heavy Rail (BART)

LARGE SYSTEM

Opened: 1972

Last Expanded: 2017

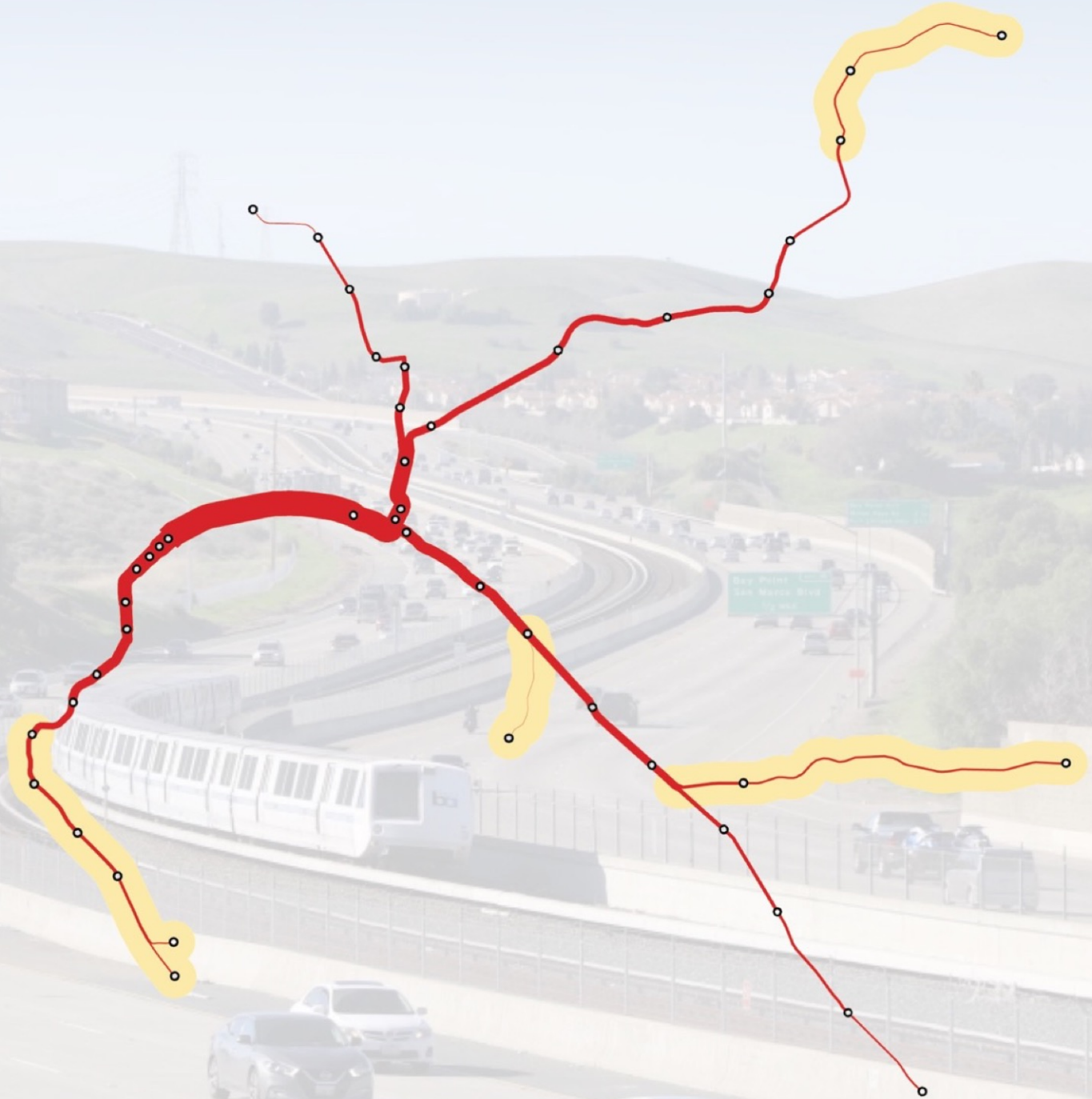
Length: 109 miles (10.2 under construction)

Stations: 46 (2 under construction)

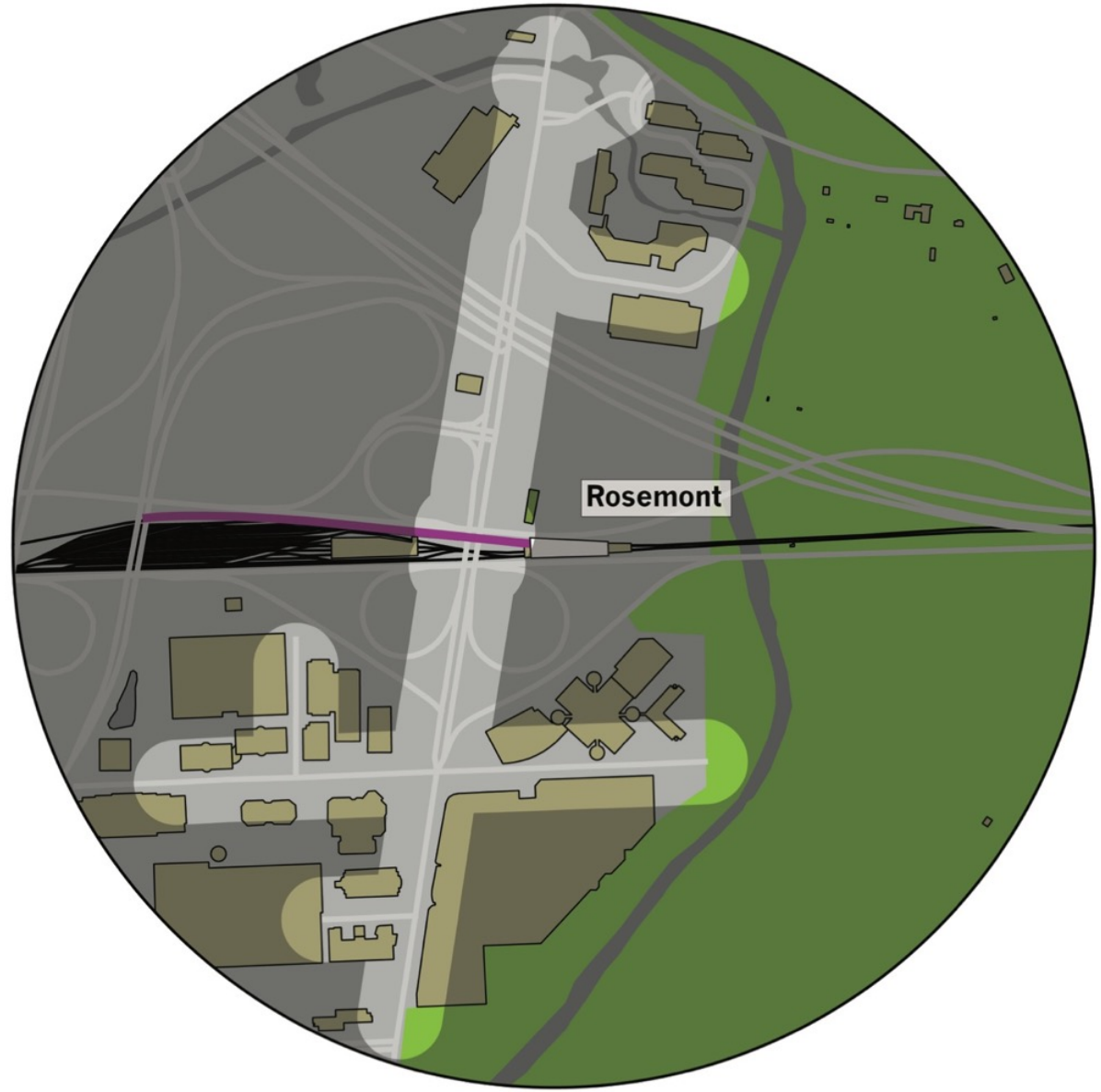
Frequency: 3–15 min peak, 15 min weekday, 20 min night/weekend

Avg weekday ridership: 439,600

Ridership per mile: 4,033



Central Station


Rosemont

MEDICAL CENTER

UNIVERSITY OF CINCINATTI

UPTOWN

DOWNTOWN CINCINATTI

COVINGTON

Streetcar (Cincinnati Bell Connector)

SMALL SYSTEM

LOW PERFORMER

Opened: 2016
Last Expanded: N/A
Length: 2 miles
Stations: 9
Frequency: 12–15 min
Avg weekday ridership: 1,300
Ridership per mile: 650

Light Rail (DART)

LARGE SYSTEM

Opened: 1996

Last Expanded: 2016

Length: 92.6 miles

Stations: 64

Frequency: 8–15 min peak, 10–20 min midday/evening/weekend

Avg weekday ridership: 101,500

Ridership per mile: 1,096

Commuter Rail (Capital MetroRail)

SMALL SYSTEM

LOW PERFORMER

Opened: 2010

Last Expanded: N/A

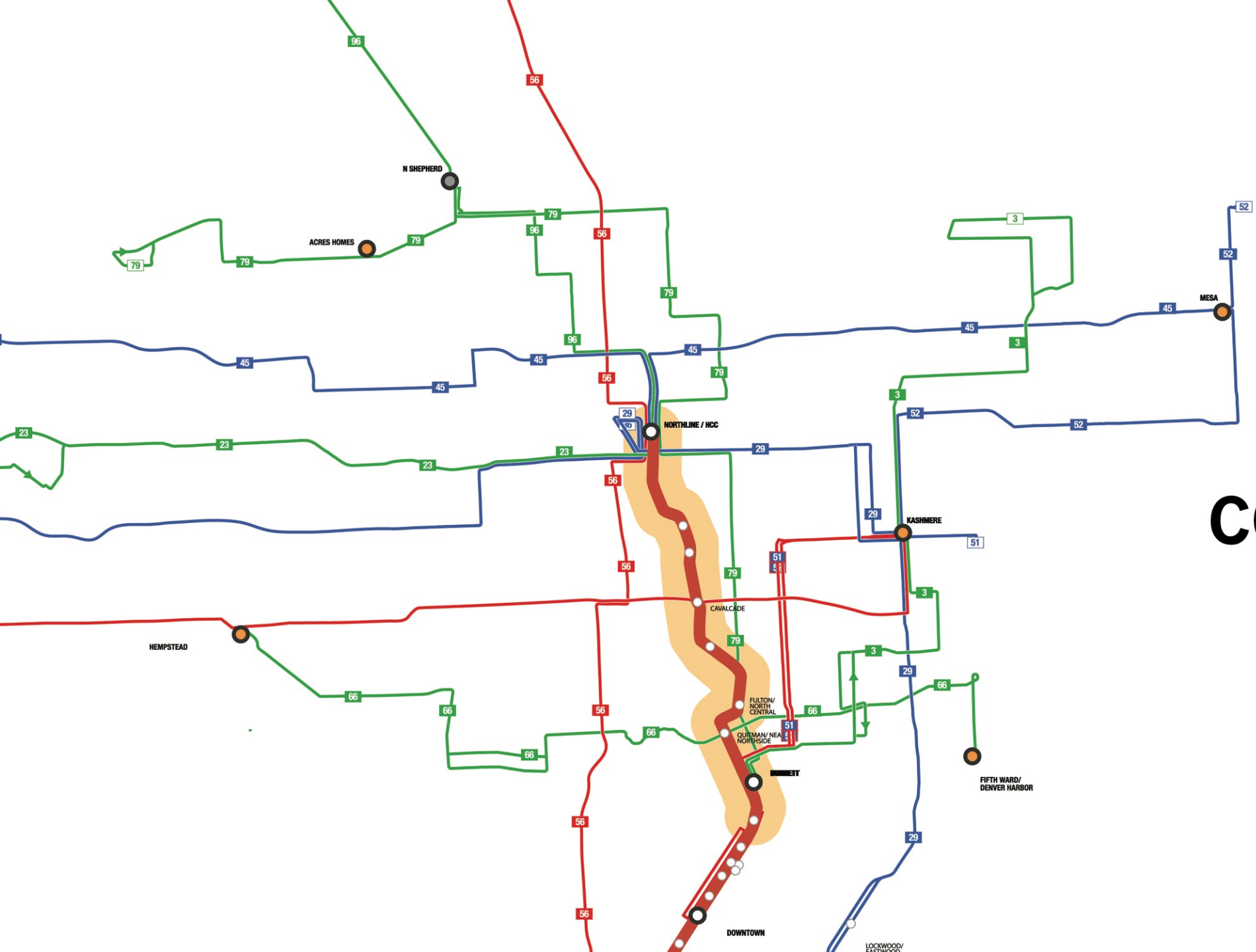
Length: 32 miles

Stations: 9

Frequency: every 30–60 min weekday, with additional peak srvice, Saturday afternoon/evening service (no Sunday service)

Avg weekday ridership: 2,700

Ridership per mile: 84

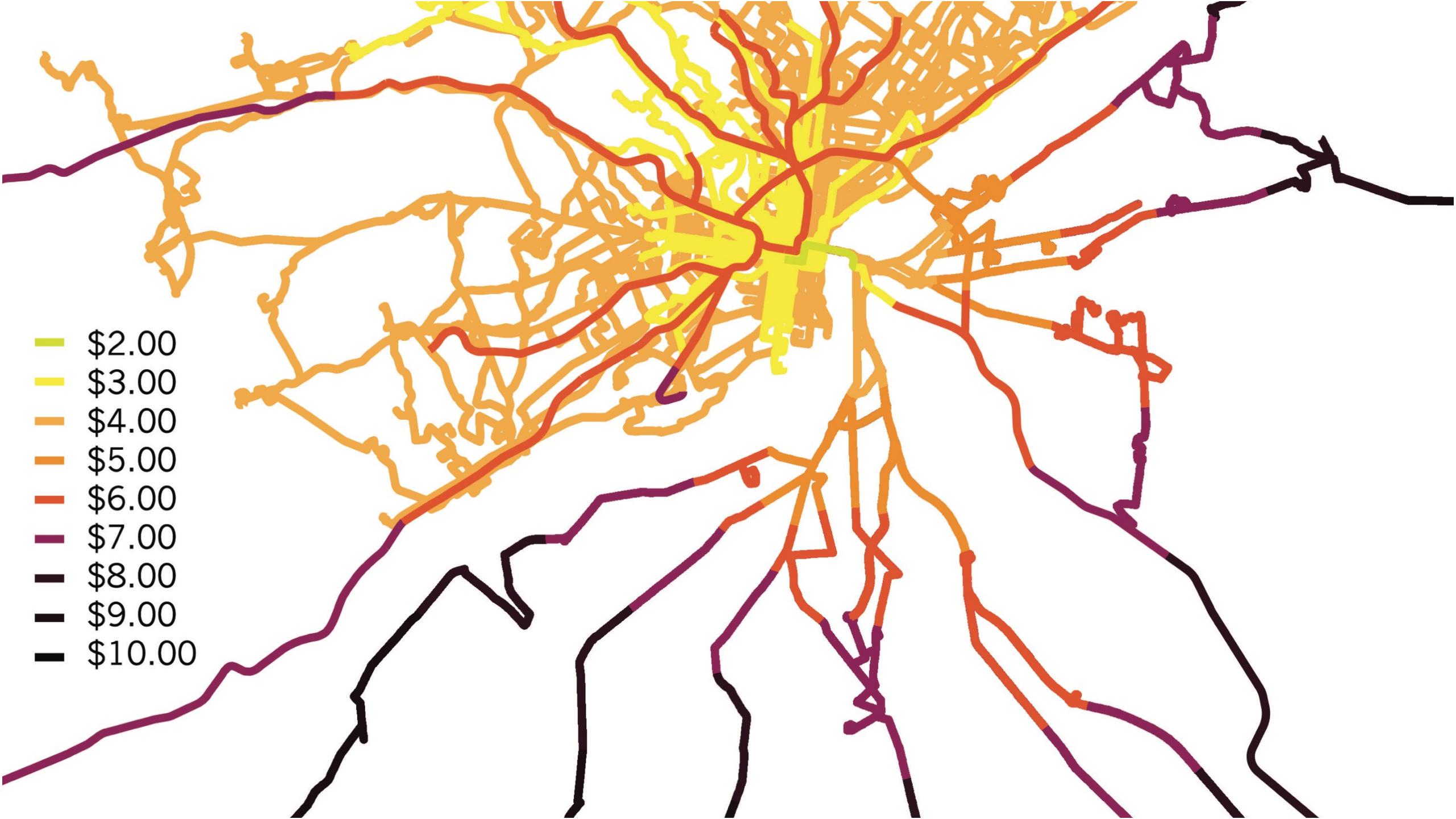


DENSITY
ACTIVITY
WALKABILITY

CONNECTIVITY

FREQUENCY
TRAVEL TIME
RELIABILITY
CAPACITY

65TH ST
TERMINAL


$2.00
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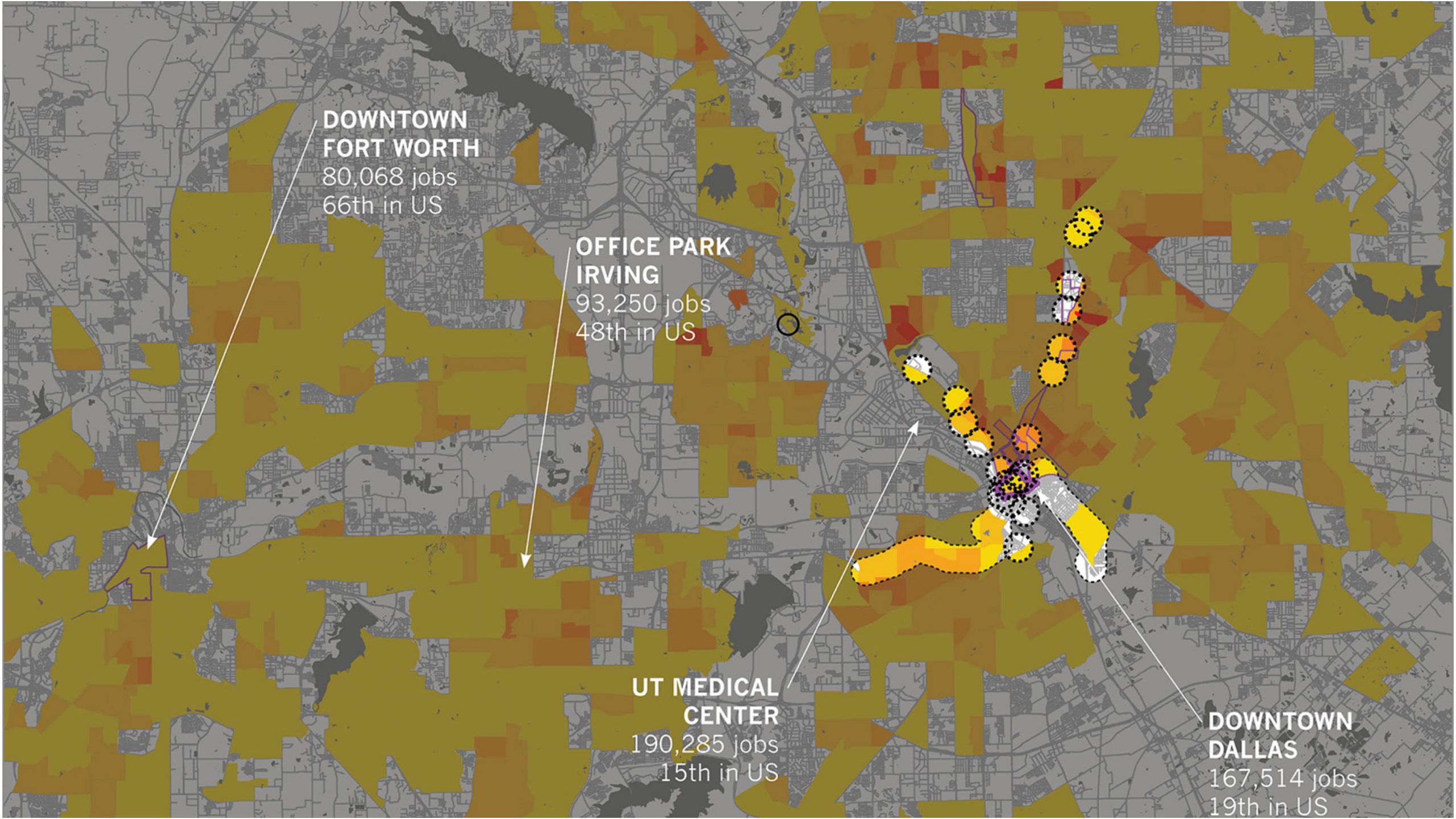
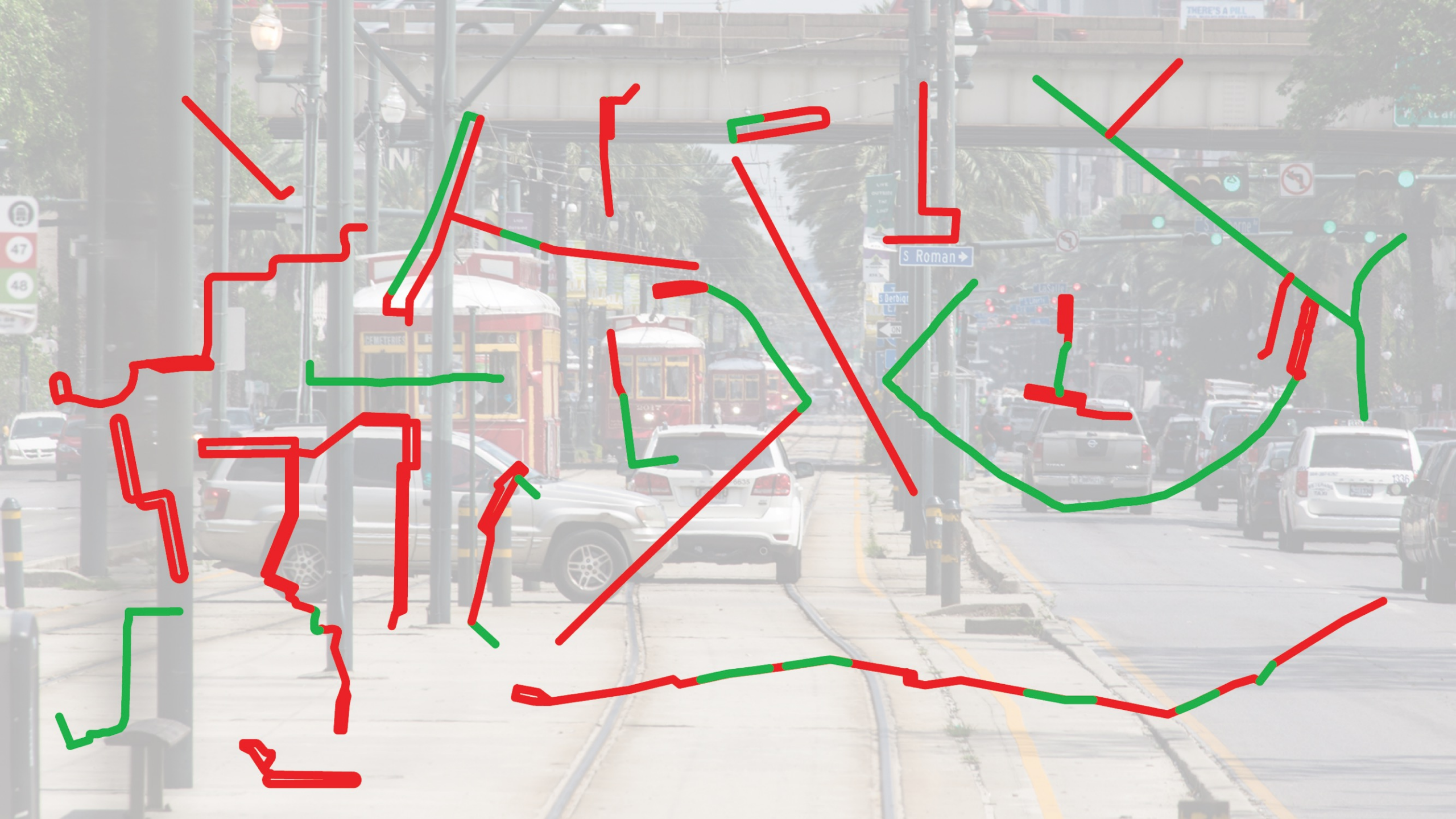
$10.00

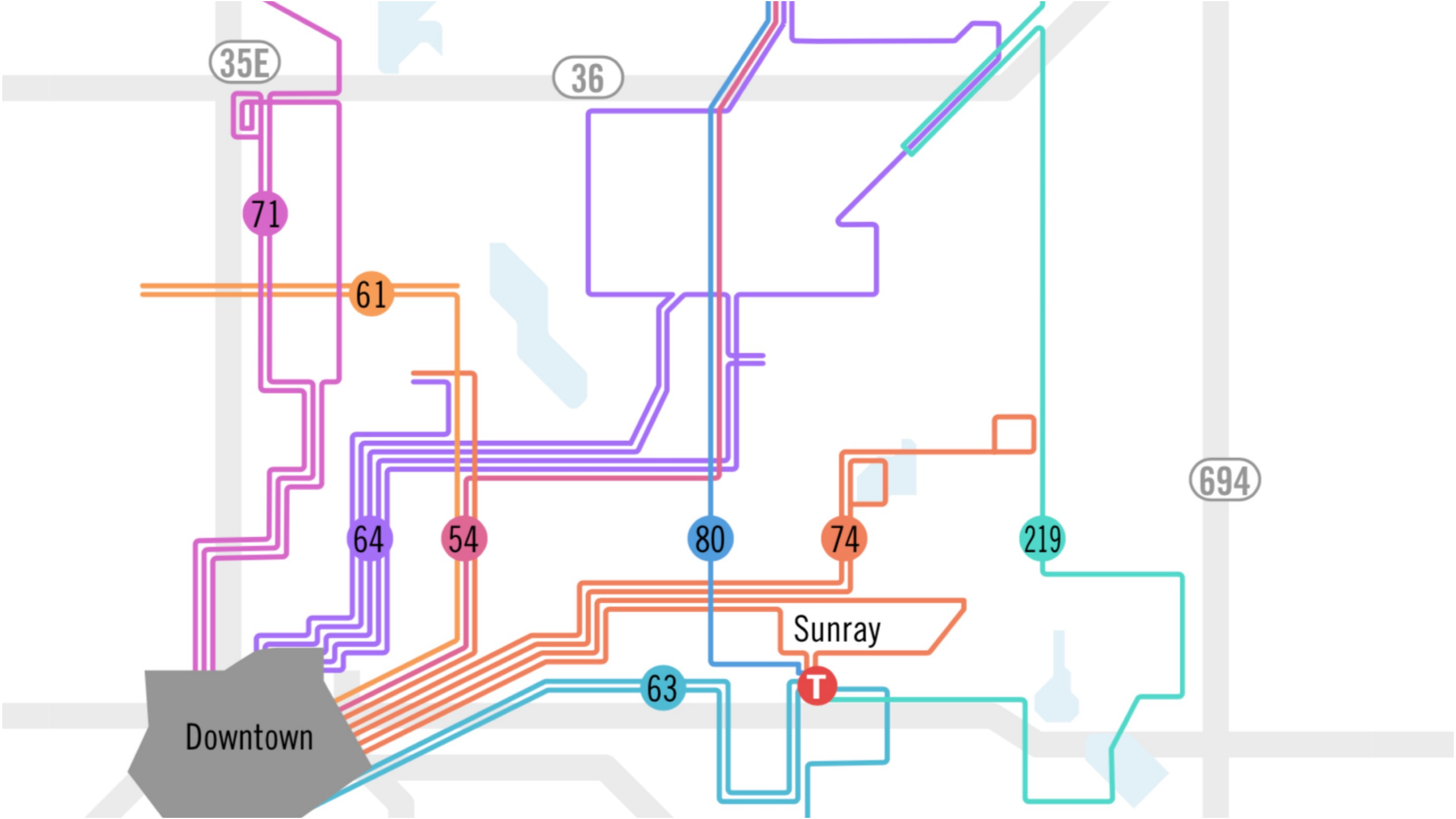
DENSITY
ACTIVITY
WALKABILITY
CONNECTIVITY
FREQUENCY
TRAVEL TIME
RELIABILITY
CAPACITY
LEGIBILITY


DOWNTOWN
FORT WORTH
80,068 jobs
66th in US
OFFICE PARK
IRVING
93,250 jobs
48th in US
UT MEDICAL
CENTER
190,285 jobs
15th in US
DOWNTOWN
DALLAS
167,514 jobs
19th in US

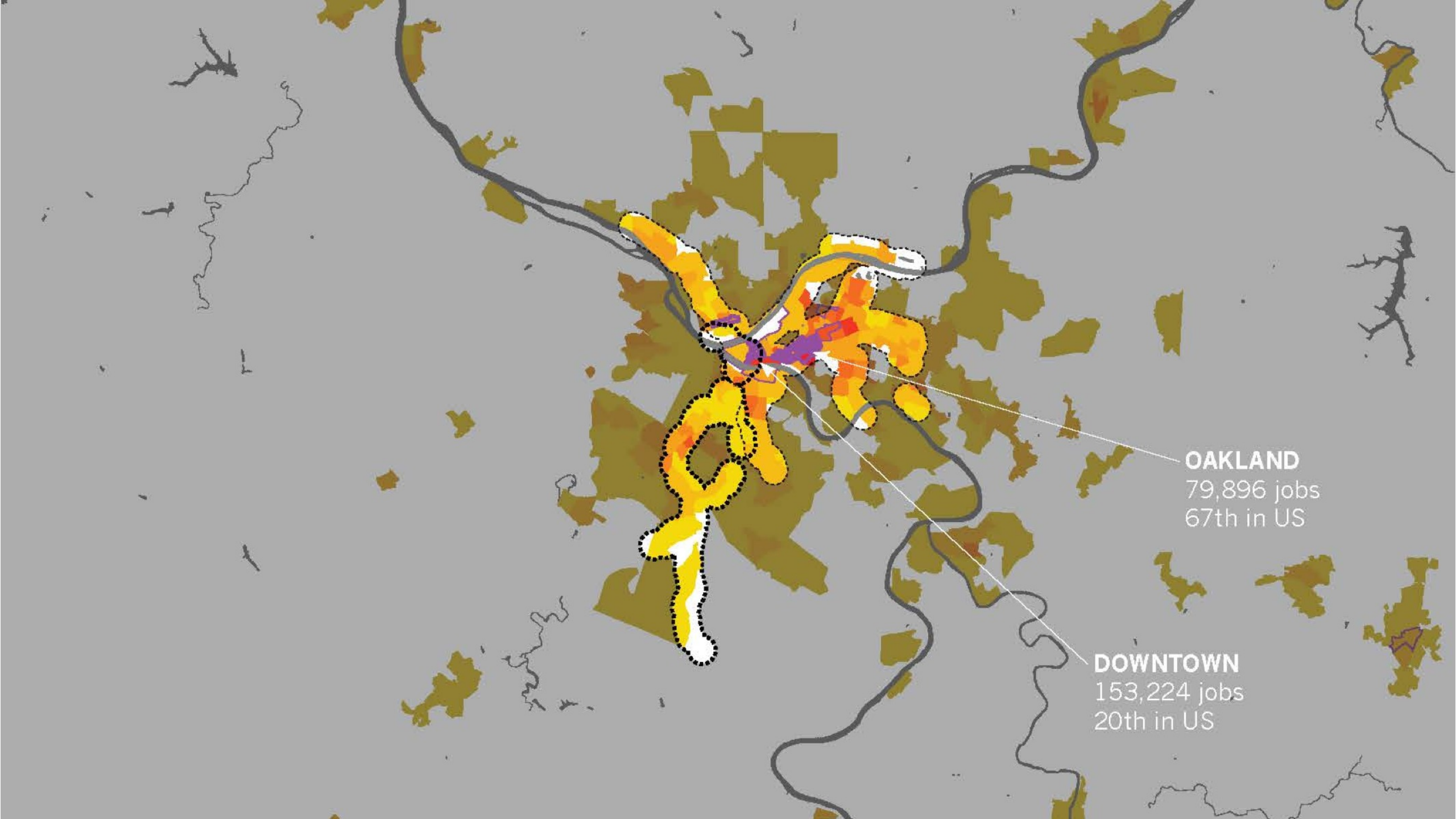
DENSITY
ACTIVITY
WALKABILITY
CONNECTIVITY
FREQUENCY
TRAVEL TIME
RELIABILITY
CAPACITY
LEGIBILITY

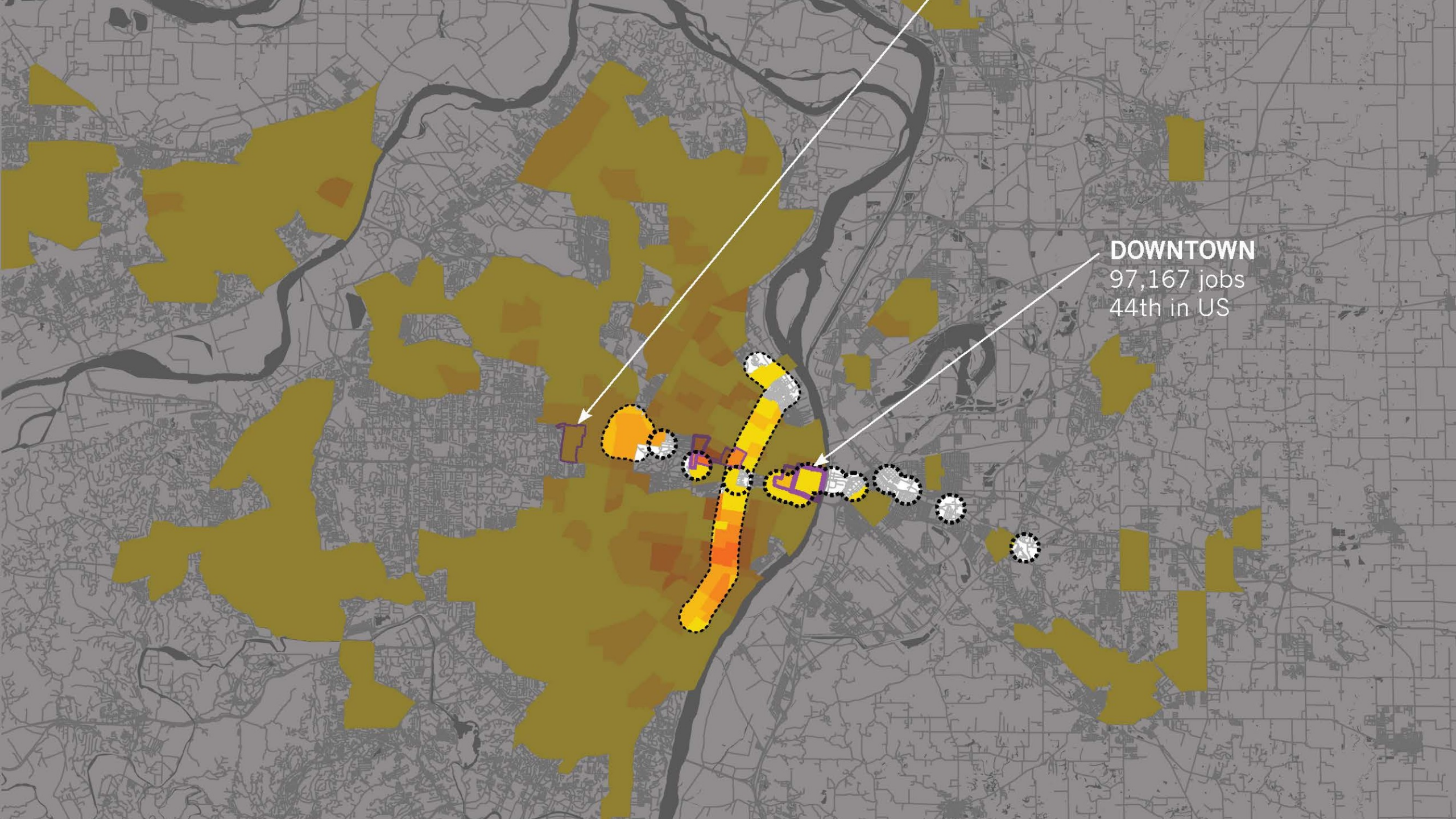

S Roman

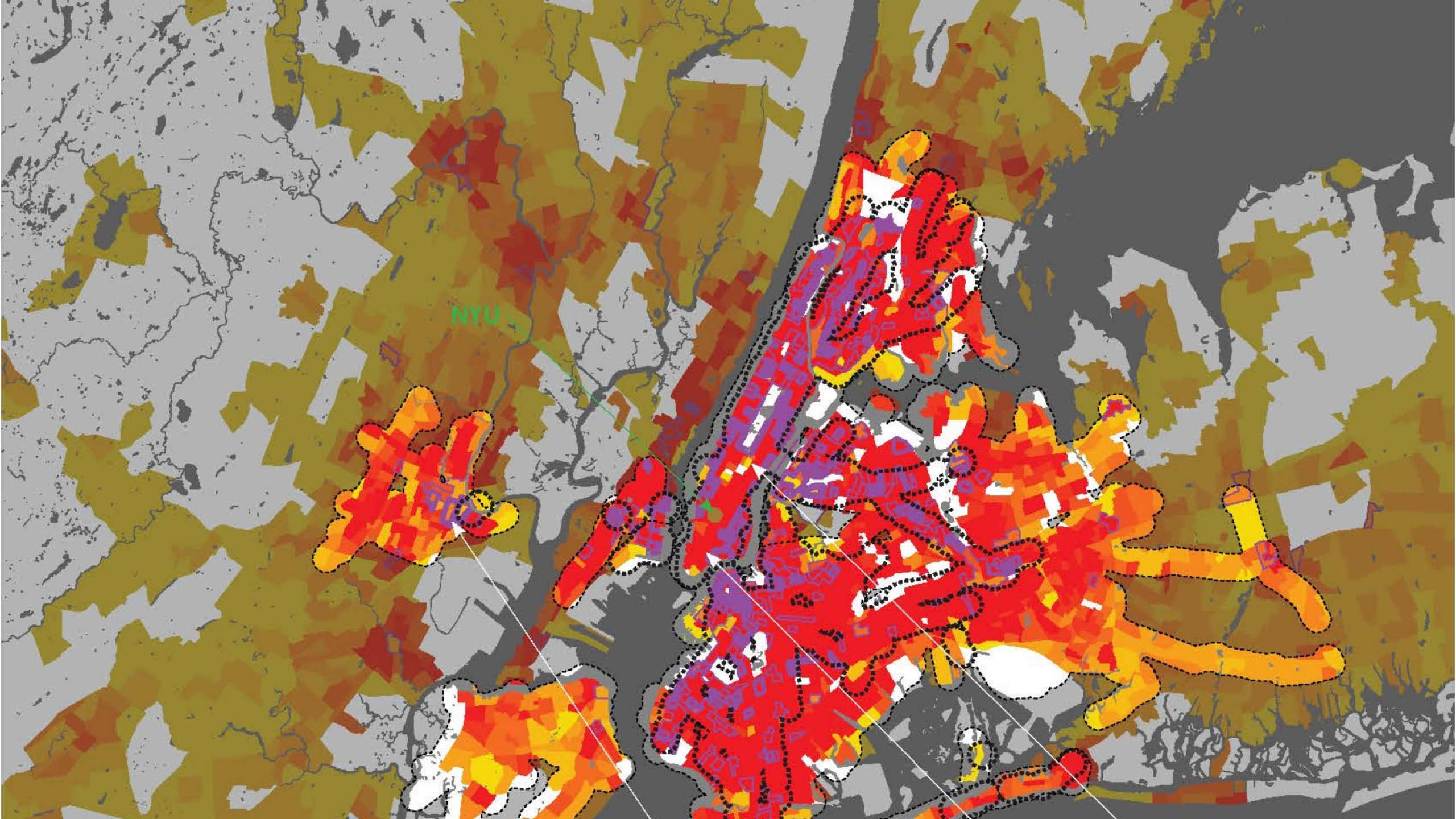
SNELLING & RANDOLPH
to Rosedale Transit Center
SNELLING & RANDOLPH
GAMEDAY FOOTBALL SPECIALS
NORTH
51
the A Line through any door
Next stop: Hamline
DENSITY
ACTIVITY
WALKABILITY
CONNECTIVITY
FREQUENCY
TRAVEL TIME
RELIABILITY
CAPACITY
LEGIBILITY

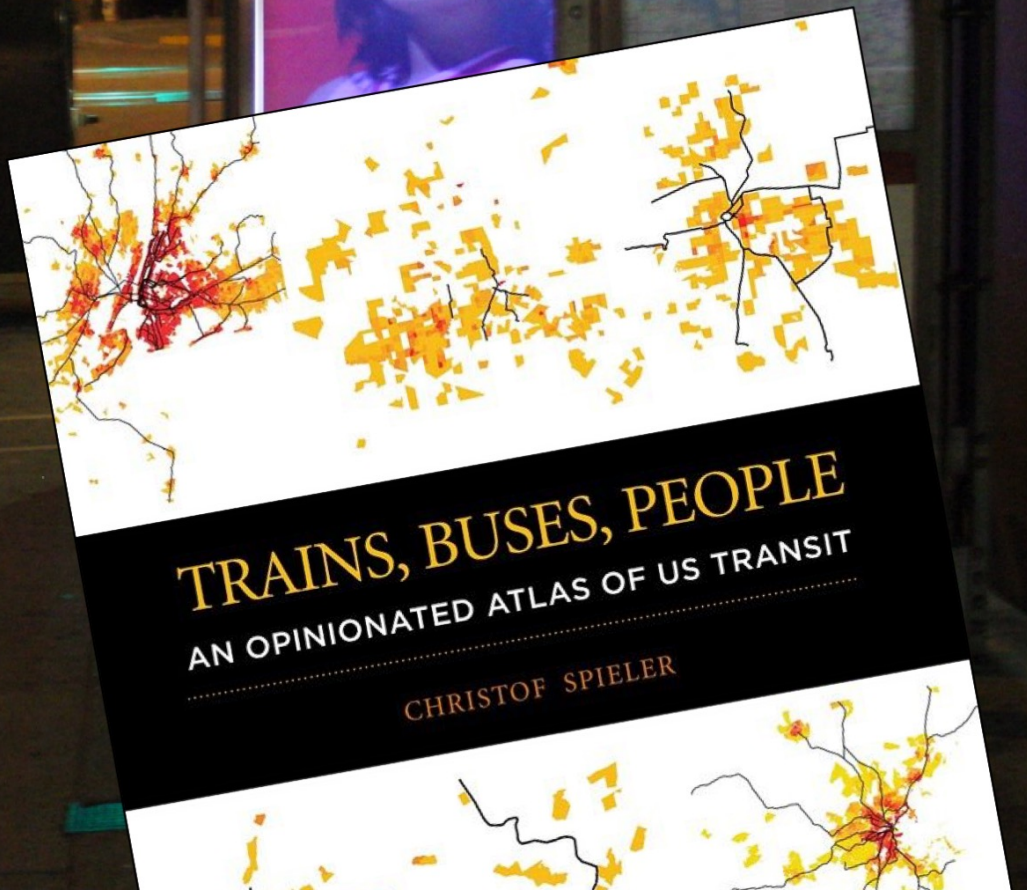

35E
36
694
71
61
64
54
80
74
219
63
Sunray
Downtown

TRAINS BUSES PEOPLE


OAKLAND
79,896 jobs
67th in US
DOWNTOWN
153,224 jobs
20th in US


DOWNTOWN
97,167 jobs
44th in US


NYU

Christof Spieler, PE, LEED AP
Director of Planning
Huitt-Zollars

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