



Doable City Reader

CHAPTER 3: NETWORK CONNECTIONS

www.8-80cities.org/doablecity/

Summary

Far too often, pieces of city infrastructure—whether bike lanes, parks or transit lines—are conceived of and built piece by piece. But just like how the roads in a city are only useful because they're all connected to one another, it is critical that other systems be designed in the same way: as rich networks interwoven in a symbiotic relationship with other networks. The more we do that, the more useful every individual piece becomes.

In this chapter you'll read about solutions that will help you:

Build bicycle networks that actually get people cycling: Proper cycling infrastructure is a critical key to helping the majority of people feel safe enough to ride their bikes in the city. But how much is enough? These maps of different approaches to building cycling networks around the world help explain the difference between a city that cycles, and a city that doesn't.

Build a public transportation system that offers freedom to users: Many cities spend billions of dollars building subways or other major rapid transit lines, but then fail to develop strong connections to fill the space between them. Learn how frequency and span can help build transit systems that feel not just useful, but empowering.

Create parks and public spaces that exceed their own boundaries: When it comes to parks, proximity is key. The closer a park is to where you live or work, the more likely you are to use it and experience the health and psychological benefits that it offers. By making it easier to walk, bike or take transit, high density cities like Chicago are reducing that “distance,” making parks more accessible to more people.

Make every city system more powerful by linking networks together: The Portland Bureau of Transportation's Bicycle Program estimated that making public transit more friendly and accessible for cyclists increased the capture area of transit investments 12-fold, because cycling extends the potential reach of the transit network so greatly. Learn how walking, cycling, transit and parks and public space systems work hand in hand to be greater than the sum of their parts.

Network Connections:

Getting where we need to go

It helps to compare cities and their transportation systems to forests. Rich, diverse ecosystems are always healthier and more resilient than monocultures. Just as a mixed forest can better survive a beetle infestation than a tree farm consisting of one variety of pine, a city that enables endless combinations of mobility will be much more resilient than a city that organizes itself around just one way of moving.

— Charles Montgomery, *Happy City*

Imagine this: you're driving on a highway when you encounter large signs directing you to stop, get out of your car and push it for 50 metres before proceeding. This is the absurd scenario Andreas Rohl, Copenhagen's bicycle program manager, asks audiences to entertain when giving talks around the world about how to create world-class bicycle infrastructure. His conceit is often met with chuckles. But his point is salient: "You would never accept that," he explains. So why would you ask this of cyclists, in order for them to get safely from one bike lane to another on their way from A to B?

Far too often, pieces of city infrastructure — whether bike lanes, parks or transit lines — are conceived of and built piece by piece. But just like how the roads in a city are only useful because they're all connected to one another (as well as to highways, parking lots and gas stations), it is critical that other systems be designed in the same way: as rich networks interwoven in a symbiotic relationship with other networks. The more we do that, the more useful every individual piece becomes.

GETTING FROM A TO B, (AND ALL POINTS BETWEEN)

A lack of network thinking is often most glaring when it comes to cycling infrastructure. Take the maps on the next page of Portland's bicycle facilities, for instance, a city famous for its cycling culture.

Although the entire cycling network, deemed the "fearless adult cyclist" map in this graphic, may appear complete at first glance, numerous studies have shown that the vast majority of people do not feel comfortable cycling mixed in with traffic without separated bike lanes and will only get on their bikes regularly if they can ride separated from traffic.

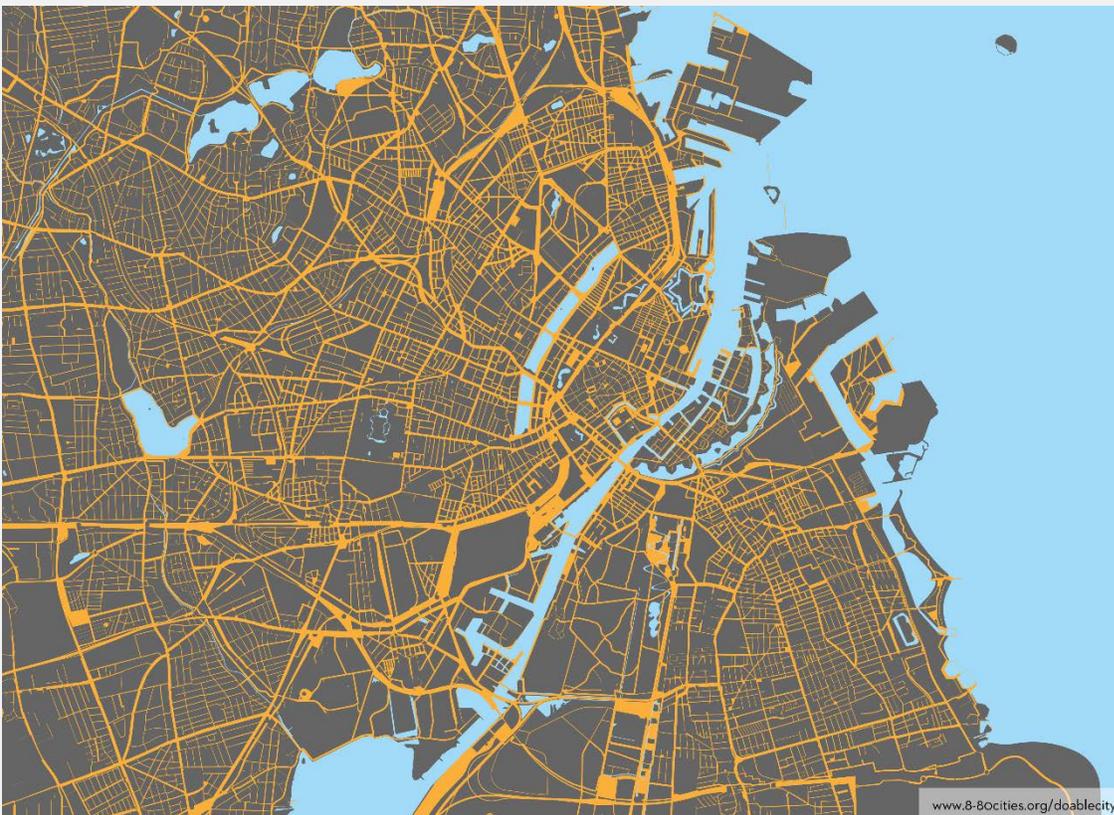
Even the kamikaze cyclists that will ride in any environment strongly prefer this type of infrastructure and will go out of their way to use it. So for the majority of the population, only the routes on the last map, deemed “new or vulnerable cyclist” in the graphic below, are actually usable.

For such a person, there is no possible route from one part of the city to another. Only a few blocks here and there are available to them, along with the occasional recreational trail, so, more often than not, there’s no way for them to get where they’re going.

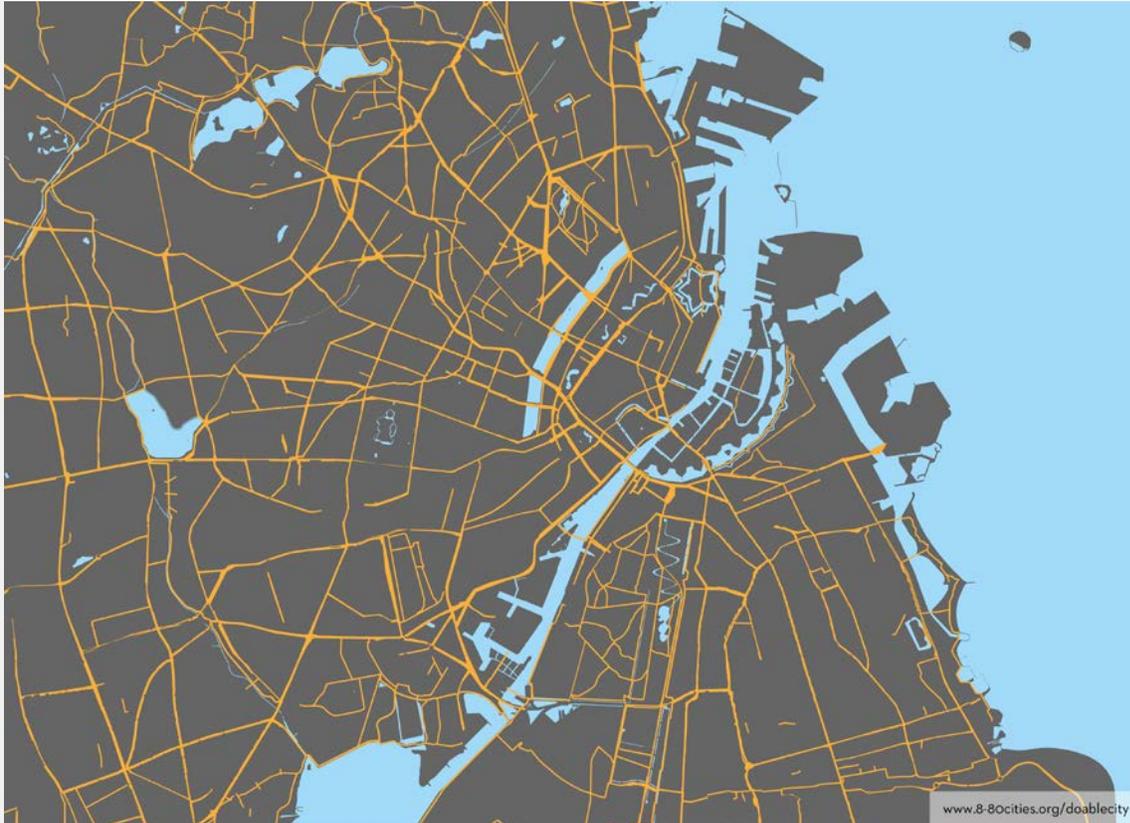
This is the case in most cities throughout North America, which helps explain why even the continent’s most lauded cycling cities still don’t see more than about 5 per cent of their population regularly commuting by bike. On the other hand, similar maps of Copenhagen show a different story: they barely change at all.

A rich and highly connected network of bike lanes appropriate for all ages and abilities to get anywhere they need to go exists throughout the city — one of the main reasons that 40 and 55 per cent of Copenhageners commute daily by bike in the region and city center, respectively.

Studies show that people are only willing to go so far out of their way to find dedicated cycling infrastructure. In Copenhagen, they don’t have to.



Copenhagen's road network



Copenhagen's network of cycle lanes appropriate for a new or vulnerable cycling

The same concept applies to public transportation. Many cities spend billions of dollars arguing for and building subways or other major rapid transit lines, but then fail to develop strong connections to fill the space between them.

It's great if someone is able to take the subway very quickly to a stop near to her neighbourhood, but if she is stuck waiting for a long period of time for a slow and lumbering bus to carry her the last leg of her journey home, that rapid transit line is considerably less convenient.

Frequency and span [the time of day when service begins and ends] are the essence of freedom for a transit passenger. High-frequency, long-span service is there whenever you want to use it, even for spontaneous trips. If we want people to choose more transit-dependent lifestyles by owning fewer cars, they will need transit that's there most of the time, and where they'll never have to wait long. Both frequency and span are fundamental features of transit systems that feel empowering..."

– Jarrett Walker, Human Transit

THE PLACES WE GO

Even public spaces can be thought of as part of a network. As Jeff Risom of Gehl Architects pointed out at the Doable City Forum, this is not necessarily because a person moves from one space to another all in the same day, but rather because different parks and public spaces serve different purposes throughout the week, month or year; from the small neighbourhood parks where dogs are walked daily, to the megaparks that draw people occasionally for major concerts and city events.

On top of that, citizens only benefit from parks and public spaces if they actually use them, which means that having many scattered throughout the city is critical for them to best serve their purpose. For example, one study in Los Angeles showed a significant correlation between residents' proximity to a park from their home and their mental health. After controlling for other variables, the study found that the farther away from a park residents lived (which correlated with fewer visits to the park), the less likely they were to get the recommended daily dose of physical activity and the more likely they were to experience psychological distress.

This is one of the reasons why former New York City mayor Michael Bloomberg insisted in his sustainability and resiliency plan (PlaNYC) that every New Yorker live within a five to ten minute walk from a park at most. Central Park is a standout feature of New York City thanks to its size and stature, but if it were the city's only park, it would contribute very little to overall quality of life for most New Yorkers.

INTEGRATION IS KEY

In the same way that one bike lane or transit line or park is exponentially more useful and efficient when connected to many others, networks of public spaces, pedestrian, cycling and transit infrastructure must work together in order to function at their potential. Everyone who takes public transit, or drives for that matter, is also pedestrian or a cyclist on either end of his trip.

Ensuring that people can get to and from the station comfortably and quickly is one of the major factors that will determine whether or not they will take transit.

This goes beyond just making sure that routes close to transit stations have sidewalks, for instance, though that's an important start. It also means integrating bike share systems with transit systems, having secure bike

A study in Washington DC found that every 300 metres farther away from a subway station commuters worked corresponded with a 12 per cent decrease in their likelihood to take transit.

Another study found that 19 per cent of employees working at offices within 800 metres of rapid transit stations in San Francisco took transit, compared to just 5 per cent region-wide.

storage facilities at transit stations, enabling people to take their bicycles on transit with them and having short, direct walking routes to transit, which ideally also offer amenities along the way.

Inadequate connections between networks can produce enormous barriers.

For example, a study in Houston found that three out of five disabled and elderly citizens do not have sidewalks between their home and the nearest bus stop. As a result, fewer than 10 per cent of them use public transit, despite the fact that 50 per cent live within two blocks of a bus stop.

On the flip side, however, the benefits of well-integrated networks done right can also be enormous.

For example, the Portland Bureau of Transportation's Bicycle Program estimated that making public transit more friendly and accessible for cyclists increased the capture area of transit investments 12-fold, because cycling extends the potential reach of the transit network so greatly.

Similarly, Chicago Parks District Chief of Staff Gia Biagi views good pedestrian, cycling and transit connections as essential to the success of the city's park system, as they make more types of parks more accessible to more people.

Cities, like many things, are so much greater than the sum of their parts— when and because those parts work together to build the whole.



*Bus stop without shelter, sidewalks or other amenities in Flint, MI.
Credit: League of Michigan Bicyclists, Flickr*

"In Chicago you have these high-density areas where there's no room to build a new park. So, the point of park development is to reduce friction. How far I am from where I want to go matters a lot less than how much time it takes me to get there. You can remove friction by having things like good public transit, by having bike lanes, by having those pedestrian street level improvements. Then you've extended that park network and you've been able to create an asset that performs even beyond its own physical boundaries."

– Gia Biagi, Chief of Staff, Chicago Parks District

WHO WE ARE

8-80 Cities

8-80 Cities is a non-profit organization based in Toronto, Canada, dedicated to contributing to the transformation of cities into places where people can walk, bike, access public transit and visit vibrant parks and public places. 8-80 Cities' approach is to engage people and communities across multiple sectors to inspire the creation of cities that are easily accessible, safe and enjoyable for all.

8-80 Cities is based on a simple philosophy: If you create a city that's good for an 8 year old and good for an 80 year old, you will create a successful city for everyone.

This is an 8-80 City.

Knight Foundation

Knight Foundation supports transformational ideas that promote quality journalism, advance media innovation, engage communities and foster the arts, with the belief that democracy thrives when people and communities are informed and engaged.

The goal of the Knight Foundation is to preserve the best aspects of journalism and use innovation to expand the impact of information in the digital age. The Knight Foundation focuses on funding Journalistic Excellence, Entrepreneurs and Innovators, and Open Information Systems.

Discourse Media

Discourse Media is dedicated to innovating new models for producing journalism in the public interest. Using collaborative approaches to journalism, Discourse Media aims to foster understanding of both issues society faces and potential solutions.

Their team of reporters, editors, designers and developers produce projects ranging from editorial packages published in partnership with traditional media to stand-alone websites. As journalists, the Discourse Media team works to contribute to positive change with multimedia storytelling that is forward-looking yet critical.

ABOUT THE DOABLE CITY READER

In 2014, 8-80 Cities took on the goal of helping people learn how to kickstart change in their communities. First they launched the Doable Neighbourhood Project in Ontario, an initiative funded by the Government of Ontario to support communities in developing practical and affordable neighbourhood interventions. Then in June, 2014 they collaborated with the Knight Foundation to bring two hundred civic innovators from around North America together in Chicago at the Doable City Forum to share and discover methods for rapid change making. The Doable City Reader is inspired by the rich conversations amongst presenters and participants at that forum. It is a resource for any and all people who want to make change in their cities and is meant to educate, inspire and empower anyone to do so.

For the full Doable City Reader, including Making Change, Hidden Assets and Walkability chapters, visit: www.8-80cities.org/doablecity/