chris strailman
spring 2011
prof. dirk denison

chicago commuter transit design

the story

Chicago is a city that has constantly fought congestion and traffic. Although it has made many attempts to remedy this problem, it has also done things that have contributed to the issue. From closing L stops to limiting bus routes and time tables, the city has created an automobile culture that is putting a strain on the overall infrastructure. In recent years the city has decided that it wants to limit this automobile congestion, especially in the central business area (the Loop). To do this it has raised parking prices to discourage people from driving as well as improved CTA bus routes and train stations along the northern lines, but much less as been done to promote an alternative to driving on the south side, especially between I-94 and the lake. This project will address these issues as well as those of neighborhood connectivity on the south side of Chicago.

the stage

project

This project is a community center/transportation hub serving as the anchor to a transit oriented development within a proposed alternative transportation network.

elevator statement

This project is about making Chicago friendlier to people who utilize alternative transportation. It will focus on improving bike and bus routes on the South Side of Chicago helping to connect this part of the city with the central business area and beyond. This idea of connectivity will also help interconnect the South Side neighborhoods in a transit sense as well as creating a community connection beyond basic transportation needs. It will encourage people to walk, bike, and take public transportation from all areas of the city. It will also promote community activity and growth. This project will help alleviate congestion in the densest parts of the city while also promoting the growth of part in the city in need of development.

case statement

The project itself is based on the idea of how creating a transportation node development in a specific location can serve as the anchor to a network of transportation types that will help connect the city. This location will be around the 51st Green Line Stop because it shows a need for both development and connection with the surrounding neighborhoods and the rest of the city. Based on both the Chicago 2040 and Bike Chicago 2015 plans it is known that Chicago is committed to community development that is tied in with transportation alternatives that bring the city and its diverse neighborhoods together. While the existing public transit system coupled with current bike routes begins to address this issue, this project will propose a solution that brings the near South side neighborhoods together around a transit node that will also serve the rest of the city. Specific improvements will be made to the immediate area around the 51st street station that creates a vibrant street atmosphere and is centered on a multi purpose city building that will house a transportation hub as well as community program to provide for the needs of the surrounding neighborhoods. Further development of local bus routes will aid in connecting the nearby neighborhoods with one another as well as with the CTA train network. This will be the key to linking the downtown and North side areas with the South side. A look at the bike path network and a proposal for its improvement will add another dimension to the transportation alternatives while also creating a new market for tourism and recreation on the South side. The final piece of this project will be a study of automobile traffic and parking in the area. Automobile traffic is part of our society, but by developing a plan for alternatives it can be reduced to a secondary option if the new strategies create an easier transit experience.

the stage

goals

The project must develop a plan that encourages multiple types of transit other than automotive.

The project needs to create a sense of community and connectivity.

The project needs to build upon existing infrastructure and architecture to knit a comprehensive, connected urban fabric.

The project needs to create a type of transit node that is currently not available along the southern portion of the green line.

guiding principles

The project will promote sustainable transit and design through connecting existing public and active transit routes.

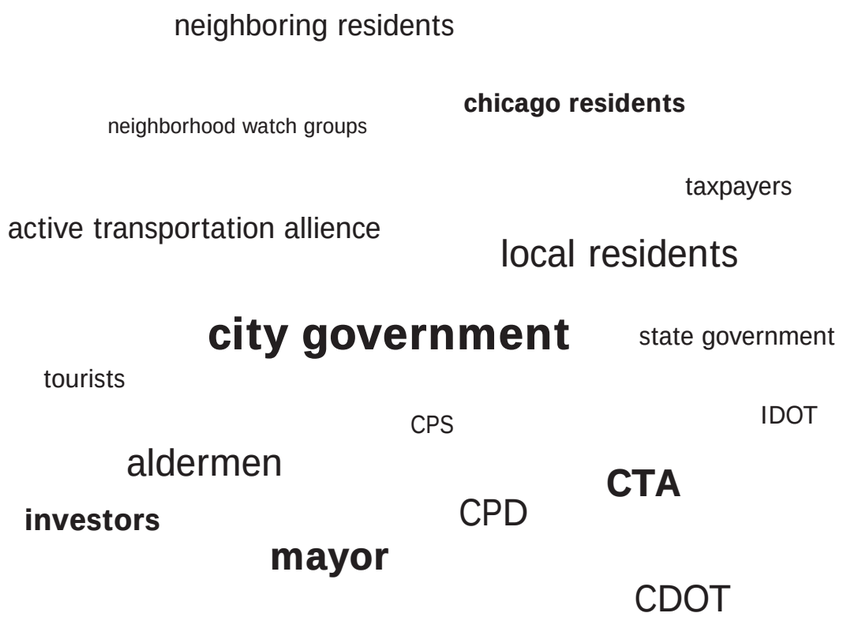
The project will create mixed use developments with program synergies.

The project will study different types of alternative transportation and implement them as necessary to bring people and communities together creating a transit node.

The project will preserve the neighborhood culture and style in both design and scale.

The project will develop a plan that encourages flow and helps combat congestion by giving options for travelers.

players



funding

Most aspects of this project are in the public realm and will therefore be paid for with public funds collected through taxes, fees, bonds etc...however, the opportunity for TIF funding for private investors is available and should be considered with the intention that their work will help achieve the overall goal.

the stage

The overall feel and culture of the neighborhoods will be maintained.

identity

Active and healthy lifestyles will be a focus of the community and its infrastructure.

activity

Neighborhood as well as city wide connections will be made to create an active node.

connection

large scale program

add bike lanes

add bus stops

add bus routes

add light rail

node scale program

widen sidewalks

eliminate curb cuts

add vegetation

add mixed use development

add grocery store

add community center

add housing

building scale program

community space

police station

city offices

transit center

the stage

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program analysis

		Number	Area per Item (sf)	Total Area (sf)
Police Station				1900
	Lobby/Waiting	1	400	400
	Front Offices	1	200	200
	Locker Rooms	2	300	600
	Storage	1	400	400
	Misc.		300	300
Open Retail Space				6000
City Offices				12000
Transit Center				2200
	Lobby/Waiting	1	300	300
	Information Office	1	200	200
	Rental Office	1	200	200
	Rental Storage	1	500	500
	Office	3	100	300
	Storage	1	400	400
	Misc.		300	300

Building Net		22100
Ciruclation Factor	30%	7293
Mechanical Factor	20%	4420
Building Gross		33813

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the city

the neighborhoods

Urban Neighborhood

Address: 319 E. 51st Street

Date Established: August 29, 1892

Most Recent Renovation: 1997

Distance to Loop: 28850 ft

Travel Time to Loop: 15 min

Average Weekday Riders: 1,106

TIF Area: 122.49 acres

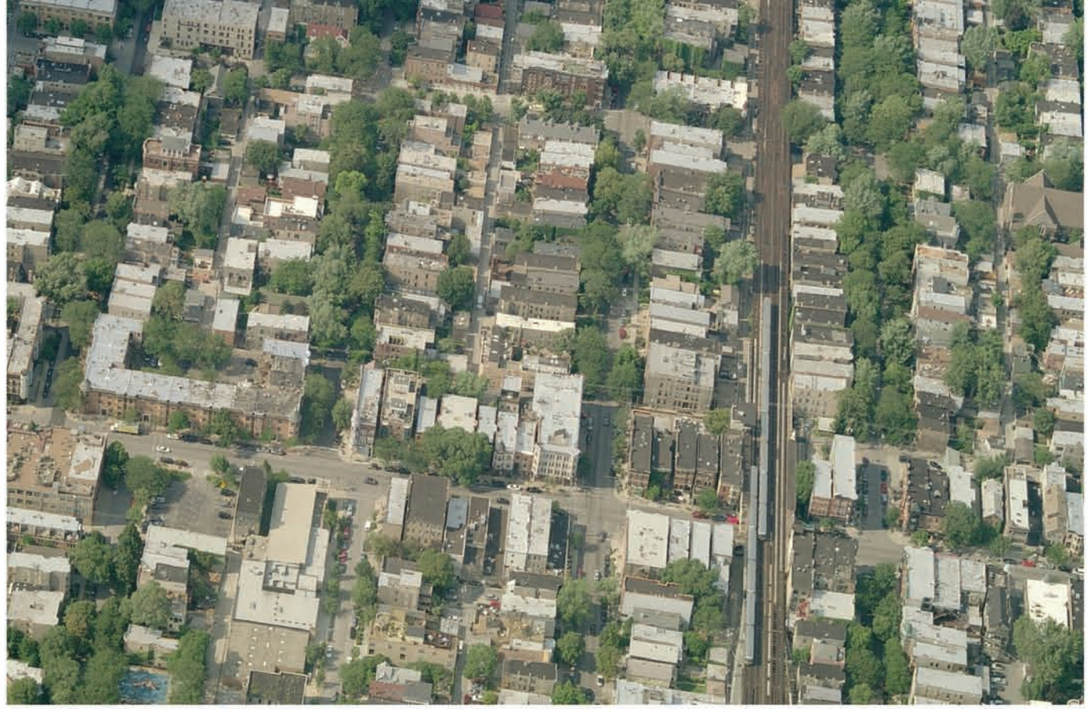
Abandoned or Dilapidated Area: 71,313 sf

Population: 3,428

Per Capita Income: $15,179

Unemployment Rate: 22%

Individual Poverty Rate: 40%



Local Activity Center

Address: 944 W. Armitage Avenue

Date Established: June 1, 1900

Most Recent Renovation: 2008

Distance to Loop: 15500 ft

Travel Time to Loop: 13 min

Average Weekday Riders: 3,874

TIF Area: 4.86 acres

Abandoned or Dilapidated Area: N/A

Population: 11,557

Per Capita Income: $67,070

Unemployment Rate: 12%

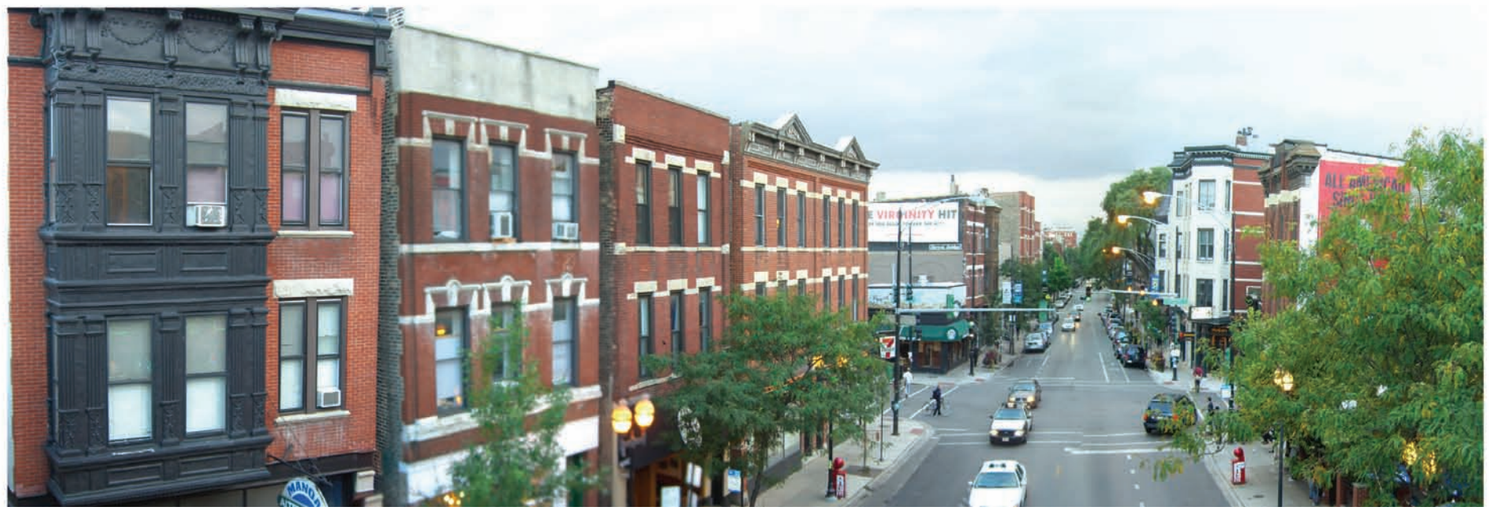
Individual Poverty Rate: 7%

Business Zoning

B1

B2

B3



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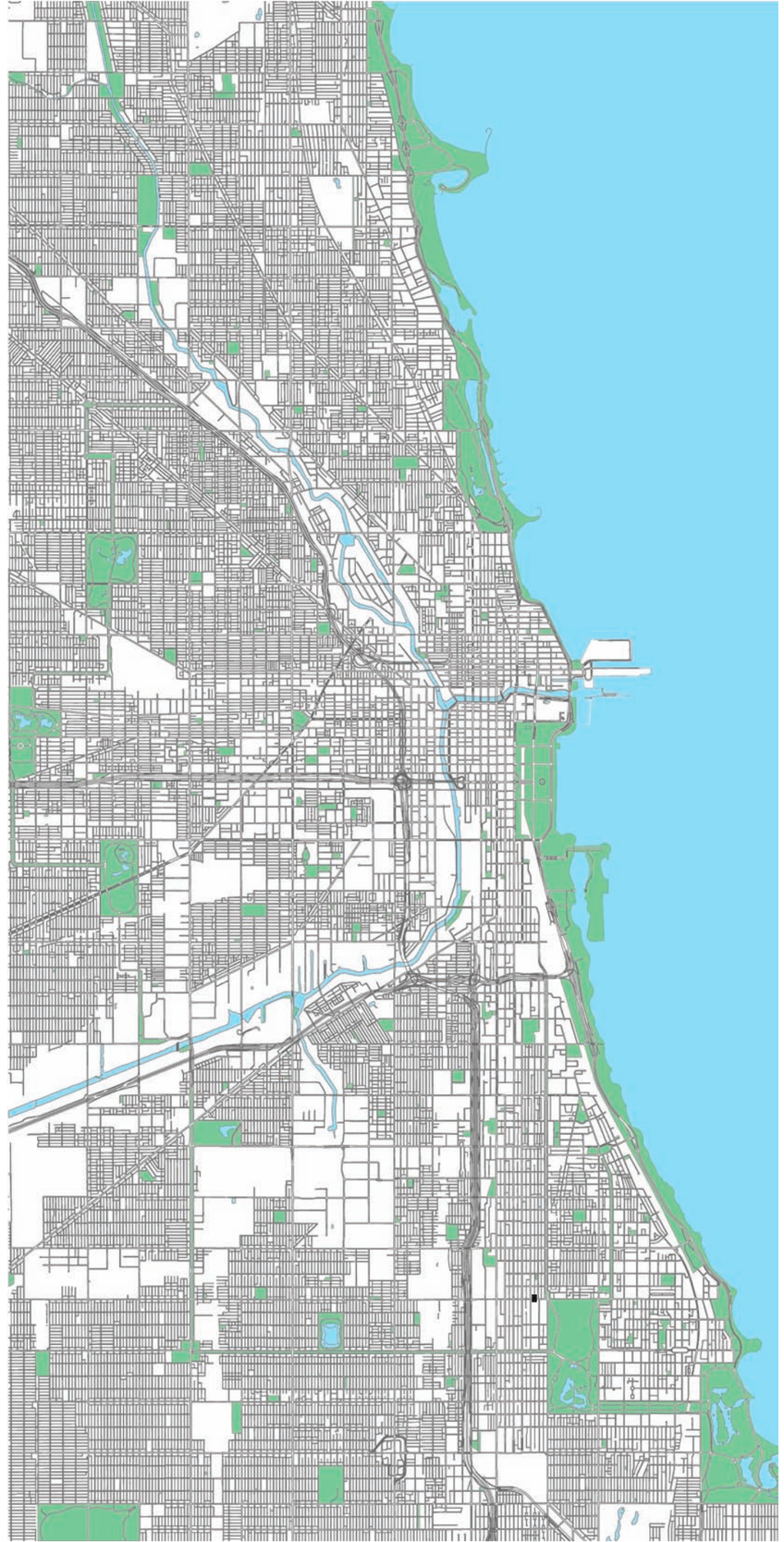

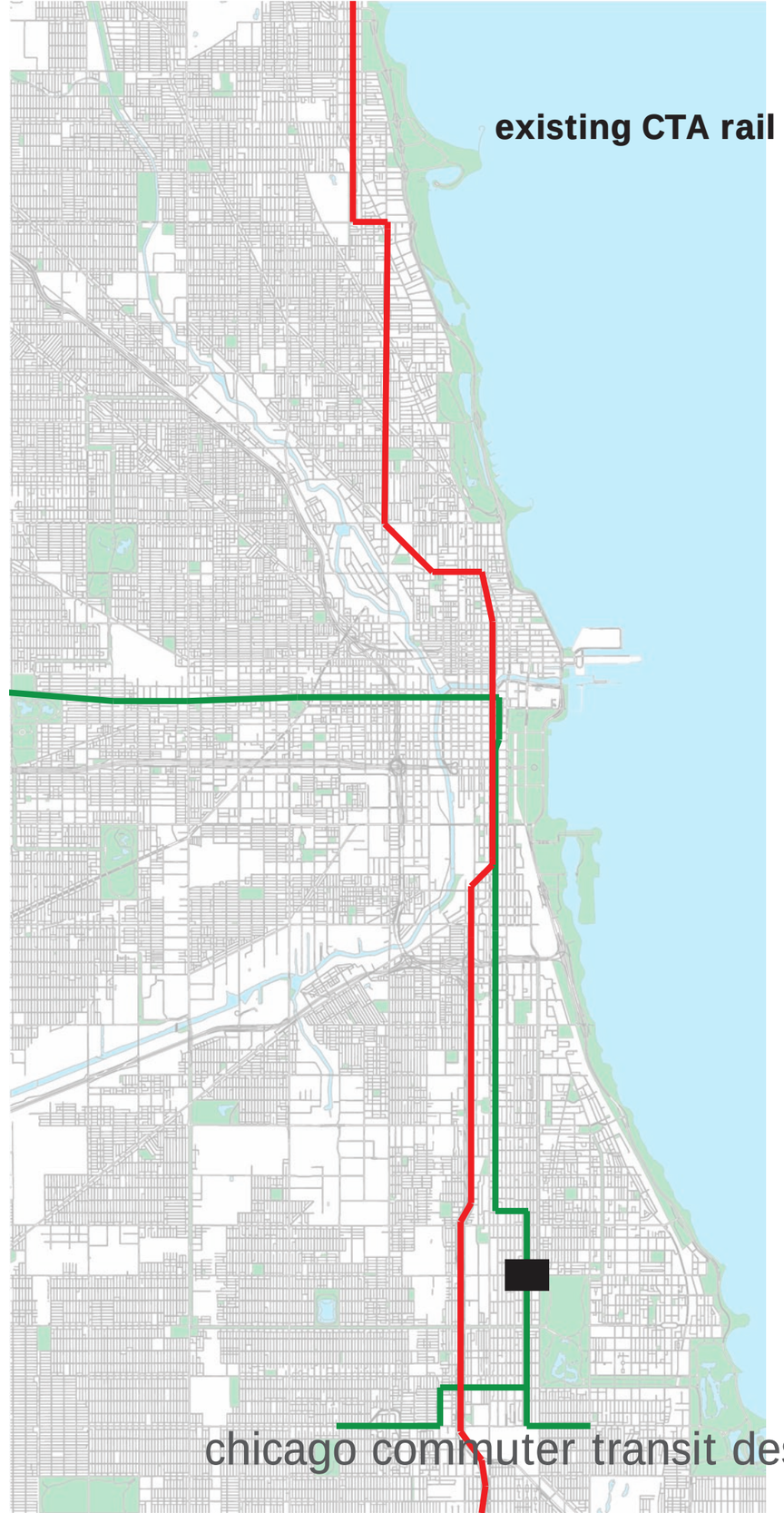

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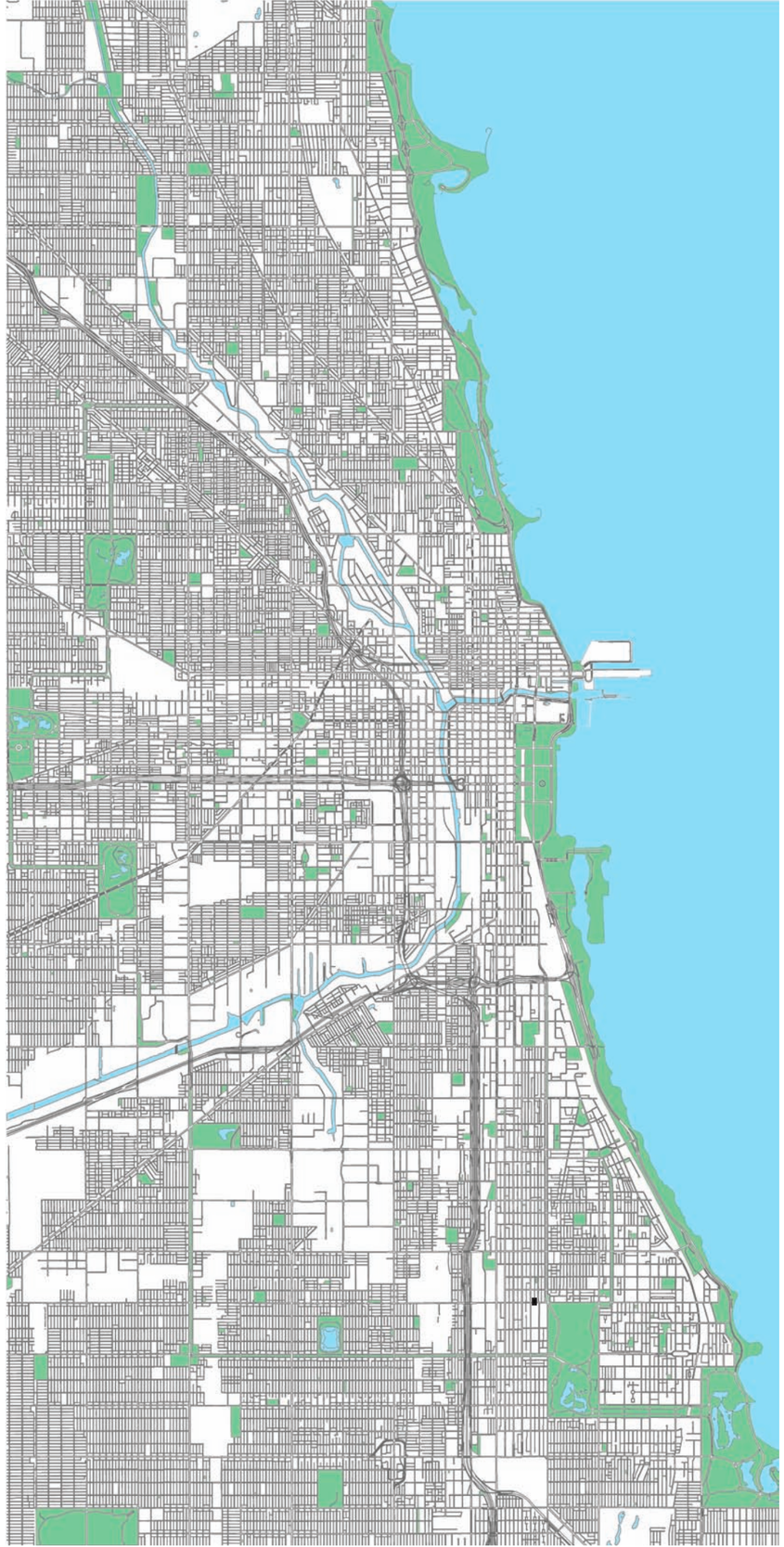

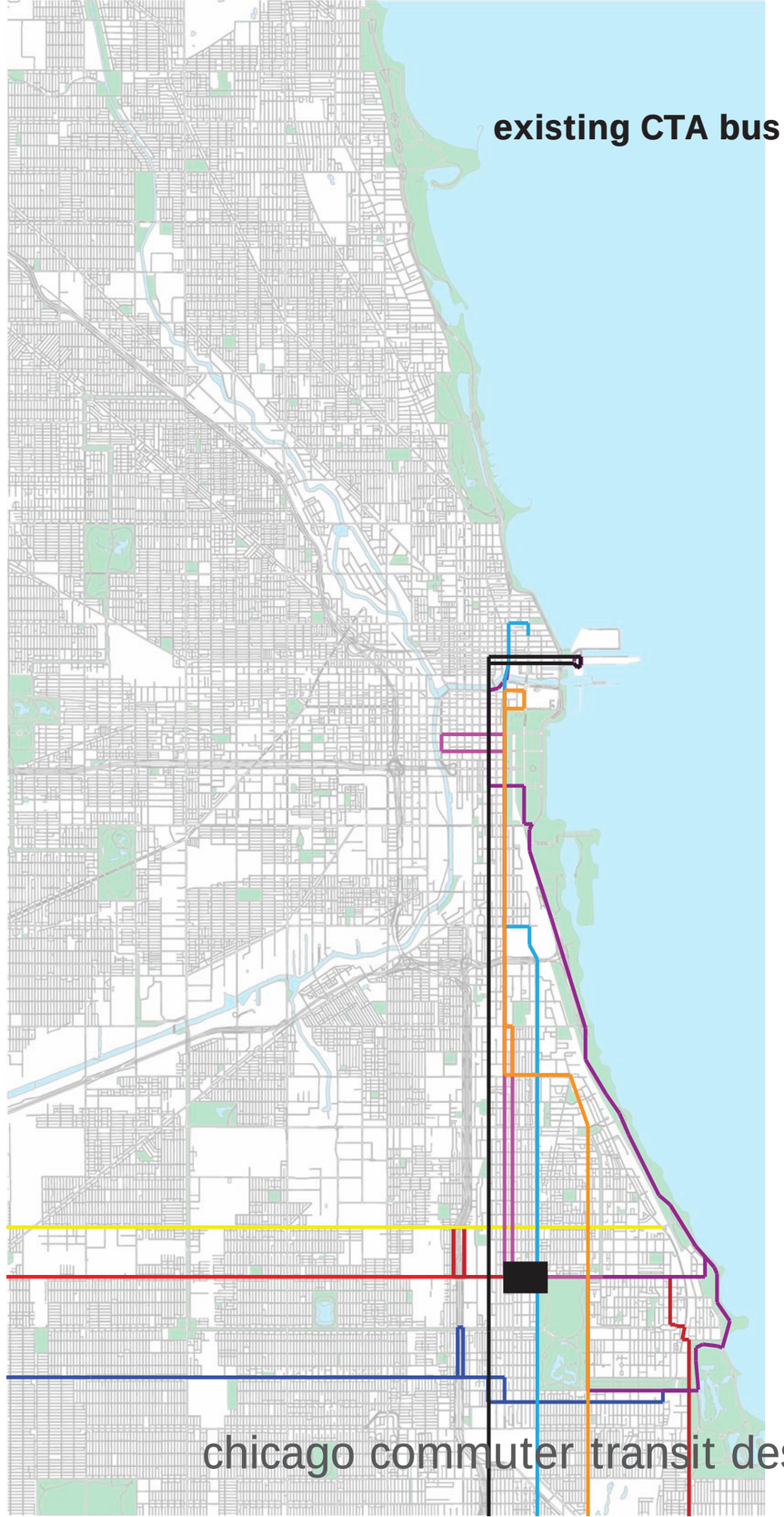

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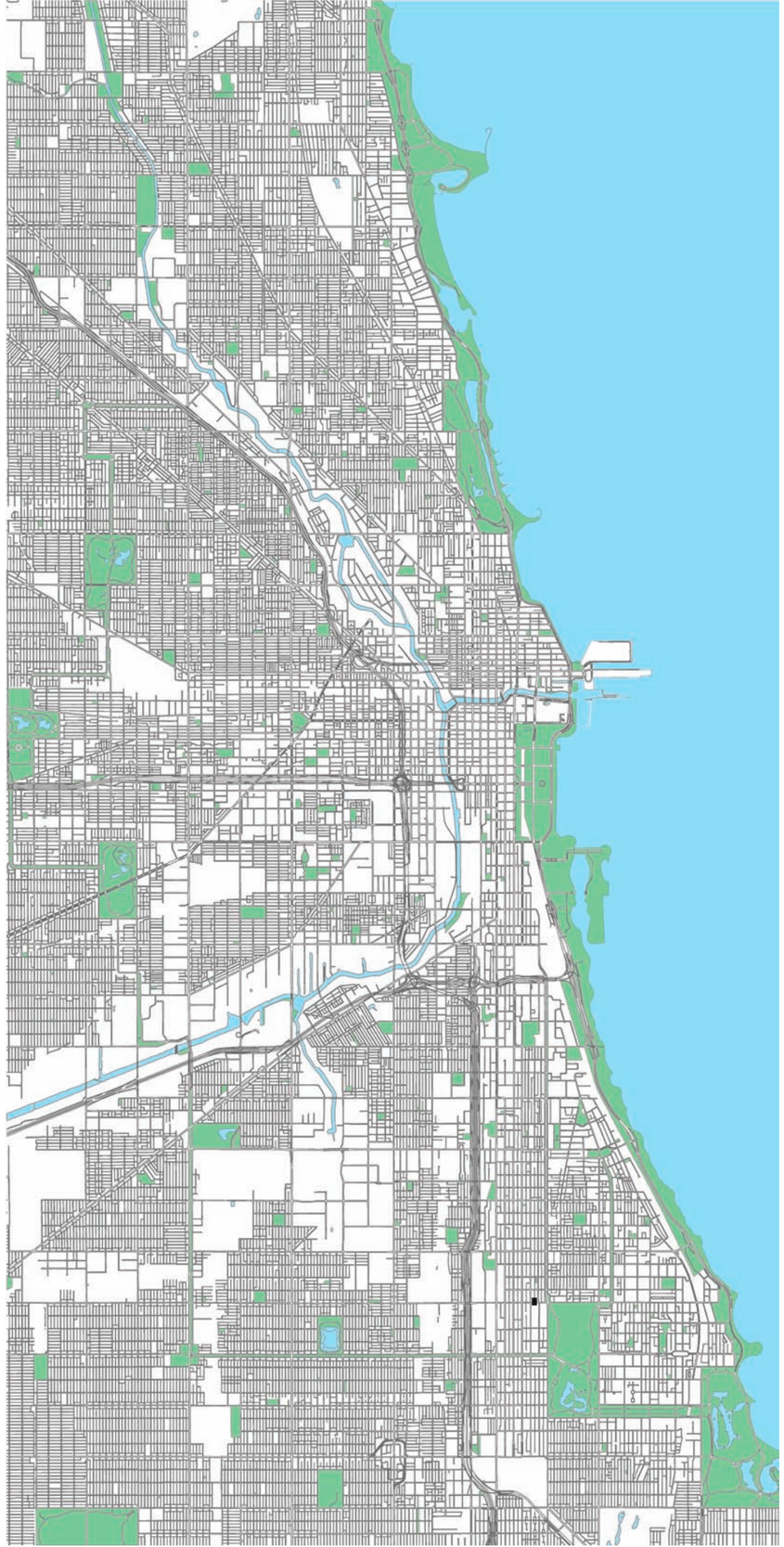

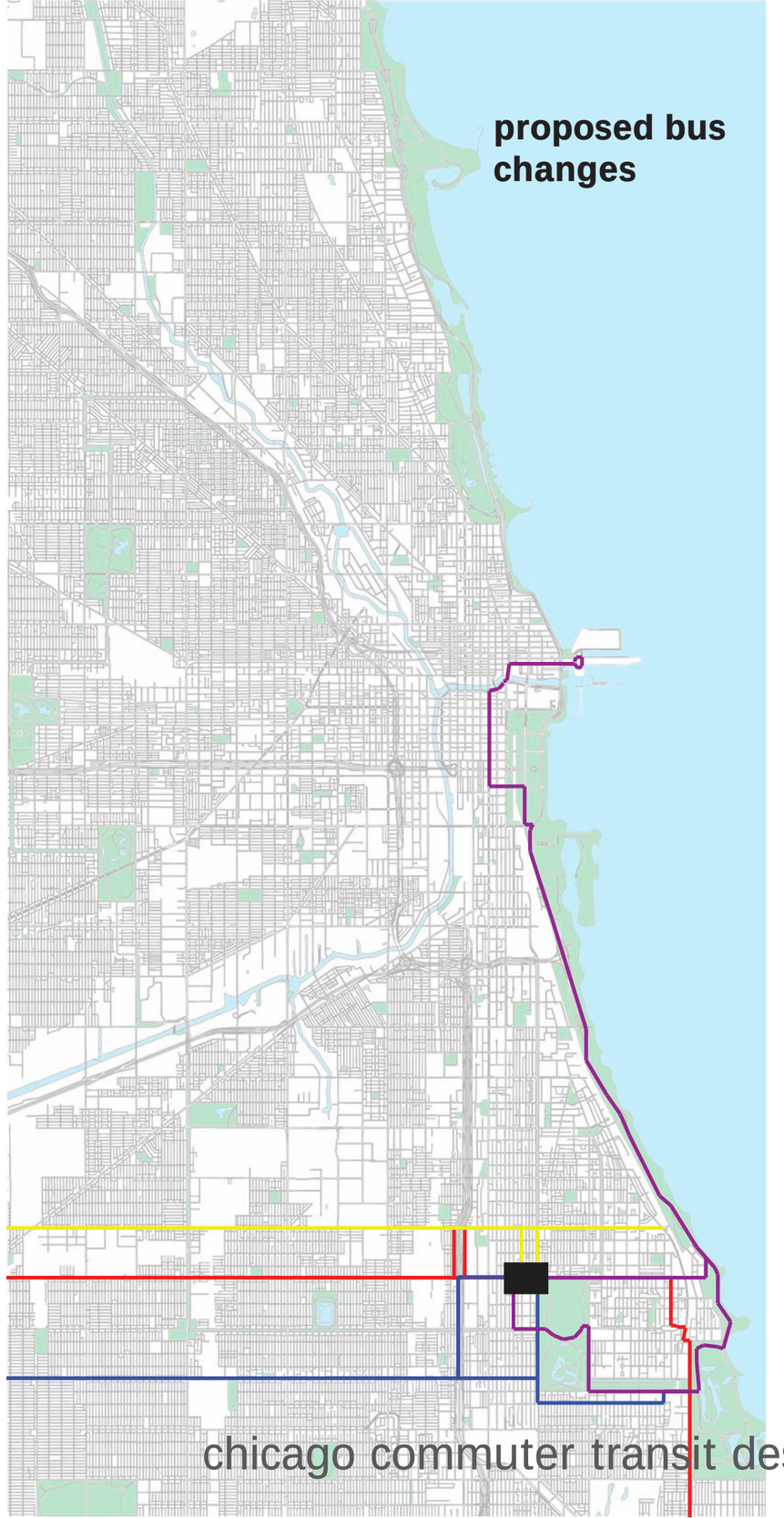

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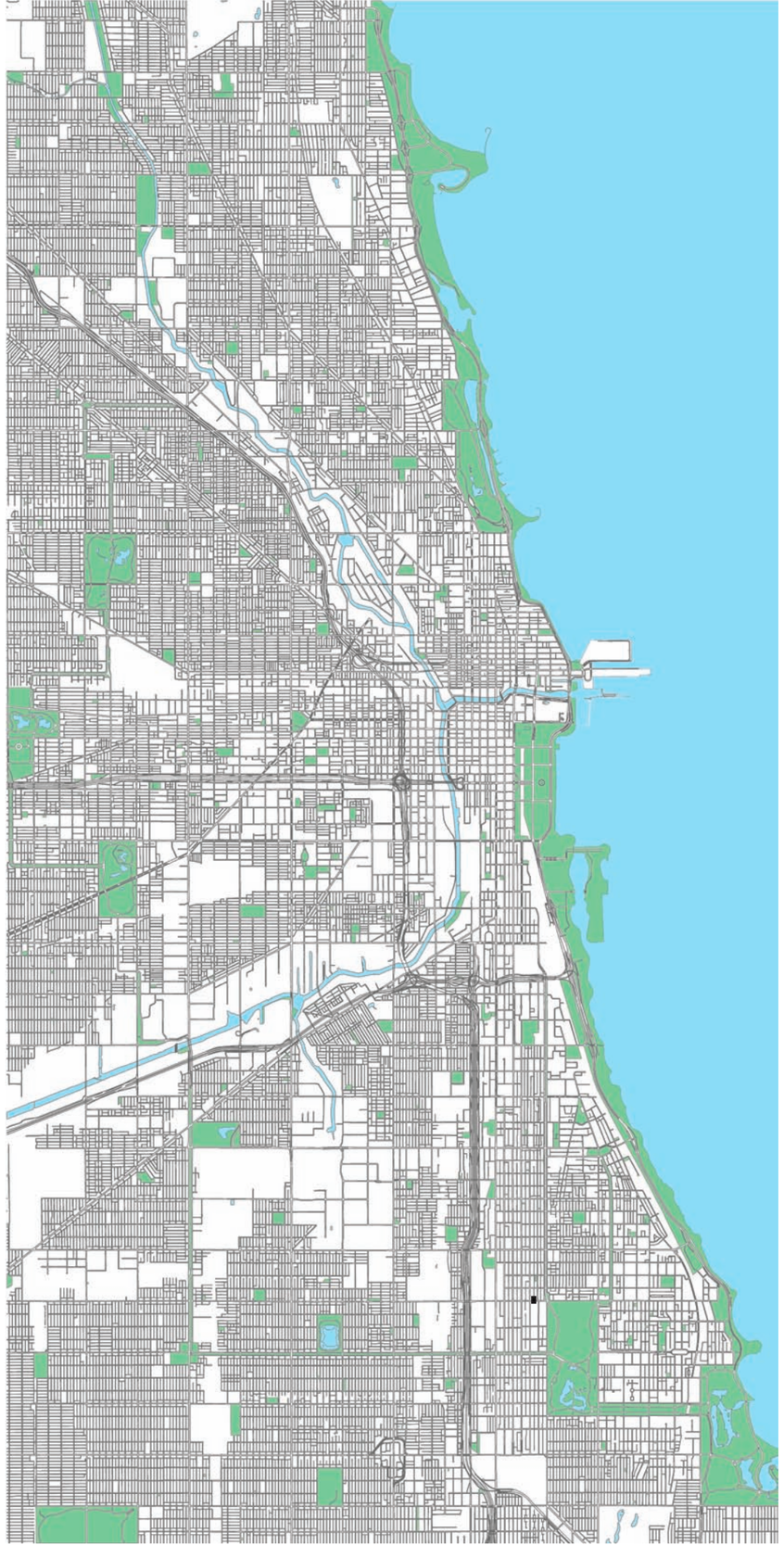

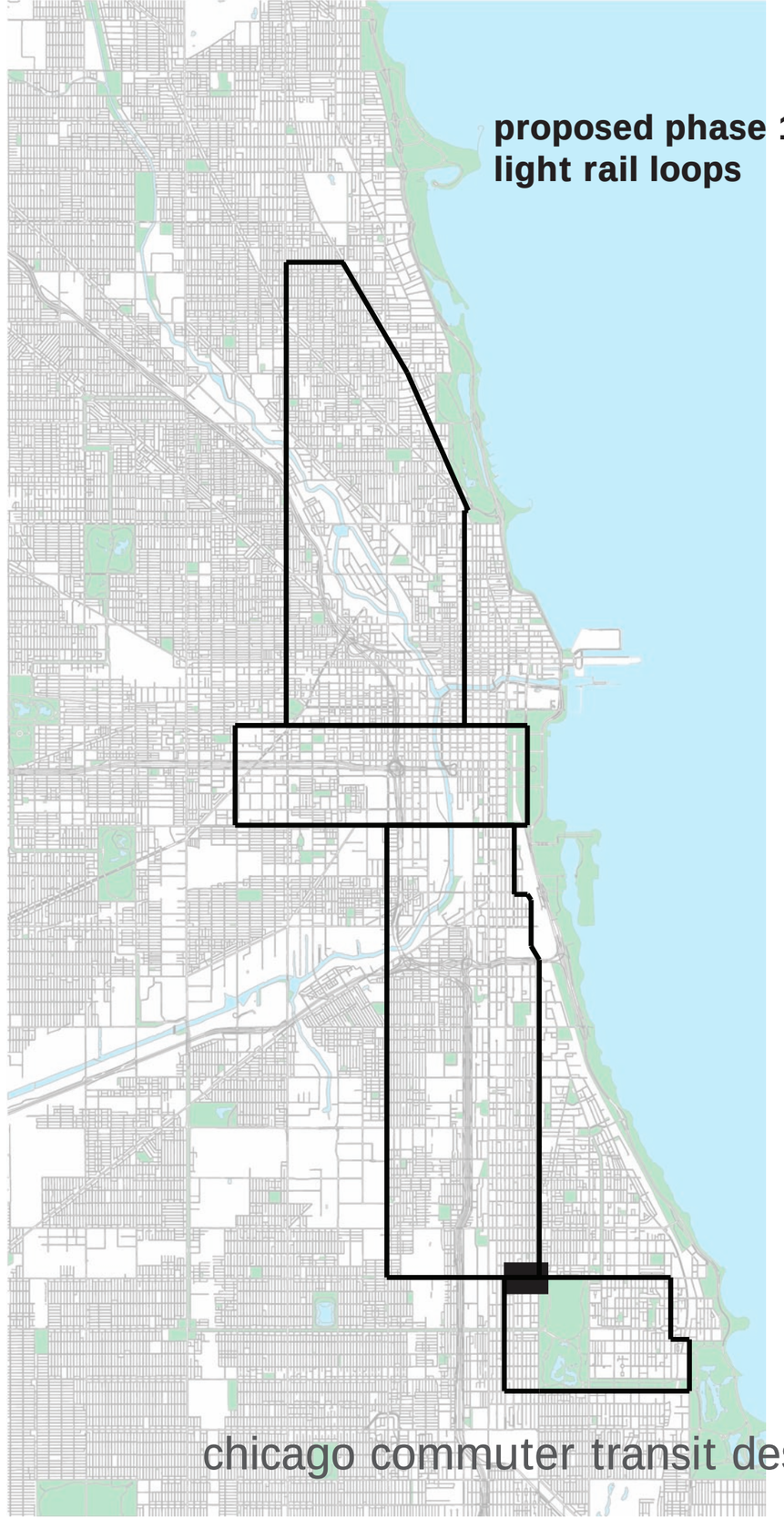

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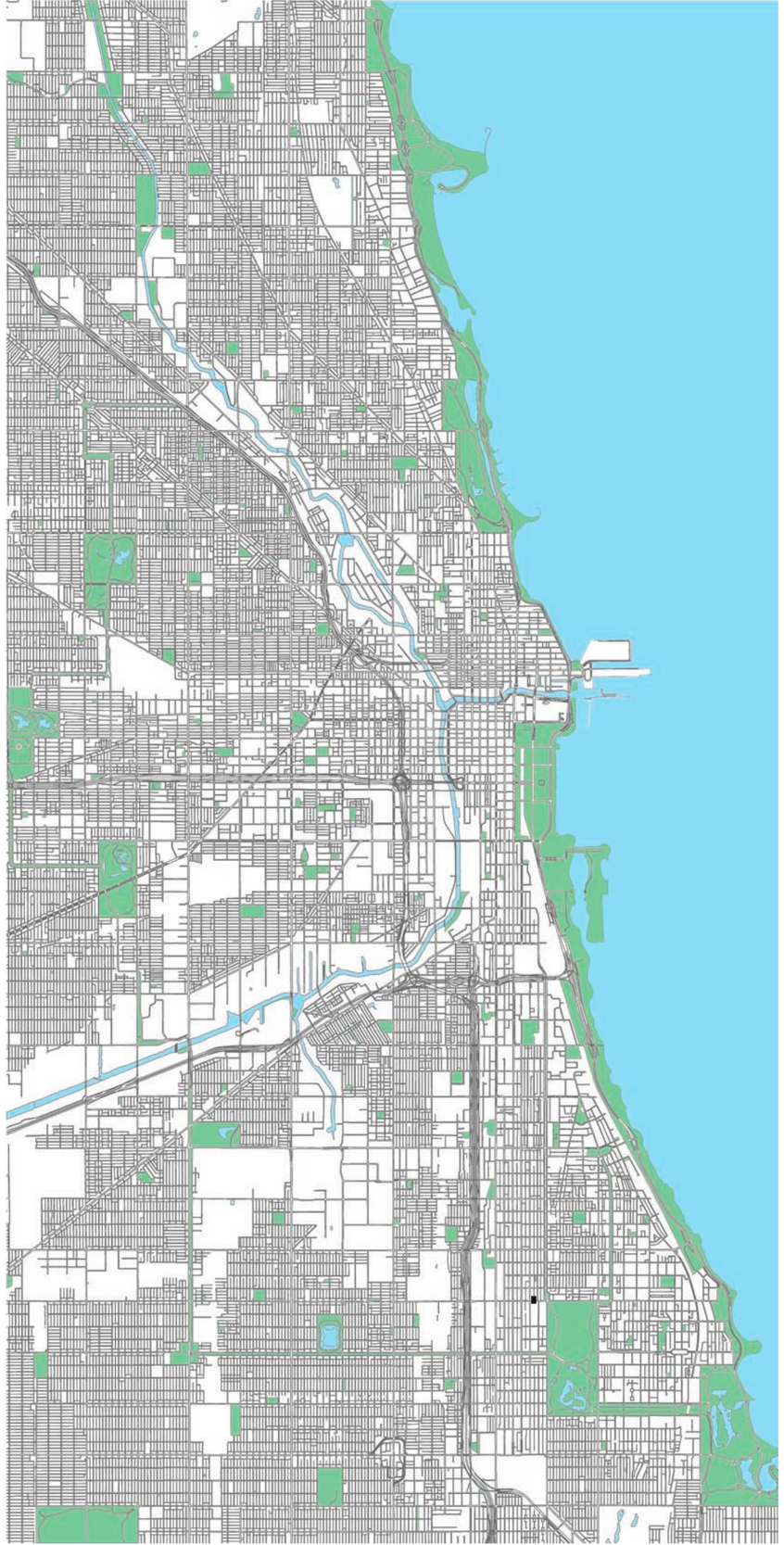

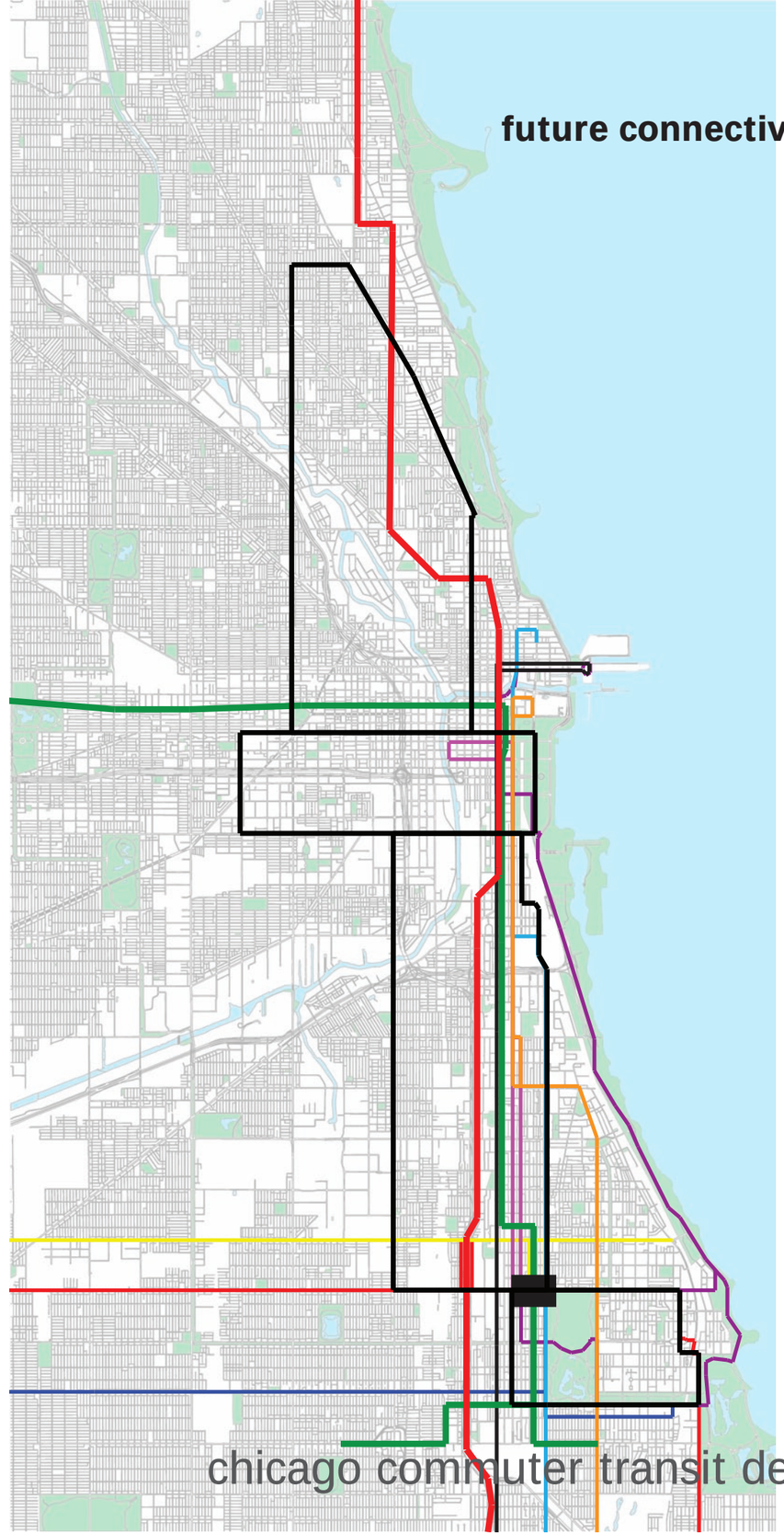

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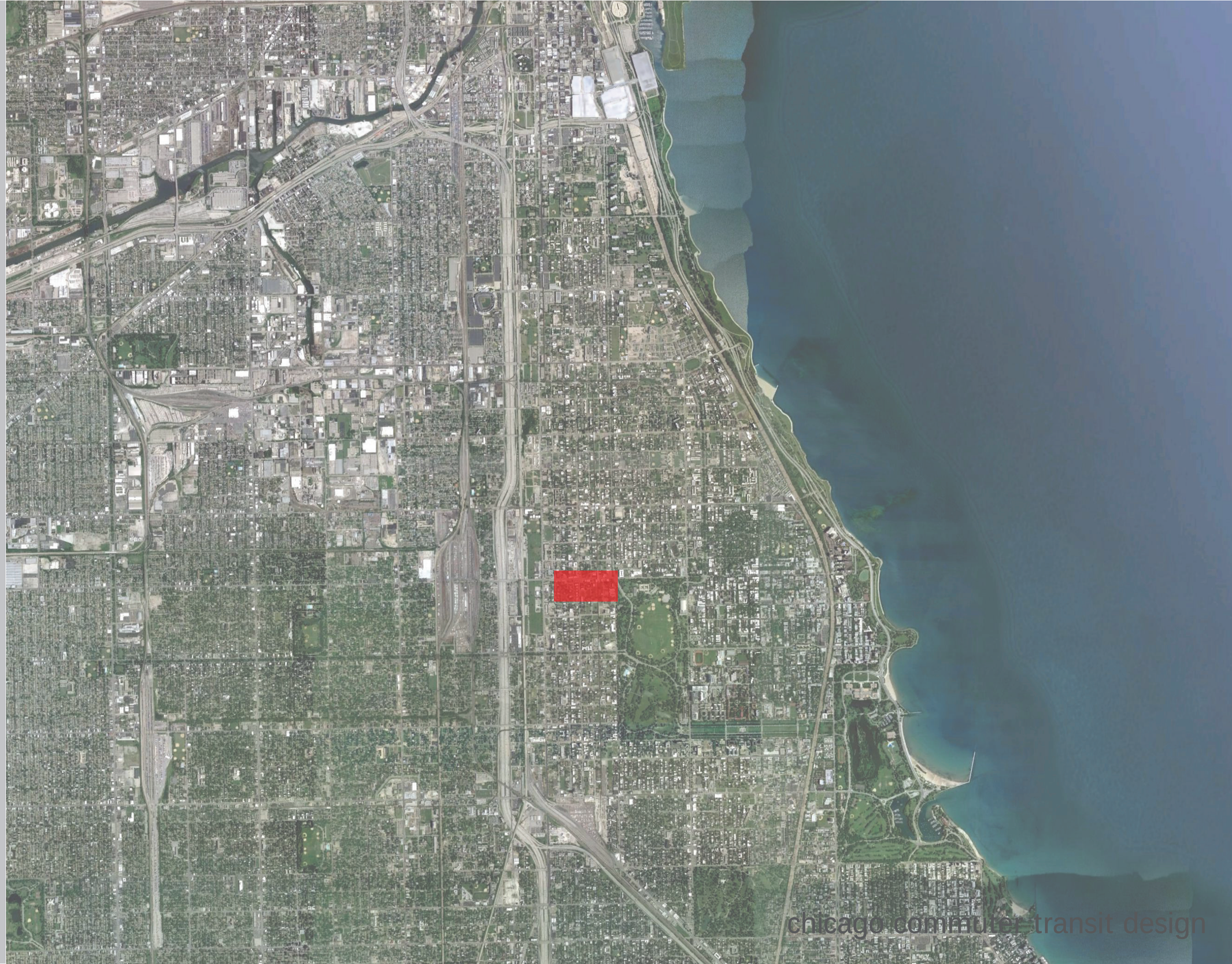

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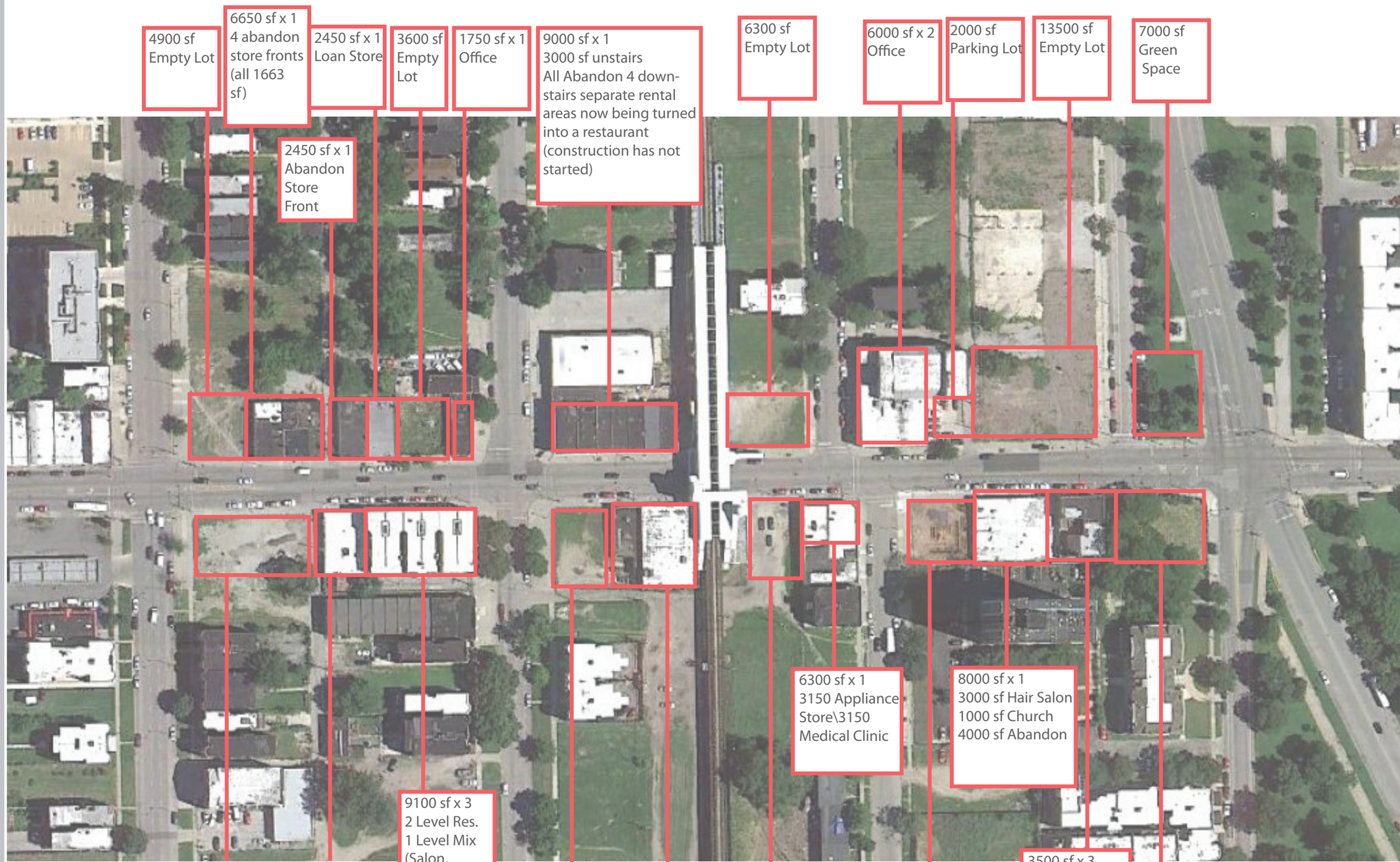

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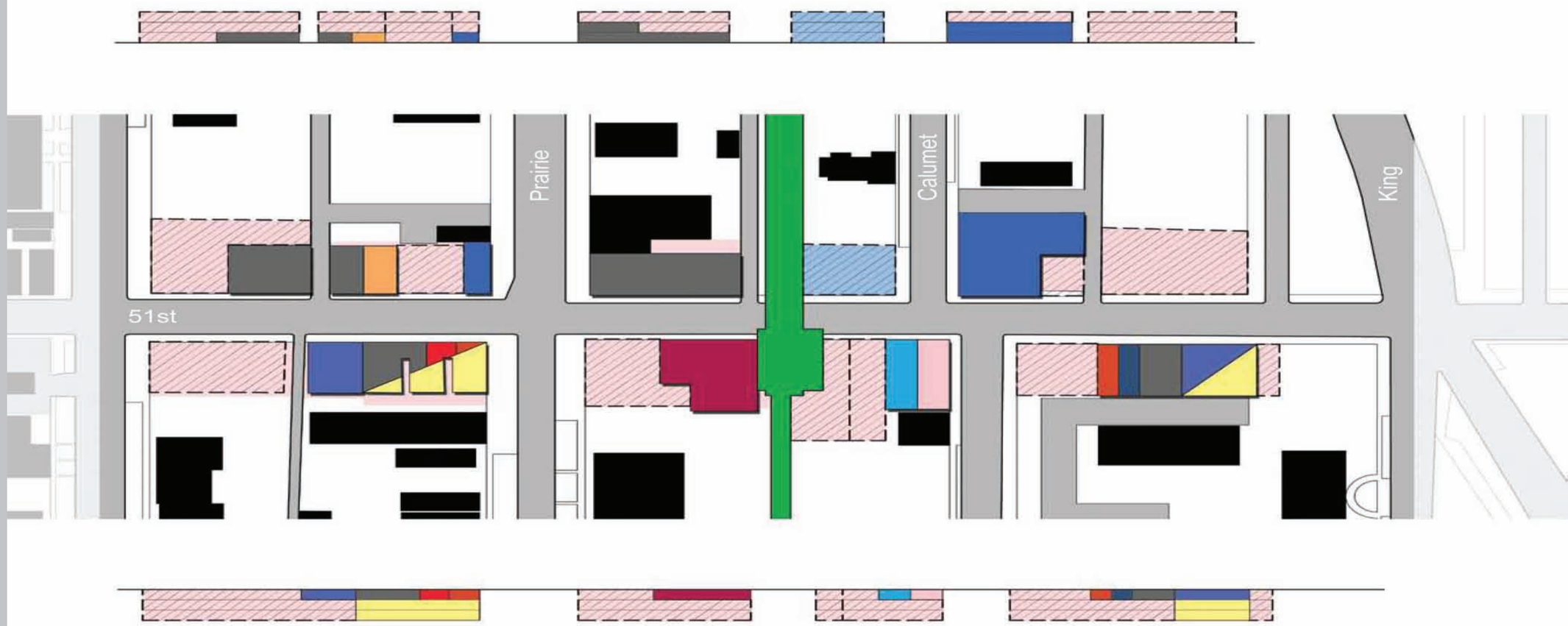

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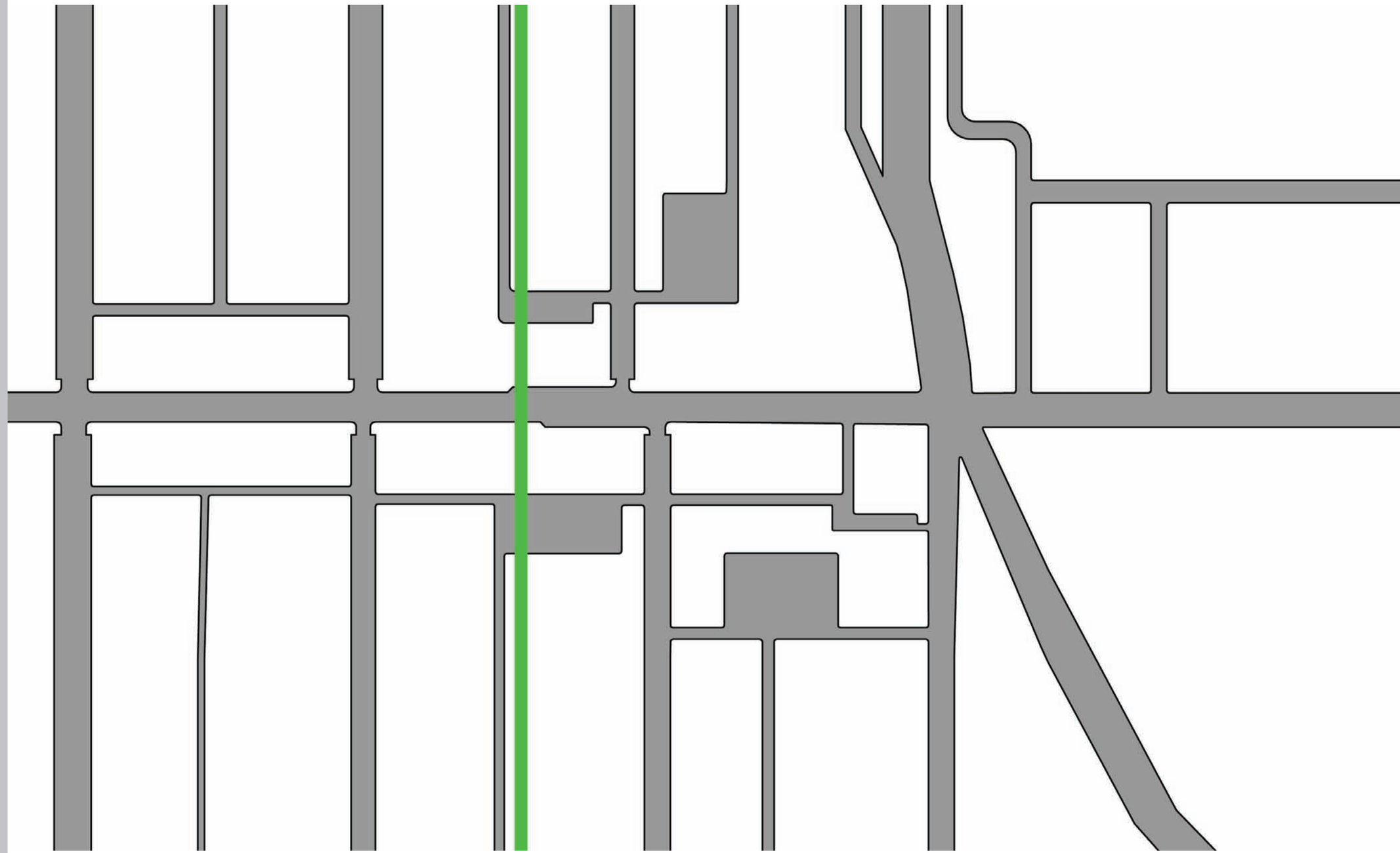

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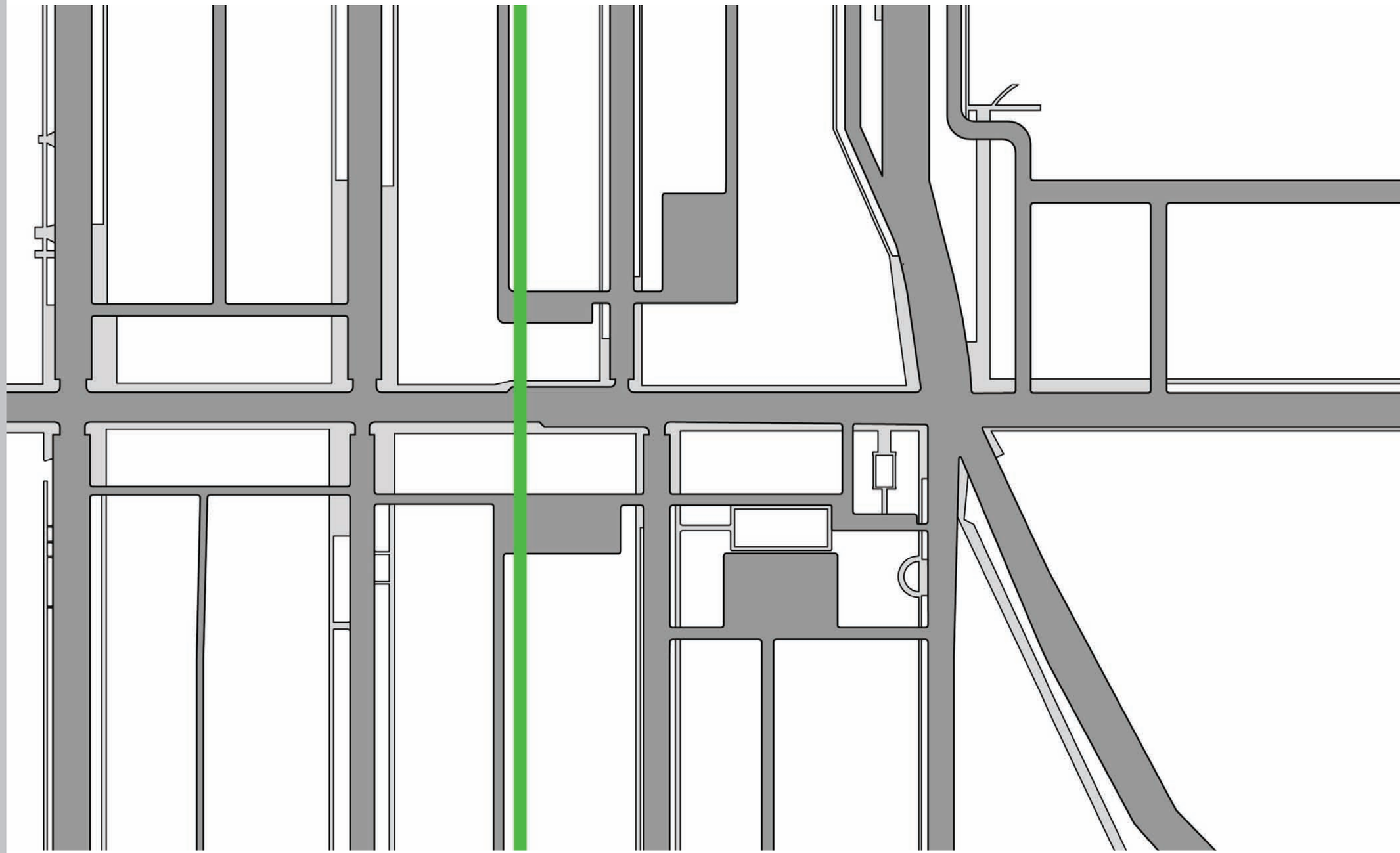

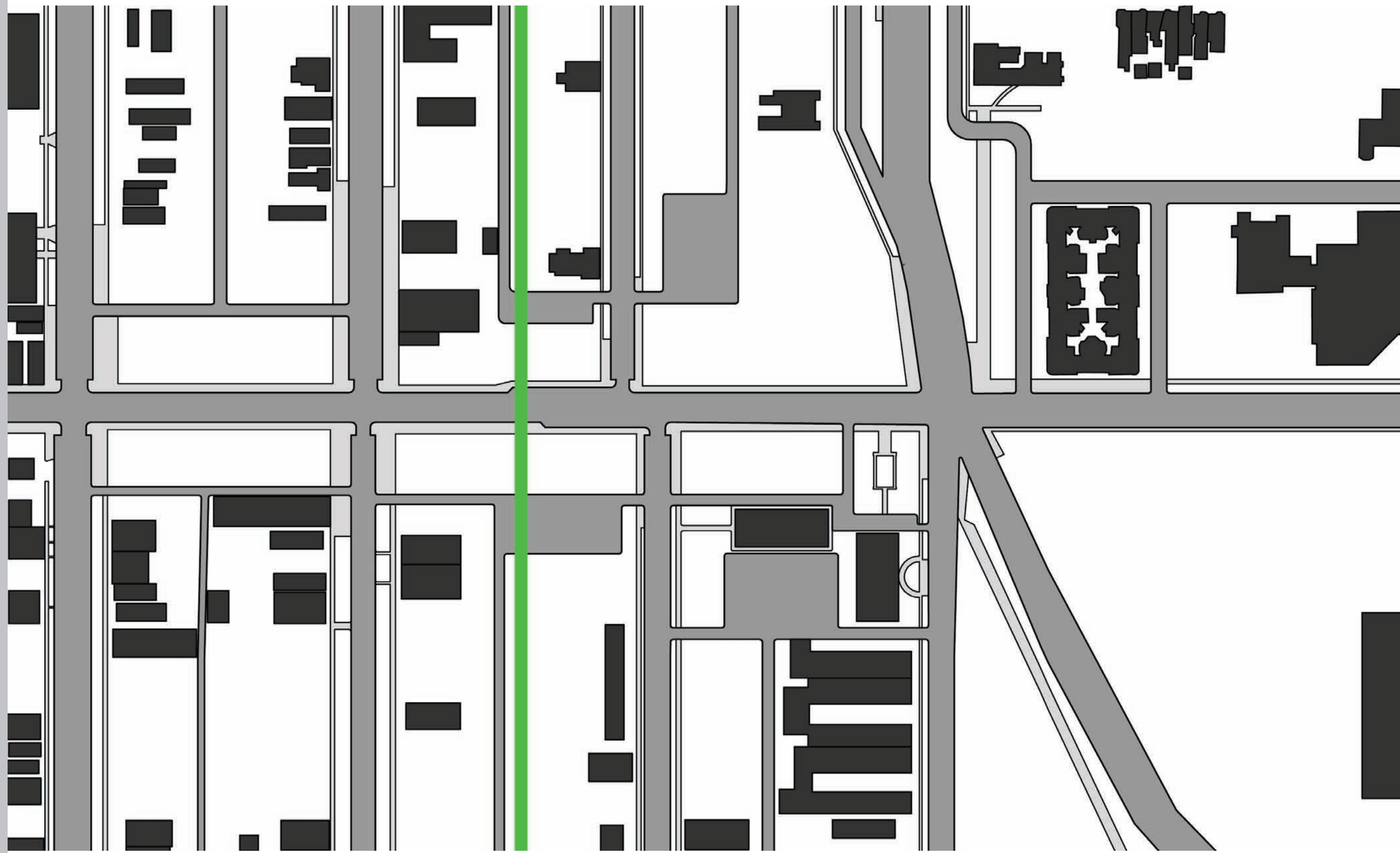

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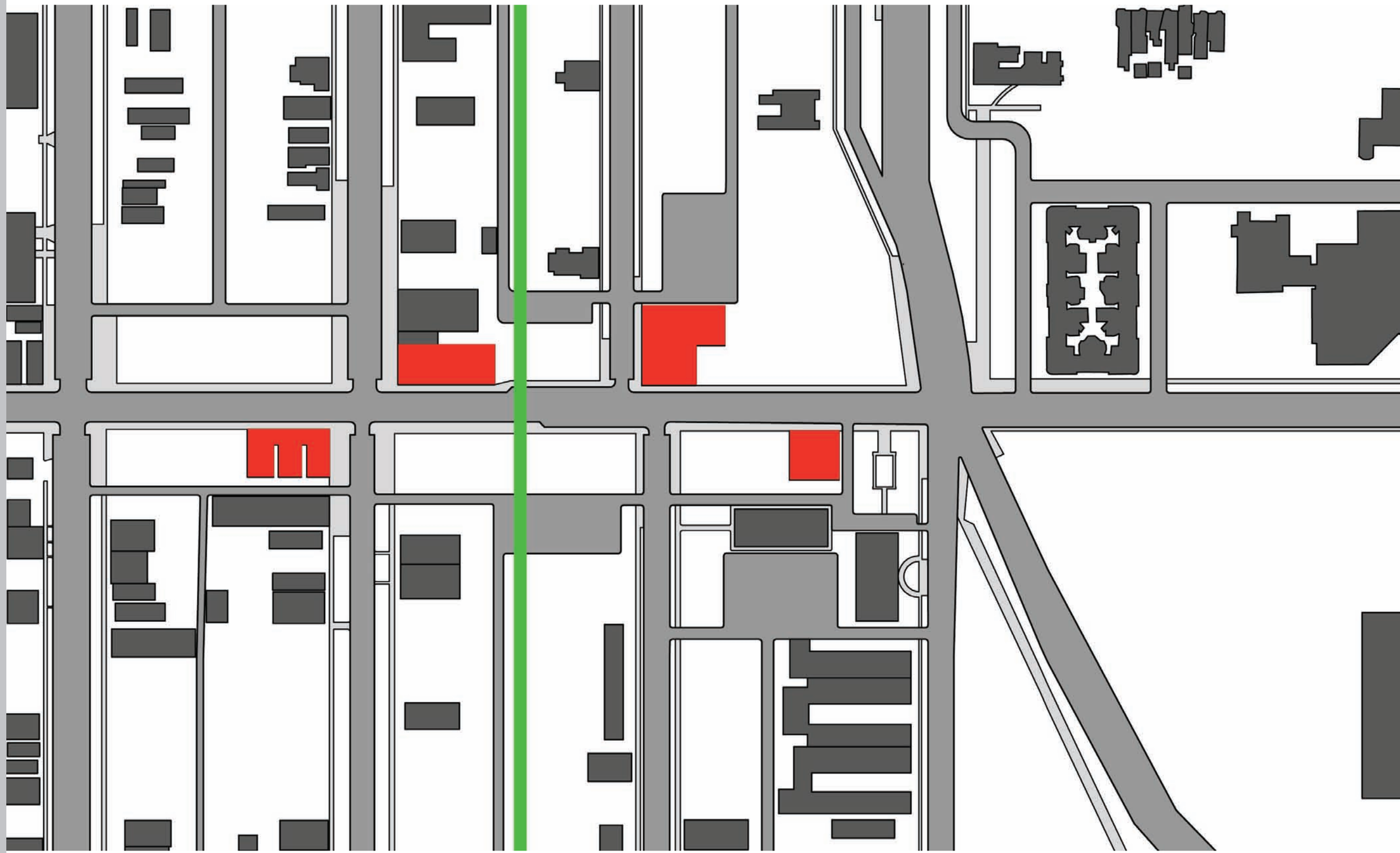

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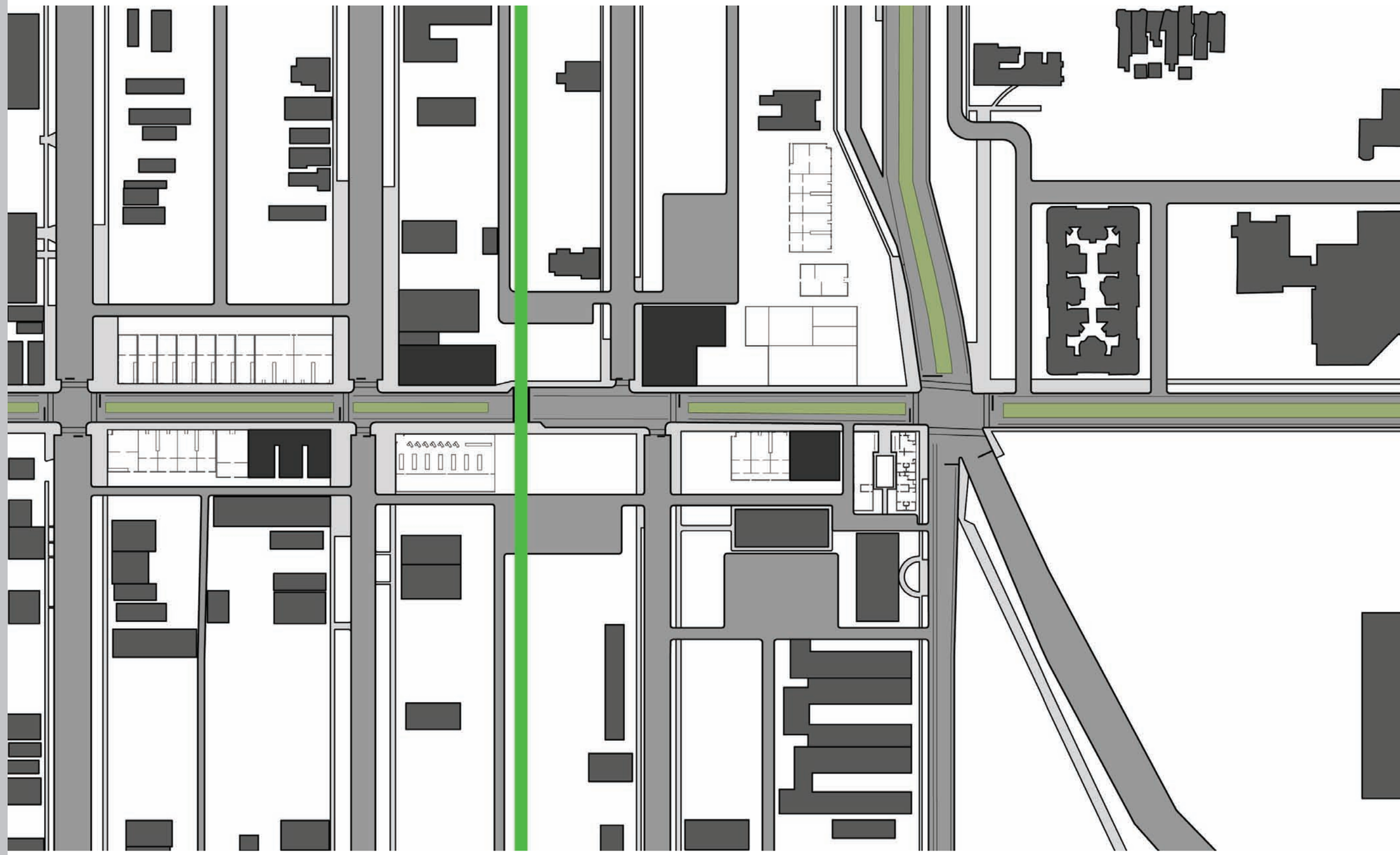

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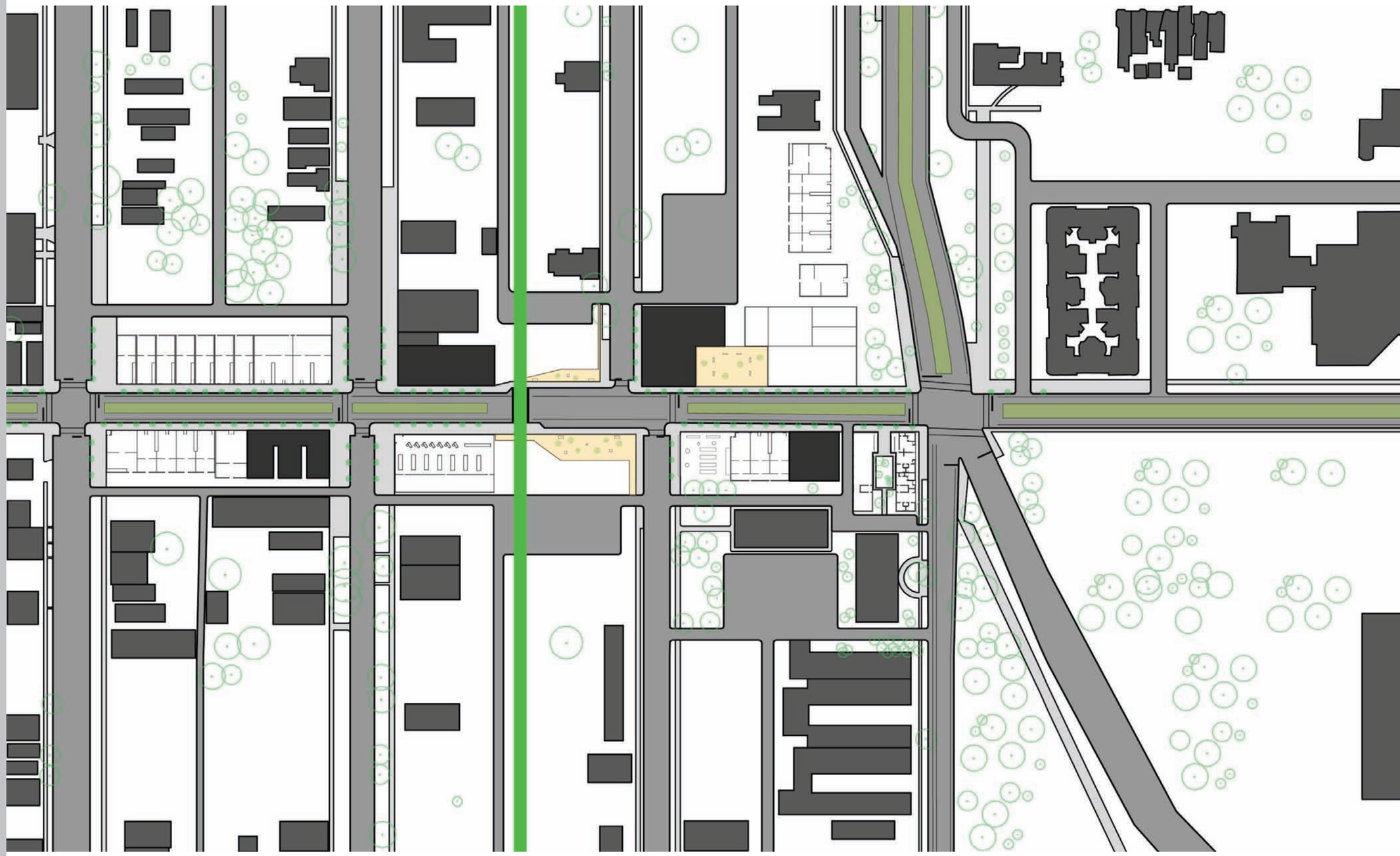

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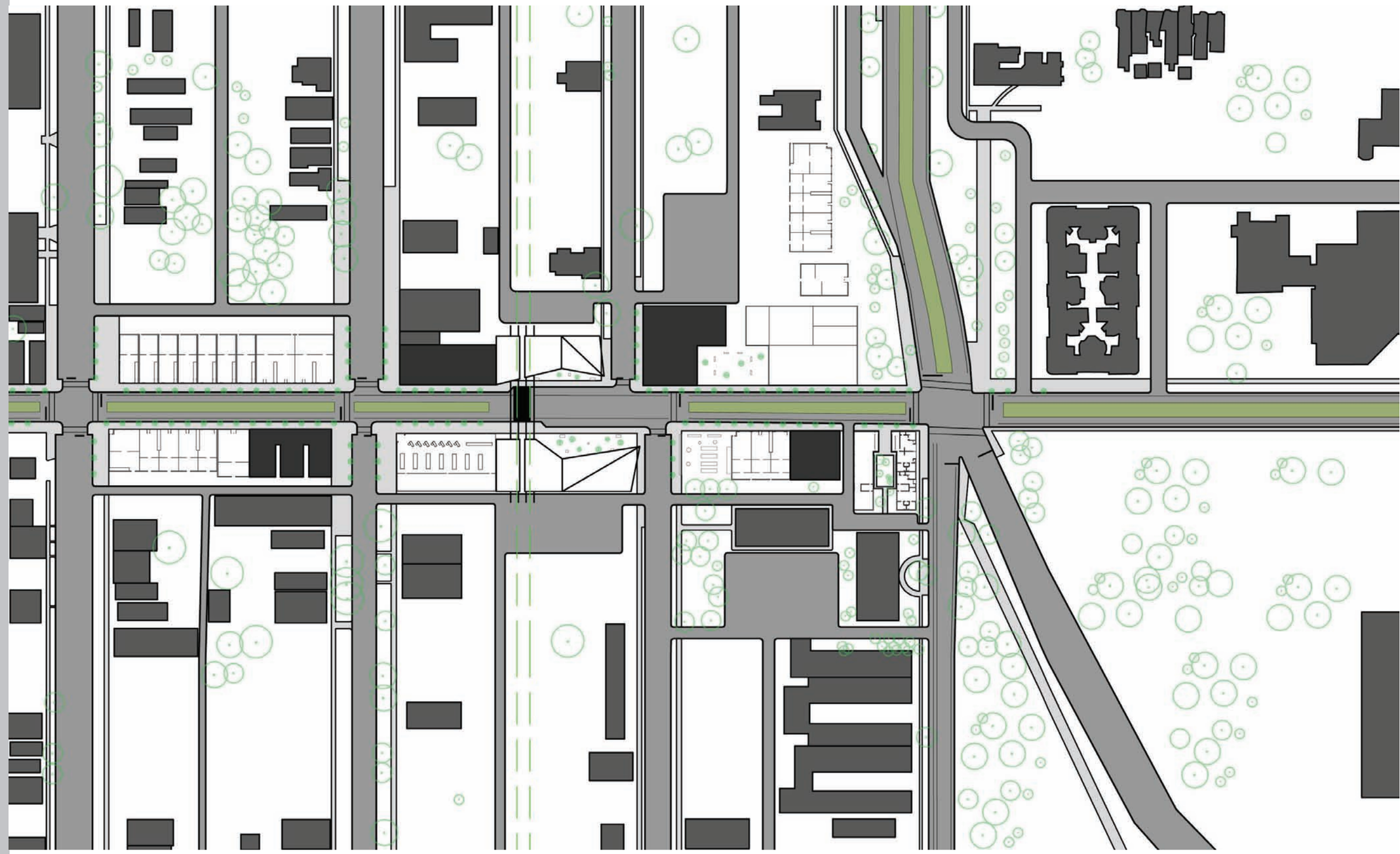

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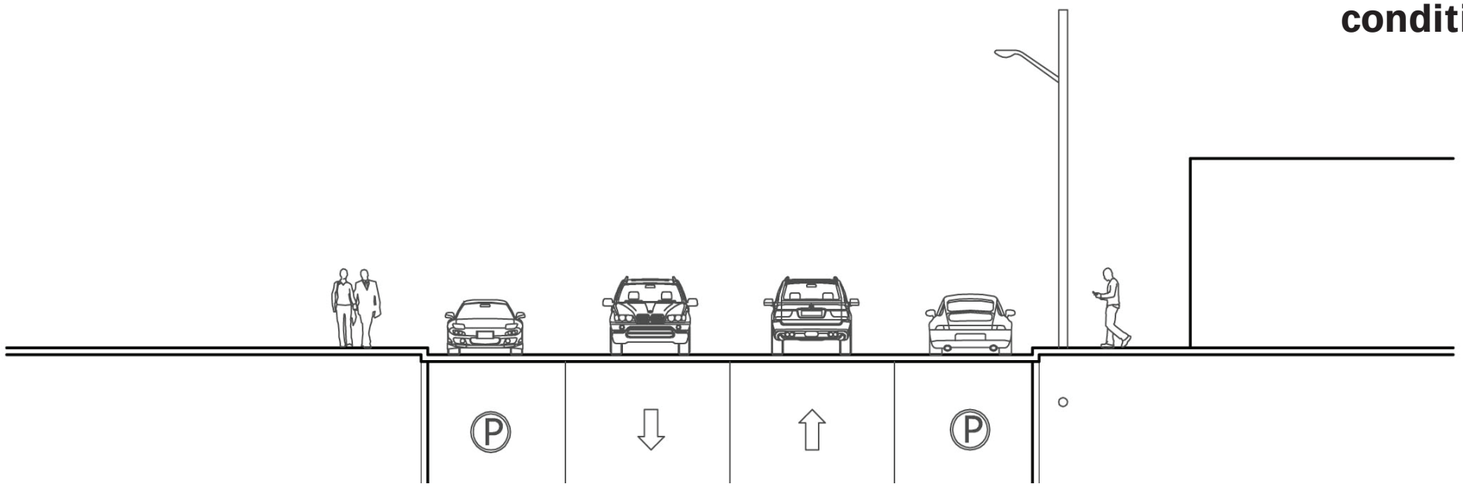
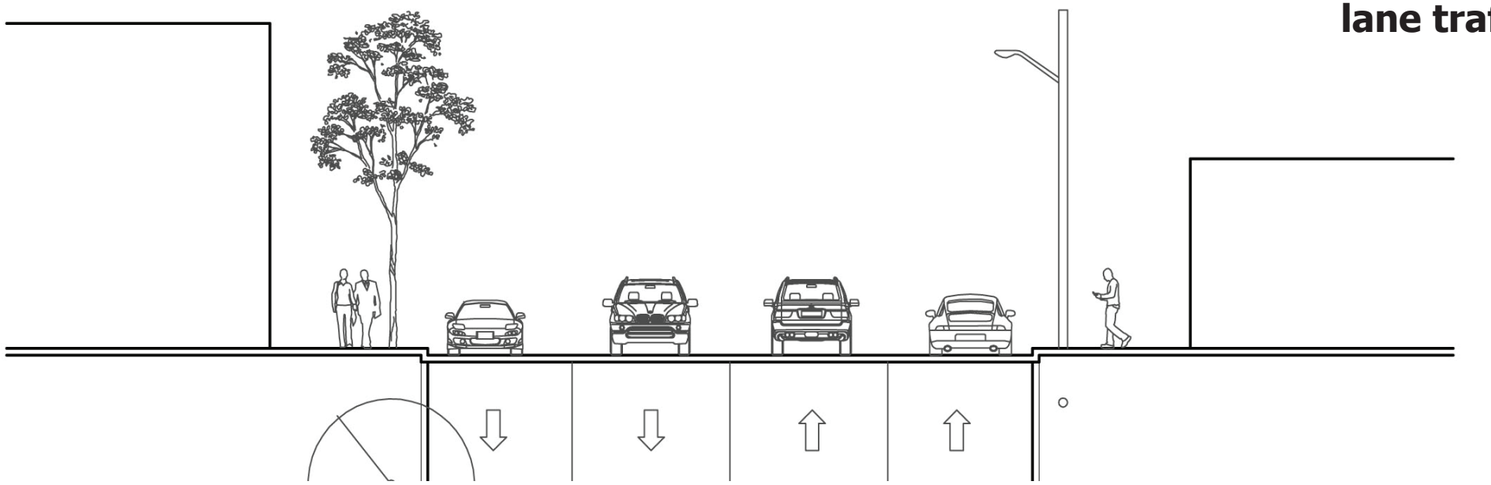
the street

existing street conditions



proposed multi-lane traffic



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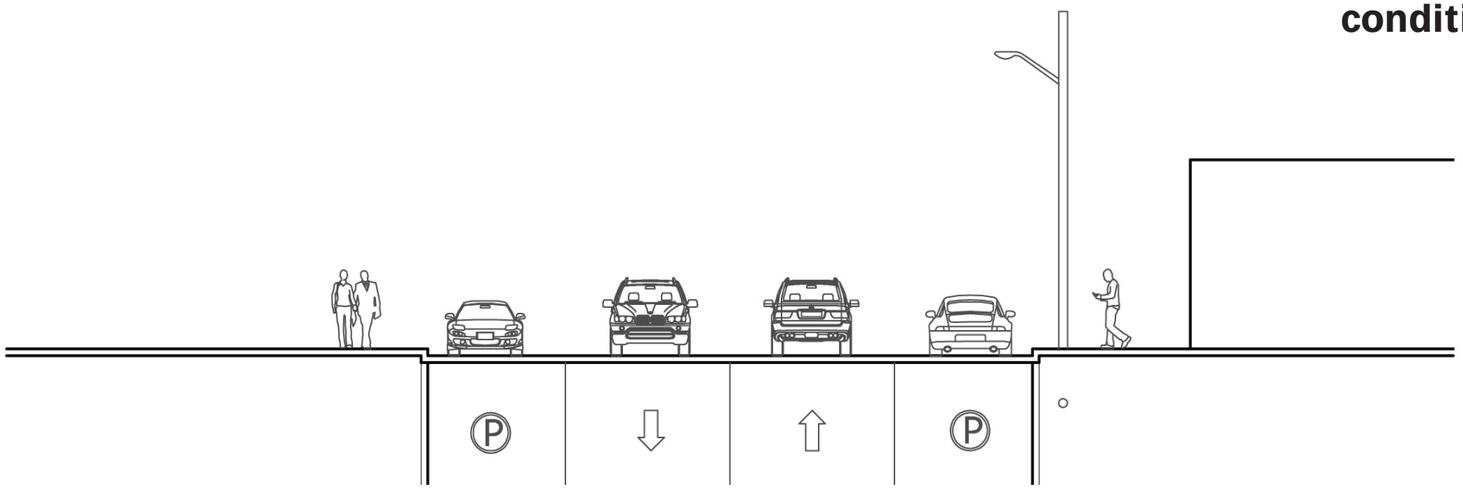
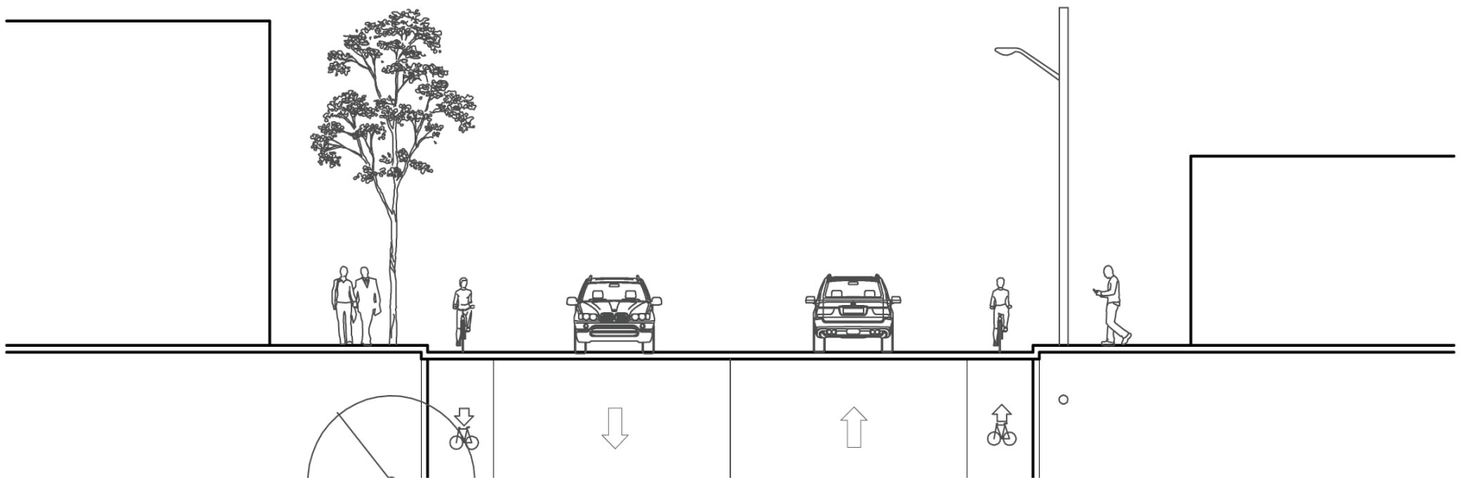
existing street conditions



proposed bike lane



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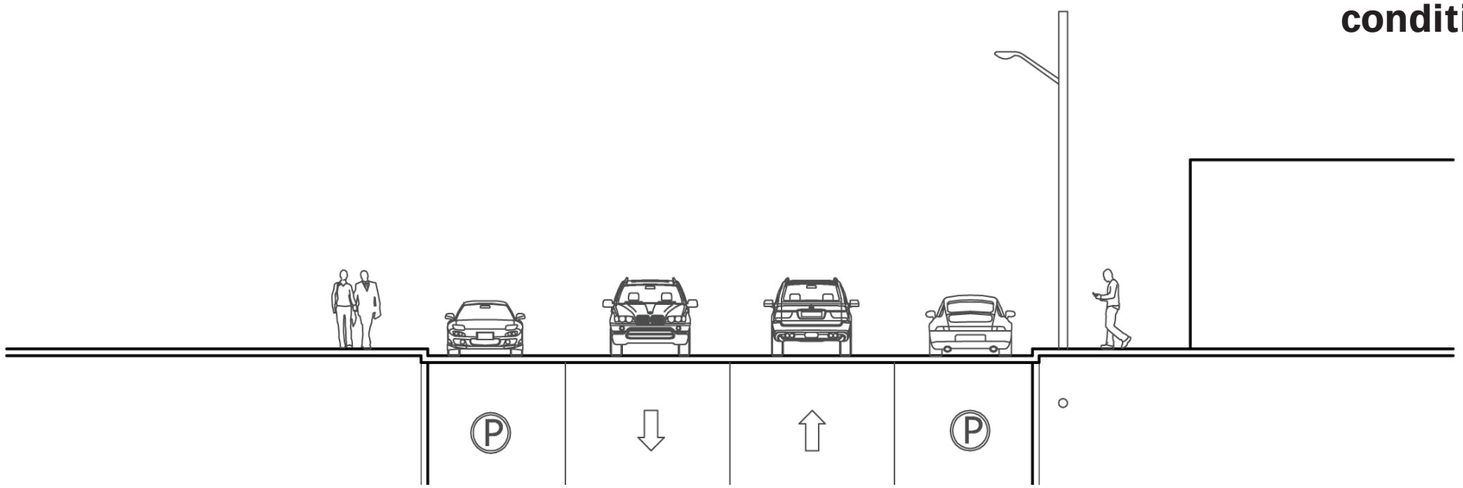
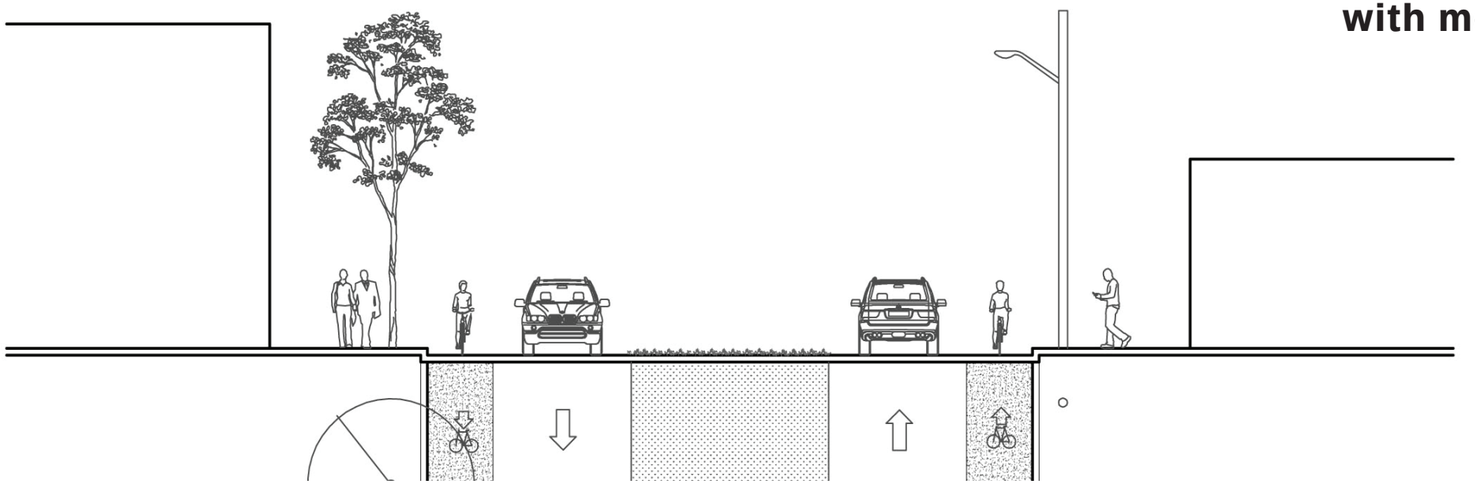
existing street conditions



proposed bike lane with median



the street

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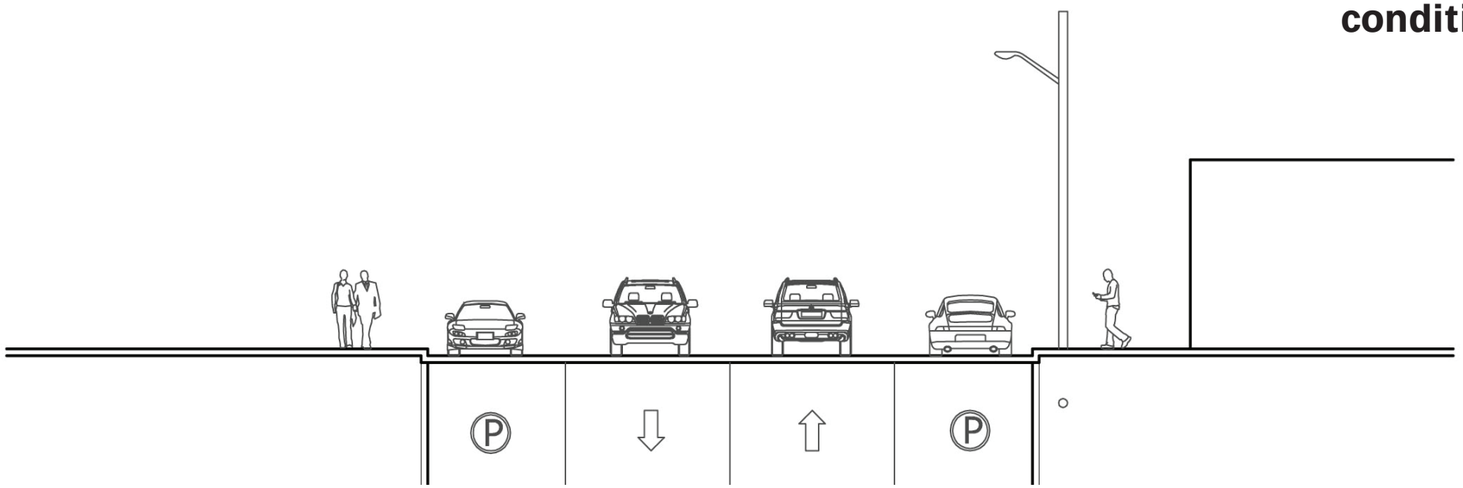
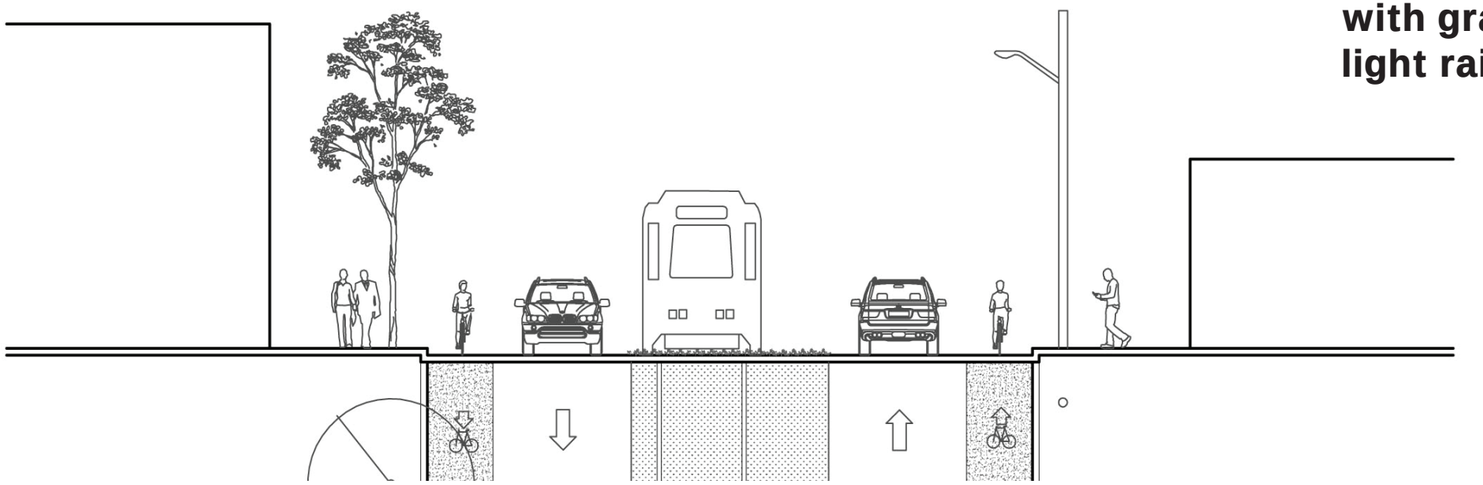
existing street conditions



proposed bike lane with grade level light rail



the street

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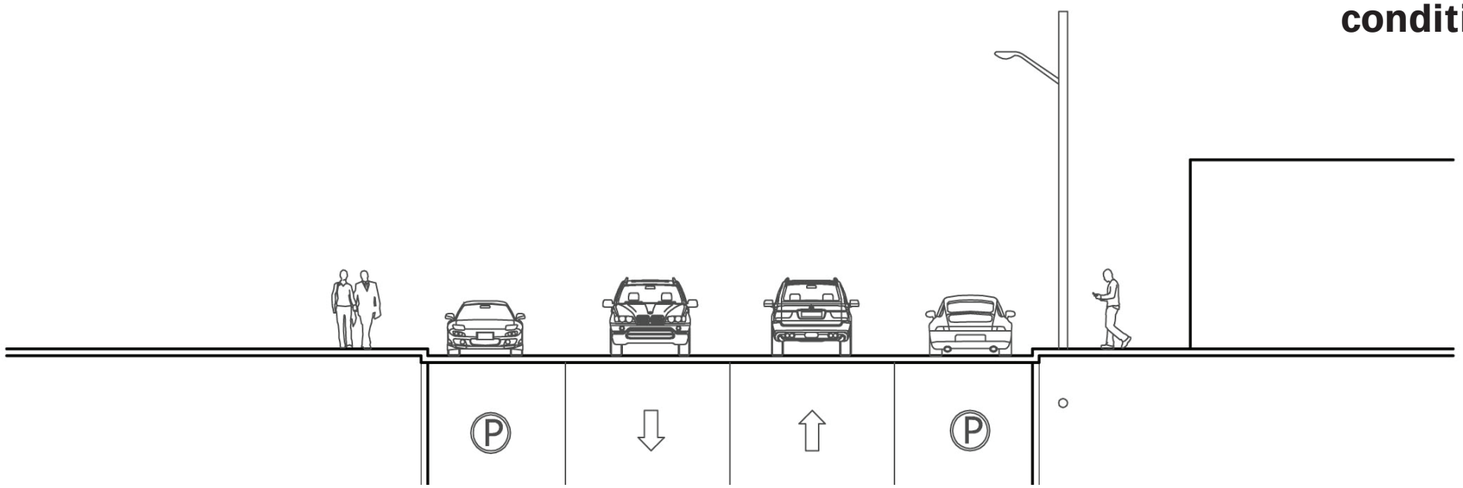
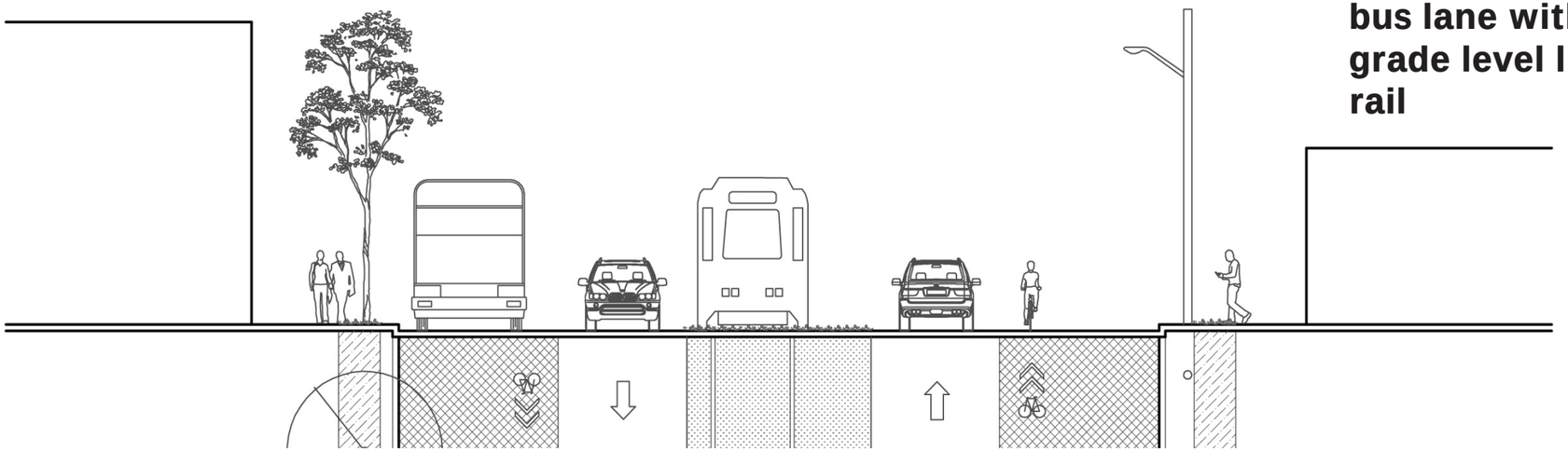
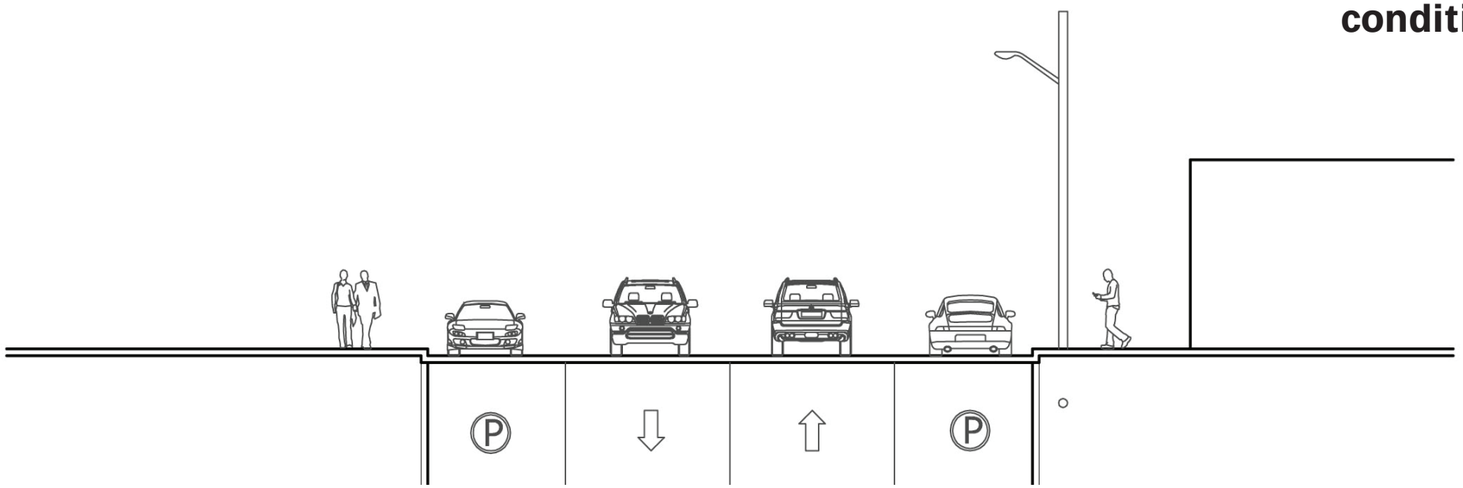
existing street conditions



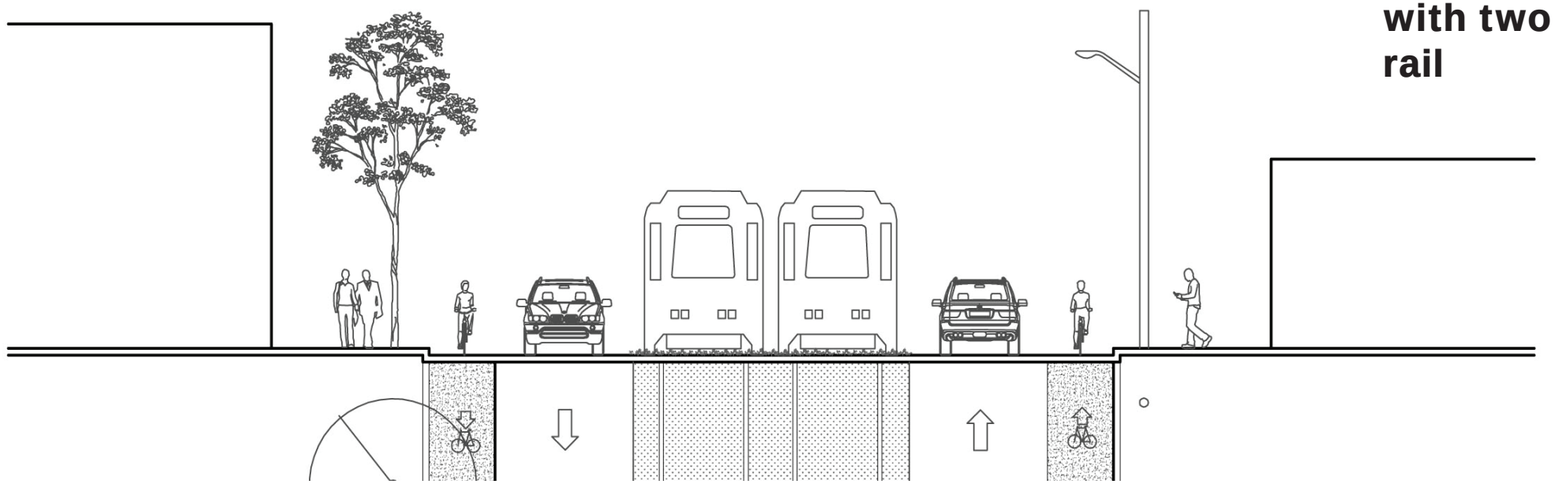
proposed shared bus lane with grade level light rail



existing street conditions



proposed bike lane with two way light rail



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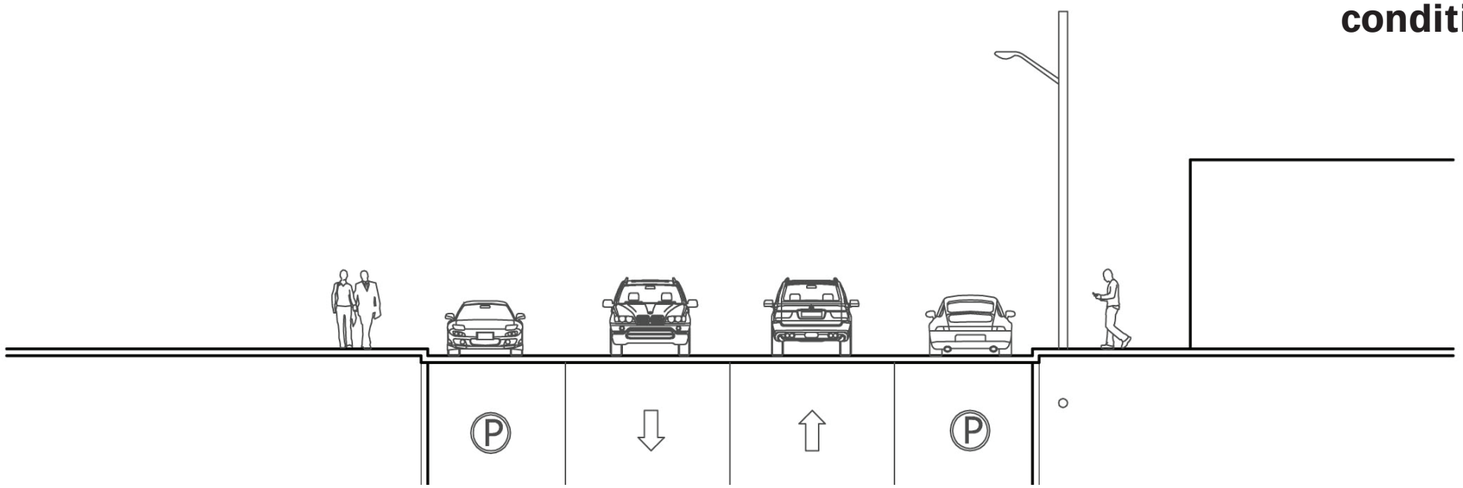
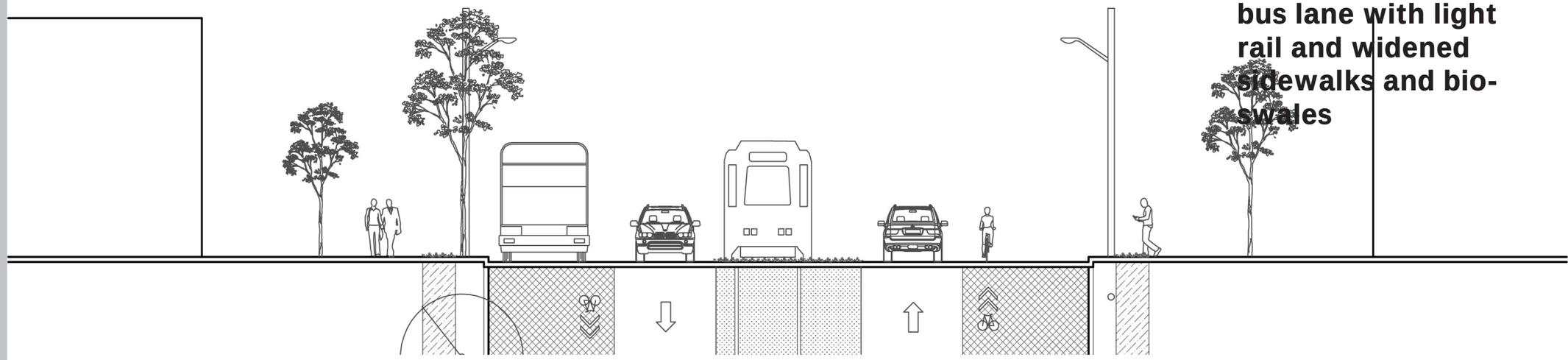
chicago commuter transit design

existing street conditions



proposed shared bus lane with light rail and widened sidewalks and bio-swales



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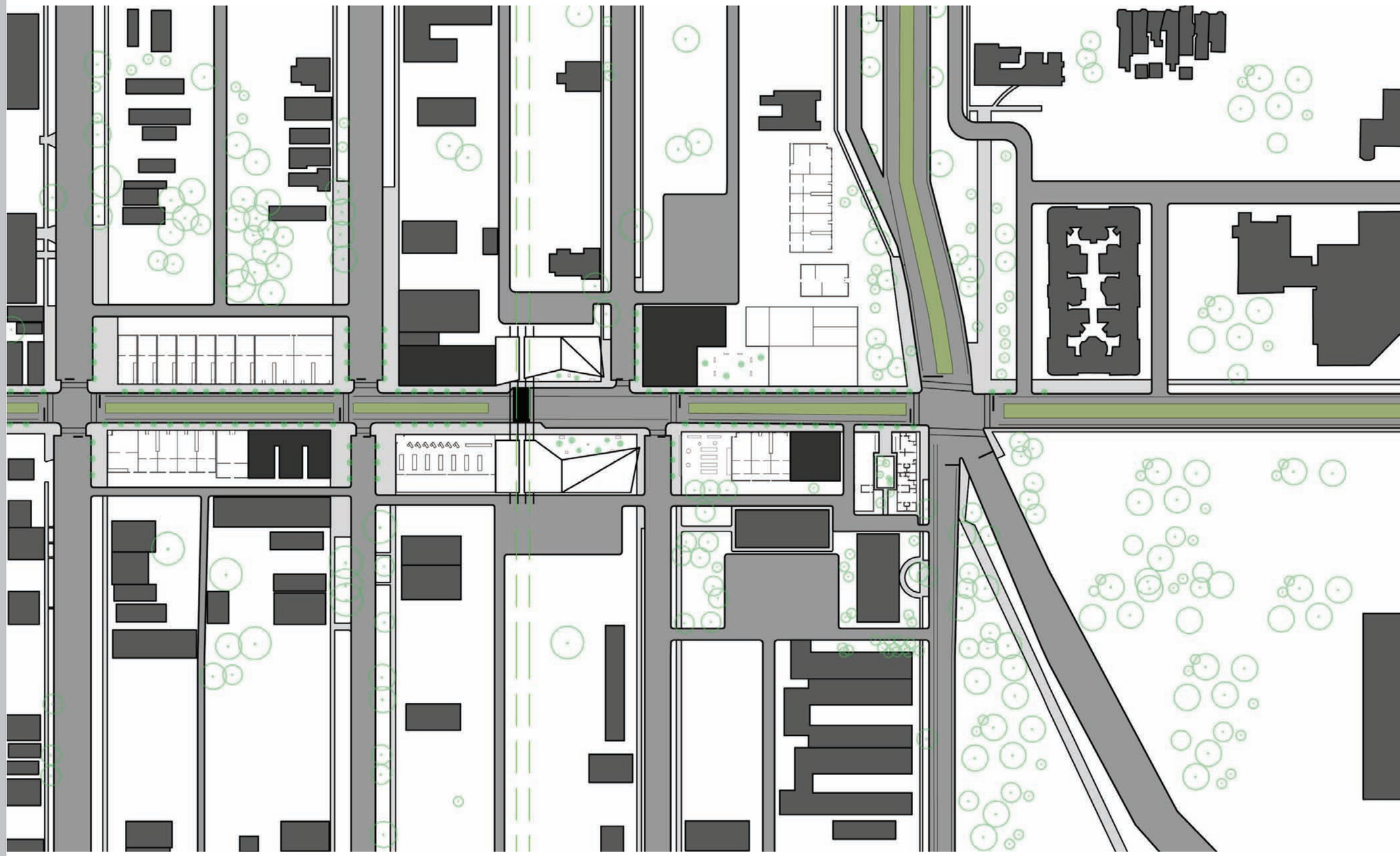
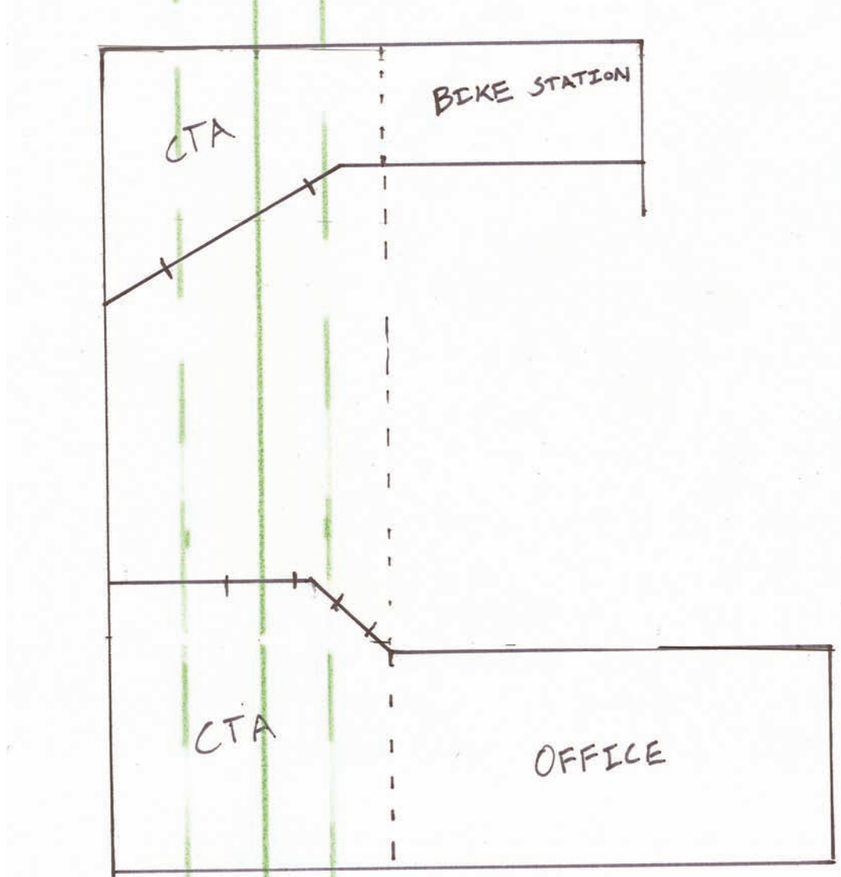
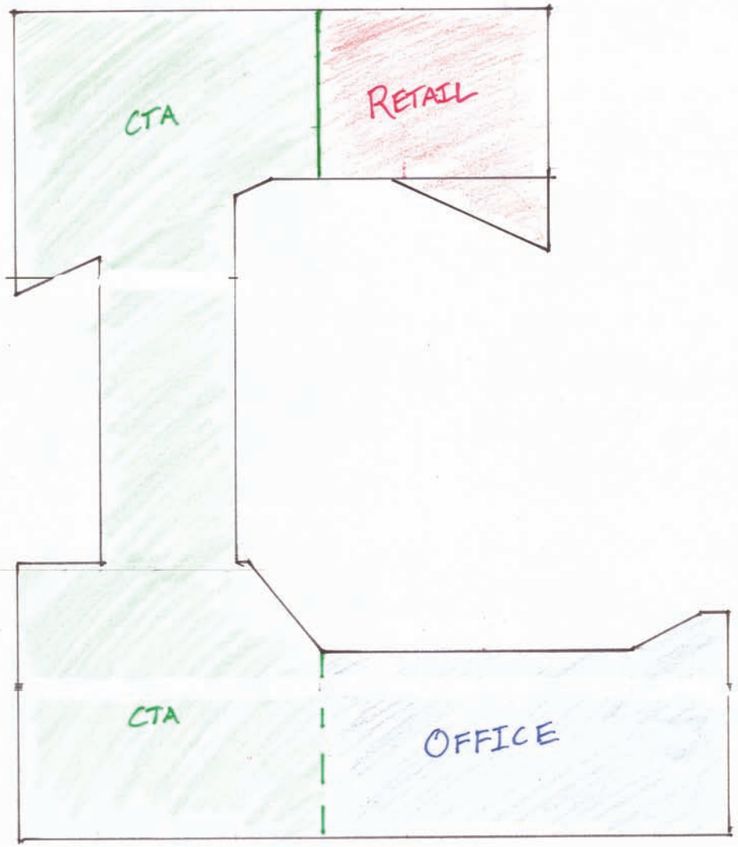


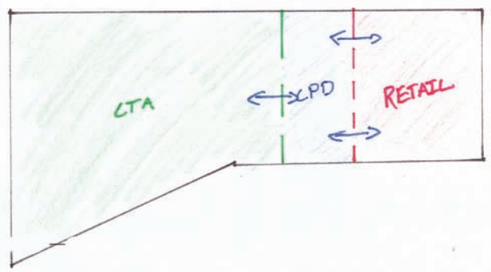
the station

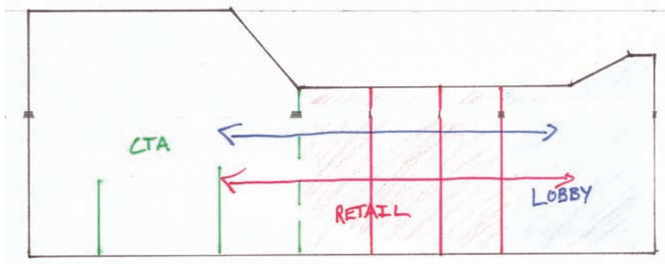
chicago commuter transit design

the station









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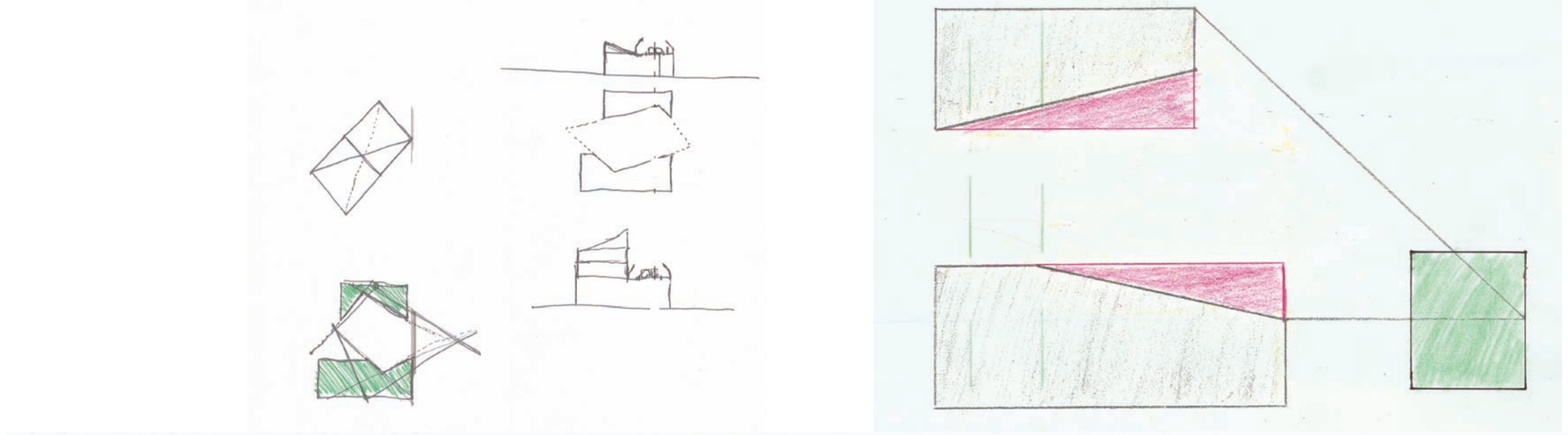

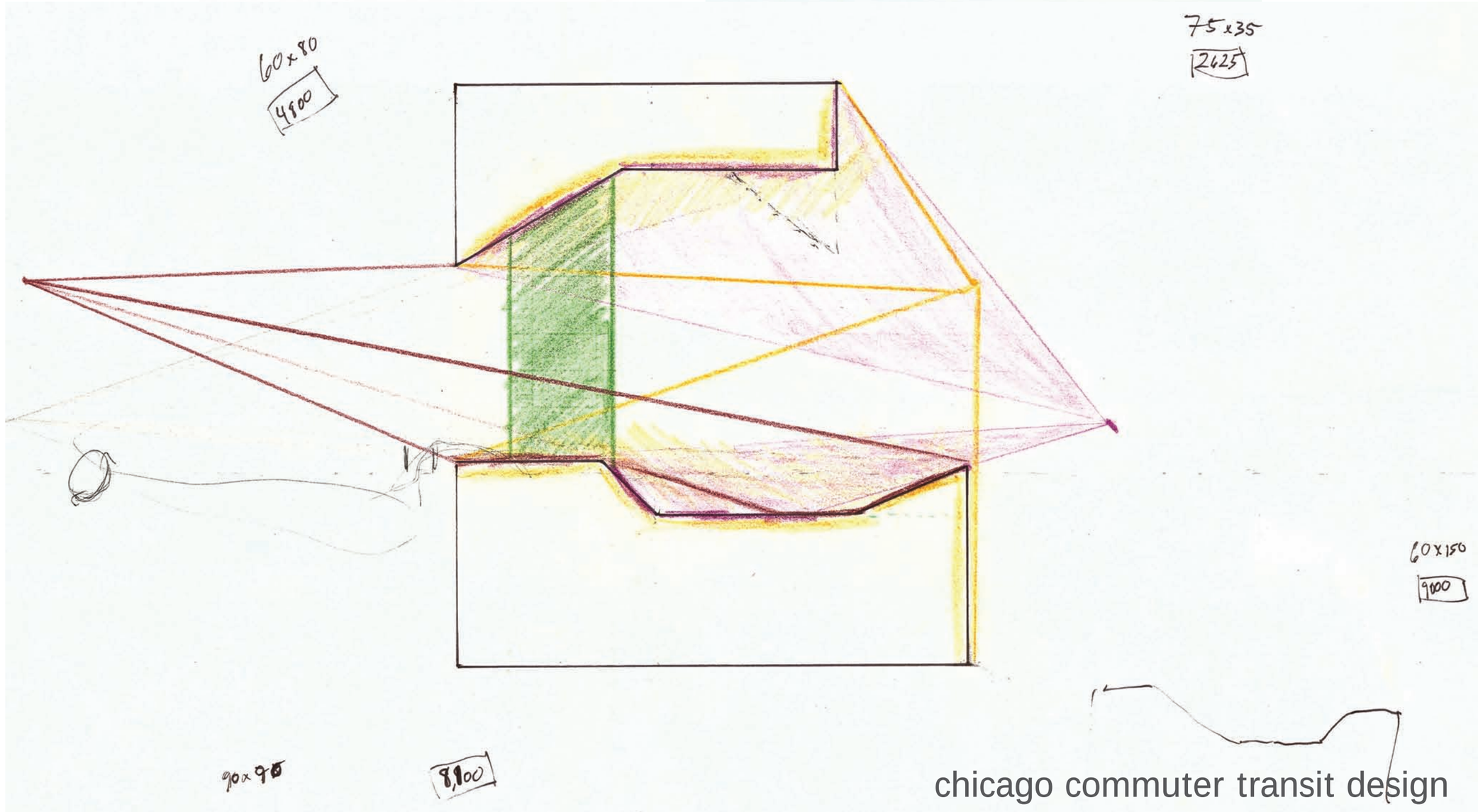

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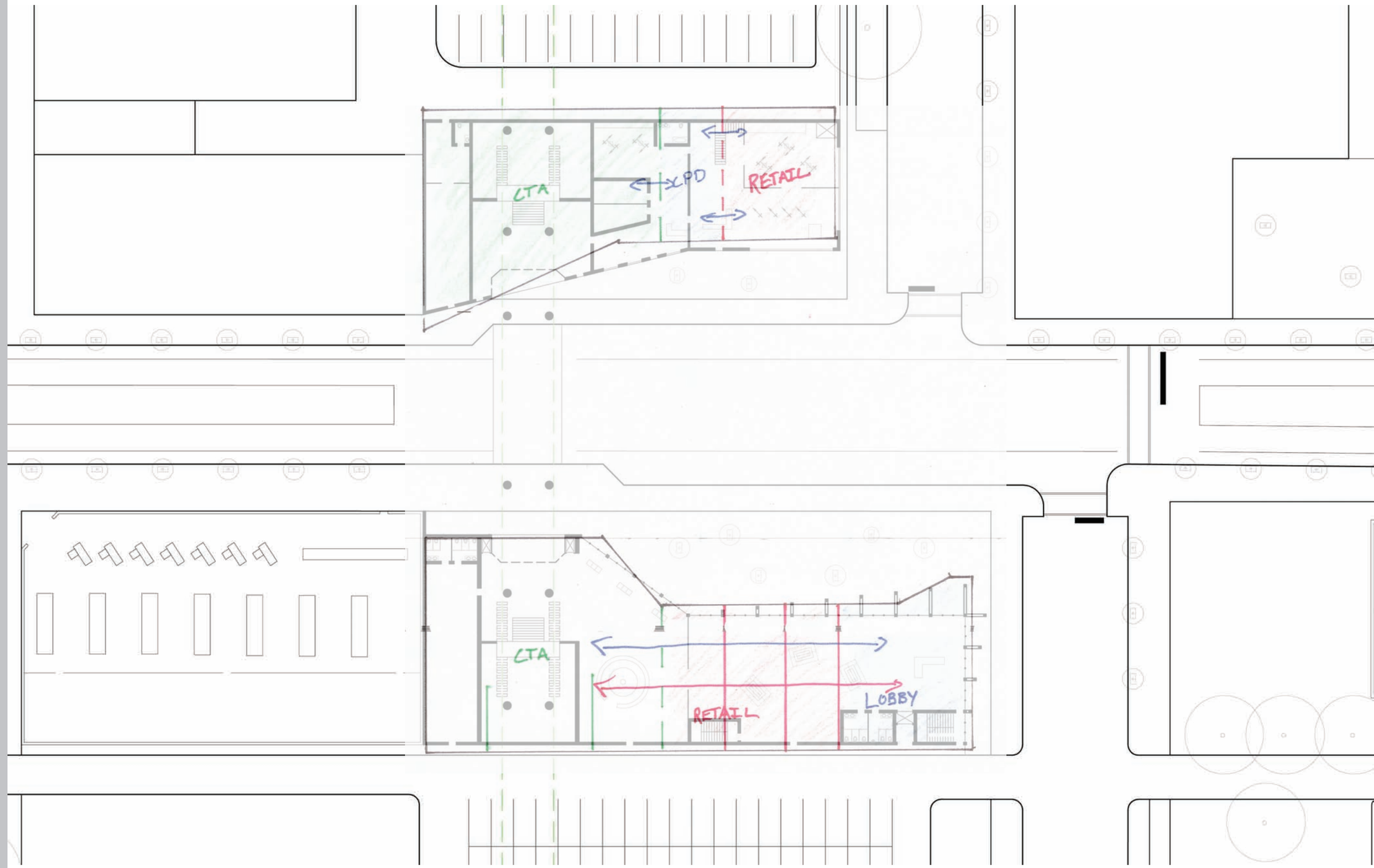

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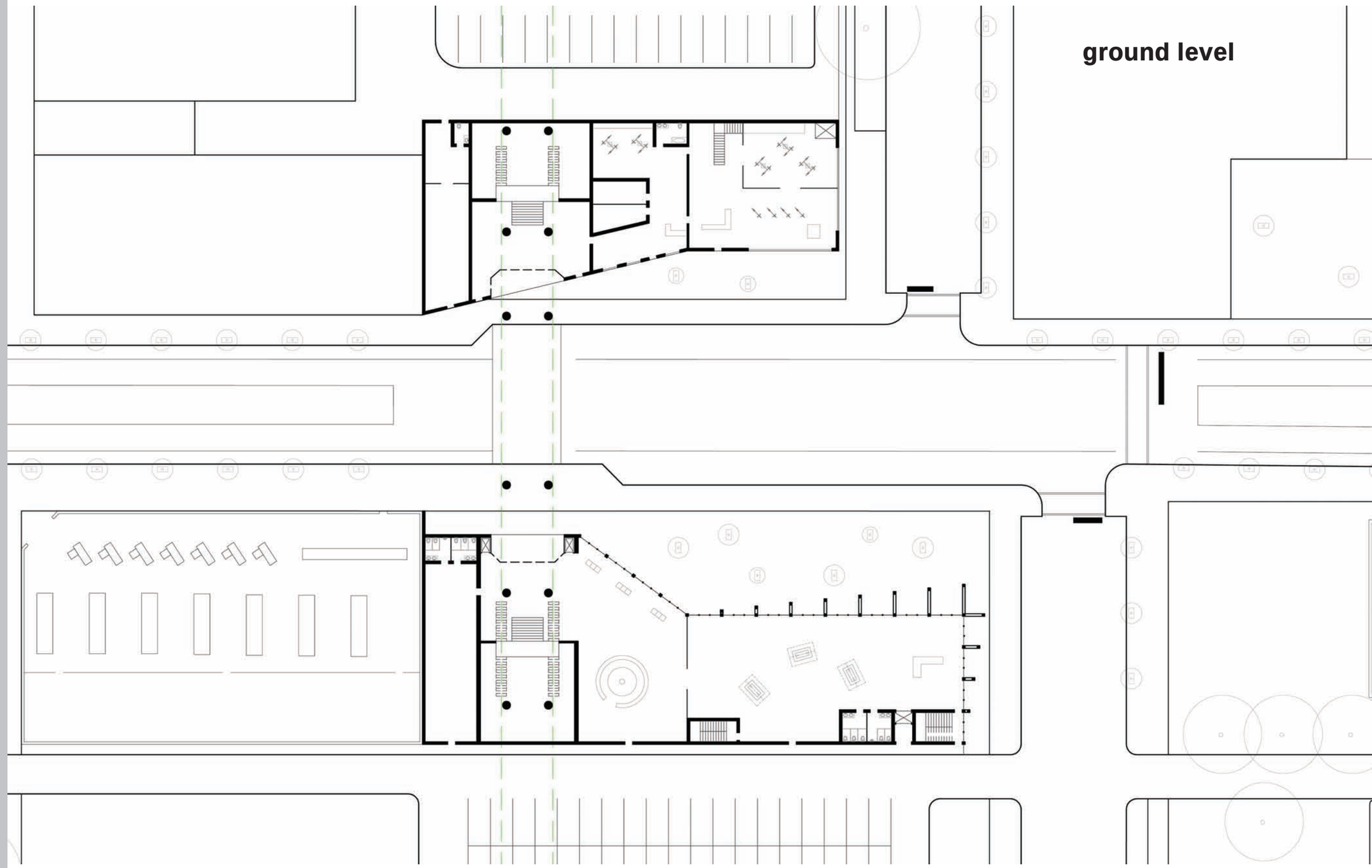

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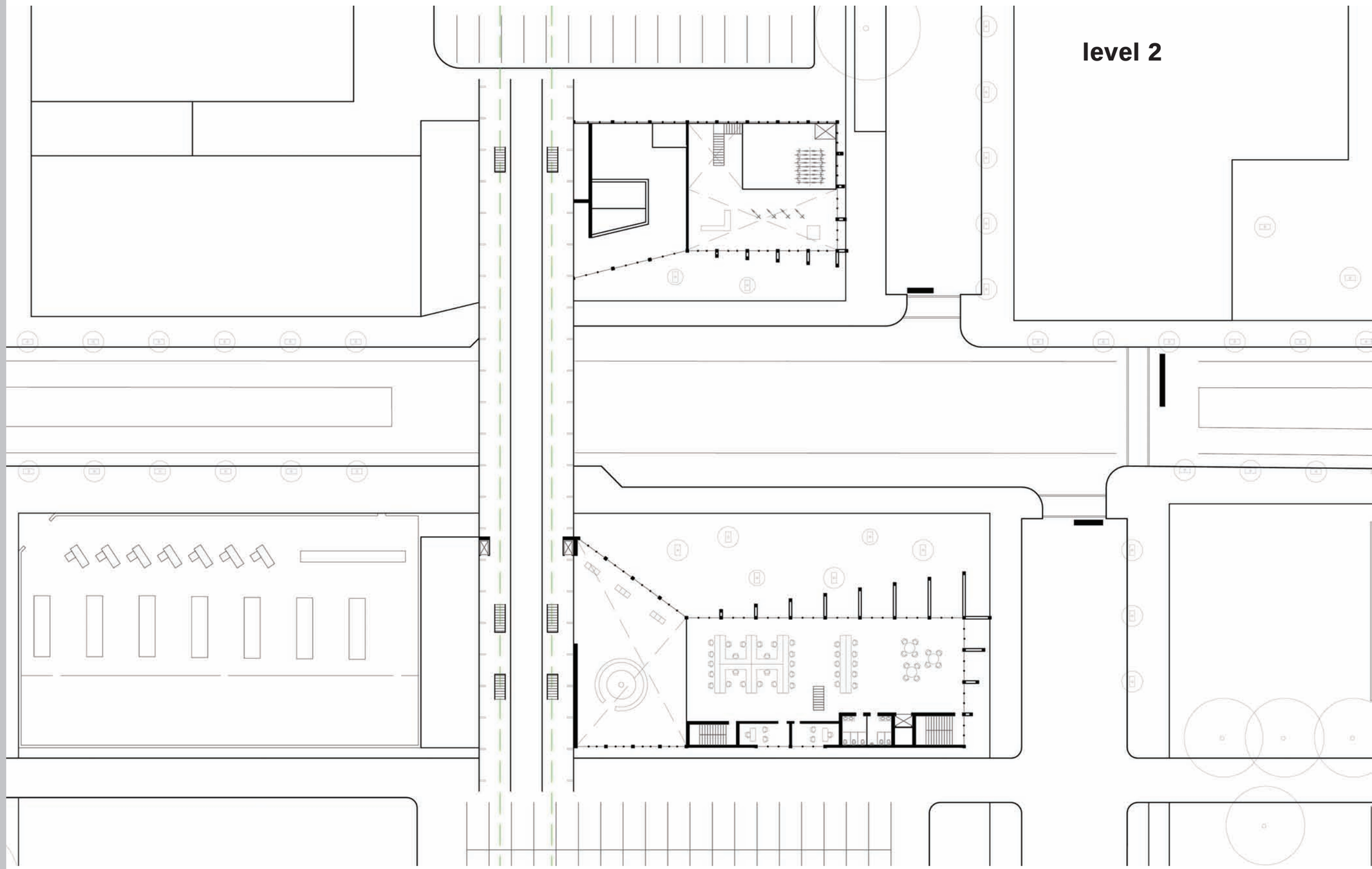

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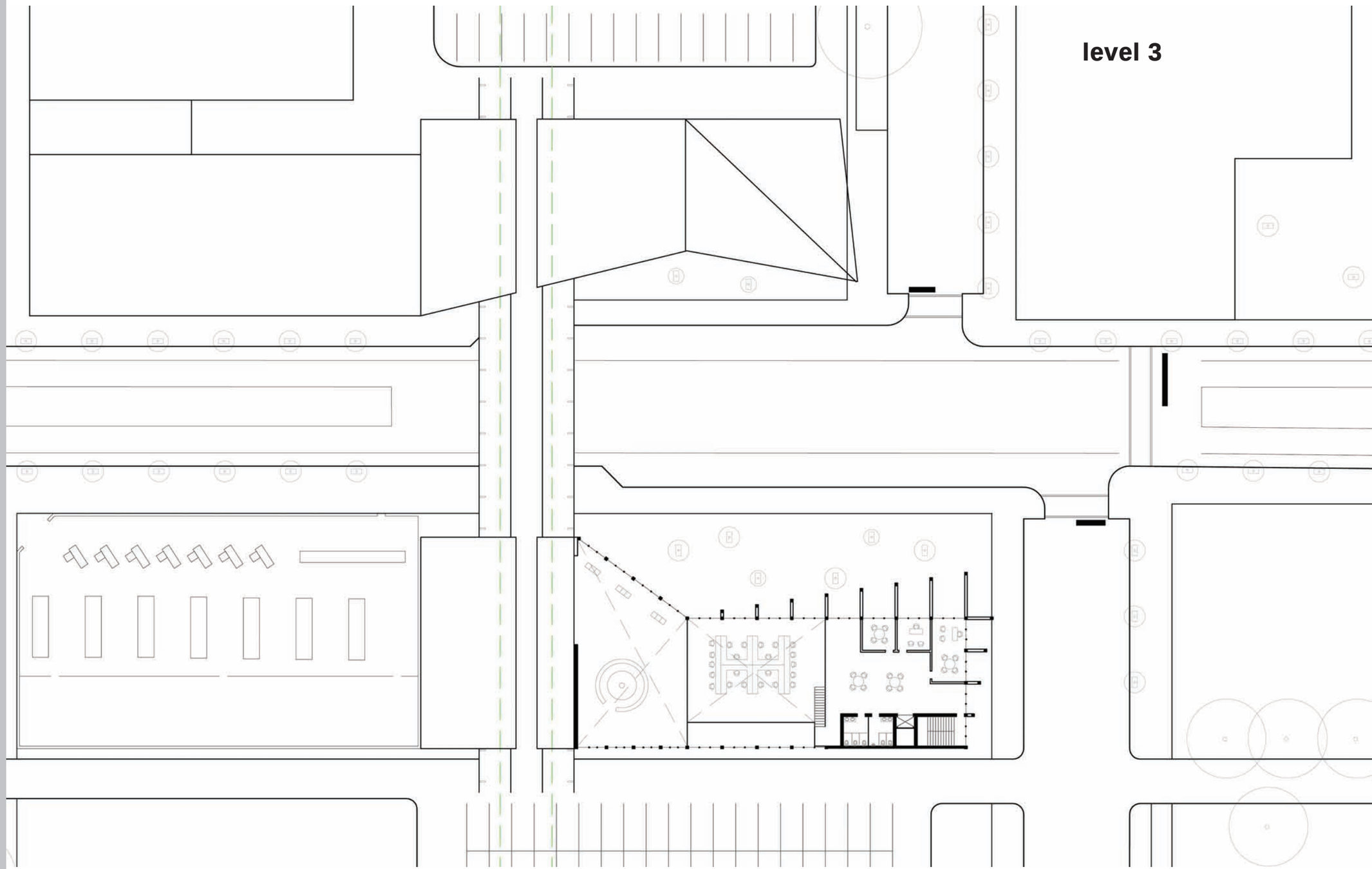

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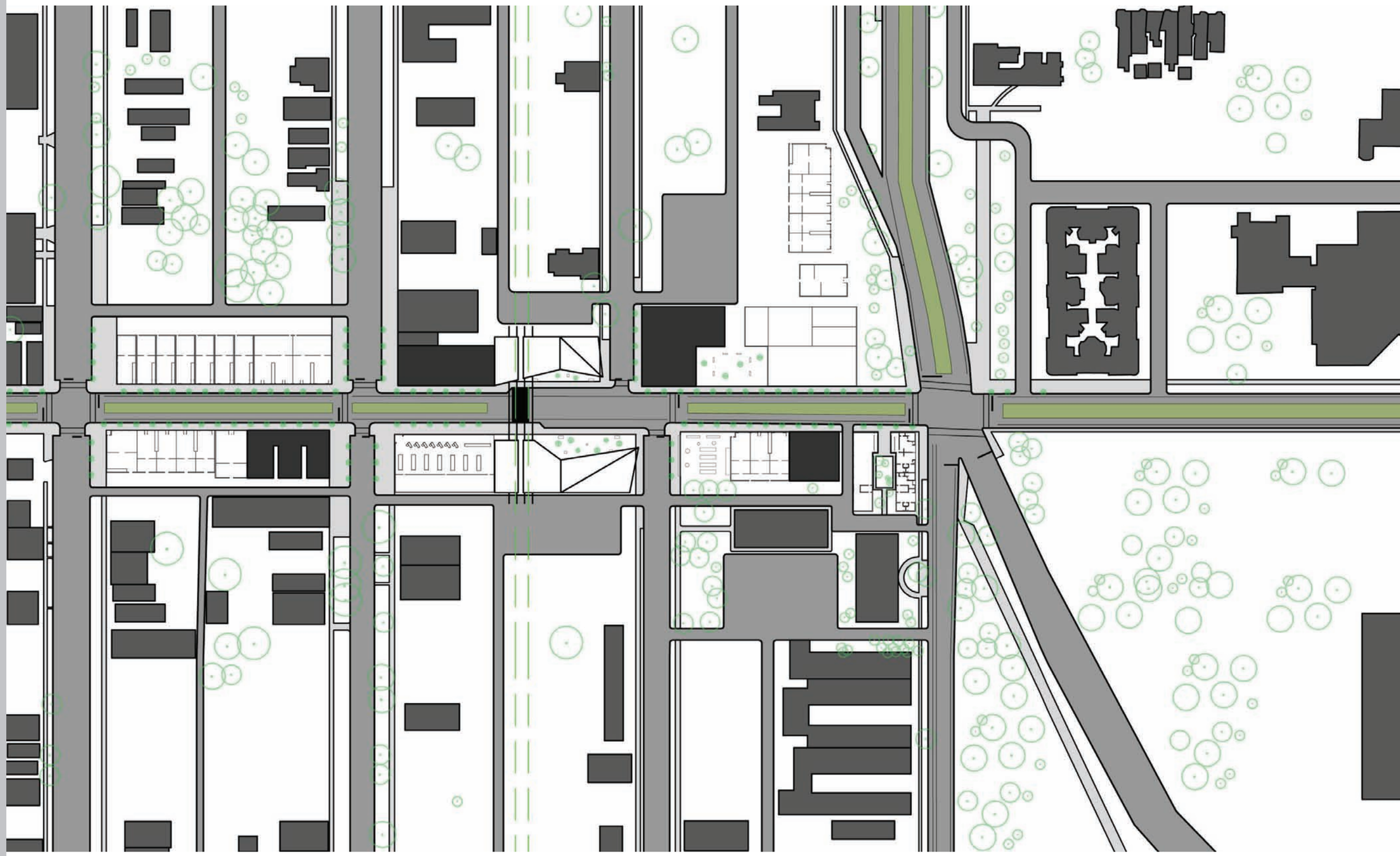
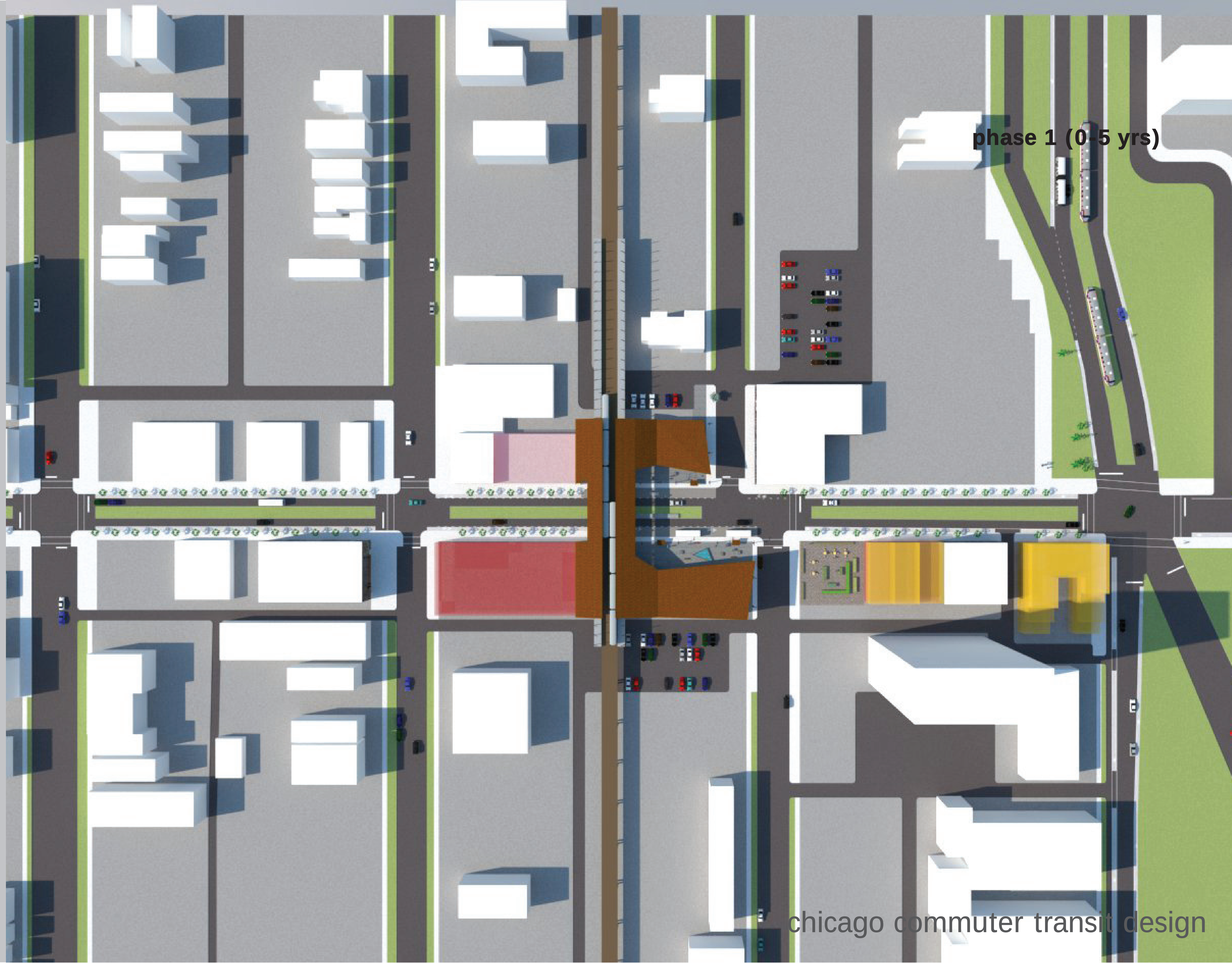
chicago commuter transit design

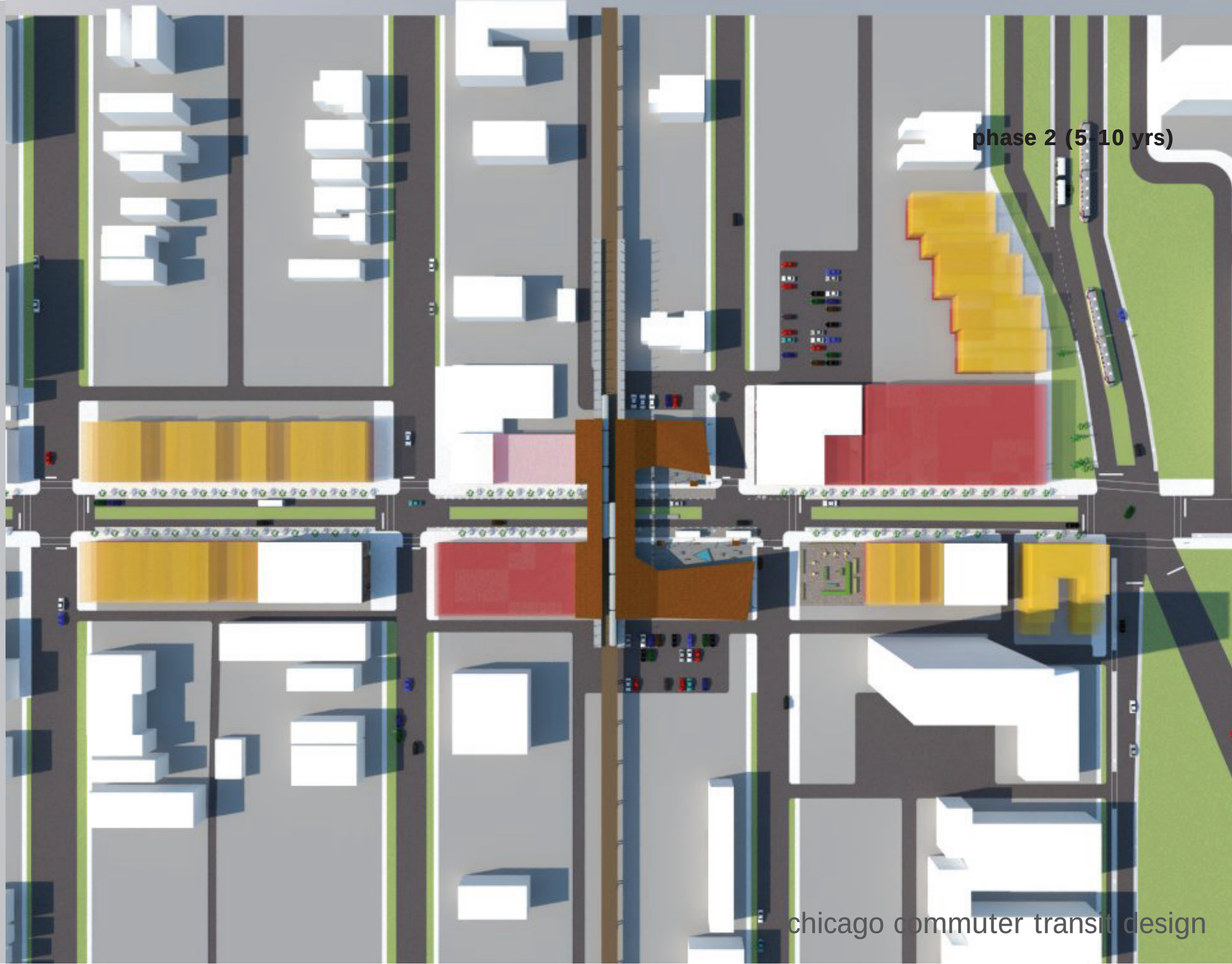
the station



the phases



chicago commuter transit design



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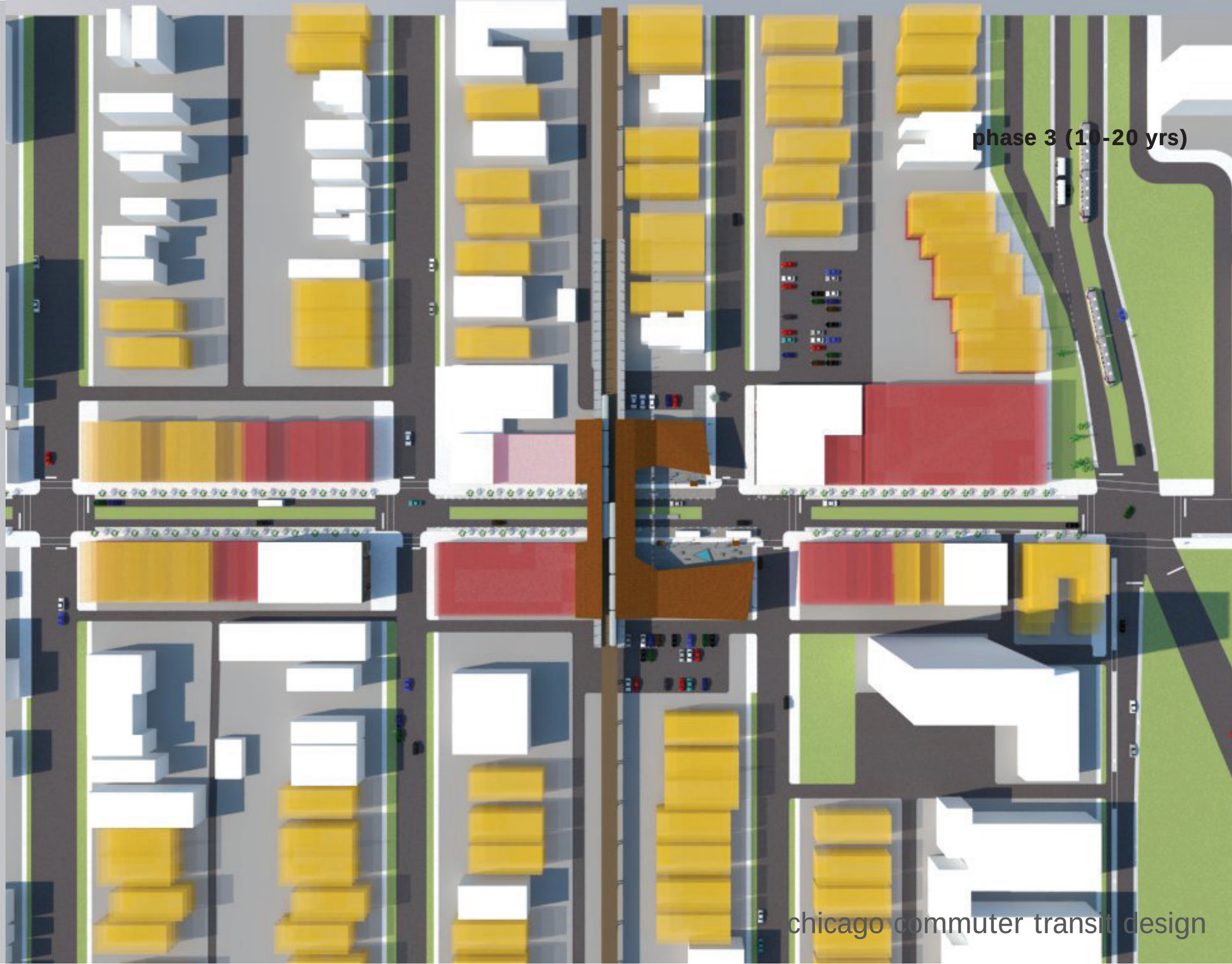


the phases

the space

chicago commuter transit design

the space

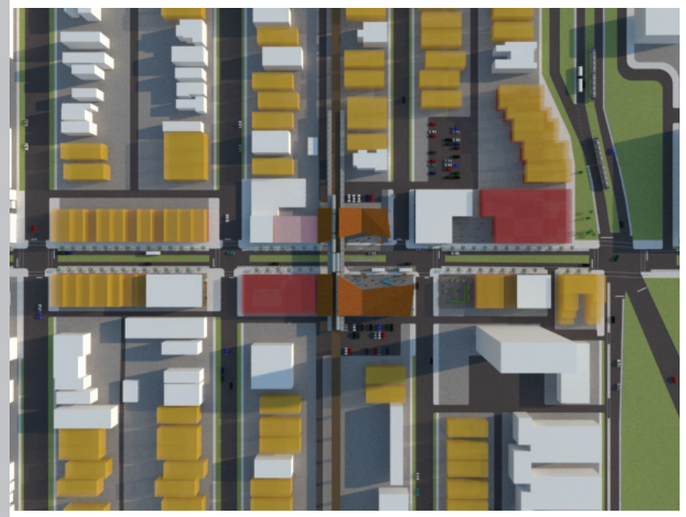
chicago commuter transit design

the space

chicago commuter transit design

the space

chicago commuter transit design



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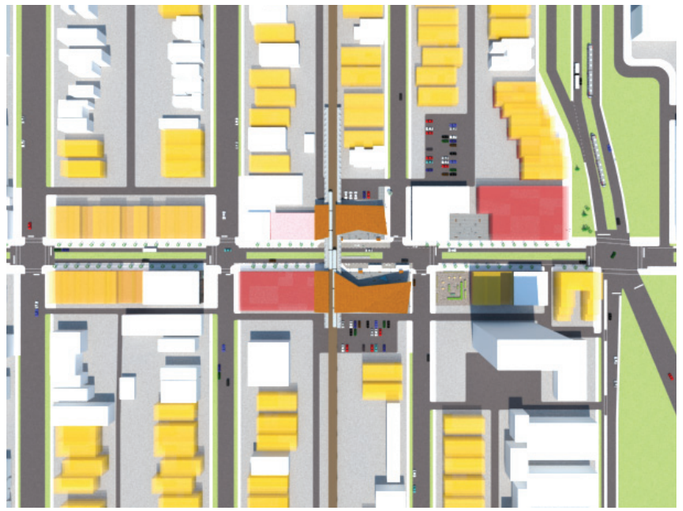

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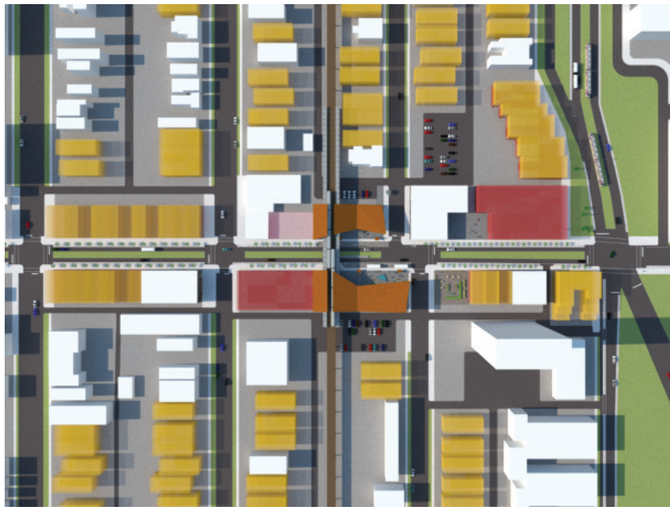
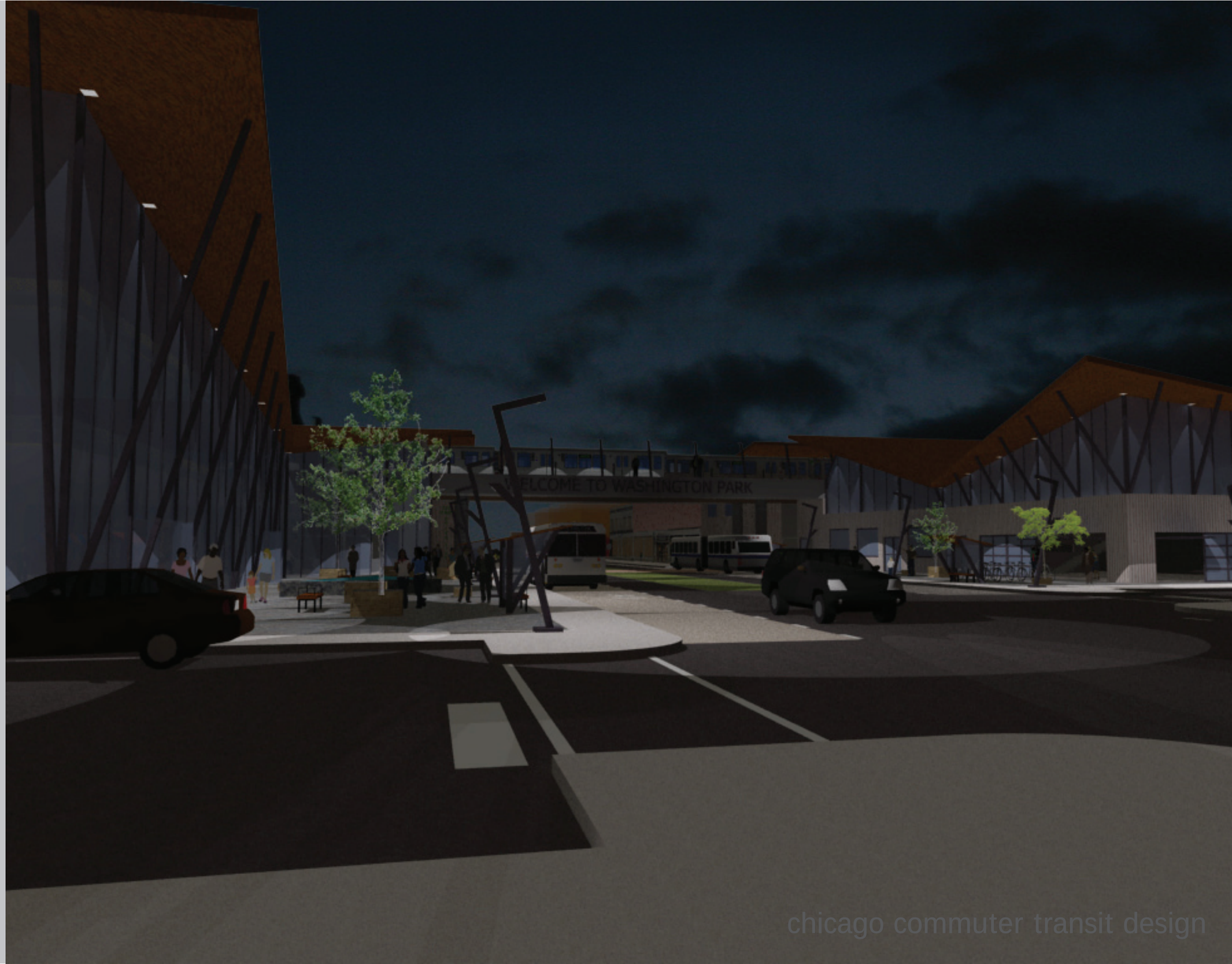


6 pm

the space

chicago commuter transit design

the space



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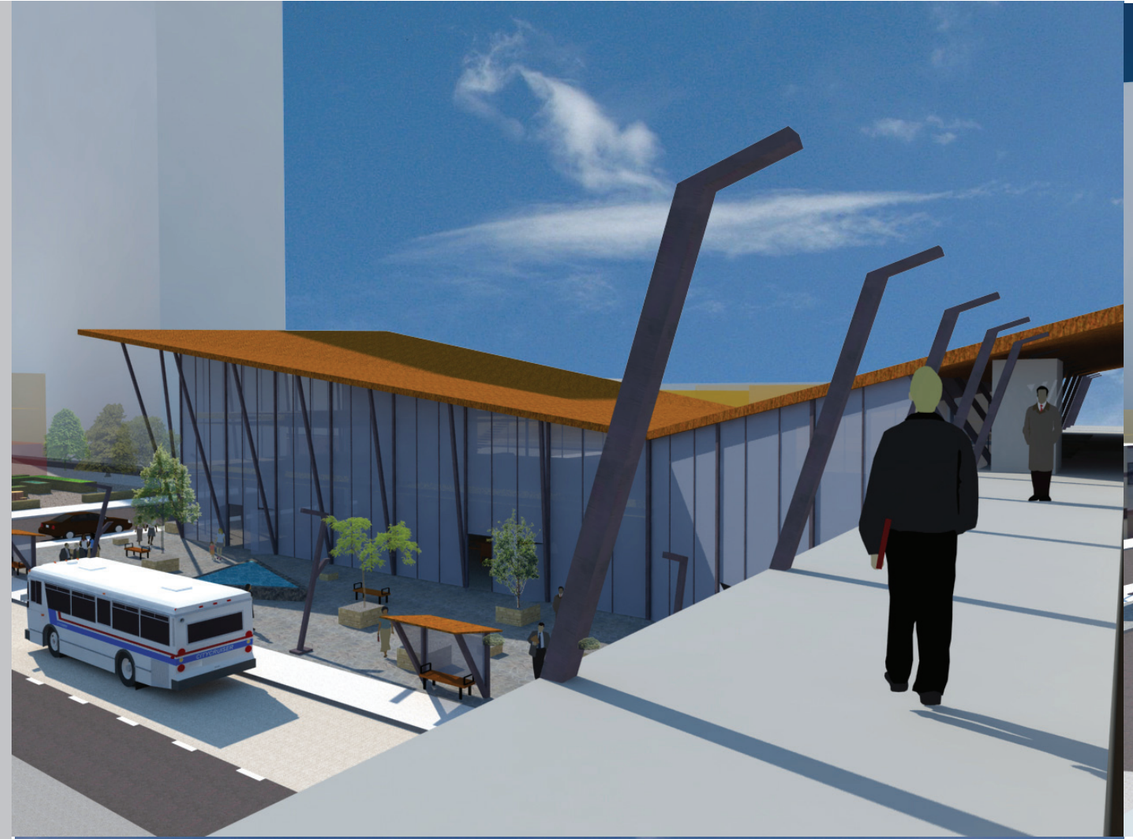
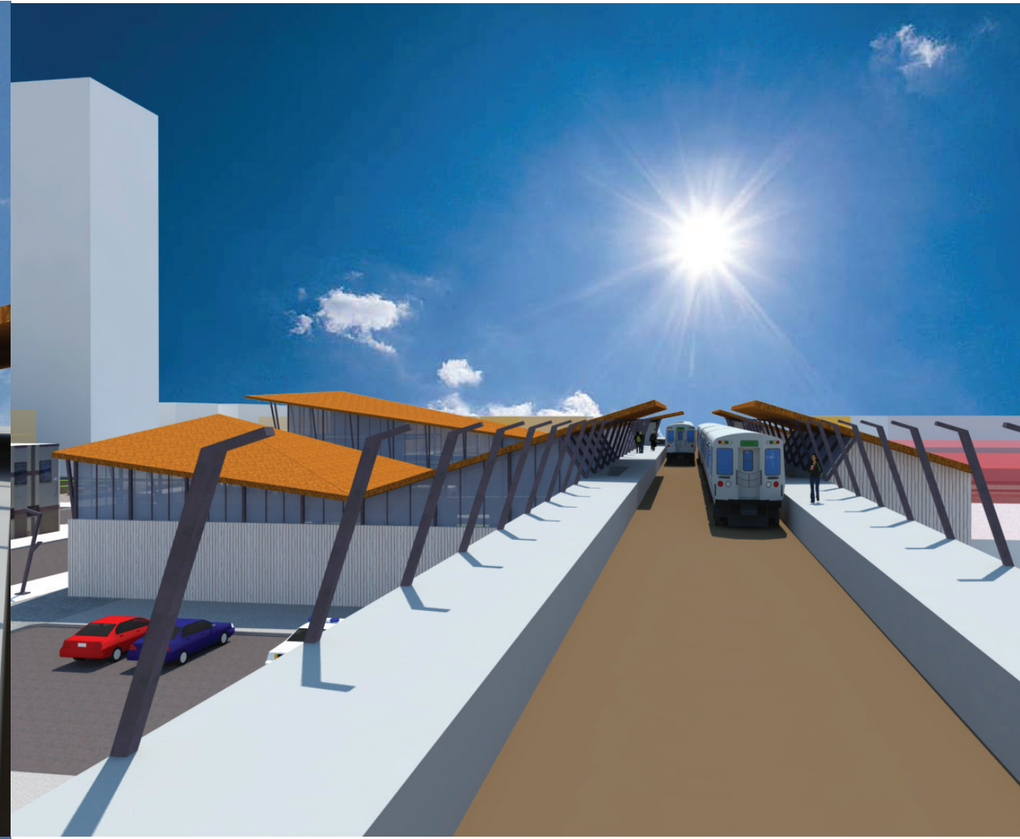




the space

chicago commuter transit design

the space

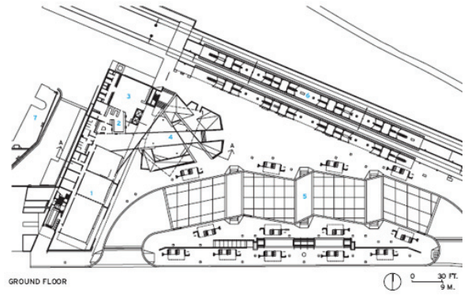
chicago commuter transit design

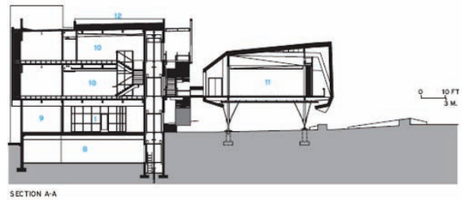
appendix

tempe transportation center

architect: architekton and otak
location: tempe, az
square footage: 40,300 sf
cost: $18.1 million
completion: dec. 2008

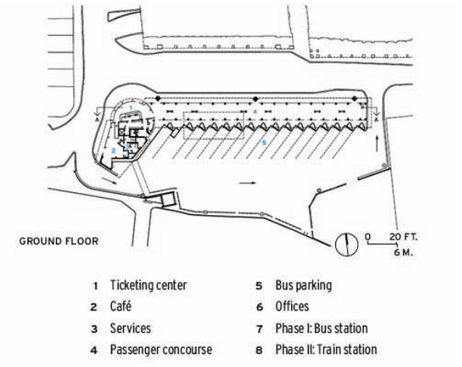
program:
bus plaza
city offices
leasable retail space
waiting areas
community area
indoor bike storage
locker rooms

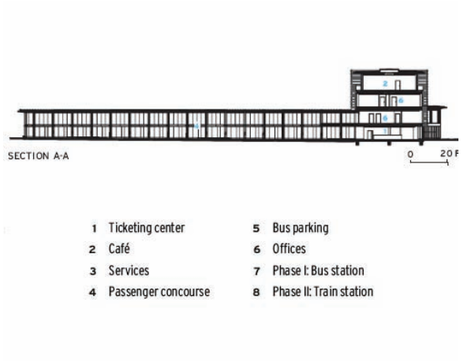




SECTION A-A

1 Retail
2 Ticket counter/security
3 Bike storage and repair
4 Shaded plaza
5 Bus terminal
6 Light-rail station
7 Police station
8 Mechanical
9 Services
10 Offices
11 Community room
12 Green roof





bath spa bus station

architect:	wilkinson eyre
location:	bath, uk
square footage:	13,000 sf
cost:	$20 million
completion:	june, 2009

program:
bus plaza
offices
leasable retail space
waiting areas
locker rooms

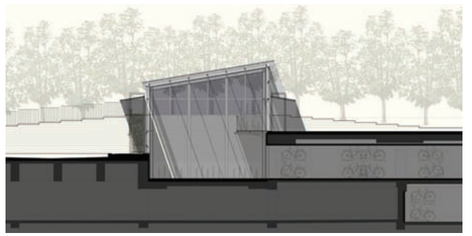
appendix

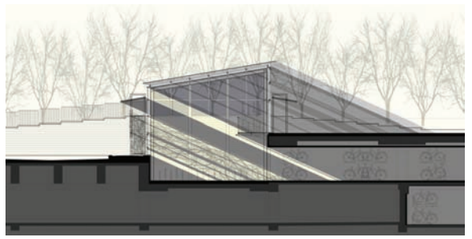
appendix

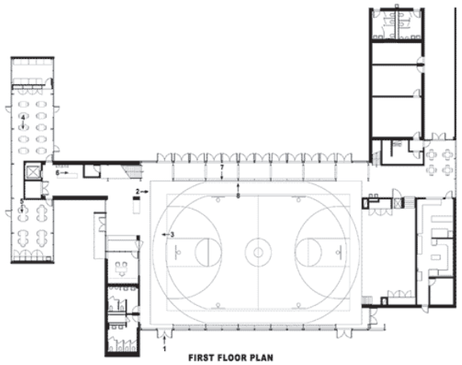
mcdonalds cycle center

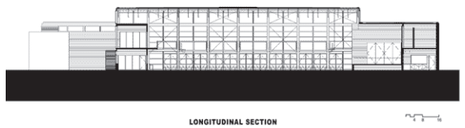
architect: muller and muller
location: chicago, il
square footage: 15,900 sf
cost: $3 million
completion: june 2004

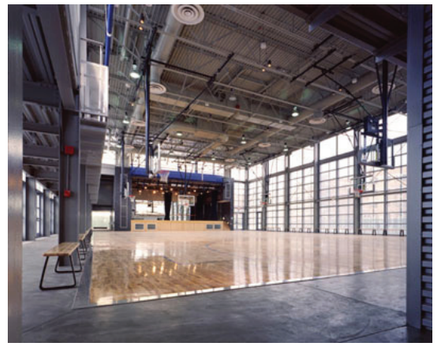
program:
indoor/outdoor bike storage
police annex
locker rooms
rental office
retail space











williamsburg community center

architect:	pasanella + klein stolz-man + berg
location:	brooklyn, ny
square footage:	20,500 sf
cost:	$6 million
completion:	2000s

program:
gymnasium
classrooms
art studios
computer lab
auditorium

appendix

books

fundamentals of urban design hedman, richard 1984
classic readings in urban planning stein, jay 2004
nature, polis, ethics: chicago regional planning donnelly, stratchan 1998
placemaking olin, laurie 2008

plans

purdue west lafayette campus master plan
PATCO transit-oriented development master plans study
chicago riverwalk main branch master plan
jersey city redevelopment plan
bayfront redevelopment plan
bike chicago 2015
chicago 2040
city of austin master plan
chicago's bike lane design guide
plan of chicago
chicago transit authority station typology

articles

tempe transportation center arch record building types study online
bath spa bus station arch record building types study online
williamsburg community center arch record building types study online
mcdonalds cycling center arch daily online
optimizing pulic transit quality and system access planning and design 2005
futurama: transportation in transition planning 2009
public interest architecture metropolis 2008