HIGHWAYS to PARKWAYS

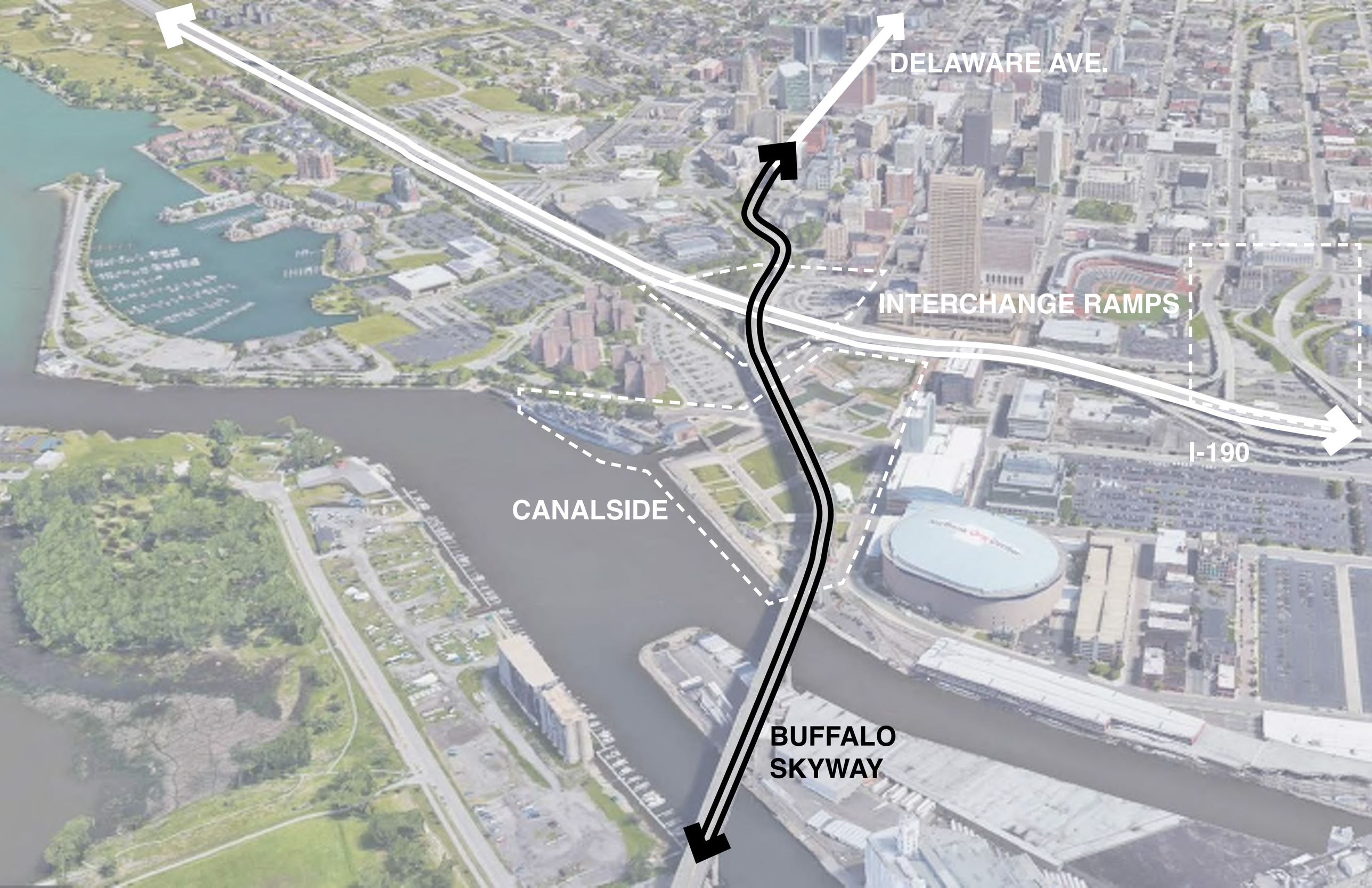
by Ryan Kucinski

APA Planning Webcast Series:
State of Transportation Planning

25 September 2020

CNU Freeways Without Futures: 2014


NIAGARA FALLS
DOWNTOWN
BUFFALO
BUFFALO RIVER
BUFFALO SKYWAY
TIFT
NATURE
PRESERVE
LAKE ERIE
BETHLEHEM STEEL
BROWNFIELD


DELAWARE AVE.
INTERCHANGE RAMPS
I-190
CANALSIDE
BUFFALO
SKYWAY

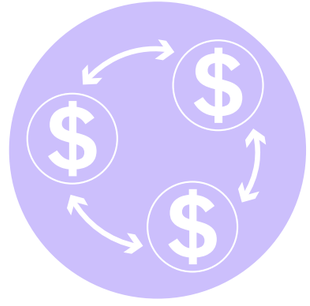
BUFFALO SKYWAY Existing Conditions

DESIGN OBJECTIVES Addressing Systemic Impacts

- Human created climate change
- Eliminate Transportation Pollution & Emissions
- Urban growth boundaries
- Sustainable industrial processes
- Renewable energy generation
- New energy grid

- Environmental Justice
- Address historic systematic discrimination
- Reverse housing segregation
- Equitable distribution of investments
- Housing affordability
- Global vs Declining cities
- Police and criminal justice reforms to stop over-policing and police brutality

- Physical activity integrated with daily life
- Community Health and Safety (Vision Zero)
- Increase Biodiversity
- Organic Local food network (farm-to-table)
- 8-80 Cities
- Local Live-Work-Play Balance



- Land Value Tax
- Groww emerging economic industries
- Equitable distribution of wealth
- Expand stake in new economic growth
- Leverage existing and prior projects and planning
- Sustainable funding sources
- Adaptable / resilient

DEVELOPMENT HISTORY Buffalo and WNY Region

1804
Joseph Ellicott radial and grid city plan

1825
Erie Canal Completed

1842
Dart Elevator: invention of grain elevator

1868
Olmsted Park and Parkway System Plan

1895
First hydro-electric power plant in world

1896
Louis Sullivan Guaranty Building

1906
FLW Larkin Administration Building Completed

1937
Federal home underwriting map "redlining"

1950
FLW Larkin Administration Building Demolished

1953
Skyway Completed

1958
Humboldt Parkway demolition for Kensington Expressway

1959
St. Lawrence Seaway completed, begin locally known era of de-industrialization

2000's
Start of Buffalo's Comeback
- Restoration of Buffalo River
- Canalside
- Adaptive Reuse

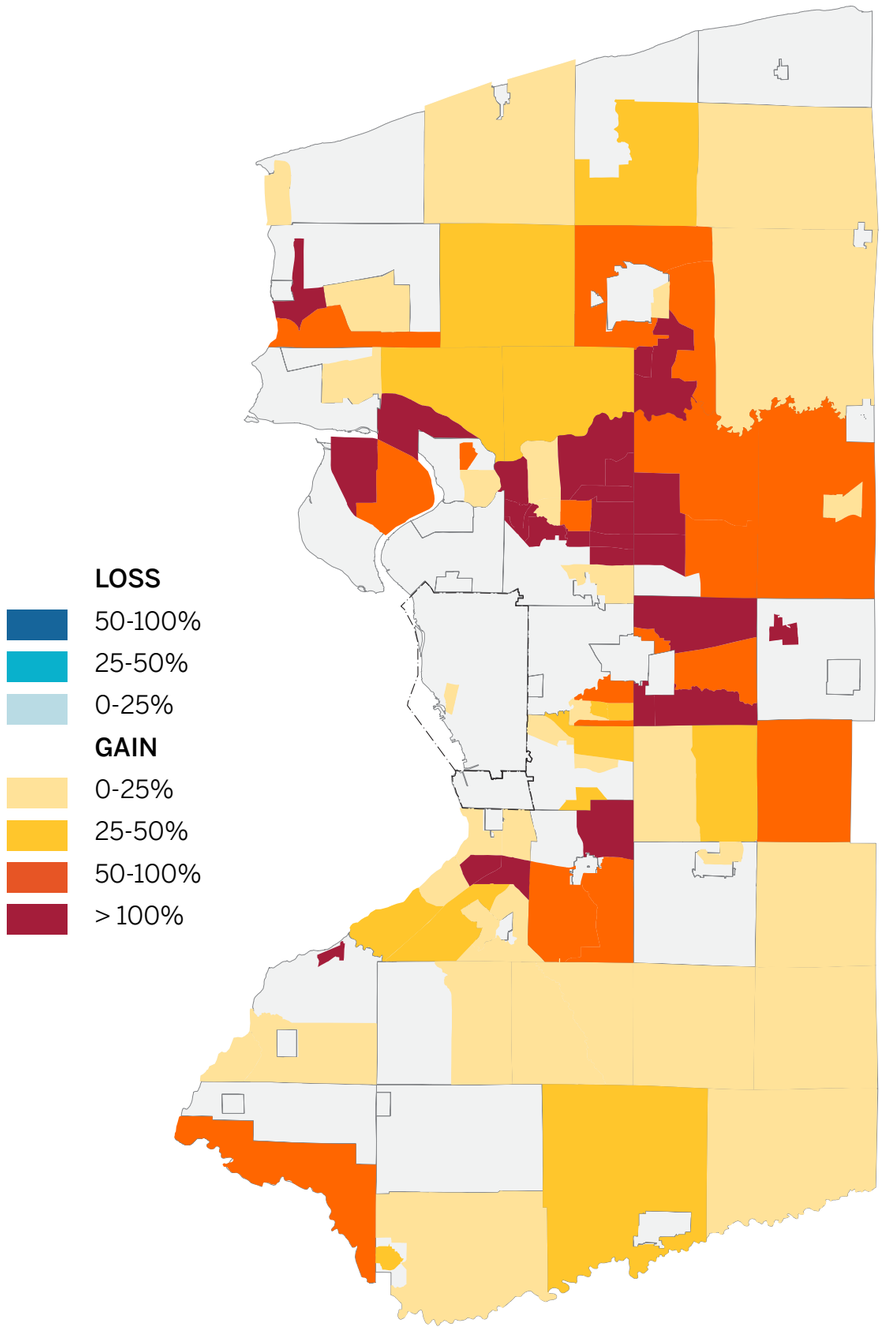
Founding & Historic Development

Buffalo's Heyday

Highway Building & Urban Renewal

Comeback

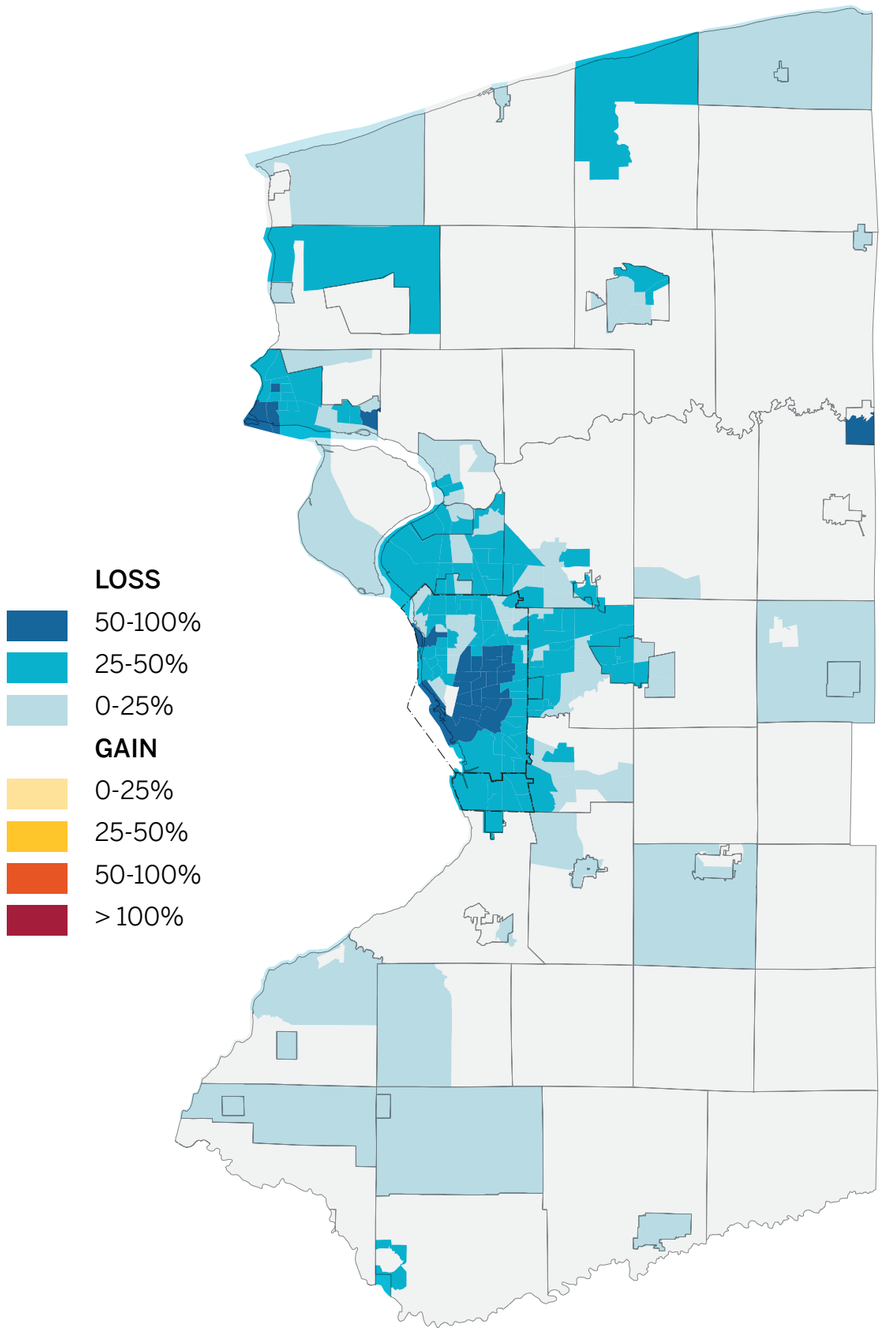
ERIE COUNTY, NY Population Growth 1970-2010



City of Buffalo Population 1950:

580,000 people

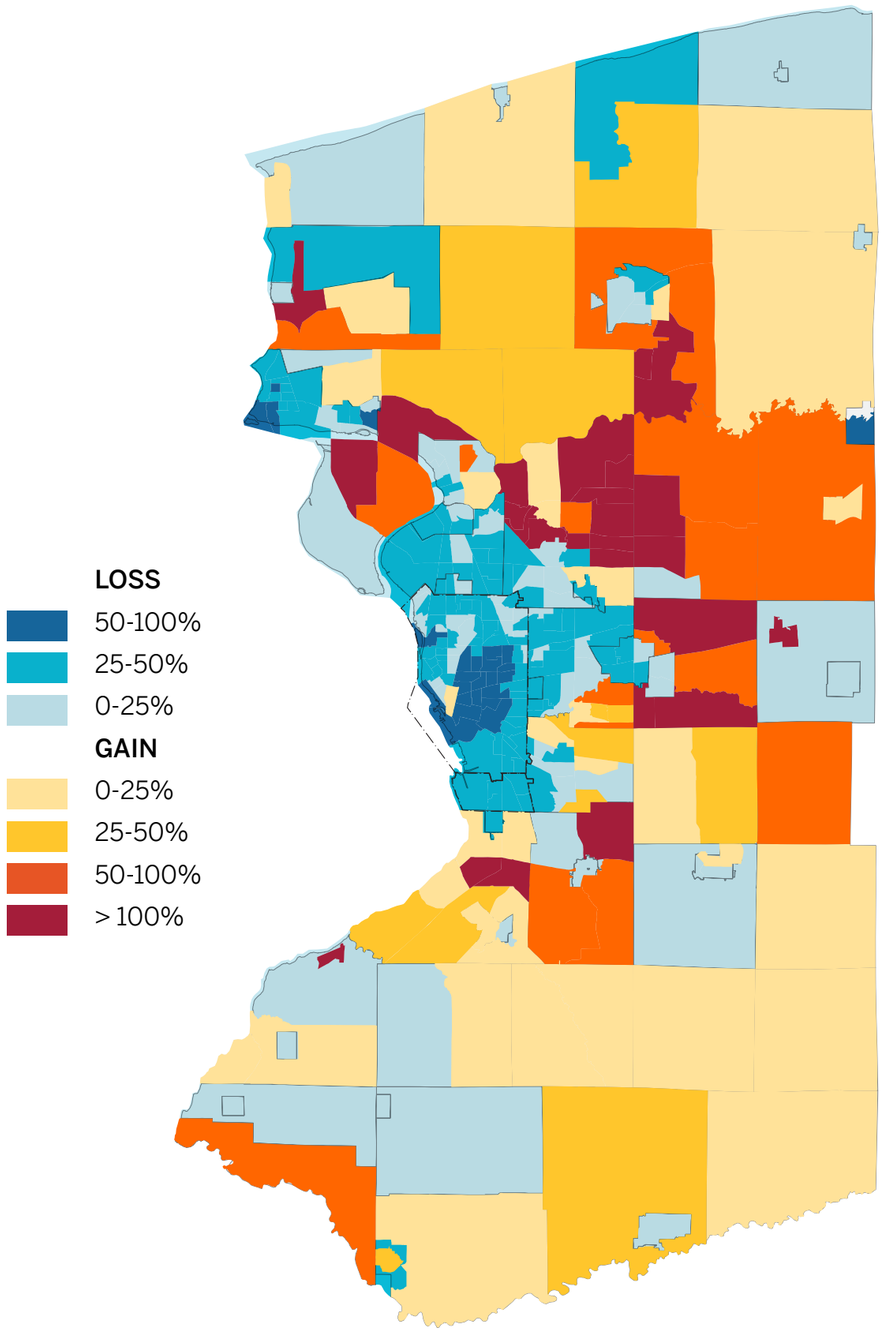
ERIE COUNTY, NY Population Decline 1970-2010

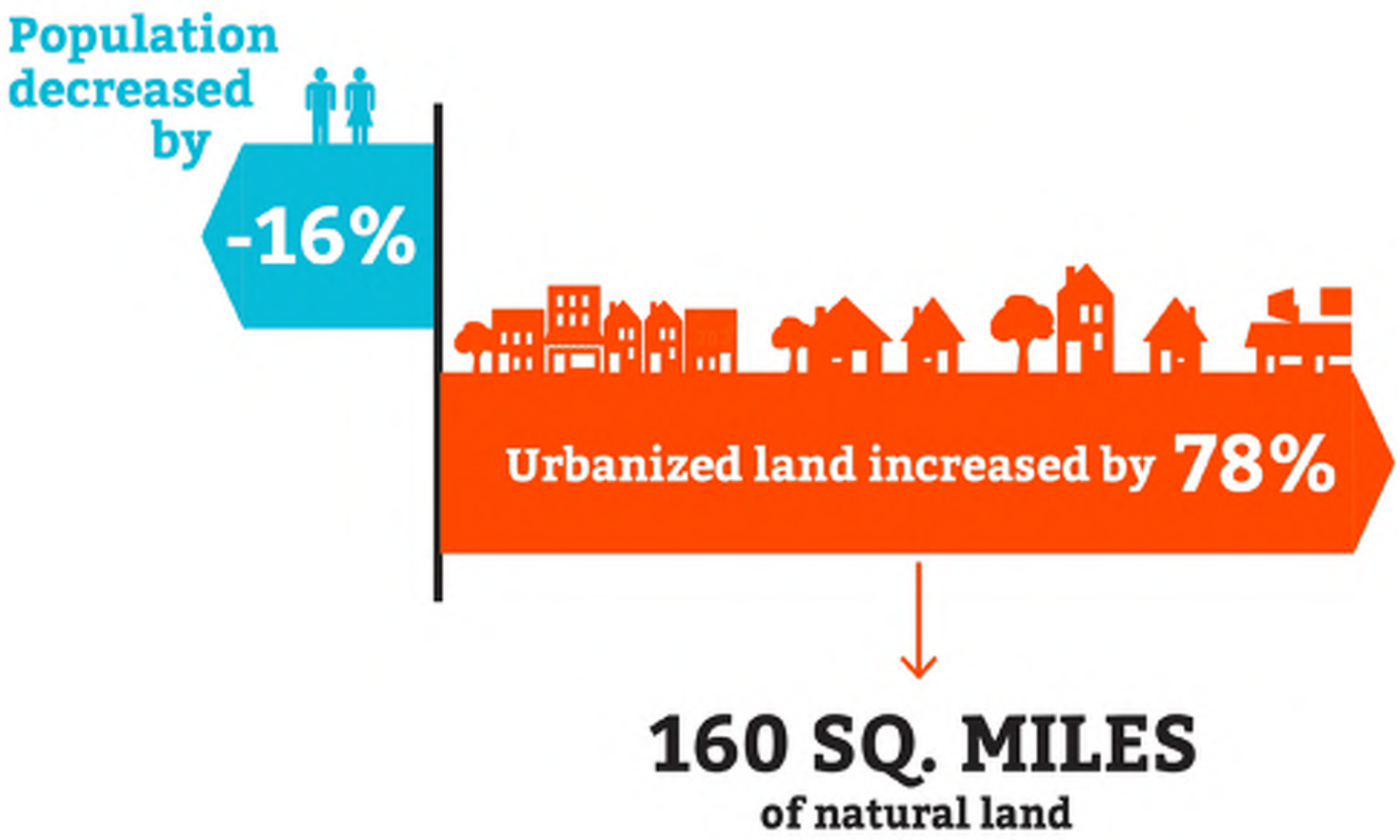


City of Buffalo Population 2010:

261,000 people

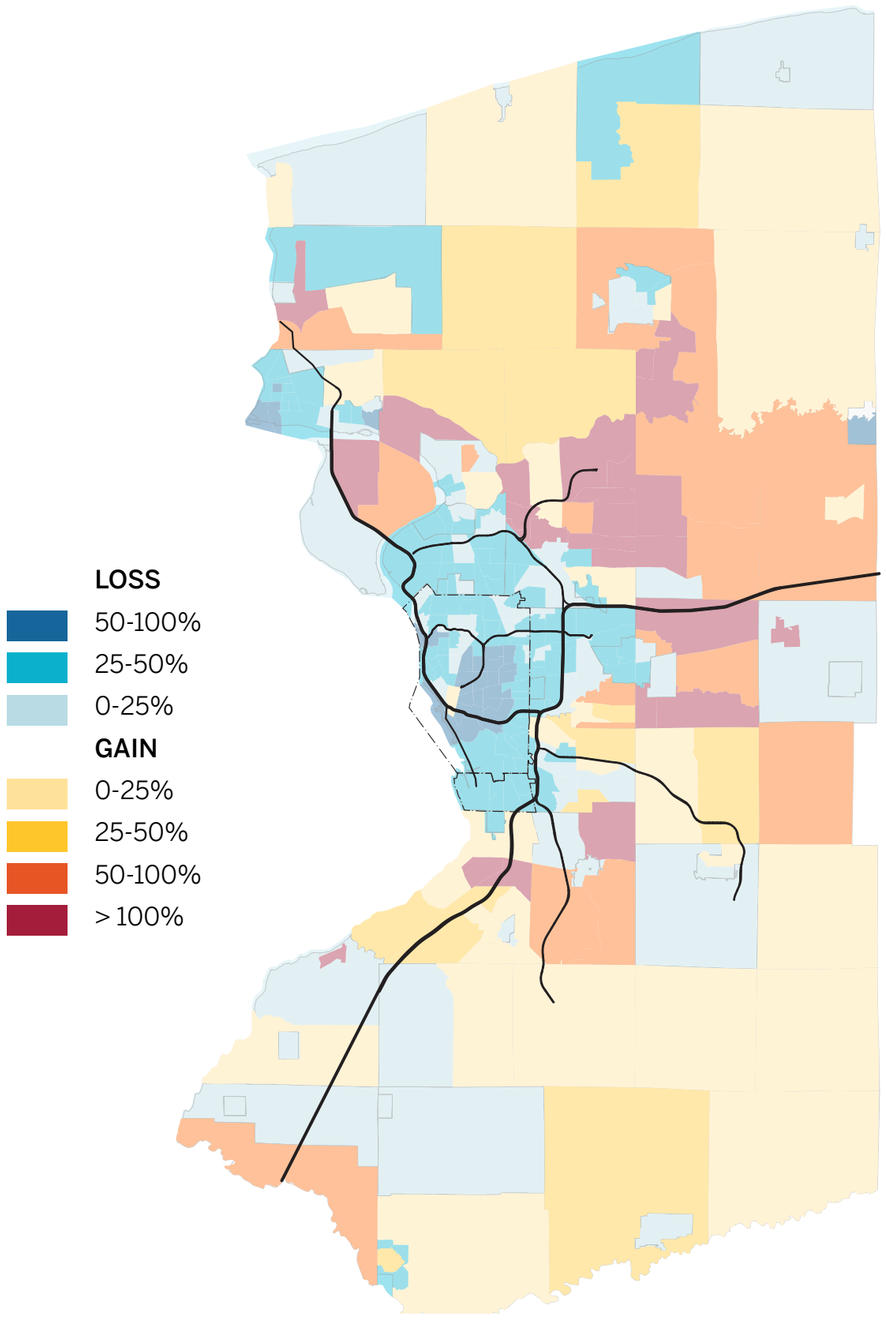
ERIE COUNTY, NY Population Sprawl 1970-2010





Source: One Region Forward, University at Buffalo Regional Institute

ERIE COUNTY, NY 1993-2017



POPULATION CHANGE

-12%

HIGHWAY LANE MILES CHANGE

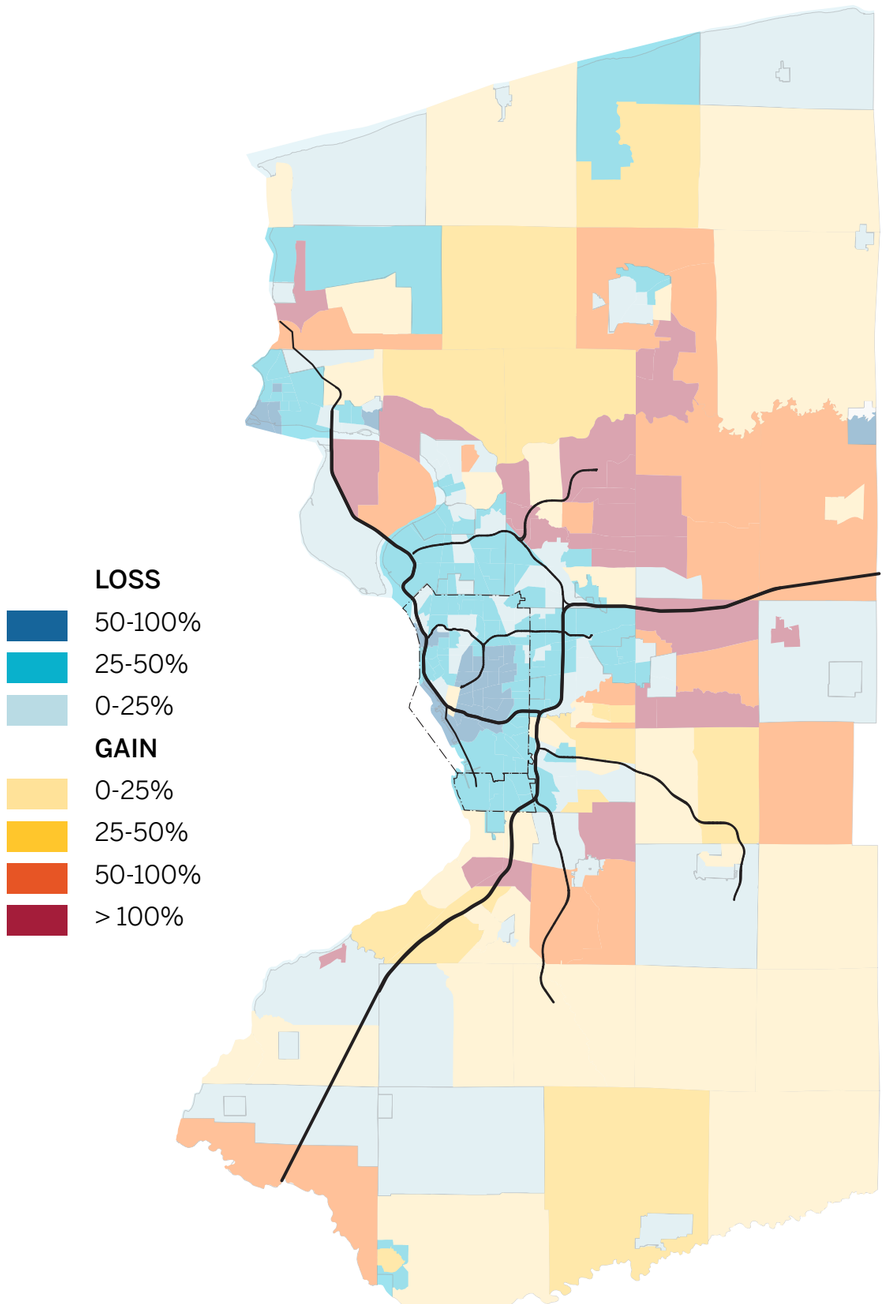
1%

TRAFFIC DELAY CHANGE

175%

Source: The Congestion Con, Transportation for America, 2020.

ERIE COUNTY, NY Intra-city Highway Building 1950-1993



HIGHWAY IMPACTS 1950's to Today

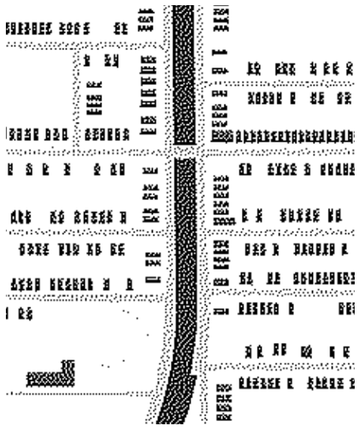
Case Study: Buffalo to NY State

Humboldt Parkway, 1951

street
building
Humboldt Parkway

Source: Sanborn Maps

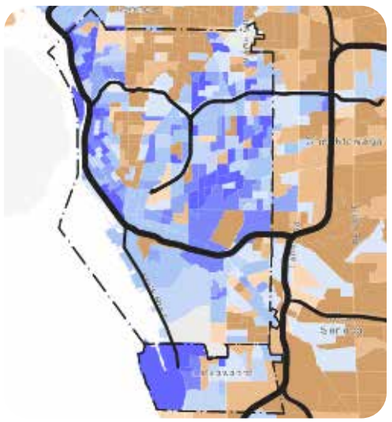
Highway = Loss of Urban Fabric



street
building
Kensington Expressway

Source: Google Earth, 2019

Increasing Poverty Concentration

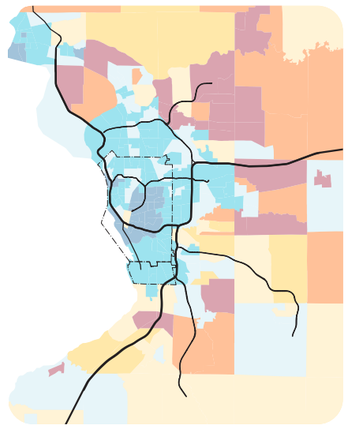


Poverty Rates

N/A	10-12.3%	25-33%
< 5%	12.4-18%	33-40%
5-10%	18-25%	> 40%

Source: Social Explorer

Increasing Suburban Sprawl

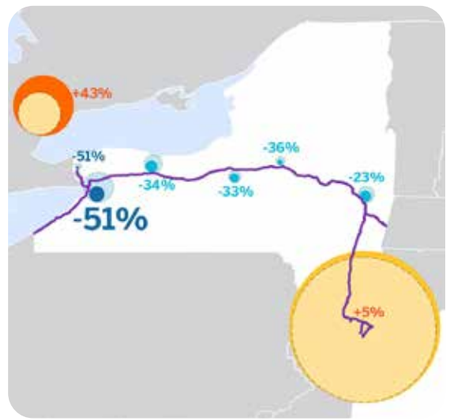


Population

Loss	50 - 100%	**Gain**	< 25%
	25 - 49%		25 - 49%
	< 25%		50 - 100%
			> 100%

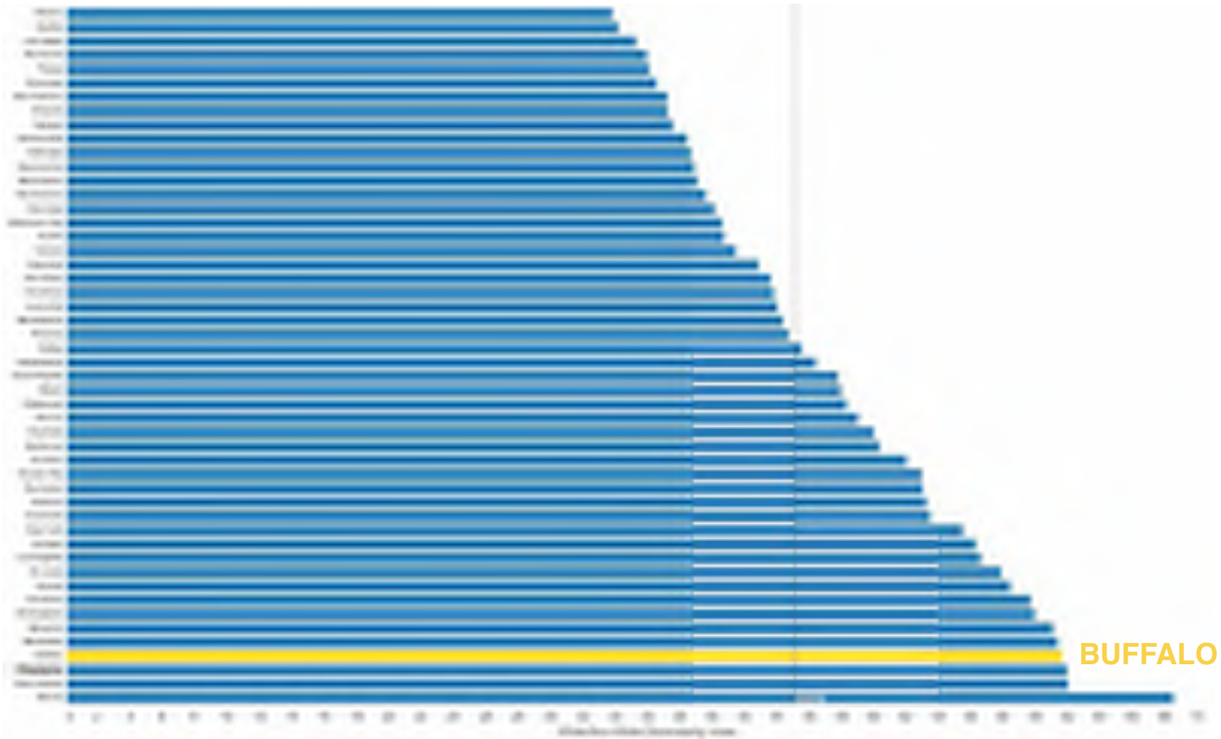
Source: One Region Forward

Diverging Global vs. Secondary Cities

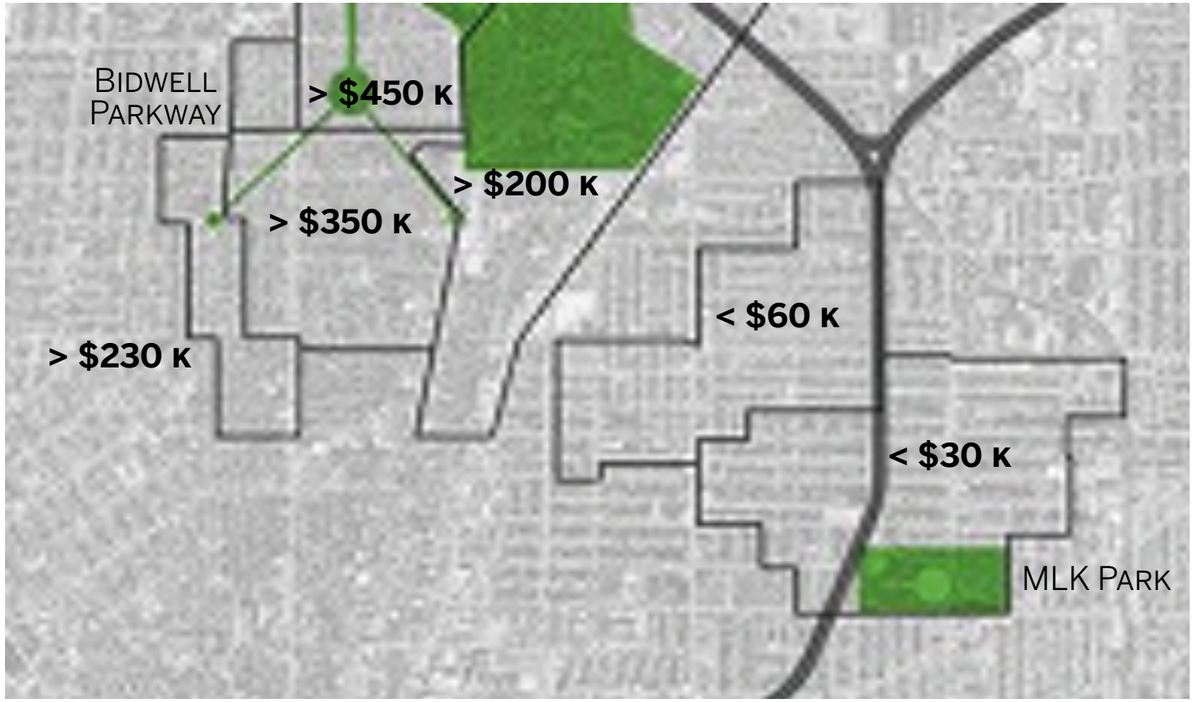


SEGREGATED CITIES Buffalo, NY is #4

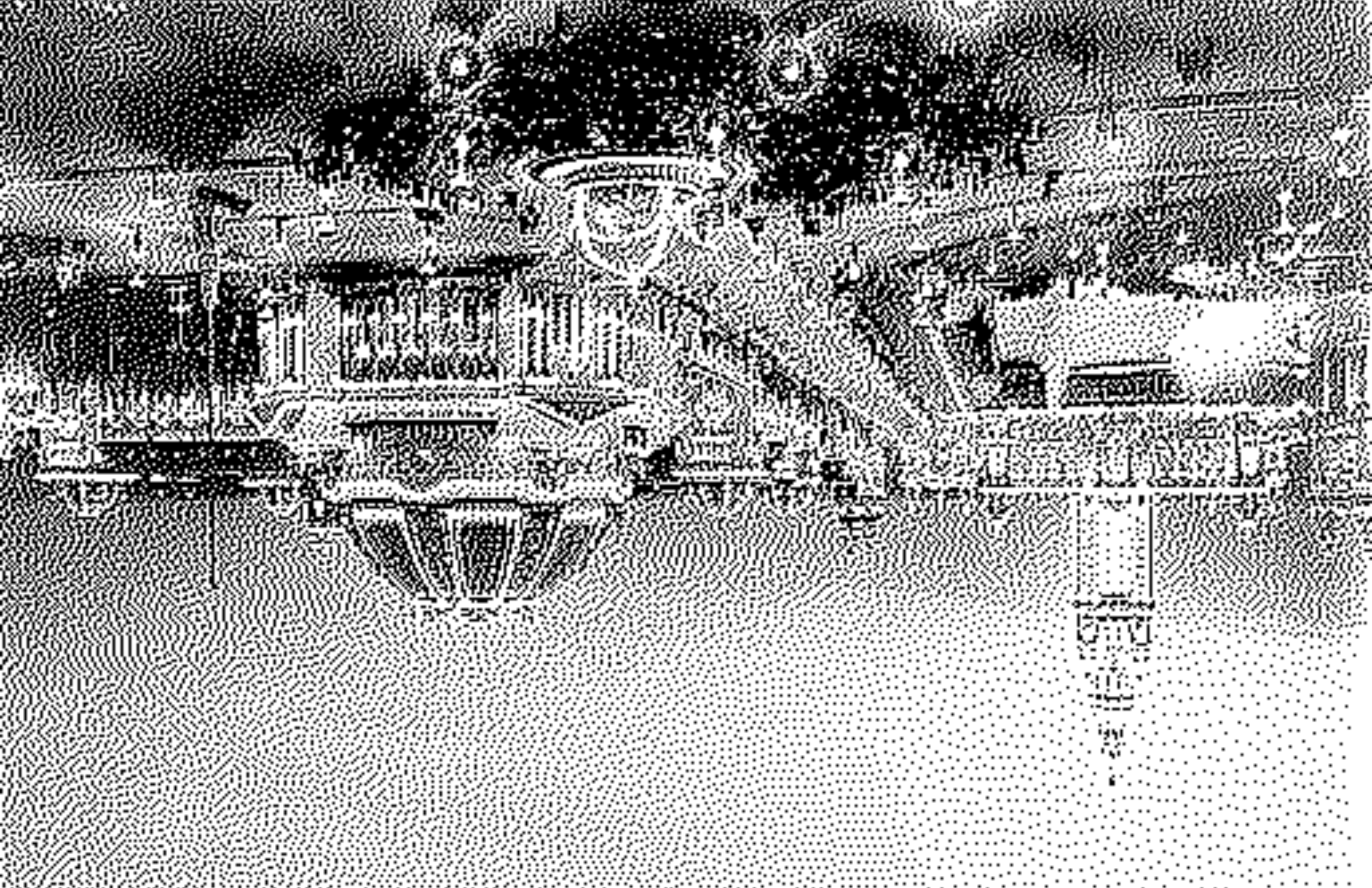
White/Non-White Dissimilarity Index, 2019



Median Property Value: Summer 2019

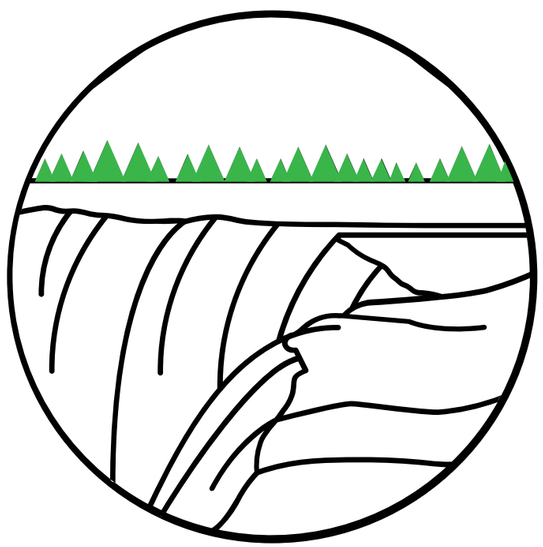


Source: Trulia

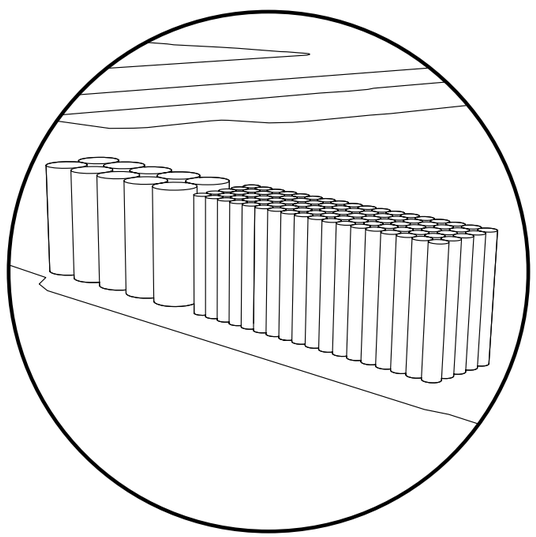


BUFFALO SKYWAY VISION Design Principles

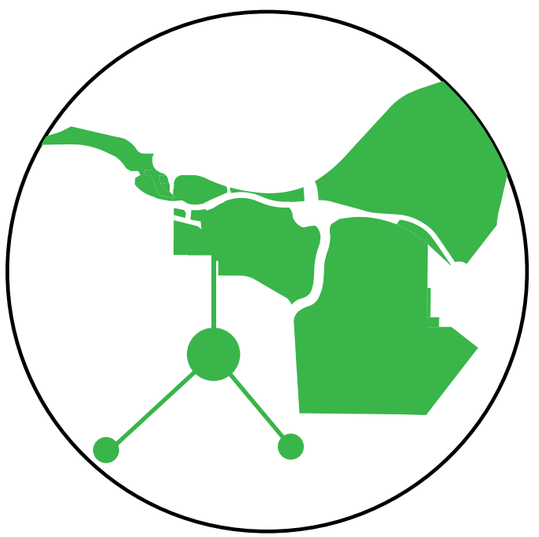
APPLIED INNOVATION



AGRICULTURE INDUSTRY

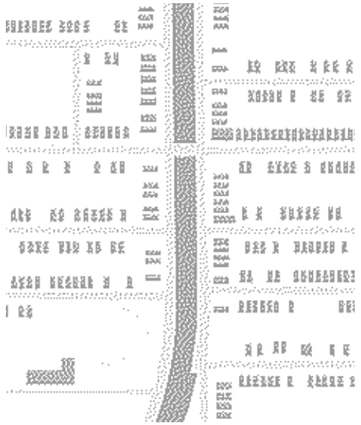


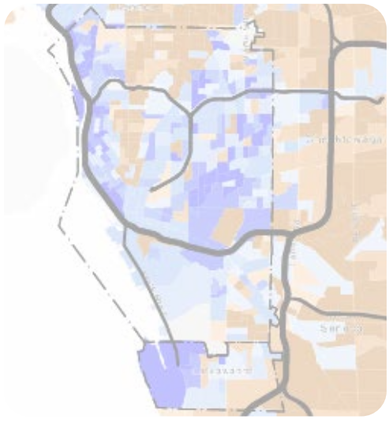
OLMSTED PARK & PARKWAY SYSTEM

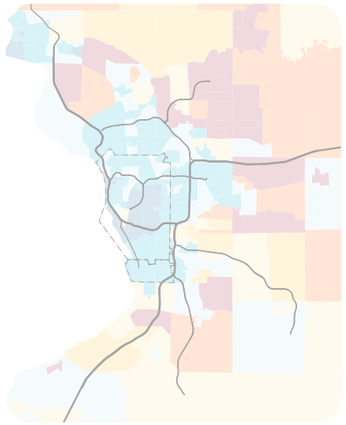


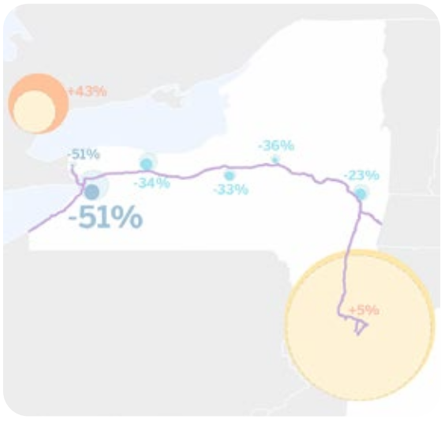
REVERSING HIGHWAY IMPACTS

Case Study: Buffalo to NY State

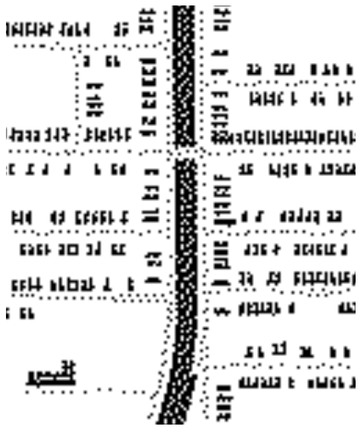








Humboldt Parkway, 2019



building

Kensington Expressway

**Parkway =
Rebuild Urban Fabric**

existing building

infill building

restored parkway

infill community parks

First/Last Mile Connections

building

open space

bicycle lane

path to transit station

**Transit-Oriented
Neighborhoods City**

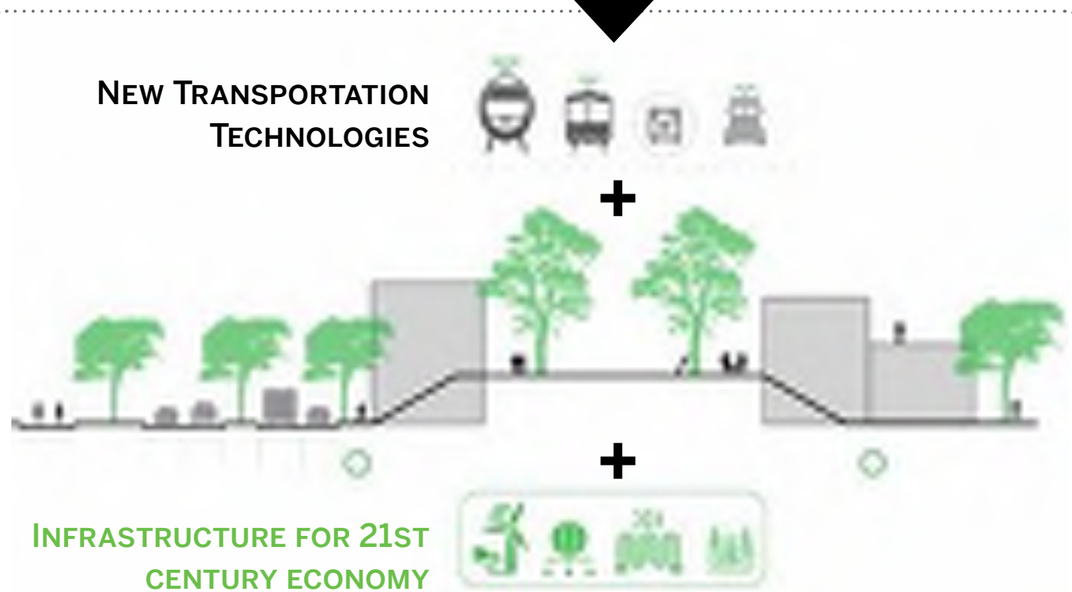
**High-Speed Rail Connect
Global & Secondary Cities**

BUFFALO SKYWAY VISION Design Concept

EXISTING HIGHWAY CORRIDOR

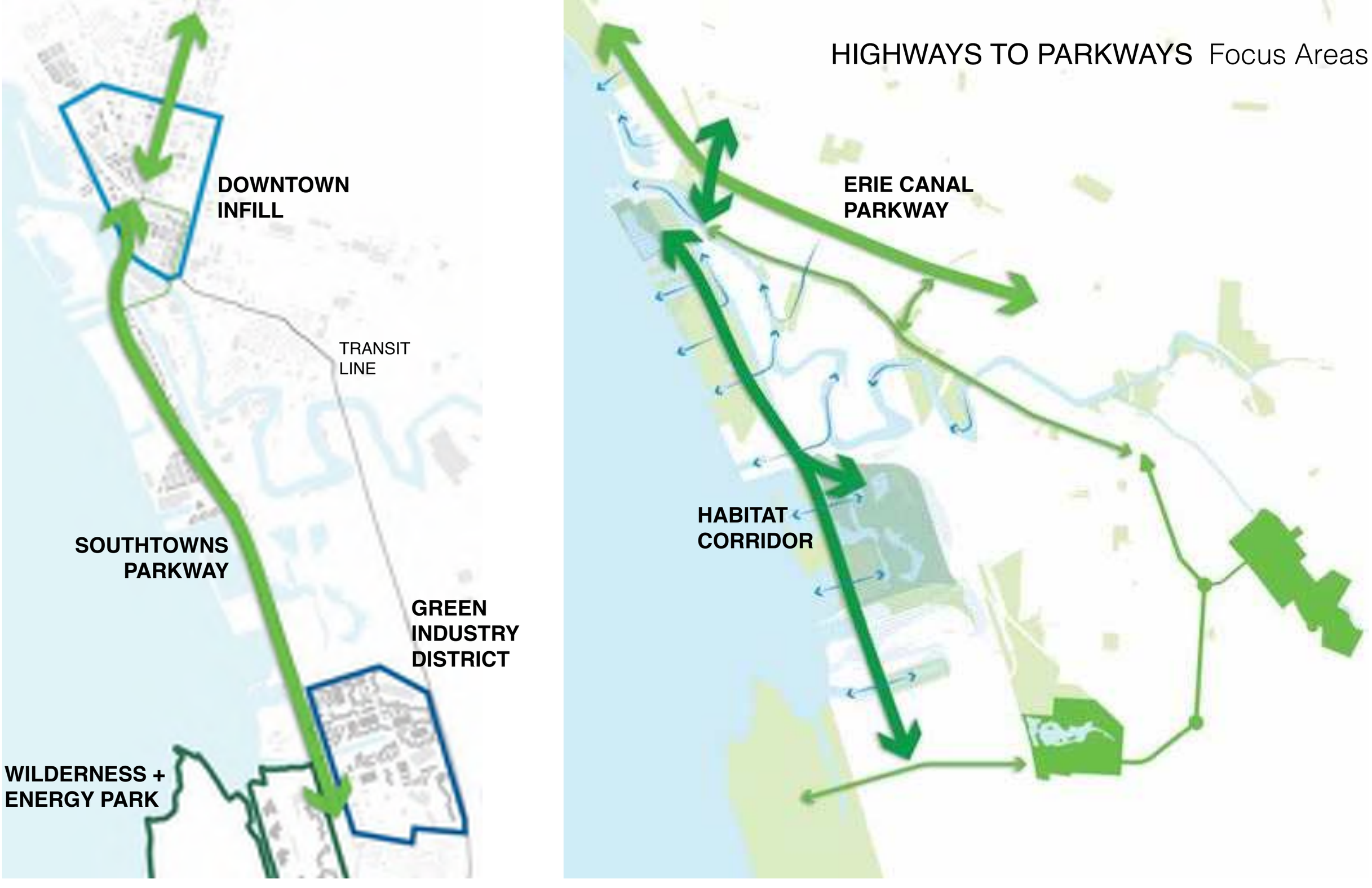
OLMSTED PARKWAY AS MODEL

MODERN PARKWAY CORRIDOR



HIGHWAYS TO PARKWAYS Illustrative Plan

HIGHWAYS TO PARKWAYS Focus Areas



RECONNECT STREET GRID Phase 1

EXISTING

HISTORIC GRID

PHASE 1

RECONNECT STREET GRID Phase 2

EXISTING

HISTORIC GRID

PHASE 2

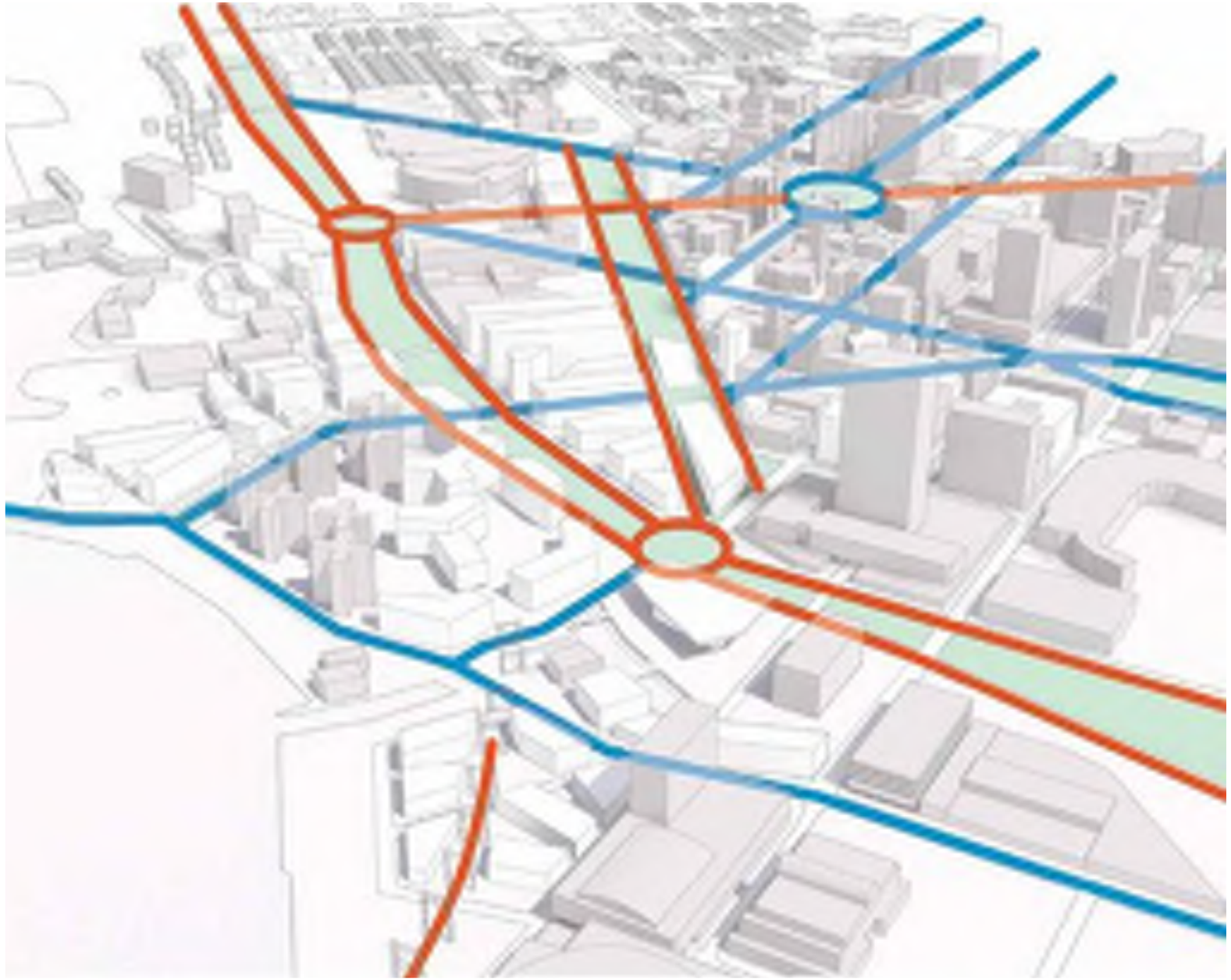
RECONNECT STREET GRID Phase 3

EXISTING

HISTORIC GRID

PHASE 3

RECONNECT STREET GRID NACTO Standards



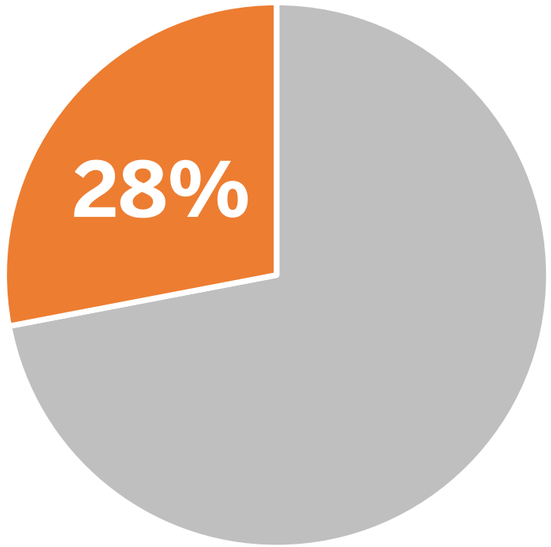
New Bike Path / Street

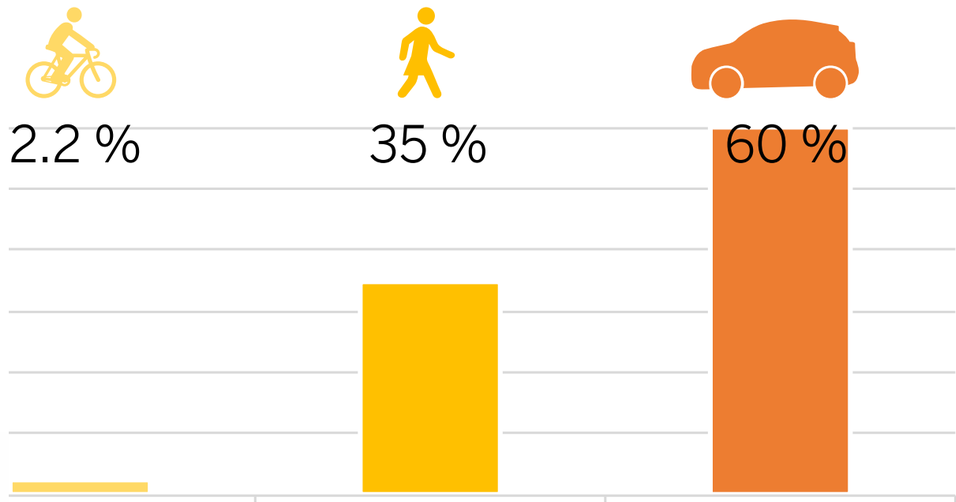
Street Redesign

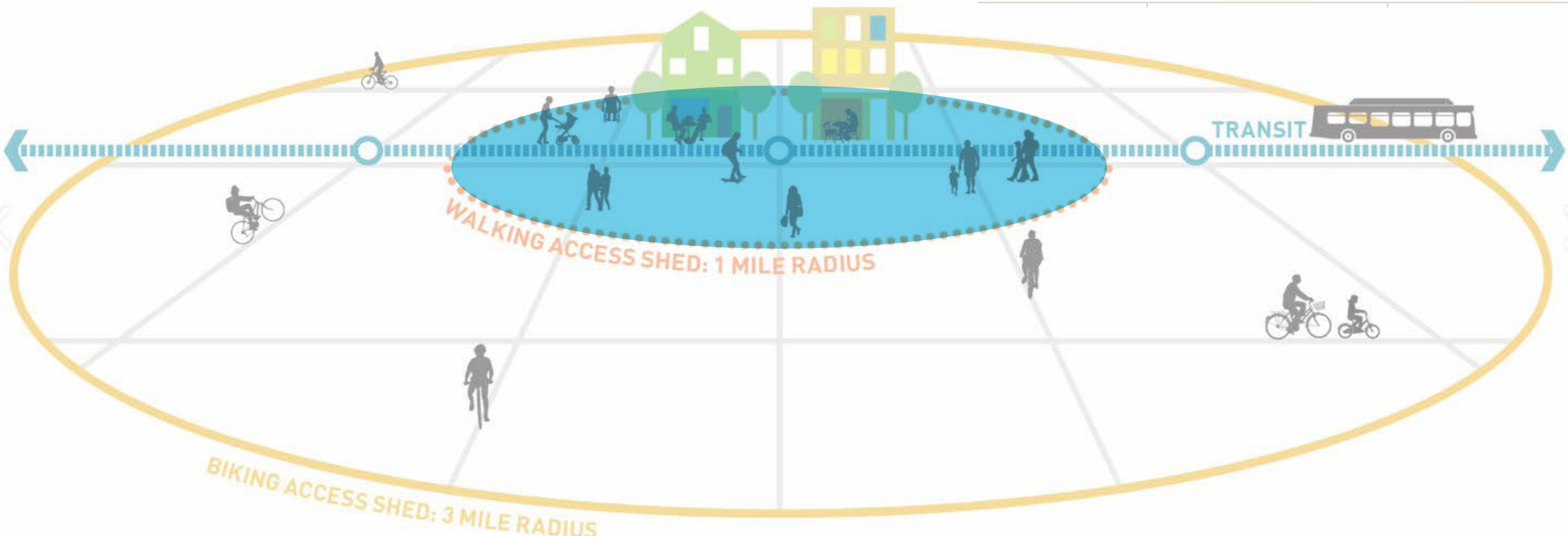
FIRST-LAST MILE NETWORK

Source: Atlanta Regional Commission; Walk, Bike, Thrive! Plan

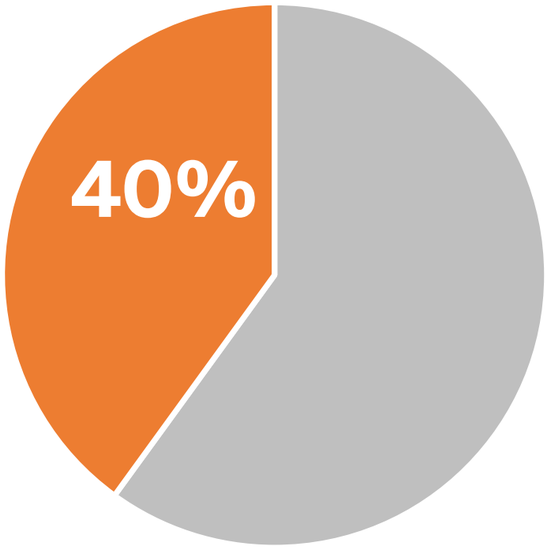
TRAVEL TRIPS United States: less than 1 mile

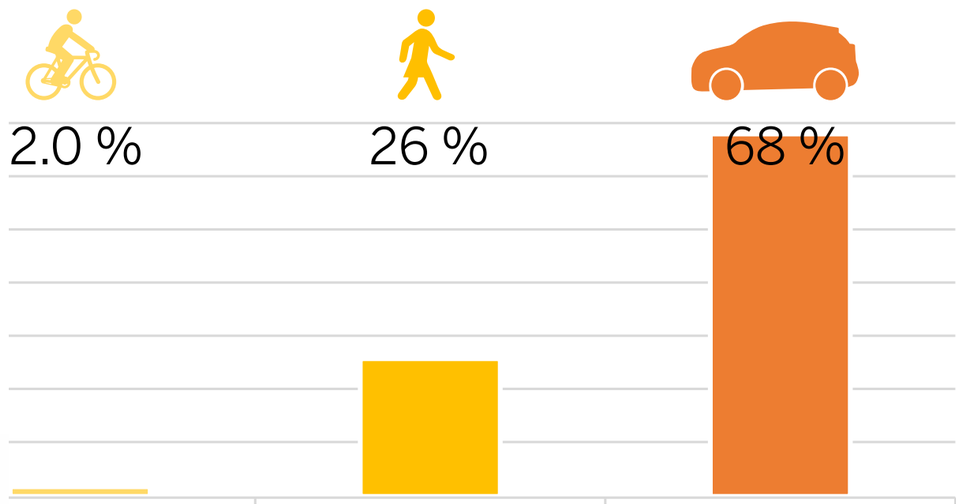


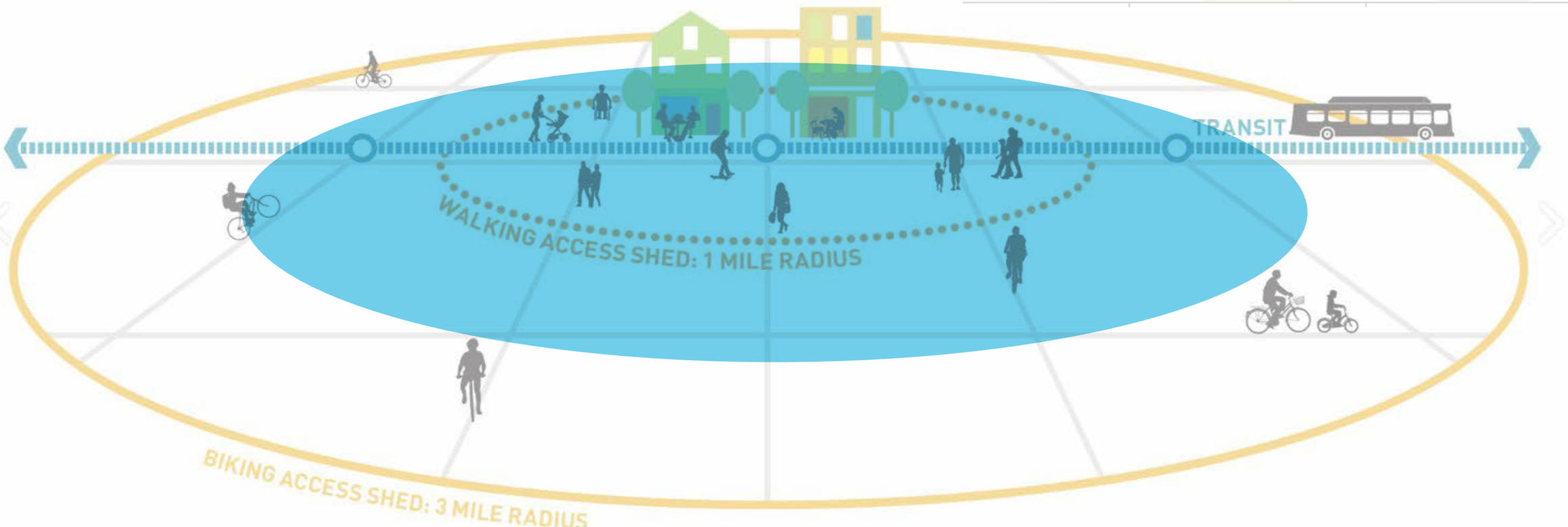




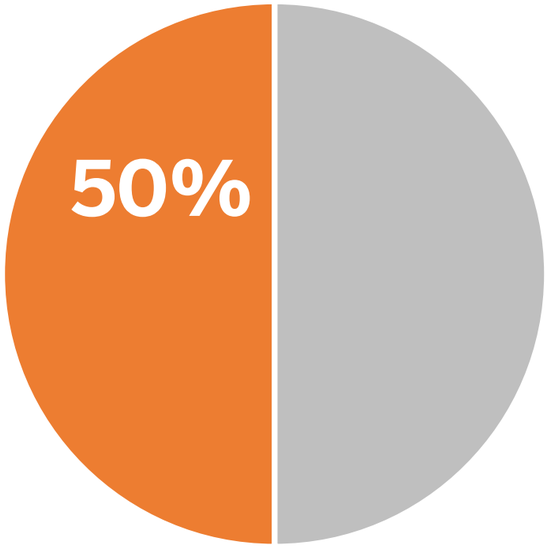
TRAVEL TRIPS United States: less than 2 miles

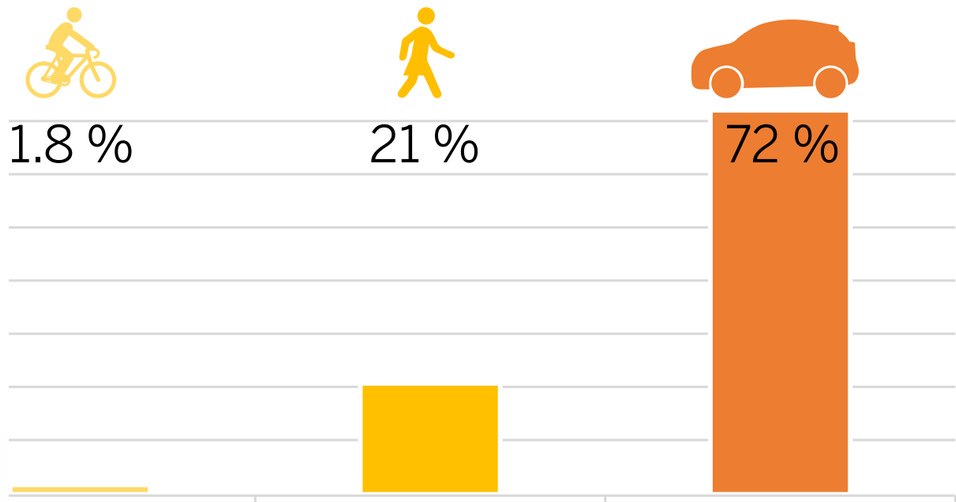


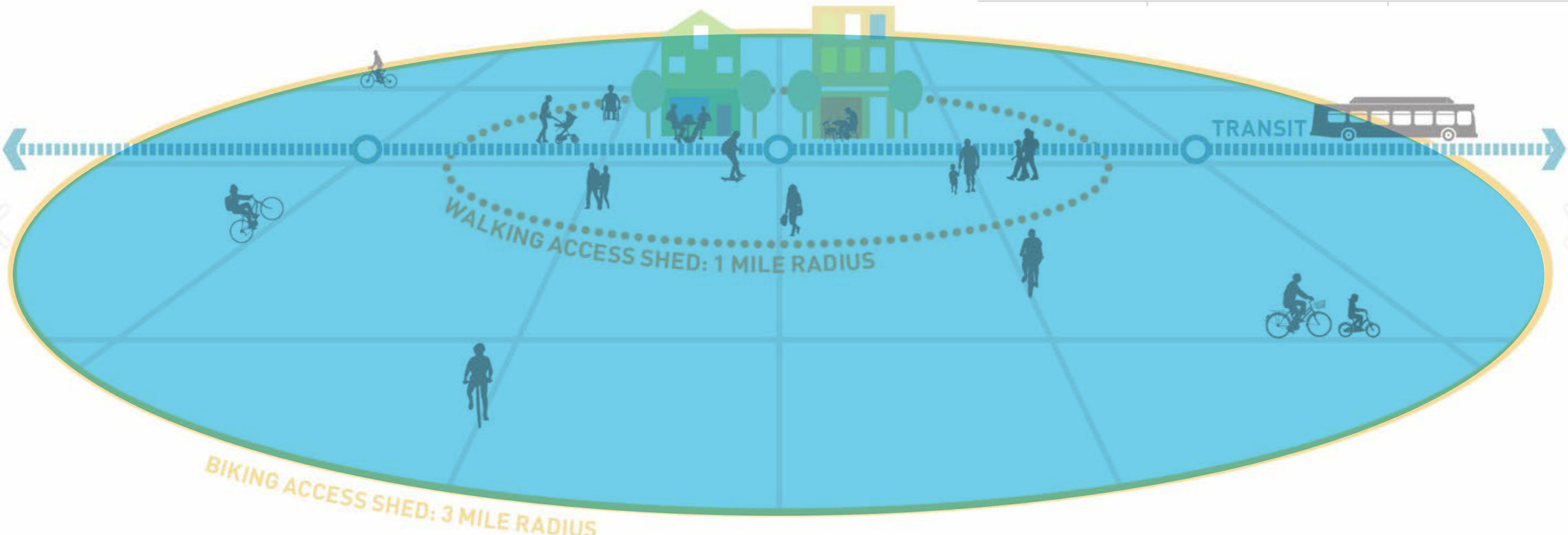




TRAVEL TRIPS United States: less than 3 miles

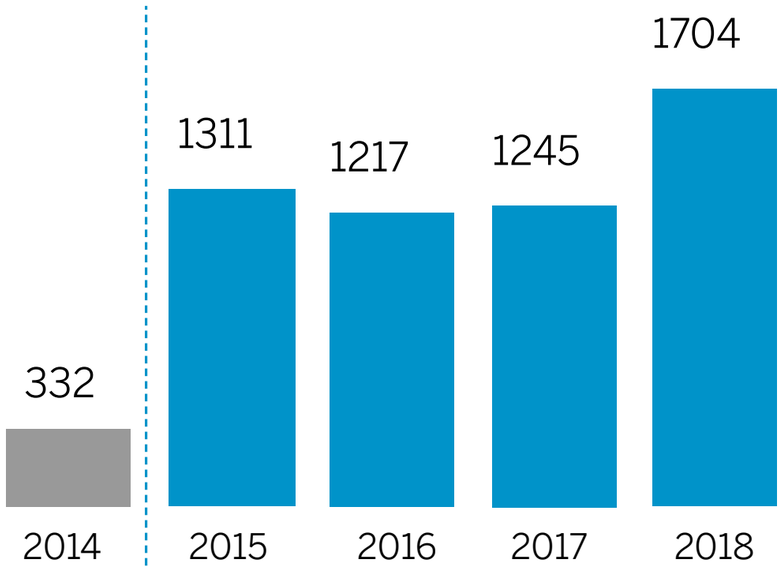




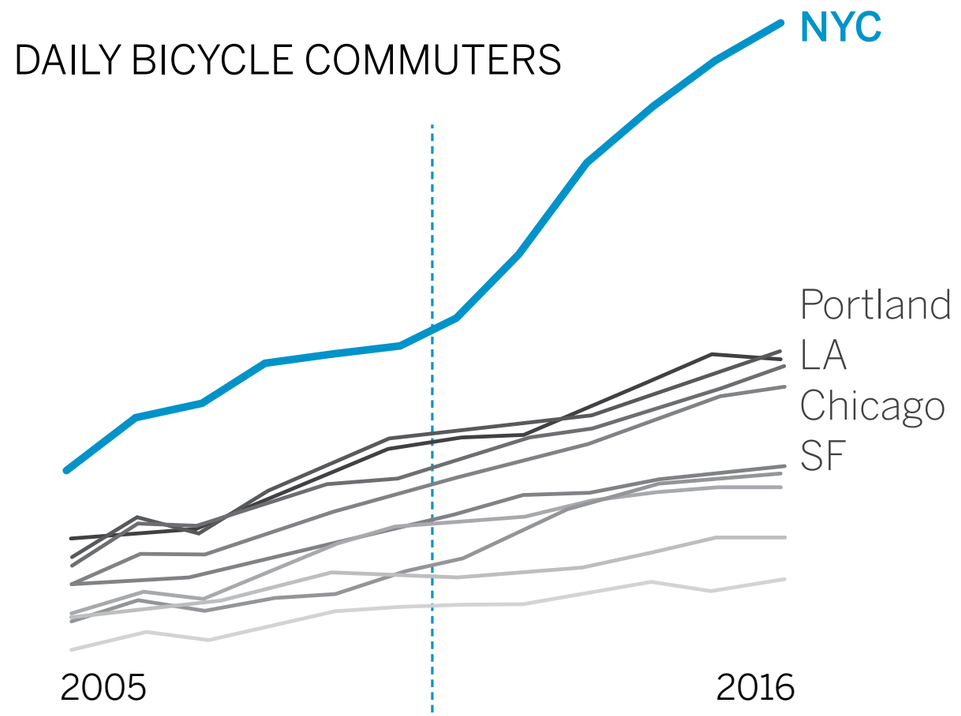


ACTIVE TRANSPORTATION TRENDS

2ND AVENUE WEDNESDAY BICYCLE COUNT



DAILY BICYCLE COMMUTERS

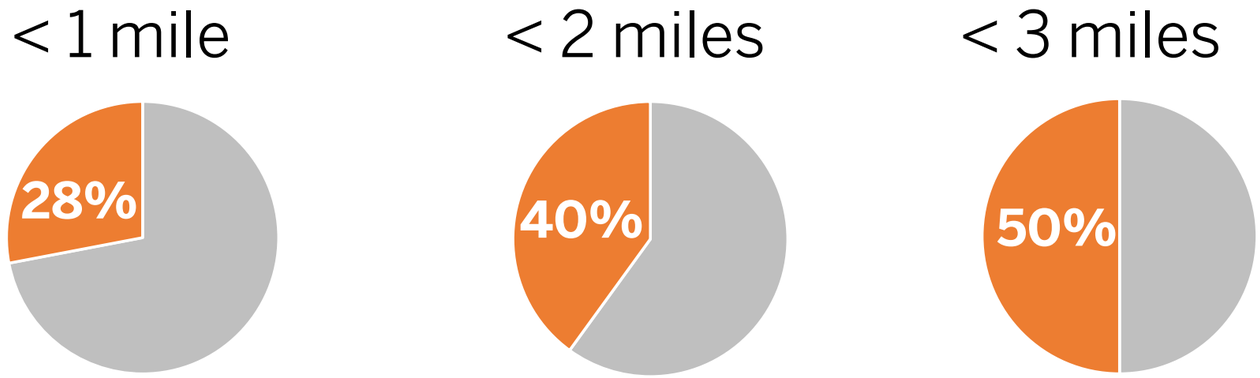


Implementation of Protected Bicycle lane(s)

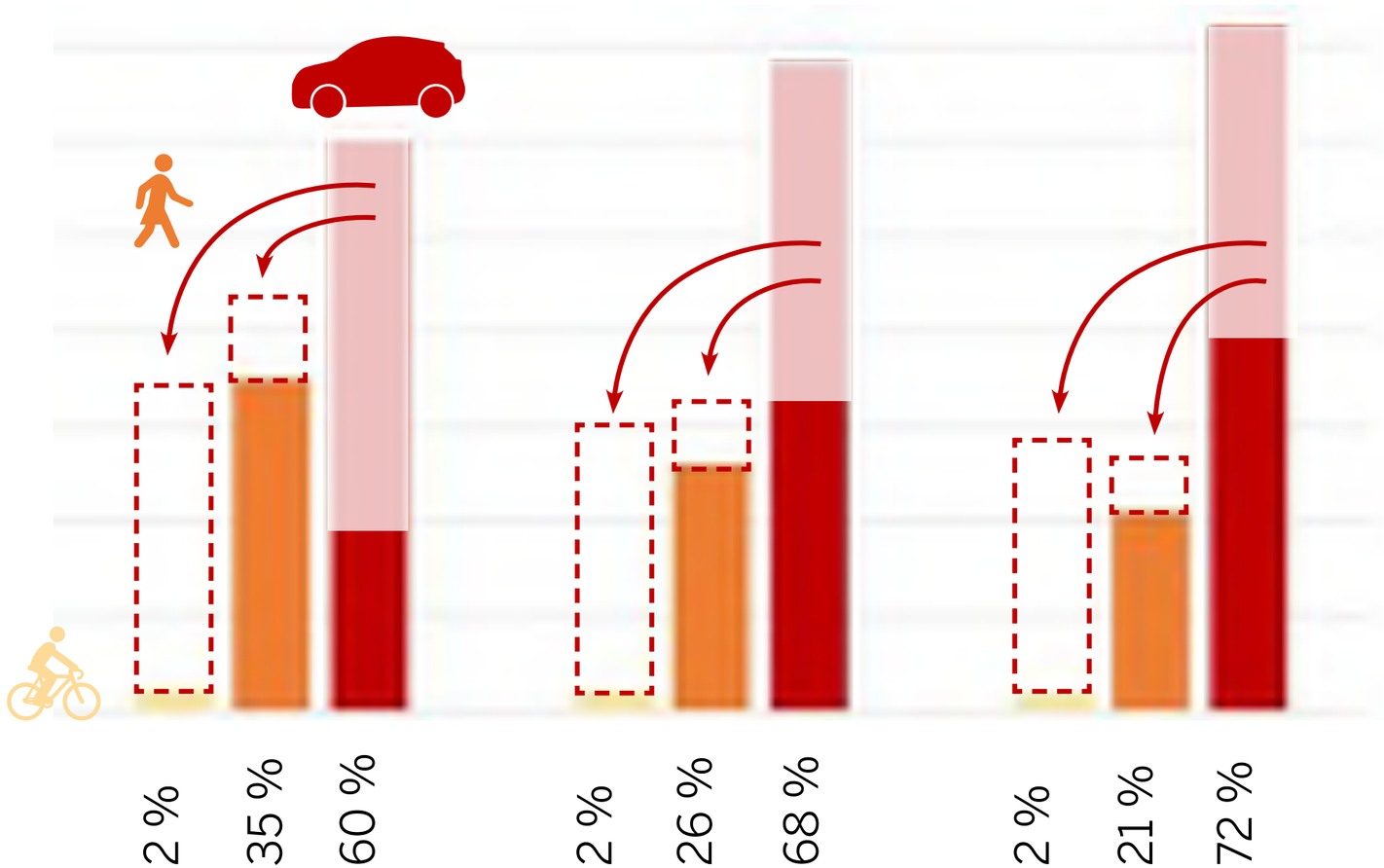
Source: Streetsblog USA

TRAVEL TRIPS Less than 3 miles

Percent of All Trips

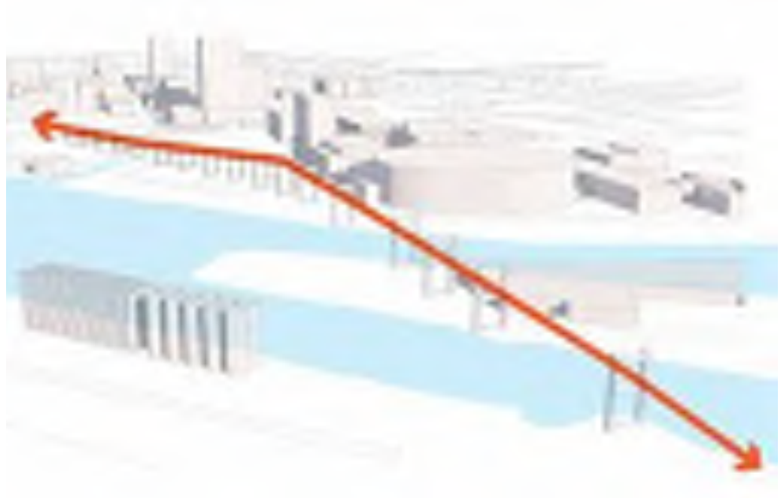


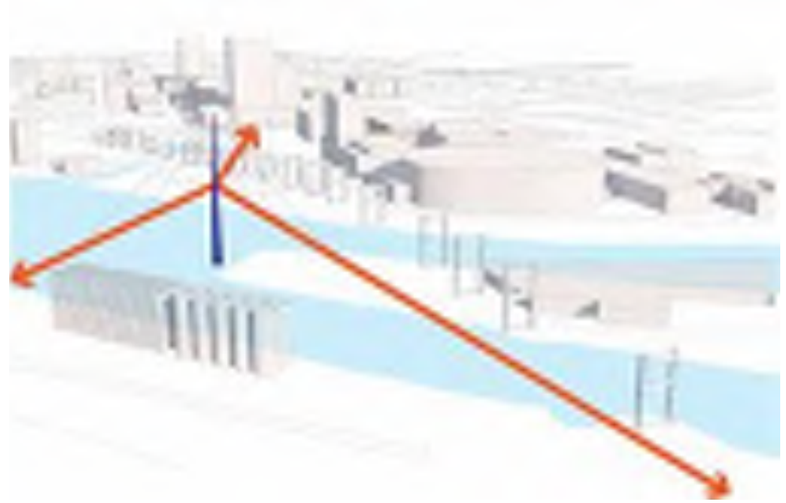
Shifting Percent of Trip Modes by Distance



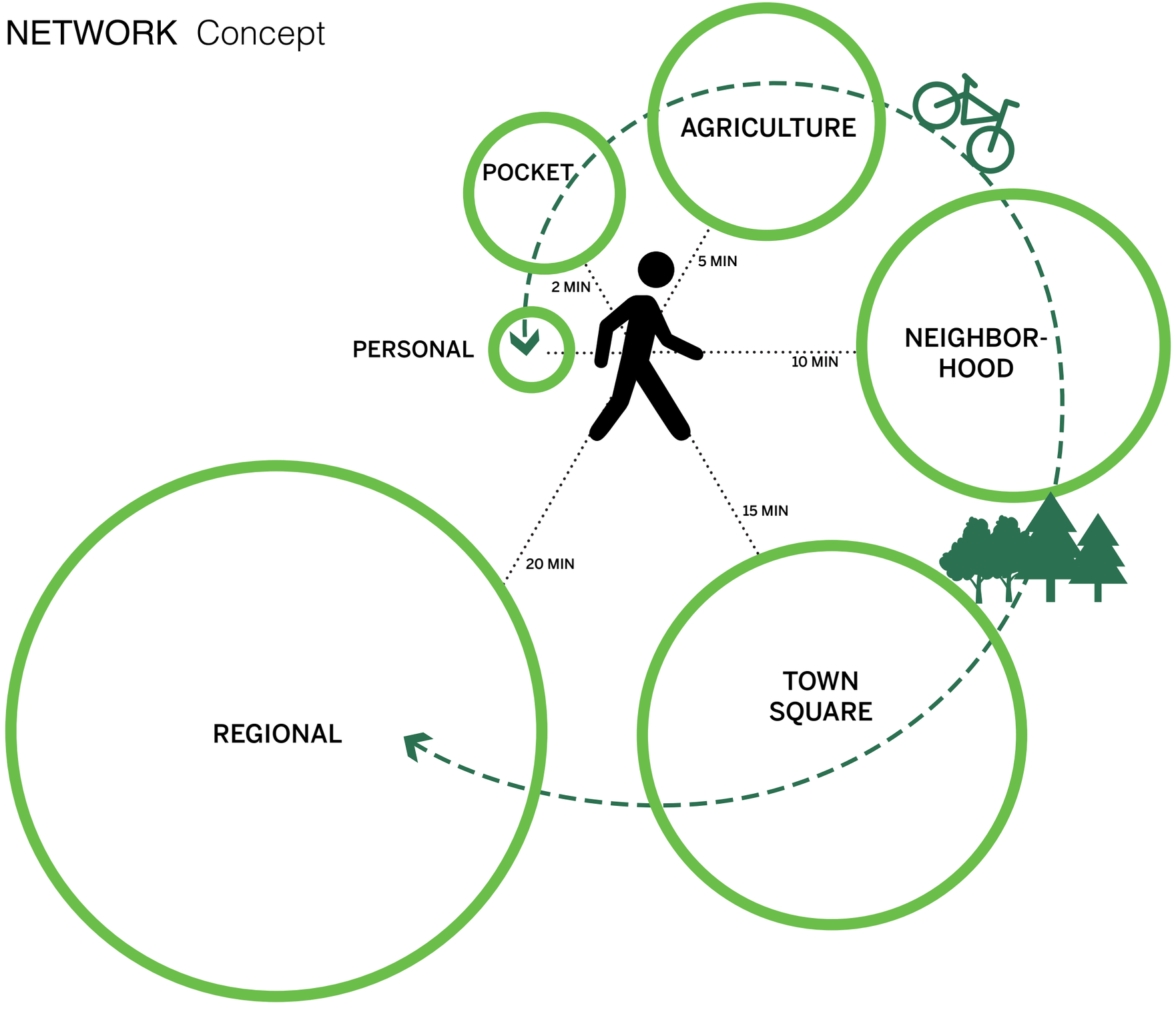
Source: National Household Travel Survey

MULTI-PURPOSE BRIDGE Concept Design





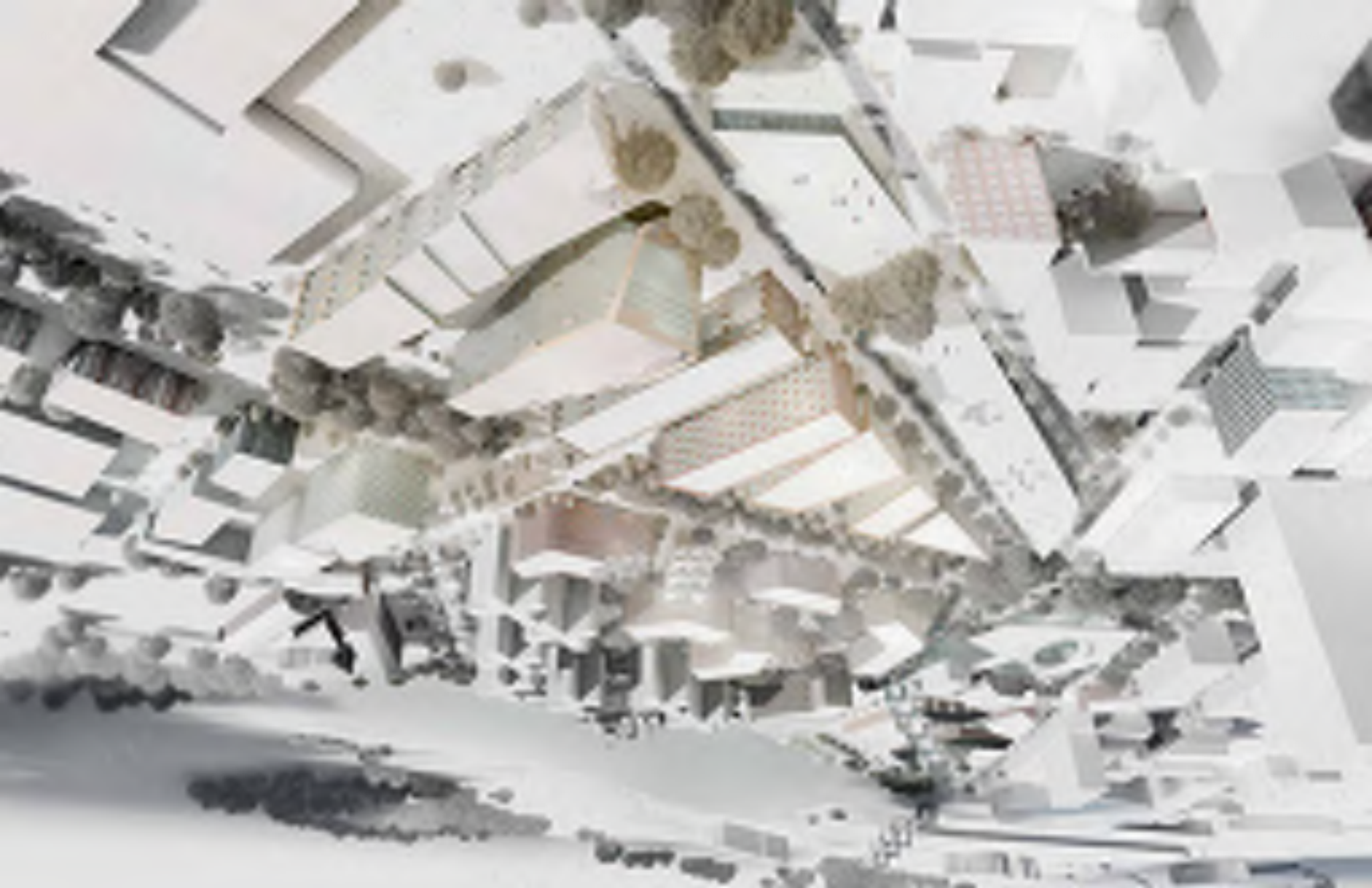
OPEN SPACE NETWORK Concept



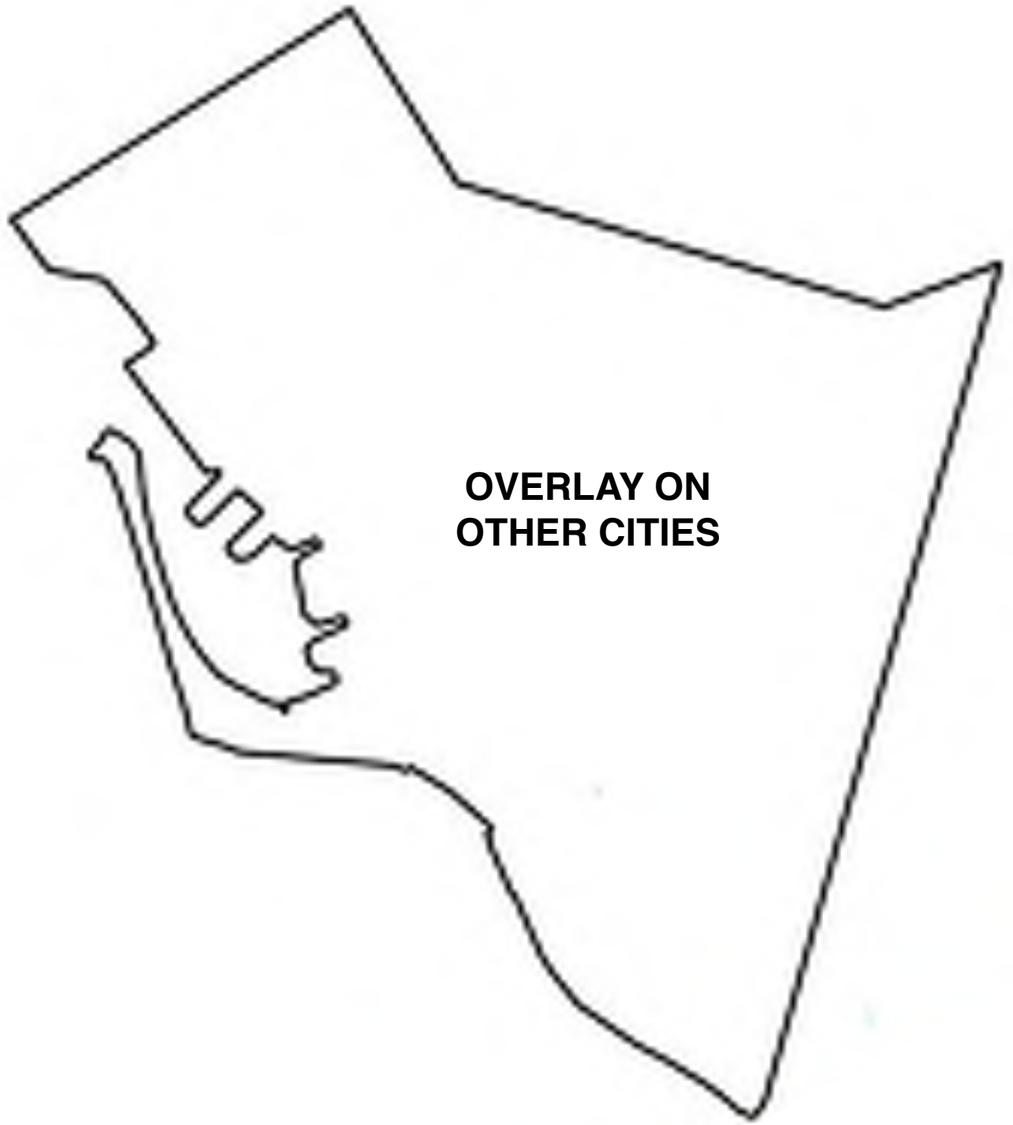
OPEN SPACE NETWORK Restoring + Expanding Olmsted System

HISTORIC OLMSTED PARK & PARKWAY SYSTEM

EXPANDED PARK & PARKWAY NETWORK



URBAN FORM COMPARISON Buffalo Downtown Waterfront



URBAN FORM COMPARISON Buffalo Downtown Waterfront

BUFFALO **2019**

AERIAL

BUILDINGS

OPEN SPACE

BICYCLES

PUBLIC TRANSIT

HIGHWAYS

URBAN FORM COMPARISON Aspirational Cities

	AERIAL	BUILDINGS	OPEN SPACE	BICYCLES	PUBLIC TRANSIT	HIGHWAYS
BUFFALO **2019**						
PORTLAND						
COPENHAGEN						
LONDON						

URBAN FORM COMPARISON Peer Cities

	AERIAL	BUILDINGS	OPEN SPACE	BICYCLES	PUBLIC TRANSIT	HIGHWAYS
BUFFALO **2050**						
PORTLAND						
COPENHAGEN						
LONDON						

PUBLIC TRANSIT NETWORK Transit-Oriented Neighborhoods City

TRANSIT RIDERSHIP TRENDS United States, 1997-2017

Bus Revenue Service Miles

Rail Revenue Service Miles

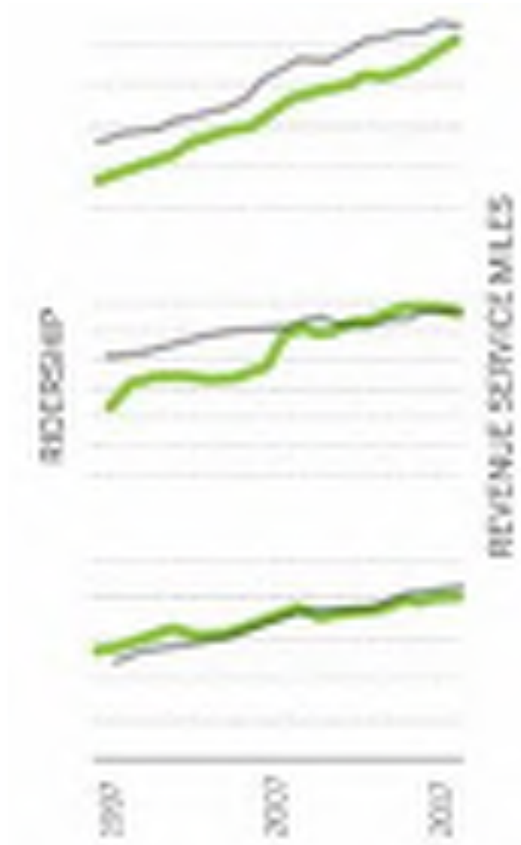
Ridership

UNITED STATES

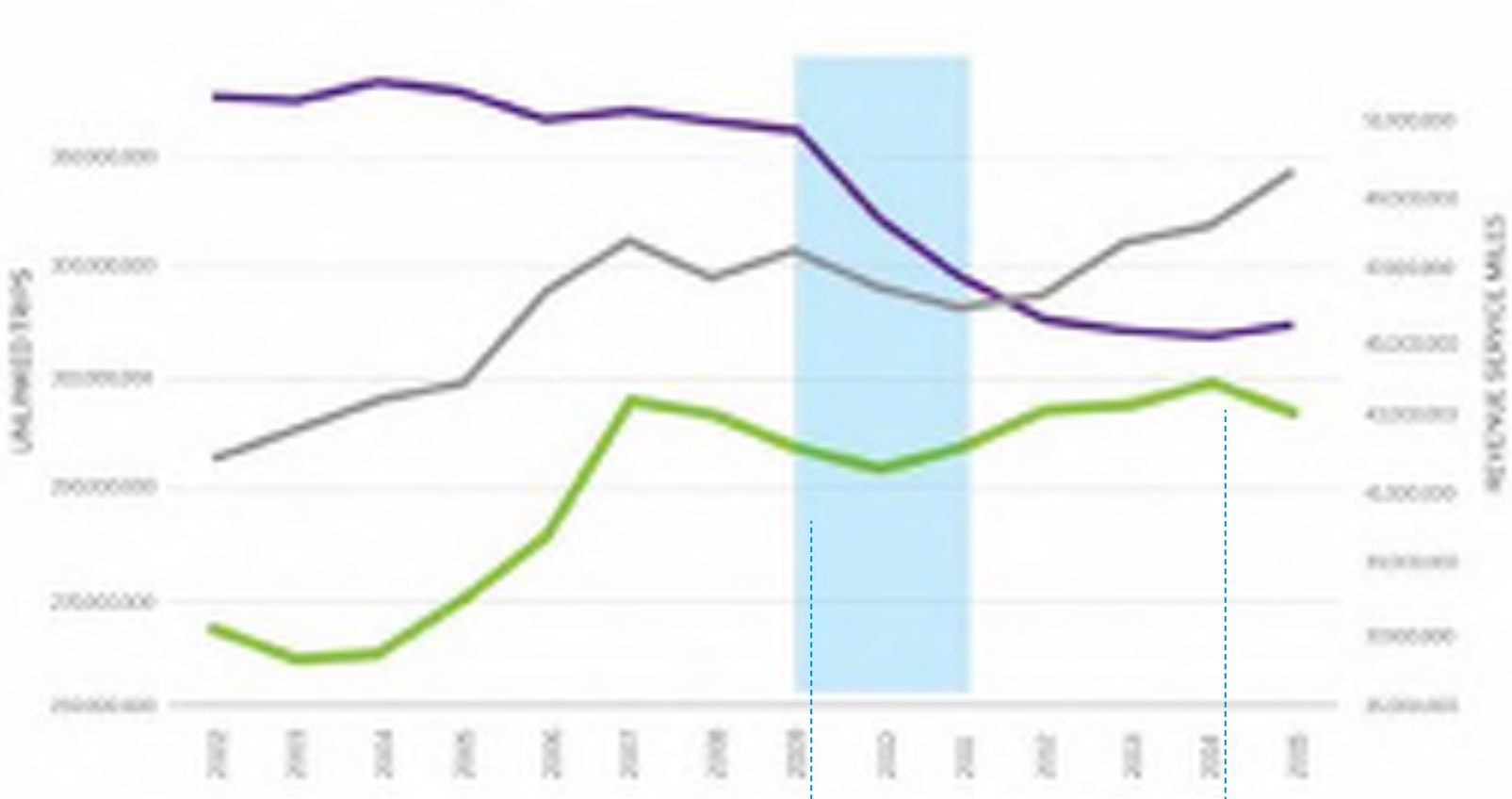
LIGHT RAIL

HEAVY RAIL

COMMUTER RAIL



25 MAJOR NORTH AMERICAN CITIES



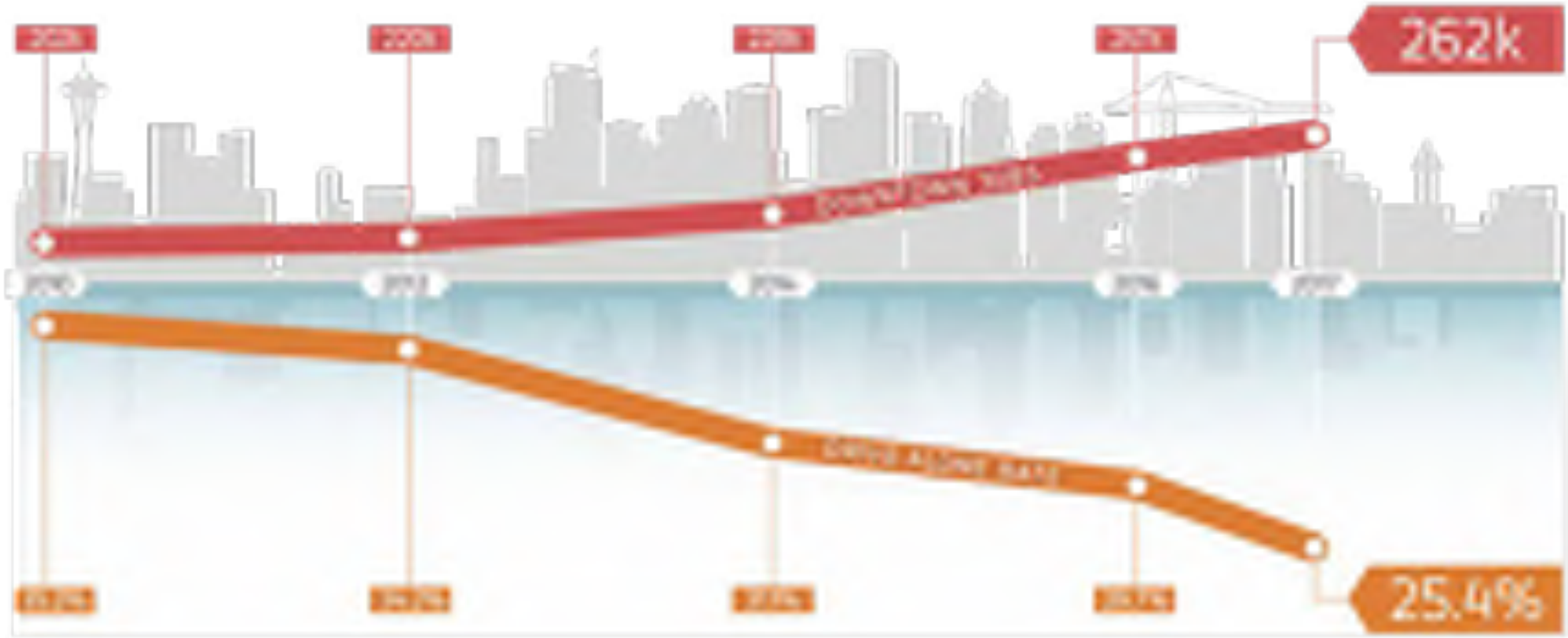
Average 10%-20% cuts to bus service nation-wide

Gradual response creates delayed ridership declines

Source: Federal Transit Administration National Transit Database

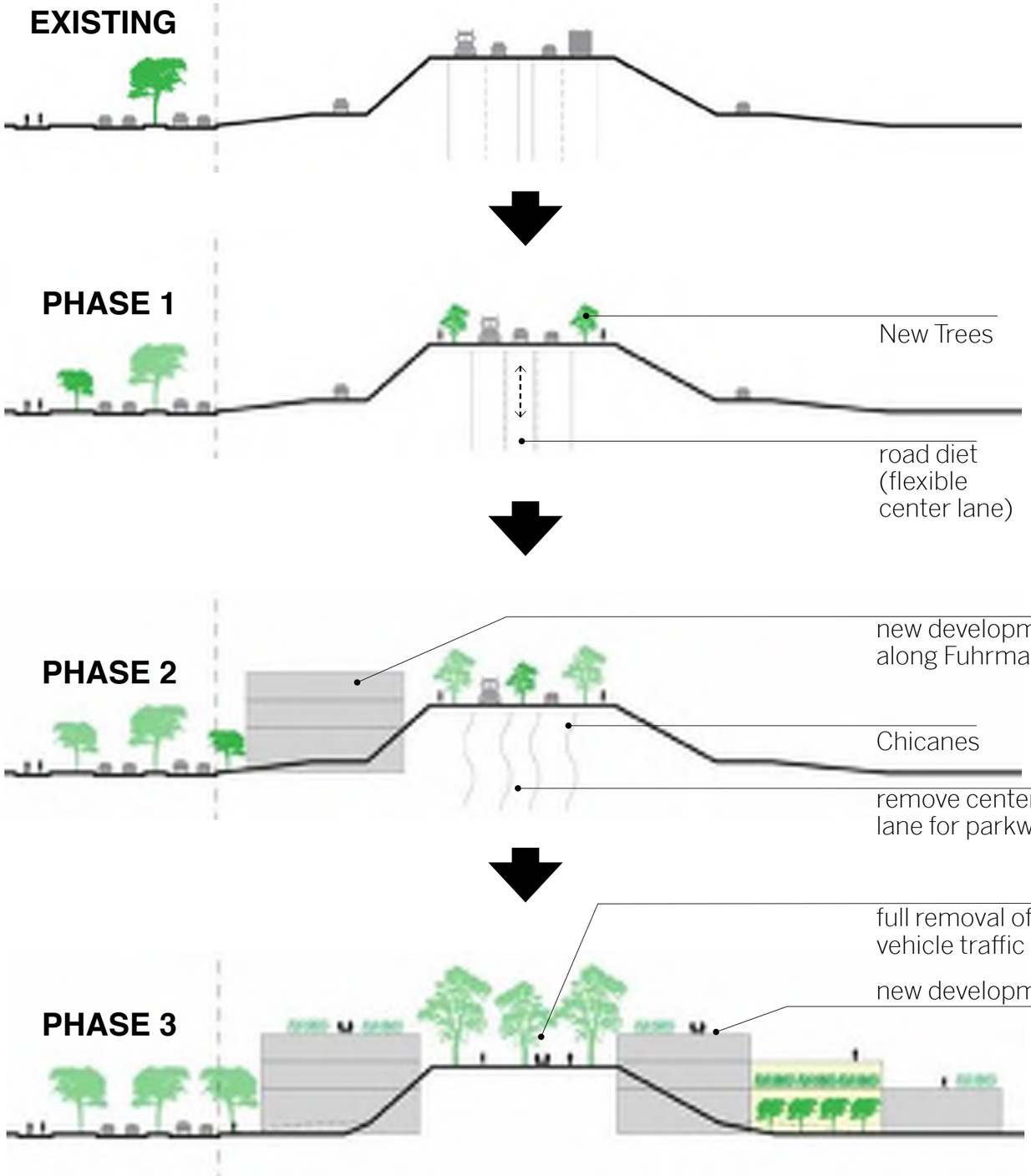
Source: Invest in the ride: A 14 year longitudinal analysis of the determinants of public transport ridership in 25 North American cities (2018).

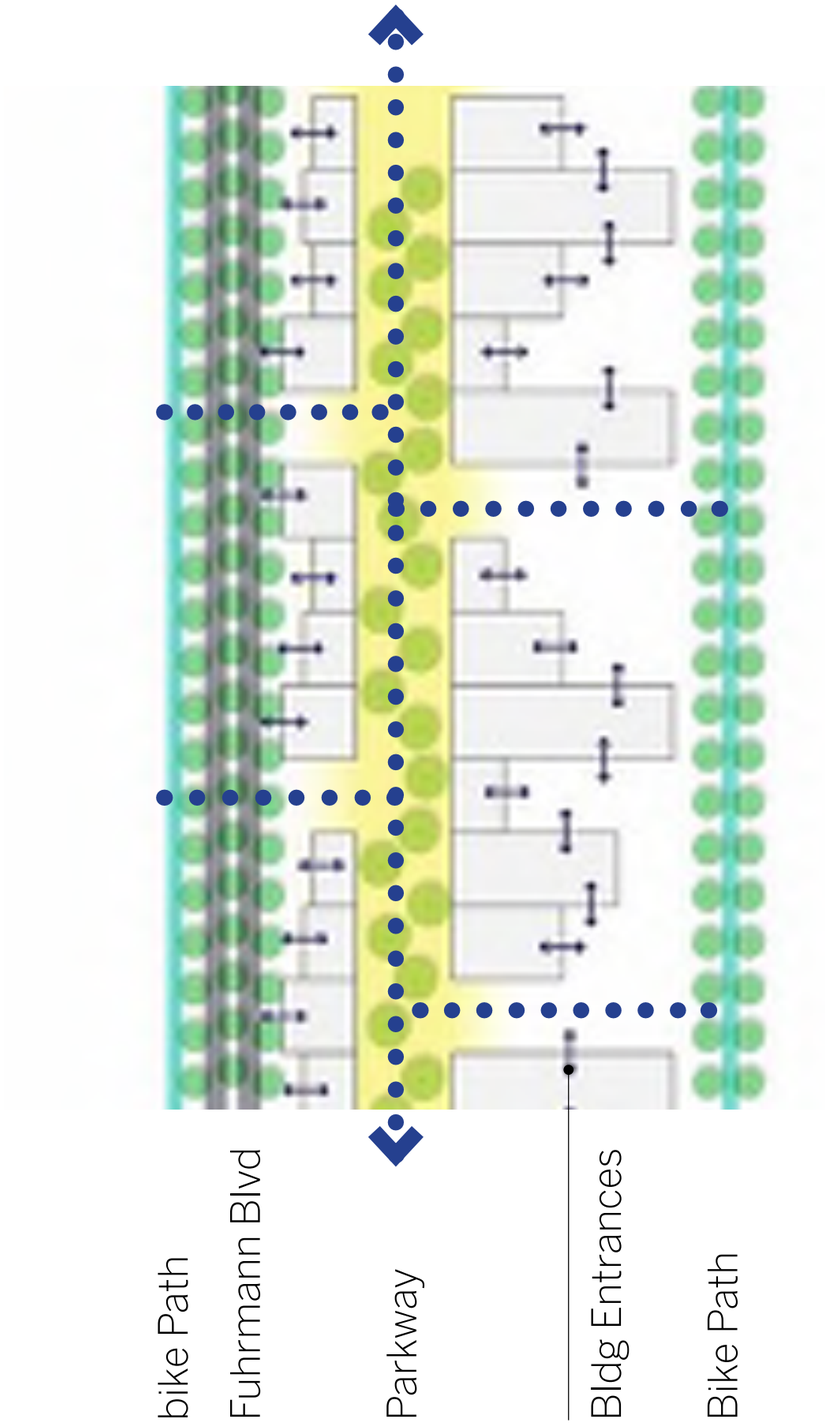
TRANSIT RIDERSHIP TRENDS Seattle, 2010-2017



commute seattle

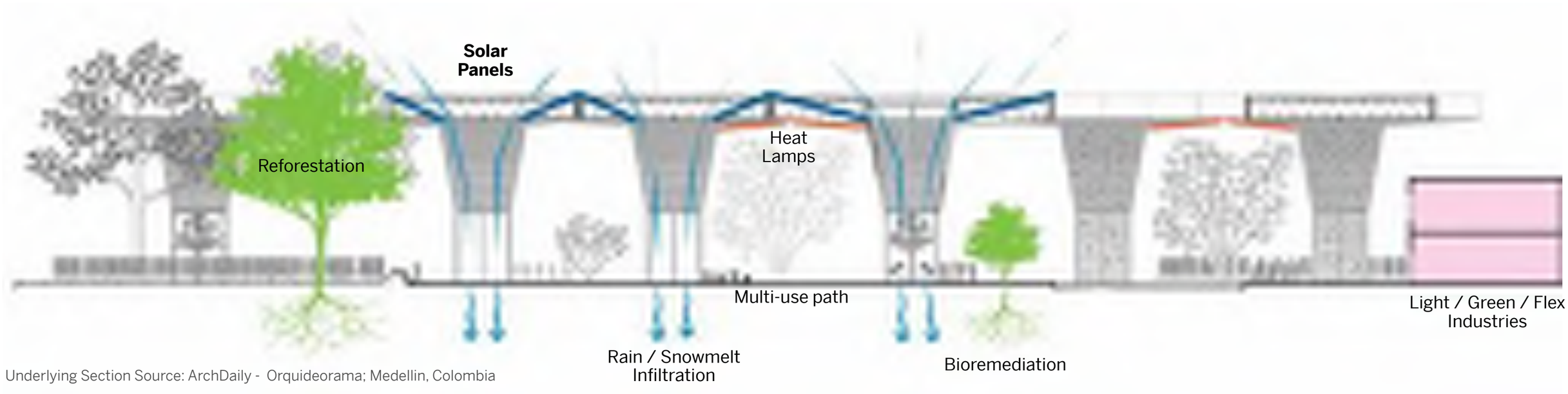
SOUTHTOWNS PARKWAY Proposed Phased Highway Removal





SOUTHTOWNS PARKWAY Proposed Mixed-Use Neighborhood

RENEWABLE ENERGY PRODUCTION Creating Multiple Benefits from Infrastructure

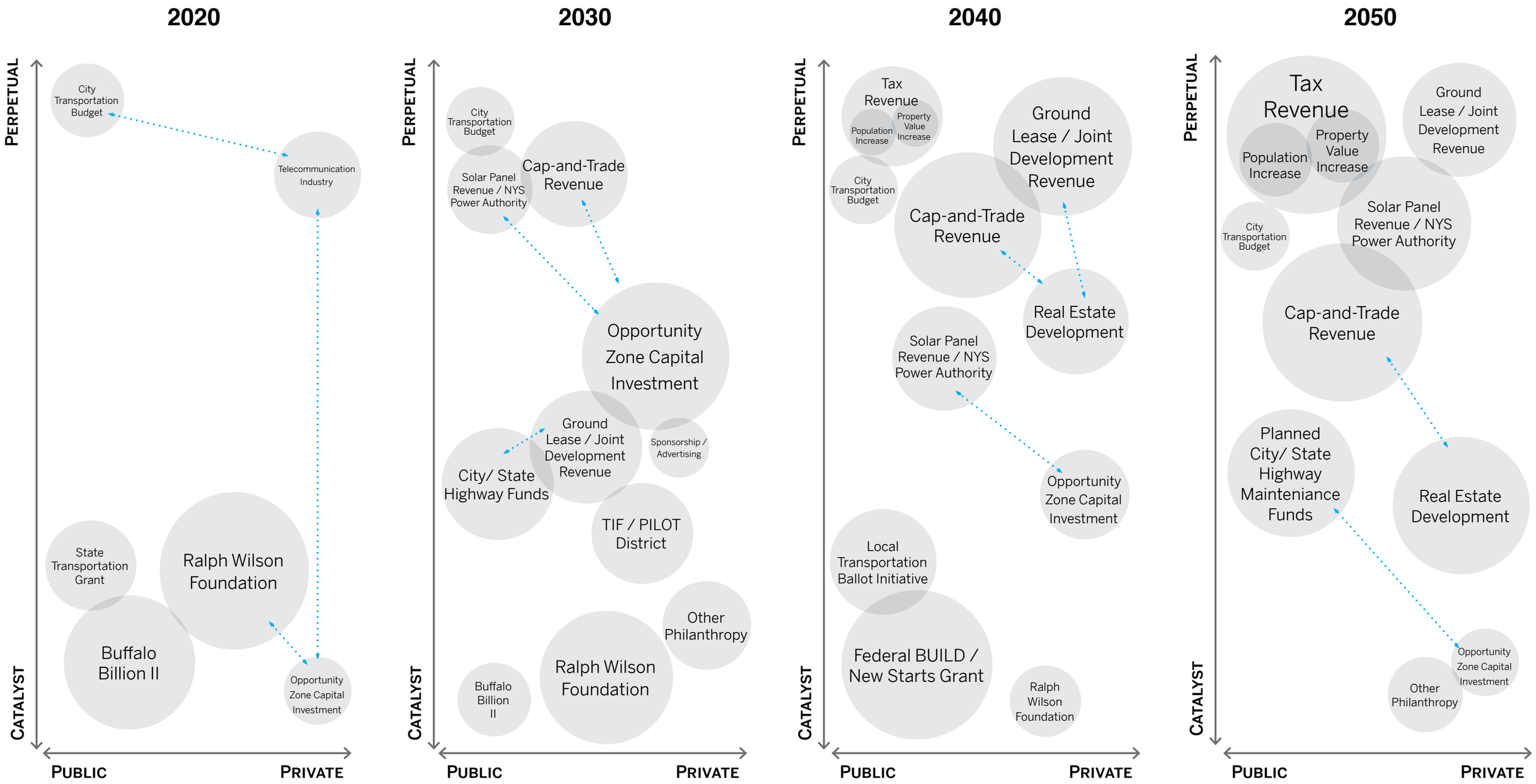


Underlying Section Source: ArchDaily - Orquideorama; Medellin, Colombia

FINANCING STRATEGY Matching Projects with Sources

	Costs	Public																		Private							Non-Profit / Philanthropic					P3
	Estimated Cost	Buffalo Billion 2	Existing City Budget Adjustments	City Budget Increase (land value and population increase)	Ground-Lease / Joint Development Revenue	TIF/PILOT District	Local Ballot Measure	Build Better Buffalo	Toll Revenue	City & State Capital Plans & Maintenance Funds - from highways	ESD / Other State Transportation Funds	State Tax Credits	NYS Cap-and-Trad	Solar Panel Revenue / NYS Power Authority	Federal New Starts / BUILD Grants	Federal Highway Administration	Other Federal / State Programs	Opportunity Zone Capital Investment	Real Estate Development	National Grid	Telecom Industry Companies	Private Equity Lending	Venture Capital	Sponsorship & Advertising	Ralph Wilson / Oishei Foundations	Roswell / Kaleida	Catholic Charities	National City Grants (e.g. ACCC)	Other Philanthropy	Potential Structure
1. Remove Skyway Interchange Ramps	$18 m	●													○	○	○	○	○			○								○
2. Southtowns Connector Road Diet - Phase 1	$45 m	○	○			○		○	○	●	○					○	○	○		○	○	○	○		○	○	○		○	
3. Remove Elevated Skyway Bridge	$40 m	○	○		○	○		○	○		○				○	○	○	○	○			○			○					○
4. New Downtown Streets (Skyway Corridor)	$20 m	○	●		○	○		○	○		●					○	○	○	○	○	○	○				○	○	○	○	○
5. Food Market / Sled Hill Development	$15 m				●													●	●			●		○	○	○				○
6. Buffalo Municipal Housing Authority Development	$70 m				●	○		○				○		○				○	○	○	○	○		○		○	○			○
7. Michigan Street Lift Bridge	$10-15 m	○	○	○					○	○	○				○	○	○			○	○	○		○						○
8. Restore Olmsted Terrace Park	$8 m		○	○	○	○		○	○		○	○		○	○	○	○	○	○			○	○	○	○	○	○	○	○	
9. New Bicycle / Pedestrian Bridge	$ 45 m	○	○	○	○	○		○	○		○	○		○	○	○	○	○	○			○	○	○	○	○	○	○	○	○
10. Downtown Road Diets	$100-150 m		○	○	○	○		○	○	○	○		○	○		○	○	○	○	○	○				○	○		○	○	
11. Solar Panel Sculptures (Bethlehem Steel Site)	$400 m	○			●	○		○			○	○	○	●			○			○	○	○		○	○	○		○		○
12. Canalside Development	Market				○							○						○	●			○								○
13. Downtown Infill Development	Market				○							○						○	●			○								
14. Southtowns Connector Road Diet - Phase 2	$45 m		○	○	○	○			○	●	○		○	○	○	○	○	○		○	○				○	○		○	○	○
15. Parkway Bicycle Paths	$3 m		○	○	○	○					○		○	○				○	○					○	●	○		○		
16. Parkway Neighborhood Agriculture / Green Industry	Market				○							○	○	○			○	○	●			○	○			○		○		○
17. Southtowns Public Transit Extension	$ 600 m		○	○	○	○	○	○	○		○		○		○	○	○			○	○	○	○	○					○	○
18. Southtowns Connector Road Removal (Phase 3)	$60 m		○	○	○	○			○	●	○		○			○	○	○	○	○	○	○	○		○	○		○	○	○
19. Parkway Neighborhood Residential / Commercial	Market				○			○	○			○					○		●			○	○			○		○		○
20. I-190 Phase 1 Parkway Replacement + LRT Tunnel	$724 m			○	○	○		○	○	●	○		●	○	○	○	○			○	○	○					○	○	○	○
21. East Side / Airport Public Transit Line	$1.5 b			○	○	○	●		○		○		○		●	○			○					○				○		○
22. I-190 Phase 2 Parkway Replacement + LRT Tunnel	$776 m		○	○	○	○		○	○	●	○	○	●	○	○	○	○		○	○	○	○				○		○		○
Total Proposed Costs	**$ 1.3 b**																													

FINANCING STRATEGY Changes by Decade



PHASING STRATEGY Achieving Climate & Equity Goals

NYS CLIMATE ACTION PLAN TARGETS

TOTAL BENEFITS

SKYWAY CORRIDOR

60 acres open space

6.3 million SF development

$ 590 million development value (2020) proposed

I-190 CORRIDOR

34 acres open space

9.3 million SF development

$ 1.3 billion development value (2020) proposed

ADJACENT/INFILL

9 acres open space

9.9 million SF development

$ 1.3 billion development value (2020) proposed

2020

Renewable Energy Generation Requirement

Ghg Emissions

Ghg Emissions 1990 Levels

60%

2030

Renewable Energy Generation Requirement

70%

2040

Renewable Energy Generation Requirement

100%

2050

- 85%

Renewable Energy Generation Requirement

100%

- Remove Skyway Interchange Ramps
- Southtowns Connector Road Diet - Phase 1
- Remove Skyway Vehicle Deck (Michigan to Church)
- New Downtown Streets (Skyway Corridor)
- Food Market / Sled Hill Development
- Buffalo Municipal Housing Authority Development
- Michigan Street Lift Bridge
- Restore Olmsted Terrace Parks
- New Bicycle / Pedestrian Bridge
- Downtown Road Diets / Reconstruction
- Solar Panel Sculptures (Bethlehem Steel)
- Canalside Development
- Downtown Infill Development
- Southtowns Connector Road Diet - Phase 2
- Parkway Bicycle Paths
- Parkway Neighborhood Agriculture Development
- Southtowns Public Transit Extension
- Southtowns Connector Road Removal (Phase 3)
- Parkway Neighborhood Residential Development
- I-190 Phase 1 Parkway Replacement + LRT Tunnel
- East Side / Airport Public Transportation Expansion
- I-190 Phase 2 Parkway Replacement + LRT Tunnel

COST vs. BENEFITS Status Quo vs. New Approaches

Skyway Maintenance 25 Years
$66 million

or

Estimated Highway/Road Expansion Construction

$1.4 billion
+
ONGOING Maintenance

vs.

Estimated Highways to Parkways Public Infrastructure

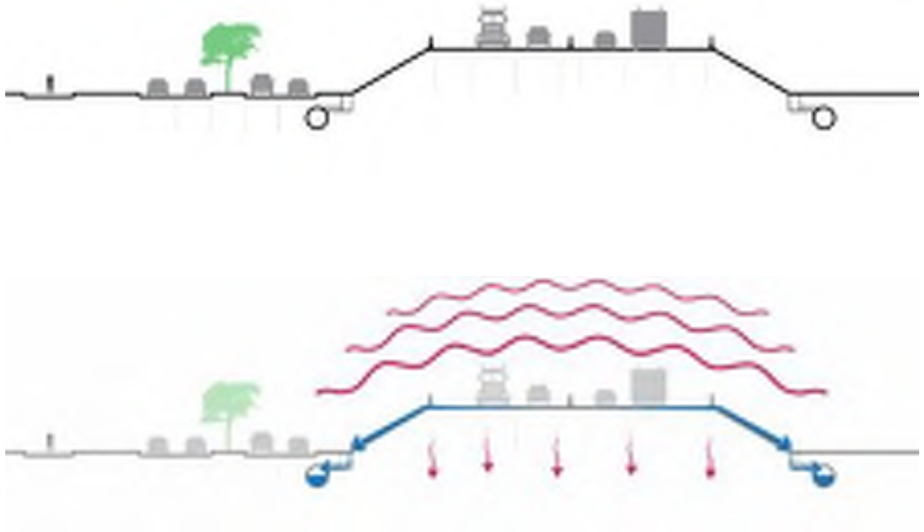
$1.3 billion
+
REDUCED Maintenance

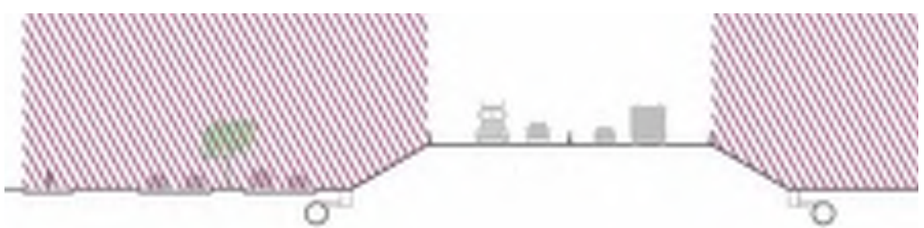
Increasing: Sprawl, Congestion, Ghg Emissions, Pollution Run-off, Habitat Degradation, Segregation

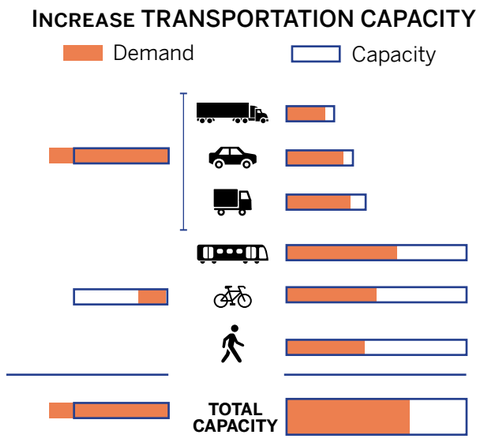
	NEW BENEFITS BY 2030	NEW BENEFITS BY 2040	NEW BENEFITS BY 2050
ACRES AVAILABLE Development (proposed) Open Space (proposed) **DEVELOPABLE LAND VALUE** Inner Loop / I-81 Precedents	**38** acres dvlp **16** acres open space **$ 133** million land value	**54** acres dvlp **53** acres open space **$ 172** million land value	**67** acres dvlp **34** acres open space **$ 202** million land value
DEVELOPABLE SQUARE FOOTAGE guided by Green Code	**6.7** million SF	**8.8** million SF	**9.9** million SF
Residential	**48%** 3.2 million SF	**64%** 5.6 million SF	**58%** 5.7 million SF
Commercial	**16%** 1.1 million SF	**20%** 1.8 million SF	**28%** 2.7 million SF
Retail / Entertainment	**8%** 500,000 SF	**4%** 400,000 SF	**7%** 650,000 SF
Agriculture / Green Industry / Flex	**29%** 1.9 million SF	**12%** 1.1 million SF	**7%** 730,000 SF
TOTAL DEVELOPMENT VALUE Inner Loop / I-81 Precedents	**$ 875** million dvlp value	**$ 1.4** billion dvlp value	**$ 2.1** billion dvlp value
TAX REVENUE Local Residential / Commercial rates	**$ 22.5** million/year City+County tax revenue	**$ 36.3** million/year City+County tax revenue	**$ 53.1** million/year City+County tax revenue
NEW RESIDENTS @ 900 sf per unit	**8,200** **Residents**	**14,000** **Residents**	**14,500** **Residents**
NEW JOBS @ 225 sf per employee	**5,000** **new jobs**	**8,000** **new jobs**	**12,300** **new jobs**
AGRICULTURE OUTPUT @ 7 lbs/sf per year	**2.5** million lbs/year	**1.7** million lbs/year	**1.1** million lbs/year
POTENTIAL ENERGY PRODUCTION Using solar panels	**373** million kWh/year **$ 43.8** million/year	**61** million kWh/year **$ 7.2** million/year	**68** million kWh/year **$ 8.0** million/year
CO_2 EMISSION REDUCTION UB Solar Strand precedent	**198,000** tons CO_2 reduction	**32,000** tons CO_2 reduction	**36,000** tons CO_2 reduction

MEASURING COST vs. BENEFITS

STATUS QUO







REDUCE INFRASTRUCTURE + HEALTH COSTS

- Reducing road and stormwater infrastructure reduces long-term maintenance obligations
- Reduced Ghg emissions:
  - Reduced environmental costs
  - Reduced individual healthcare costs

NEW DEVELOPMENT AREA = INCREASED REVENUE

- More efficient infrastructure costs
- Tax Increment Financing (TIF) District

NEW HOLLISTIC APPROACH

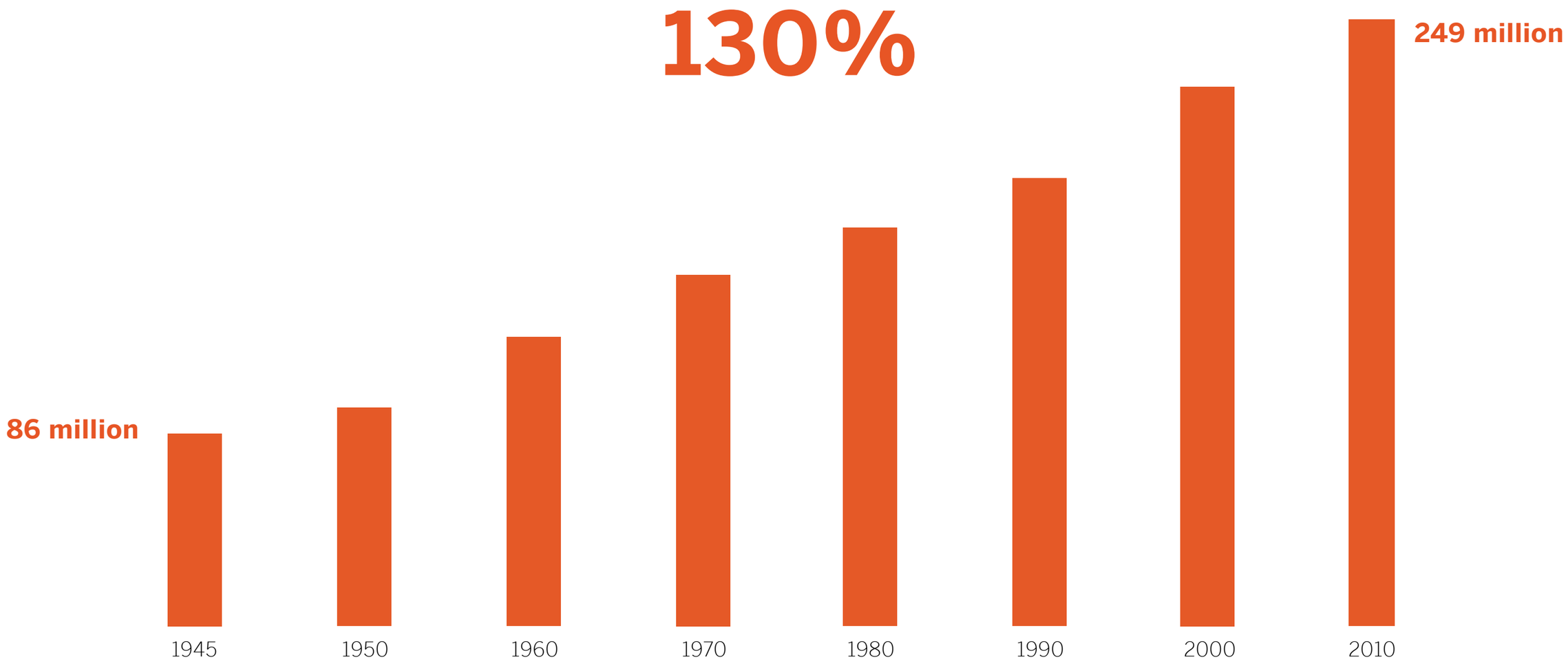
- Expand new green energy grid with telecommunication infrastructure
- Natural water infiltration

- Internet infrastructure used to heat buildings and public space
- Pair infrastructure with new developments

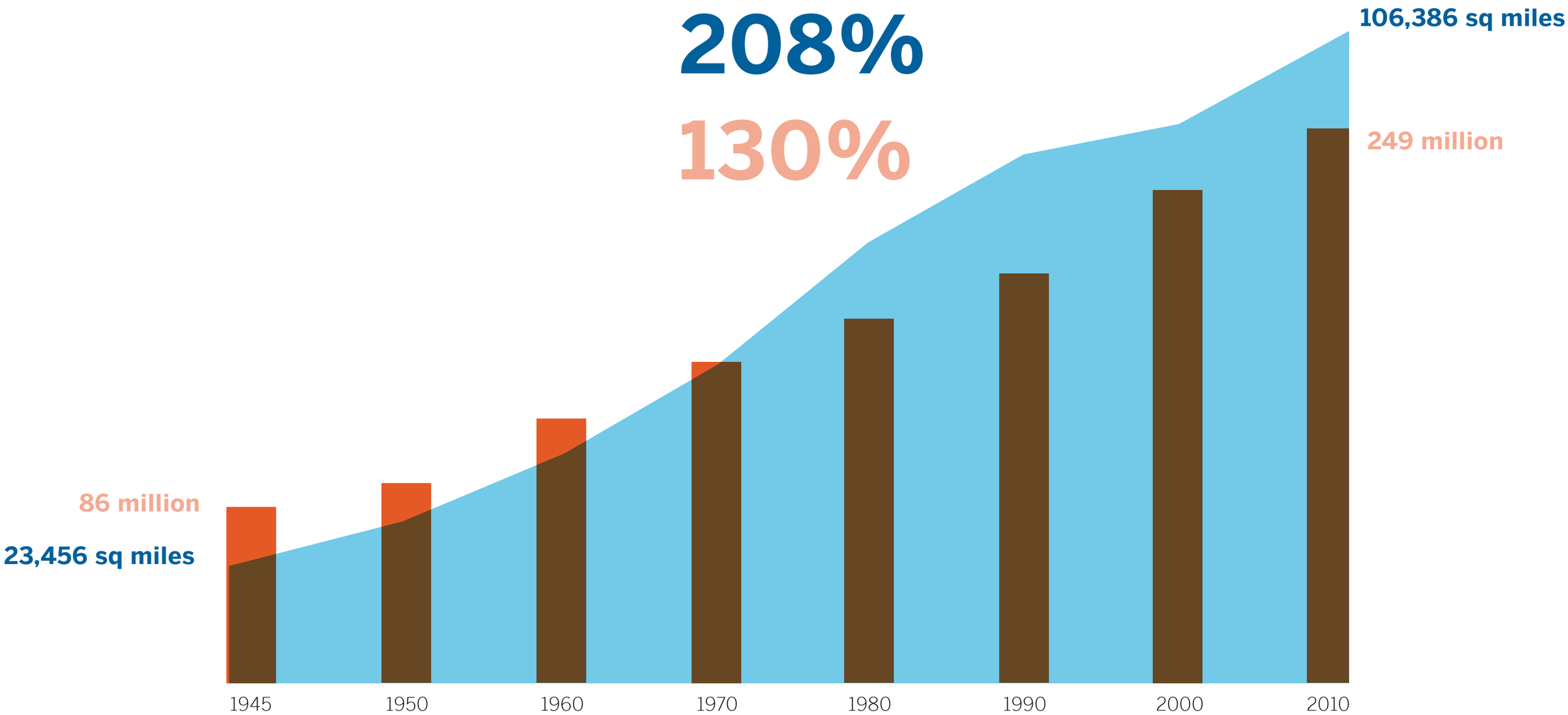
HIGHWAYS TO PARKWAYS Integrating Development Spheres

INTERSTATE HIGHWAY SYSTEM 1950's-Present: 70 years

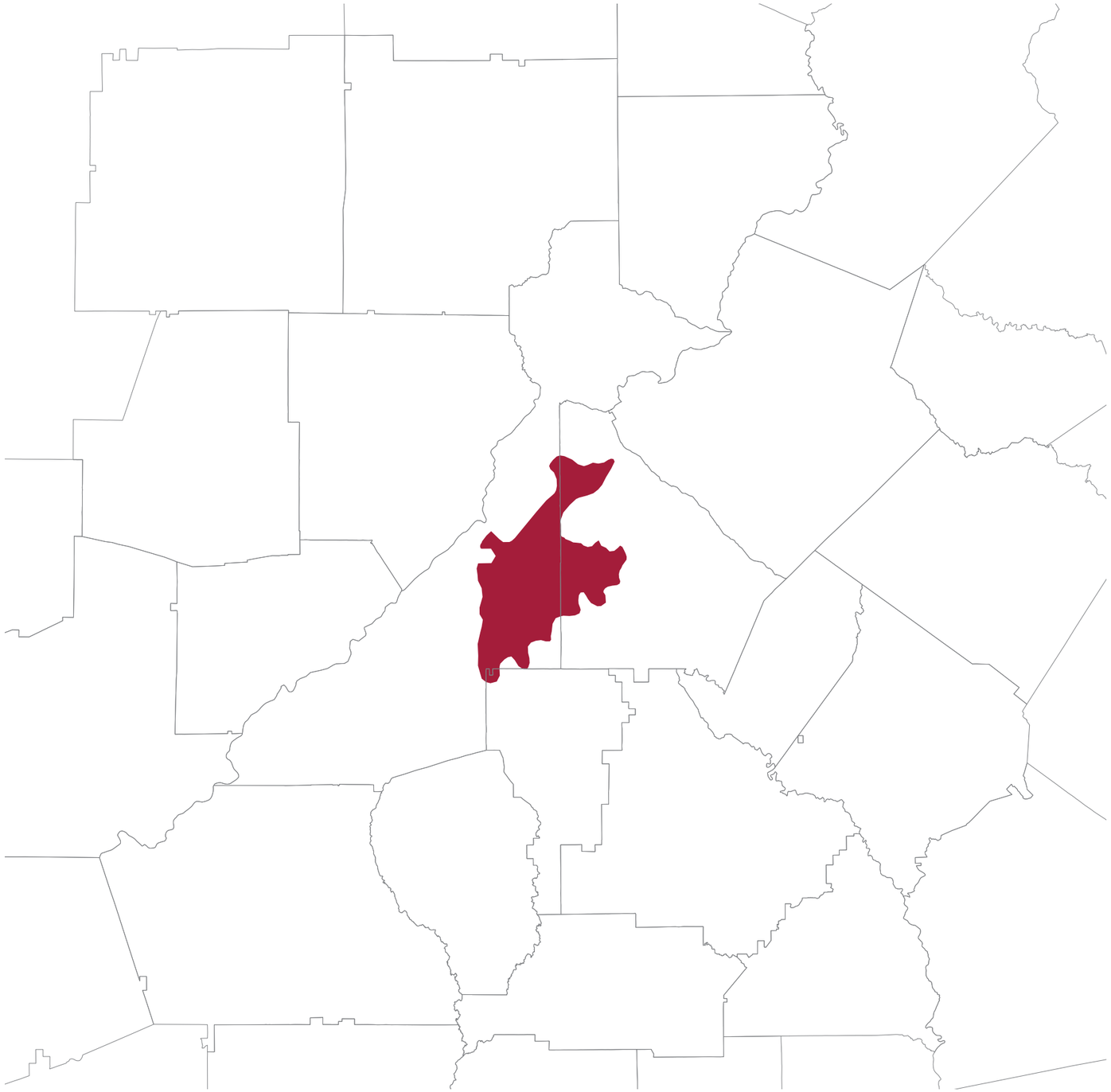
POPULATION CHANGE United States 1945-2010



URBANIZED AREA CHANGE United States 1945-2010



ATLANTA 1950

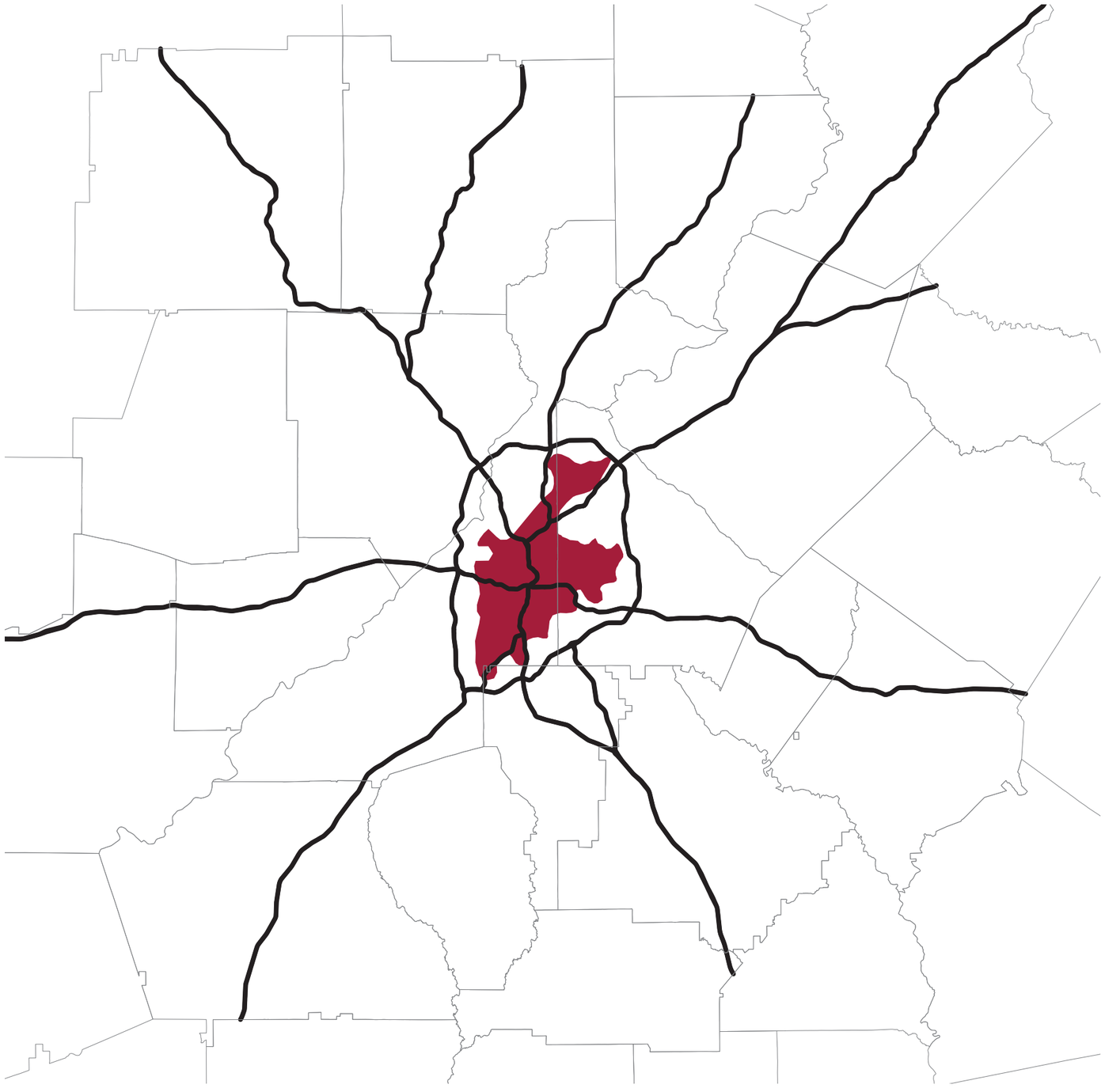


ATLANTA 1950 + Highway System (2010)

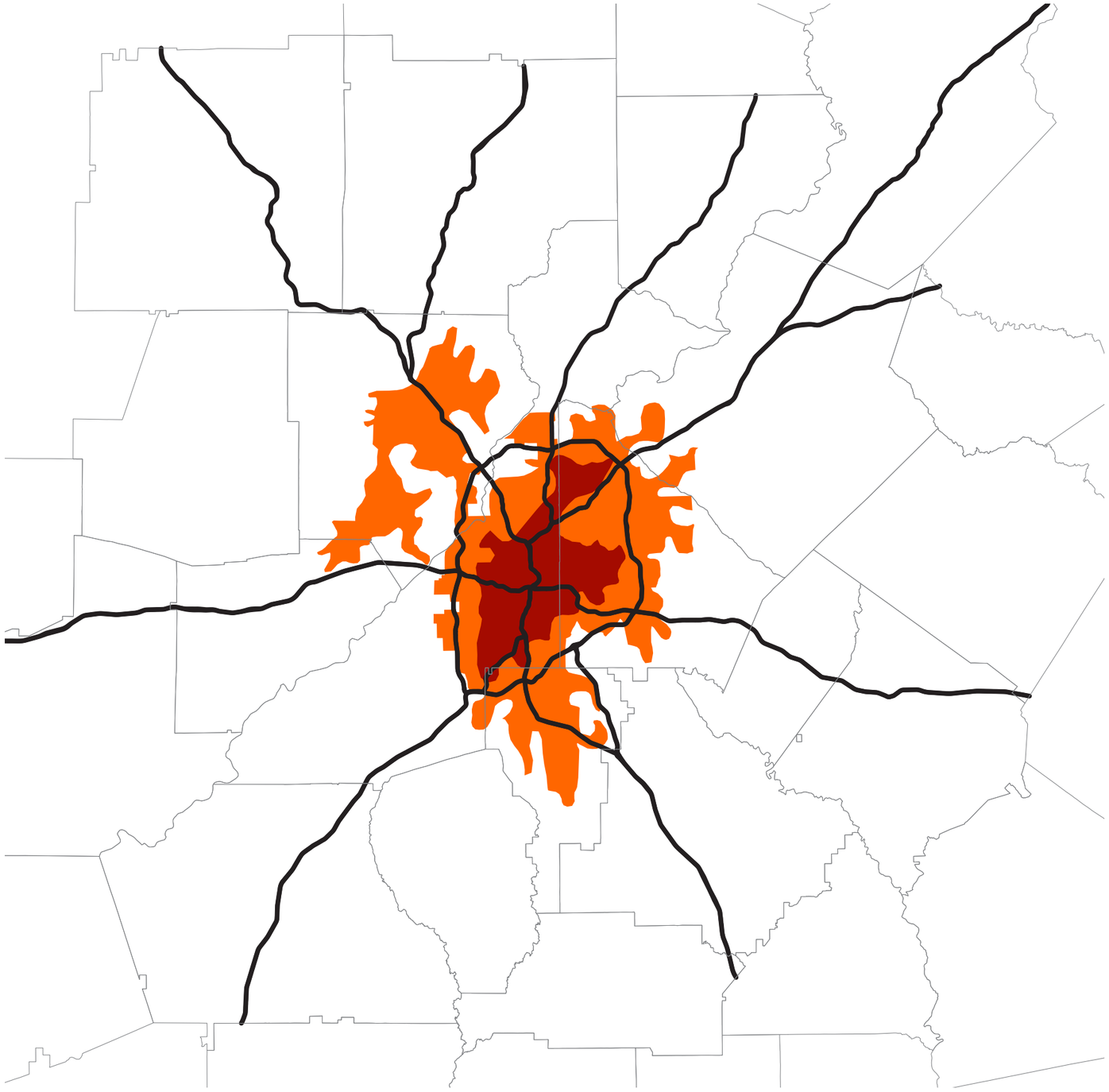
1960 Atlanta City Planning Report:

the layout of I-20 west of downtown,

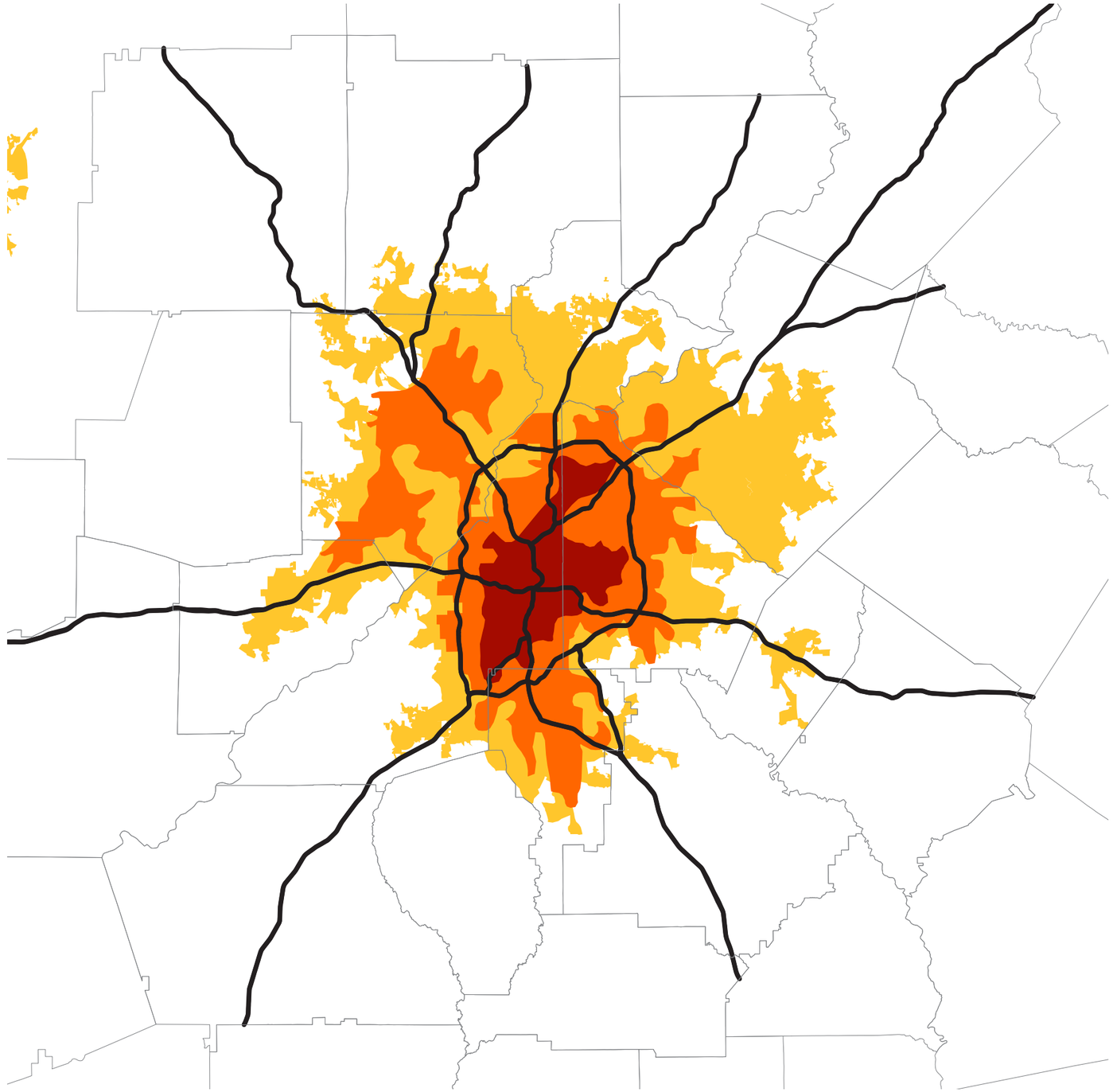
“would be the boundary between the White and Negro communities.”



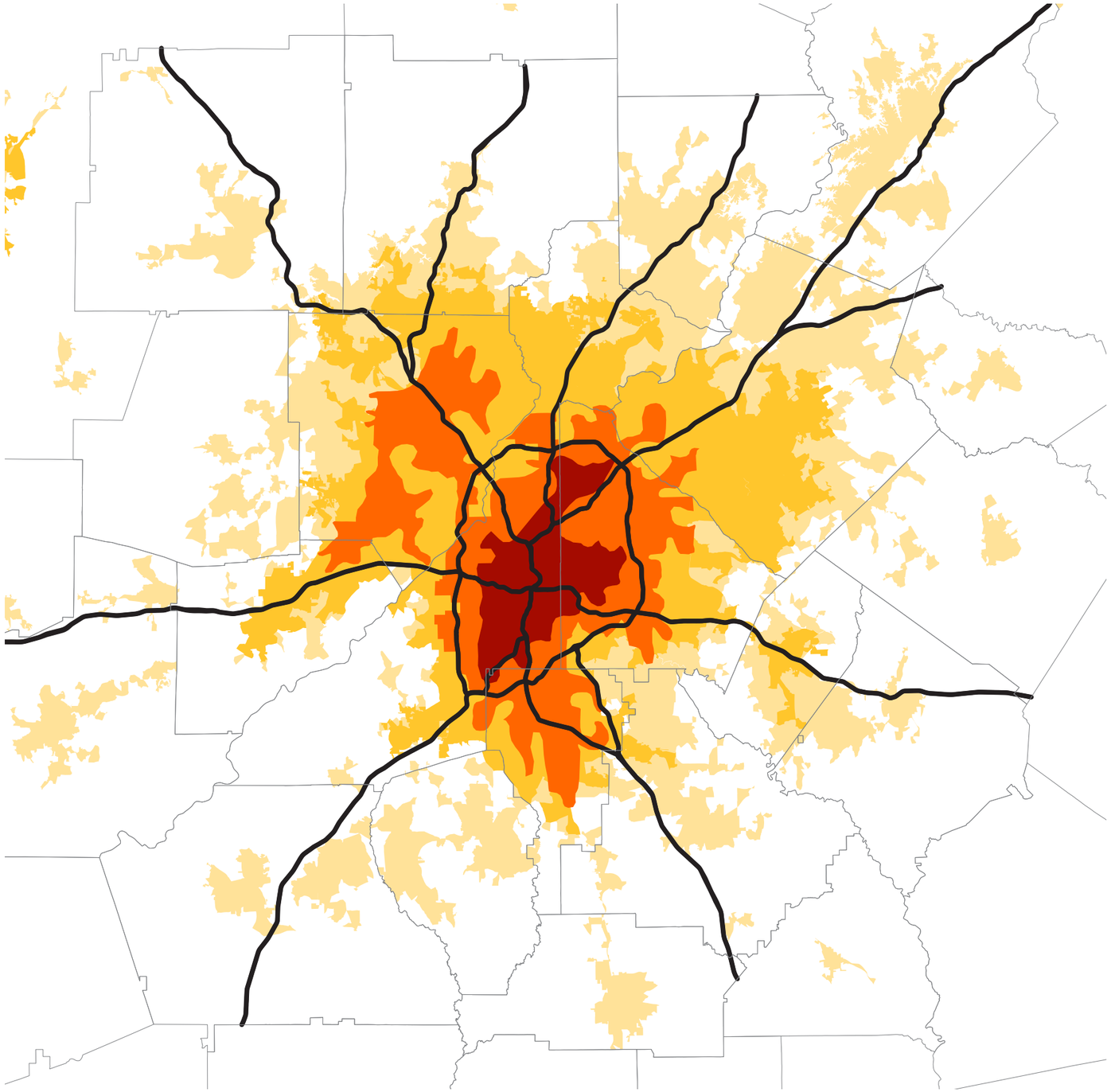
ATLANTA 1970



ATLANTA 1980



ATLANTA 1990



ATLANTA 1990-2017

POPULATION CHANGE

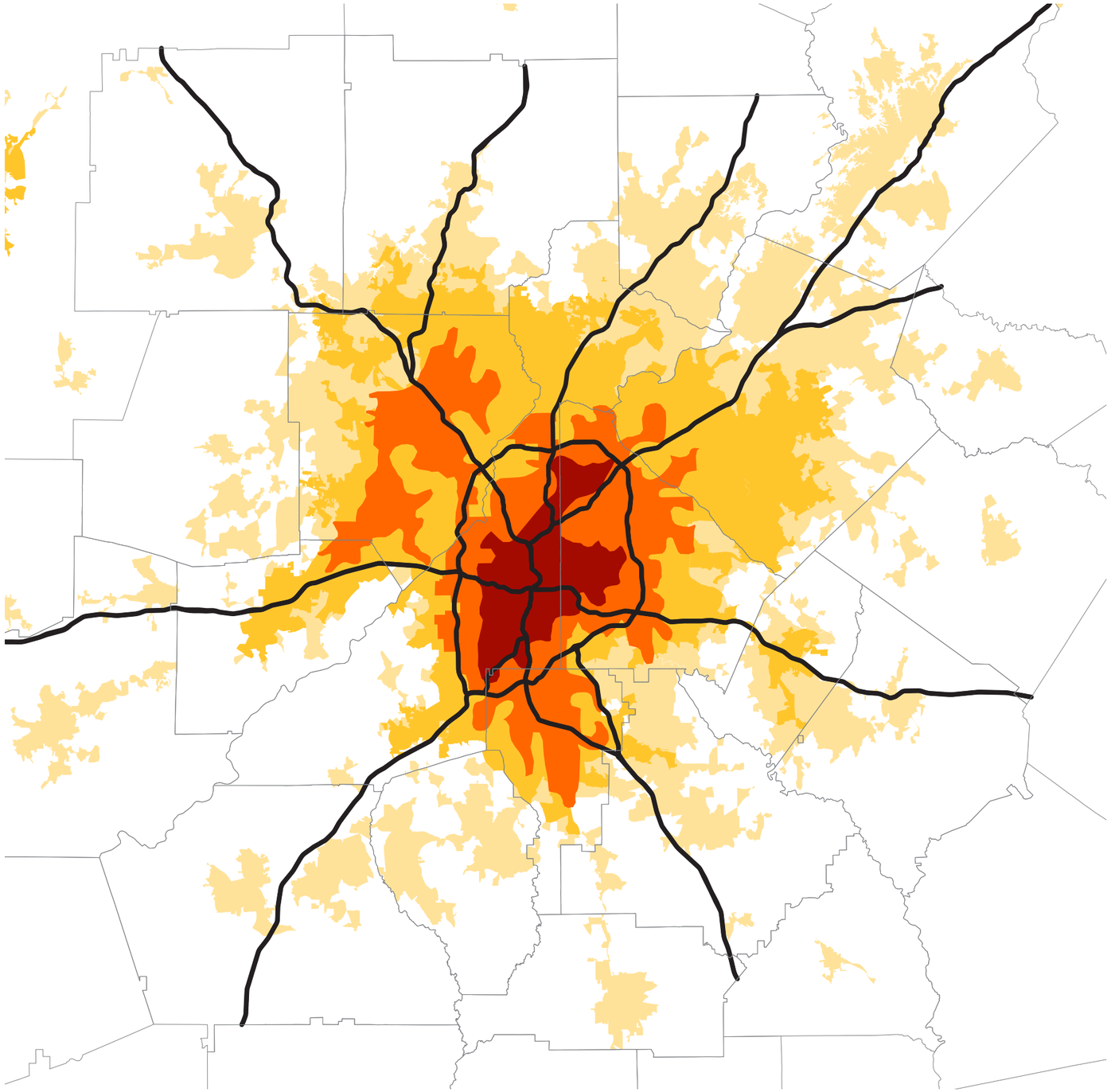
60%

HIGHWAY LANE MILES CHANGE

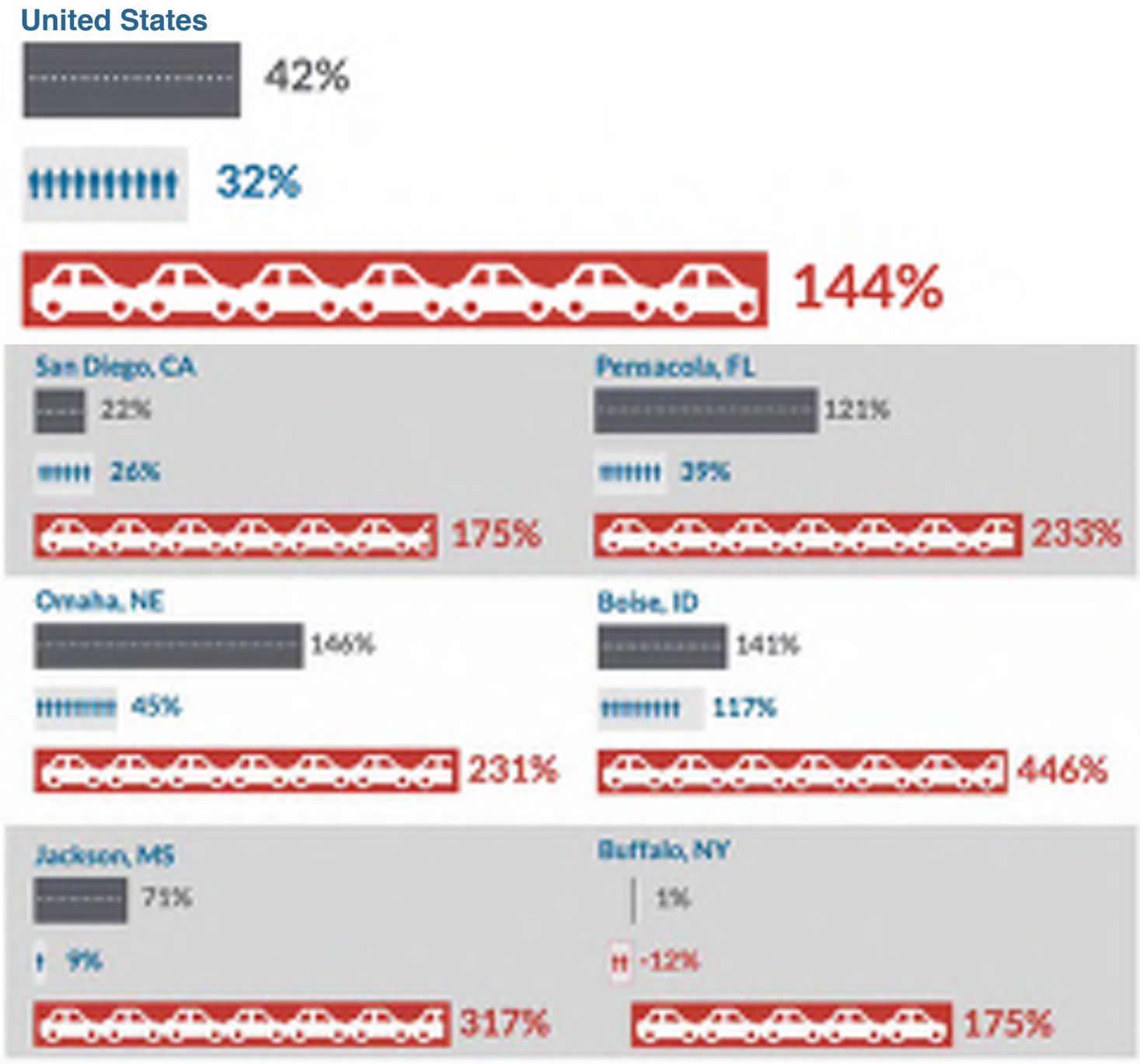
38%

TRAFFIC DELAY CHANGE

143%



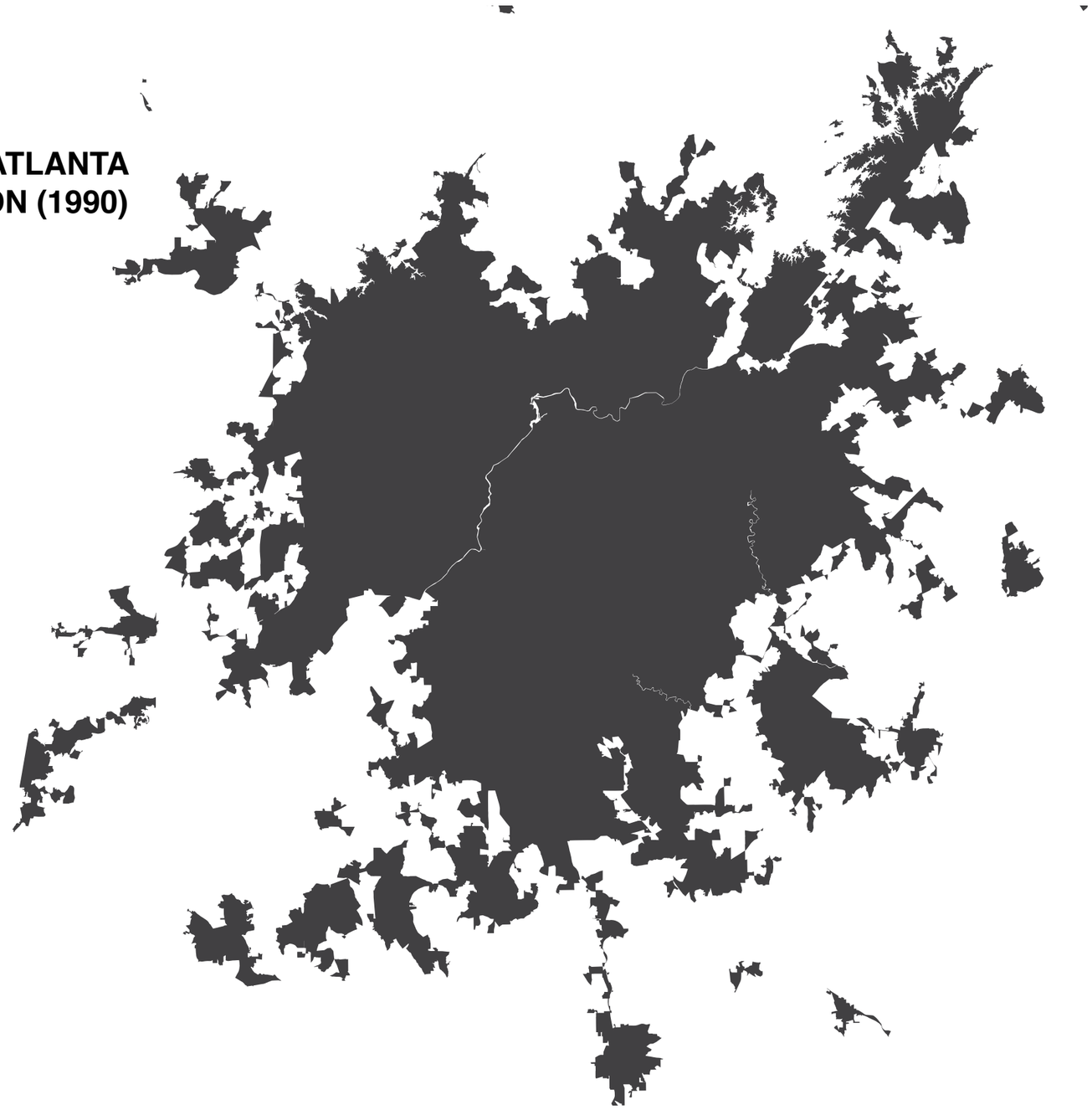
INDUCED DEMAND The Congestion Con



URBAN COMPARISON Barcelona vs. Atlanta

BARCELONA
2.8 MILLION (1990)

ATLANTA
2.5 MILLION (1990)



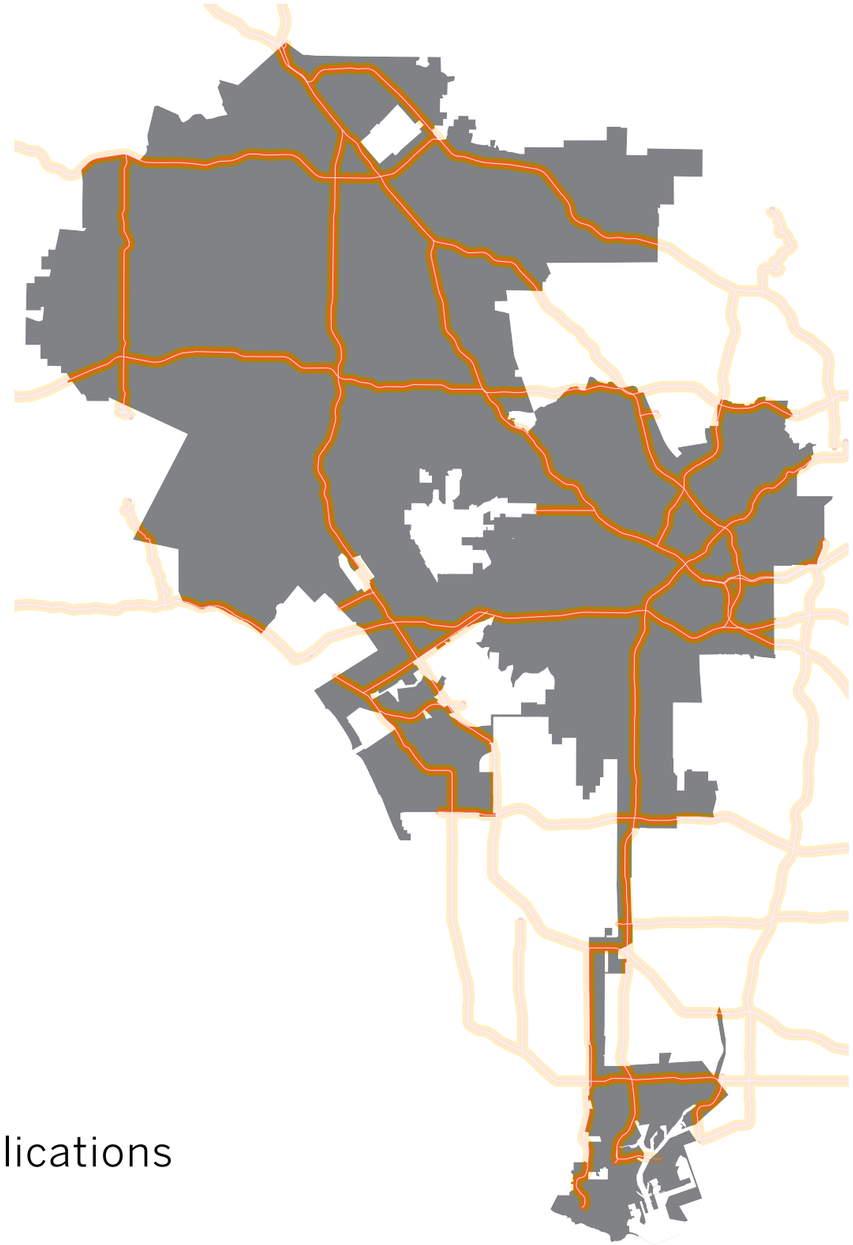
LOS ANGELES HIGHWAY NETWORK Impacted Residents

500 ft of Freeway:

1.2 million people

1,000 ft of Freeway:

2 million people



HEALTH ISSUES:

- Asthma
- Lung Cancer
- High Blood Pressure
- Pregnancy Complications
- Fetal Development
- Gestational Diabetes
- Obesity
- Heart Disease / Cardiac Complications
- Stroke

CITY COMPARISON

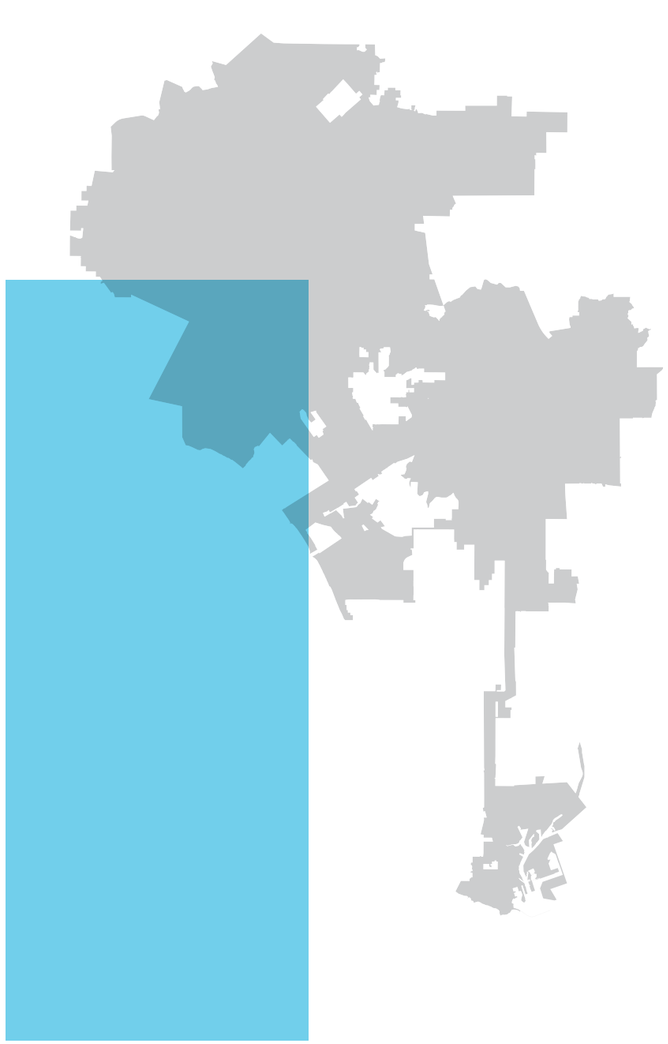
LOS ANGELES

LONDON

BOGOTA

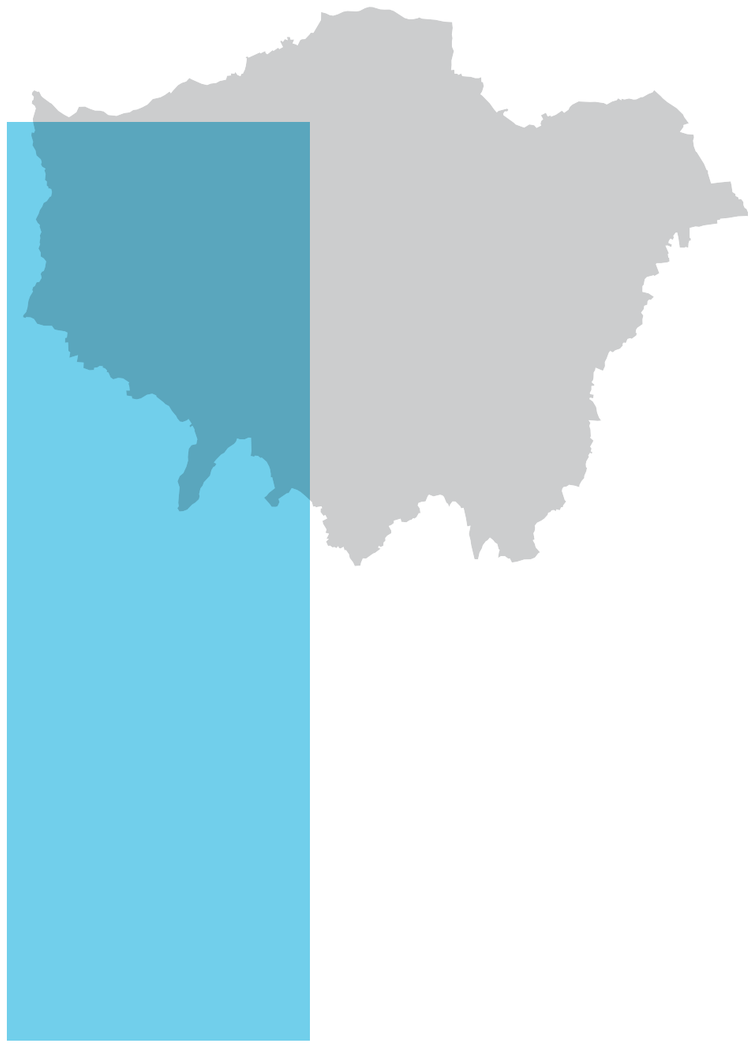
CITY COMPARISON Area

LOS ANGELES



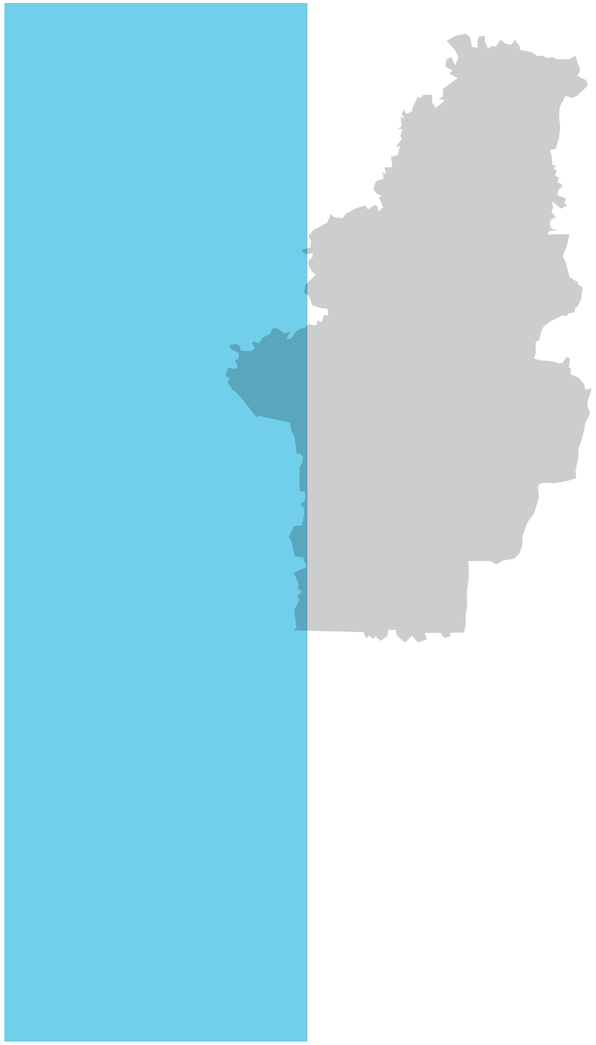
Sq Miles: 502

LONDON



Sq Miles: 606

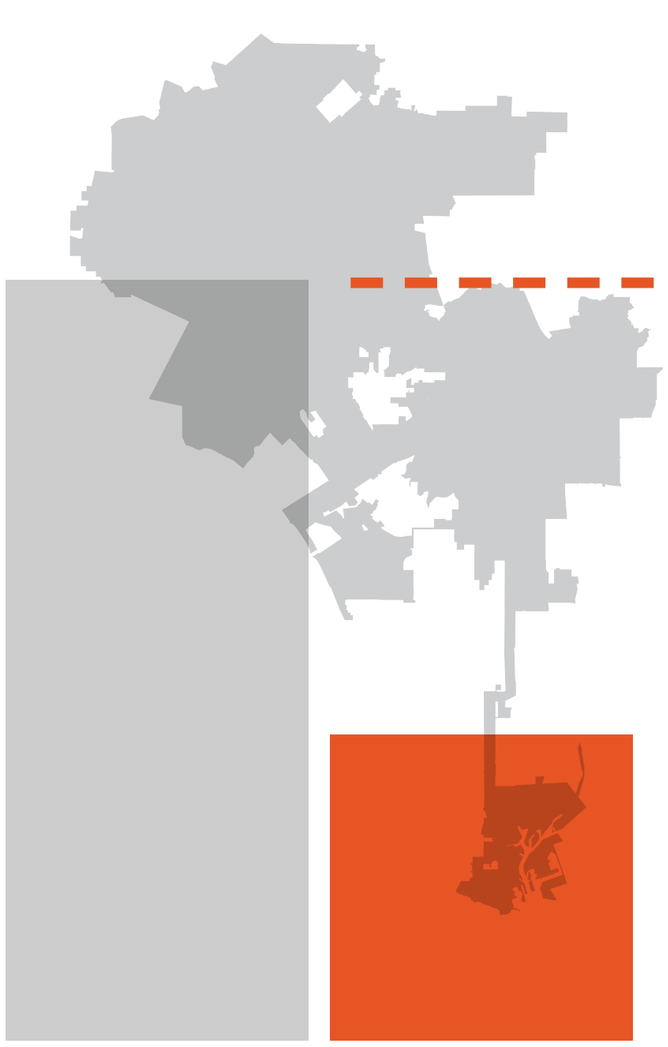
BOGOTA



Sq Miles: 685

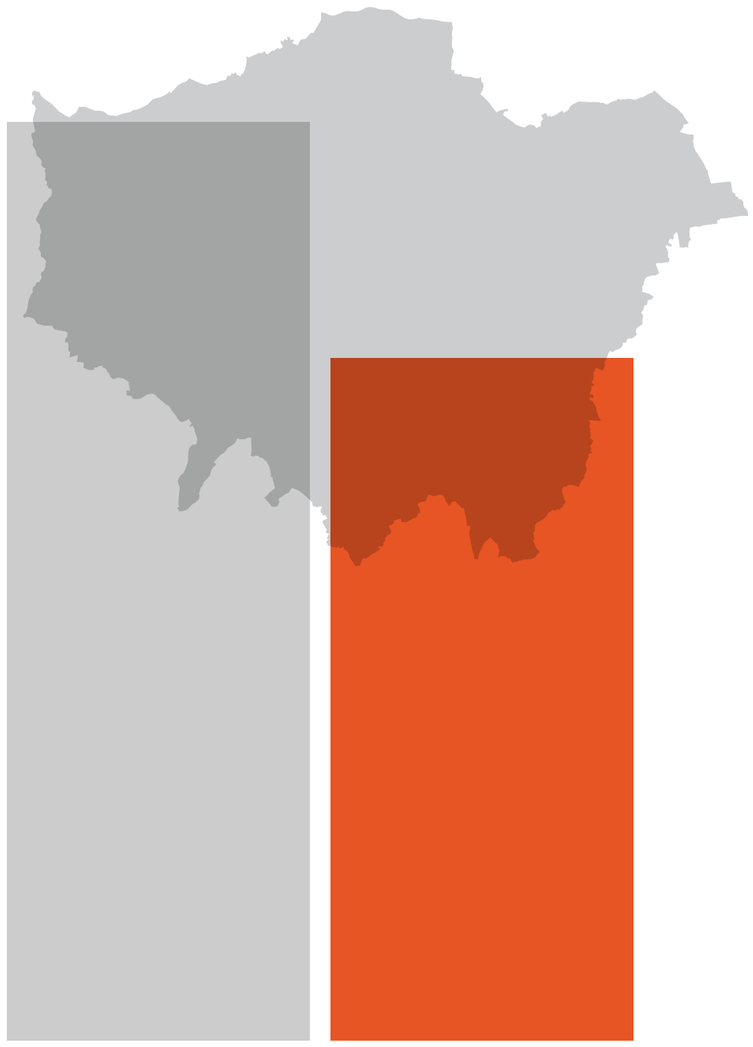
CITY COMPARISON Population

LOS ANGELES



Sq Miles: 502 **4.05 million**

LONDON



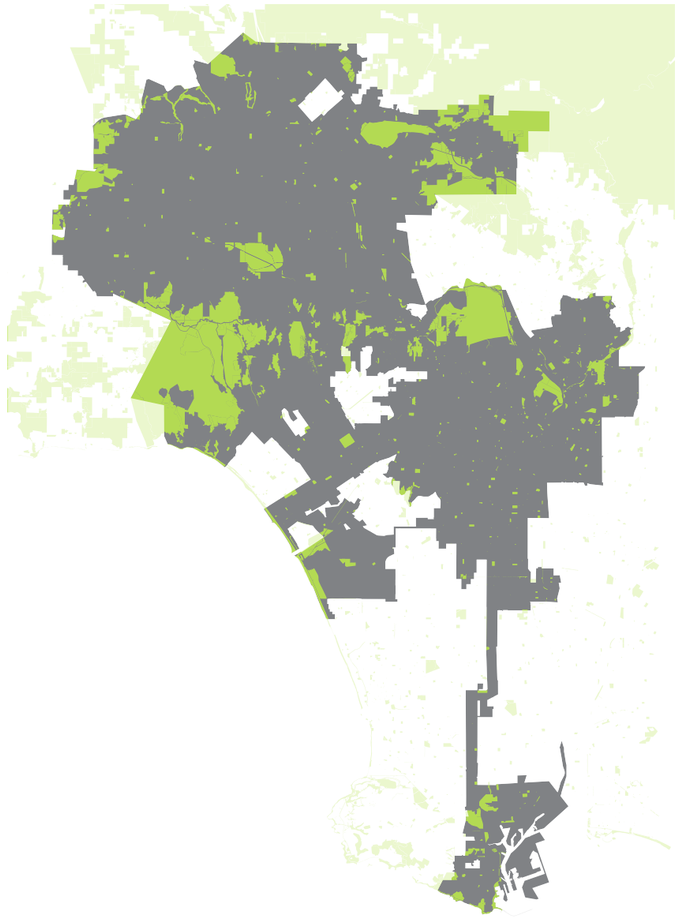
Sq Miles: 606 **8.8 million**

BOGOTA

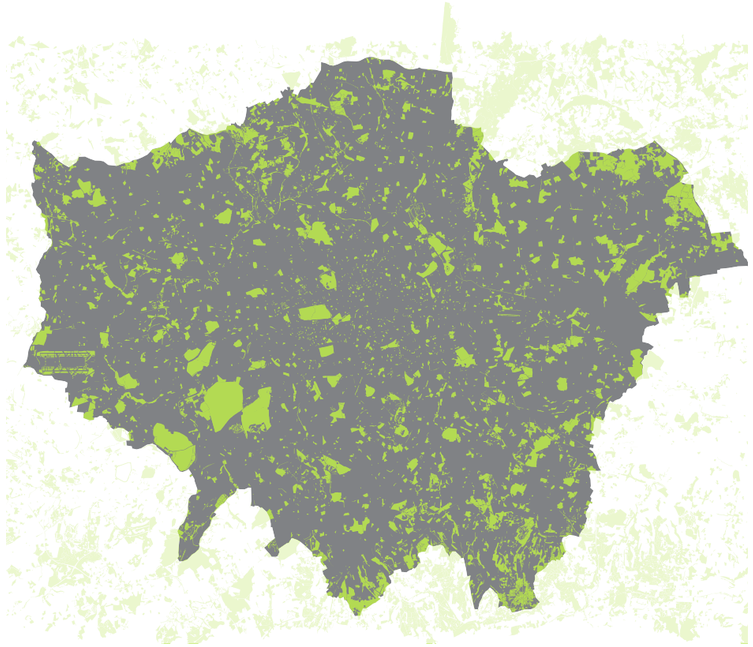
Sq Miles: 685 **8.08 million**

CITY COMPARISON Open Space

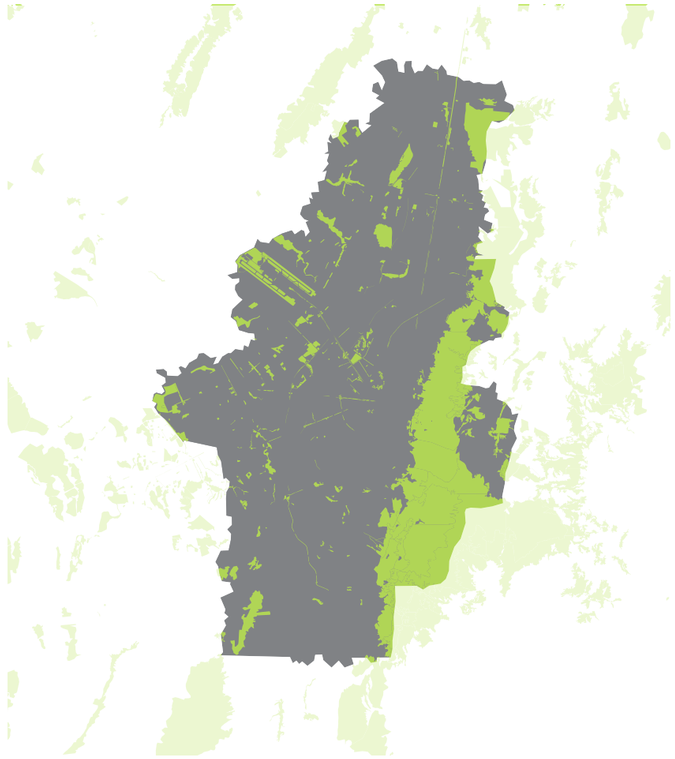
LOS ANGELES



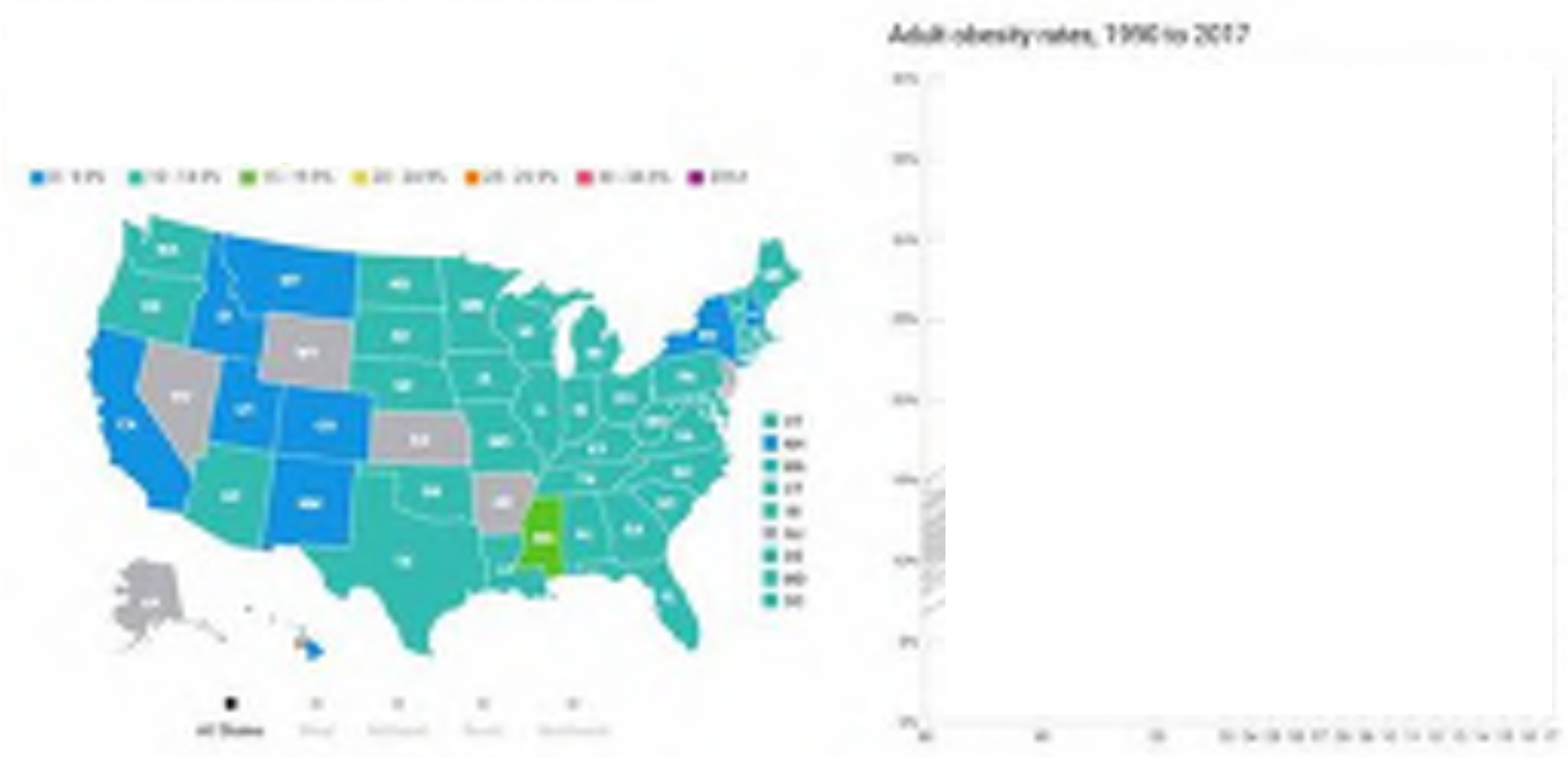
LONDON



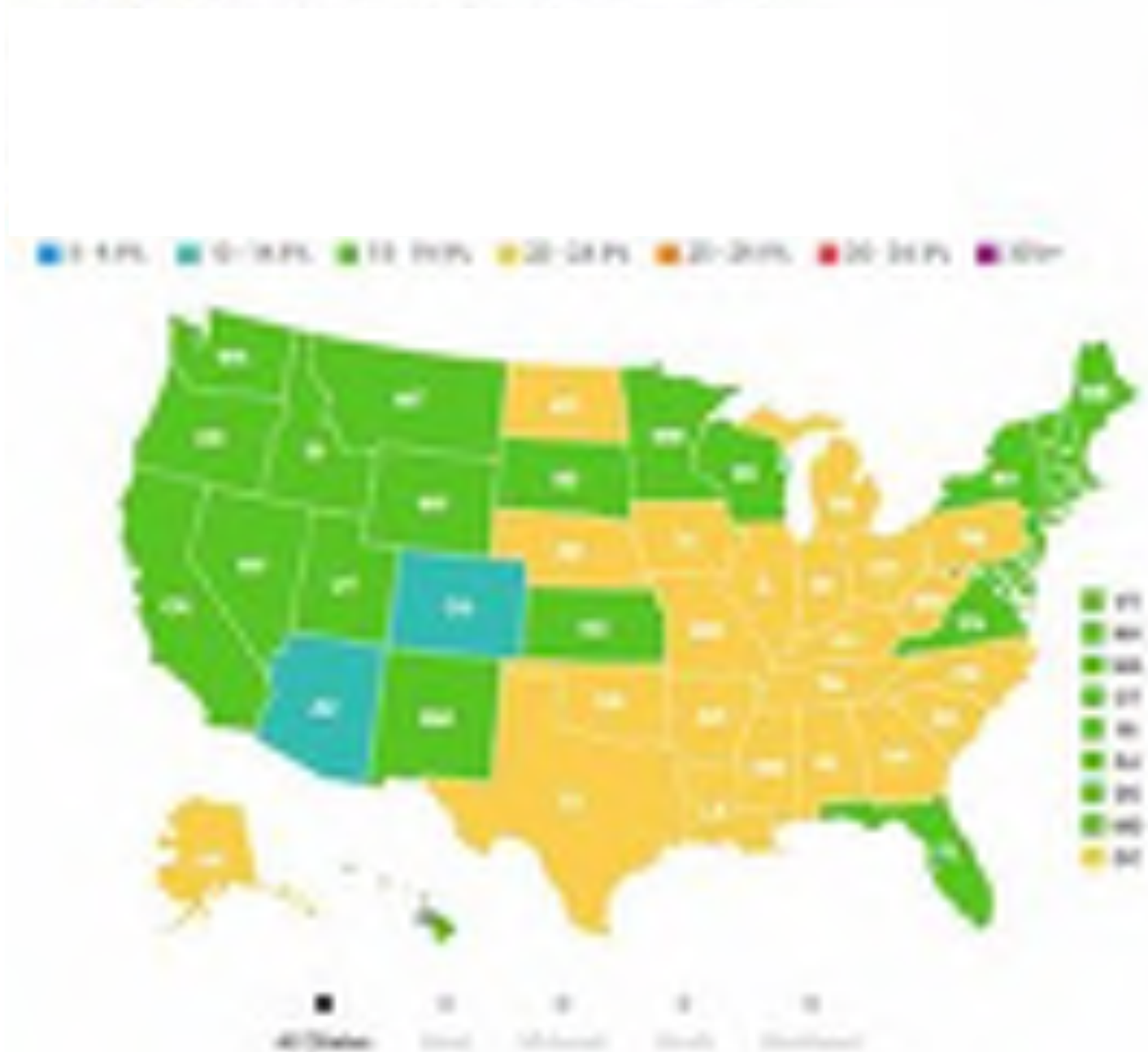
BOGOTA

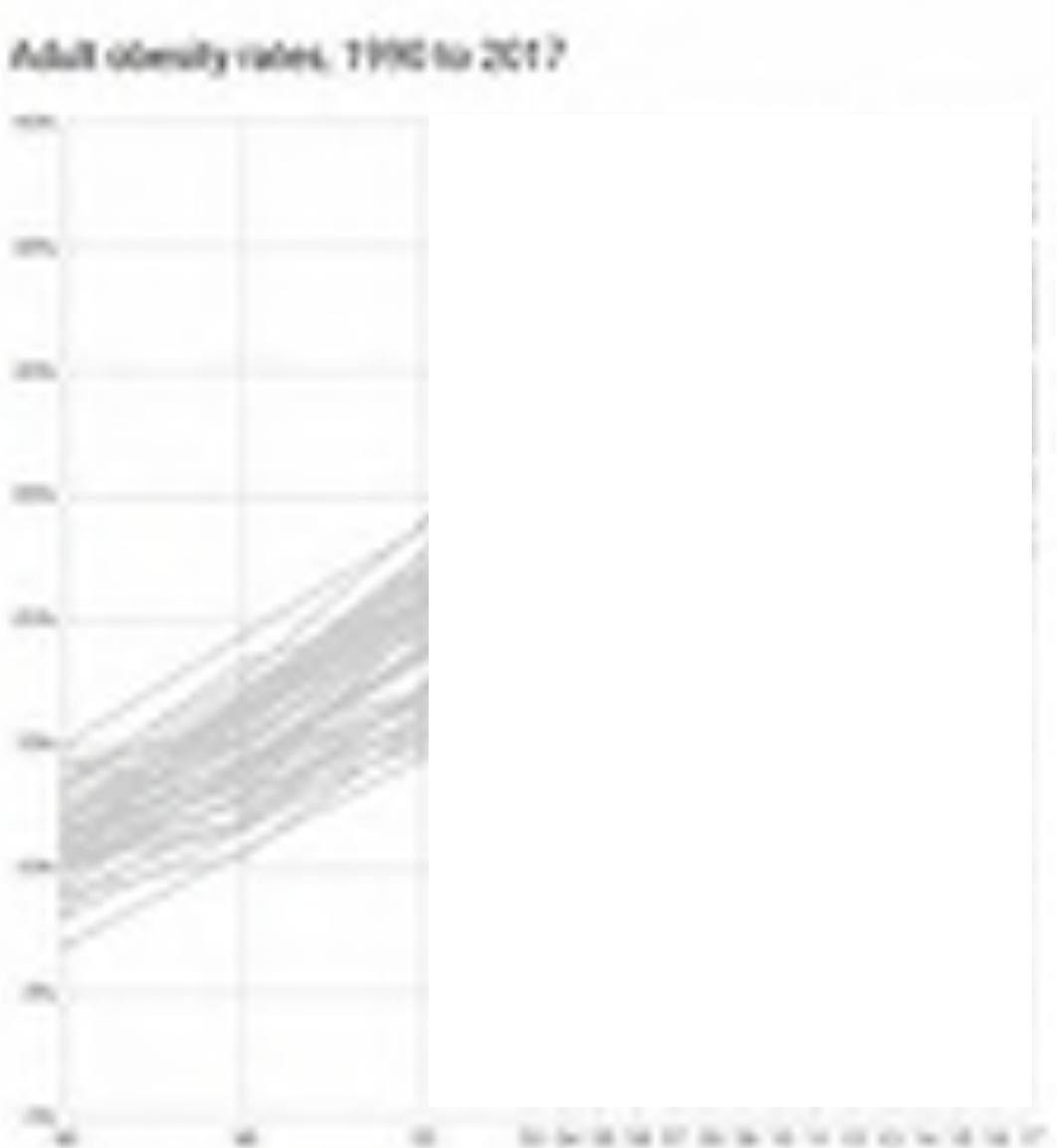


OBESITY RATES Adults 1990

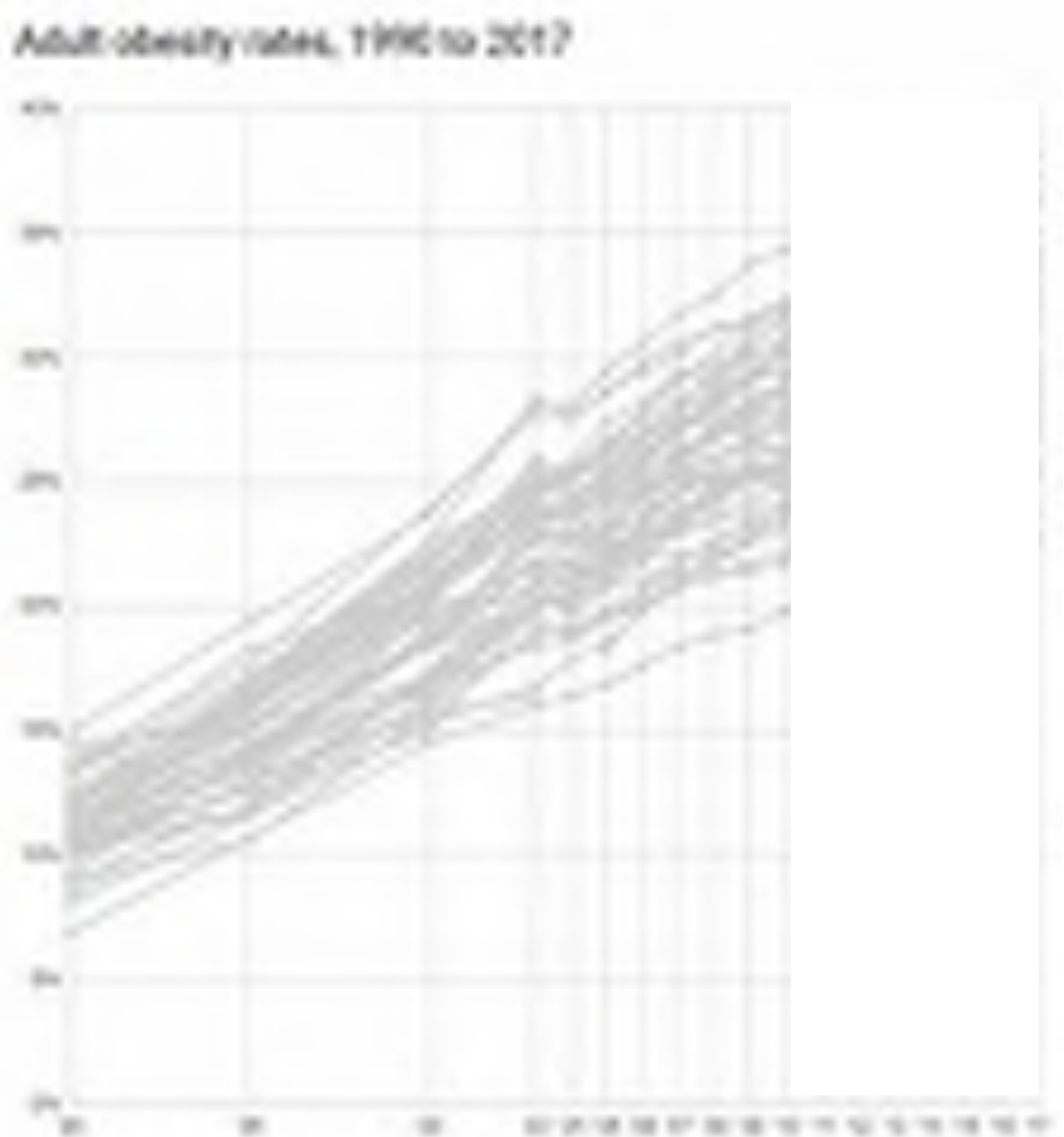


OBESITY RATES Adults 2000

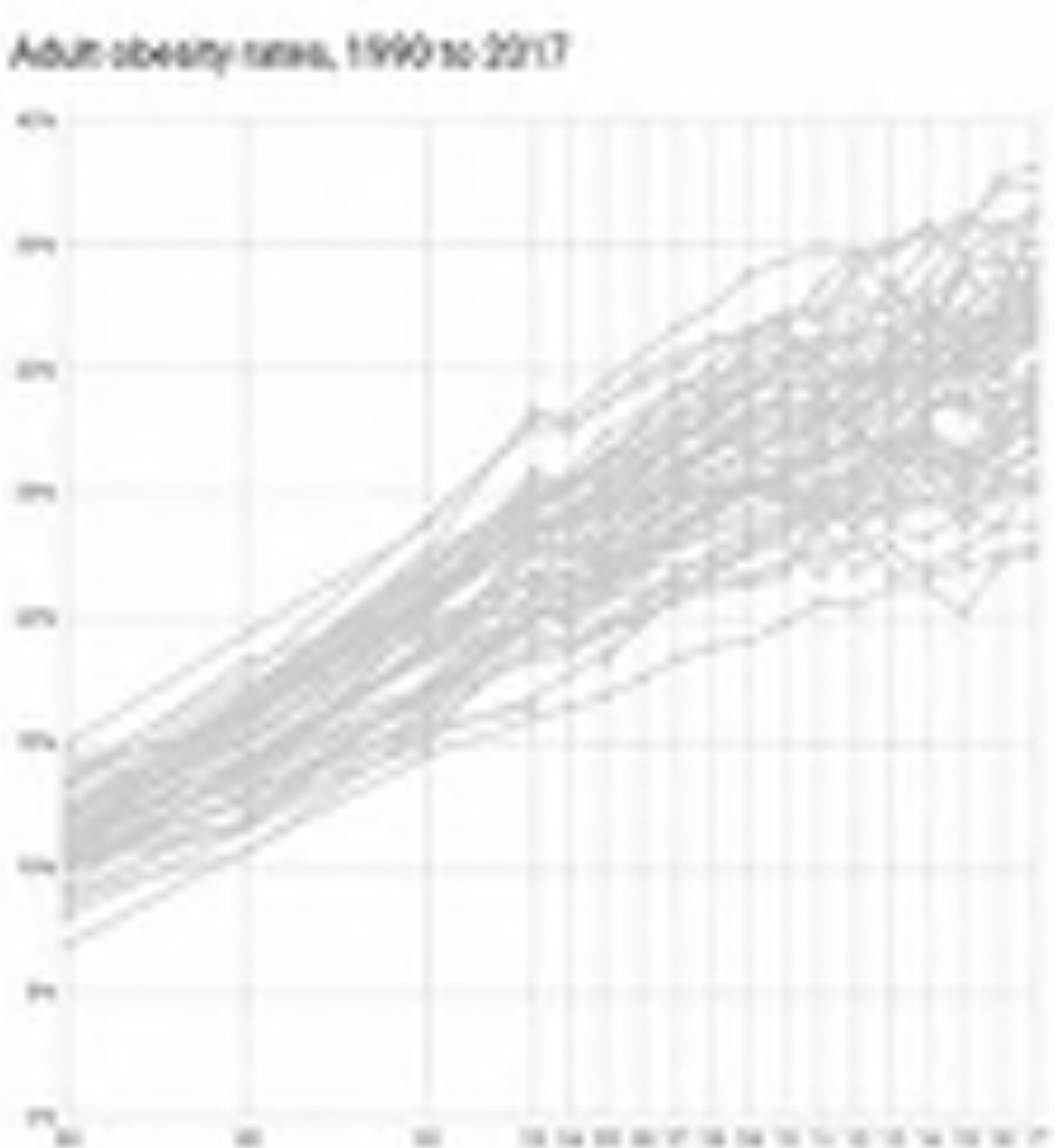




OBESITY RATES Adults 2010

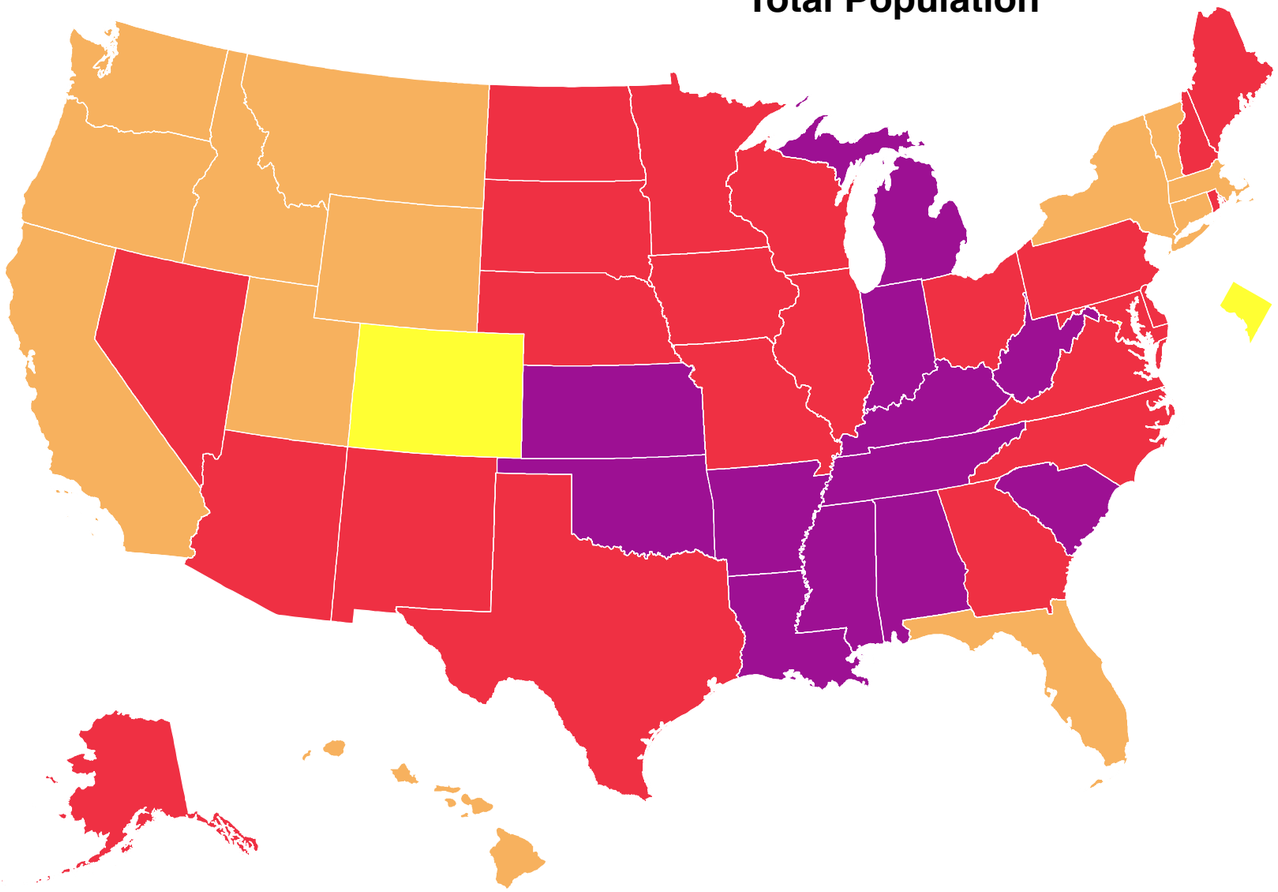


OBESITY RATES Adults 2017

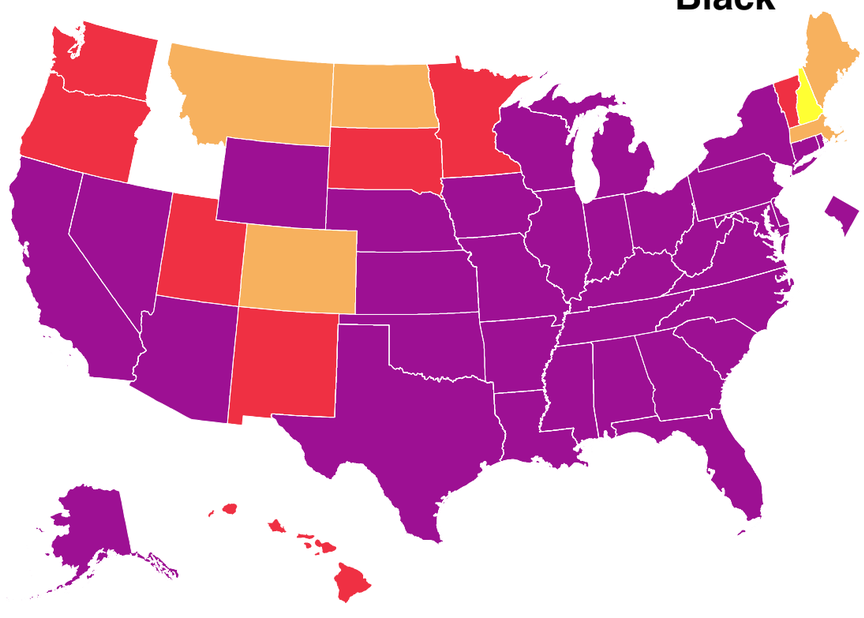


OBESITY RATES Adults 2019

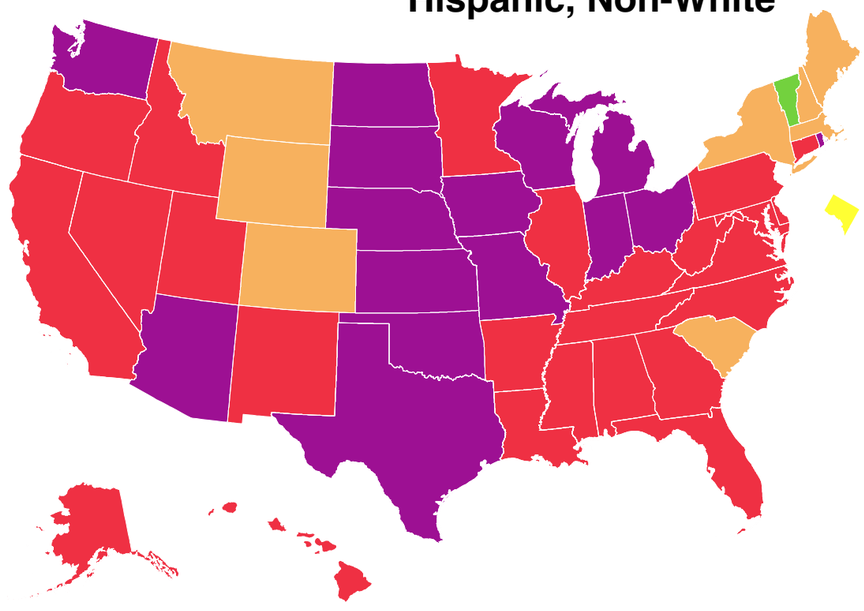
Total Population



Black

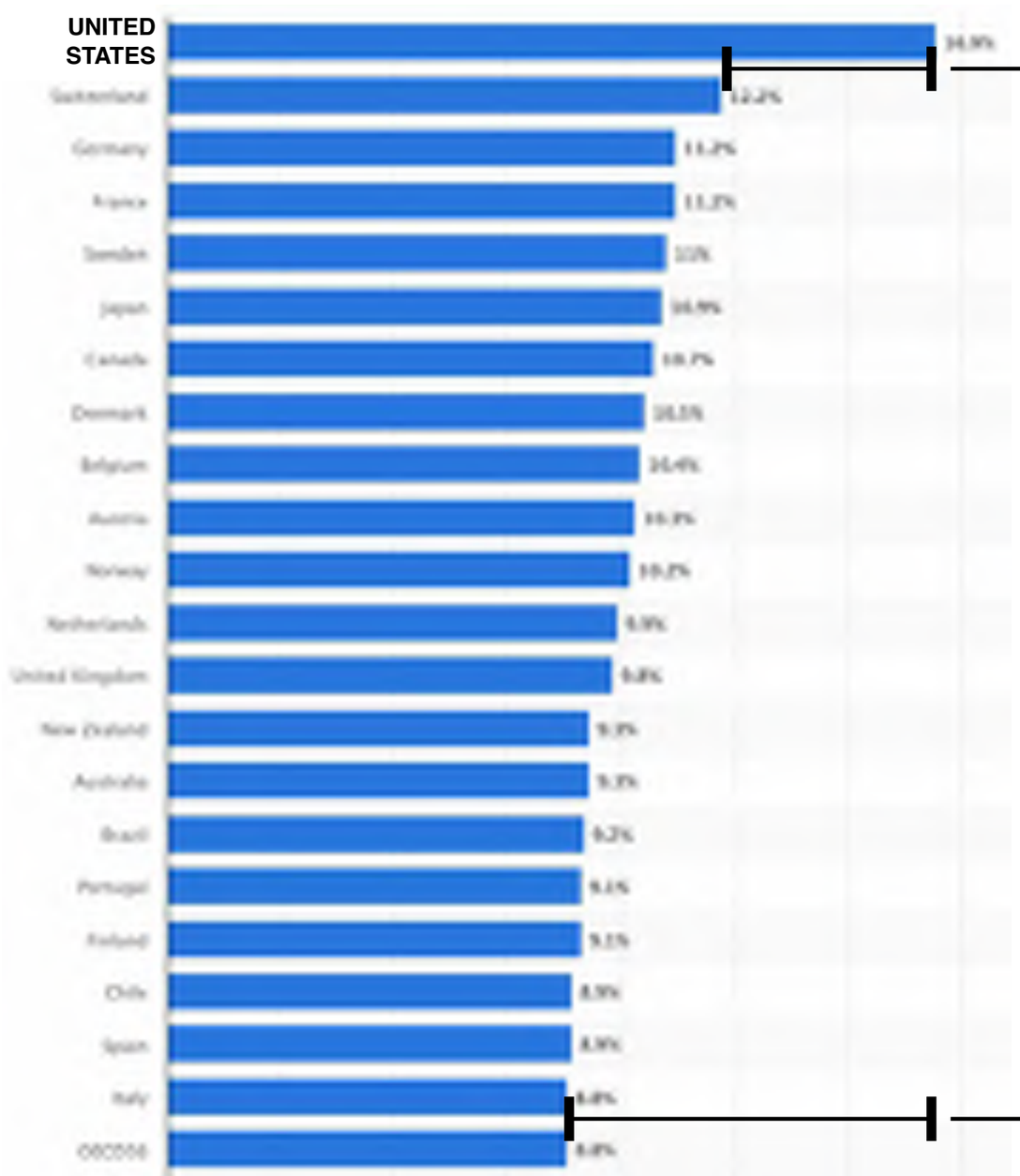


Hispanic, Non-White



- 15% - 19.9%
- 20% - 24.9%
- 25% - 29.9%
- 30% - 34.9%
- 35% +

HEALTHCARE COSTS Percent of National GDP



Source: World Bank

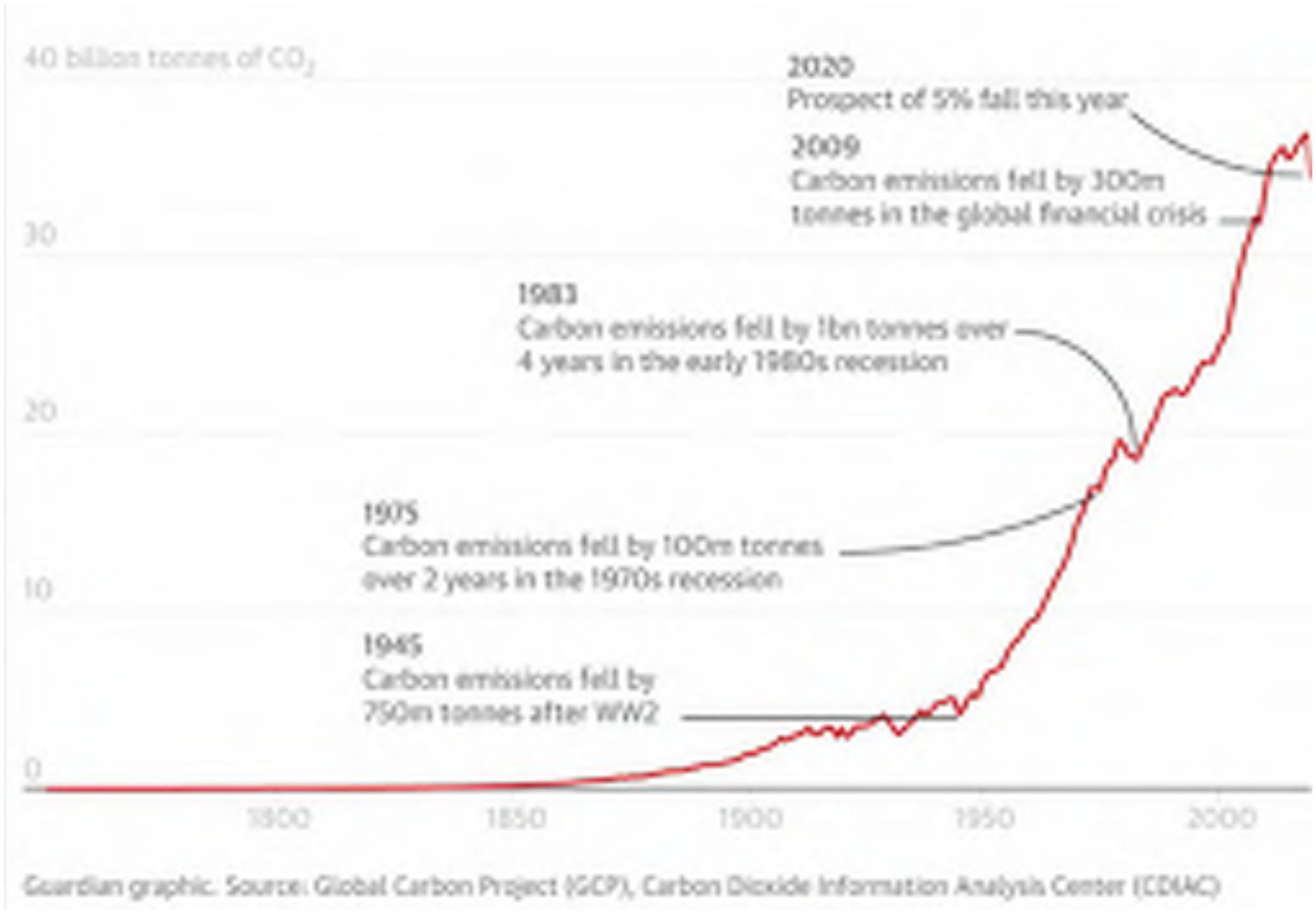
GAP BETWEEN UNITED STATES AND SWITZERLAND:

$1 Trillion per year

GAP BETWEEN UNITED STATES AND OECD36:

$2 Trillion per year

Ghg EMISSIONS 2020 Projection

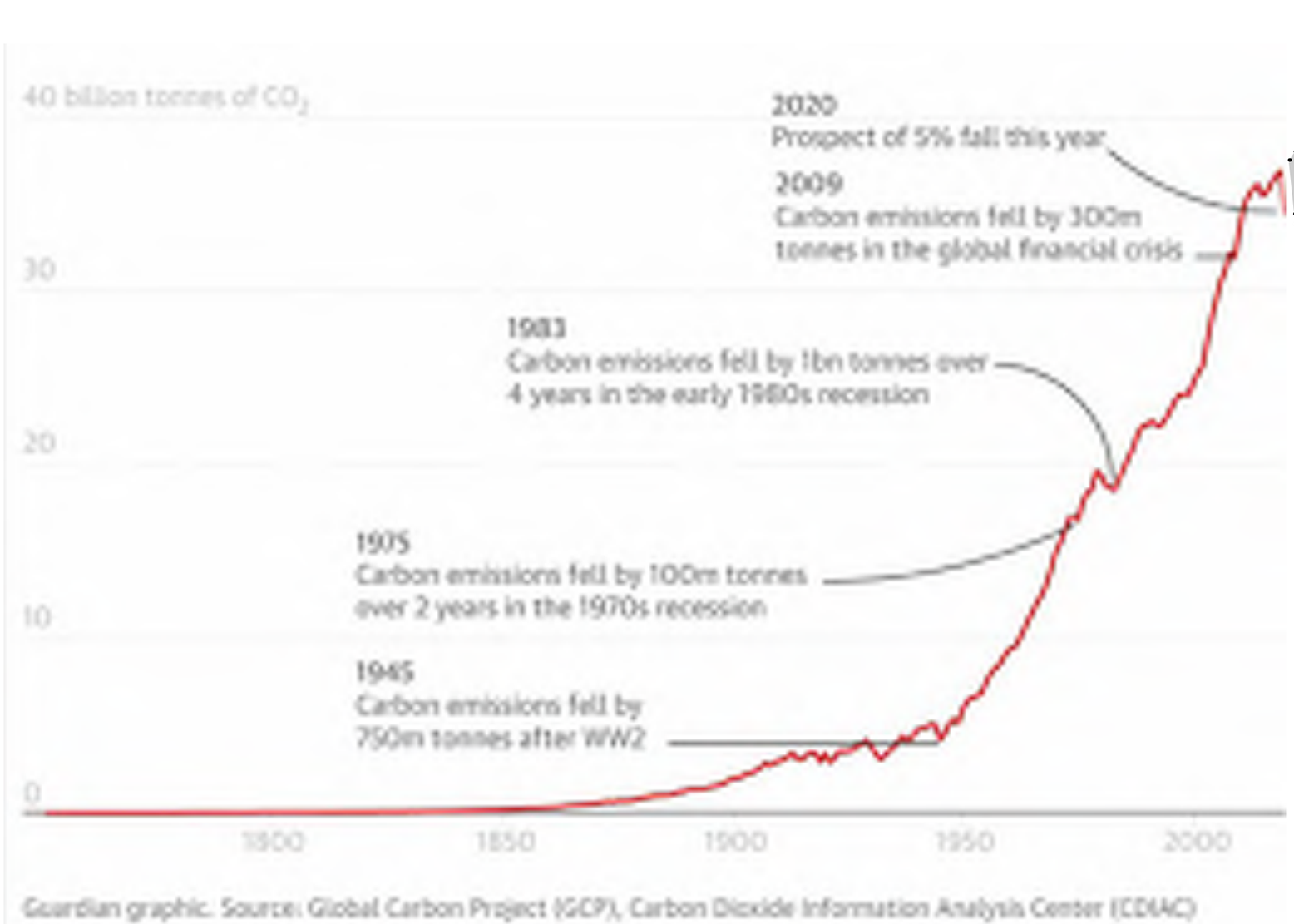


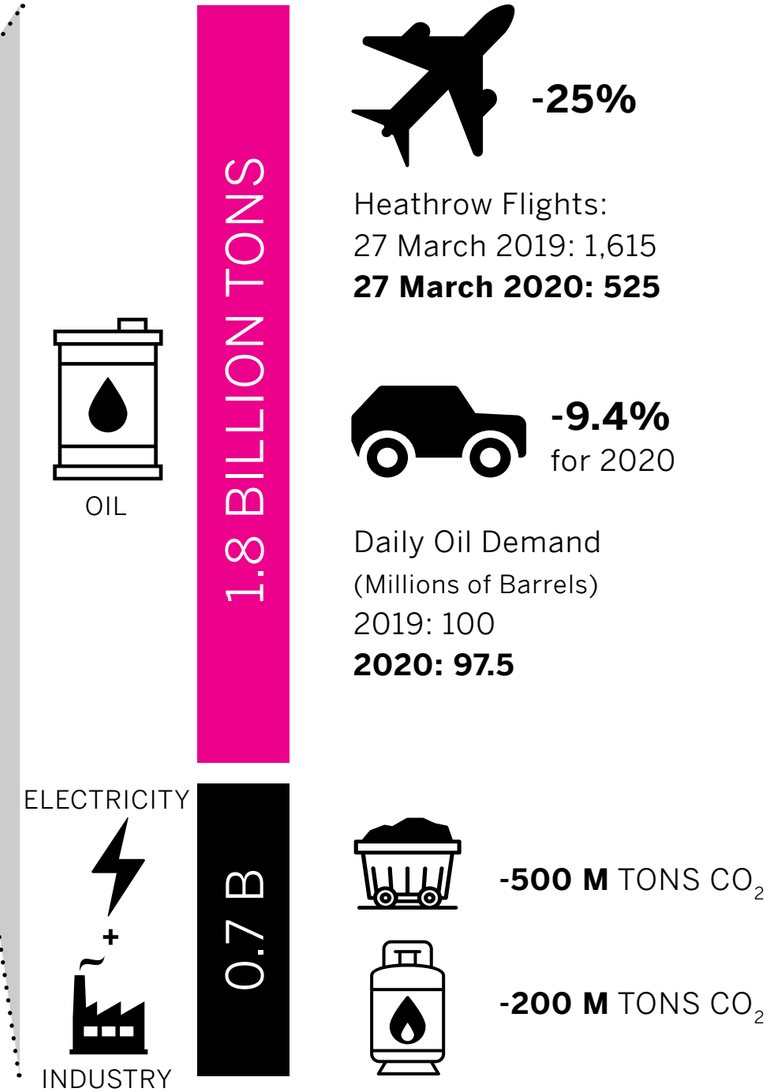
-5% CO_2 EMISSIONS

(2.5 BILLION TONS CO_2)

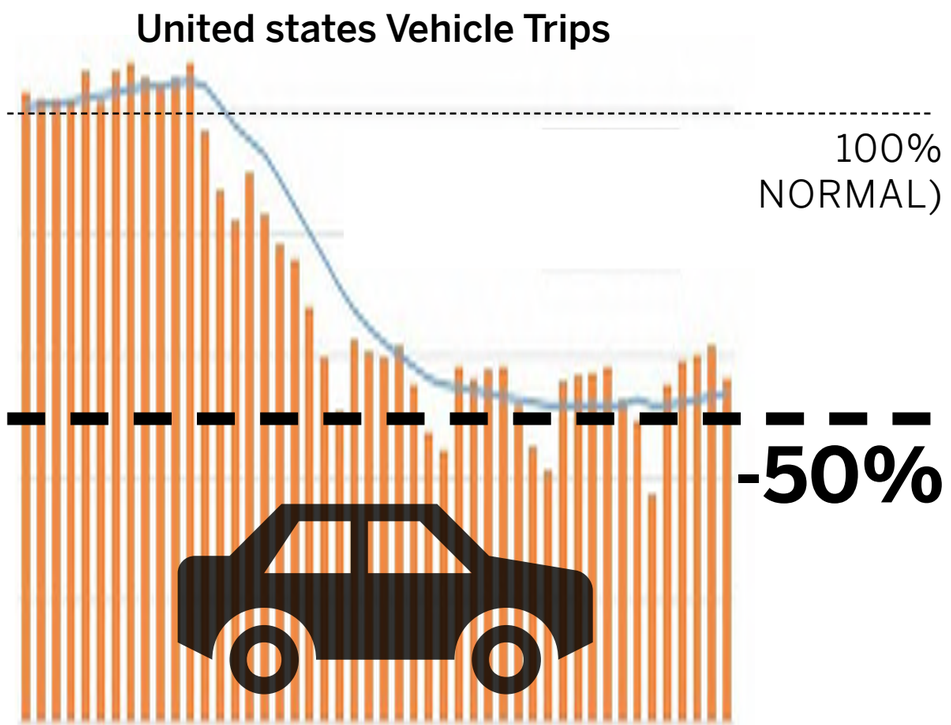
Ghg EMISSIONS Projected Reductions by Industry Sector

70% of projected CO_2 reduction from TRANSPORTATION sources

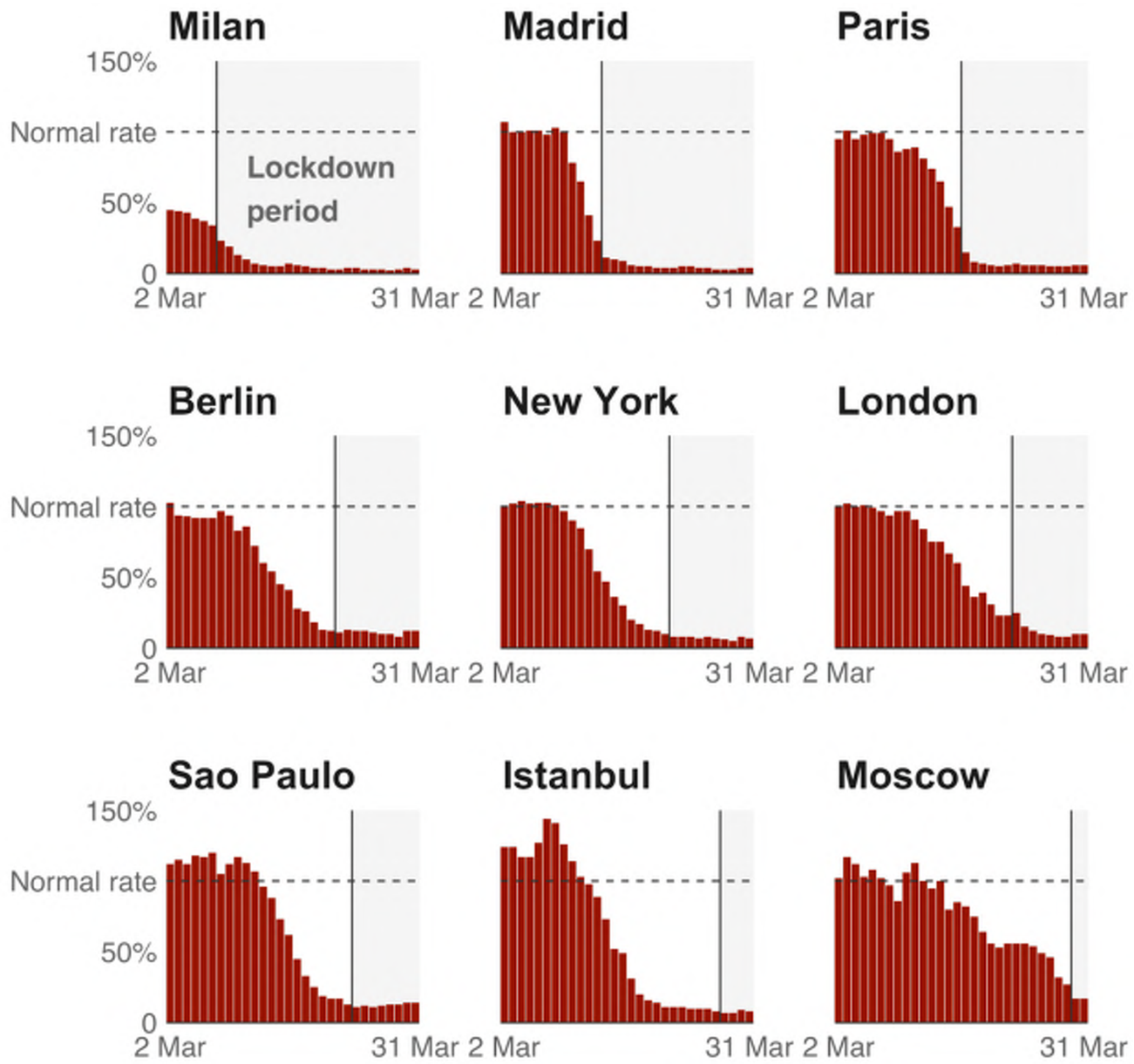




COVID-19 IMPACTS Reduced Driving Demand



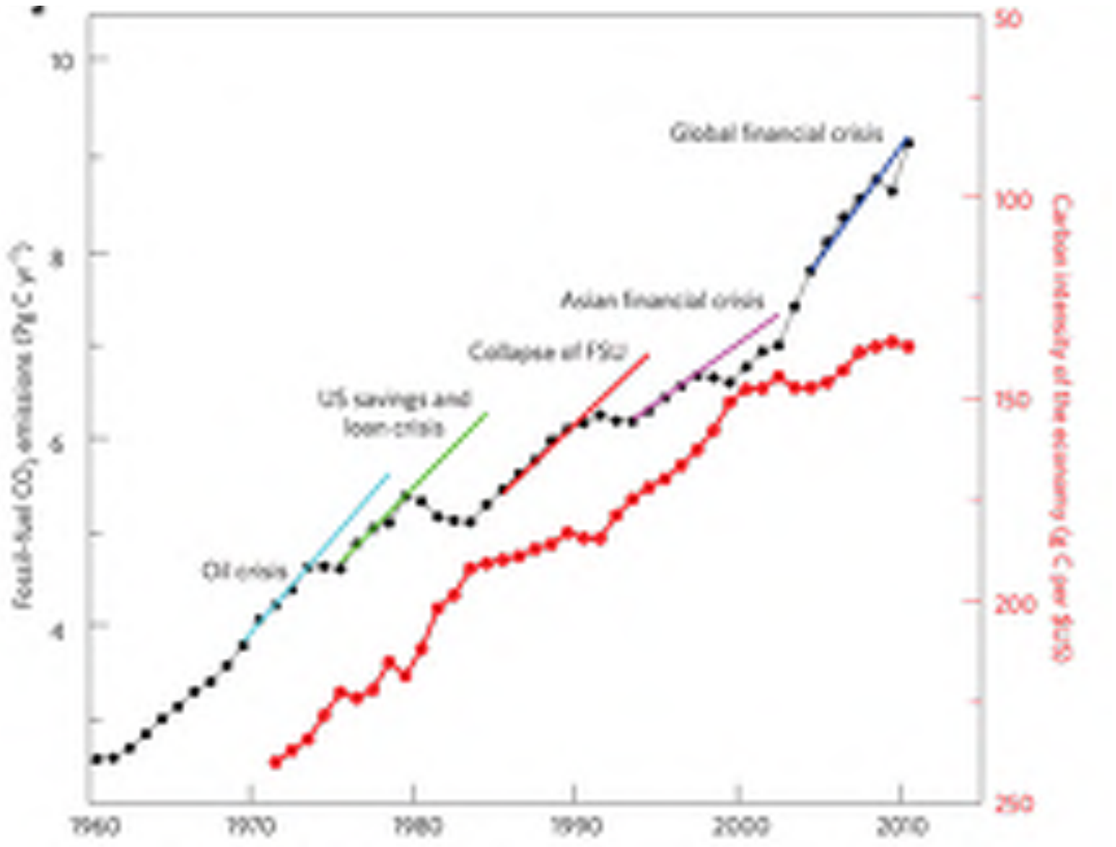
SOURCE: Inrix



SOURCE: BBC

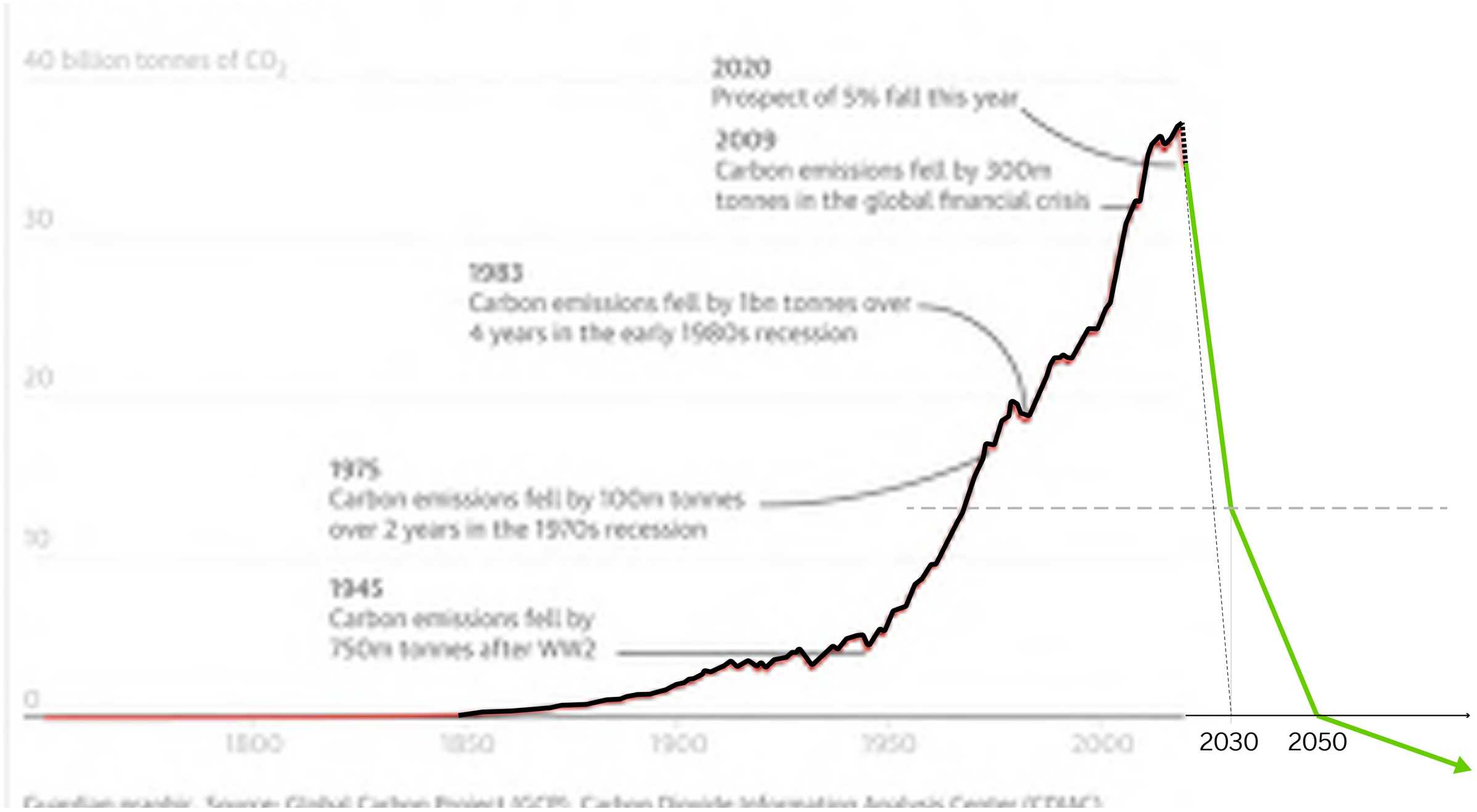
Ghg EMISSIONS After COVID-19

CO_2 Emissions Reductions (and Corrections) Past Major Global Events



CO_2 Emissions per Household by Income Group

SOURCE: Environmental International "Scale, distribution and variations of global greenhouse gas emissions driven by U.S. households"


40 billion tonnes of CO_2
30
20
0
1800
1850
1900
1950
2000
2020
Prospect of 5% fall this year
2009
Carbon emissions fell by 300m tonnes in the global financial crisis
1983
Carbon emissions fell by 1bn tonnes over 4 years in the early 1980s recession
1975
Carbon emissions fell by 100m tonnes over 2 years in the 1970s recession
1945
Carbon emissions fell by 750m tonnes after WW2
2030
2050

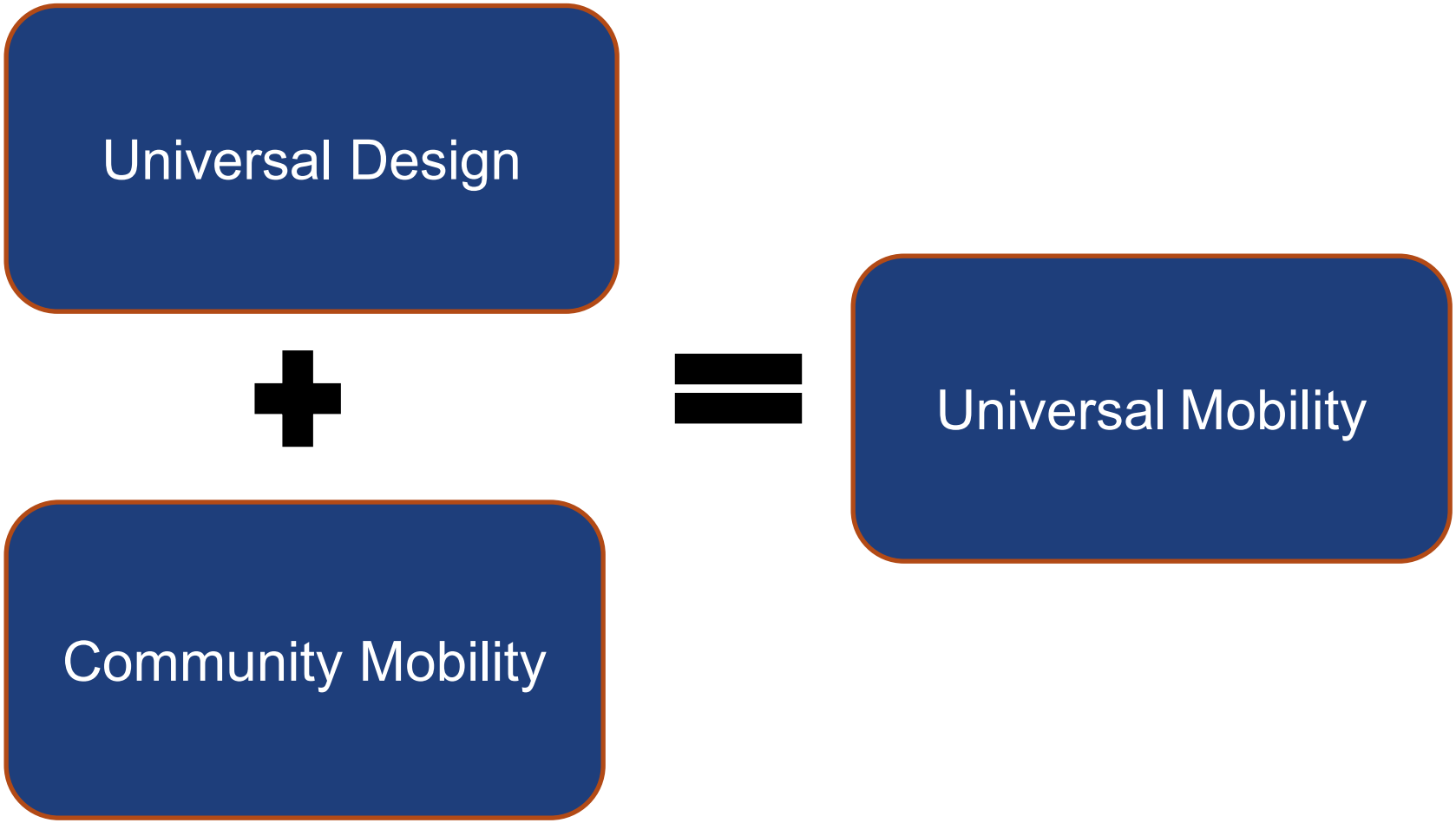
Thank You

Metropolitan Planning Council

TOWARD UNIVERSAL MOBILITY

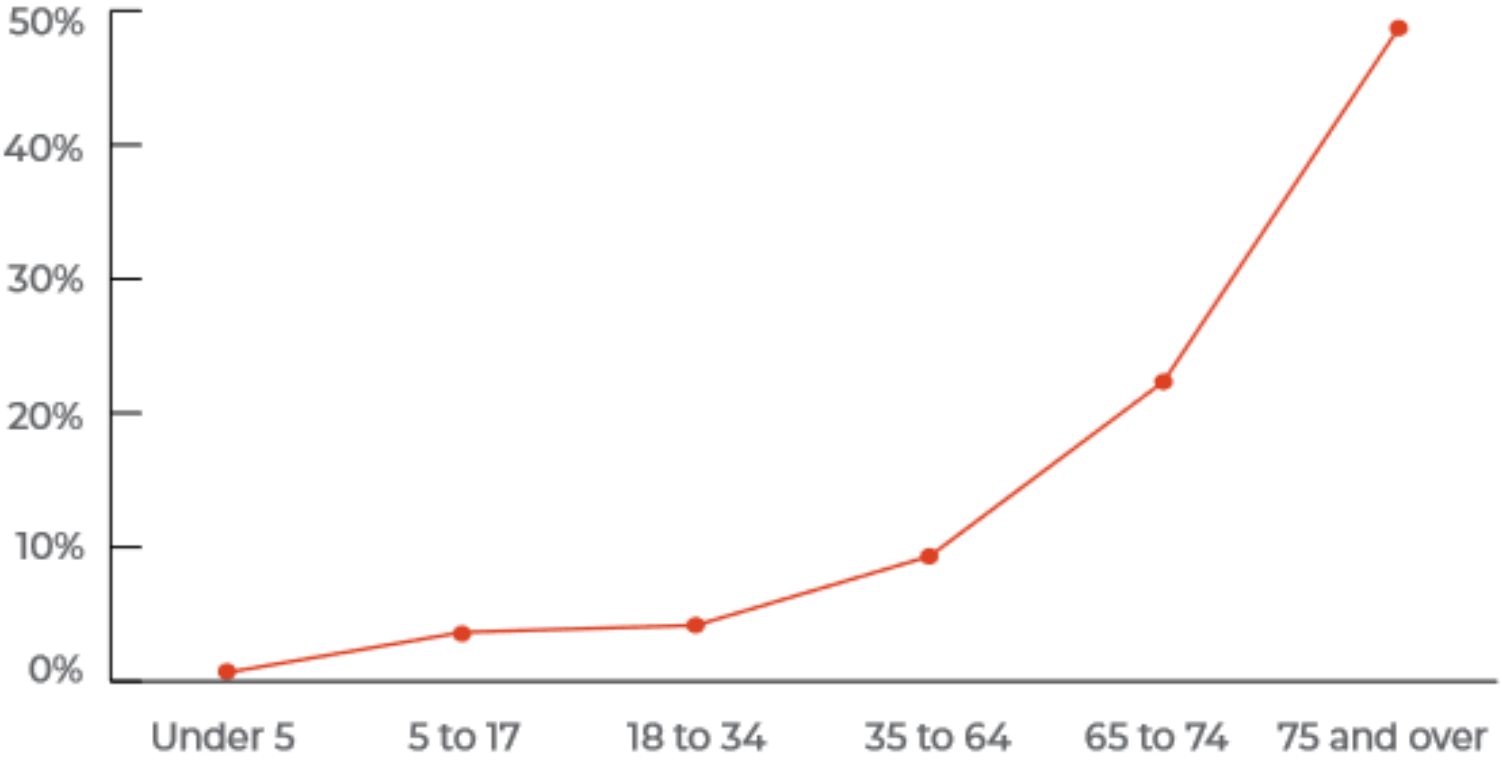
Charting a Path to Improve Transportation Accessibility

What is Universal Mobility?



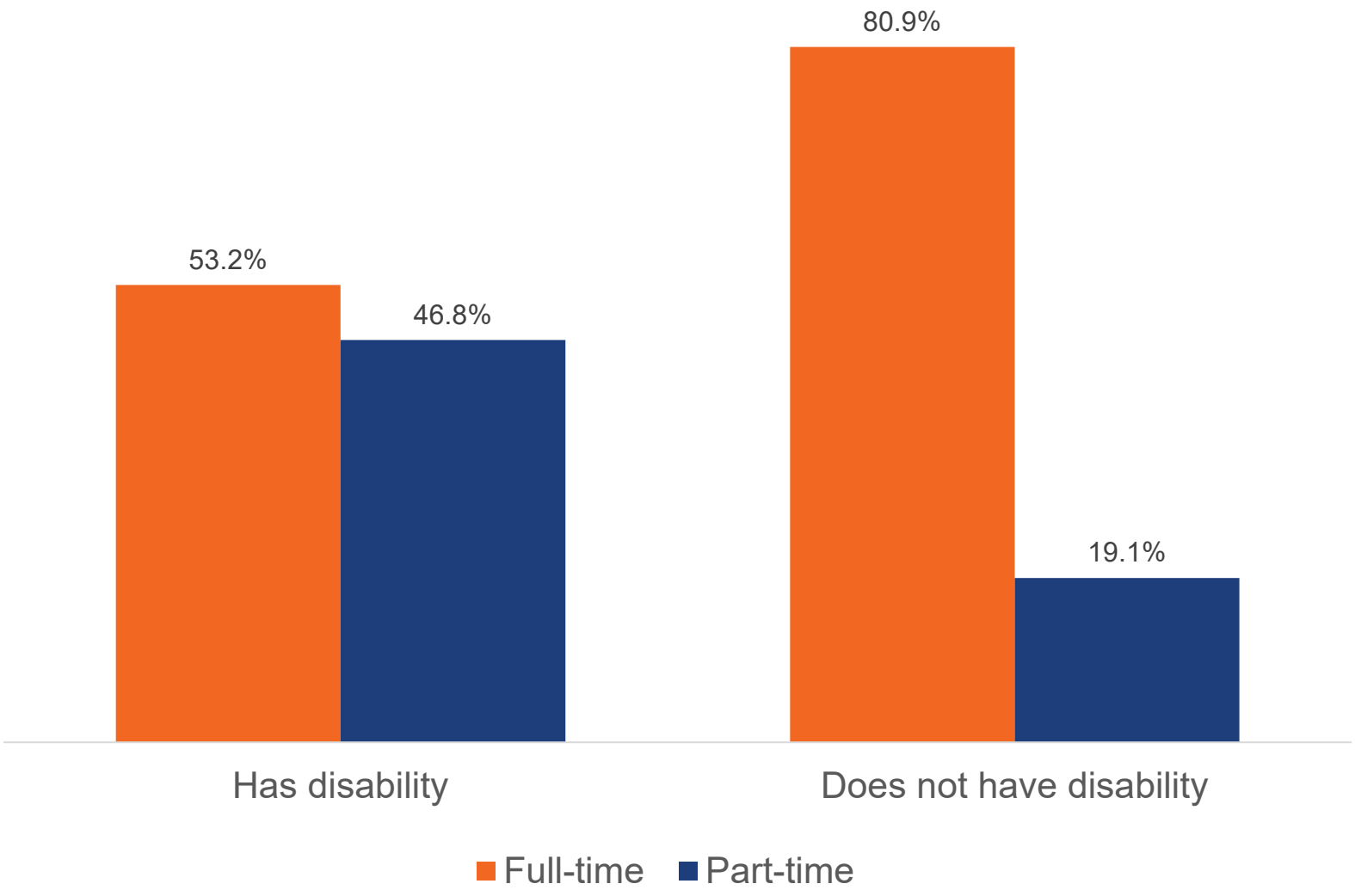
Need for Universal Mobility

Figure 1. Prevalence of Disability in the Chicago Region, 2017

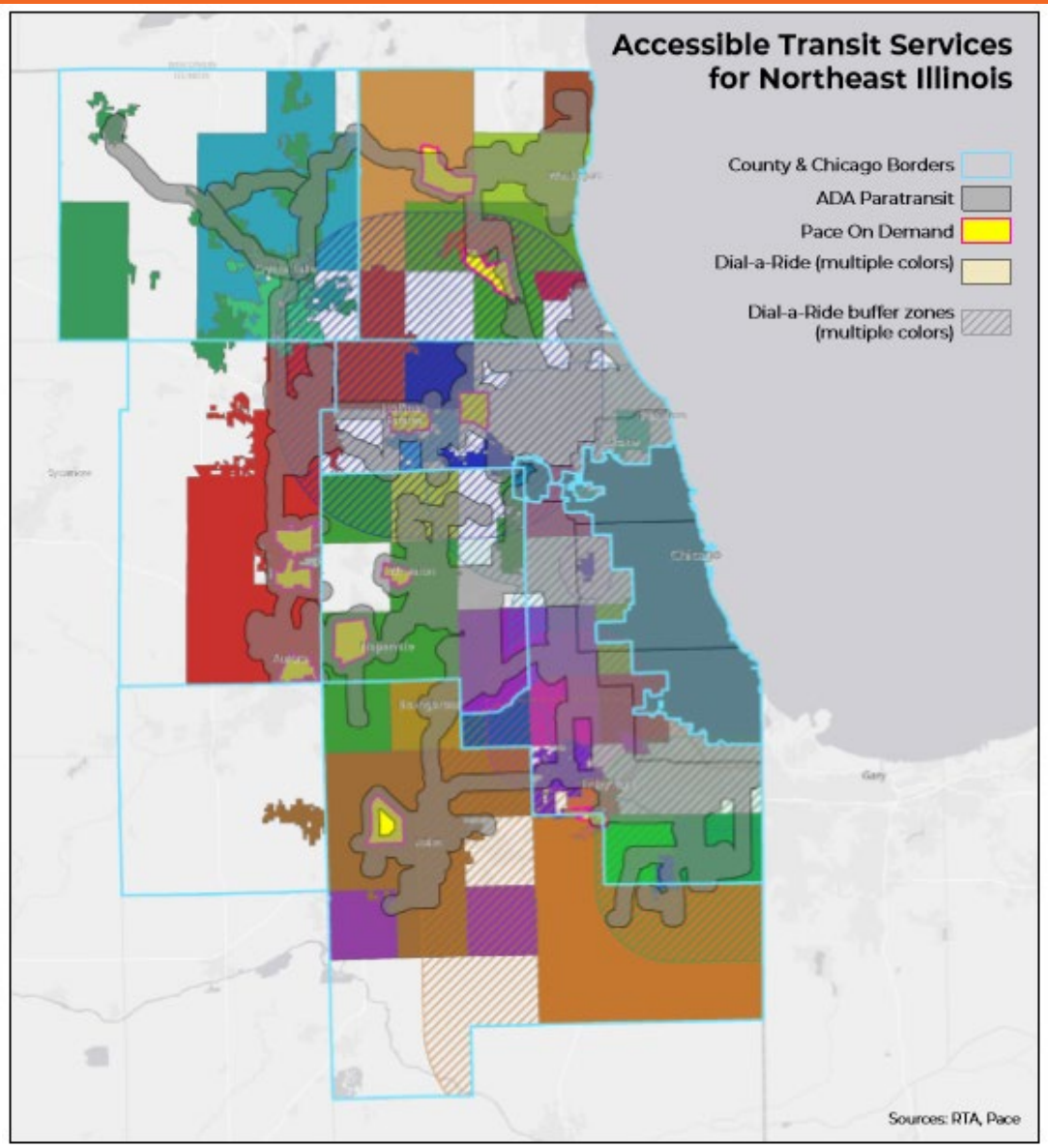


Source: American Community Survey 5-year estimate, 2013-2017. Data for Cook, Lake, DuPage, Kane, McHenry and Will Counties.

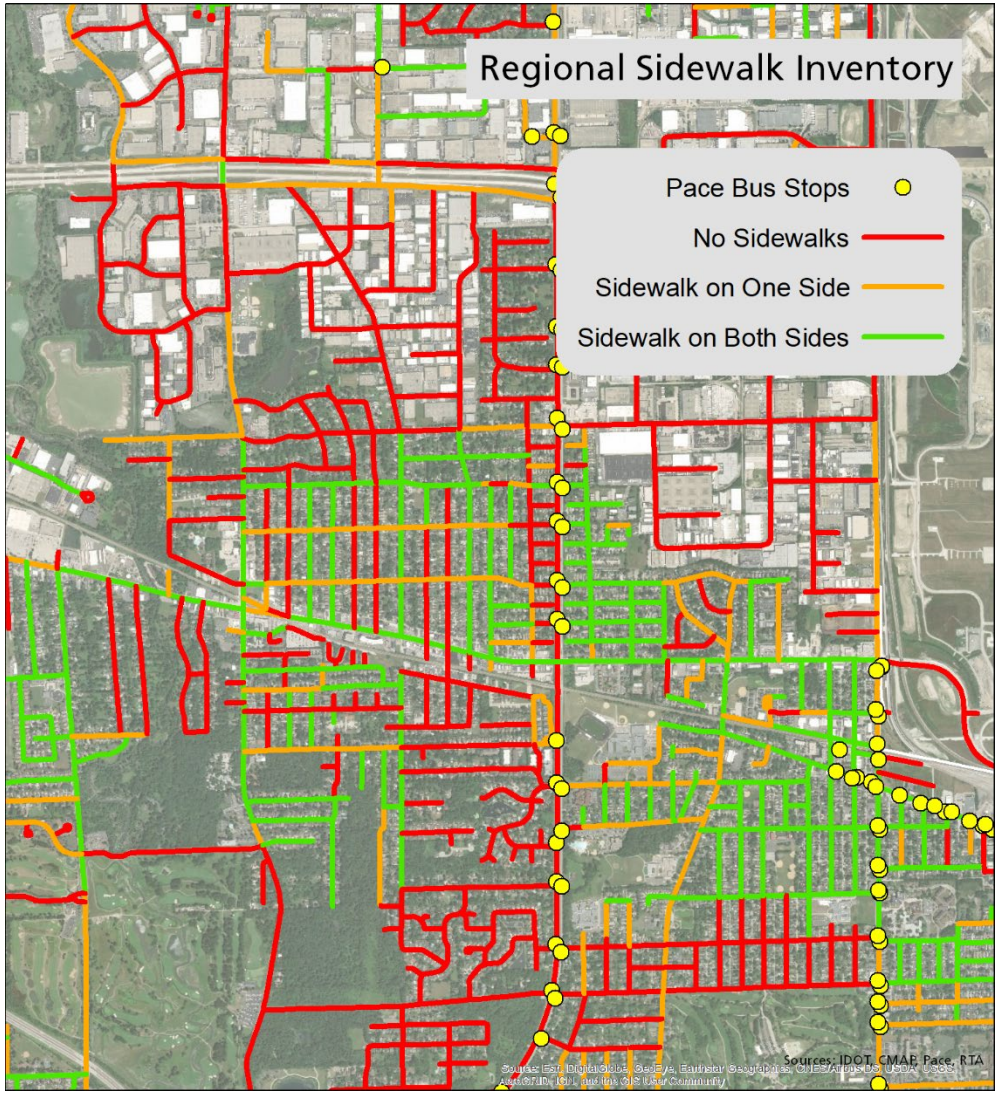
Workers by Disability Status



Fractured Accessible Transit System



Fractured Sidewalk Network

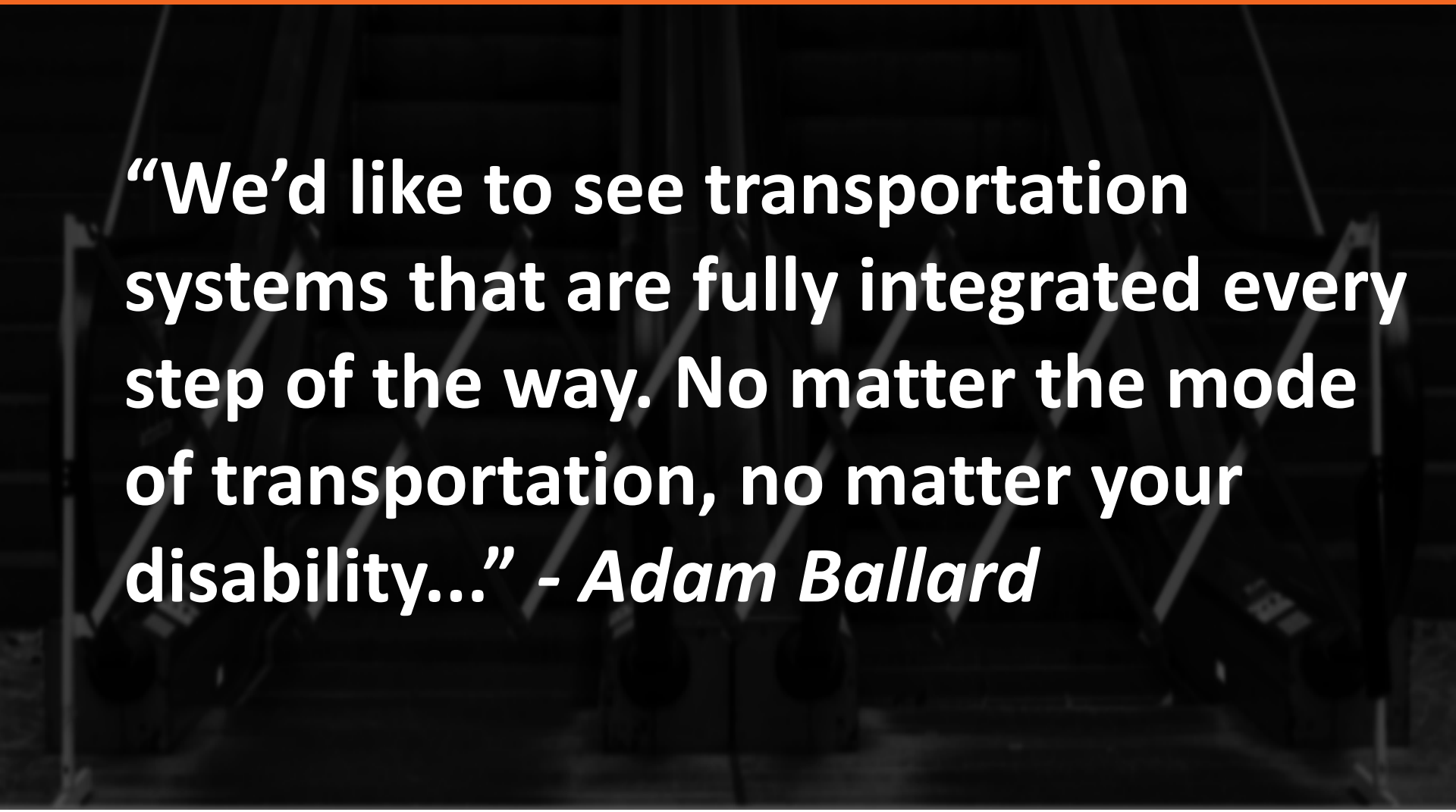


Metropolitan Planning Council

RECOMMENDATIONS

Improve service coordination

Unlock mobility options with information



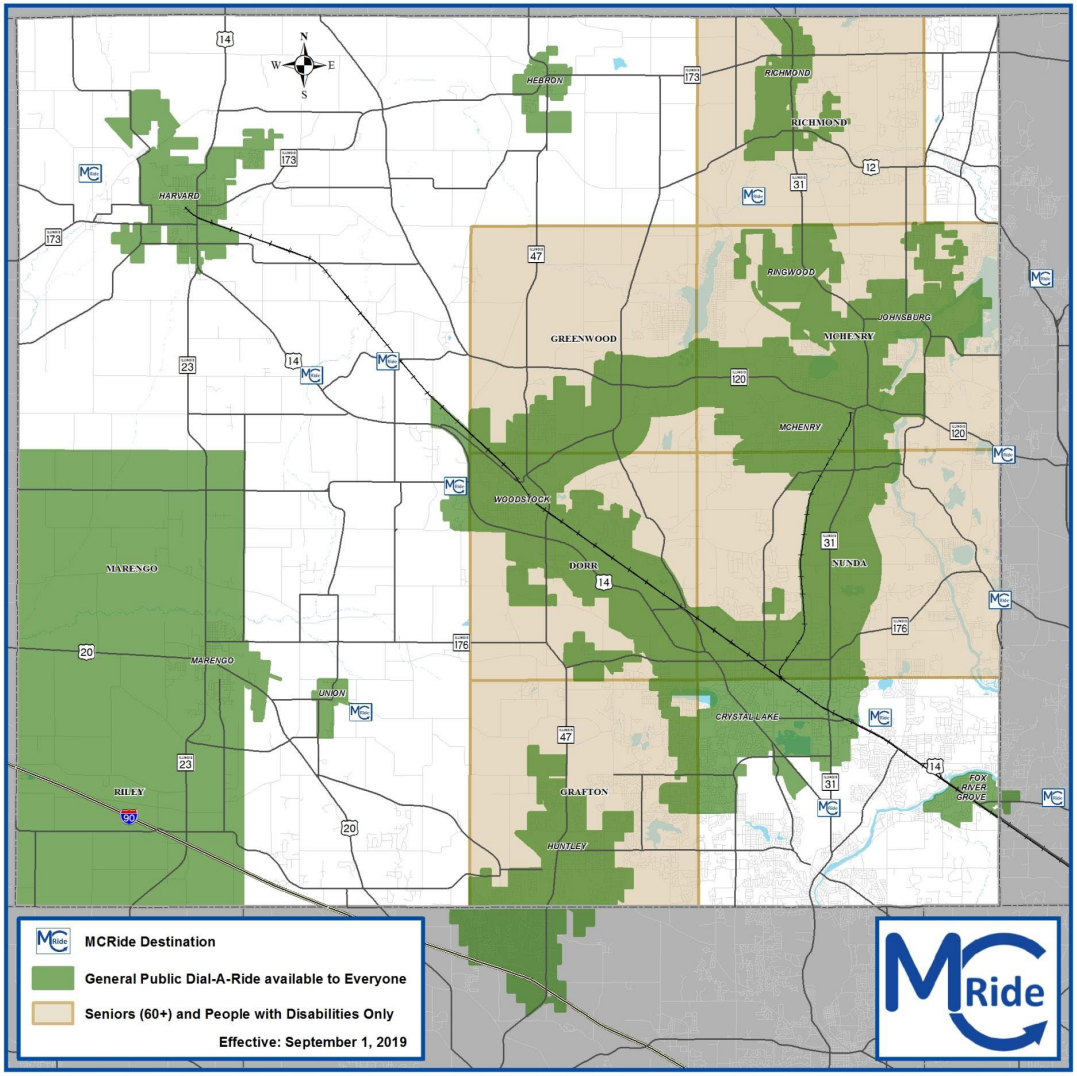
"We'd like to see transportation systems that are fully integrated every step of the way. No matter the mode of transportation, no matter your disability..." - *Adam Ballard*

Upgrade technology to improve the customer experience

Improving the Final Steps of the Journey

Upgrade Accessibility of Fixed-Route Transit

Improve Funding Structures



Empower People to Advocate

"Barriers to independence are usually a function of societal and architectural barriers, rather than of a disabled individual's reluctance to pursue independence." - *Andrew Webb*

Metropolitan Planning Council

www.metroplanning.org/universalmobility

jglover@metroplanning.org @jgrantglover

Carrots vs Sticks in Transport Policy

Russell Pildes and Jesse Boudart

25 Sept 2020

Warning:

This is a provocation.

Why This?

- Transportation = ~29% of US energy consumption and GHG emissions
- ~39,000 people died in traffic incidents

Sources: EPA, EIA, NHTSA, TTI, Brent Toderian

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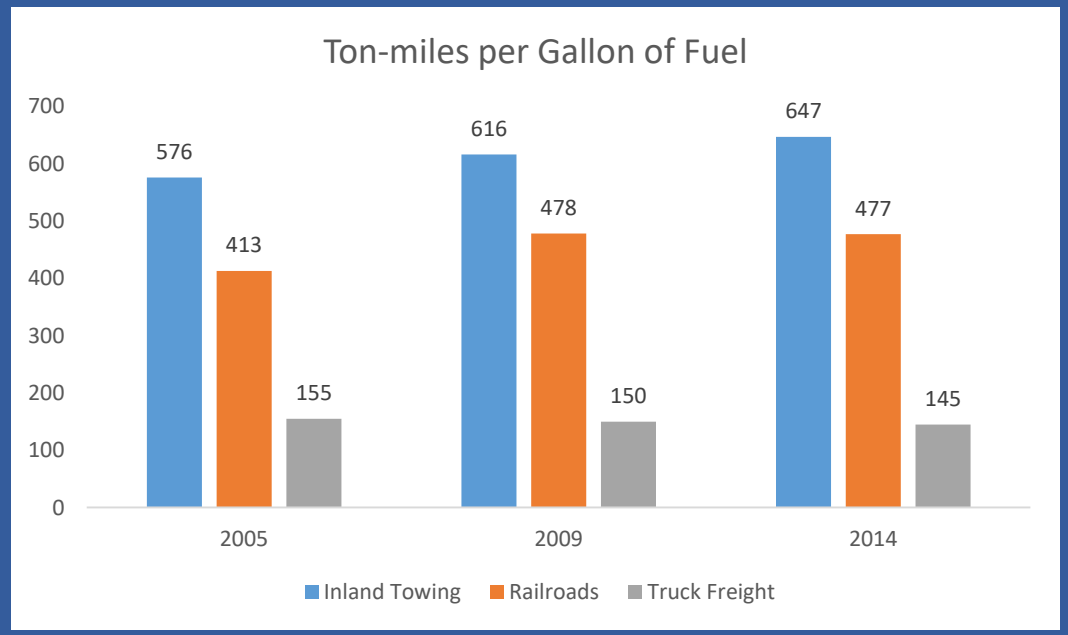
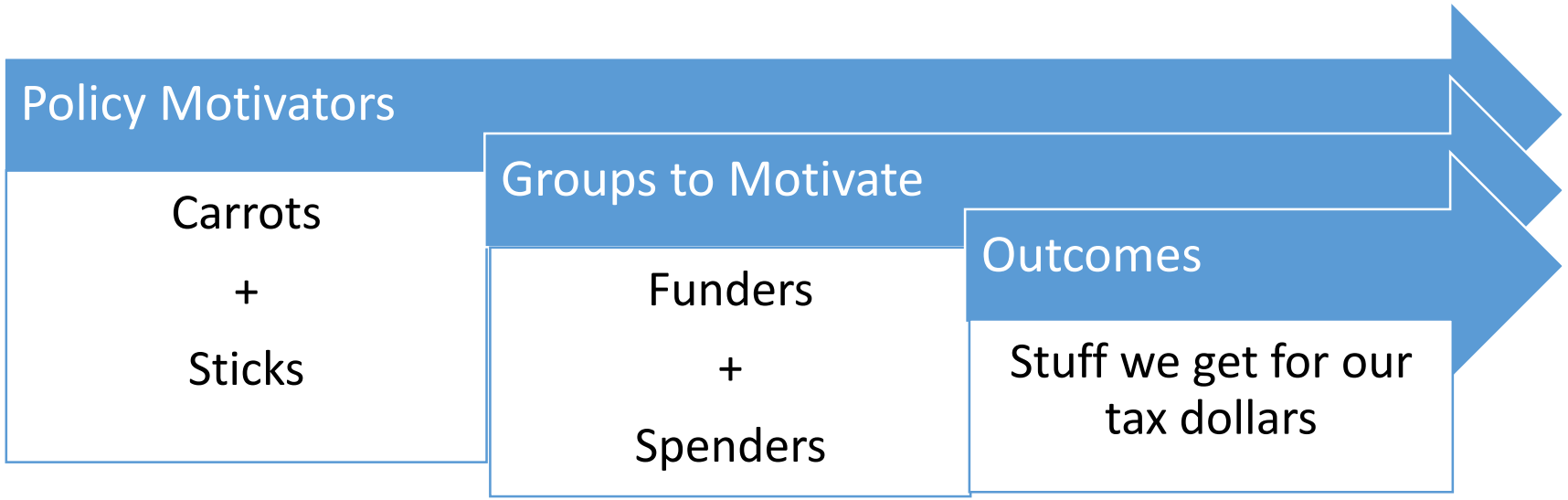


Sources: EPA, EIA, NHTSA, TTI, Brent Toderian

Analytical Framework



Carrots

A carrot is a gift that makes it easier to do a desired activity.

Basic examples: transit priority, midblock crossings, Ben & Jerry's free cone day, etc.

FAHP and the Federal Match

FAHP and the Federal Match

Are they carrots or sticks?

FAHP and the Federal Match

Are they carrots or sticks?

Carrots! They are a structured approach to make roadbuilding easier.

FAHP and the Federal Match

Are they carrots or sticks?

- Structured approach to make roadbuilding easier.
- Most DOT modal administrations use the same basic structure.

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What do they do?

FAHP and the Federal Match

Are they carrots or sticks?

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What do they do?

1) Feds kick in money for your eligible projects.

FAHP and the Federal Match

Are they carrots or sticks?

Structured approach to make roadbuilding easier.

Most DOT modal administrations use the same basic structure.

What do they do?

1) Feds kick in money for your eligible projects.
2) Feds pay a share of the total cost.

The Big Dig

The Big Dig

Purpose: bury I-93
Timeline: decades
Planned cost: $7.4bn
Actual cost: $22bn

The Big Dig

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Was the project worthwhile?

The Big Dig

Purpose: bury I-93
Timeline: decades
Planned cost: $7.4bn
Actual cost: $22bn

Original MA Share

Planned cost: $1.2bn
Actual cost: $3.3bn

Was the project worthwhile?

Congress revised its offer. Had it not…

FAHP and the Federal Match

	FHWA	FTA	FRA	MARAD
Federal Match	80-90%	80-90%	80%	80%

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Share of DOT Appropriations FY19	$48.9bn (70%)	$13.4bn (19%)	$2.5bn (3.6%)	$20mn (0.03%)

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If the match is the same, but the amount is so much smaller, policy has its finger on the scale.

FAHP and the Federal Match

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Proposition:

Highway-funded transit is a false flag.

Highway-funded Transit is a False Flag

- Congestion Mitigation and Air Quality Improvement (CMAQ) Program
  - $2.5bn annual appropriation to implement the Clean Air Act
  - Eligible projects include transit expansions and active transportation

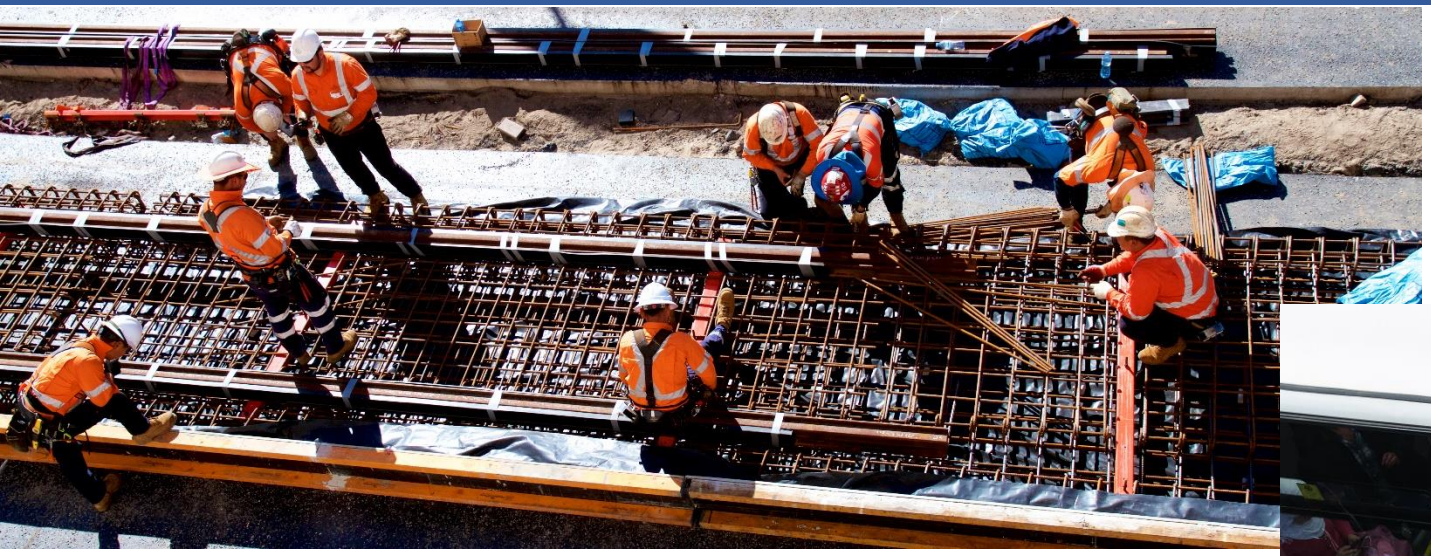
Highway-funded Transit is a False Flag

- Congestion Mitigation and Air Quality Improvement (CMAQ) Program
  - $2.5bn annual appropriation to implement the Clean Air Act
  - Eligible projects include transit expansions and active transportation

If CMAQ's carrot were effective, it would make it easier to do the right thing for people and the environment…

right?

Highway-funded Transit is a False Flag



"In using CMAQ funds for operating assistance, the intent is to help start up viable new transportation services that can demonstrate air quality benefits and eventually cover costs as much as possible. *Other funding sources should supplement and ultimately replace CMAQ funds for operating assistance."*

- CMAQ Revised Interim Guidance (July 2014)

Sticks

A stick adds burdens to make unwanted behaviors less desirable.

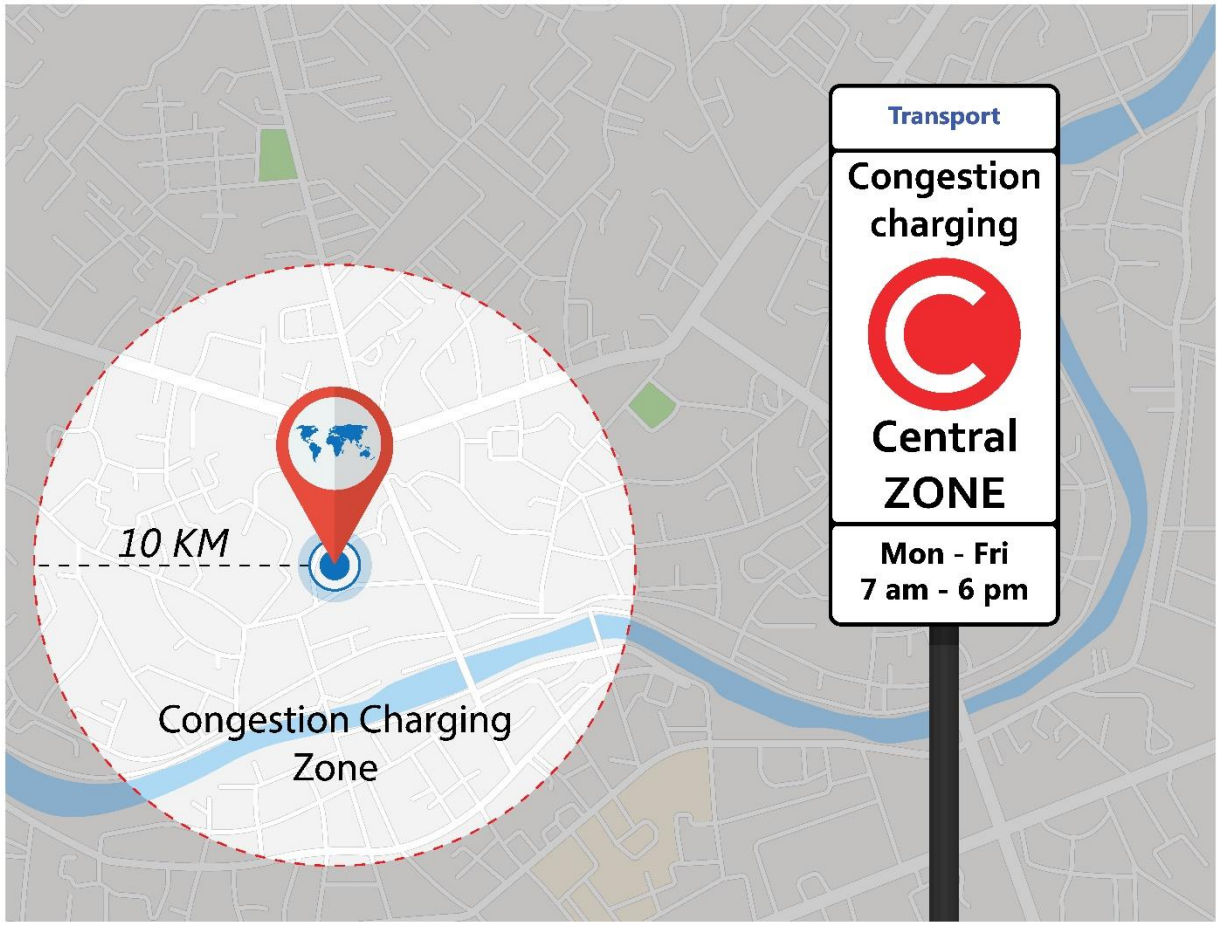
Proposition:

Sticks are more effective than carrots to achieve stated policy goals.

Example: Congestion Pricing

If your goal is to reduce auto travel and associated environmental and safety impacts…

Why not just do that?



Example: Congestion Pricing

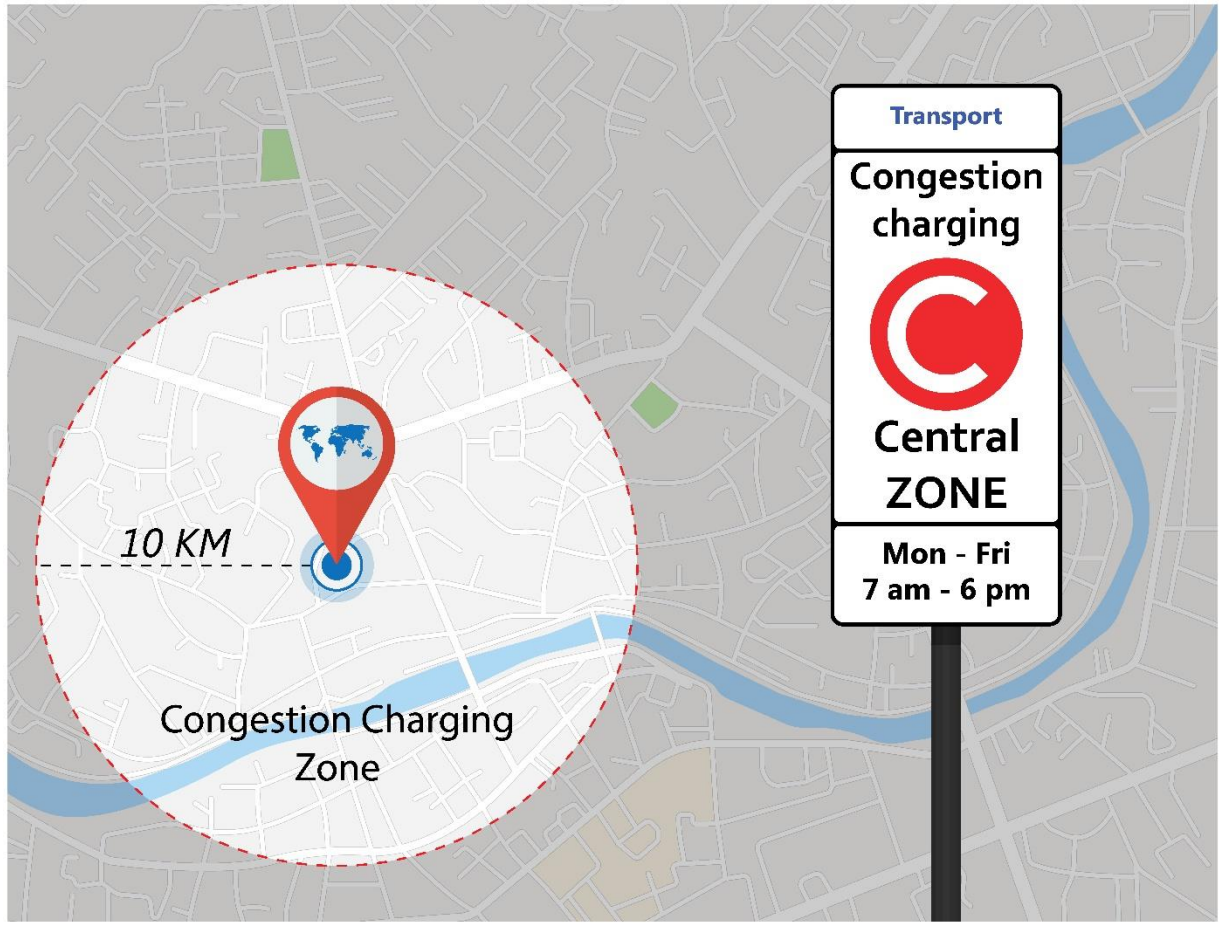
If your goal is to reduce auto travel and associated environmental and safety impacts…

Why not just do that?

Increase reliability, decrease air pollution and incident exposure.

Raise revenue.

Success stories: London, Stockholm, Gothenburg, Singapore, Milan



Synthesis: A Bigger Picture

Why This?

- Transportation = ~29% of US energy consumption and GHG emissions
- ~39,000 people died in traffic incidents

Sources: EPA, EIA, NHTSA, Ian Lockwood

Thank you!

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