



Some Thoughts about Transportation for Markham

TOOLE
DESIGN

Toole Design Group

- Engineers
- Planners
- Landscape Architects
- Authors





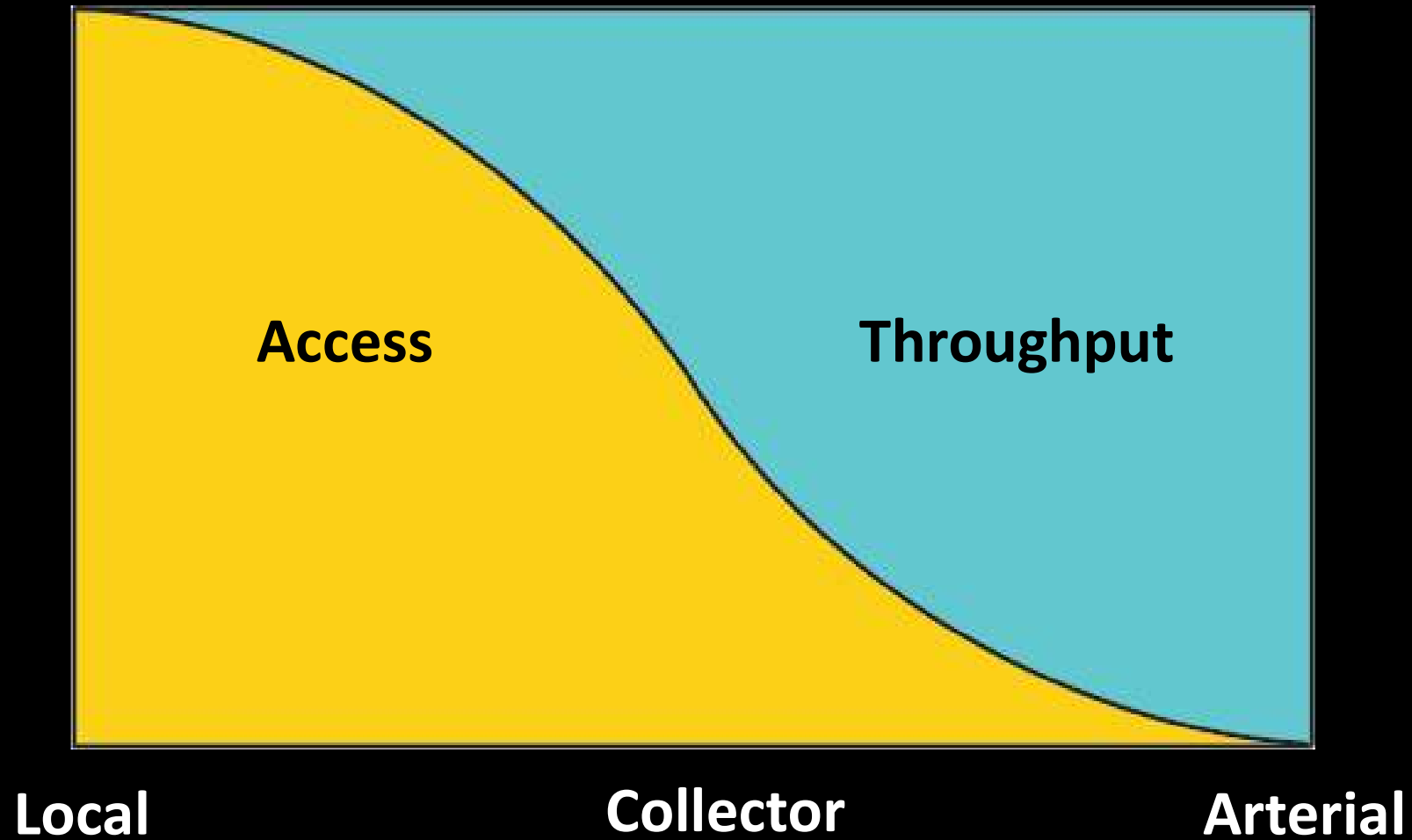


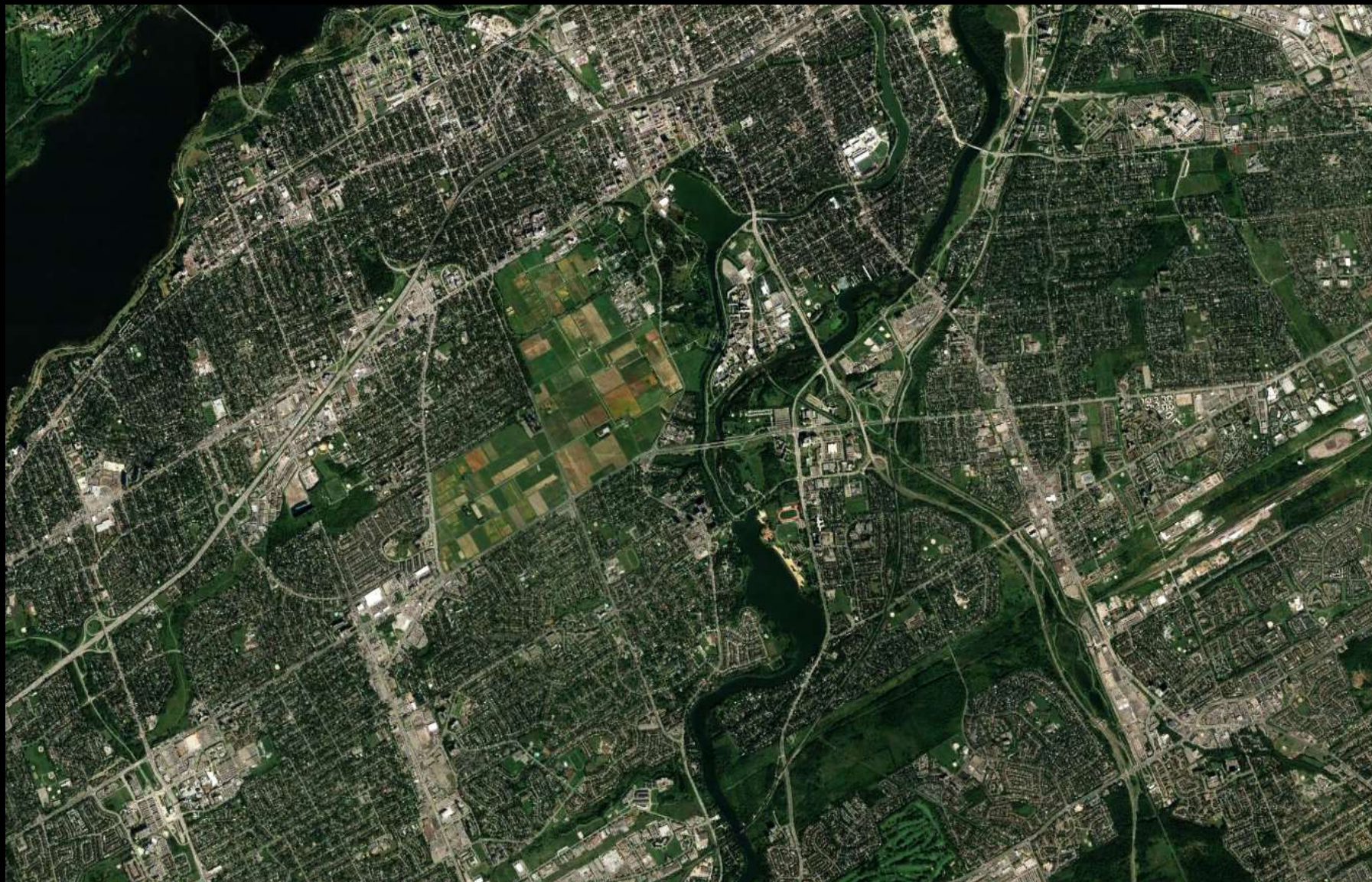






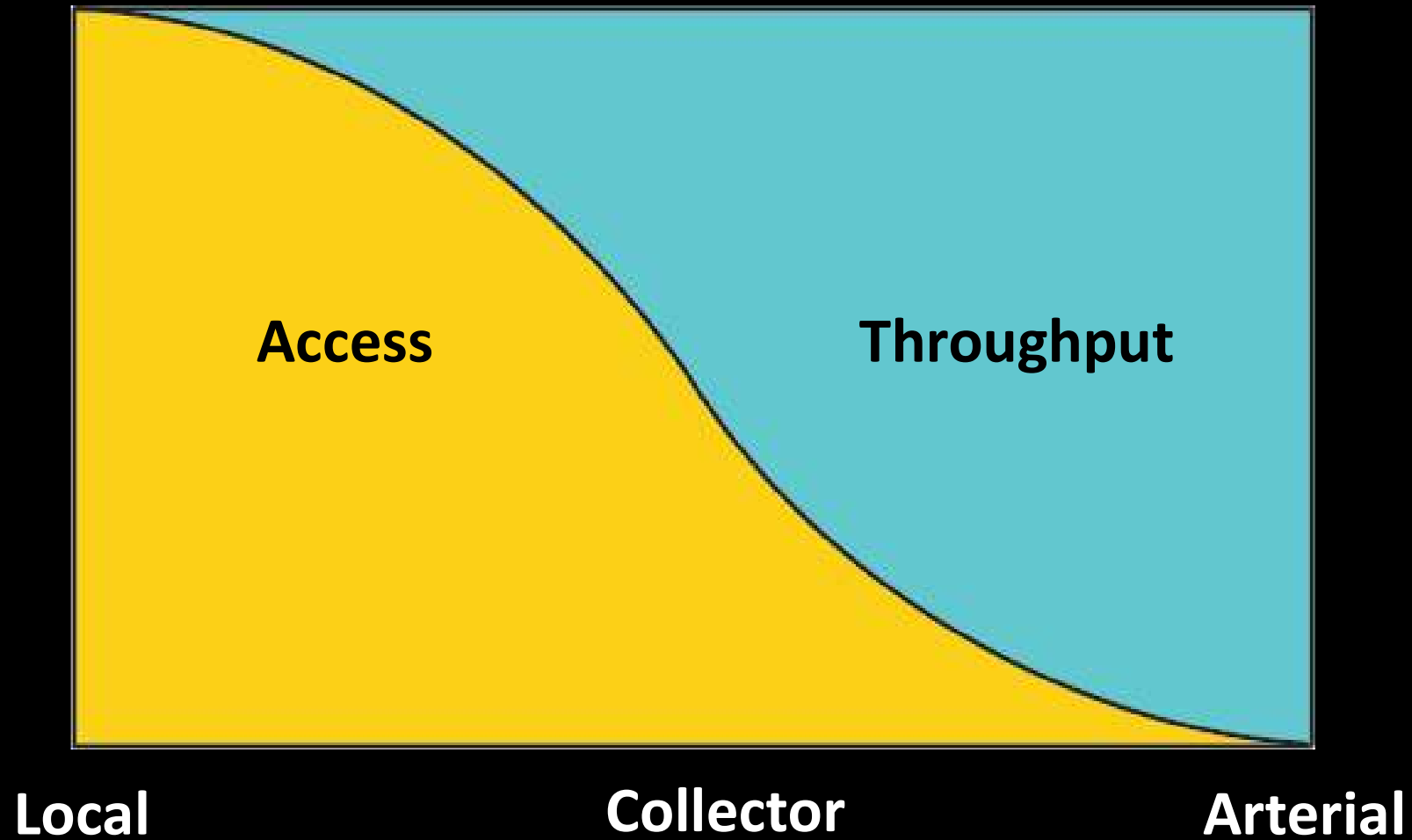
Modern Conception of the Purpose of Streets

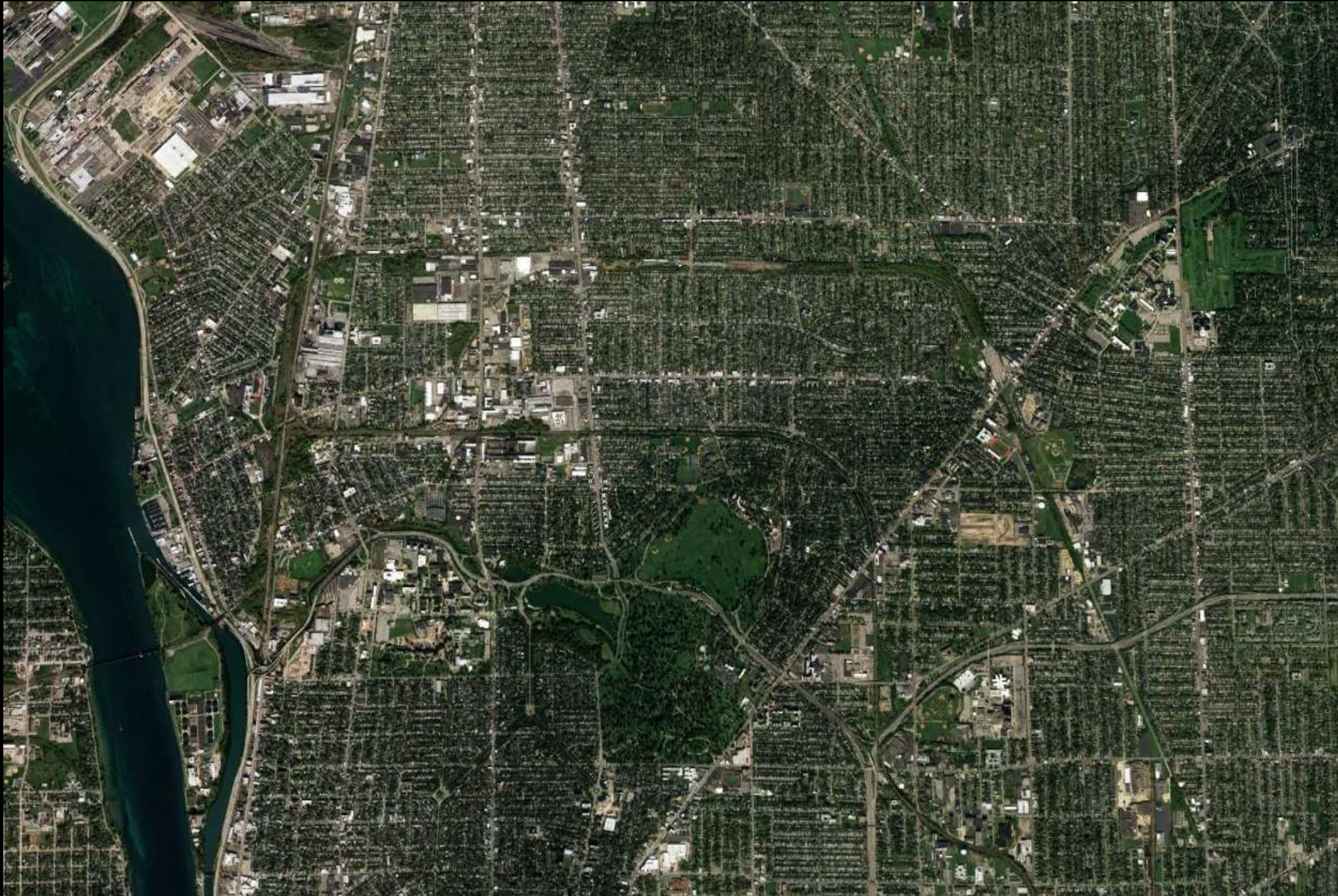




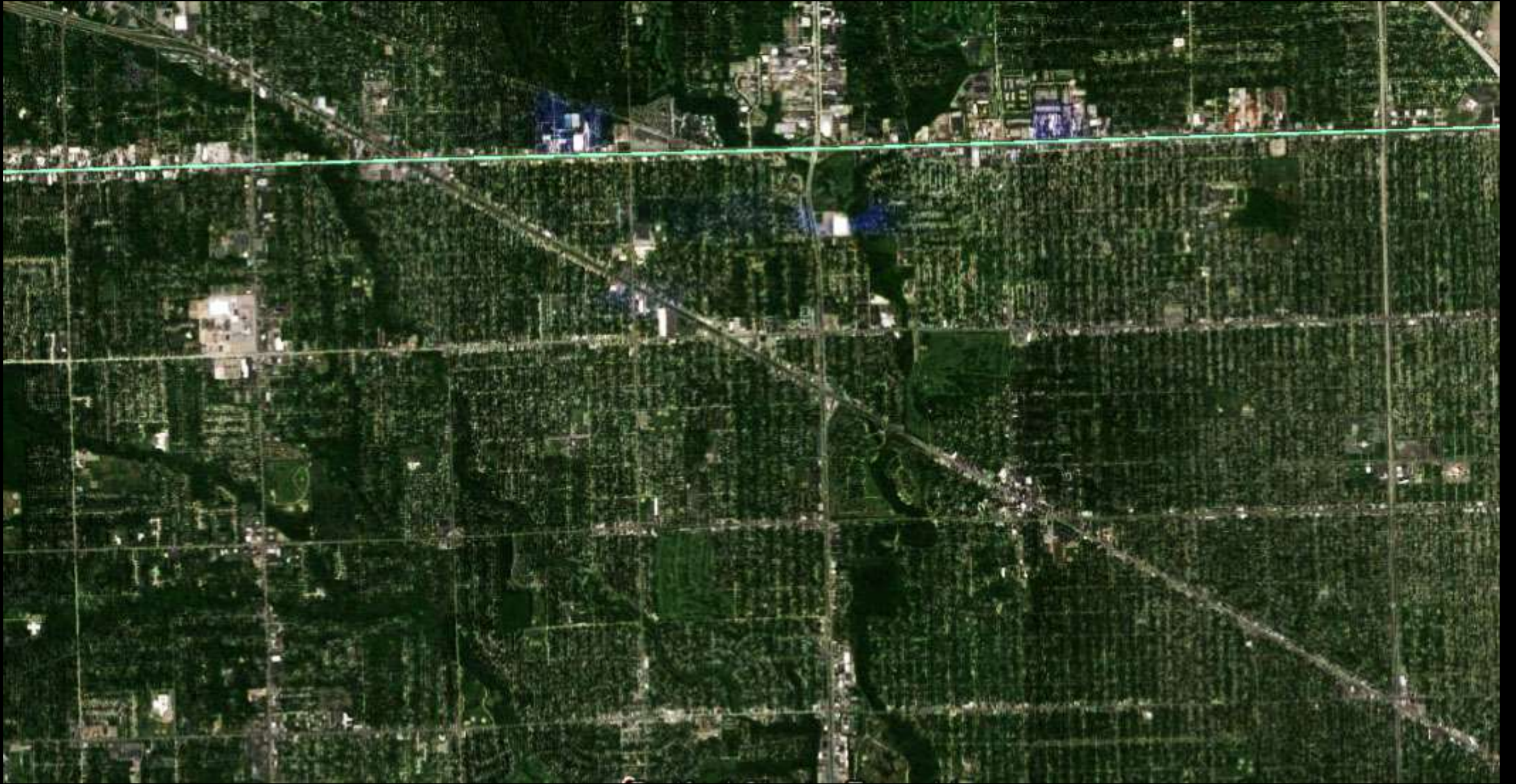
Ottawa

Modern Conception of the Purpose of Streets

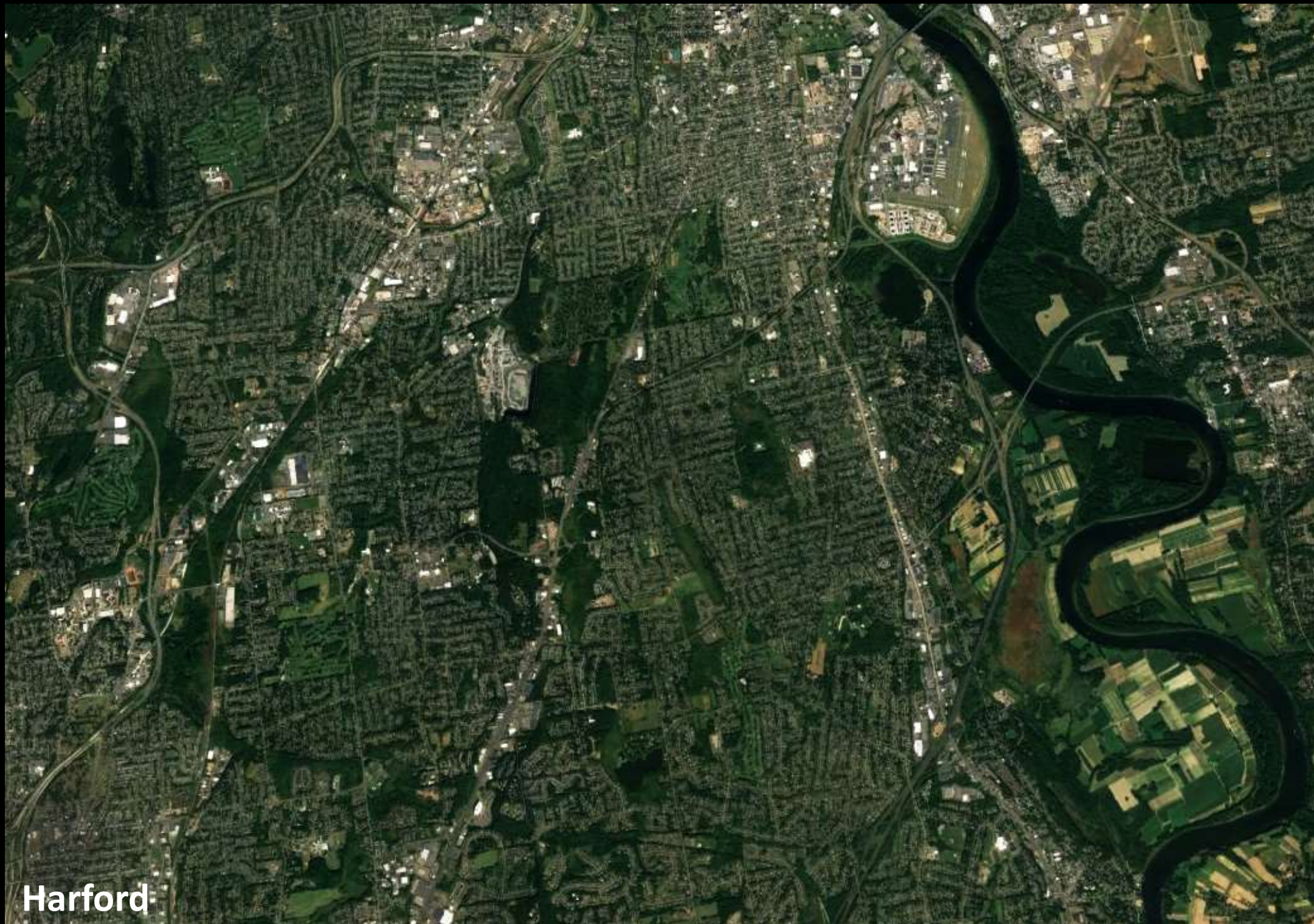




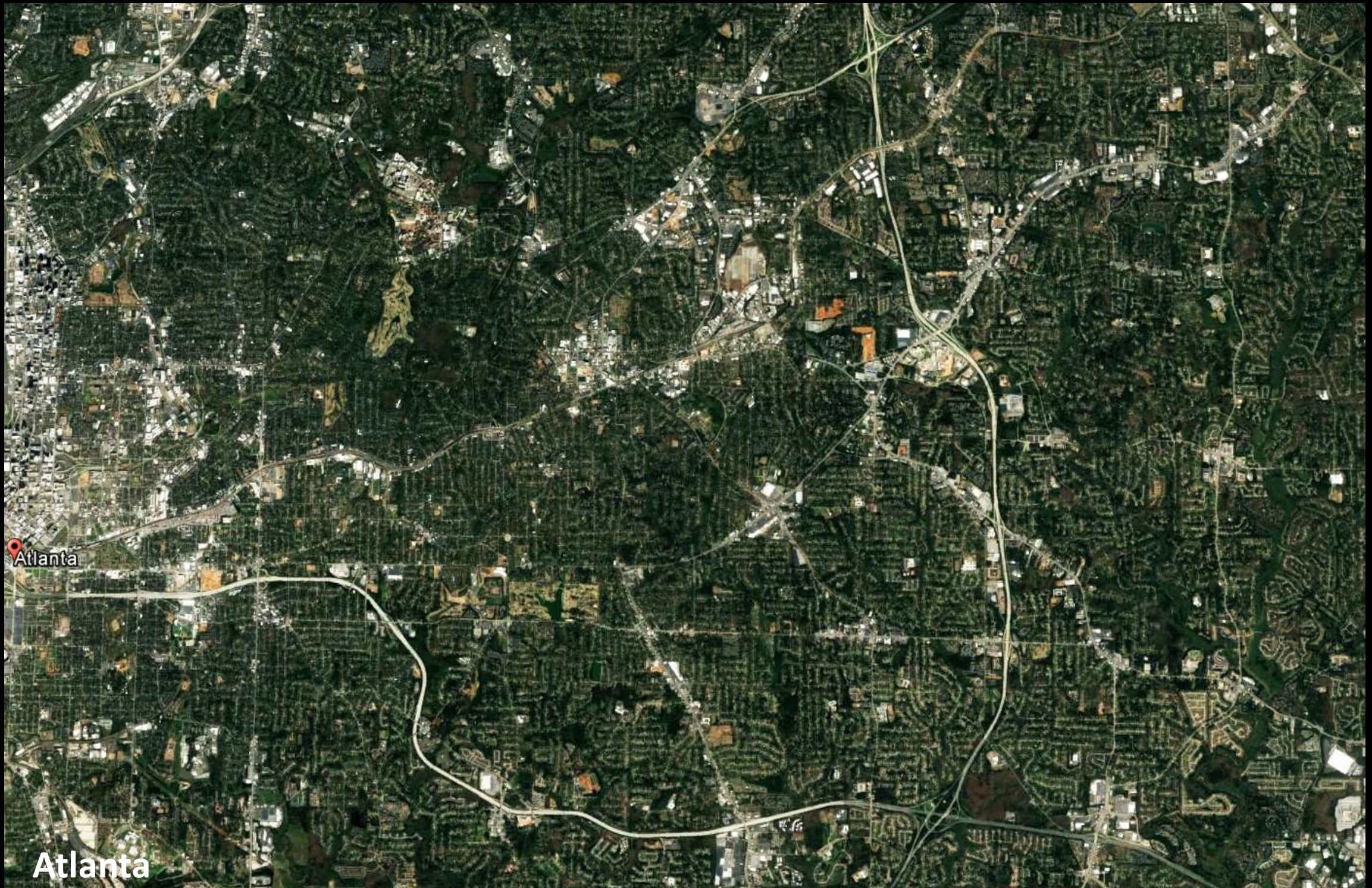
Buffalo

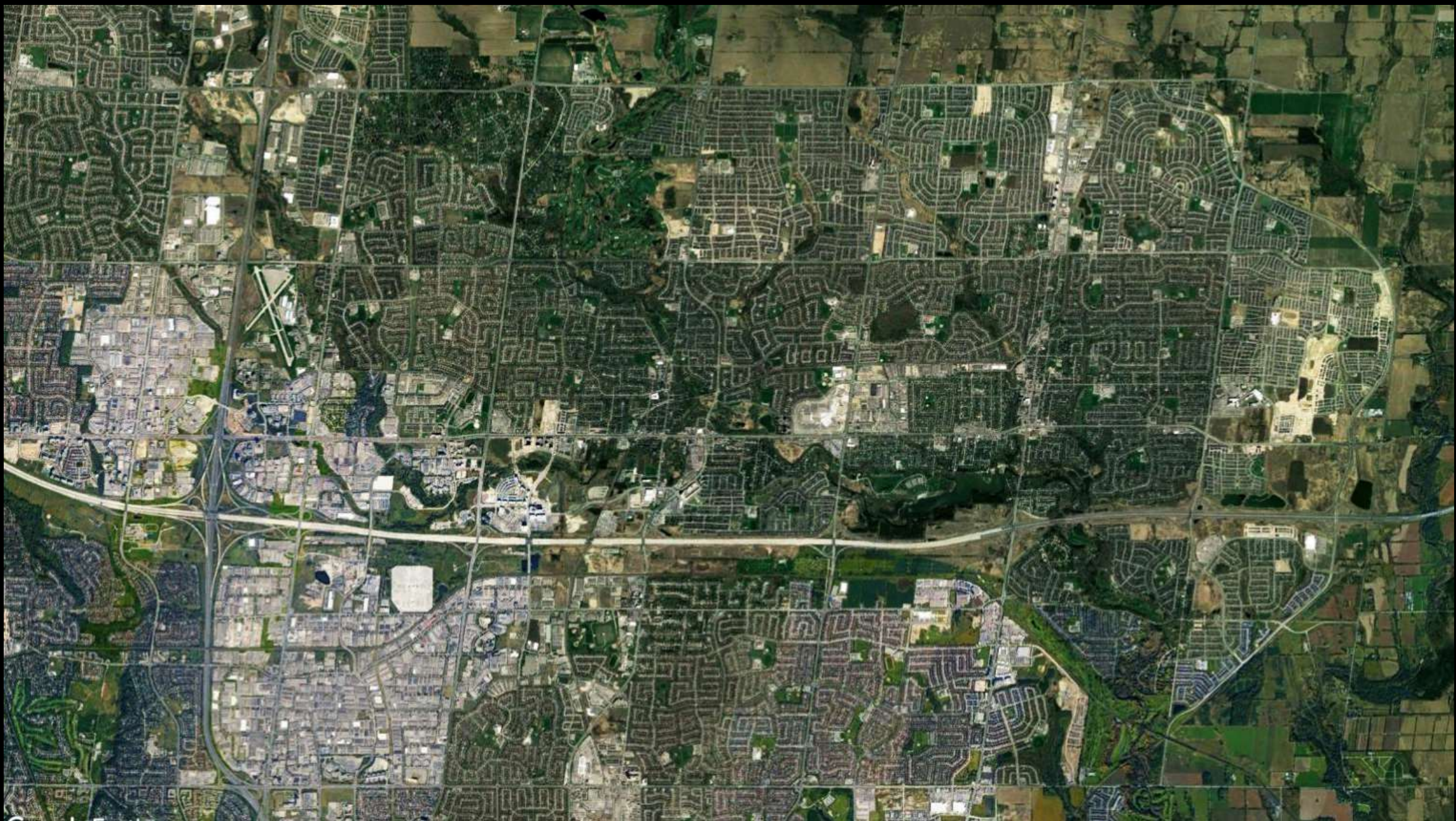


Detroit



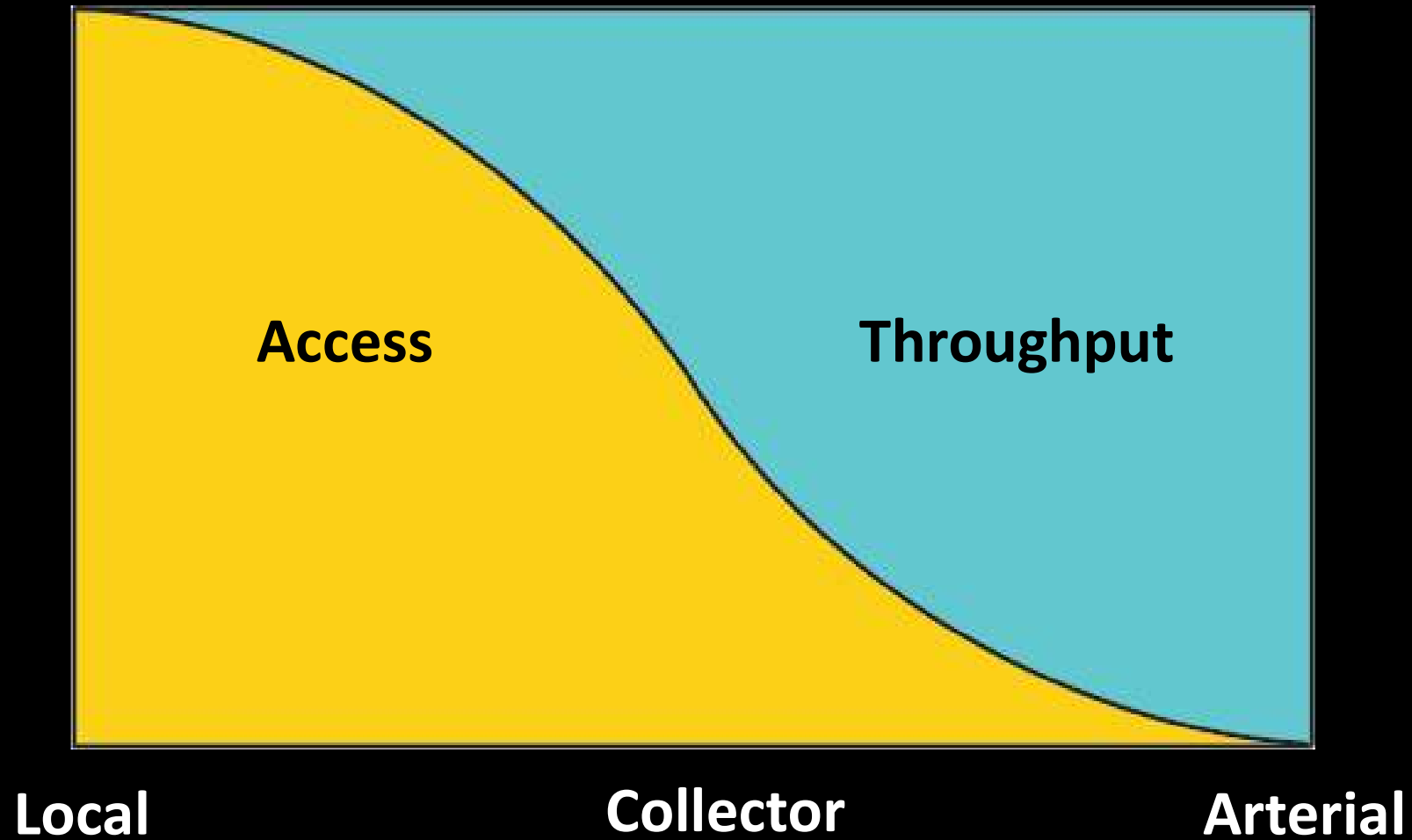
Harford





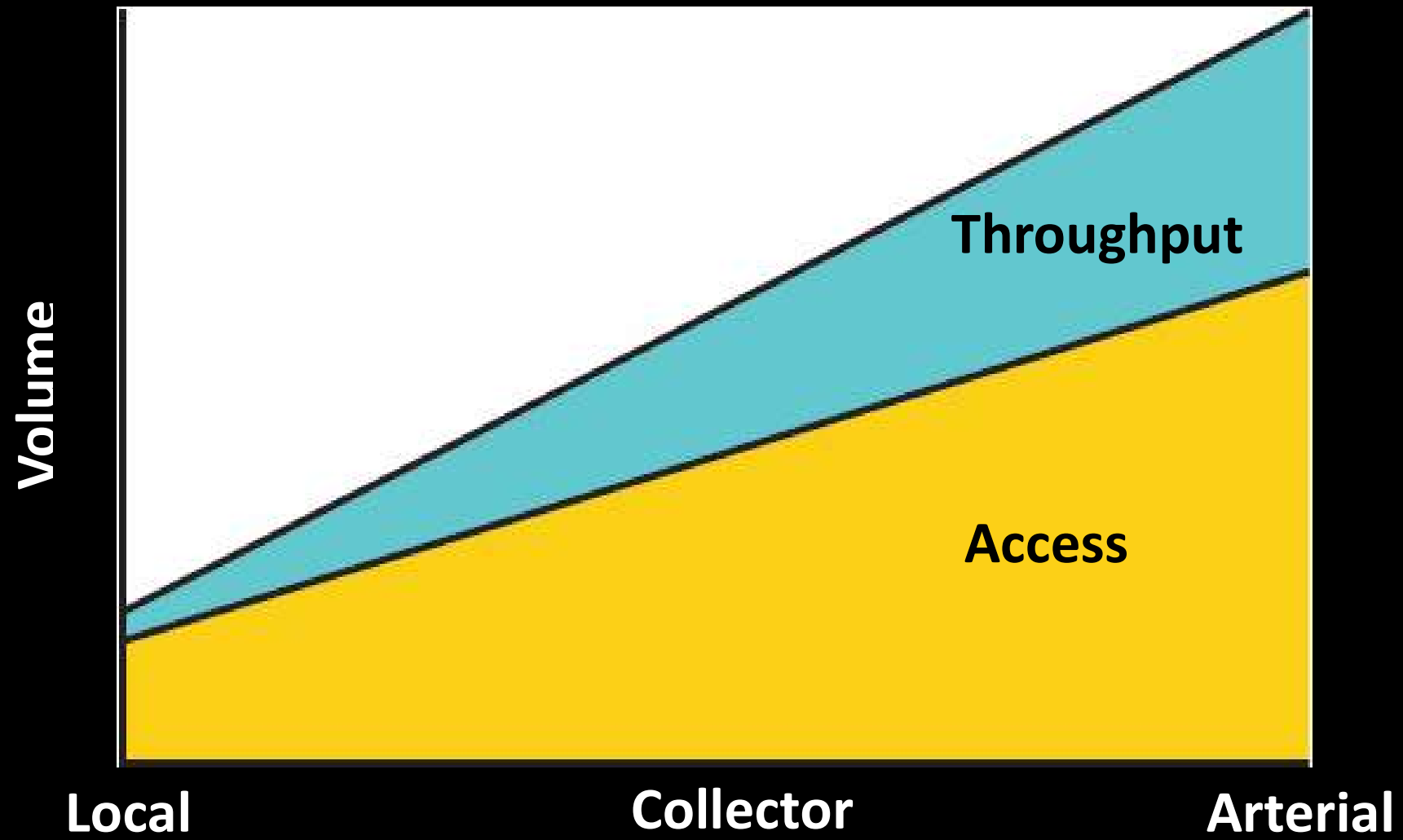
Markham

Modern Conception of the Purpose of Streets





Traditional Conception of Access & Throughput



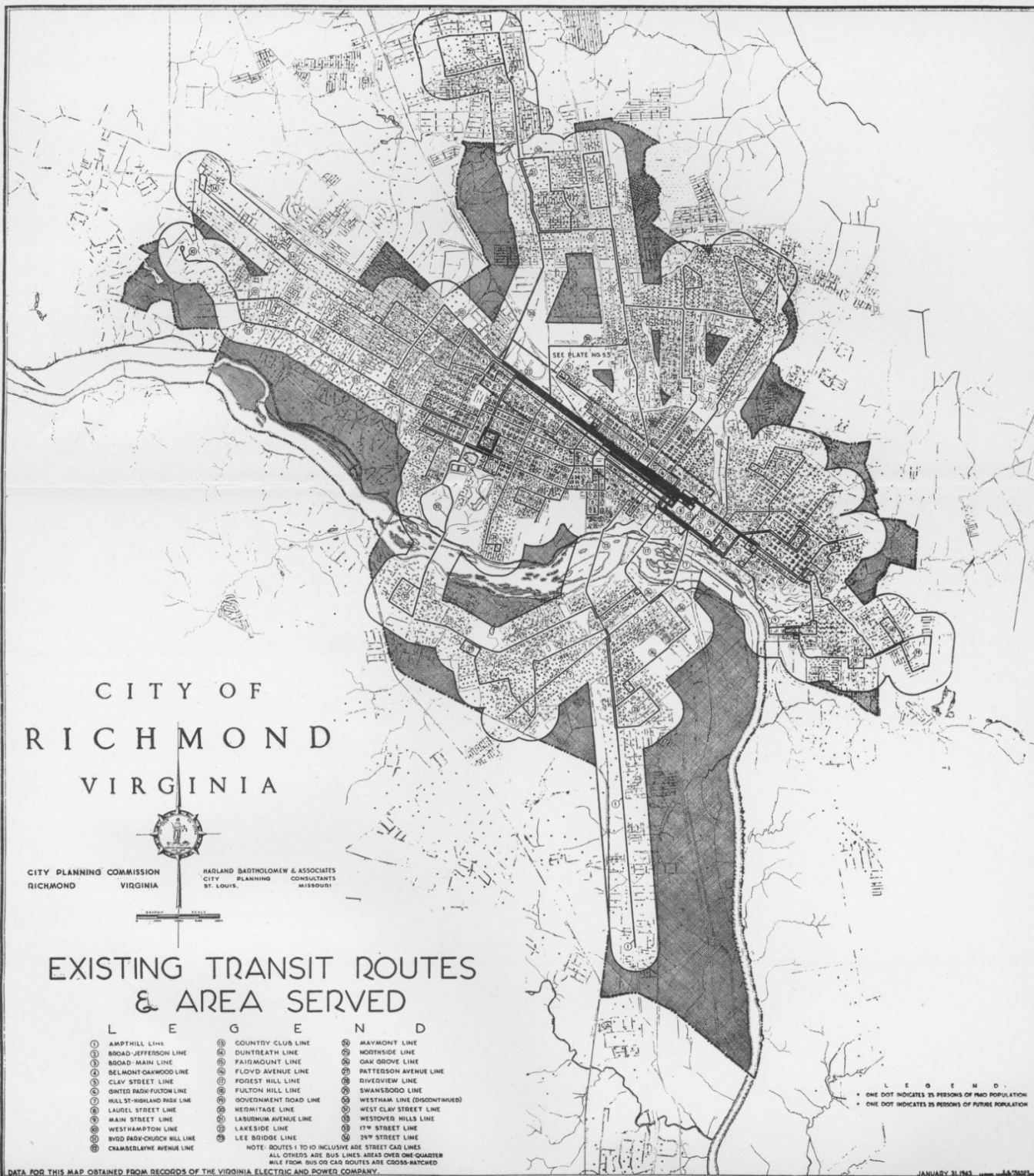




PLATE NUMBER 54





**Place, Exchange,
Multi-Modal Access,
Image**



**Motorist LOS, Speed,
Safety**











**A 1989 Nominated
for Academy Award
for Best
Documentary
Feature**





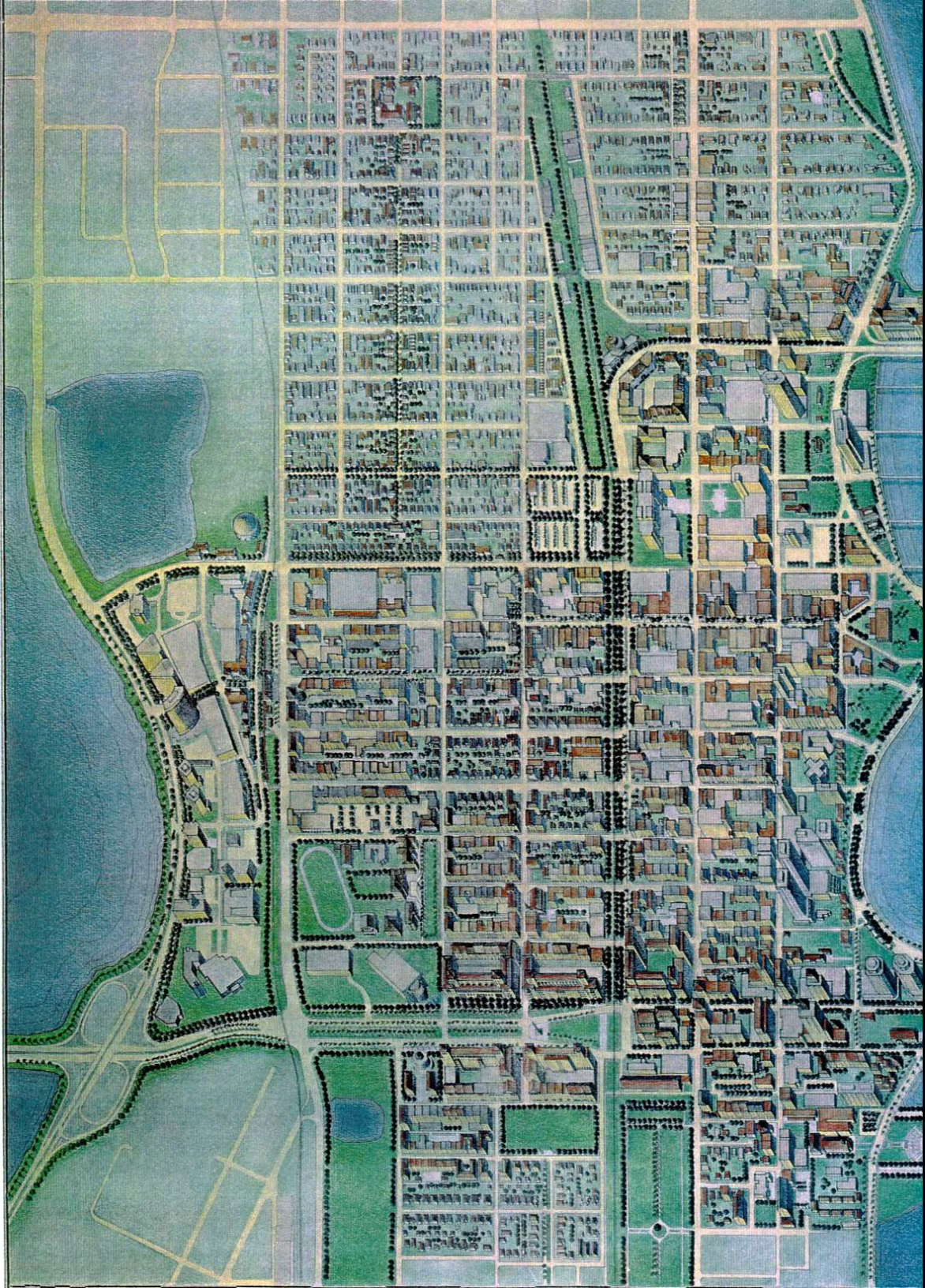










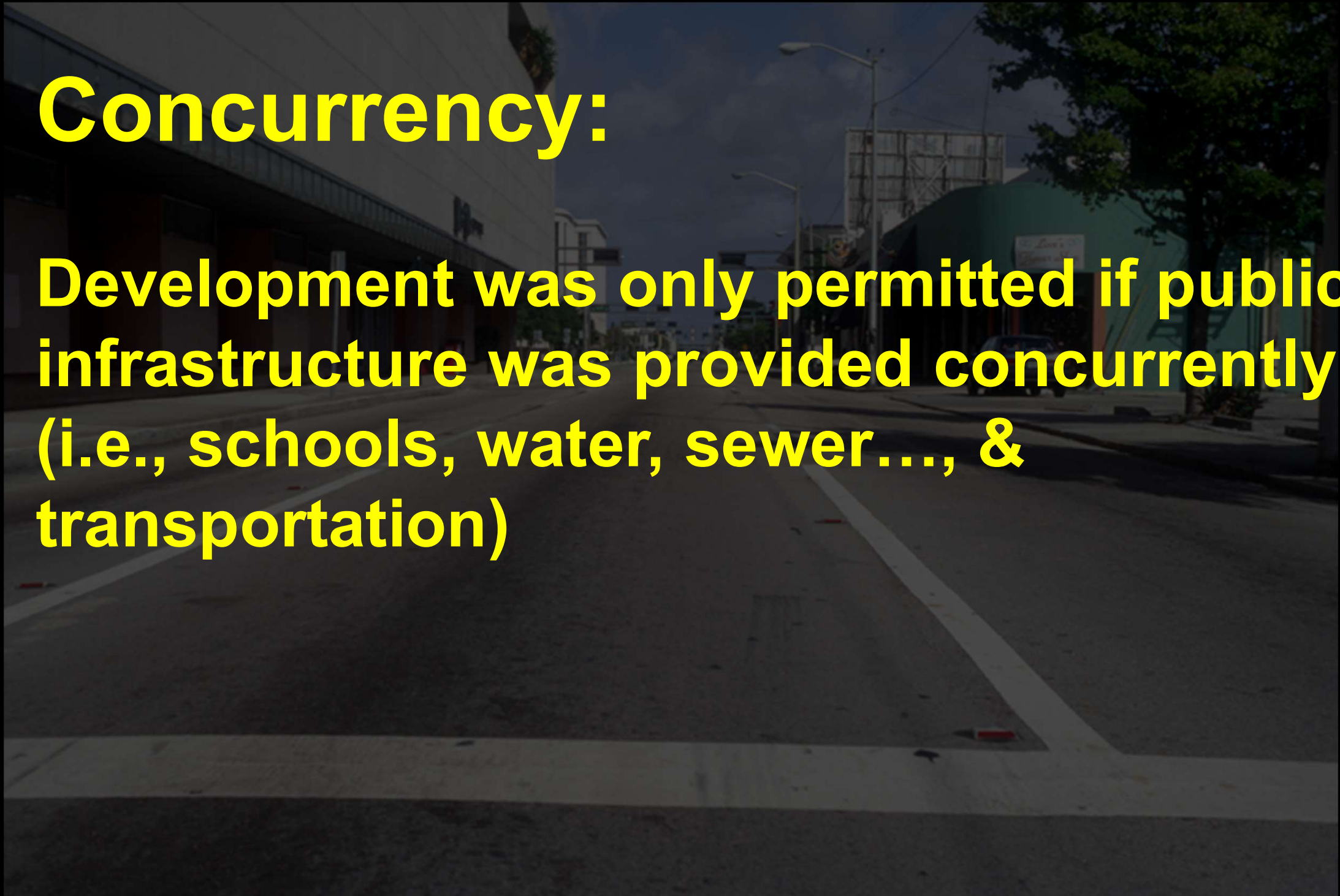






Concurrency:

Development was only permitted if public infrastructure was provided concurrently (i.e., schools, water, sewer..., & transportation)





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Development was only permitted if public infrastructure was provided concurrently (i.e., schools, water, sewer..., & transportation)

Transportation = Level of Service

Cities Adopted an:

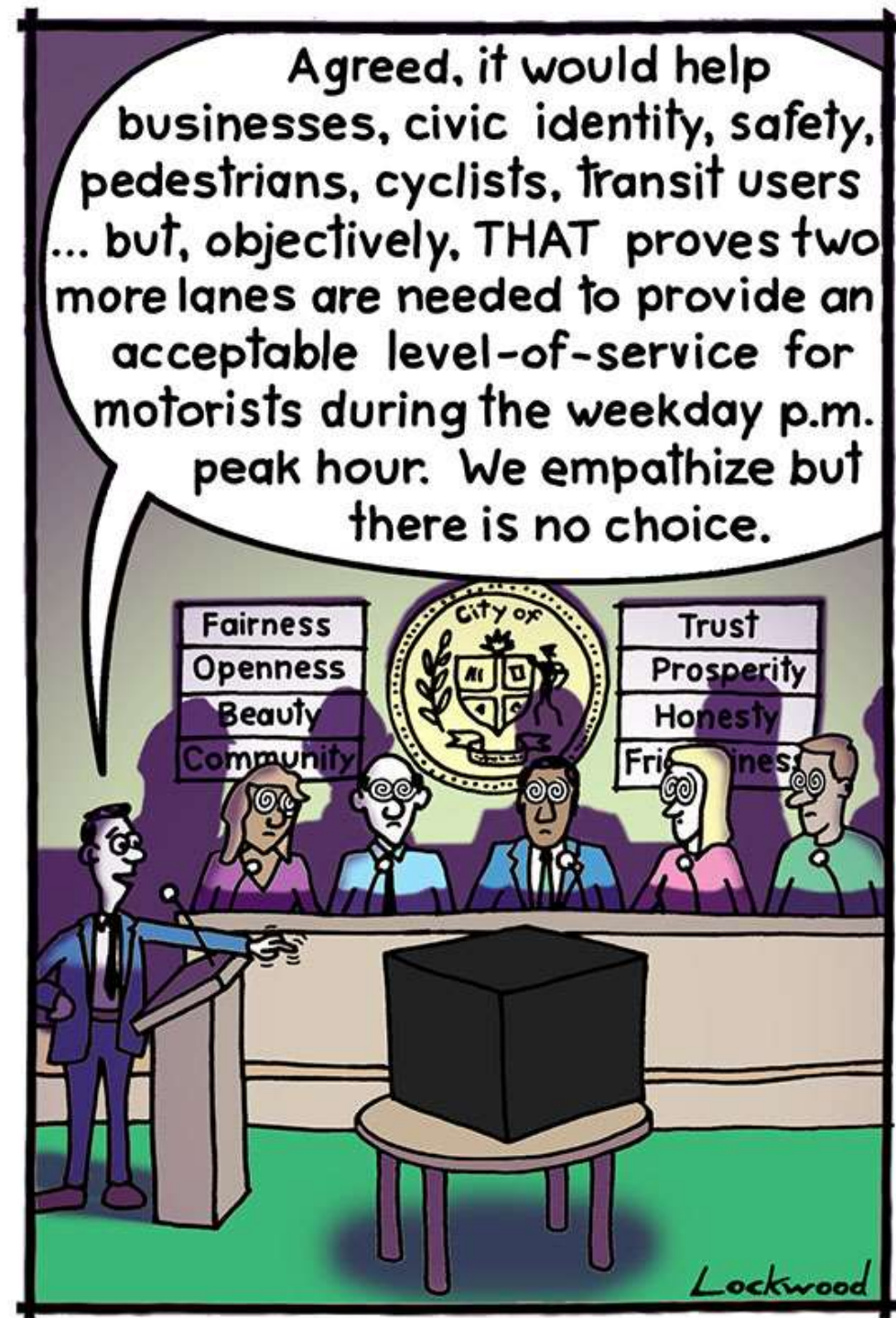
“Acceptable Peak-Hour L.O.S.”

Concurrency Exception Area:

Transportation = access, walkability,
aesthetics, supporting land uses, ...

and L.O.S. no longer took priority





The Mythical Role of Traffic
Demand Forecast Models































Lessons:

1. Street design shapes land use.



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Lessons:

1. Street design shapes land use.
2. Transportation planning should be based on community “vision.”
3. L.O.S. is not important for planning.
4. Traffic demand forecast models are only one version of the future.
5. You get what you buy.

Litmus Test:

Does the “change” reward the short trip or transit, bike, or walk trip?

Change:

change in policy, street design, land use, operations, transit initiative, etc.

FUNDAMENTALS

The purpose of cities: to advance
efficient & effective exchange.

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The “transportation purpose” of cities is to minimize long-distance travel (i.e., maximize short trips)

Traditional Values

Design for Short Trips

Transit-Oriented

Walkable

Proximity Important

Mixed Land Use

Connected Street
Network

Access is Key

Buildings Address

Streets

Slow Speeds



Le Corbusier
"Dawn of a new start"



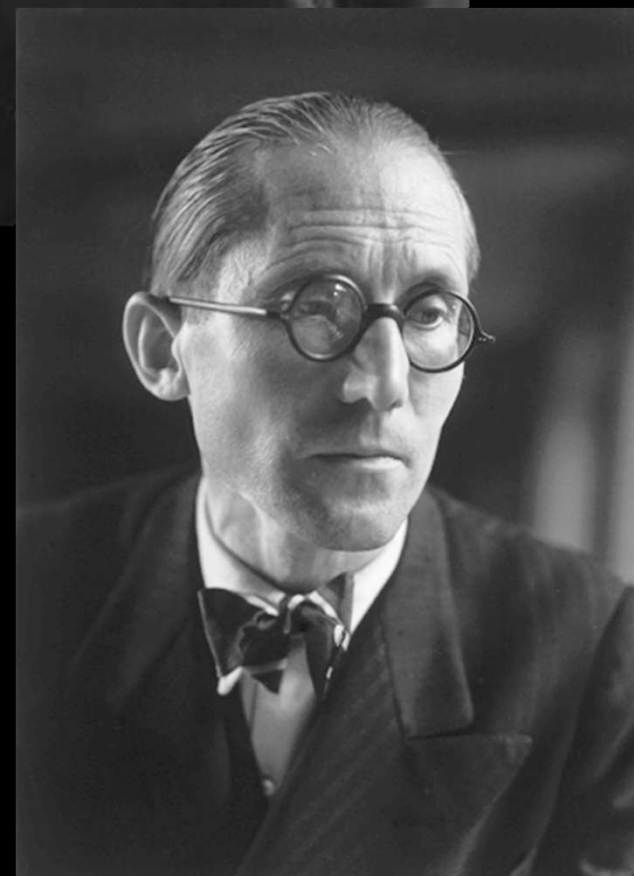
Modernism (Laid the Foundation for the
Conventional Transportation Paradigm)



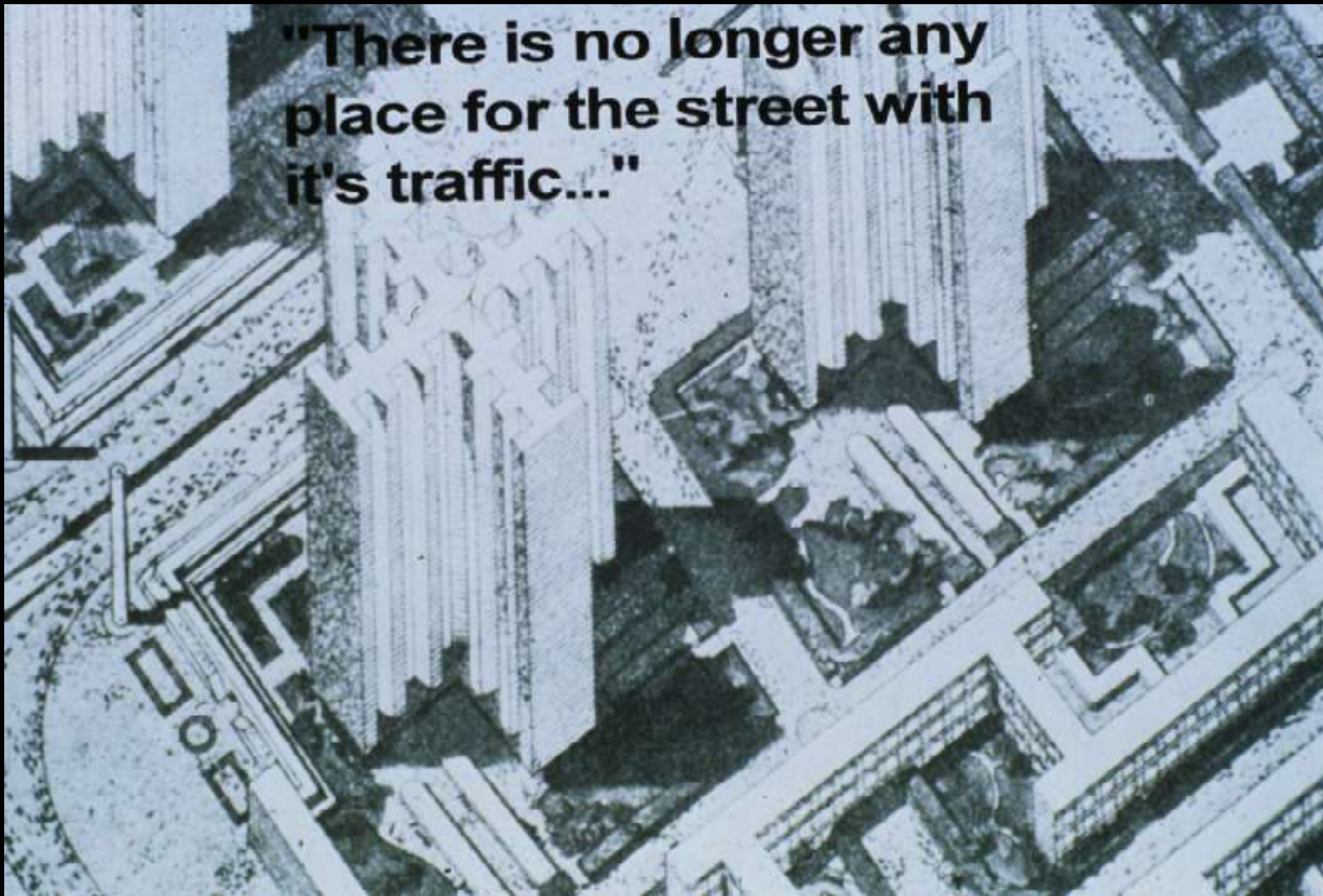


“Cars, cars, fast, fast!”

Le Corbusier, 1924



**"There is no longer any
place for the street with
it's traffic..."**





THE
GENERAL MOTORS
EXHIBIT BUILDING

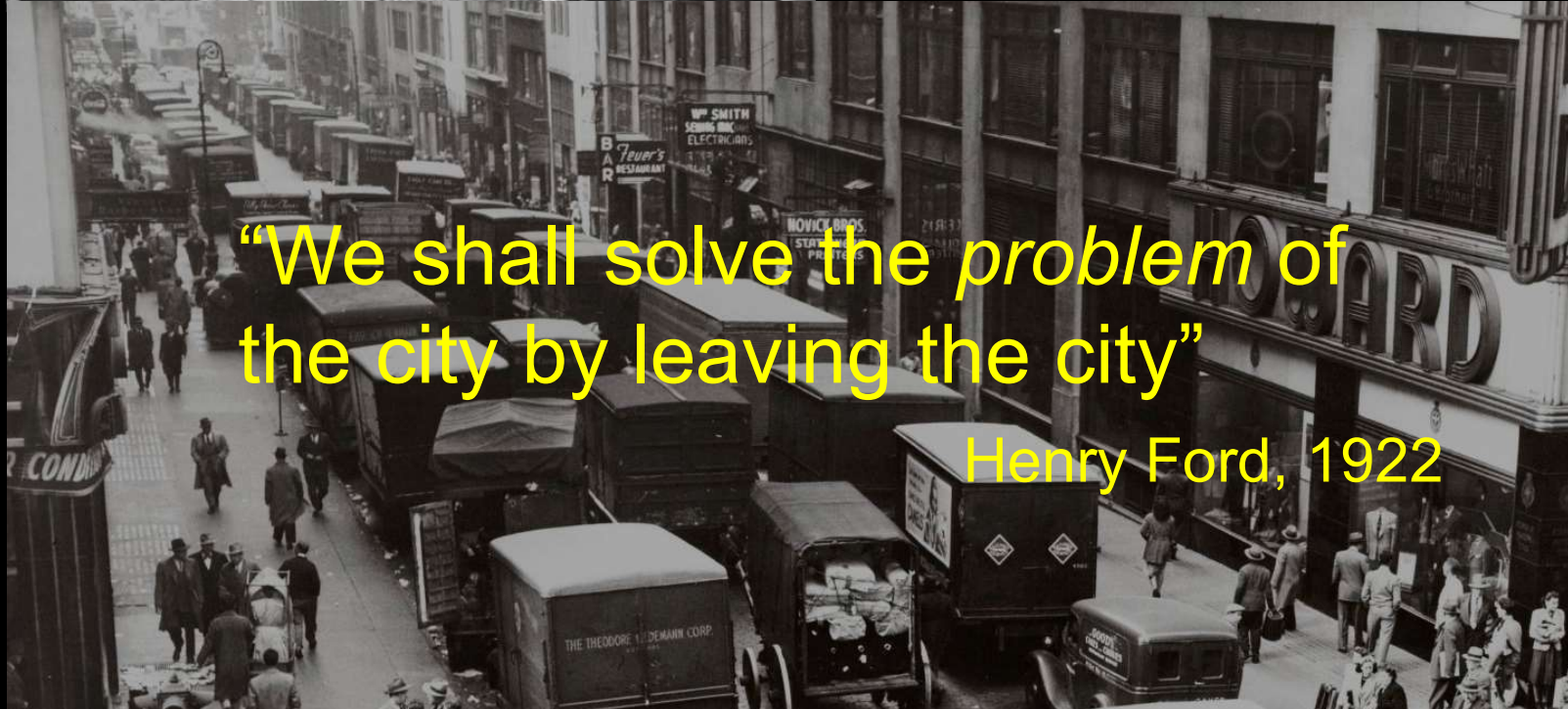


New York World's Fair
HIGHWAYS AND HORIZONS

Norman Bel Geddes





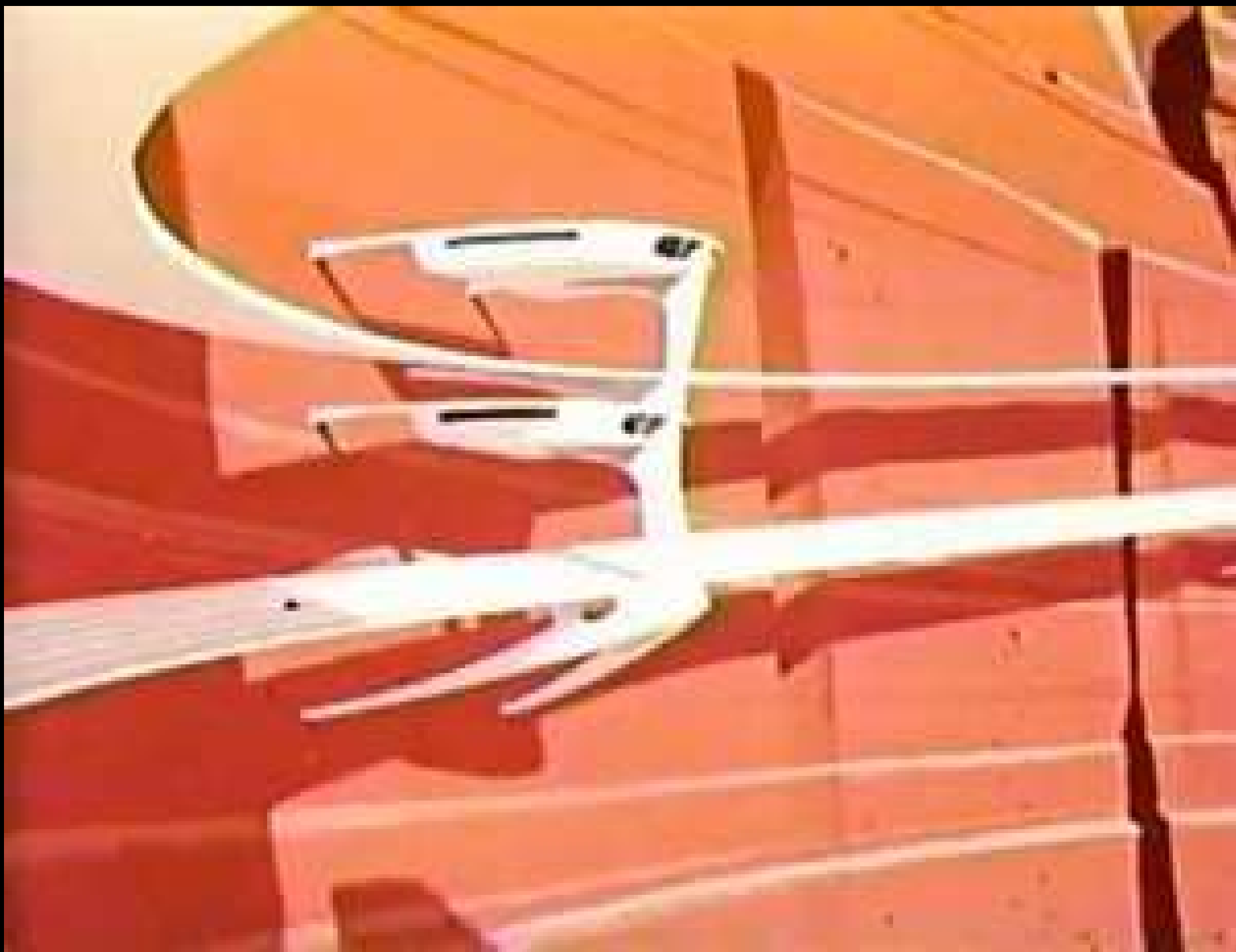


“We shall solve the *problem* of the city by leaving the city”

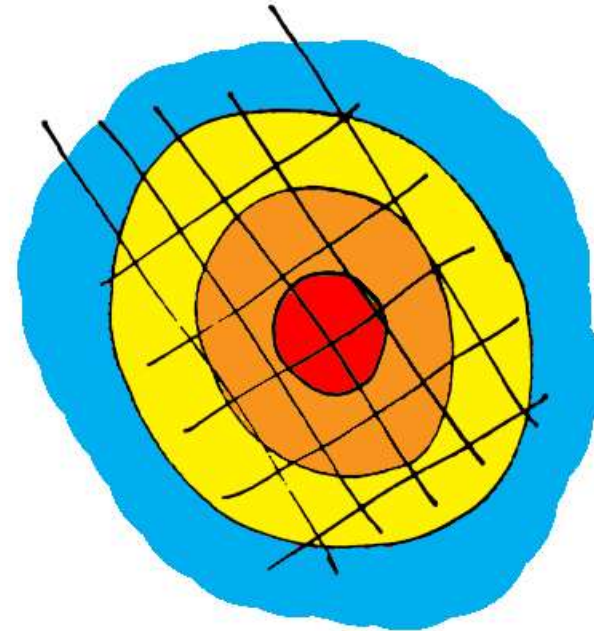
Henry Ford, 1922



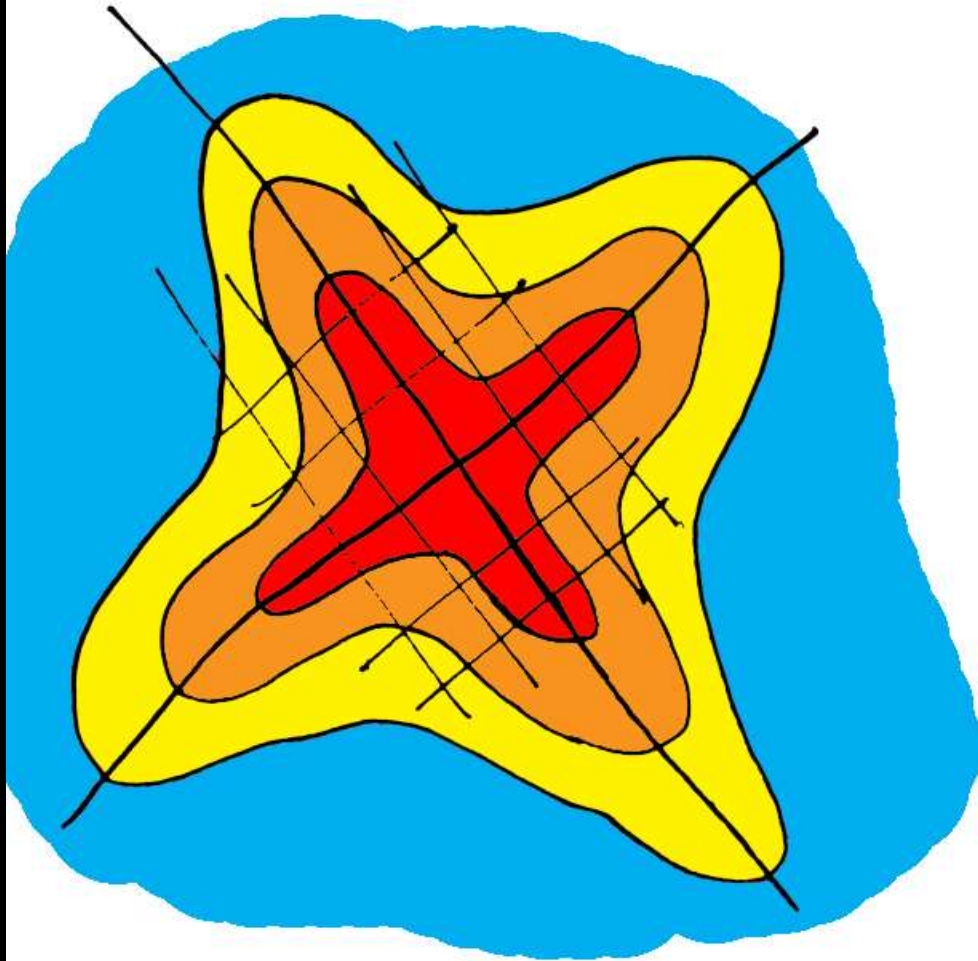




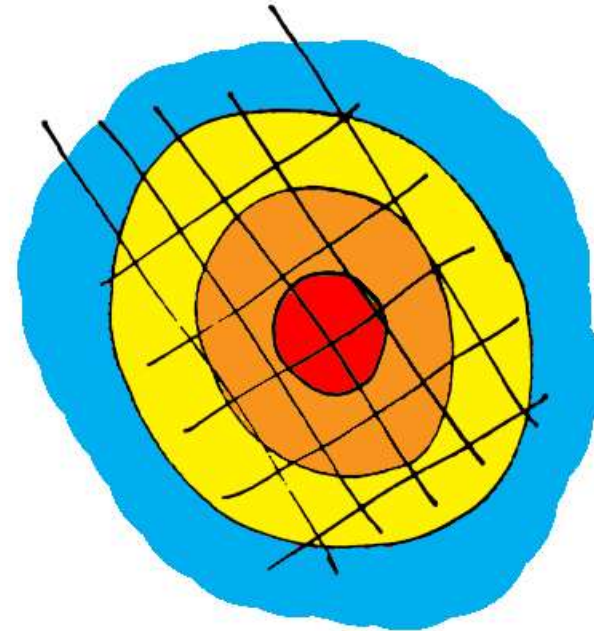




Traditional City
Value = f_n (proximity to center)



Conventional Theory
Value = fn (travel time to center)



Traditional City
Value = fn (proximity to center)

Conventional/Modernist Values

Reward Long Trips

Automobile Focus

Automobile LOS

Speed Important

Single Use Land Use

Dendritic Street Hierarchy

Congestion is Bad

Individually Appealing

Simple (get from A to B quickly)



Which is better; Fast or Slow?



Which is better; Fast or Slow?

FAST!

FAST!

FAST!!

FAST!



Which is better; Fast or Slow?

FAST!

FAST!

FAST!!



FAST!

It's not complicated:

Which is better; Fast or Slow?

FAST!

FAST!

FAST!!



FAST!

It's not complicated:

Faster is Better

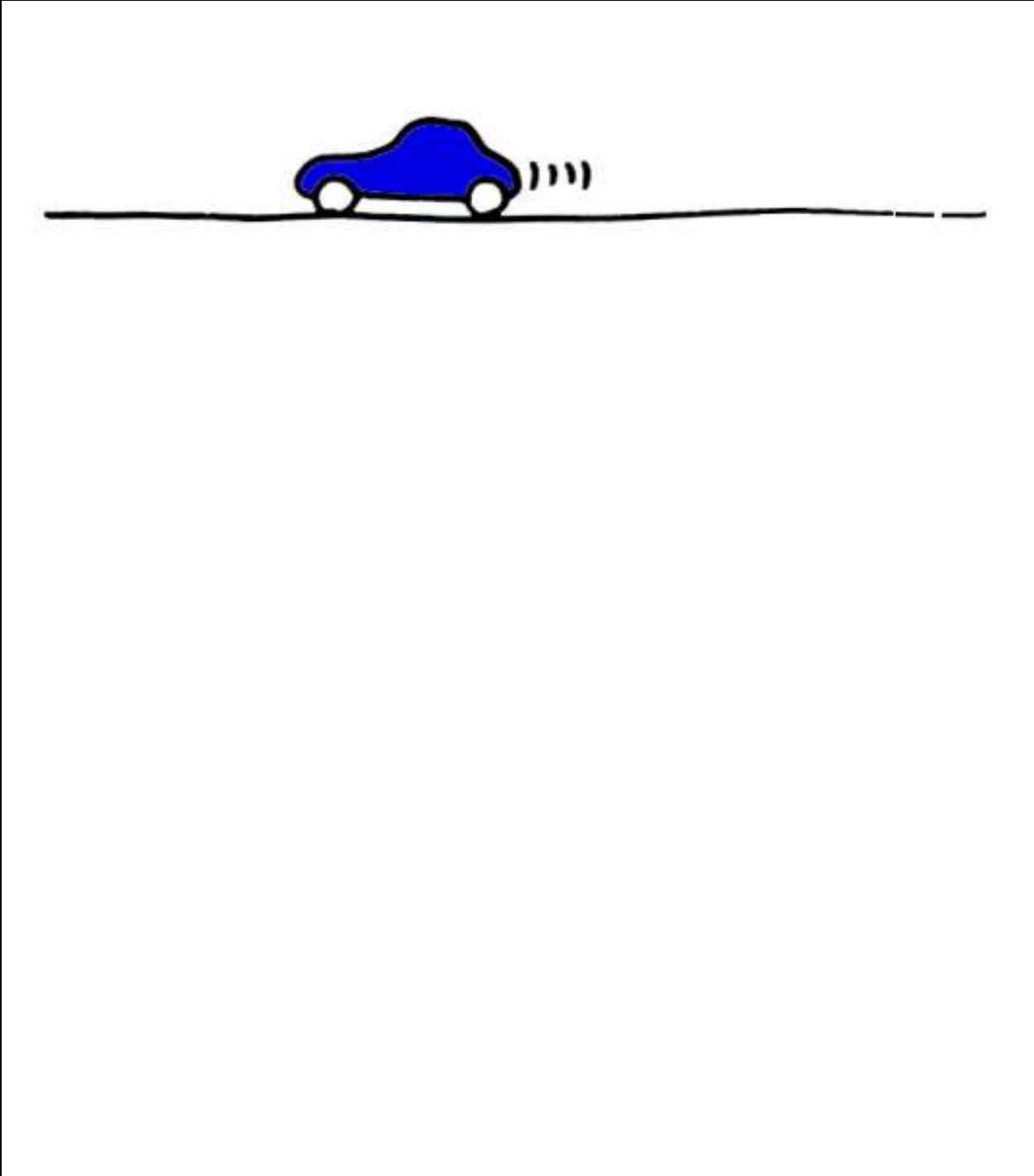
Tragedy of the Commons

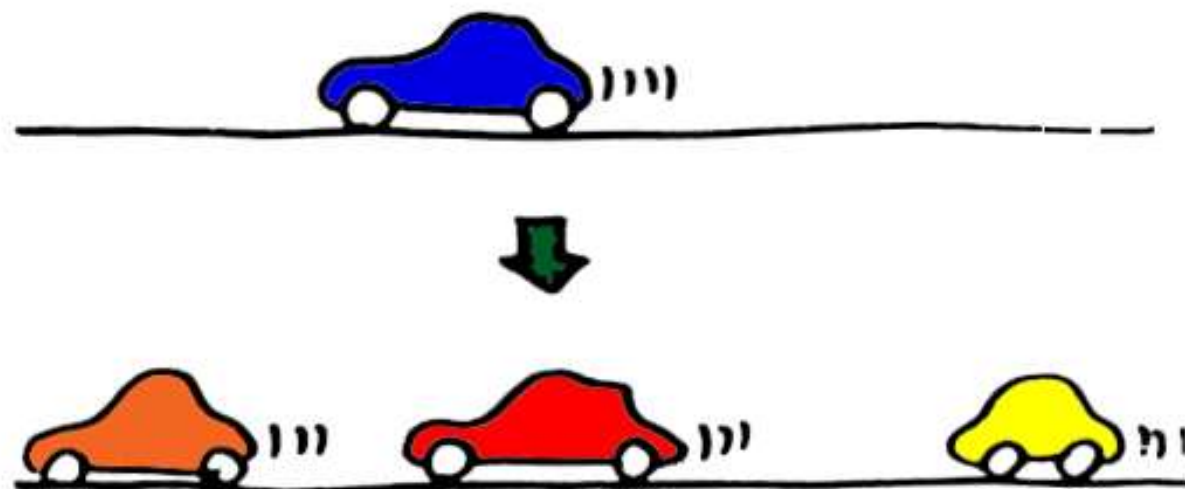


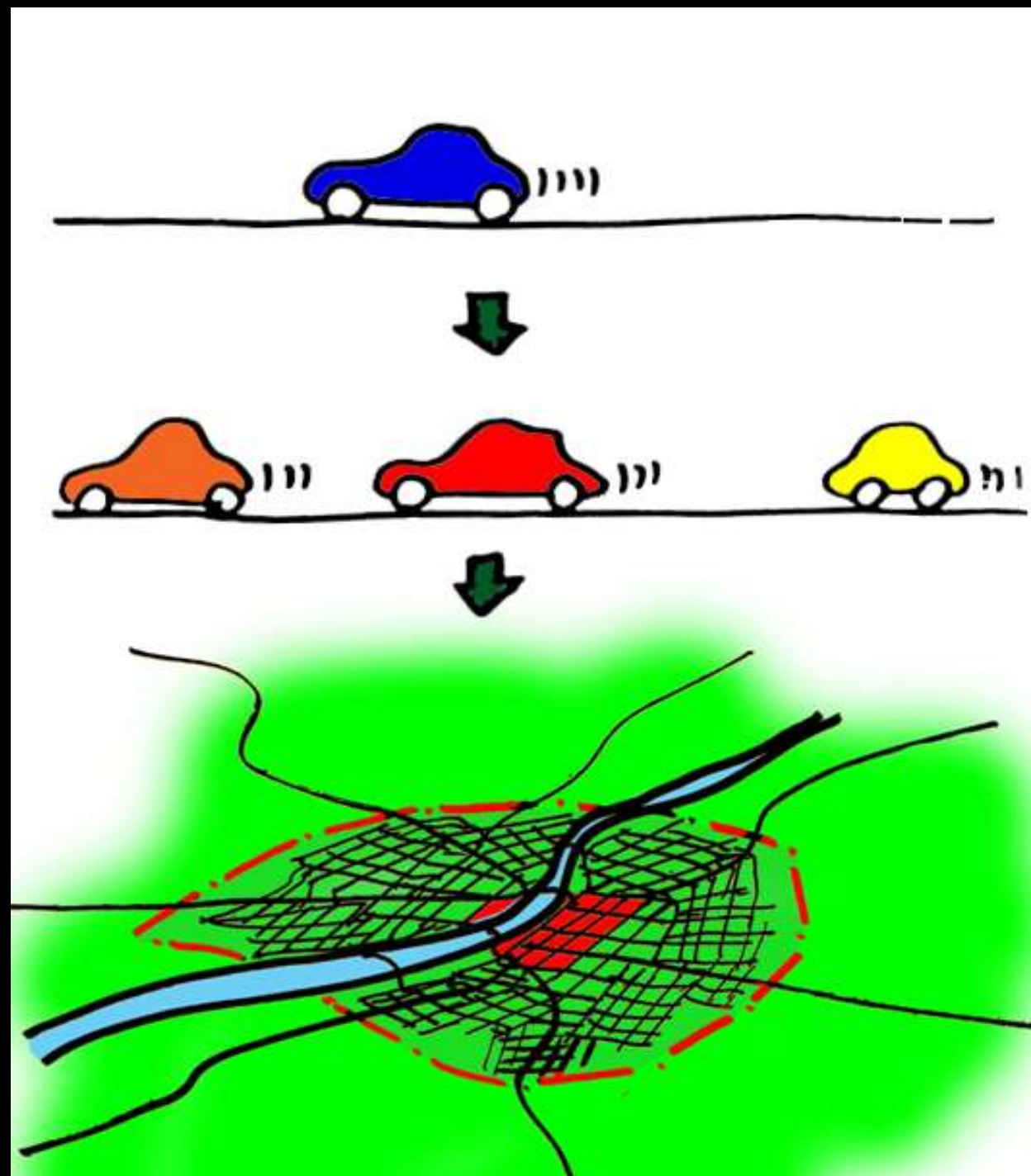


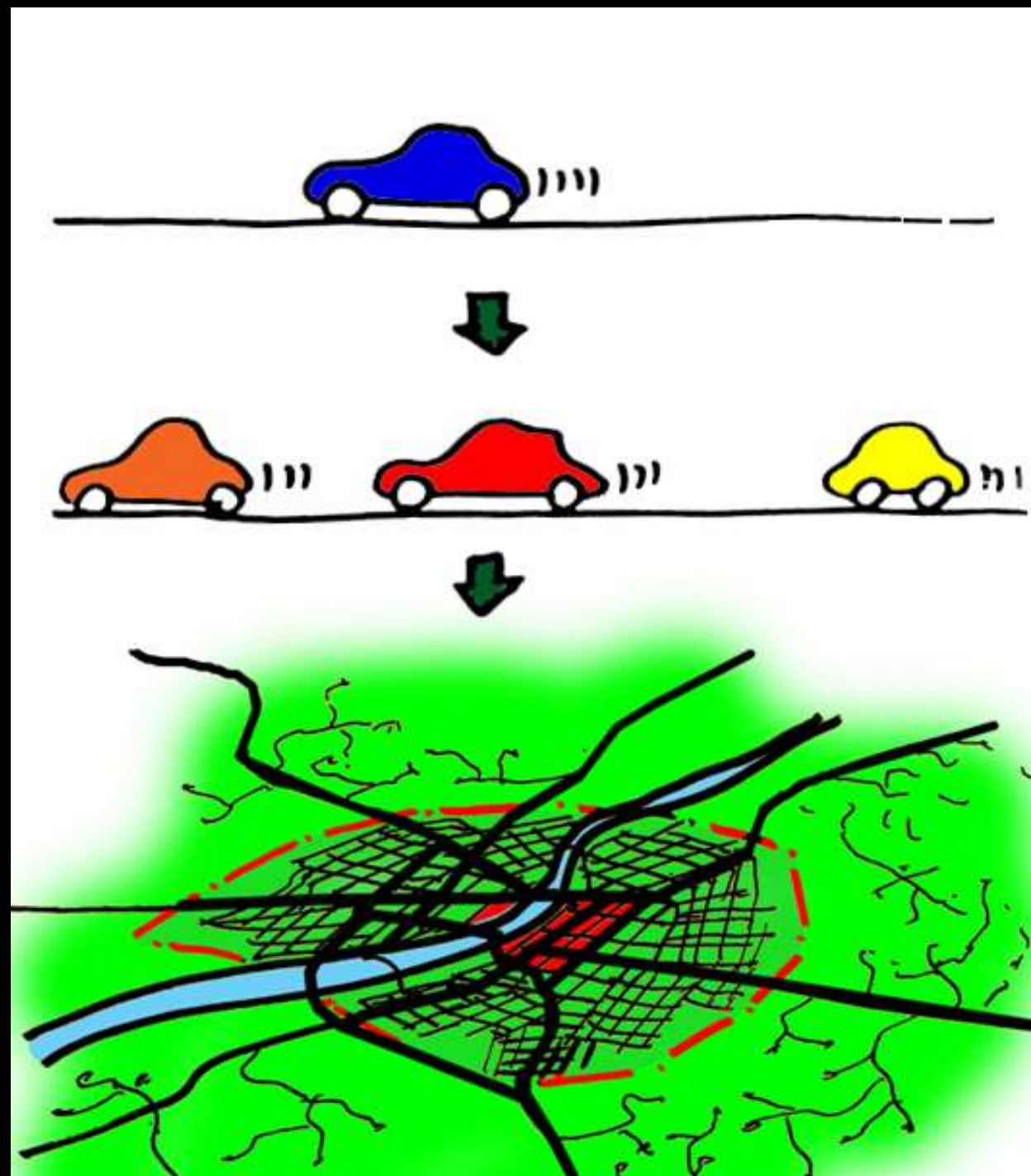
Tragedy of the Commons











Tragedy of the commons



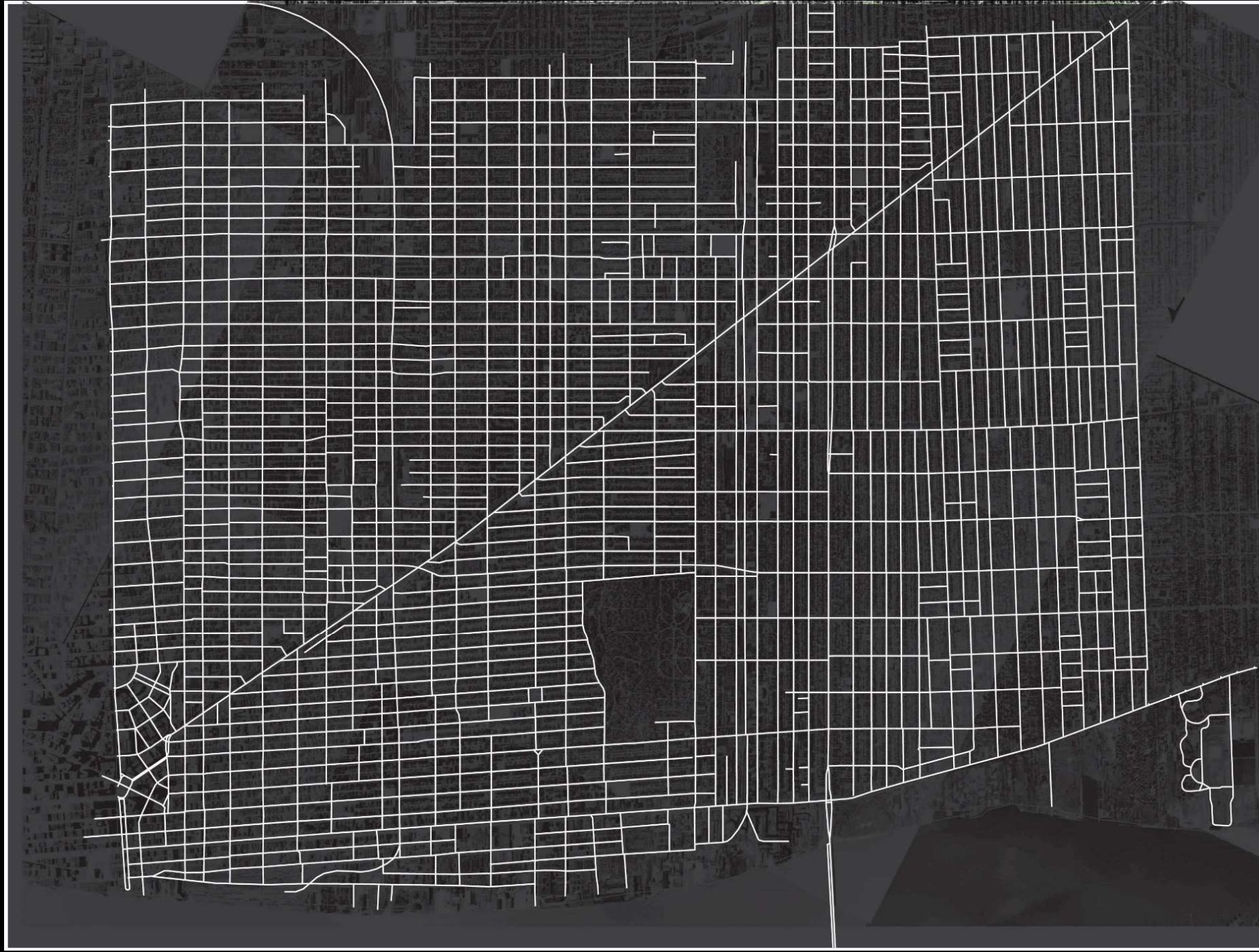
Michigan Theater Detroit, MI



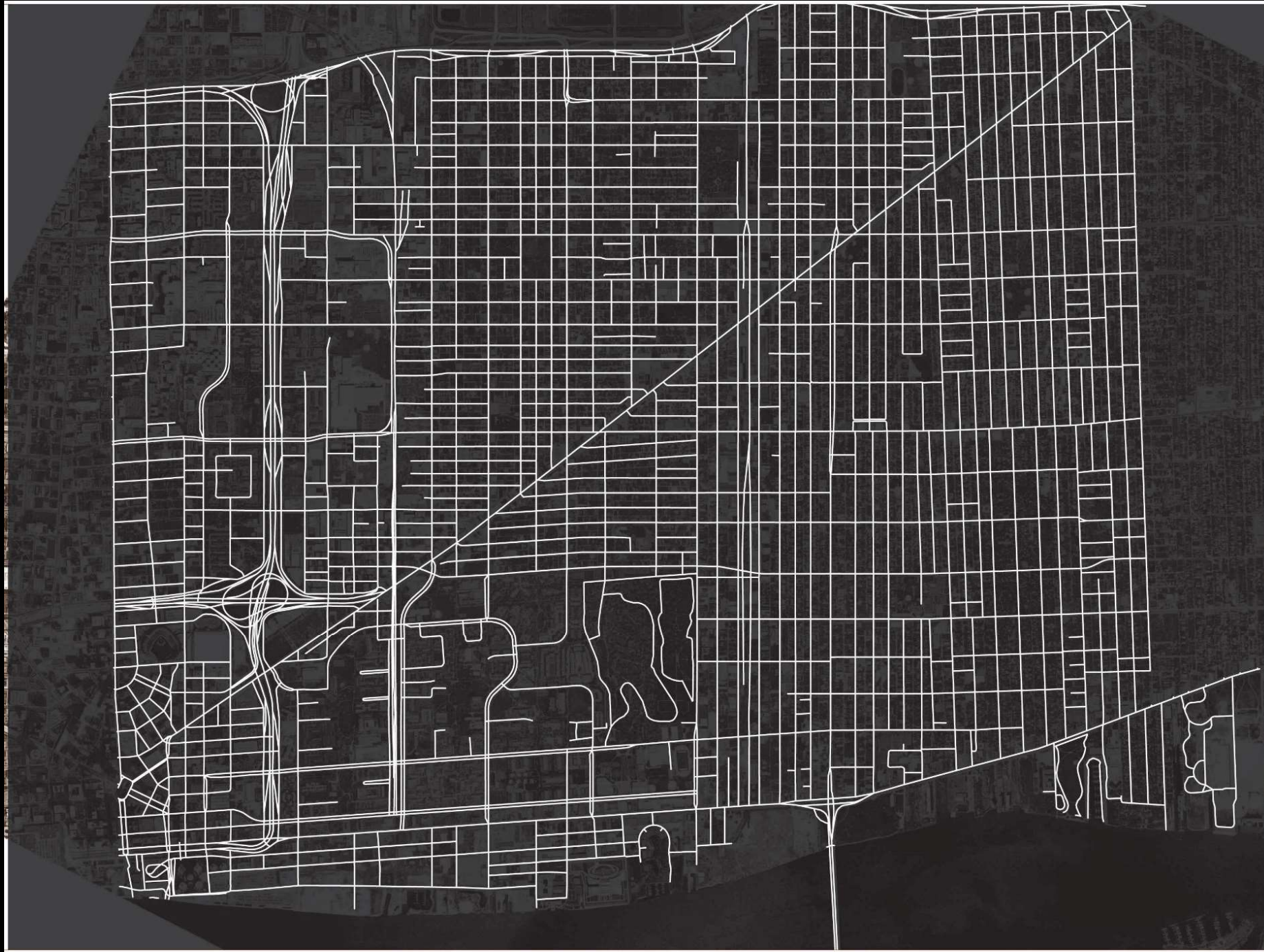




1949 Street Network

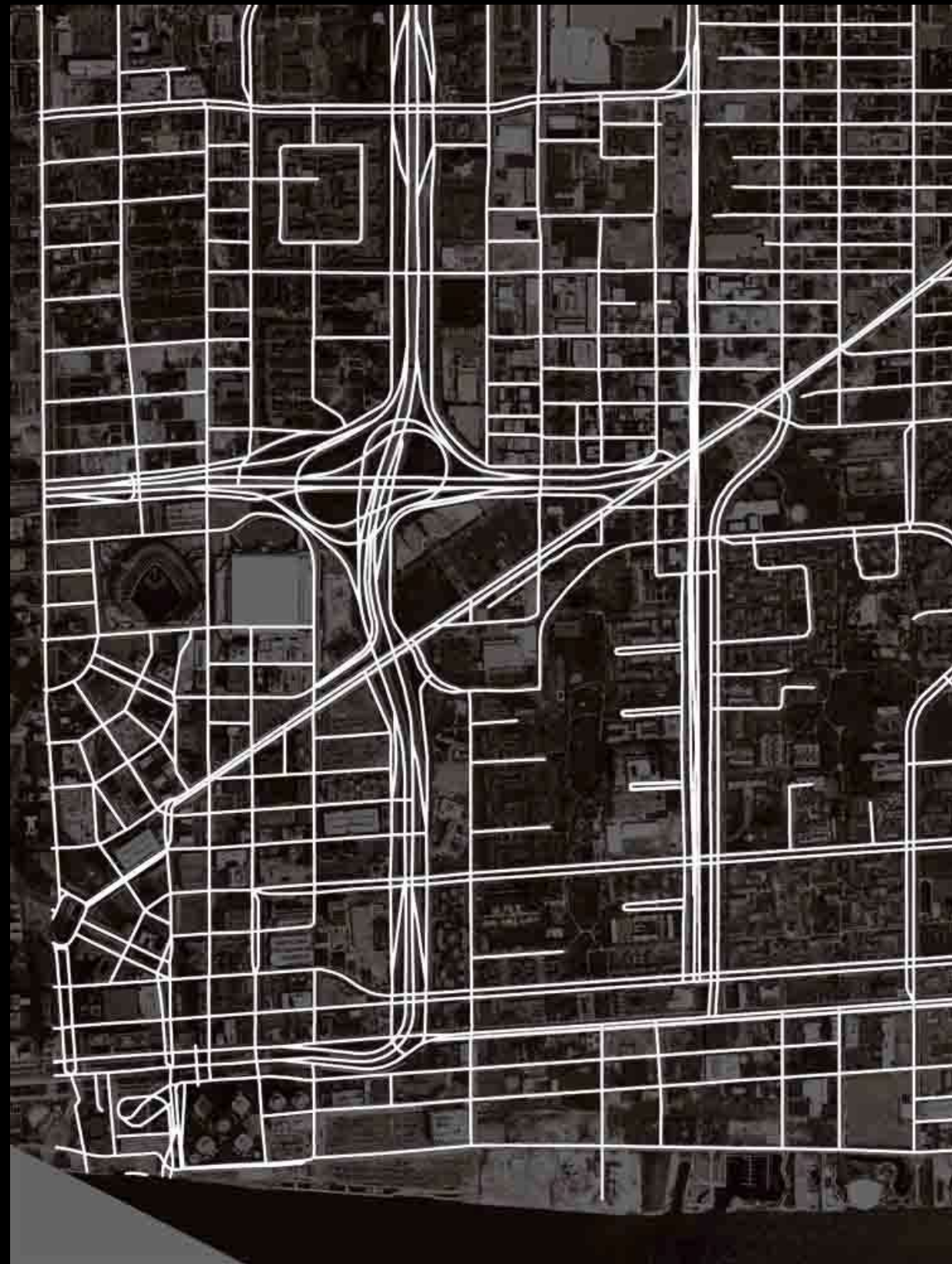


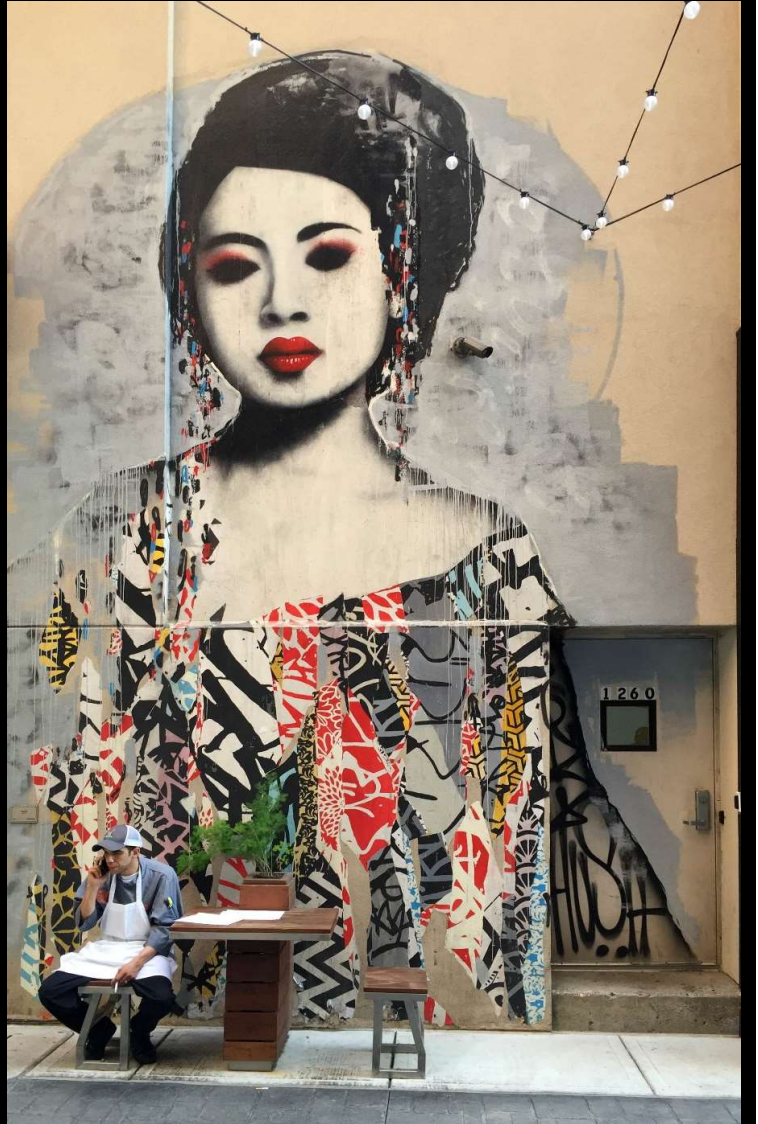
Existing Street Network














New Ways of Thinking



Making the Case for Transportation Language Reform: Removing Bias

BY IAN LOCKWOOD, P.E.



Samuel Beckett (1906–1989), the Irish novelist and playwright, wrote “Words are the clothes that thoughts wear.” Throughout history and in many fields, the use of language has influenced how ideas have been received by adorning thoughts with words that carry subjective meaning. Strategically assigning words to ideas can challenge or perpetuate biases, attitudes, and public opinion, and ultimately influence policies and culture.

Examples of language that contain and reinforce biases abound. In the 1970s, common terms in workplaces included, “policeman, fireman, manpower, chairman, and man hours.” The language was gender-biased and excluded women. Over time, societal values evolved to the point where the language was updated. Many people worked hard to reform the language to be gender-neutral, while opponents called the reform “being politically correct” and unnecessary. Today, gender-neutral language is common and accepted; examples include, “police officer, firefighter, human resources, chair, and person hours.” This language reform supports gender equality, helping to change attitudes, policies, and culture. Gender-neutral language is not pro-woman; it is inclusive and objective.

Words

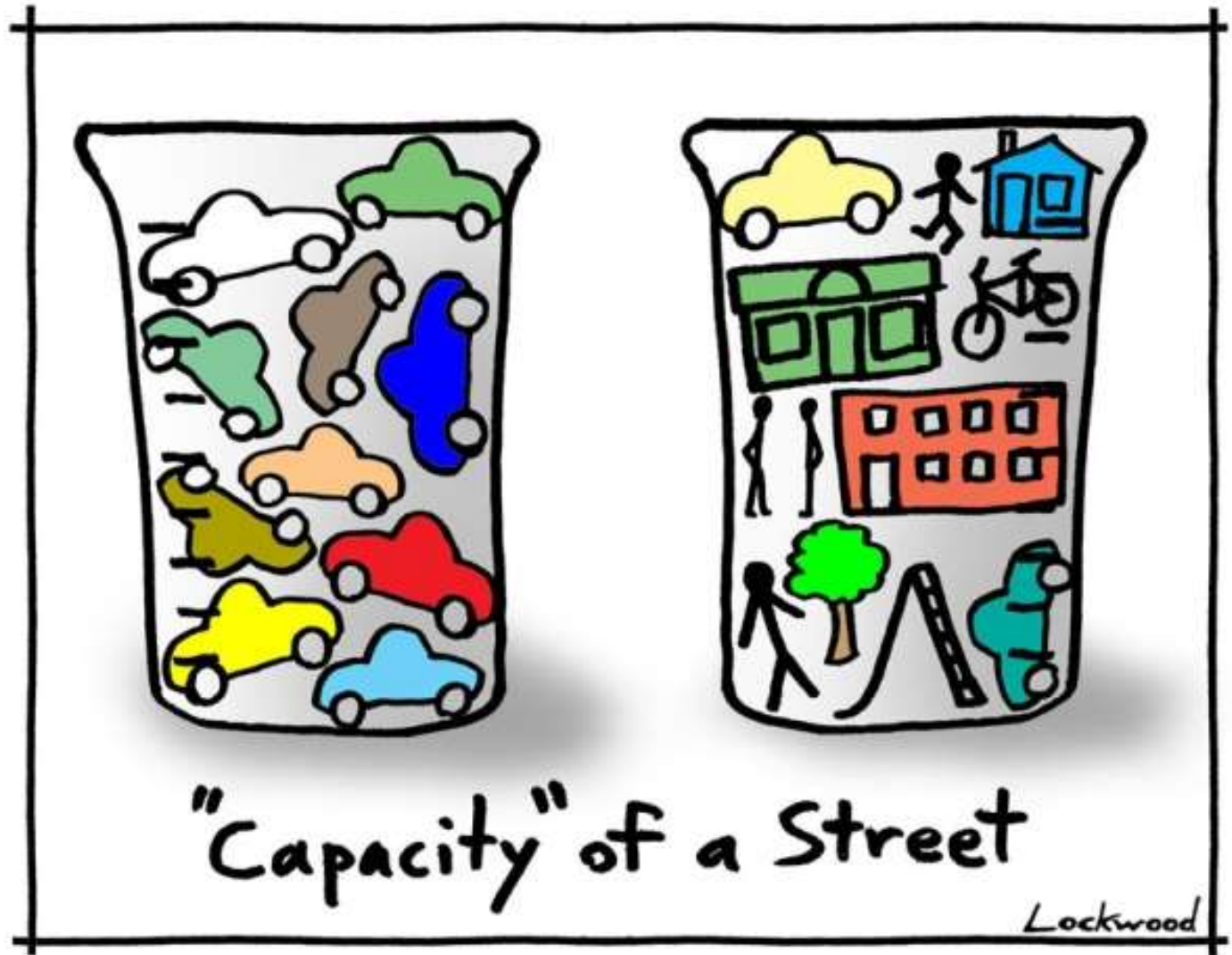
Improvement



Words

Improvement

Capacity



Improvement
Capacity
Upgrade/Enhance




Words

Improvement

Capacity

Upgrade/Enhance

Efficient



TO MAKE THIS MORE
EFFICIENT, SHOULD I ADD TWO MORE
OR FOUR MORE LANES?

The image is a black and white aerial photograph of a severe traffic jam on a multi-lane highway. Hundreds of cars are packed closely together, filling the entire frame. A speech bubble originates from a car in the lower foreground, containing the text: 'TO MAKE THIS MORE EFFICIENT, SHOULD I ADD TWO MORE OR FOUR MORE LANES?'. The word 'EFFICIENT' is written in red, bold, capital letters. The signature 'Lockwood' is visible in the bottom right corner of the image.

Words

Improvement

Capacity

Upgrade/Enhance

Efficient

Traffic Demand

Accidents

Level of Service

Delay

A, B, C, D, E, and F

Reliability

Functional Classification

Right-of-Way Preservation

Mass Transit


Freeway

Capacity Deficiencies

Conflict Points

Access Management

Regional Travel...



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Regional Travel: a post-WWII euphemism
for long & unsustainable car trips

Words

Context-Sensitive Design

Context-Sensitive
Solutions

Traditional Neighborhood
Design

Smart Growth

Road Diets

Safe Routes to School

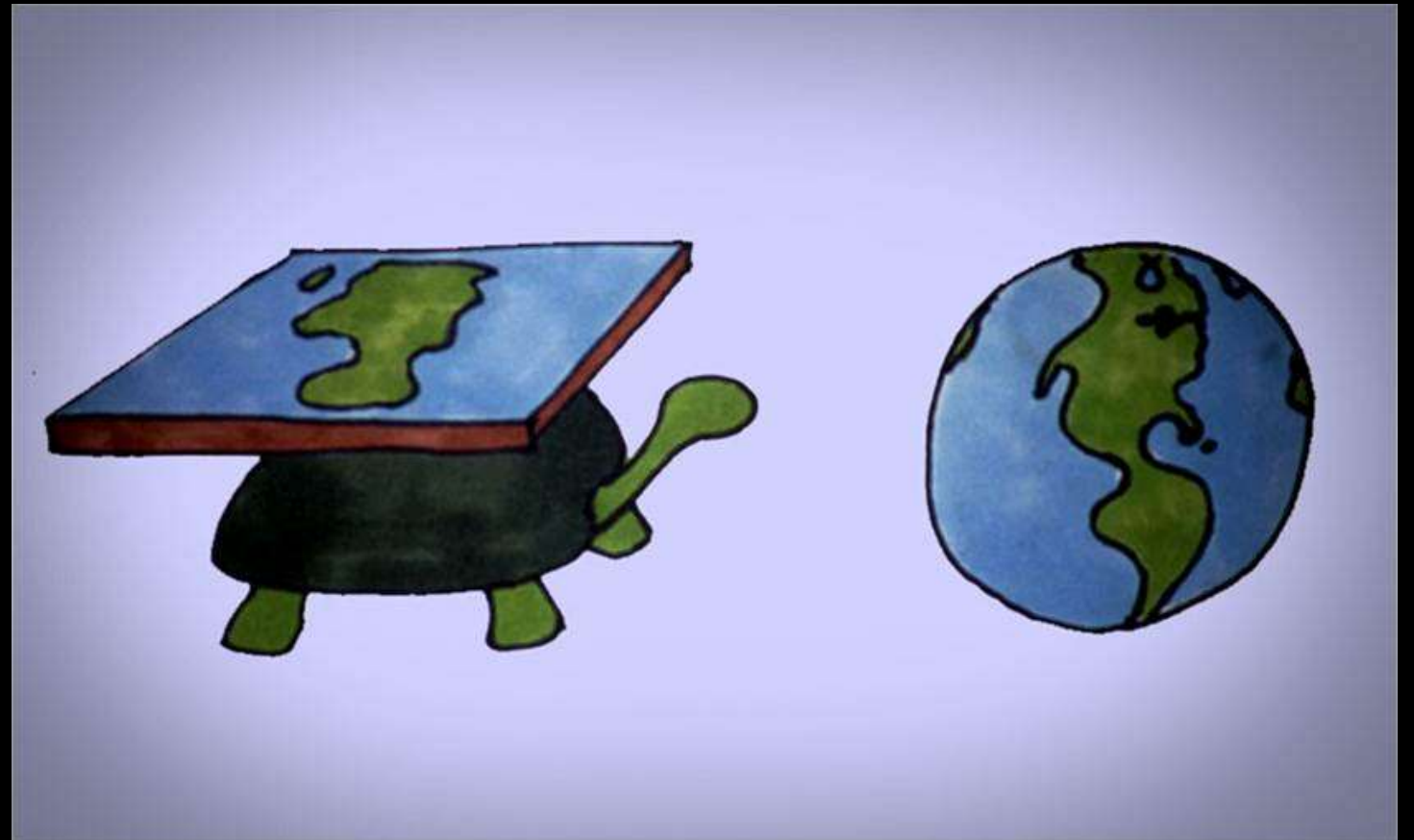
Shared Spaces

Vision Zero

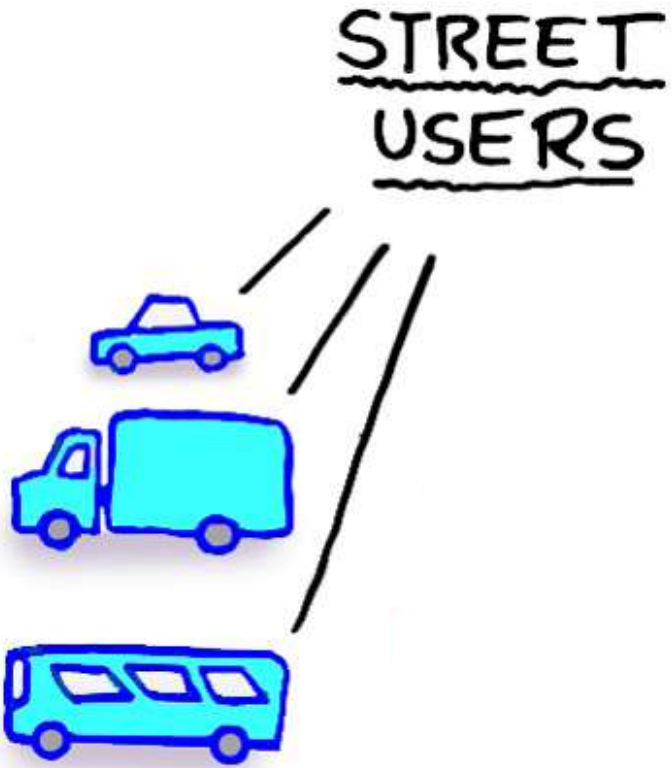
Path as Place

Traffic Calming

Complete Streets



Complete Street:



COMPLETING
OUR STREETS

*The Transition to
Safe and Inclusive
Transportation
Networks*

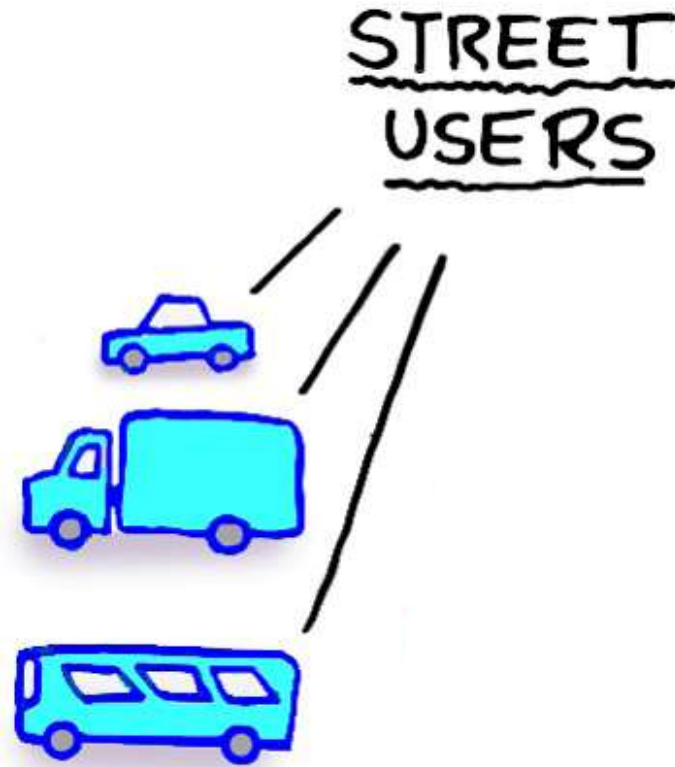


BARBARA McCANN



Complete Street:

a street that is designed to comfortably accommodate those who use the street.



COMPLETING OUR STREETS

*The Transition to
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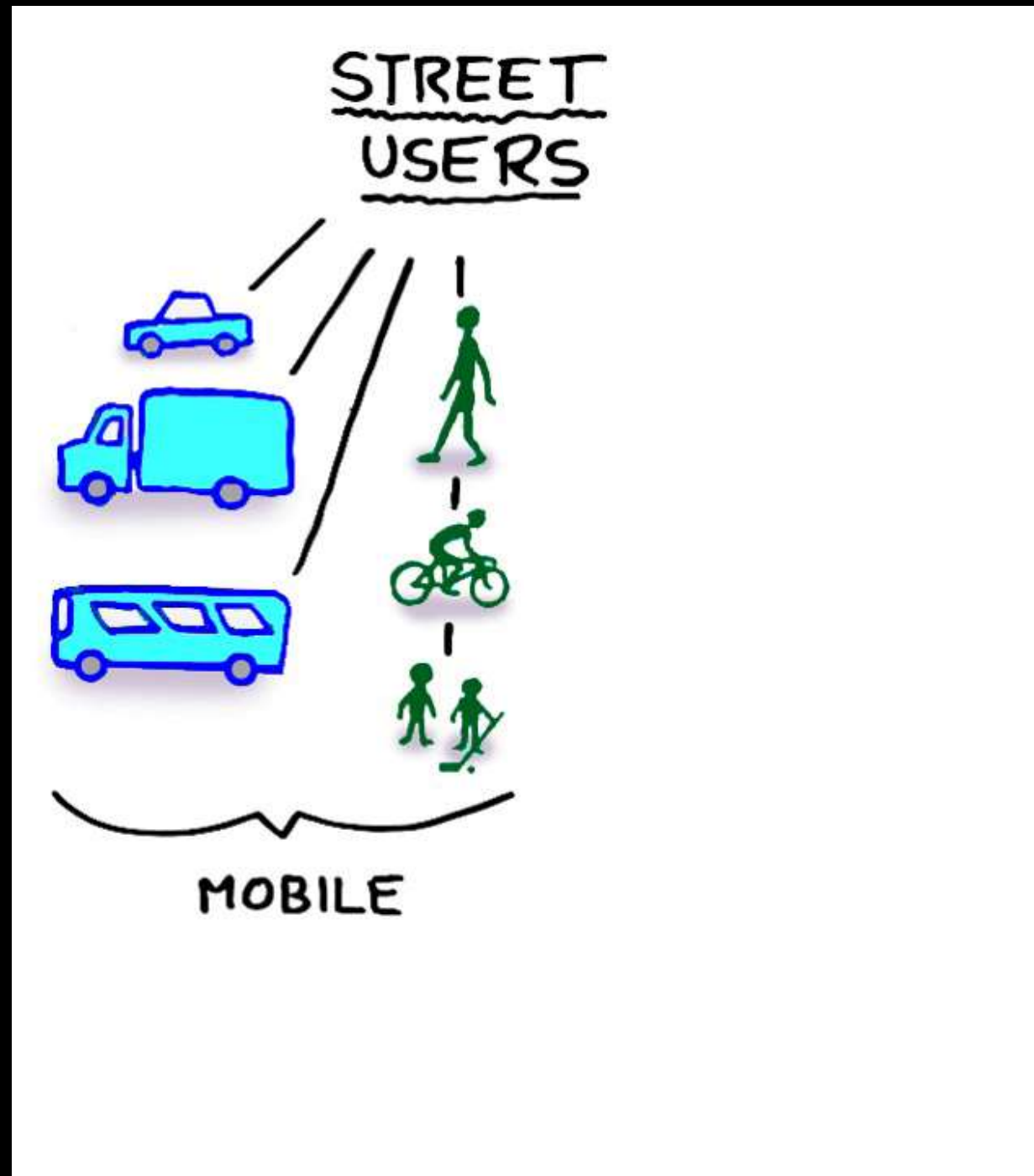


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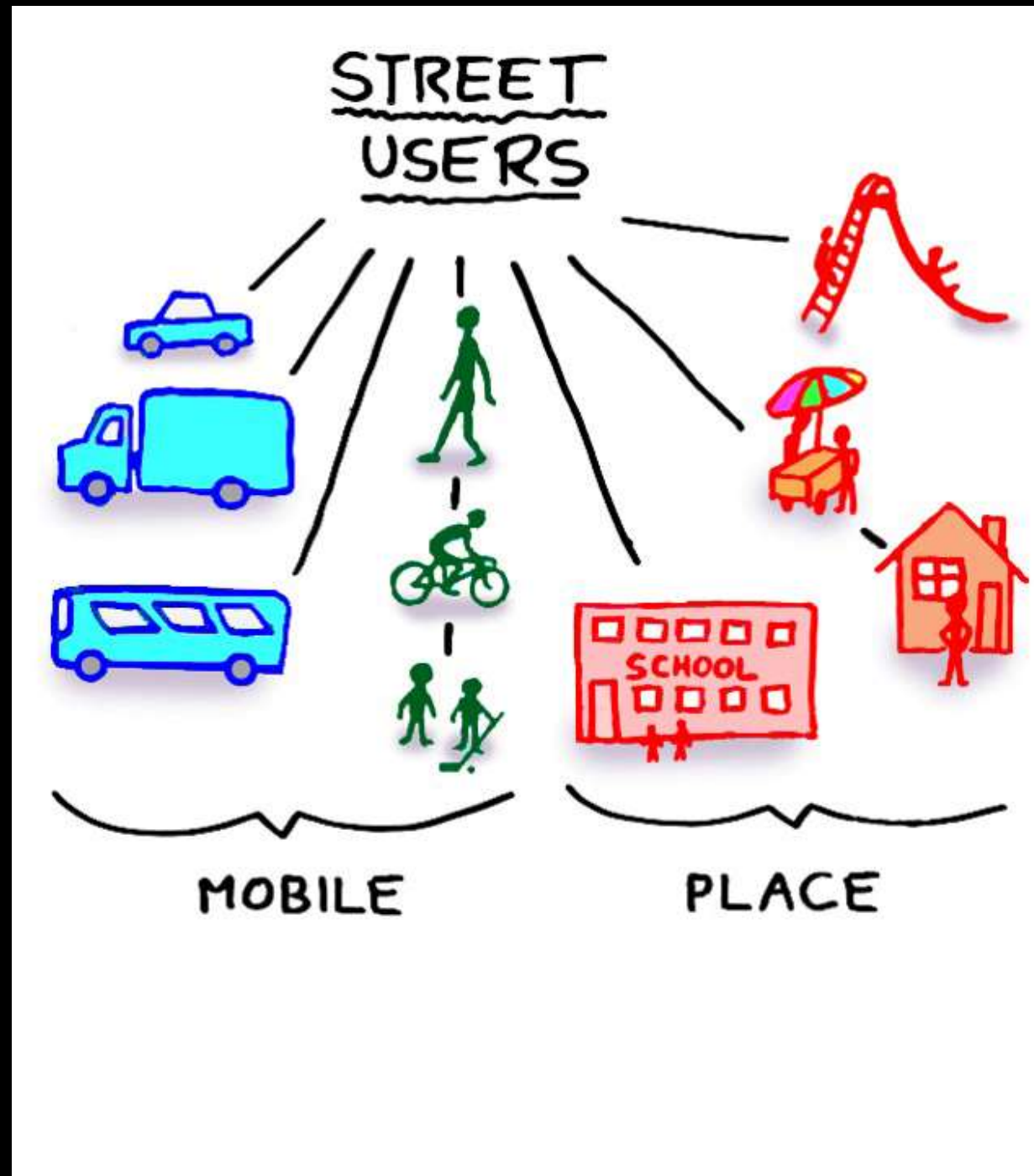


BARBARA McCANN



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COMPLETING OUR STREETS

The Transition to Safe and Inclusive Transportation Networks



BARBARA McCANN



The difference between “volume, & trips”



I-635, DALLAS



CHAMPS ELYSEES,
PARIS

Mobility (in the past)

the movement of people & goods

assumption: faster, farther, and in
greater numbers means progress for
society

Mobility (now and in the future)

The **populations'**
capabilities and strategies
to move in order to access
what they need to live
within the city.

Many Populations: people who have
disabilities, have different income levels, and/or
are young, elderly, millennials, pedestrians,
cyclists, transit users, students...

Mobility (now and in the future)

The populations'
capabilities and strategies
to move in order to access
what they need to live
within the city.

the movement is purposeful:

<u>Trip Type</u>	<u>%</u>
work	18.0
work-related	2.6
shopping	20.2
doctor/dentist	1.5
family/personal	24.2
church/school	8.8
social/recreational	24.5
other	0.2







With 2020 hindsight, you decide the truth:

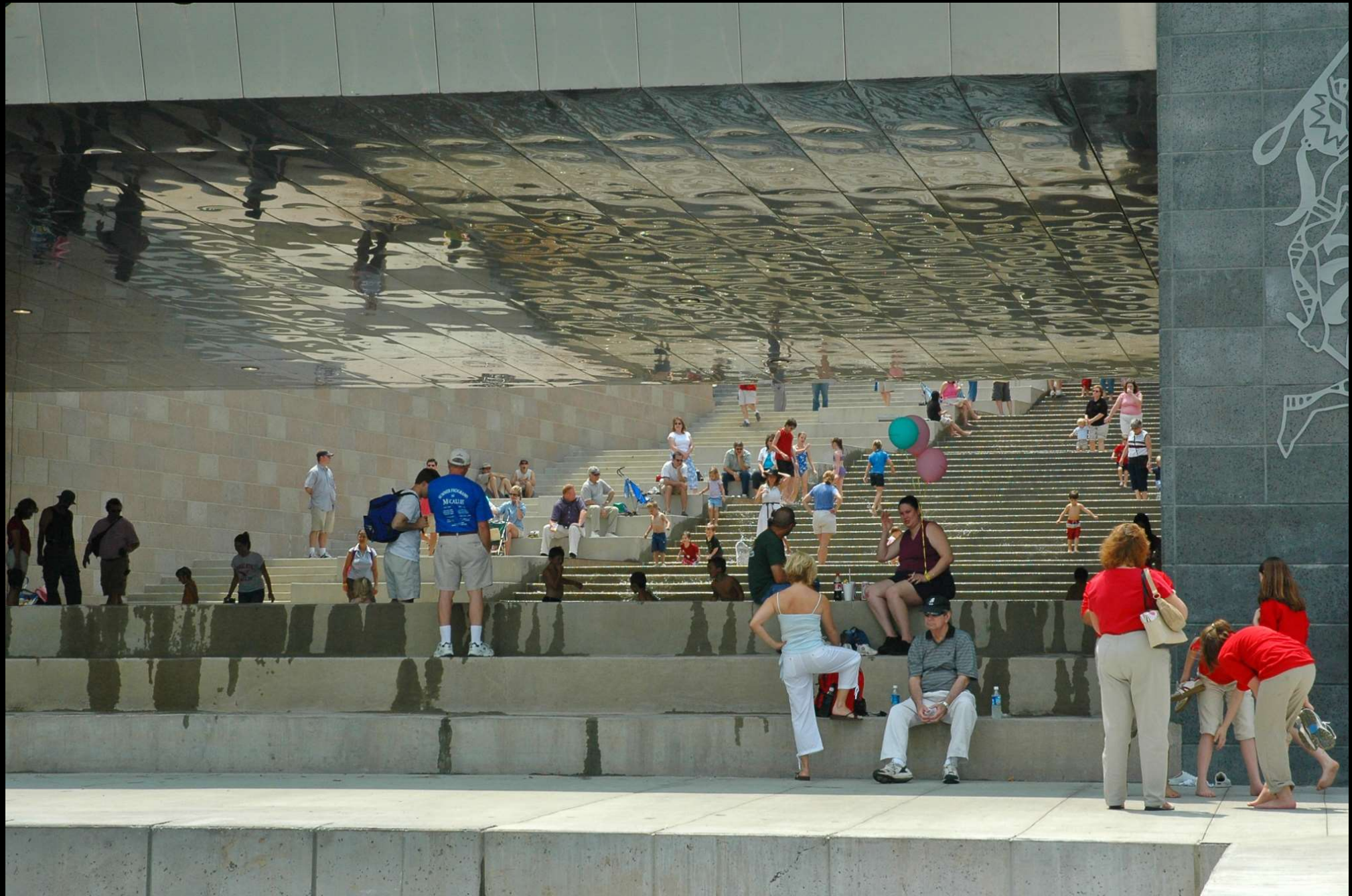
Option A: *“The City’s lifeblood is the highway. The mobility it provides is vital for economic health and the convenience of the motoring public. If anything, the highway should be expanded to fight congestion. Removing it is simply anti-progress.”*

Option B: *“Walkability and access to the waterfront, parks, trails, and other places in the downtown is key to the economic and social health of the City. The highway has contributed to the woes of the City and needs to be replaced with something that contributes to an urban context.”*















AEROPLANE VIEW OF BUSINESS DISTRICT, SOUTH BEND, IND.



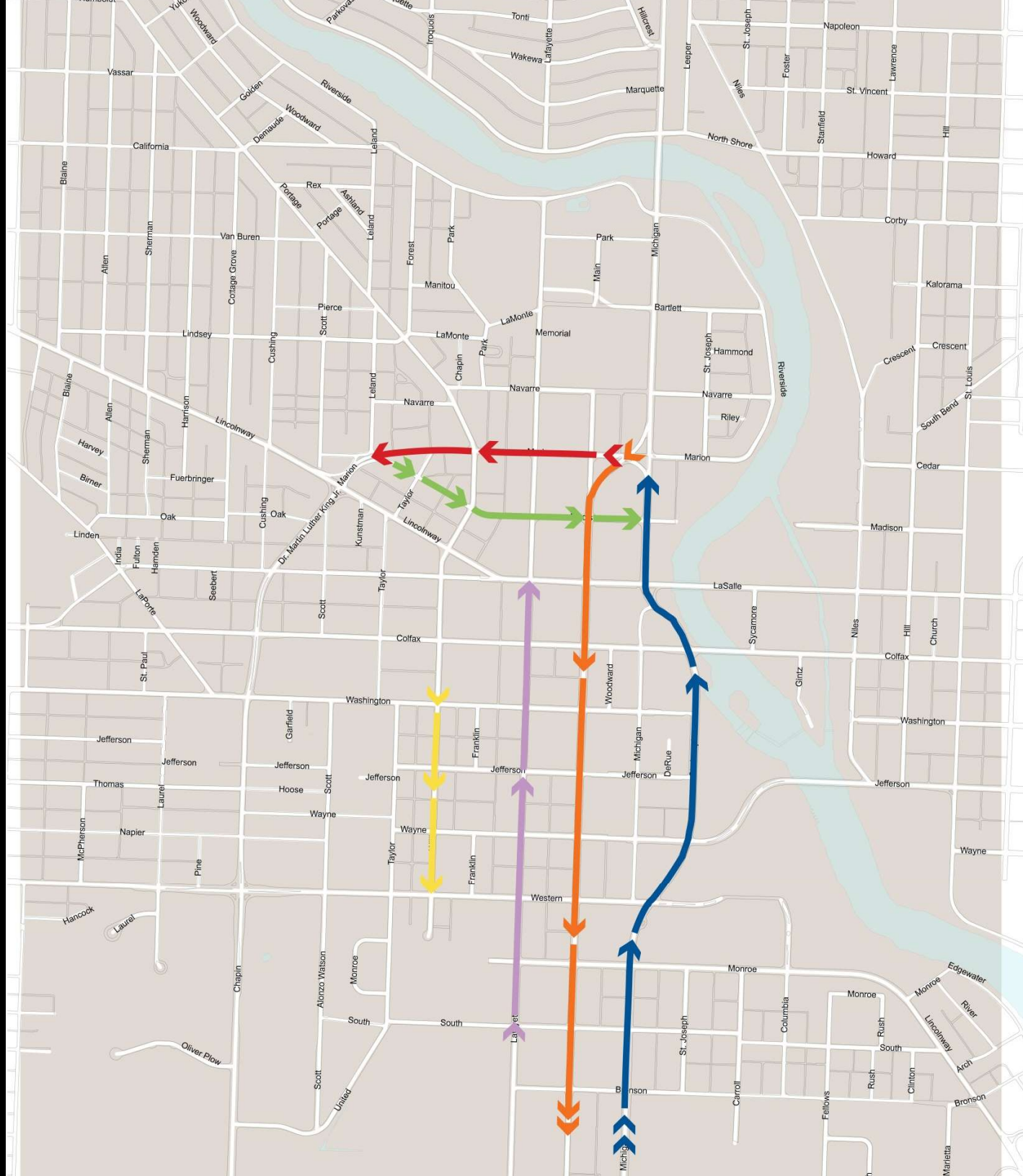






Developer Coordination Stakeholders Competing Priorities

















“...the possible benefits of required seat belts would not justify the costs to the manufacturers and the public.”



“...the possible benefits of required seat belts would not justify the costs to the manufacturers and the public.”

National Highway Traffic Safety Administration, 1970

Environmental Assessments

Air quality

Water

Noise

Land use

...

Traffic → L.O.S.

Environmental Assessments

Air quality

Water

Noise

Land use

...

Traffic → L.O.S.

L.O.S.

- Last-in problem
- Infill vs green-field
- Obstacle to transit & active transport
- Induced car travel, longer trips...
- Resources (land, energy, money...

Environmental Assessments

Air quality

Water

Noise

Land use

...

Traffic → L.O.S. → V.M.T.

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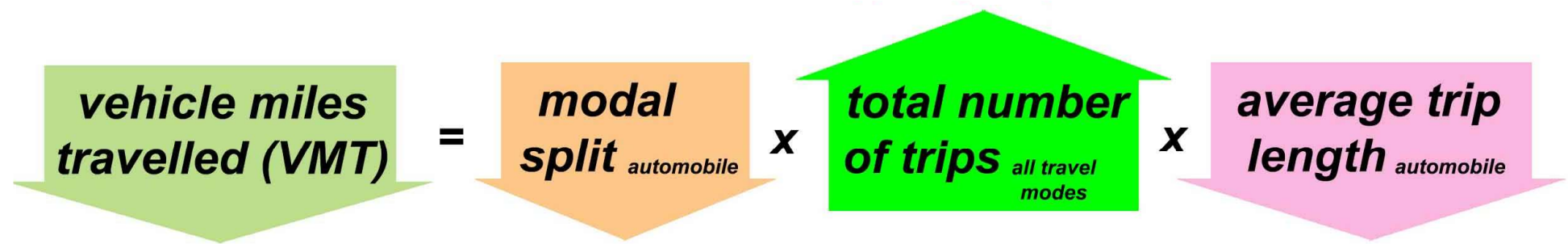
Land use

...

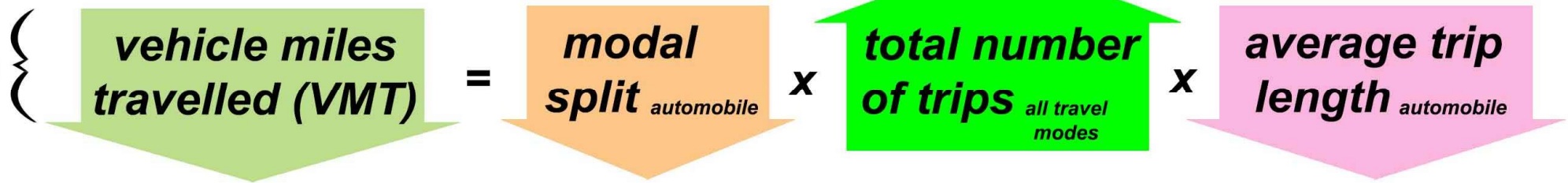
Traffic → L.O.S. → V.M.T.

V.M.T.

- VMT total
- VMT/capita
- VMT/resident
- VMT/employee
- Resources (land, energy, money...)



Four Measures
of Effectiveness
(4 MOEs)



Public Policy
Statement

Four Measures
of Effectiveness
(4 MOEs)

It is good public policy to
1) reduce VMT by:

2) reducing the percentage
of trips made by
automobile;

3) increasing vibrancy
(a.k.a. the number of
trips of all kinds); and

4) reducing the average trip
lengths for each mode,
especially automobiles.

**vehicle miles
travelled (VMT)**

=

**modal
split**
automobile

x

**total number
of trips**
all travel
modes

x

**average trip
length**
automobile

Public Policy Statement

Four Measures of Effectiveness (4 MOEs)

Examples of Related Components

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**vehicle miles
travelled (VMT)**

=

**modal
split** automobile

x

**total number
of trips** all travel
modes

x

**average trip
length** automobile

*VMT per capita
VMT total for the city
VMT per resident
VMT per employee
VMT per visitor*

*build sidewalks
transit priority
transit funding
complete streets
tax reform
teleworking
congestion pricing
safe routes to school
build bike infrastructure
automobile parking reform
lower automobile subsidies
incentivize active transportation
transportation demand management
increase comfort for walking and cycling
build engaging street and trail environments*

*social trips
shopping trips
work trips
recreational trips
active trips
educational trips
cultural trips
leisure trips
combined trips*

*increase land use densities
increase land use mix
increase connectivity
slow design, operating, and
posted speeds
increase accessibility
restore 2-way operations on
1-way streets
replace highways in cities with
urban infrastructure
suburban/urban tax reform
rural preservation
planning policy reform*

The New York Times



Grand Makeover Is Set for Maryland Strip City

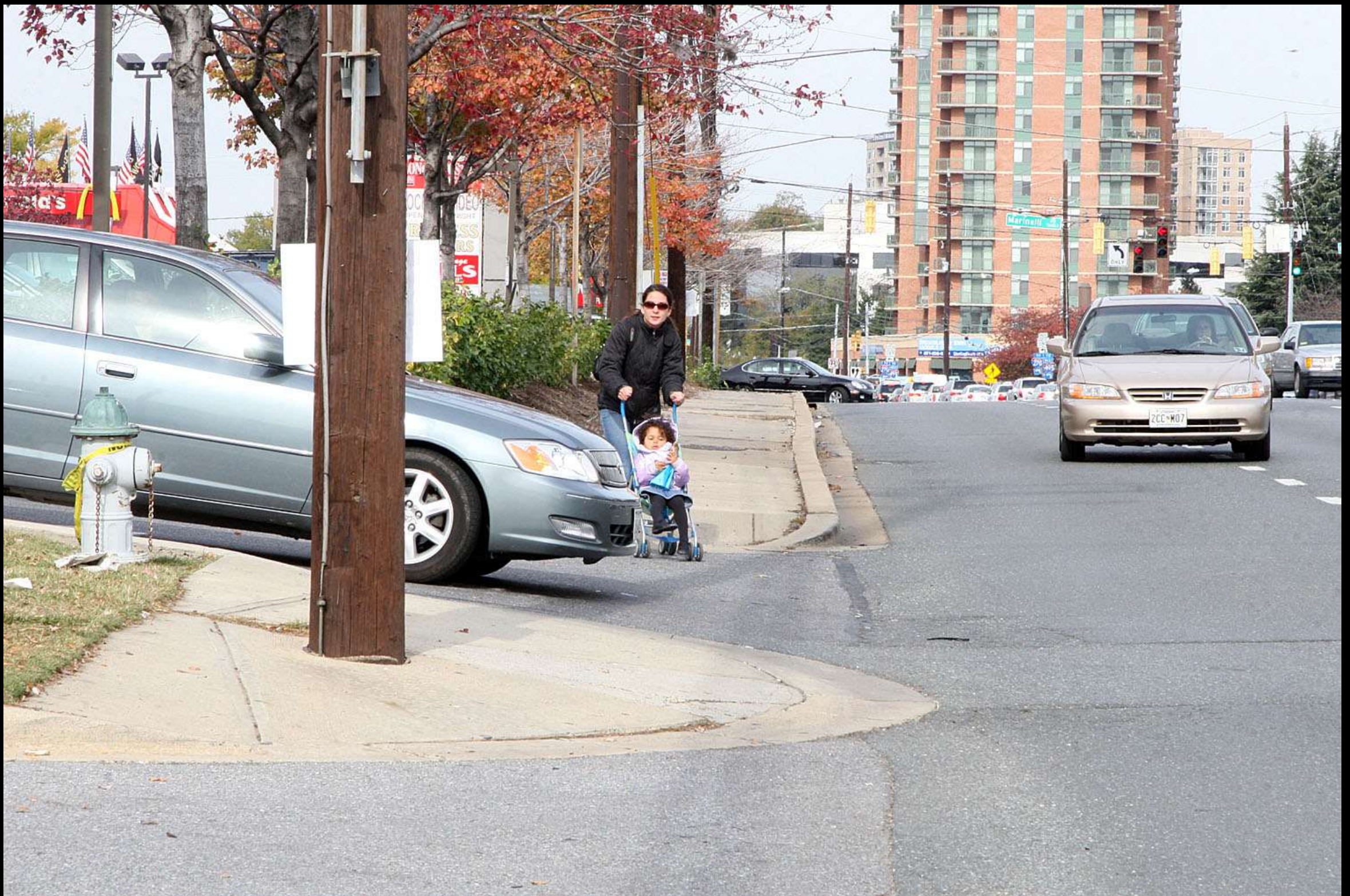
by EUGENE L. MEYER

Rockville Pike, heading north.



Above, a rendering of the White Flint plan,
which seeks to create a walkable community.





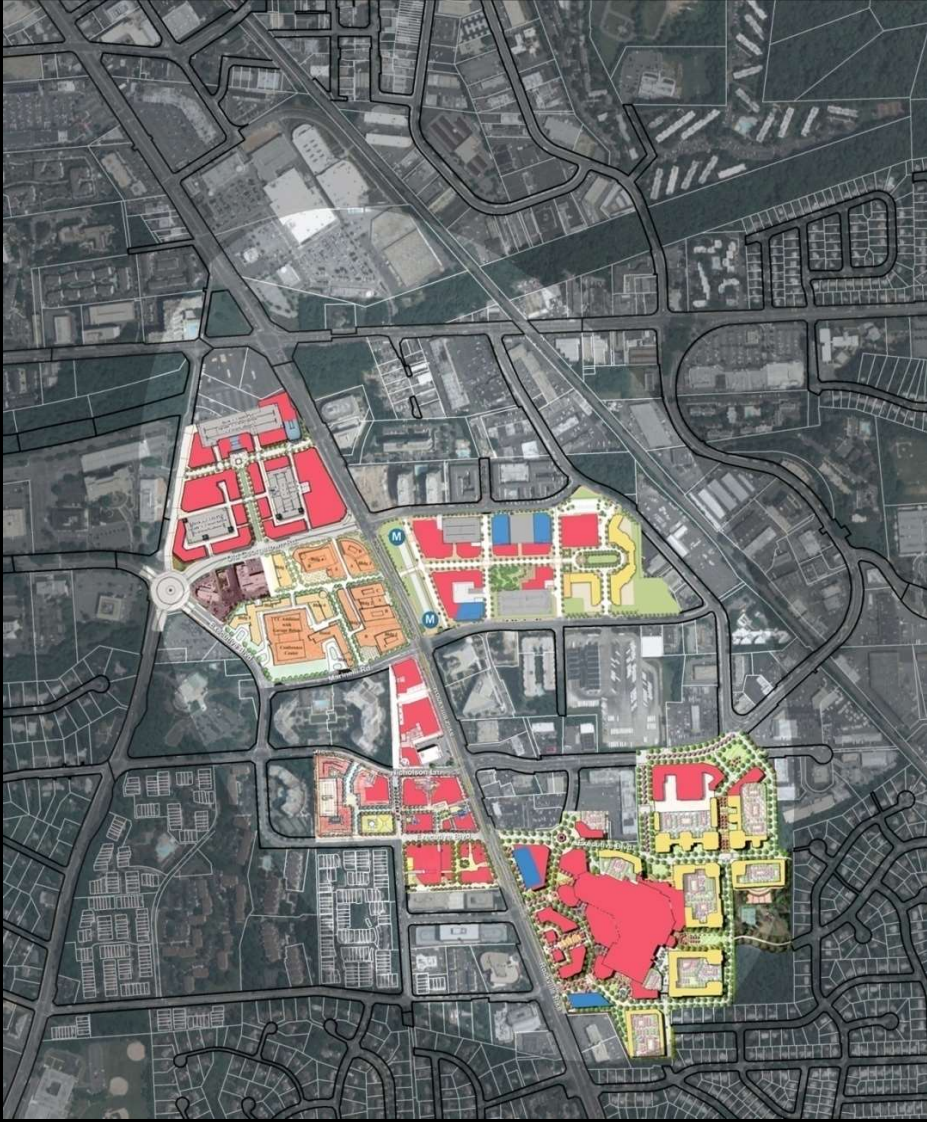
CENTER
ce DEPOT
BUFFET
ZA
PLUS
SIZES
BAGEL CITY

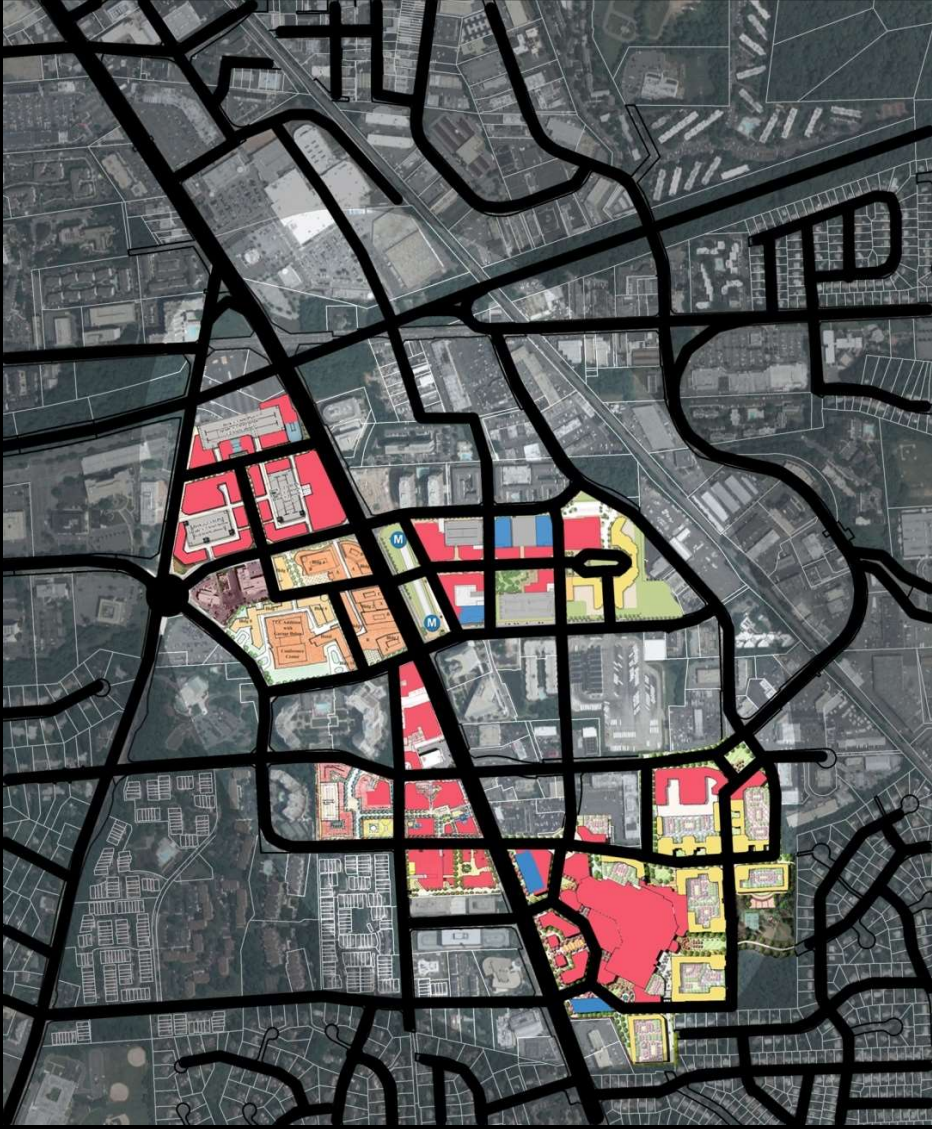


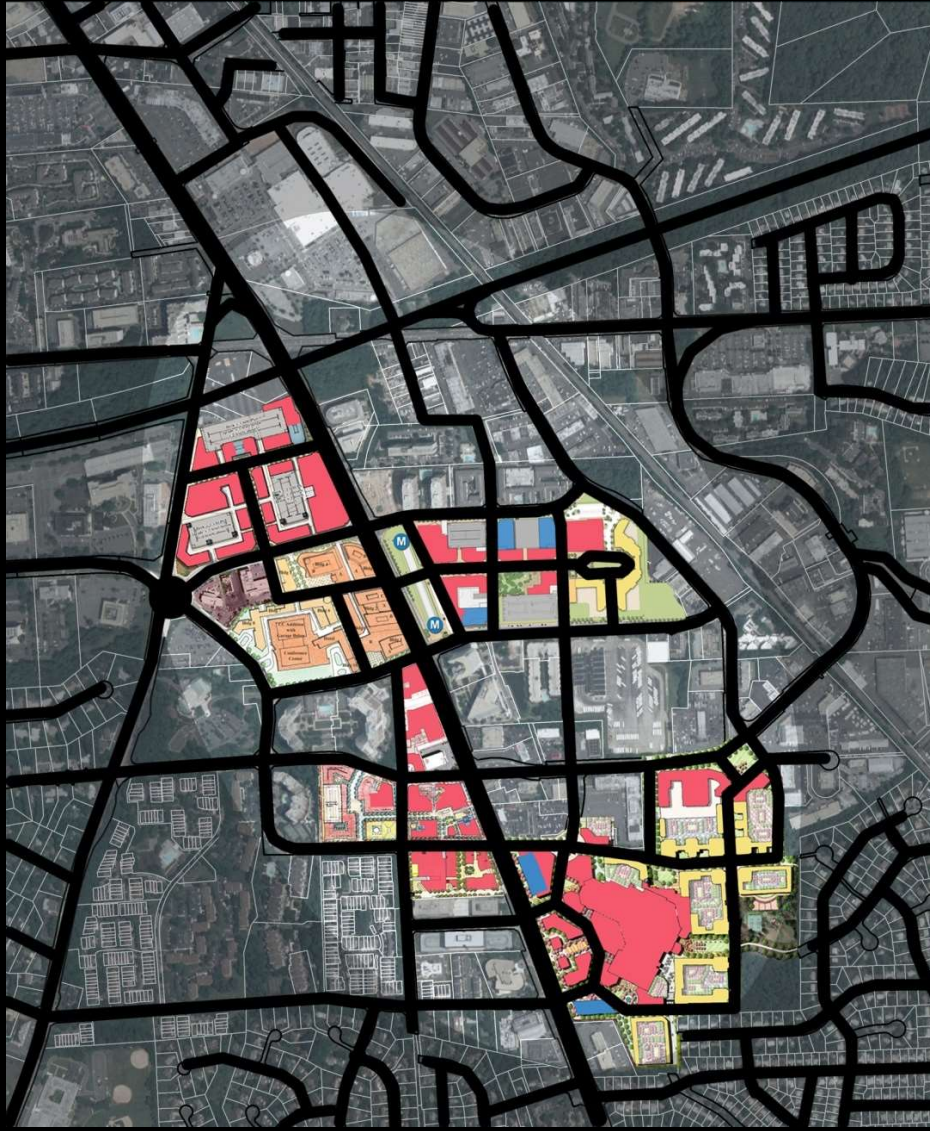


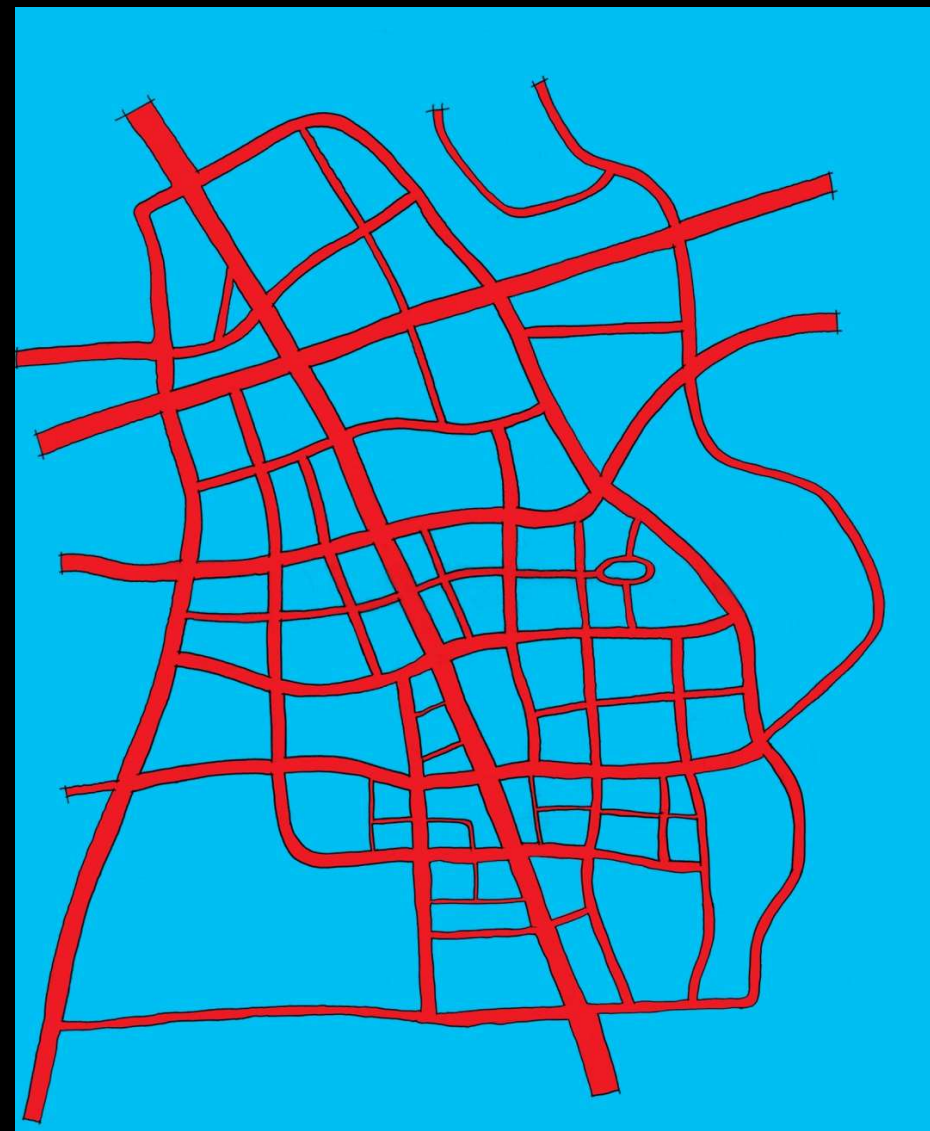


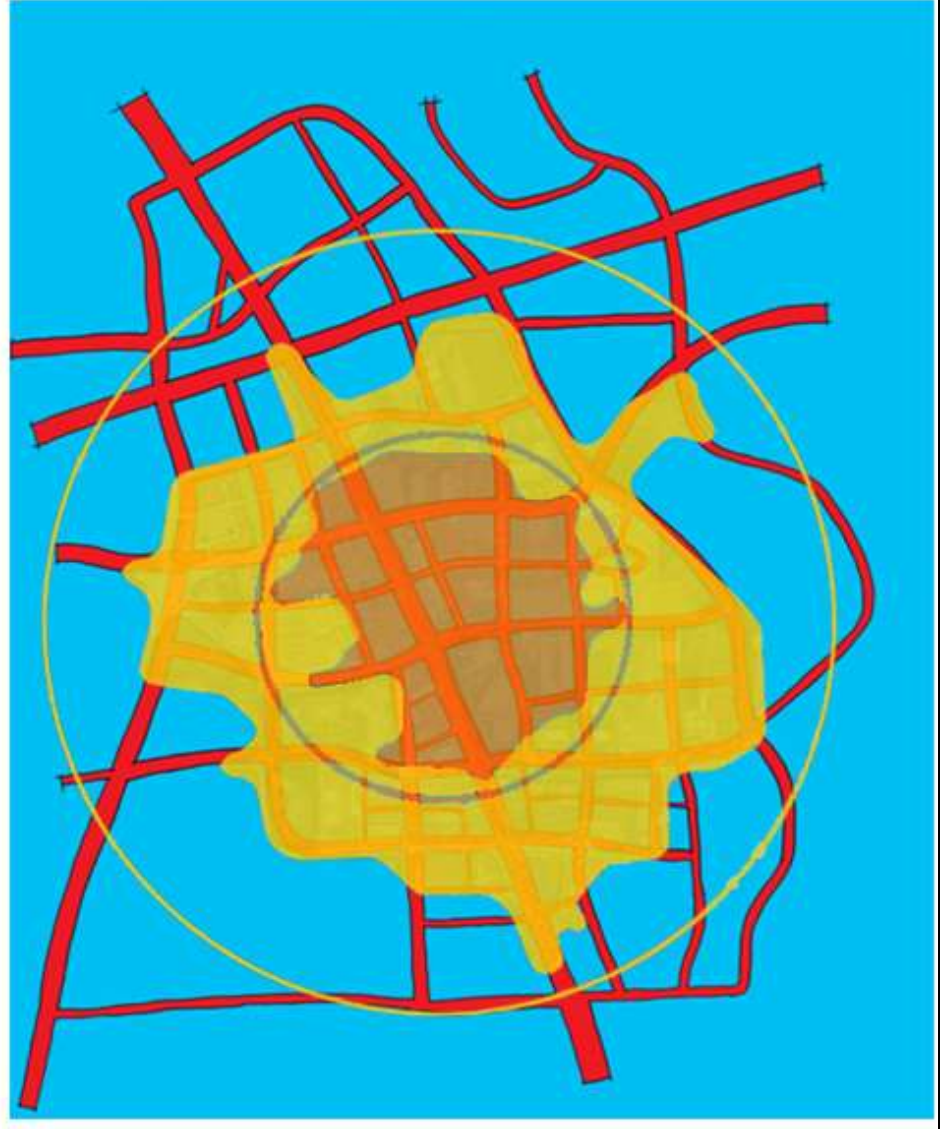
















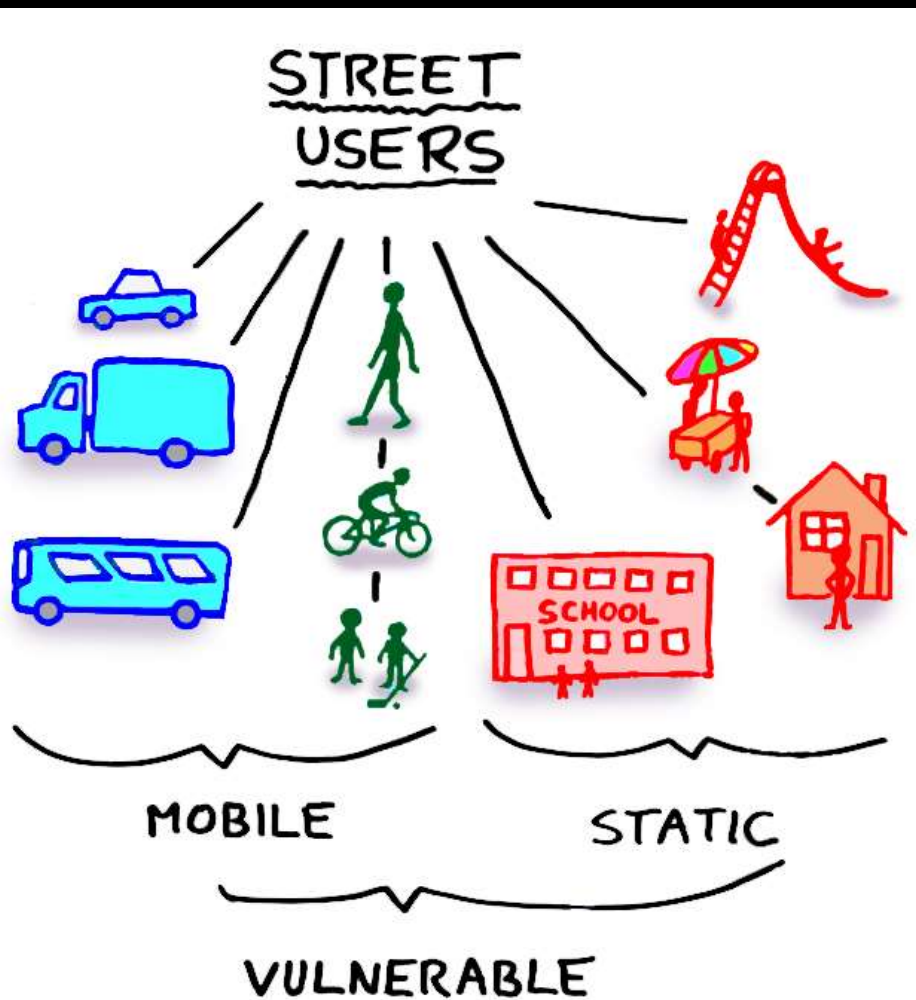


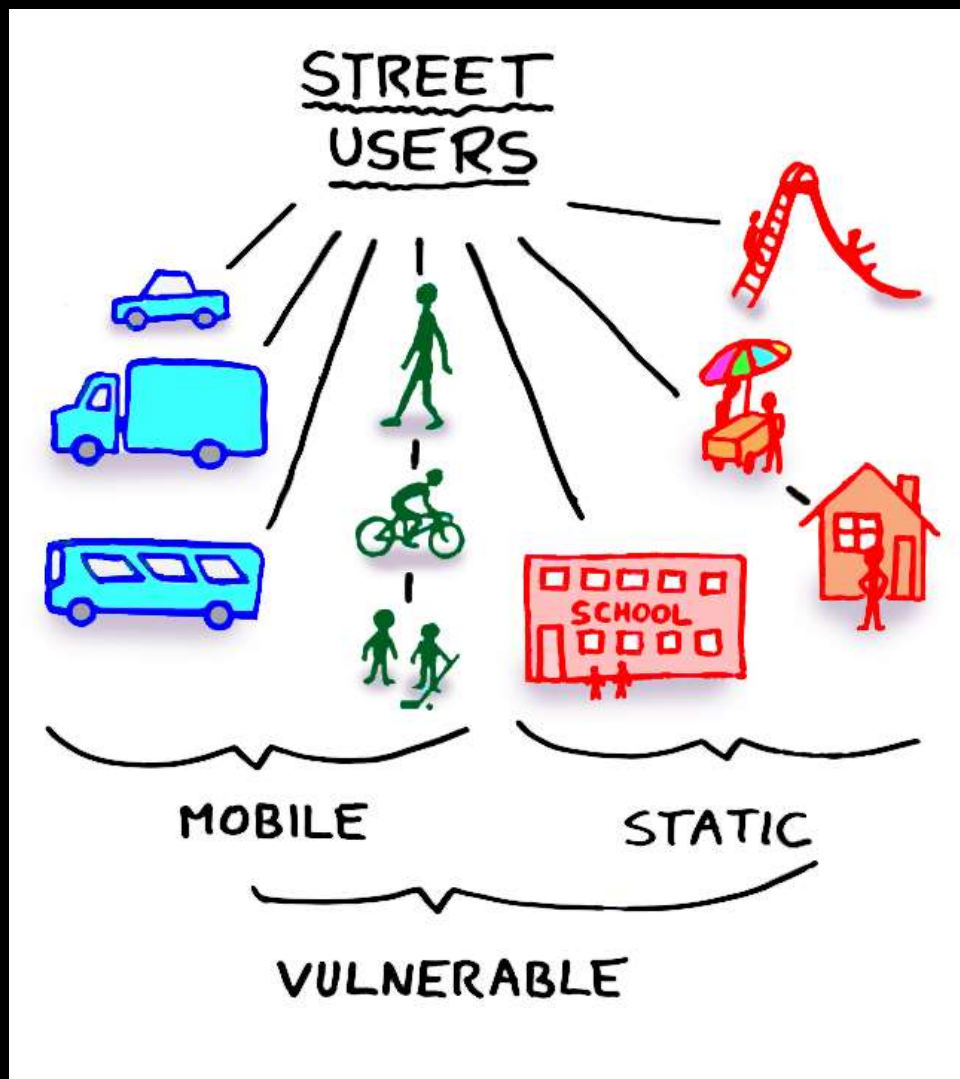




Suggestions:

Be empathetic in your arterial designs.

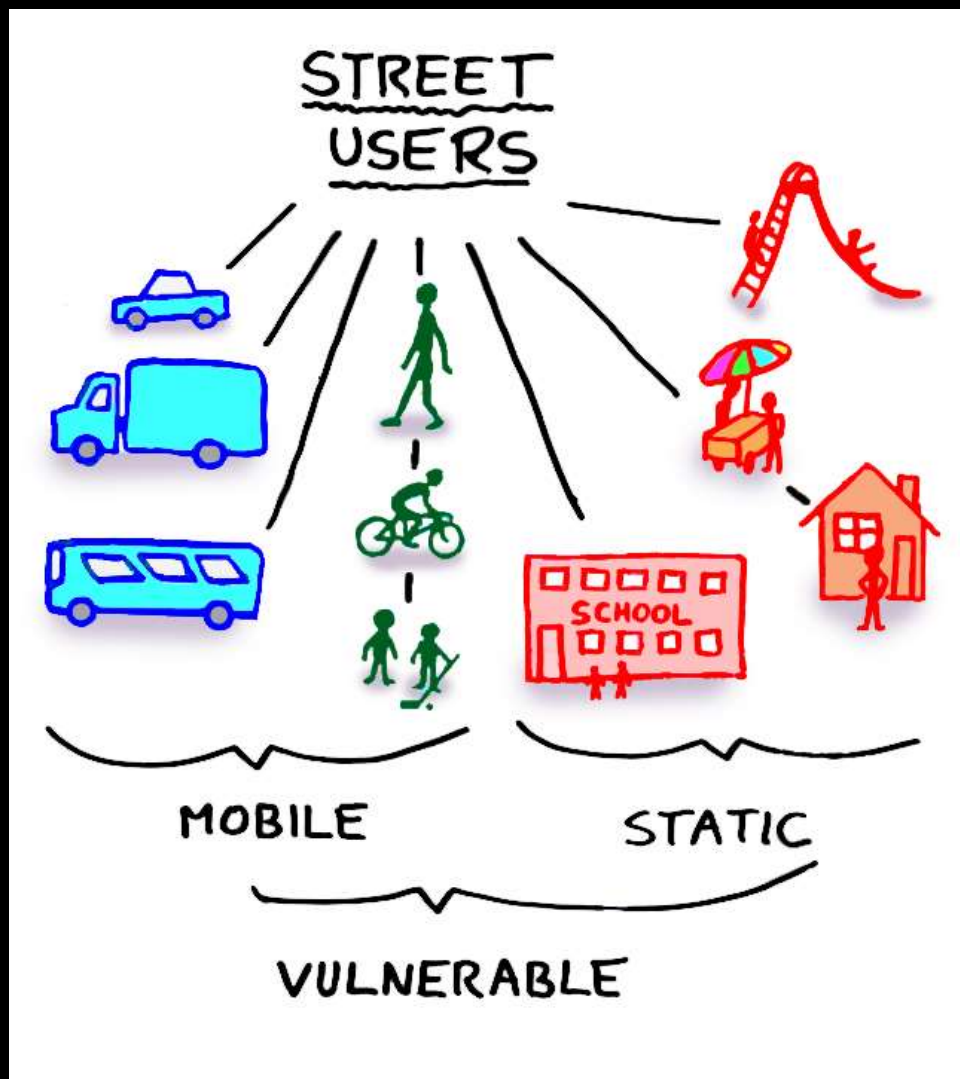




Suggestions:

Be empathetic in your arterial designs.

Switch from LOS to VMT for planning purposes.

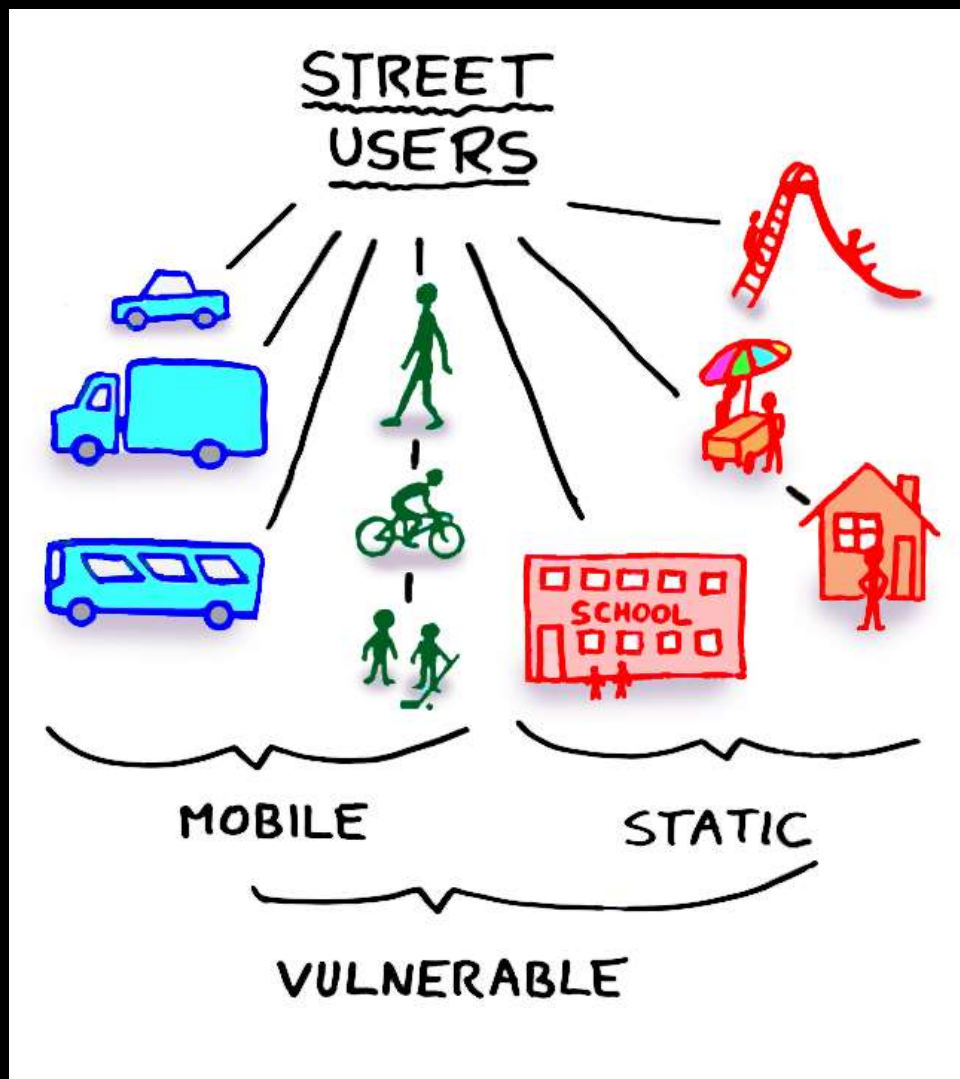


Suggestions:

Be empathetic in your arterial designs.

Switch from LOS to VMT for planning purposes.

Stop rewarding the problem.



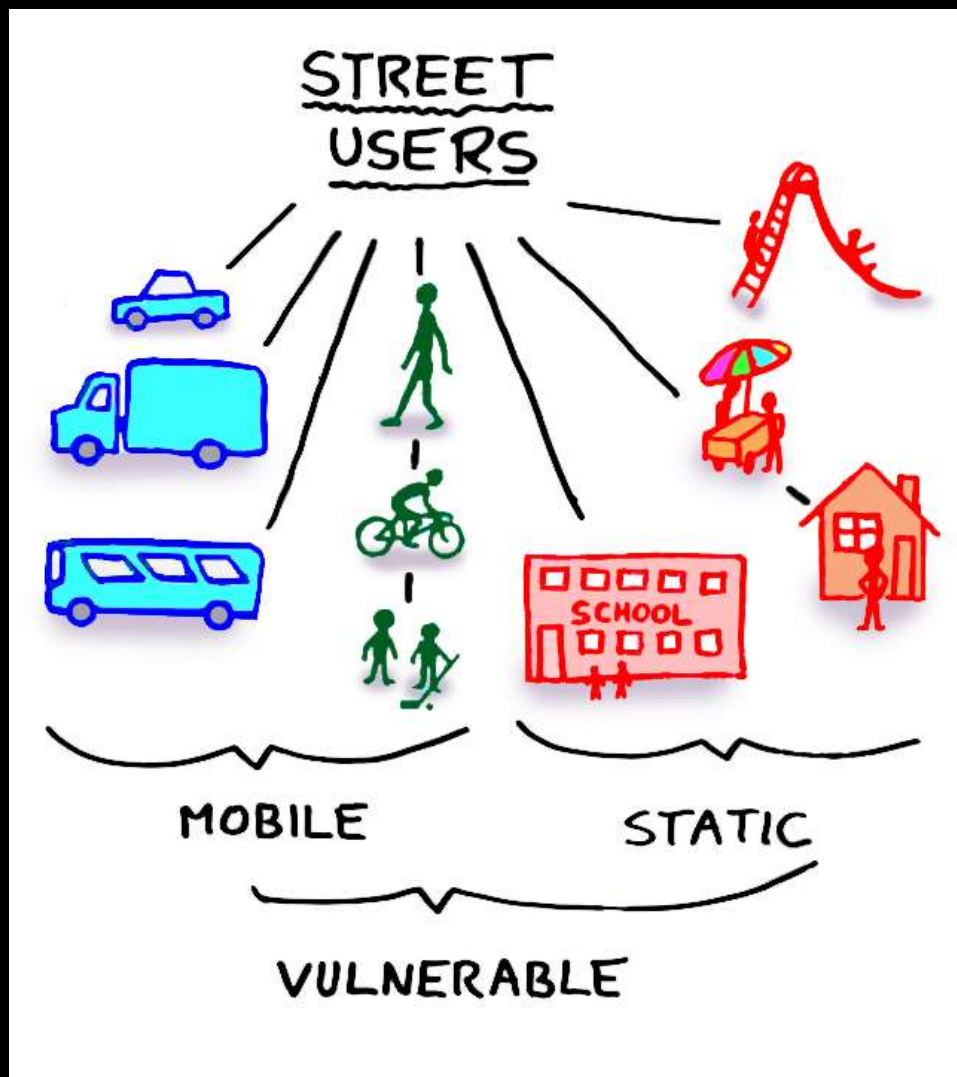
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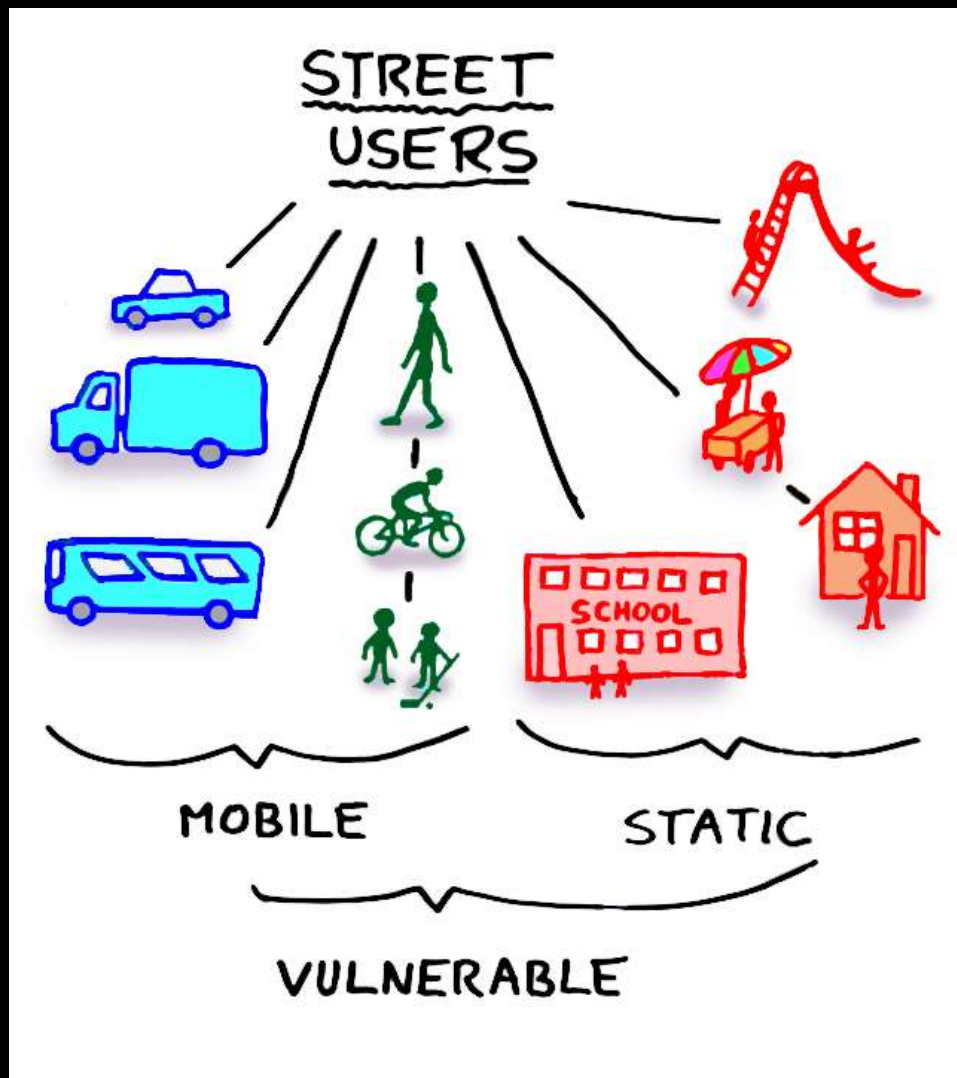
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Update your transportation language/culture.



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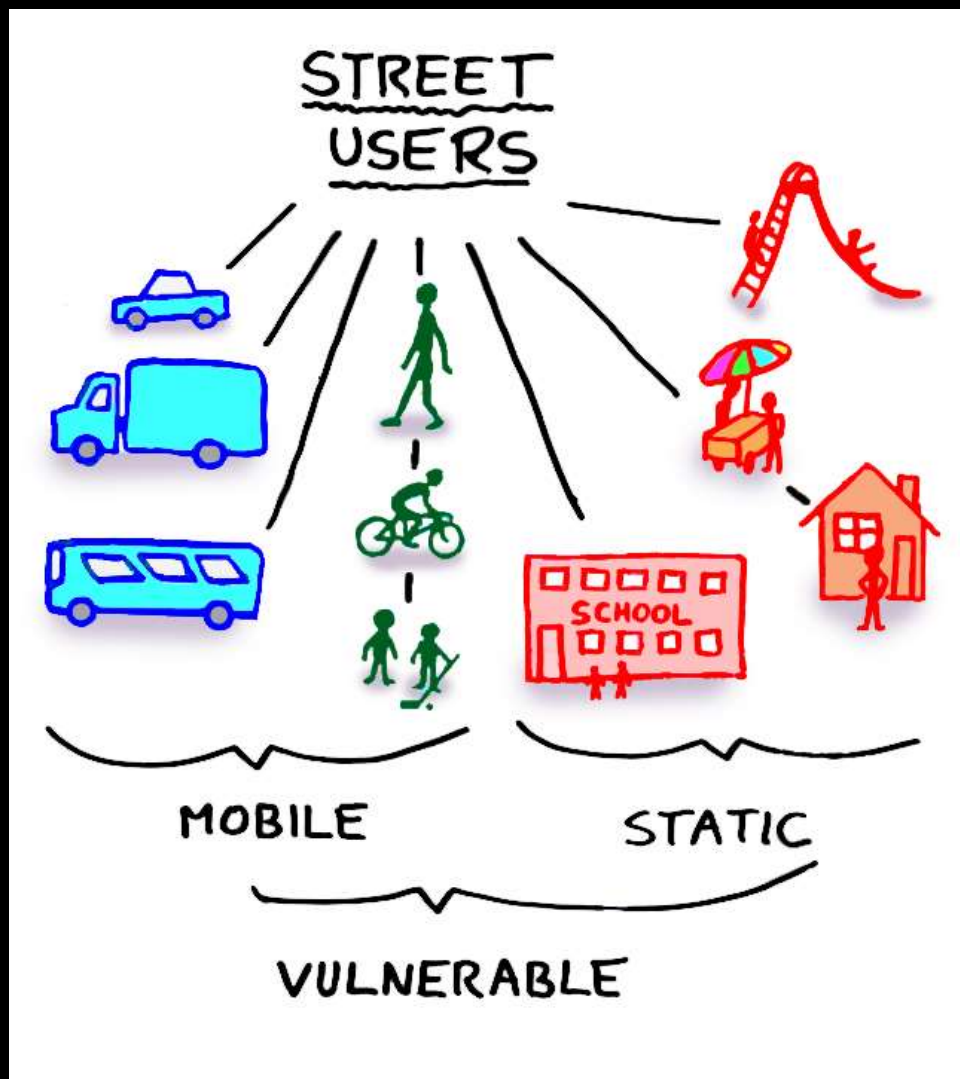
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Break up your superblocks were feasible with parallel network and focus on 2-lane streets.



Suggestions:

Be empathetic in your arterial designs.

Switch from LOS to VMT for planning purposes.

Stop rewarding the problem.

Embrace traditional values and ween off of conventional values.

Update your transportation language/culture.

Break up your superblocks were feasible with parallel network and focus on 2-lane streets.

Know that you are on the right side of history.



Thank You

T'OOLE
DESIGN

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