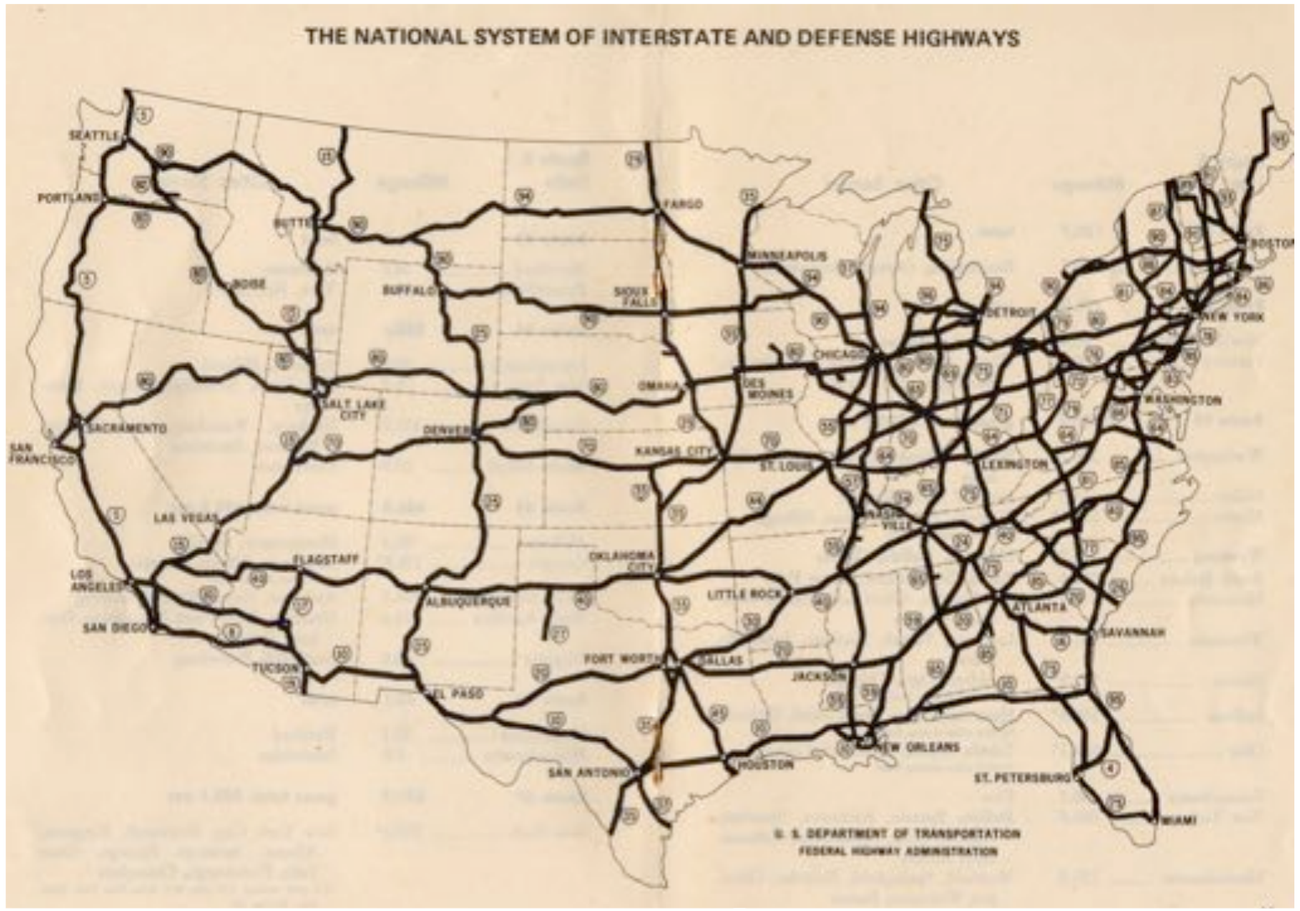
Unintended Consequences of Urban Highways and Possible Solutions

Peter J. Park

ITDP Webinar

December 16, 2019

Freedom of the American Road

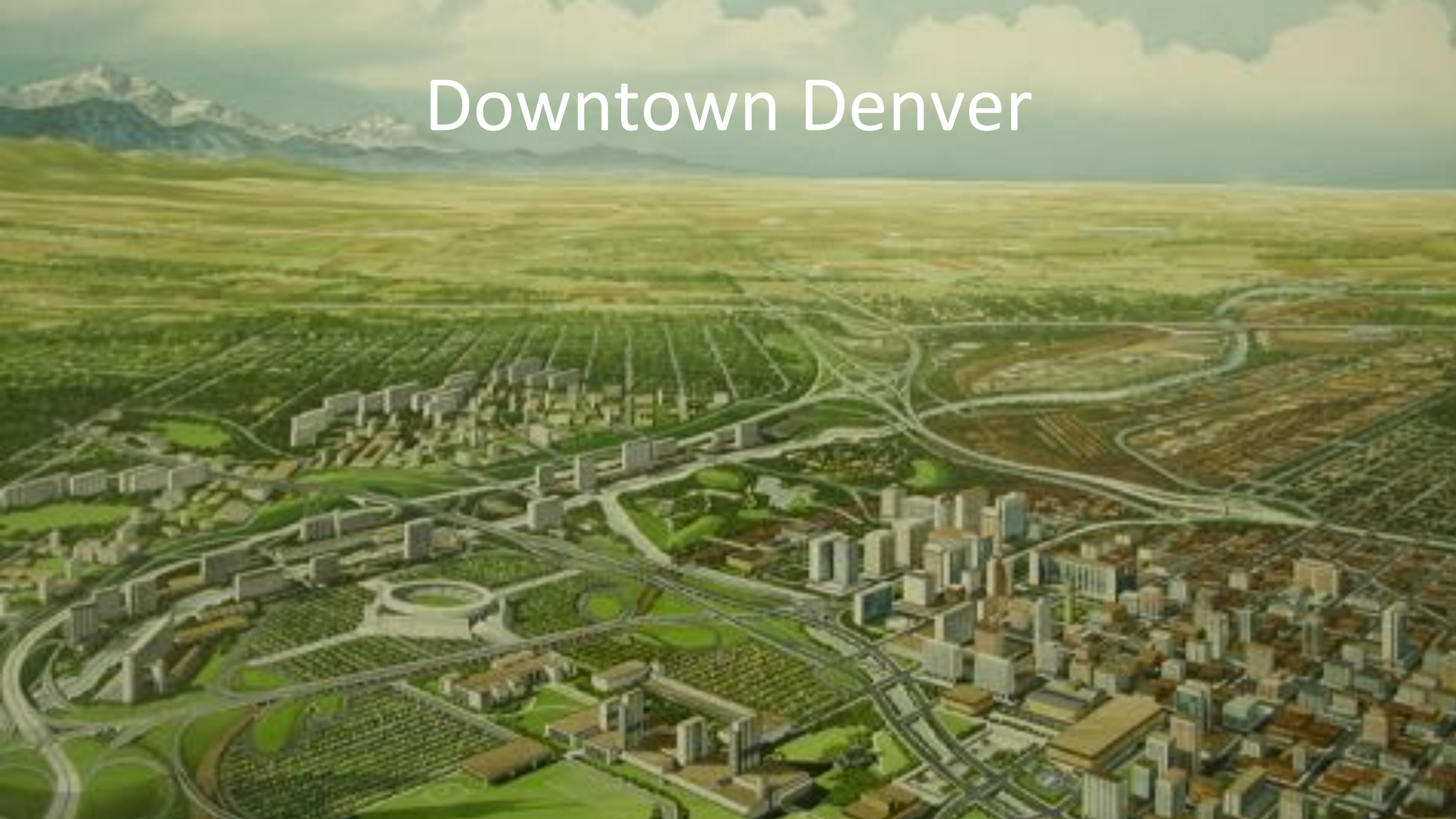


Highways for National Defense

By C. H. PURCELL, State Highway Engineer

Traveling on Beautiful Interstate 70

Downtown Denver



Downtown Denver

Downtown Denver

1936

1970

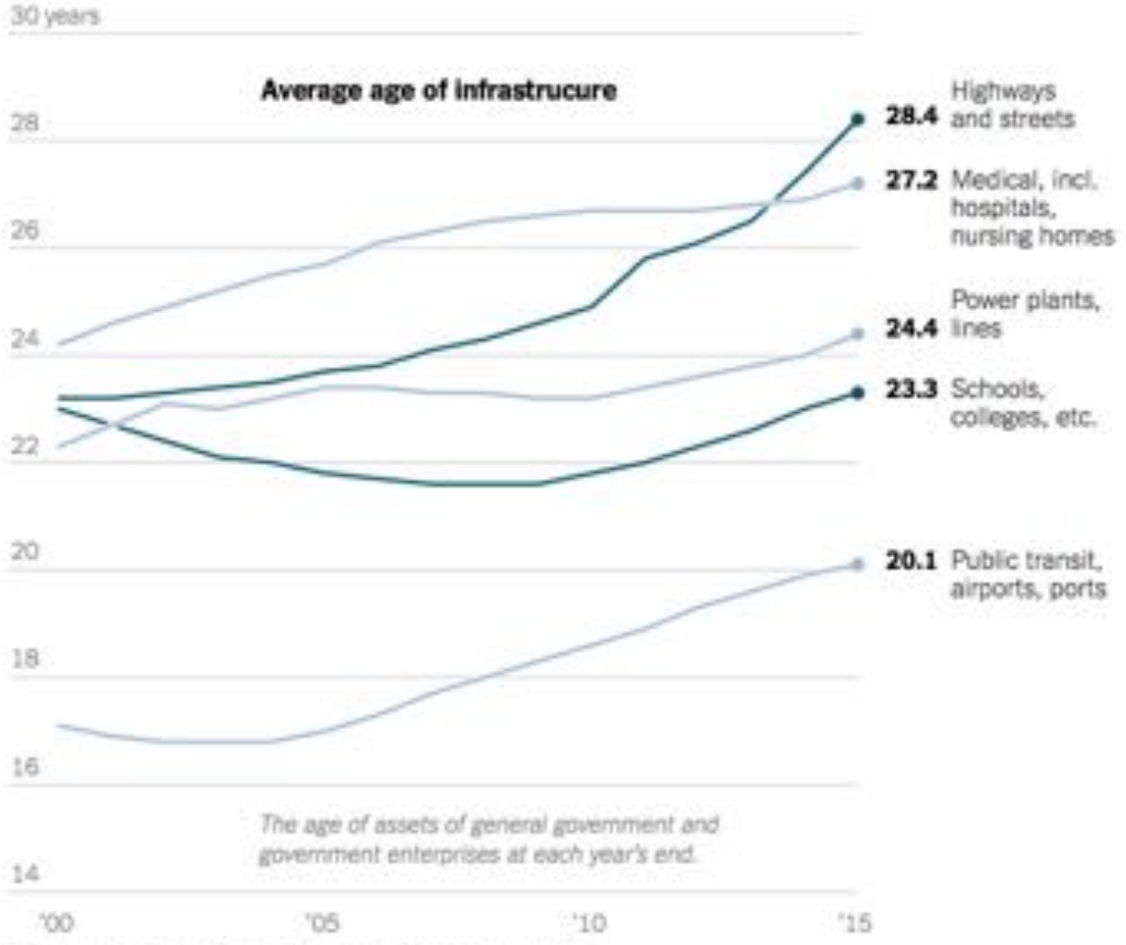
C H O I C E

OPPORTUNITY

CATEGORY	1988*	1998	2001	2005	2009	2013	2017
Aviation	B-	C-	D	D+	D	D	D
Bridges	–	C-	C	C	C	C+	C+
Dams	–	D	D	D+	D	D	D
Drinking Water	B-	D	D	D-	D-	D	D
Energy	–	–	D+	D	D+	D+	D+
Hazardous Waste	D	D-	D+	D	D	D	D+
Inland Waterways	B-	–	D+	D-	D-	D-	D
Levees	–	–	–	–	D-	D-	D
Ports	–	–	–	–	–	C	C+
Public Parks & Recreation	–	–	–	C-	C-	C-	D+
Rail	–	–	–	C-	C-	C+	B
Roads	C+	D-	D+	D	D-	D	D
Schools	D	F	D-	D	D	D	D+
Solid Waste	C-	C-	C+	C+	C+	B-	C+
Transit	C-	C-	C-	D+	D	D	D-
Wastewater	C	D+	D	D-	D-	D	D+
GPA	**C**	**D**	**D+**	**D**	**D**	**D+**	**D+**
Cost to Improve**	**–**	**–**	**$1.3T**	**$1.6T**	**$2.2T**	**$3.6T**	**$4.59T**

Public Assets Are Aging

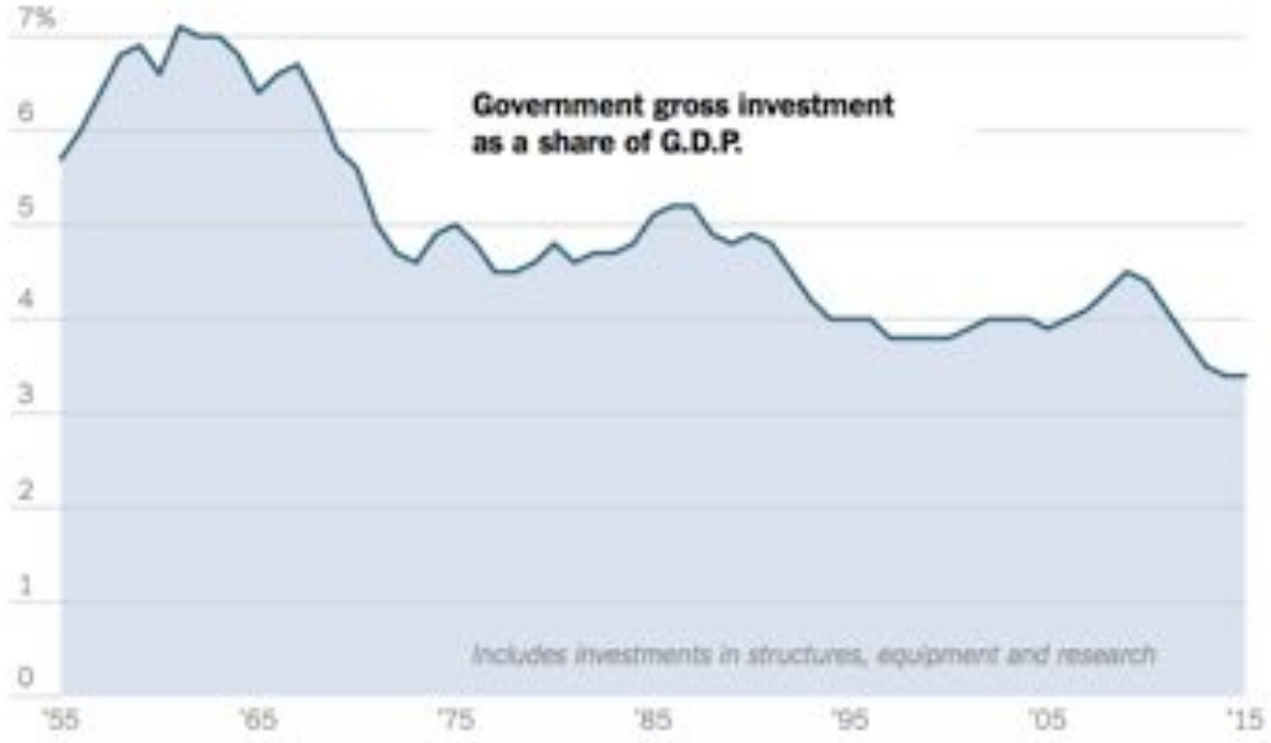
Shrinking investment over the past two decades has left the United States with an older, less efficient foundation for economic growth.

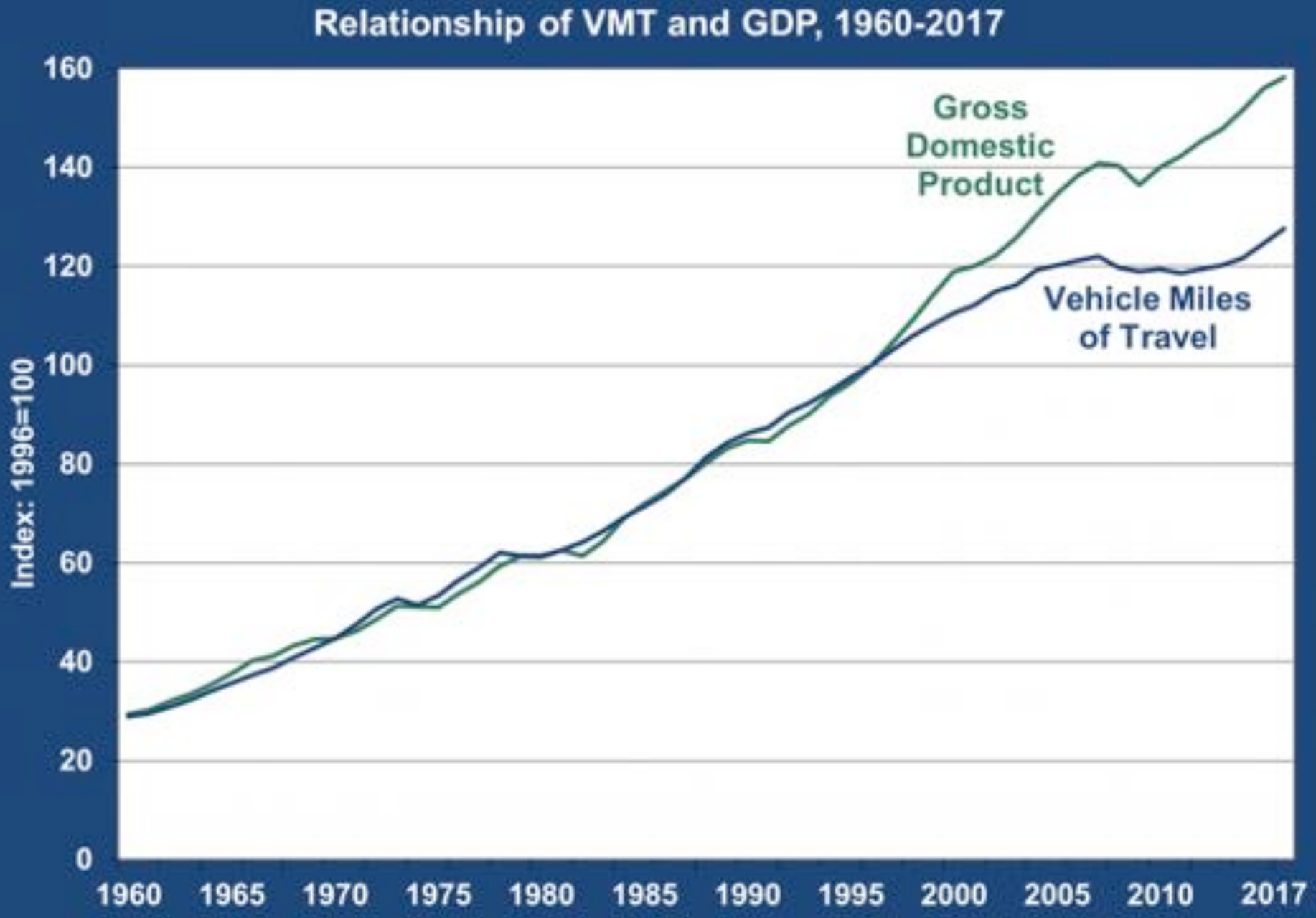


The New York Times | Source: Bureau of Economic Analysis

The Government Spends Less on Upkeep

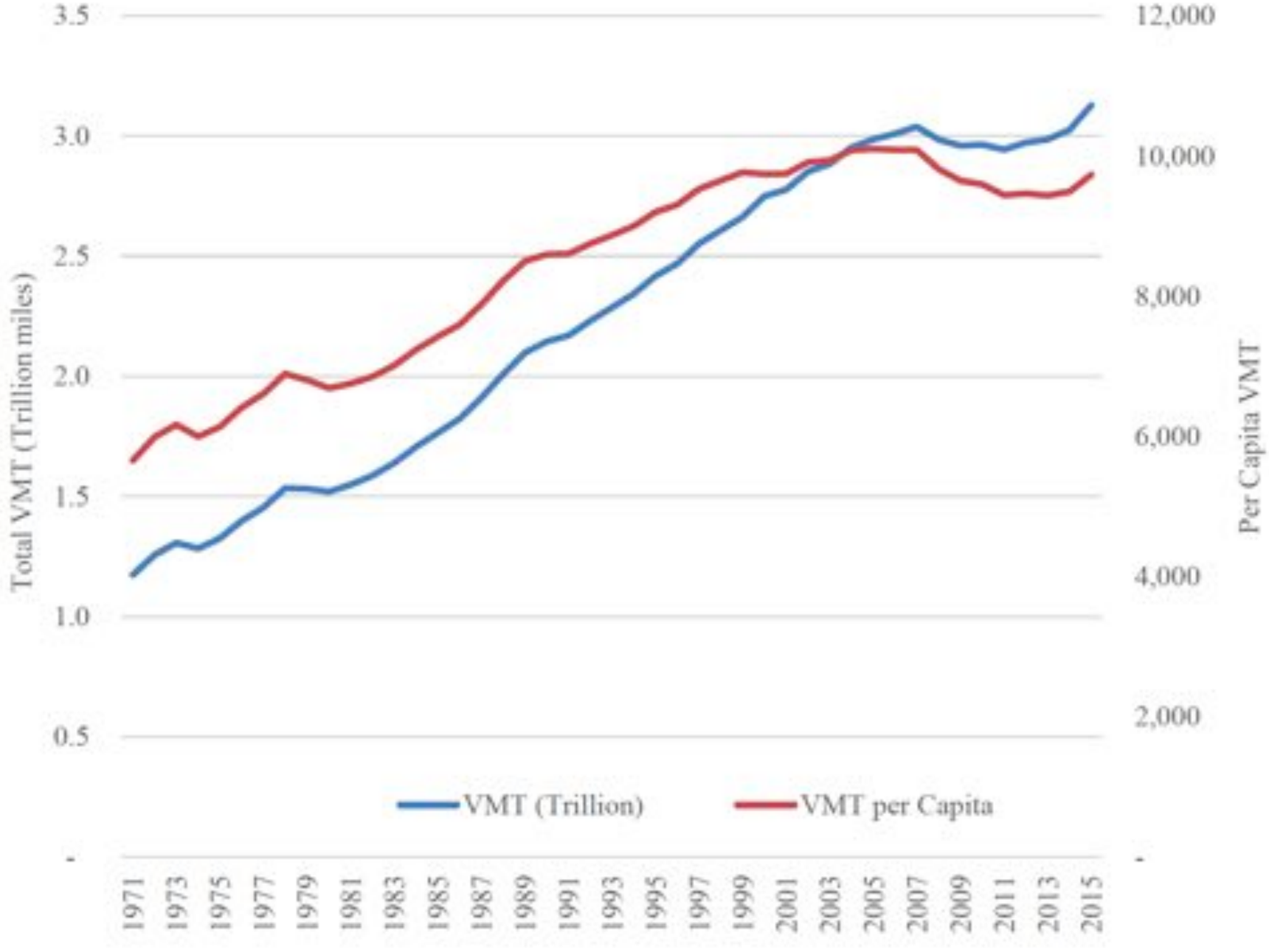
In the 1950s and '60s, federal, state and local governments were spending twice as much on the nation's public infrastructure, relative to the size of the economy, as they are today.





U.S. Department of Energy, Vehicle Technologies Office

Relationship of VMT and VMT per Capita, (1970-2015)



National Center for Sustainable Transportation

ITS UCDAVIS INSTITUTE OF TRANSPORTATION STU

1. Passenger travel trends **no longer closely track** economic trends.
2. Changes in gas prices have **weak impact** on VMT.
3. The urban form of American cities is **changing**.
4. Socio-demographic trends have potentially **lasting effects** on travel demand.
5. Individuals belonging to **all generations** are frequent users of modern technologies.
6. Technology-enabled shared mobility services are **lessening necessity** of private vehicle ownership.

Urban Highway Removals Completed and Planned

ITDP EMBARQ

THE LIFE AND DEATH OF URBAN HIGHWAYS

CNU CONGRESS FOR THE NEW URBANISM

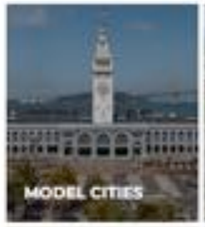
WHO WE ARE | WHAT WE DO | RESOURCES

Highways to Boulevards

In the 20th Century, the American era of highway-building created sprawling freeways that cut huge swaths through our cities. Too often vibrant, diverse, and functioning neighborhoods were destroyed or isolated by their construction, devastating communities and economies alike. Today, many of these urban freeways are reaching the end of their lifespans—and their continuing purpose and worth is being called into question.

As Federal and State Departments of Transportation confront shrinking budgets, and cities look for ways to increase their revenues, replacing freeways with surface streets has gained recognition as both a practical alternative to rebuilding expensive highways and as a means to restore and revitalize communities. Cities as diverse as Portland, OR, San Francisco, CA, Milwaukee, WI, and Seoul, South Korea, have successfully replaced urban highways with boulevards and surface streets, saving billions of dollars in infrastructure costs, increasing real estate values on adjacent land, and restoring urban neighborhoods.

As end-stage urban freeways and their adjacent corridors present opportunities to transform broken liabilities into assets, elected officials and citizens alike can be advocates for transformations that support socially and economically valuable places.



CNU CONGRESS FOR THE NEW URBANISM

WHO WE ARE | WHAT WE DO | RESOURCES

Freeways Without Futures

CNU advocates for replacing urban freeways with surface streets, boulevards and
most cost-effective, sustainable option for cities grappling with aging grade sepa
This has the added benefit of providing significant opportunities to heal local stre
and improve regional traffic dispersion. As federal and state DOTs confront shrin
and cities look for ways to increase their tax base and revenues, community and p
is building for connected street grids and improved transit options that are less e
maintain and offer better alternatives to the rebuilding of urban freeways.

Coming soon: Our 2019 report.

2010 F
WITHO
FUTUR

2008 FREEWAYS WITHOUT FUTURES

RETHINKING HIGHWAYS IN AMERICAN CITIES

JULY 2013

Peter J. Park

ABSTRACT: Since 2005, the Congress for the New Urbanism's Highways-to-Boulevards initiative has argued that replacing urban freeways with surface streets, boulevards and avenues is the most cost-effective, sustainable option for cities with aging grade separated roads. Since the West Side Highway was removed in 1977, CNU has tracked nearly 115 freeway candidates, more than 25 active removal campaigns, and ten successful removal efforts. The increase in removal candidates and active campaigns has repositioned urban freeway removal

DESIGN FLAW

Limited Access vs Fine-grained Network

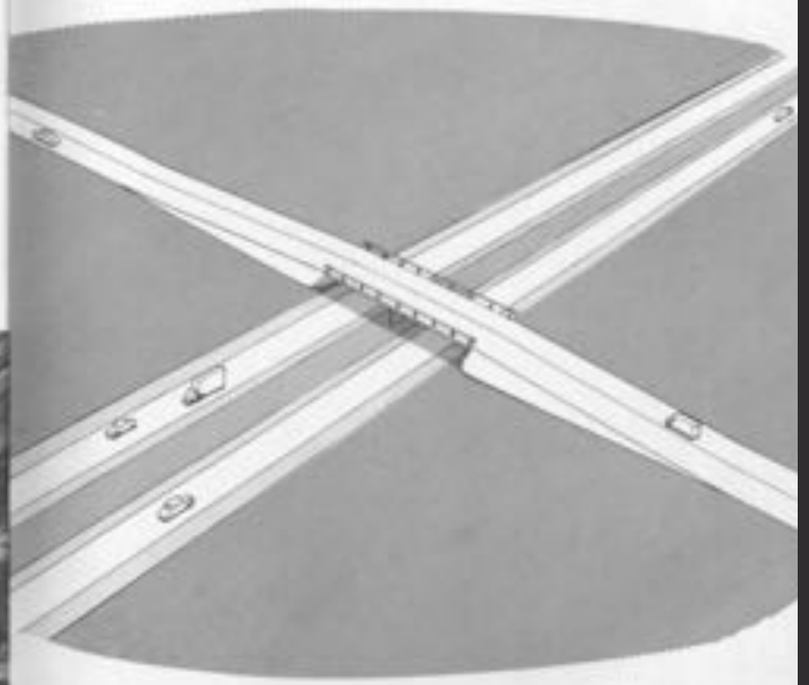
Traveling on Beautiful Interstate 70

TEXAS and the Interstate Highway System

Published by
TEXAS HIGHWAY DEPARTMENT
AUSTIN, TEXAS
1957

Major Road Crossing

Structures such as these will be built where other state highways and major local roads intersect and cross the interstate highways. By using the correct lane or ramp, motorists will be able to change routes, take any route they wish, without crossing any conflicting lane of traffic.



Minor Road Crossing

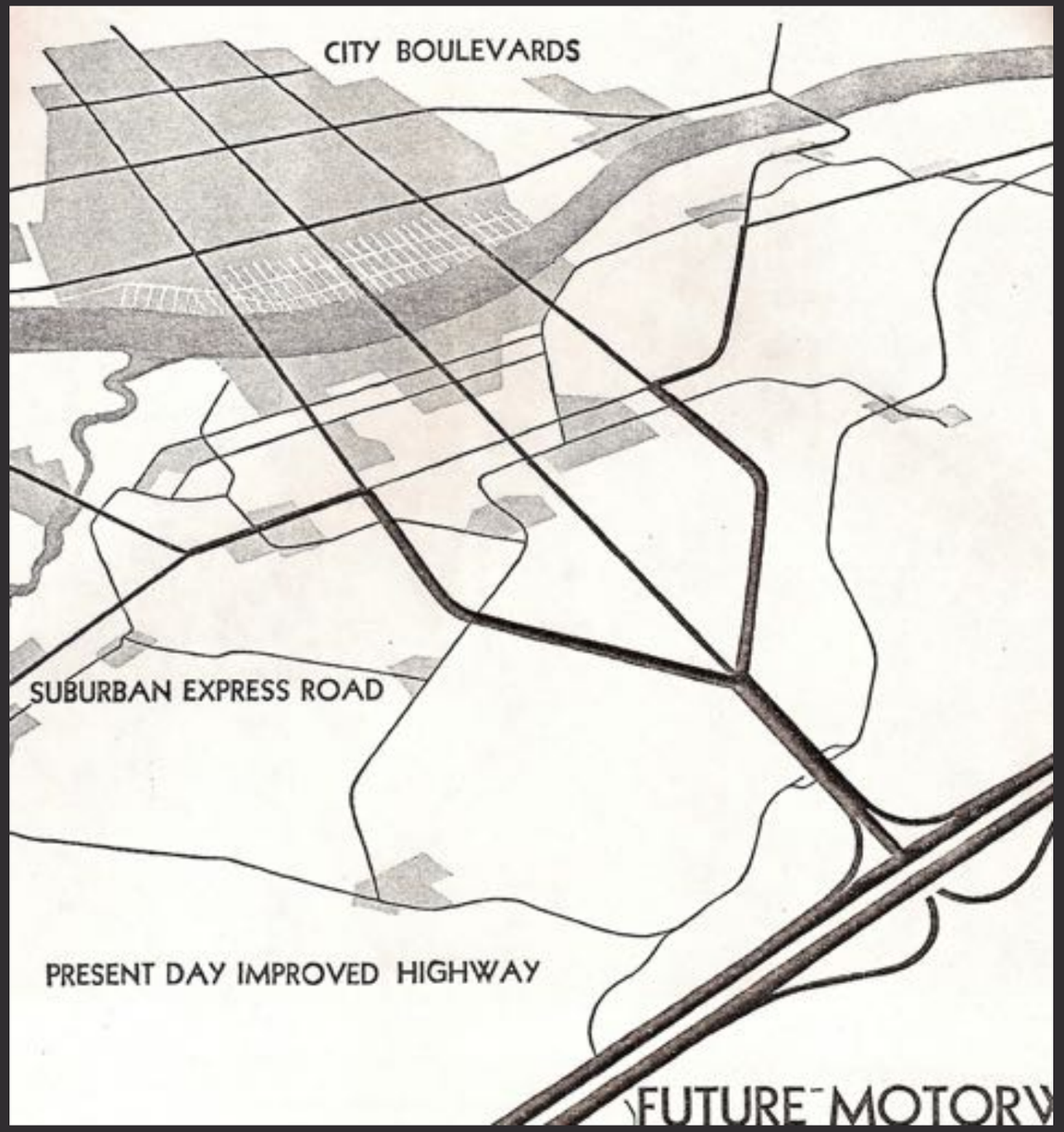
For a very low-traffic cross road where no interchange is needed a simple grade separation will be constructed to move cross traffic over or under the expressway lanes.

"**PRESIDENT EISENHOWER** went on to say that the matter of running Interstate routes through the congested parts of the cities was entirely against his original concept and wishes;

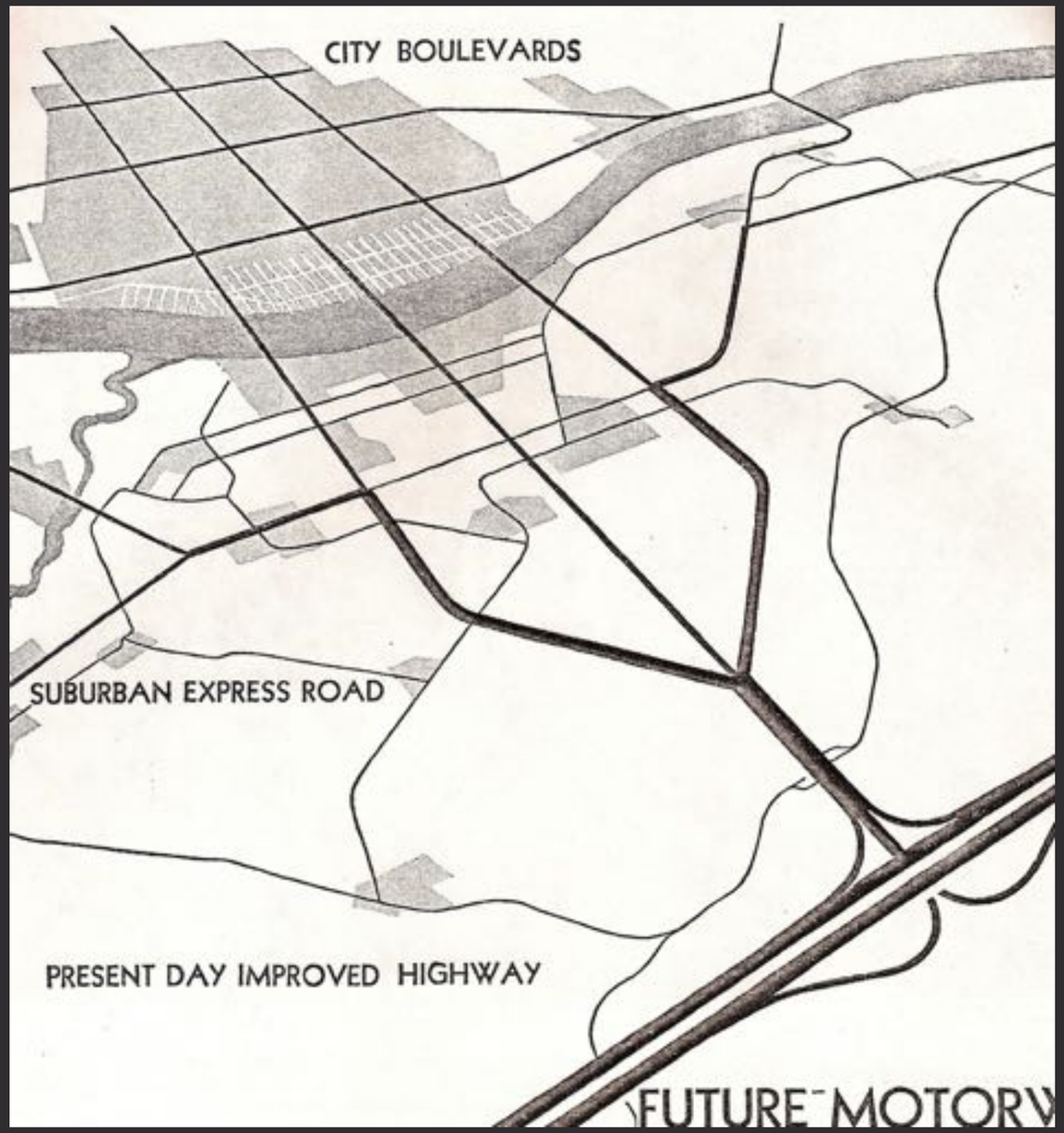
that he never anticipated that the program would turn out this way . . . and that he was certainly not aware of any concept of using the program to build up an extensive intra-city route network as part of the program he sponsored. He added that those who had not advised him that such was being done, and those who steered the program in such a direction, had not followed his wishes."

NOTES FROM MEETING - APRIL 6TH, 1960

EISENHOWER PRESIDENTIAL LIBRARY ARCHIVES

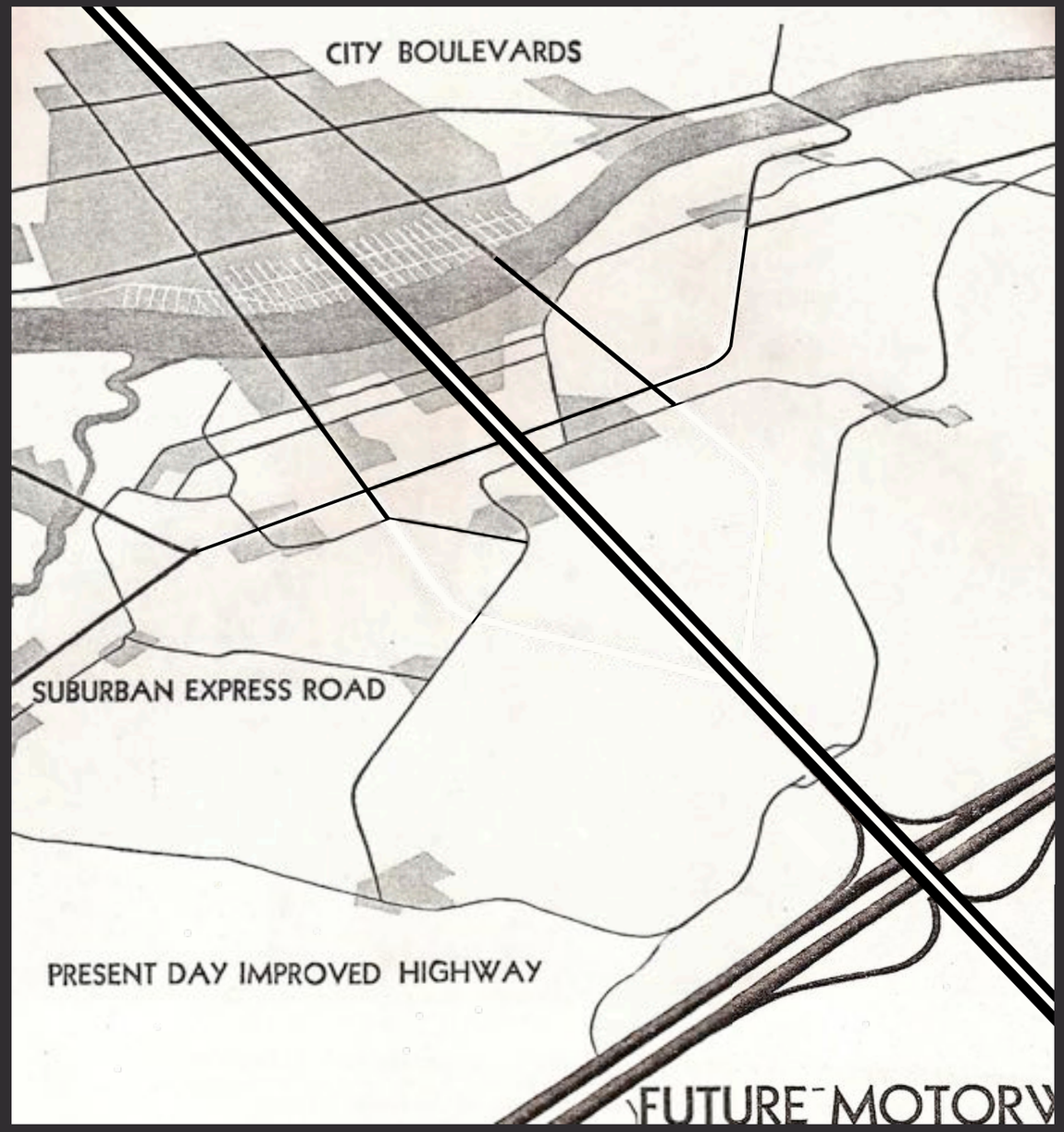

CITY BOULEVARDS
SUBURBAN EXPRESS ROAD
PRESENT DAY IMPROVED HIGHWAY
FUTURE MOTORW


MAGIC MOTORWAYS
NORMAN BEL GEDDES



“...frequent streets and short blocks are valuable because of the fabric of intricate cross-use that they permit among the users of a city neighbourhood.”

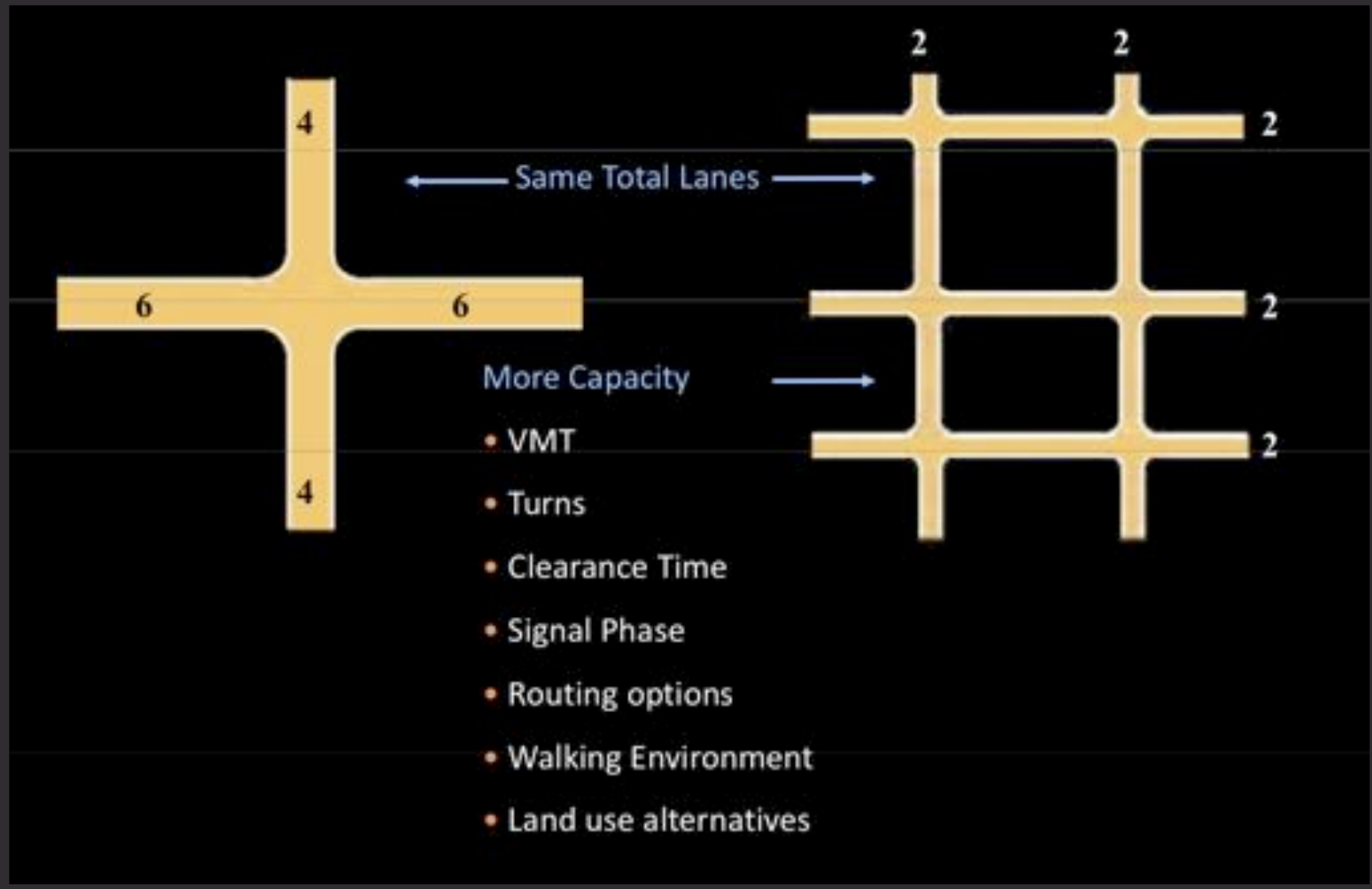
Jane Jacobs



“Our major highway systems are conceived, in the interests of speed, as linear organizations, that is to say as arteries…Highway planners have yet to realize that these arteries must not be thrust into the delicate tissue of our cities; the blood they circulate must rather enter through an elaborate network of minor blood vessels and capillaries.”

Lewis Mumford

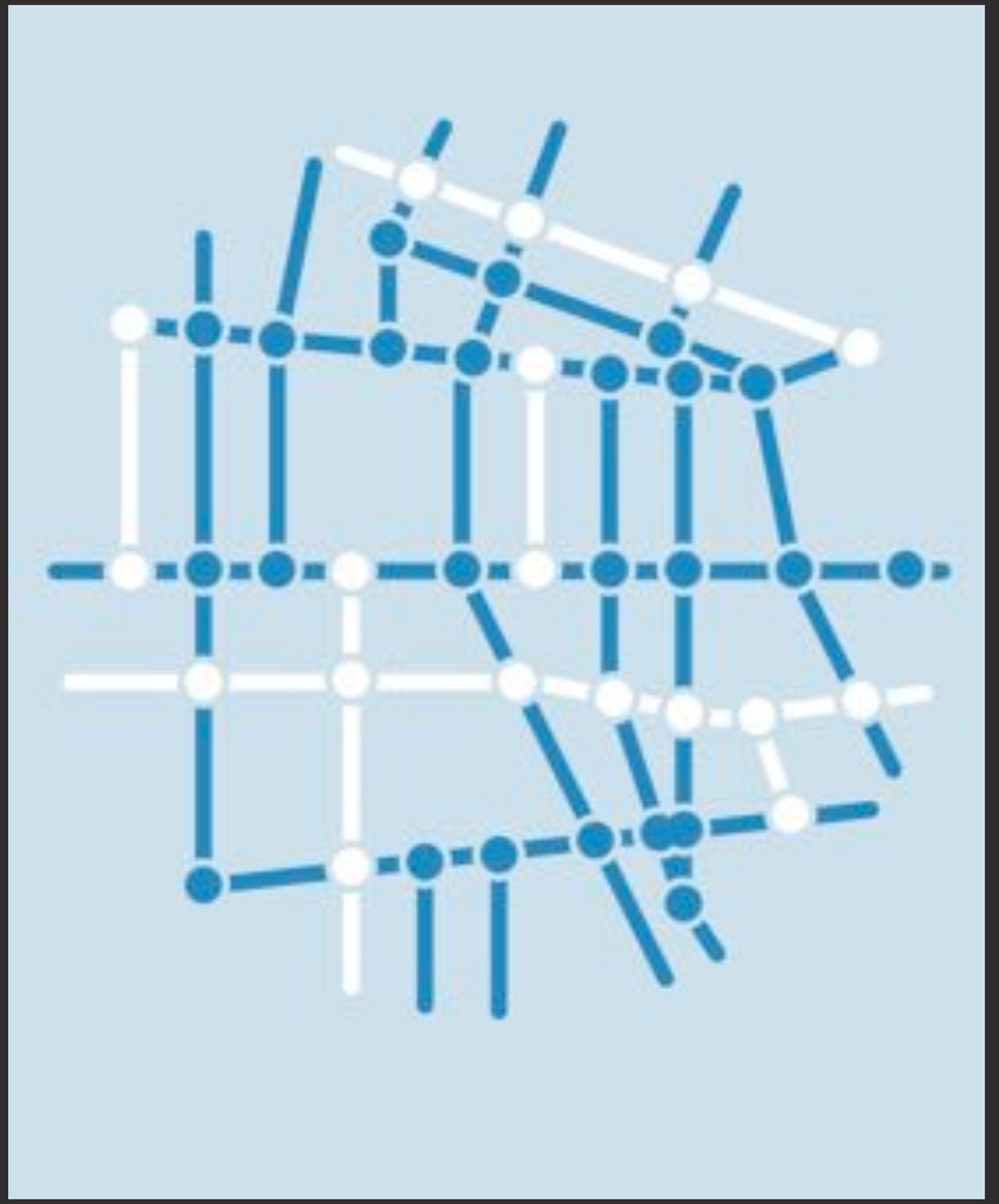
Fine-grained Network

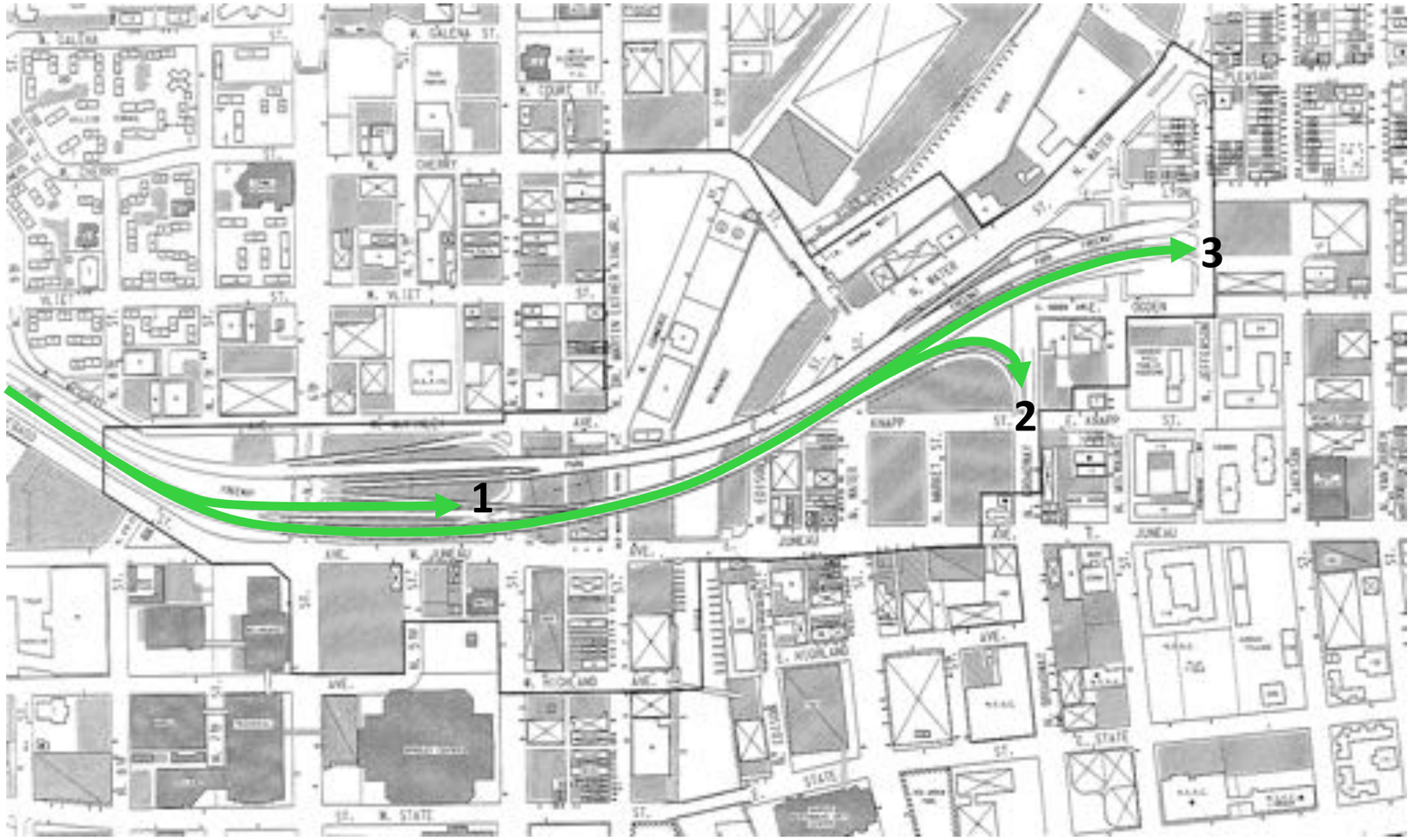


CNU PROJECT FOR TRANSPORTATION REFORM

Sustainable Street Network Principles

CONGRESS FOR THE NEW URBANISM

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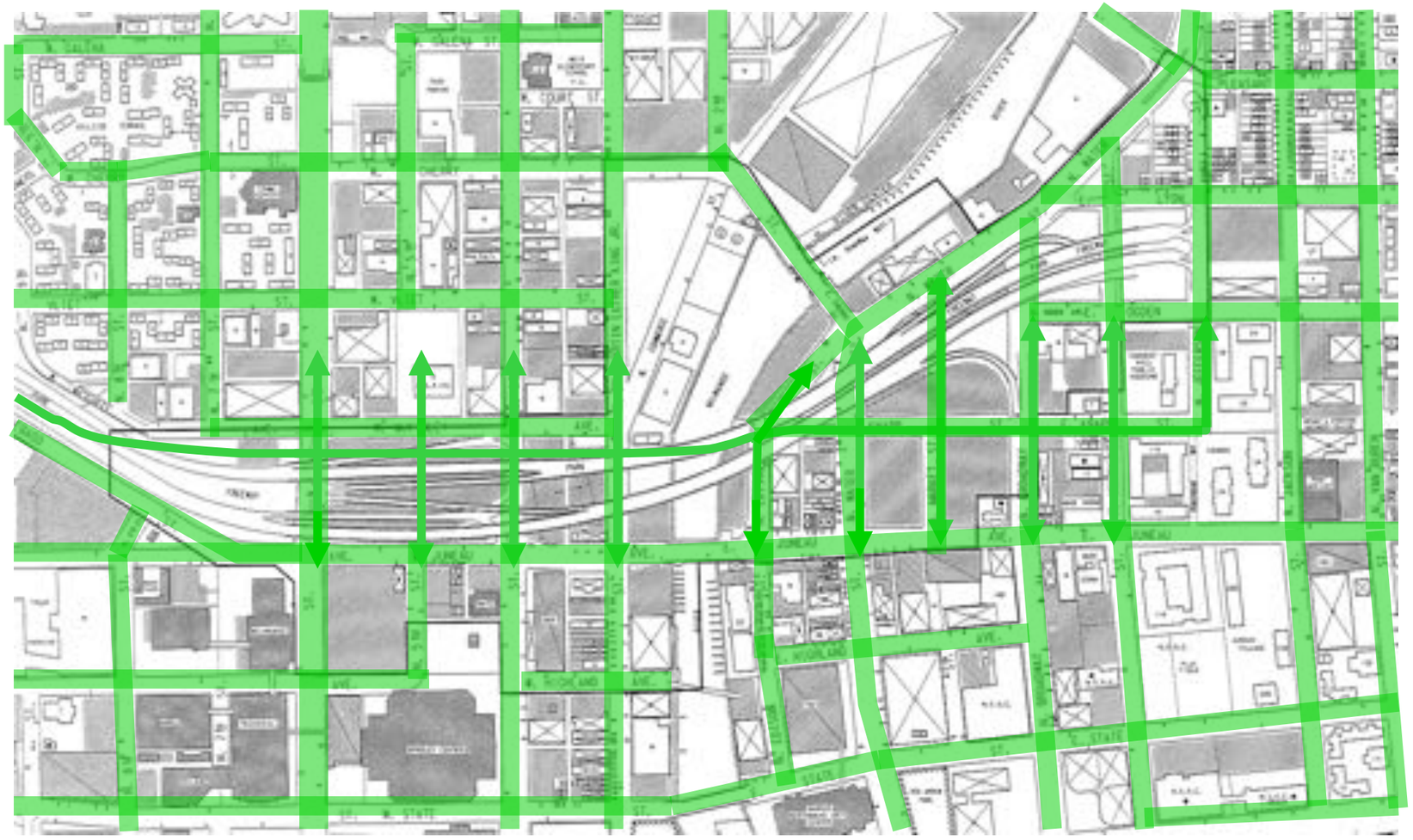
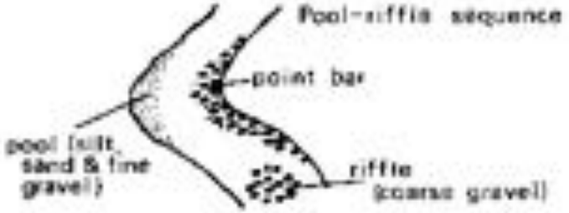


NATURAL CHANNEL

Suitable water temperatures
adequate shading; good cover for fish life; minimal variation in temperatures; abundant leaf material input.



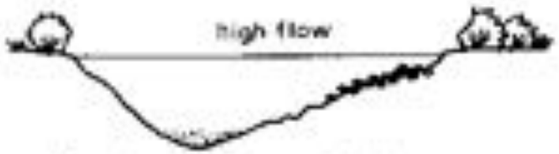
Sorted gravels provide diversified habitats for many stream organisms.

MANMADE CHANNEL

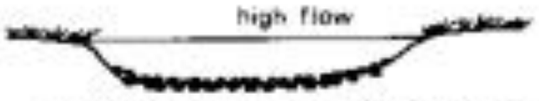
Increased water temperatures
no shading; no cover for fish life; rapid daily and seasonal fluctuations in temperatures; reduced leaf material input.

Unsorted gravels:
reduction in habitats, few organisms

Pool environment

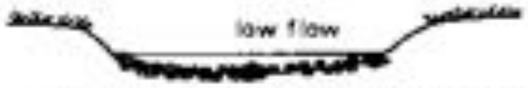


Diversity of water velocities:
high in pools, lower on riffles. Resting areas abundant beneath undercut banks or behind large rocks etc.

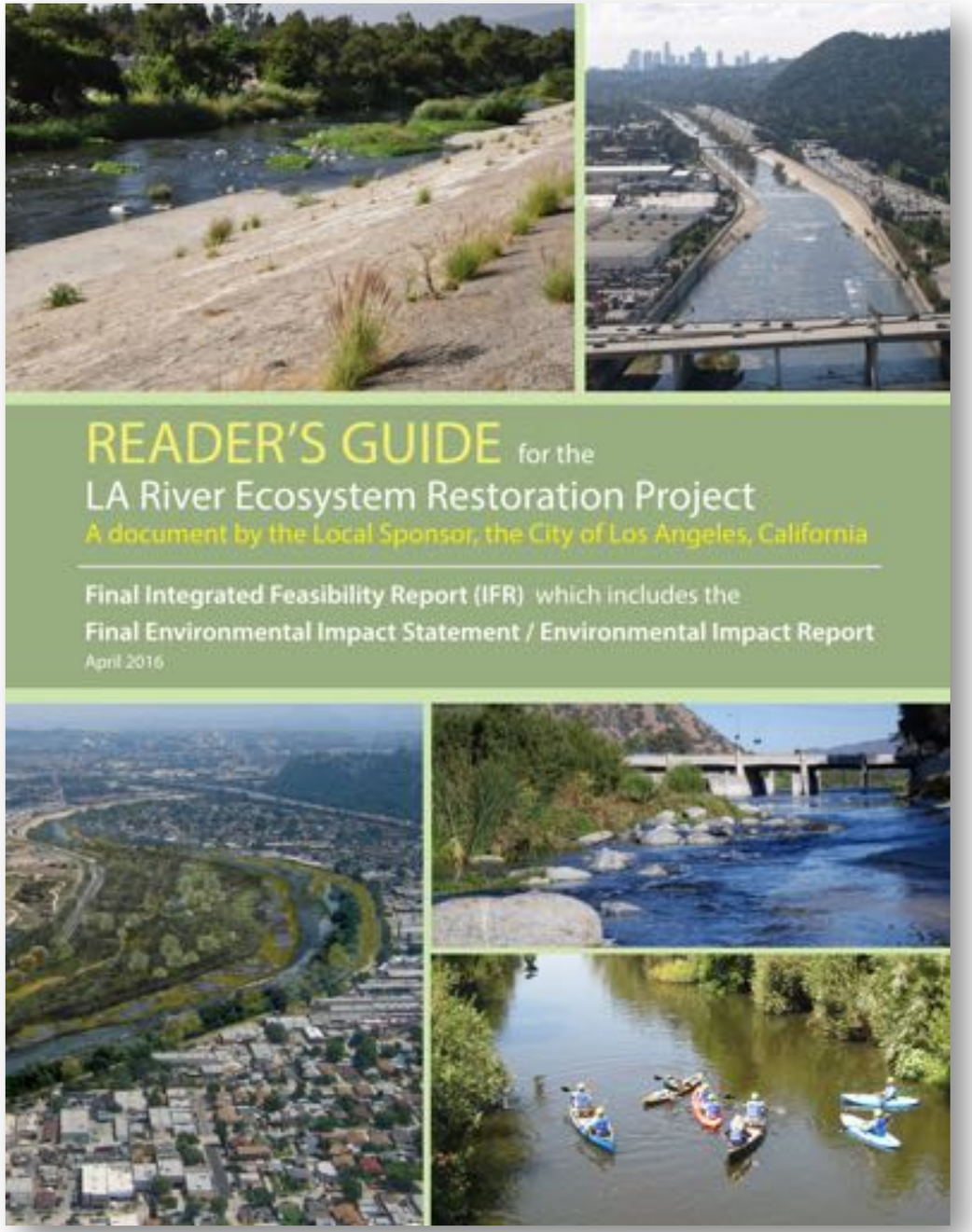


may have stream velocities higher than some aquatic life can withstand. Few or no resting places.

Sufficient water depth to support fish and other aquatic life during dry season.



Insufficient depth of flow during dry seasons to support diversity of fish and aquatic life. Few if any pools (all riffle)



LA River Ecosystem

Habitat restoration is one of the main goals of the Army Corps Feasiblity Study for the Los Angeles River.

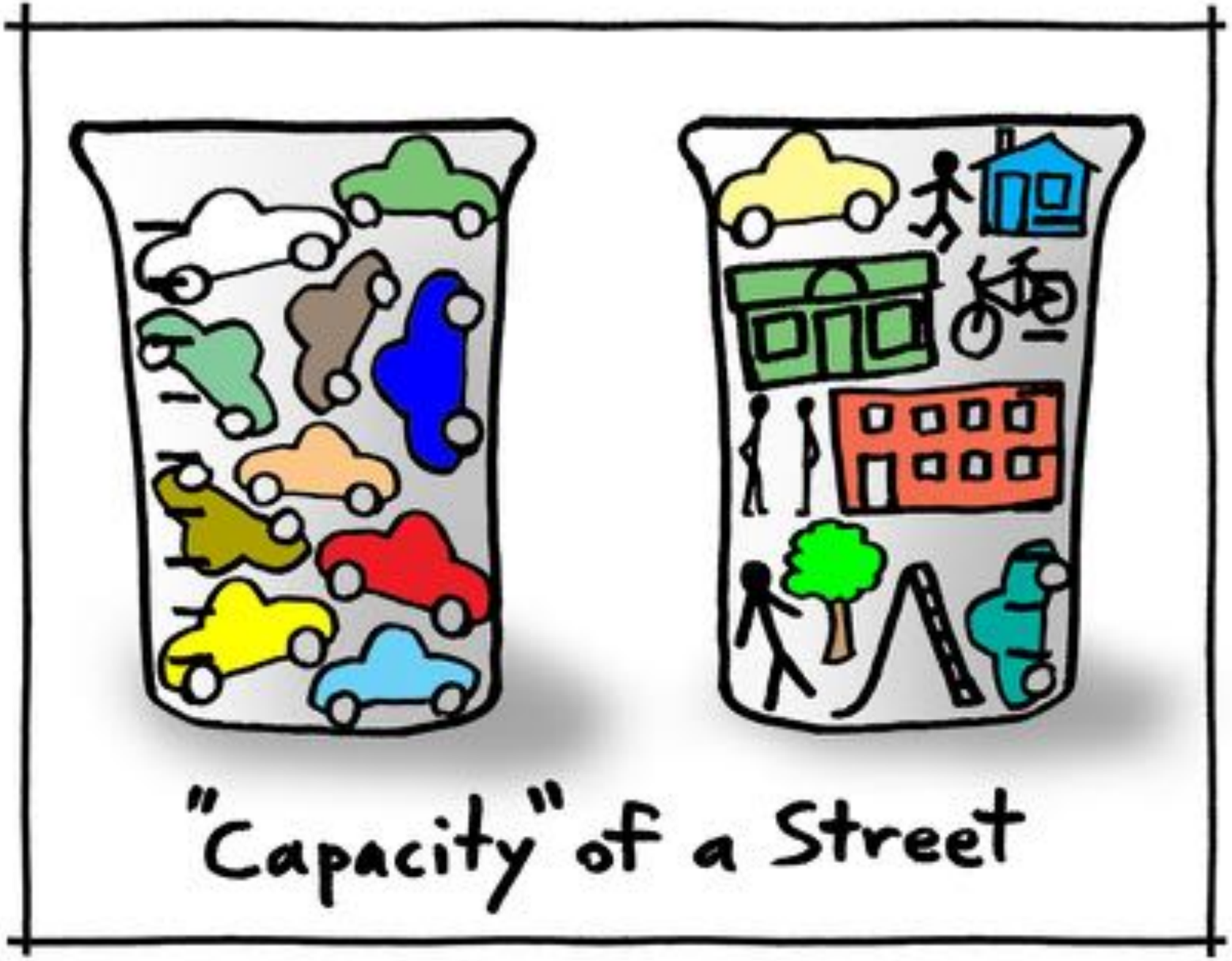
Bird species of special concern found along the River Corridor include:

- American White Pelican
- Double Crested Cormorant
- Osprey
- Northern Harrier
- Sharp-shinned Hawk
- Coopers Hawk
- Merlin
- California Gull
- Vaux's Swift
- Loggerhead Shrike
- Yellow Warble
- Yellow-breasted Chat
- Tri-colored Blackbird

(California Department of Fish and Game, Habitat Conservation Planning Branch, 2007, website).

CAPACITY

Adding Choices vs Solving Congestion



Ian Lockwood P.E.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1451


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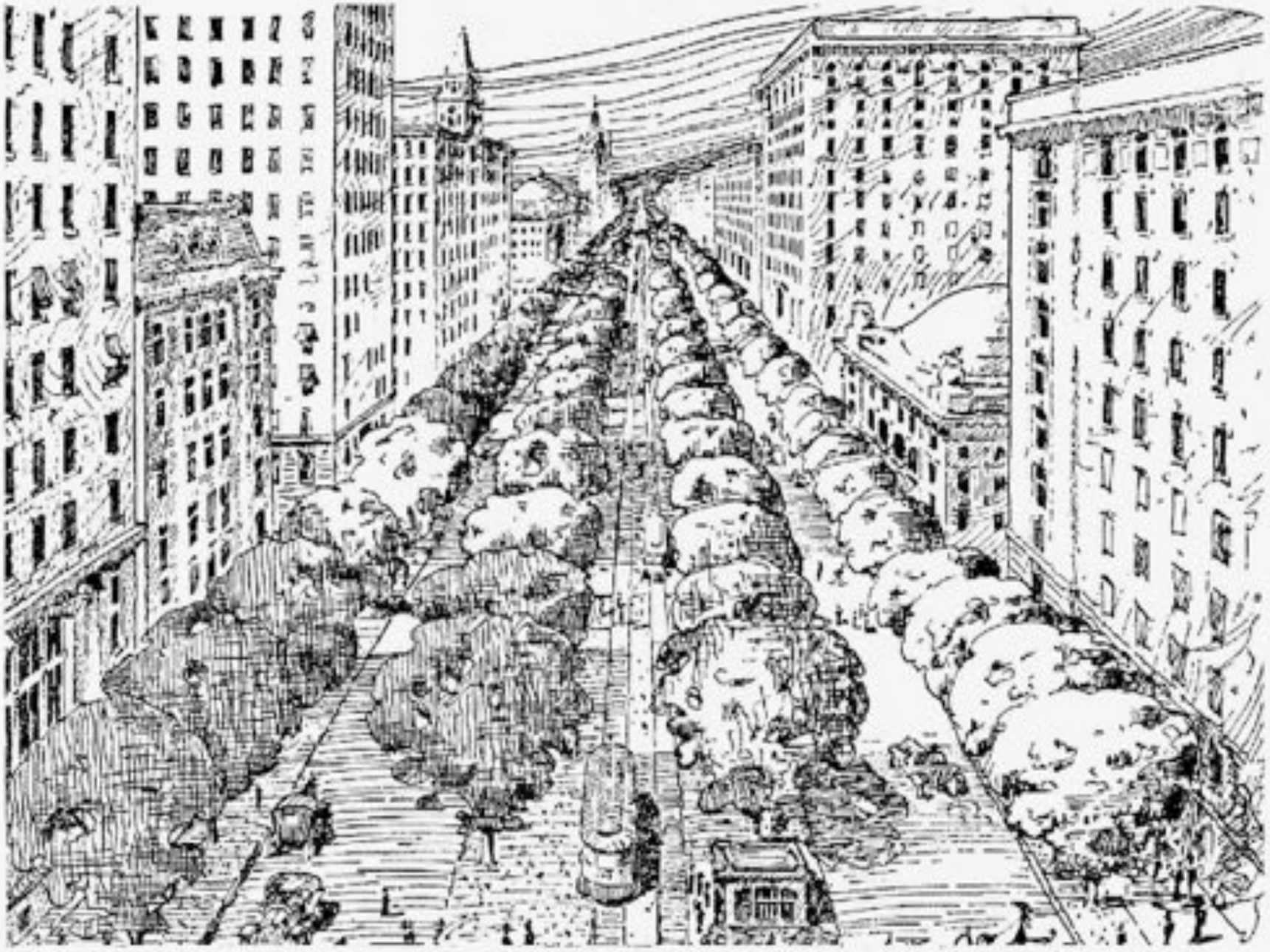
Sover

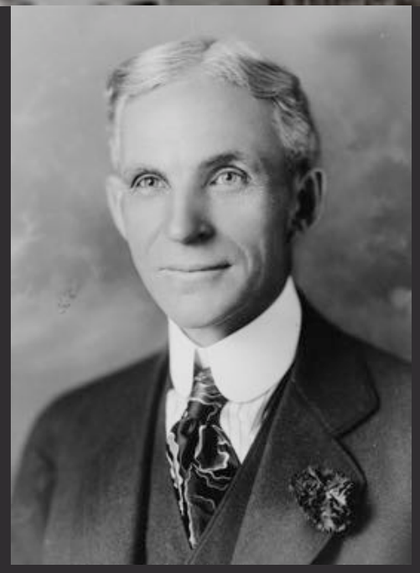
R O I



DESIGN FOR PARKED WAYS PUBLISHED BY THE METROPOLITAN PARK COMMISSION OF MILWAUKEE IN 1909

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

Henry Ford, 1922



Metro and State news
Milwaukee
10,000 volunteers help out in Racine 2B
www.jsonline.com/news
FINAL EDITION
SUNDAY, OCTOBER 28, 2001 B MILWAUKEE JOURNAL SENTINEL

Freeway toll: $5.5 billion, 576 acres

And by 2020, traffic would be more jammed than ever

By LARRY SANDLER
of the Journal Sentinel staff

Even if no lanes are added, rebuilding the Milwaukee area's aging freeway system could cost $5.5 billion and take 576 acres of land, planners estimate.

And after spending all that money and taking all that land, traffic still would be nearly twice as jammed in 2020 as it is now, the planners forecast.

Those numbers come from the Southeastern Wisconsin Regional Planning Commission, which is studying how to rebuild all of the seven-county region's freeways as they near the end of their useful lives over the next 20 years.

Planners also are looking at whether the system should be expanded to handle growing traffic, by turning many of the area's six-lane freeways into eight-lane freeways. They're still adding up the numbers on how much money and how much land that would take, said Ken Yunker, the commission's assistant director.

But even without expansion, "there's no way in the world they can have the money to pay for this without a big tax increase," Mayor John O. Norquist said.

State officials have said current gas taxes and license fees won't cover the costs of the freeway work, which would start with reconstruction of the Marquette Interchange downtown. Both the planning commission and the state Department of Transportation are trying to come up with recommendations on how to pay for the project.

The $5.5 billion estimate reflects the cost of rebuilding the freeways with design and safety improvements, such as smoothing out some curves and eliminating the left-hand entrance and exit ramps that force drivers to weave between lanes, the commission staff said.

That includes $1.1 billion for rebuilding the Marquette Interchange, a four-year job scheduled to begin in 2004.

If the entire freeway system were rebuilt exactly as it is now, left-hand ramps and all, the cost would be $3.35 billion, including $400 million for the downtown interchange, planners predict.

Either way, traffic congestion would get worse, the commission staff warns. Traffic jams that now extend over 65 freeway miles during rush hours would engulf 122 miles of freeways by 2020, covering 45% of the freeway system, the staff says.

Yunker has said the way to cut congestion would be to add lanes, at a still-uncalculated cost. The traffic forecast already assumes

Please see FREEWAYS, 6B

HOME PAGE | TODAY'S PAPER | VIDEO | MOST POPULAR | U.S. Edition

The New York Times

U.S.

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OPINION

POLITICS | EDUCATION | TEXAS

Governments Look for New Ways to Pay for Roads and Bridges

Gas Taxes Fail to Keep Up Because most states do not tie their gasoline tax to inflation, taxes are worth less over time. Increased fuel efficiency also means consumers are using less gas.

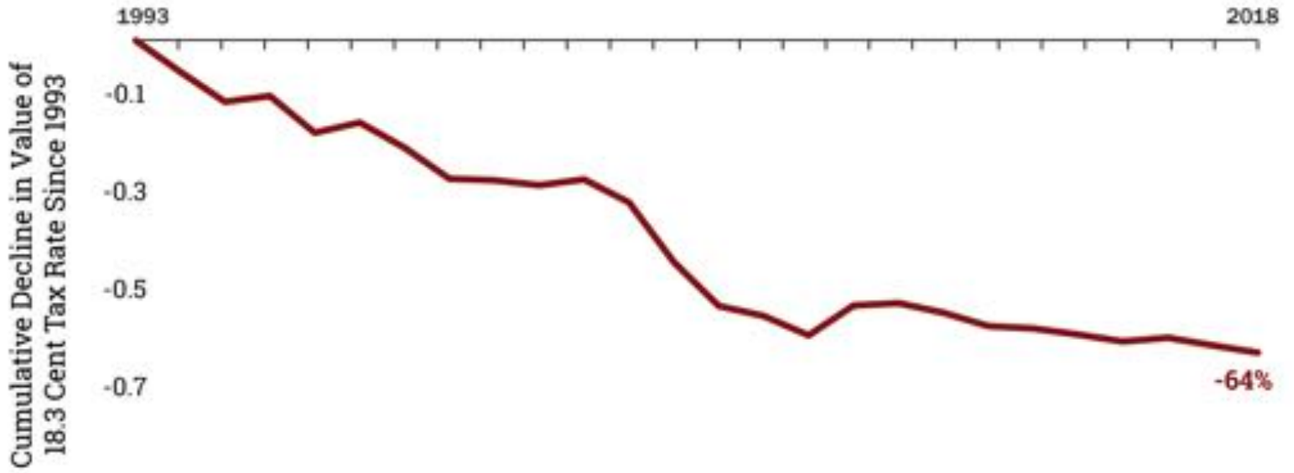
Sources: American Petroleum Institute, Tax Policy Center

The New York Times

By JOHN SCHWARTZ
Published: February 14, 2013

In the great taxation debate of 2013, there is another issue that is

Purchasing Power of Federal Gas Tax Rate Has Fallen by Nearly Two-Thirds Because of Inflation and Fuel-Efficiency Gains



Source: Institute on Taxation and Economic Policy (ITEP) analysis of data from the Federal Highway Administration (FHWA), Energy Information Administration (EIA), and Congressional Budget Office (CBO).

T O D

Transit Oriented Development

D O T

Development Oriented Transportation


FREE MallRide


Elevator up to Train Track 8
Gates B4 - B19
Light Rail


UNION STATION
TRAVEL BY TRAIN


WHOLE FOODS
MARKET
WHOLE FOODS
MARKET
WHOLE FOODS

P O T

P O T

PLACE Oriented Transportation

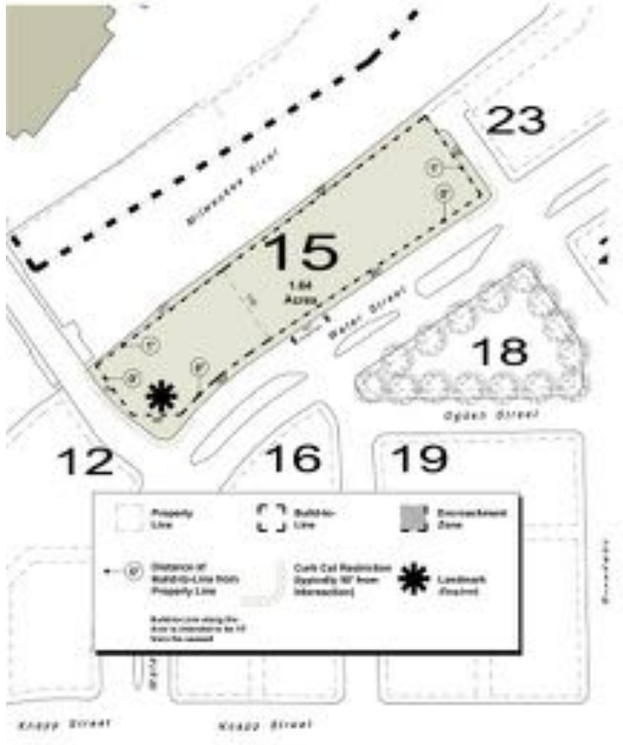
The Yichang BRT corridor uses innovative passing lanes to move over 100,000 people per day while using 20% less street width than traditional passing lanes.


CHB

P L A N N O W

MILWAUKEE DOWNTOWN PLAN

CODE IT



Building Height Requirements

Building Facade Requirements


eua


eua

Proposed, Planned and/or Under Construction Projects within the Park East Corridor

Manpower (Block 9)

Construction of the new world headquarters for Manpower Inc. was completed in fall 2007. The $87 million development employs 1,200 people and includes a parking structure, public plaza, and extension of the Milwaukee Riverwalk. The building is the recipient of the 2007 Midwest Construction Award and the 2007 Real Estate and Construction Review Building of America Award. Gilbane Building Company was the general contractor.

North End- Phase 1 and 2 (Blocks 23, 24, & 27)

A $175 million project developed in phases over the next 5 -7 years is expected to become a neighborhood within itself with a variety of housing options and supportive retail services. Construction began earlier this year on phase 1: a 5-story apartment building featuring 83 apartments and 12,000 sq ft of 1st floor neighborhood retail (Block 24 on the Park East map.) Construction of phase 2 is planned to begin later this year (Block 23) and will consist of two 5-story apartment buildings that will offer 130-160 apartments, a new RiverWalk segment, public plaza, and new road. KBS is the general contractor.

Flatiron (Block 25)

Mixed use project developed by Legacy Real Estate Partners, LLC with ground level retail, a corner public plaza, and 38 condominiums. This project was completed in Fall 2007. Currently, there are remaining condo units for sale and the retail space remains for lease. Altius Building Company was the general contractor.

MSOE Kern Center (Block 20)

A $25 million investment completed by MSOE in 2005. The development includes a 210,000 sq ft. facility with a fitness center, 3 classrooms, 1,800-seat hockey arena, 1-200 seat basketball arena, field house, running track, wrestling area, offices, facilities associated with athletics, counseling and health services.

Park East Redevelopment Corridor

Convent Hill (Block 29)

Senior housing owned and operated by the Housing Authority of the City of Milwaukee. Phase 1 of the transformation of a former 120-unit, high-rise building into 182 on-site and 20 off-site housing units occurred in 2006. The new high-rise is a green, LEED certified building with mixed income units and a garden roof top.

The Aloft (Block 10)

A 5-story, 160-room hotel development with 3,200 square feet of ground floor retail, a Riverwalk, and public green space. Total investment equals approximately $24 million.

The Moderne (Block 8)

Owned by Milwaukee Moderne LLC. This will be a 30-story development to include 14 condos (priced between $258,000-$2.8 million), 203 high-end executive residences for lease and 7,200 sq/ft retail (spa and restaurant). Total private investment will be $72 million. Hunzinger is the general contractor.

Park East Square- Phase 1 (Block 26)

Although there are over 4 blocks that have been optioned by Milwaukee County, this is the first block within the Park East corridor that has been officially sold by Milwaukee County. RSC & Associates has purchased the property and is proposing a hotel with ground floor retail and outdoor seating.

OWN IT


LEGEND
PRIVATE LAND TO PUBLIC R.O.W.
CITY LAND TO PUBLIC R.O.W.
COUNTY LAND TO PUBLIC R.O.W.
CITY R.O.W. TO DEVELOP
COUNTY LAND TO DEVELOP
PARCELS
EXISTING PROPERTY LINES

LEADERSHIP

The Atlantic

A Departure From Decades of Highway Policy

Transportation Secretary Anthony Foxx is urging communities to think more carefully about where they build roads.

Alex Brandon / AP

Secretary of Transportation Anthony Foxx in 2015

ALANA SEMUELS | MAR 29, 2015 | BUSINESS

TEXT SIZE − +

nprpolitics

POLITICS

After Dividing For Decades, Highways Are On The Road To Inclusion

Listen · 4:22 Queue Download Transcript

April 28, 2016 · 5:08 AM ET
Heard on Morning Edition

BRIAN NAYLOR

...y in bike-sized, and neighborhood groups hope to convert it to a boulevard.

...ighway system was built in the 1950s and '60s, it was hailed as a ... technology, connecting cities and suburbs, and stitching the

The Washington Post

Transportation

A crusade to defeat the legacy of highways rammed through poor neighborhoods

By Ashley Halsey III March 29

As a child, Anthony Foxx knew he couldn't ride his bike far from home without being blocked by a freeway. By the time he became U.S. transportation secretary he understood why.

"We now know — overwhelmingly — that our urban freeways were almost always routed through low-income and minority neighborhoods, creating disconnections from opportunity that exist to this day," Foxx said.

When the expressways that walled off his Charlotte neighborhood were designed, black residents of North Carolina still were denied voting rights. That highways routinely were routed through poor neighborhoods — Robert Moses, a polarizing urban planner of the era, called them "blighted" — is well known to those who suffered the consequences.

That a member of President Obama's Cabinet intends to lob that fact into a larger public discussion about race and opportunity, and encourage steps to rectify it, appears unprecedented.

Since 1933, the Official Publication of The United States Conference of Mayors

March 19, 2013
Volume 79, Issue 4

U.S. MAYOR

BIPARTISANSHIP PROPELS SURFACE TRANSPORTATION BILL THROUGH SENATE

Mayors Now Pressing House to Take Action

By Kevin McCarty

After successful Senate action on a bipartisan surface transportation renewal plan (S. 1813), Senator Barbara Boxer (CA), Chairman of the Environment and Public Works Committee (EPW), a key leader in the bipartisanship effort on the legislation, said, "It is a great day when the Senate, in an overwhelmingly bipartisan way, votes to save 1.8 million jobs and create up to 1 million more jobs." The Senate voted 74-22 to approve the legislation on March 14.

"I call on the House of Representatives to take our bill, pass it, and send it to the President's desk so that we can give a needed boost to our economic recovery and our aging infrastructure," Boxer said.

Echoing the Chairman's challenge to House Members, Conference of Mayors President Los Angeles Mayor Antonio R. Villaraigosa said, "The nation's mayors are now calling on both parties in the House to put politics aside and pass

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Senate Environment and Public Works Chairman Barbara Boxer (CA), at podium, with USCM President Los Angeles Mayor Antonio R. Villaraigosa at March 7 Capitol Hill press event to urge Senate approval of pending surface transportation renewal legislation.

Villaraigosa, Bloomberg, Emanuel Highlight Mayoral Leadership Needed on Education Reform

Nutter Receives Riley Urban Design Leadership Award

USCM Vice President Philadelphia Mayor Michael A. Nutter receives Riley Design Award from, left to right, USCM Trustee Charleston Mayor [illegible], Riley, USCM CEO and Executive Director Tom Cochran and American Architectural Foundation President and CEO Ron Bogle.

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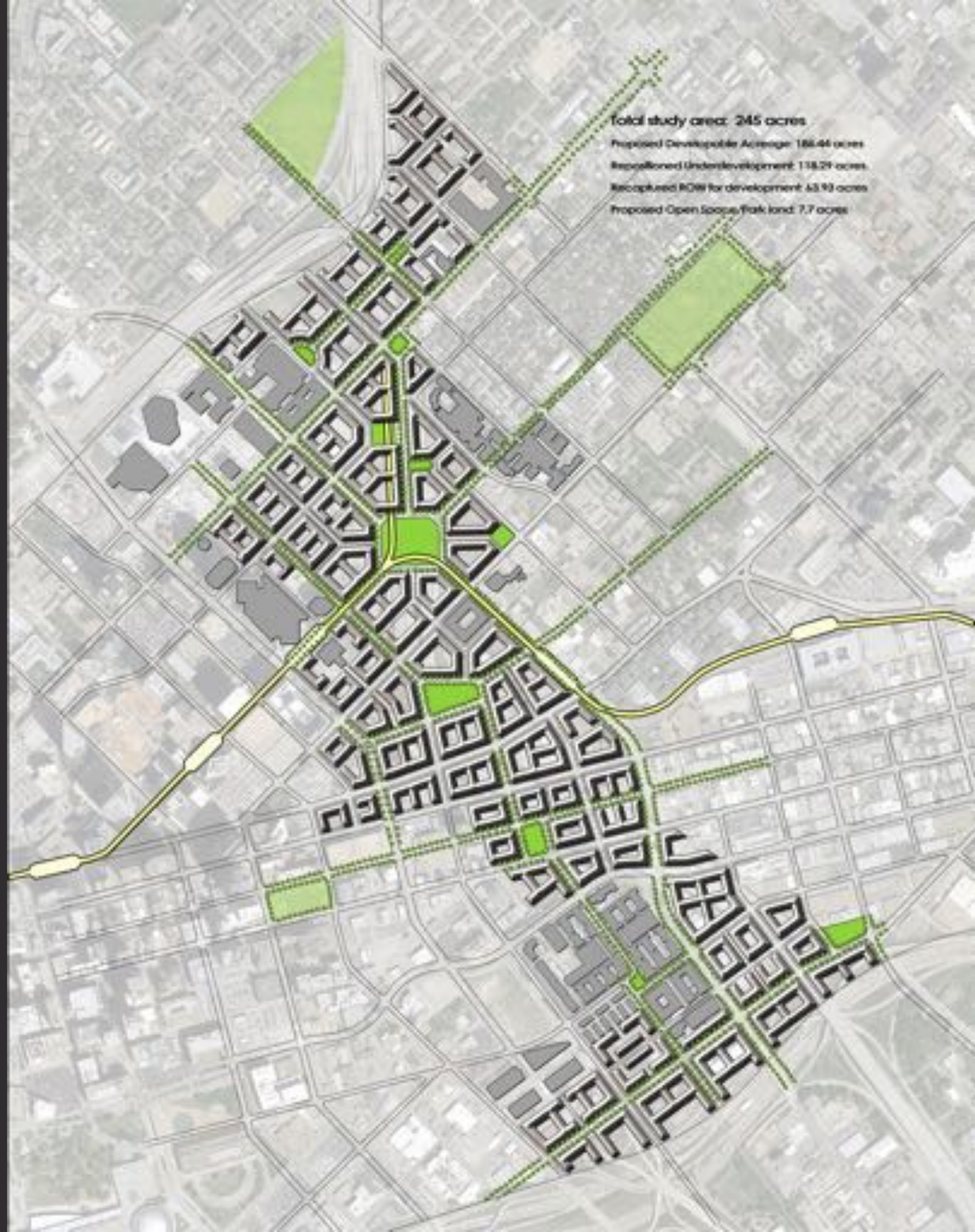
Smart Cars, Dumb Places

“..land, they’re not making it anymore”



“Nobody goes there anymore, it’s too crowded”

SUCCESS REQUIRES

1. Strong community support with **extraordinary** leadership and political will
2. An **urban vision** for the city that is not dominated by the automobile; prioritize the **short trip vs the long trip**
3. Decision processes driven by long-term community **investment versus spending** federal allocations on projects within given timeframes.
4. Regulatory (FBC) and Land Disposition **Control**