

### TOWARDS A MORE WALKABLE DETROIT

JUNE 8, 2016 JEFF SPECK AICP CNU-A LEED-ND Hon. ASLA





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Jeff Speck:

### The walkable city

TEDCity2.0 · 16:56 · Filmed Sep 2013

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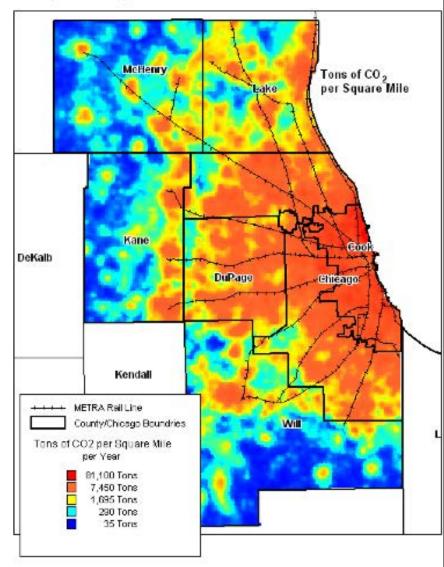






#### **Traditional View:**

Cities produce large amounts of GHGs.



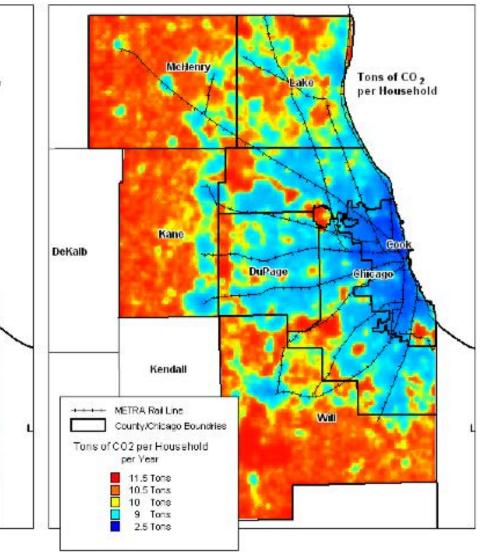
#### **Traditional View:**

Cities produce large amounts of GHGs.

#### Mellenry Tons of CO<sub>2</sub> per Square Mile Lake Kane Cook DeKalb DuPage Chicago Kendali +++ METRA Rail Line County/Chicego Boundries Will Tons of CO2 per Square Mile per Year B1,100 Tons 7,450 Tons 1,695 Tons 290 Tons 35 Tons

#### **Emerging View:**

City dwellers produce relatively low amounts of GHGs.



#### 



CTO

Howard Frumkin, Lawrence Frank and Richard Jackson









# Car Deaths per year per 100,000:

### Car Deaths per year per 100,000: New York: 3.9

Car Deaths per year per 100,000; New York 3\_9 San Francisco 4.0

Car Deaths per year per 100,000; New York 3\_9 San Francisco 4.0 Chicago **6.0** 

Car Deaths per year per 100,000: New York 39 San Francisco 4.0 Chicago  $\begin{bmatrix} 6 \end{bmatrix} \begin{bmatrix} 0 \end{bmatrix}$ Detroit 12.4



# WALKABLE PLACES ARE THRIVING PLACES...



# WALKABLE PLACES ARE THRIVING PLACES...



# IF WALKABLE PLACES ARE THRIVING PLACES

### HOW DO YOU GET PEOPLE TO WALK?

# 

#### • A REASON TO WALK

### • A REASON TO WALK

#### • A SAFE WALK

### A REASON TO WALK

#### • A SAFE WALK

#### A COMFORTABLE WALK

### • A REASON TO WALK

### • A SAFE WALK

#### A COMFORTABLE WALK

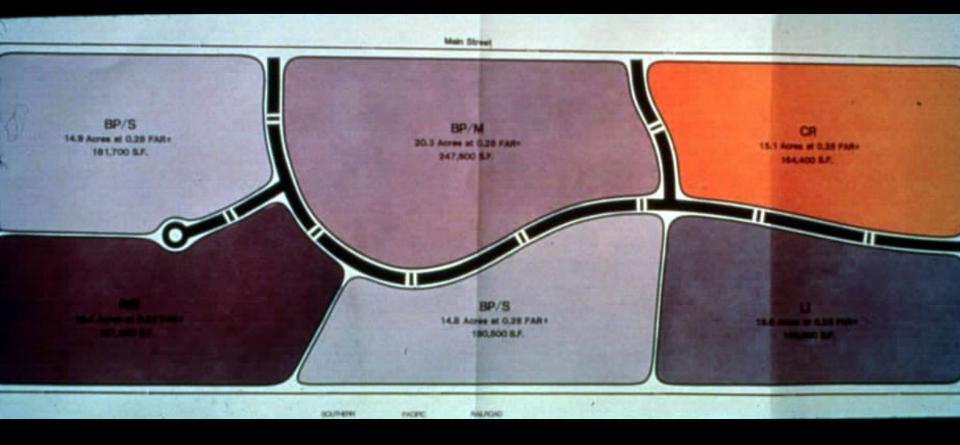
#### AN INTERESTING WALK

#### • A REASON TO WALK









#### LEGEND

- One & Two Family Buildings
- MultiFamily Walkup Buildings
- MultiFamily Elevator Buildings
- Mixed Commercial/Residential Buildings
- Commercial/Office Buildings
- Industrial/Manufacturing Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
  - All Others or No Data





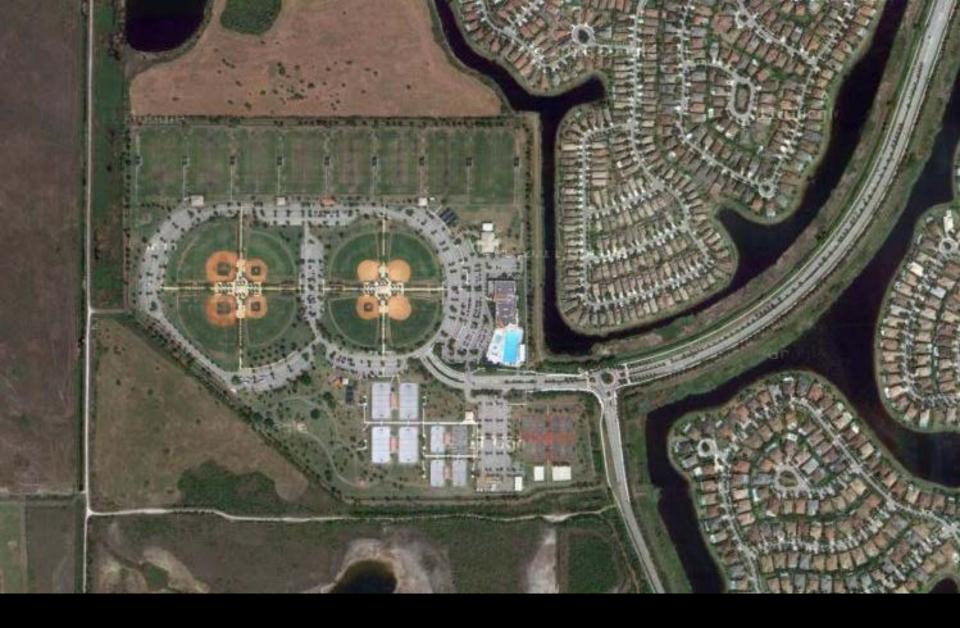
















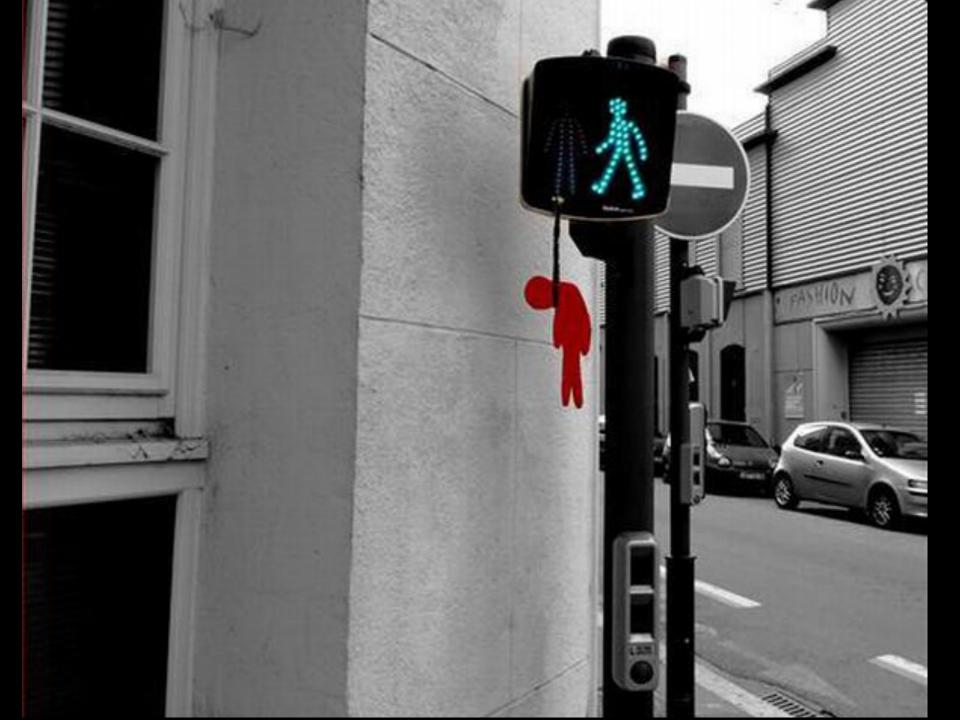




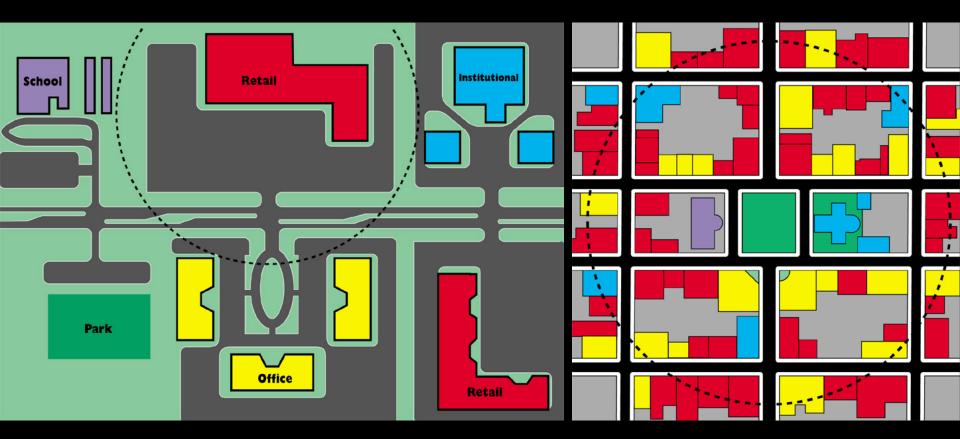


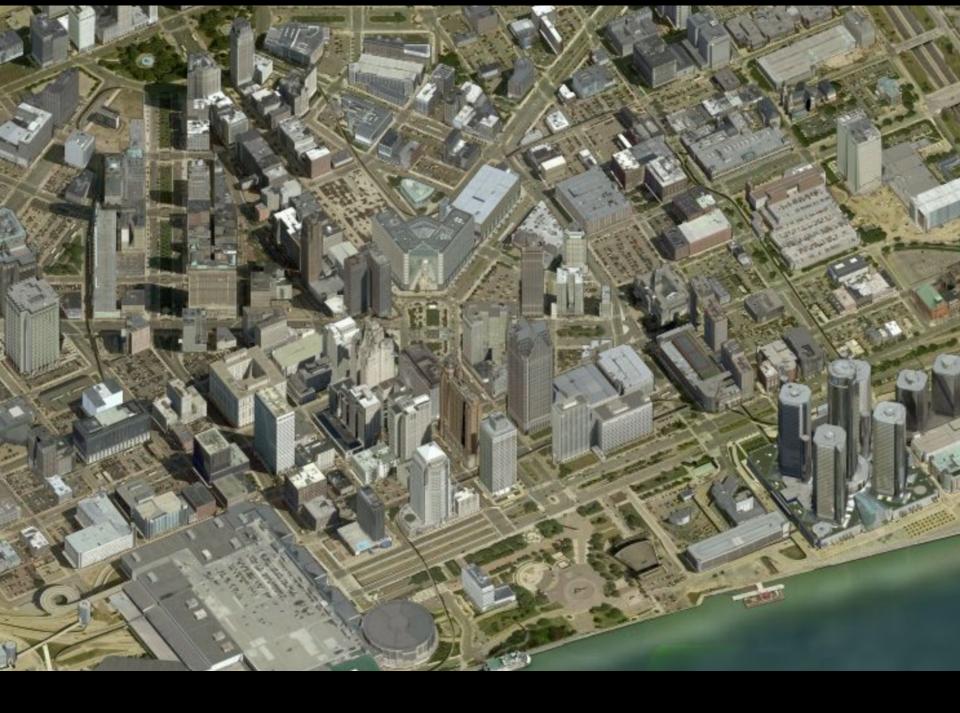












### WHAT IS MISSING OR UNDER-REPRESENTED?

- Office
- Retail
- Dining
- Entertainment
- Housing
- Schools
- Recreation
- Worship
- Parking

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### DOWNTOWN 8. MDTOWN 2011

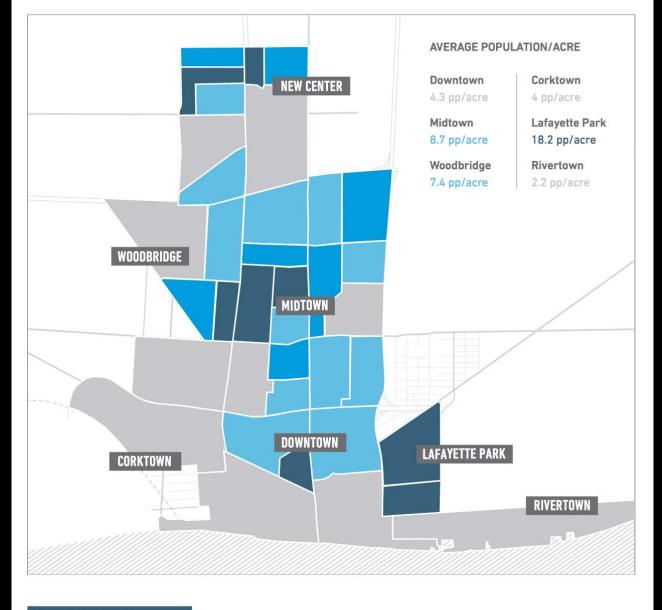


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## RES DENTS

# 24.000

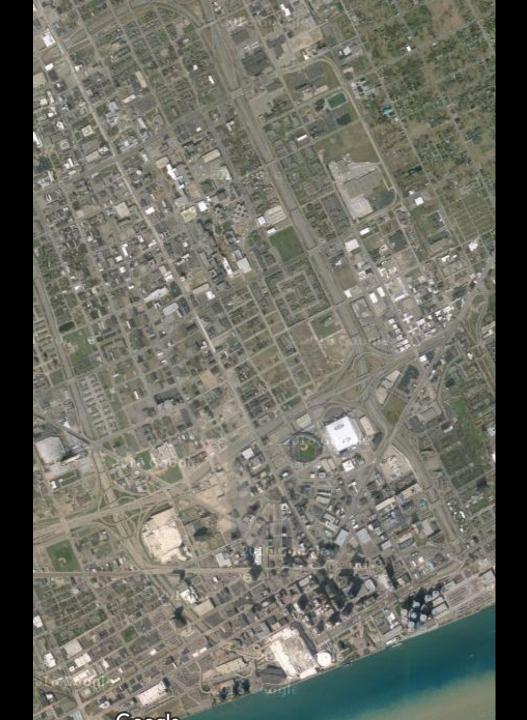




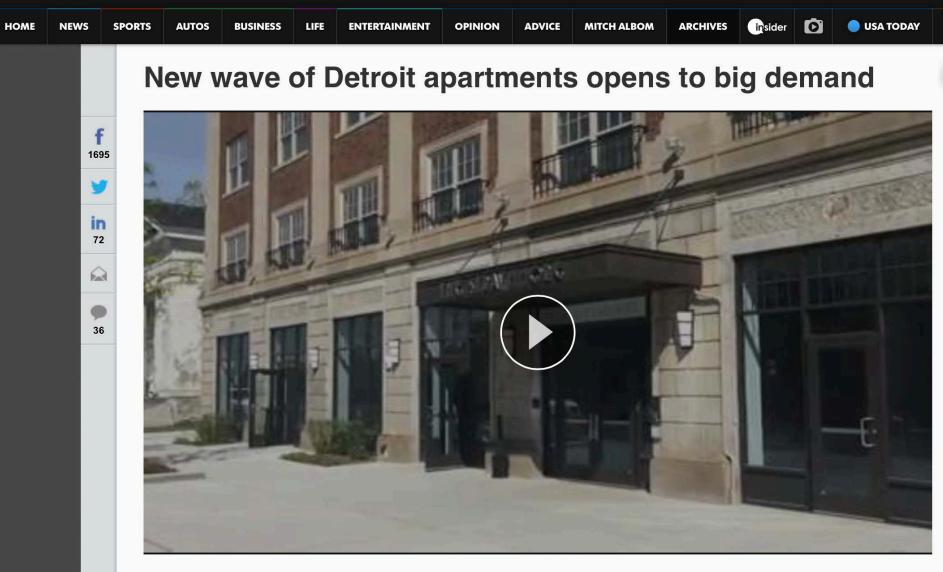
- 16+ PEOPLE/ACRE
- 11-15 PEOPLE/ACRE
- 6-10 PEOPLE/ACRE
- 0-5 PEOPLE/ACRE









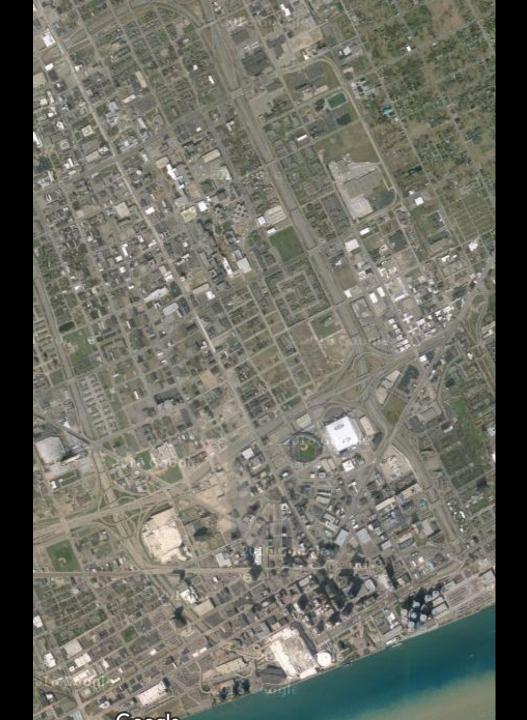


Search

FO

A wave of new apartments in greater downtown Detroit has arrived. Buildings are leasing out before they even open. JC Reindl Detroit Free Press

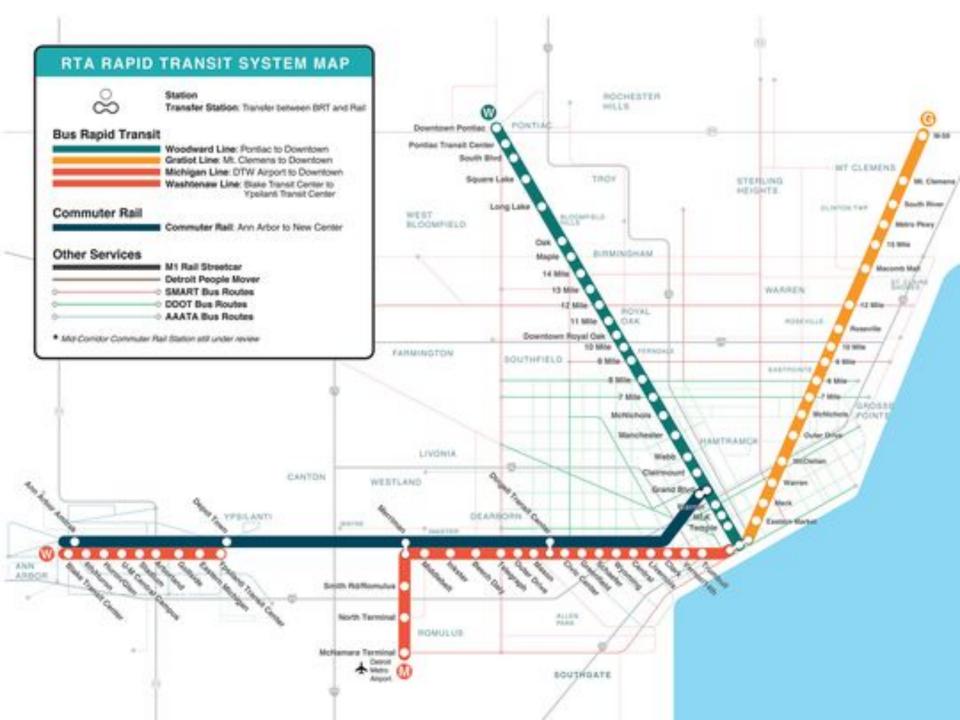








# **OUGKENE**R

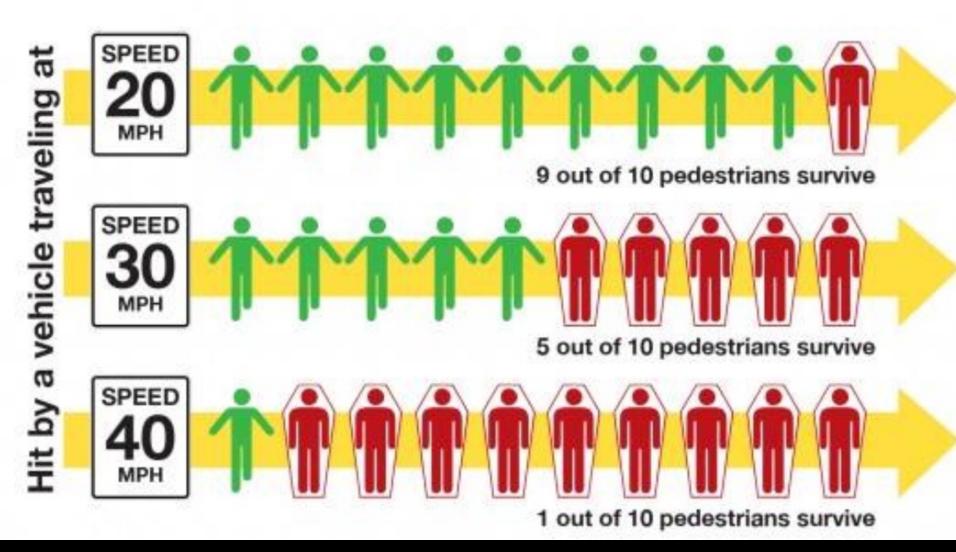




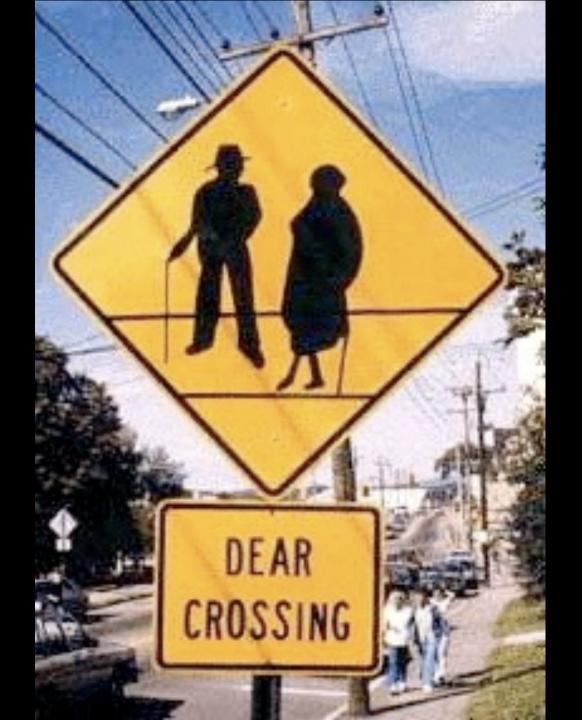
#### **HOW DO YOU GET PEOPLE TO WALK?**

### • A REASON TO WALK

#### • A SAFE WALK



## **GOD HELP THE CHILDREN**









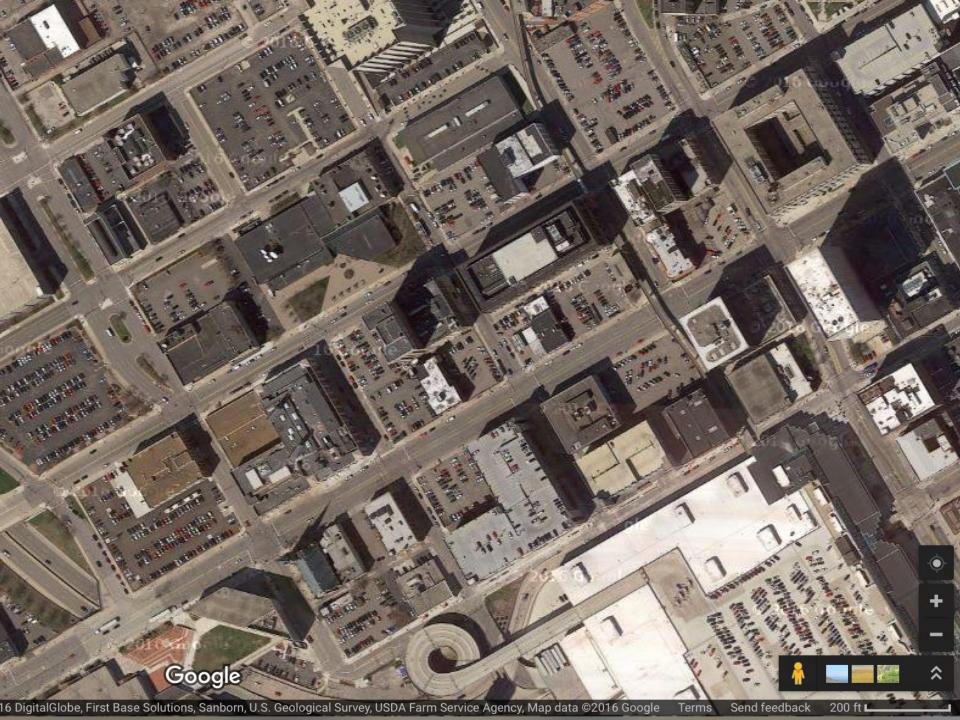


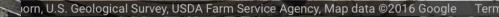
#### California city network and crash data

Characteristic	Safer cities	Less safe cities	Percent difference
Average year of incorporation	1895	1932	
Average year of block development	1957	1972	
Population <sup>1</sup>	65,719	59,845	-8.9
Real intersection density <sup>2</sup>	106.2	62.7	-41.0
Average block size <sup>3</sup>	18.2	34.5	89.6
Link to node ratio	1.34	1.29	-3.7
Fatal crashes <sup>4</sup>	3.1	10.1	225.8
Fatal crashes not on limited access highways <sup>4</sup>	2.3	8.6	273.9

<sup>1</sup>2000 census <sup>2</sup>Per square mile <sup>3</sup>Acres <sup>4</sup>Per 100,000 people per year

New Urban News, *source: Wesley E. Marshall and Norman Garrick,* Street Network Types and Road Safety: A Study of 24 California Cities





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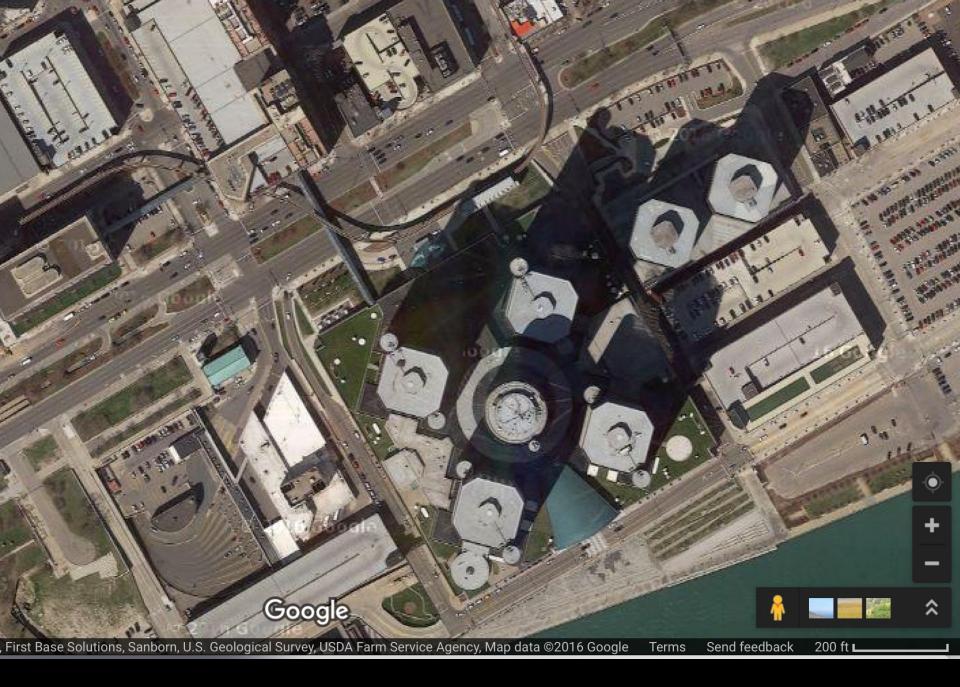
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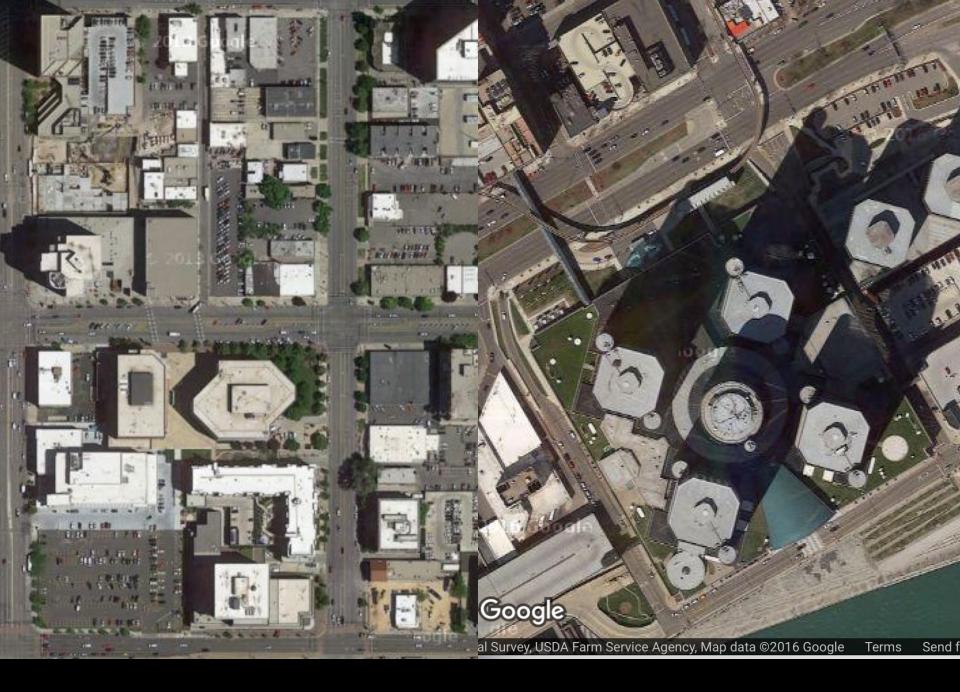
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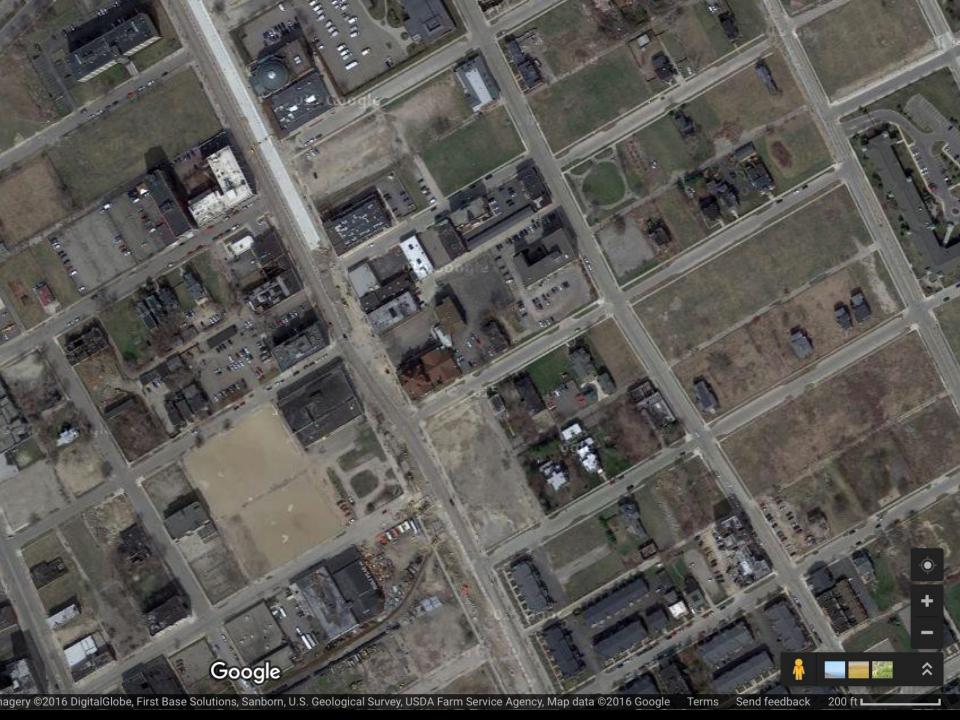
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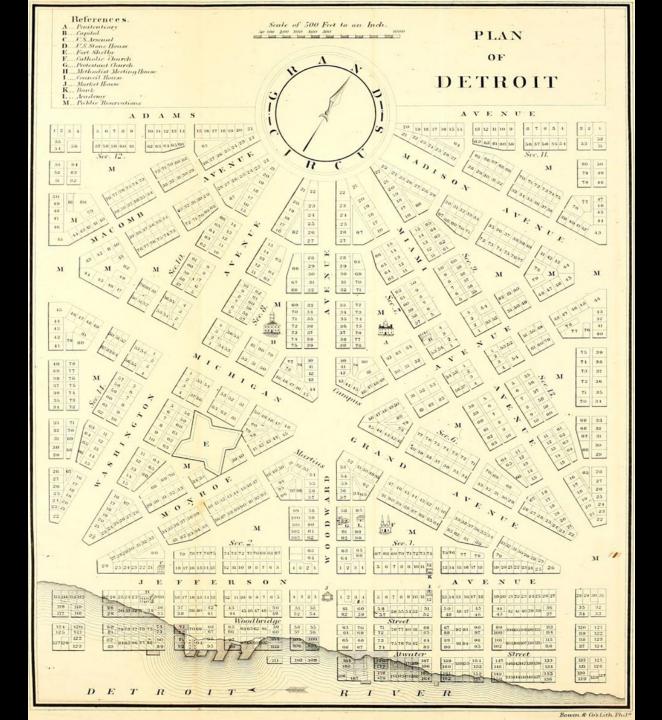
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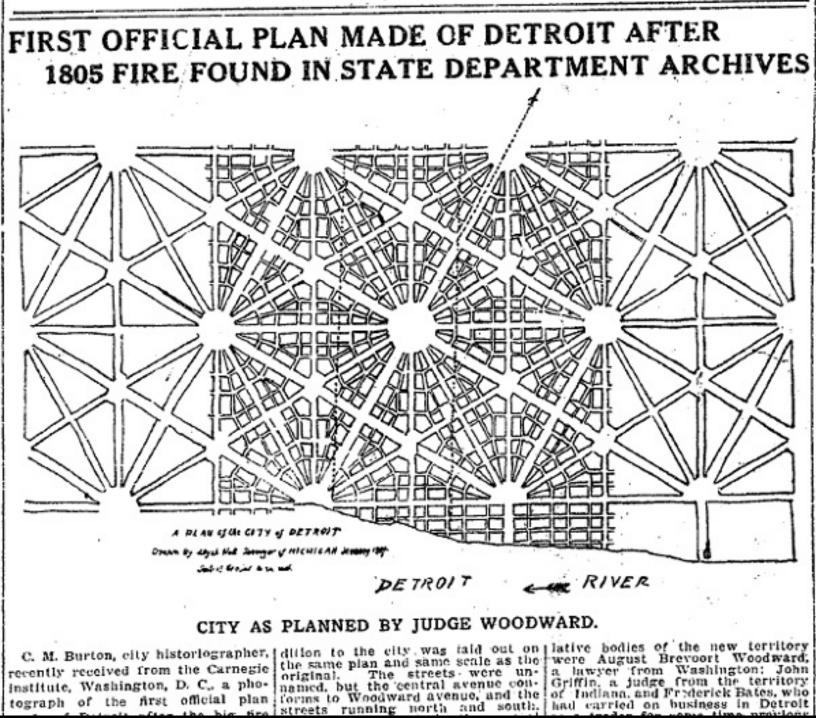




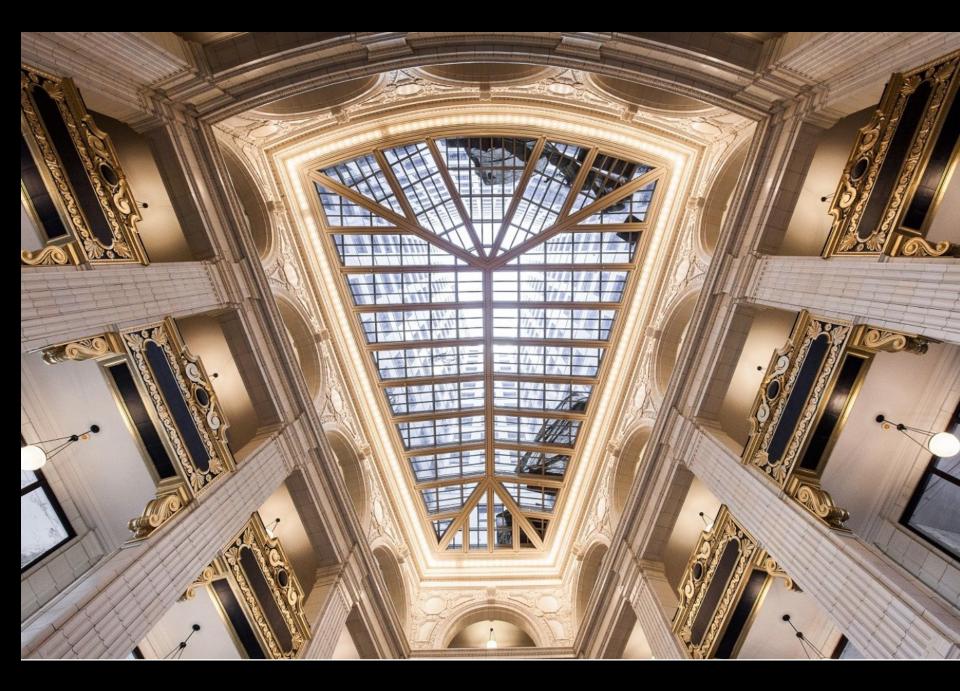




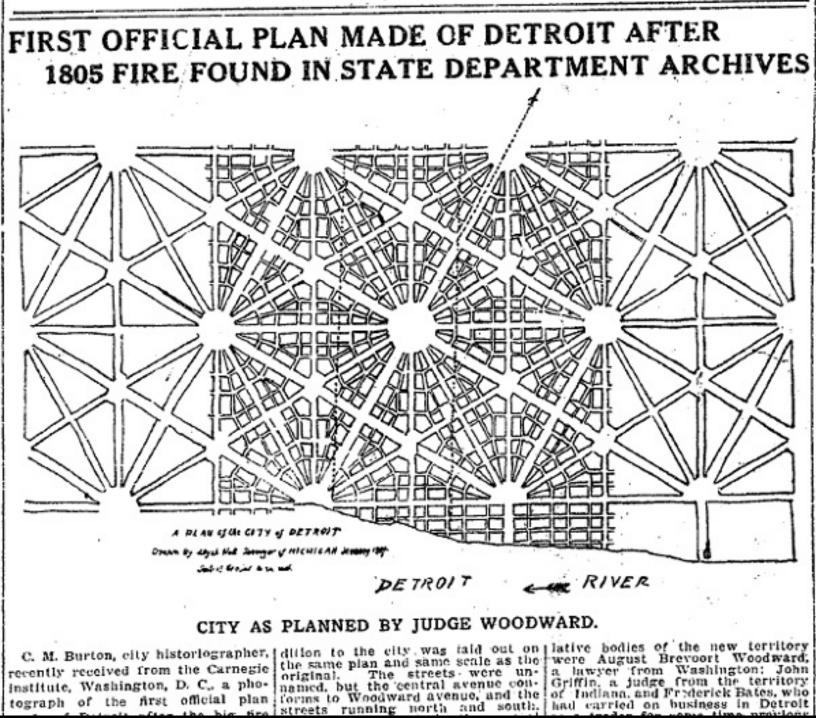






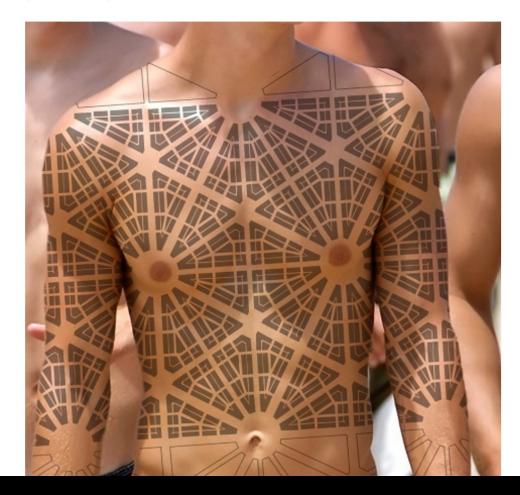






#### tattoo idea

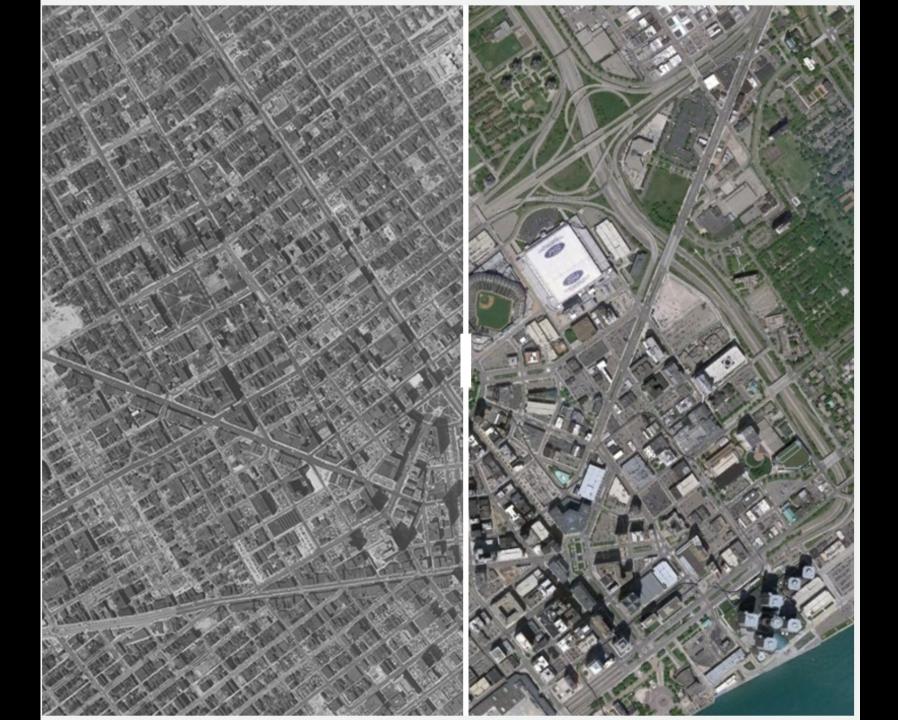
The other day I was saying that one of the reasons I never got a tattoo was because I never thought of any image I liked enough to permanently imprint on my person. Then with all of my obsessing over Augustus B. Woodward's 1805 utopian street plan for Detroit that was only partially implemented, I came up with a very obvious idea:



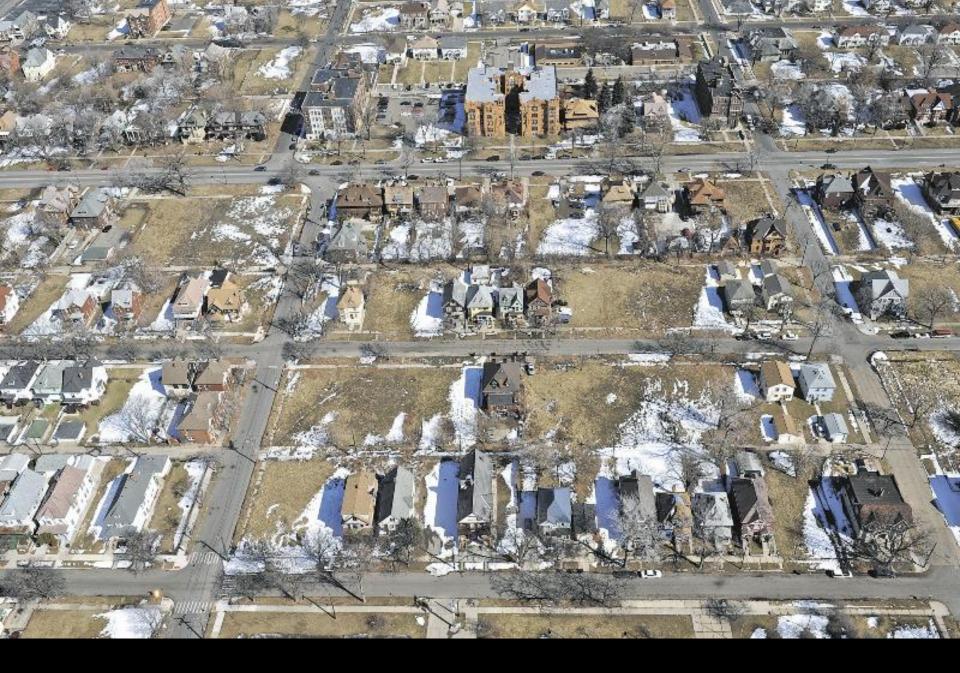




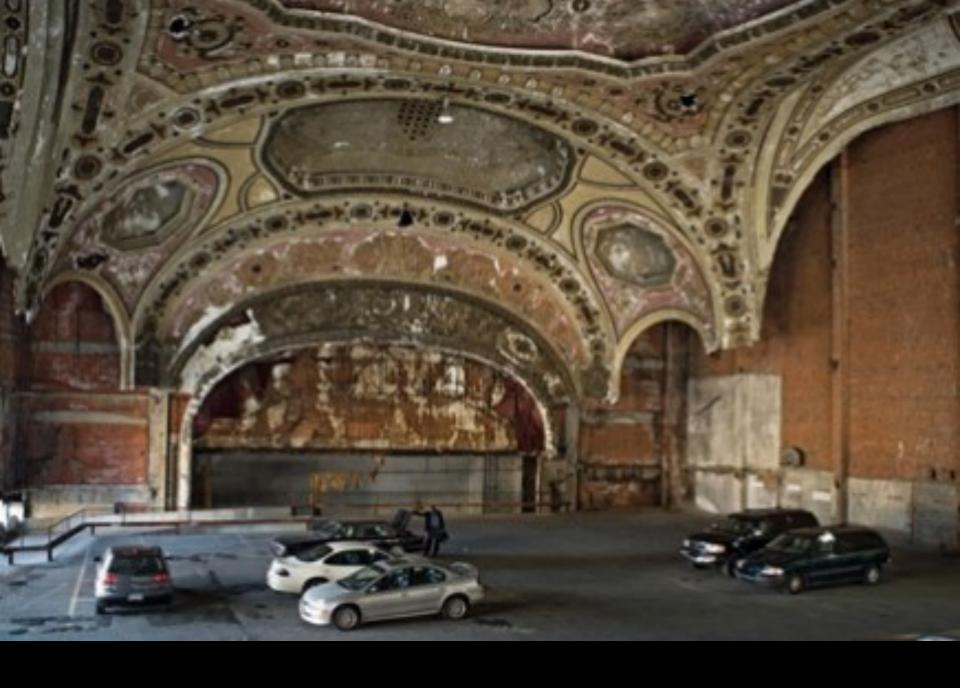










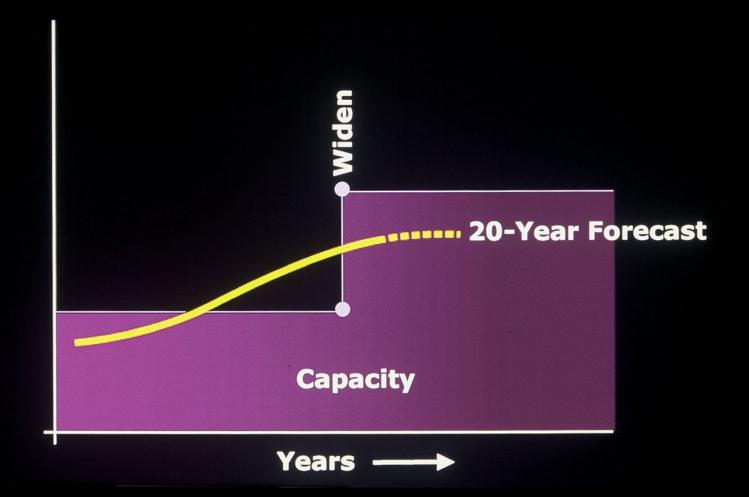




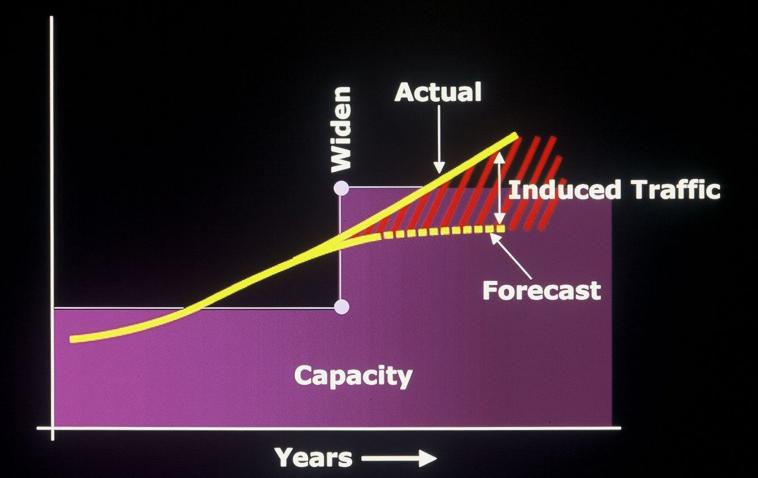




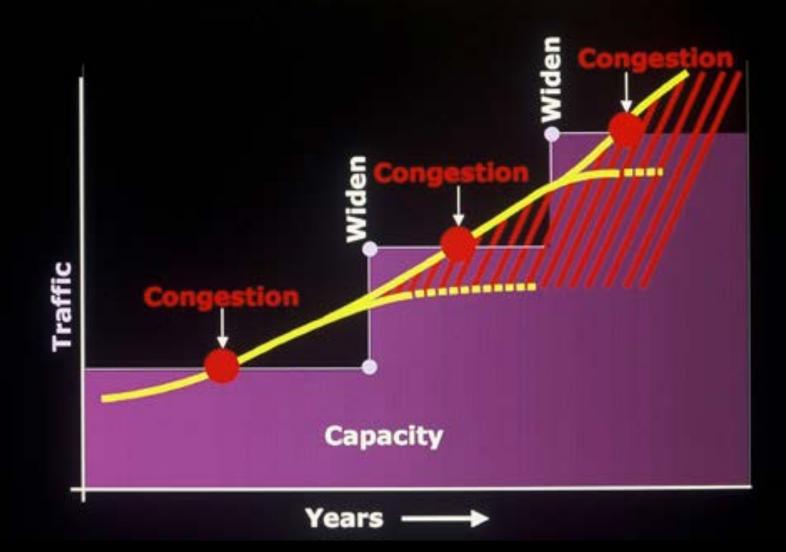
#### **Ideal Traffic Planning**



#### **Traffic Planning: The Reality**

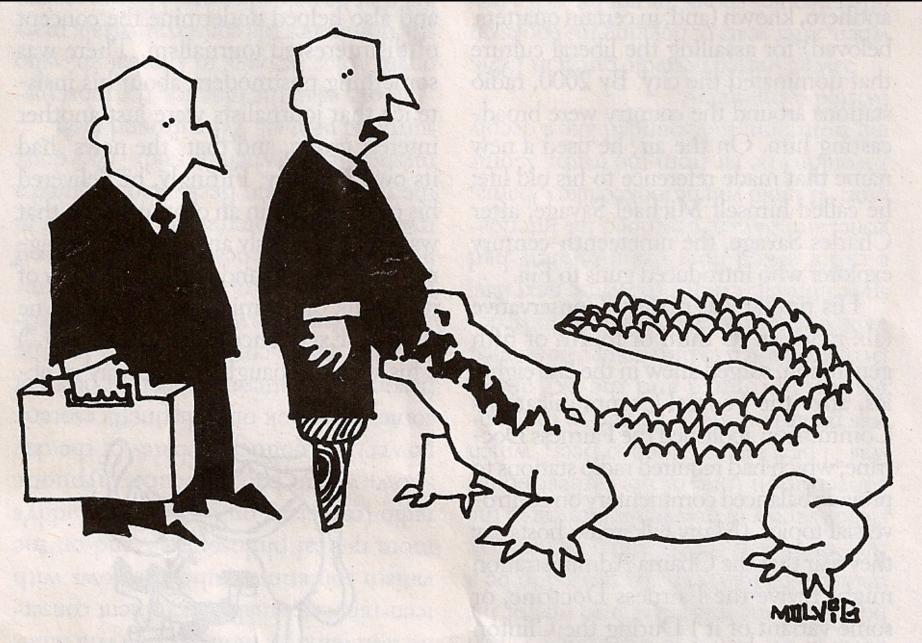


#### **Road Size, Not Congestion is the Choice**



.erm these have excep-Crossown as , New Ik." traffic, s a key id out enues

In general comms, truthe is aused by too much demand (from vehicles) meeting too little supply (roads). One solution is to increase supply by building more roads. But that's expensive, and demand from drivers tends to quickly overwhelm the new supply; today engineers acknowledge that building new roads usually makes traffic worse. Instead, economists have suggested reducing demand by raising the costs of driving in congested areas. The best-known example is the "congestion p" an pler in 20



"Whoa. Déjà vu."

## The Fundamental Law of Highway **Congestion: Evidence from the US Gilles Duranton** and Matthew A. Turner PARIS SCHOOL OF ECON

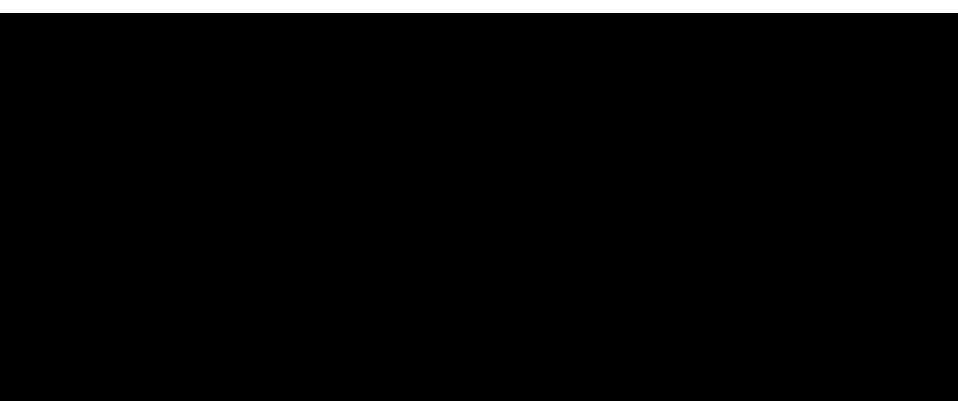
http://www.pse.ens.fr/axes/convmedad.html

Using:  $\rho_K^{P(I)} = \rho_I^{P(I)} \times \rho_K^I$ Marginal highway welfare gain associated with an additional lane kilometer of highway:

$$\Delta w_I \approx -\rho_I^{P(I)}\rho_K^I P(I) \left(1+\frac{\rho_K^I}{200}\right) \frac{I}{K}.$$

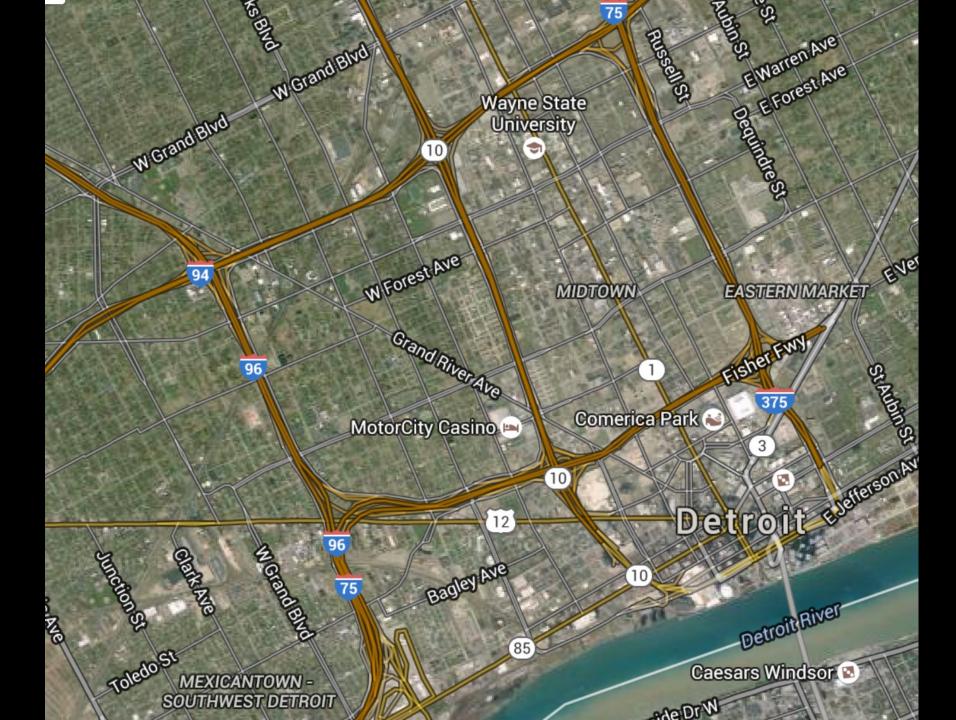
### Conclusions

• Fundamental law of traffic congestion:  $\rho_K^I \approx 1$ 



"Metro areas that invested heavily in road capacity expansion fared no better in easing congestion than metro areas that did not. Trends in congestion show that areas that exhibited greater growth in lane capacity spent roughly \$22 billion more on road construction than those that didn't, yet ended up with slightly higher congestion costs per person, wasted fuel, and travel delay."

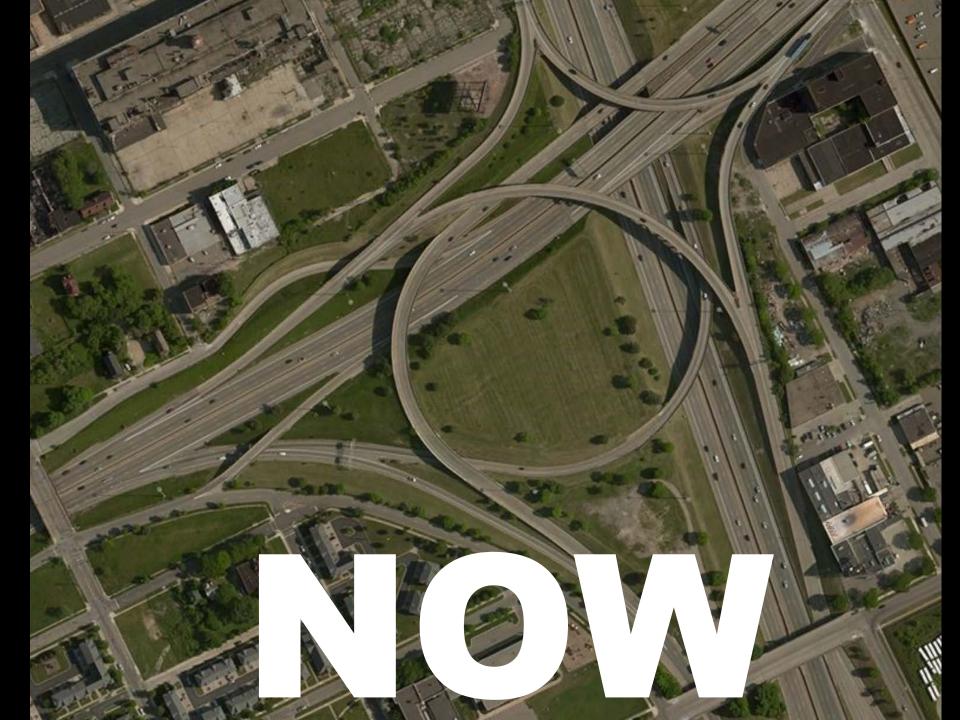
-- Surface Transportation Policy Project, Washington, DC

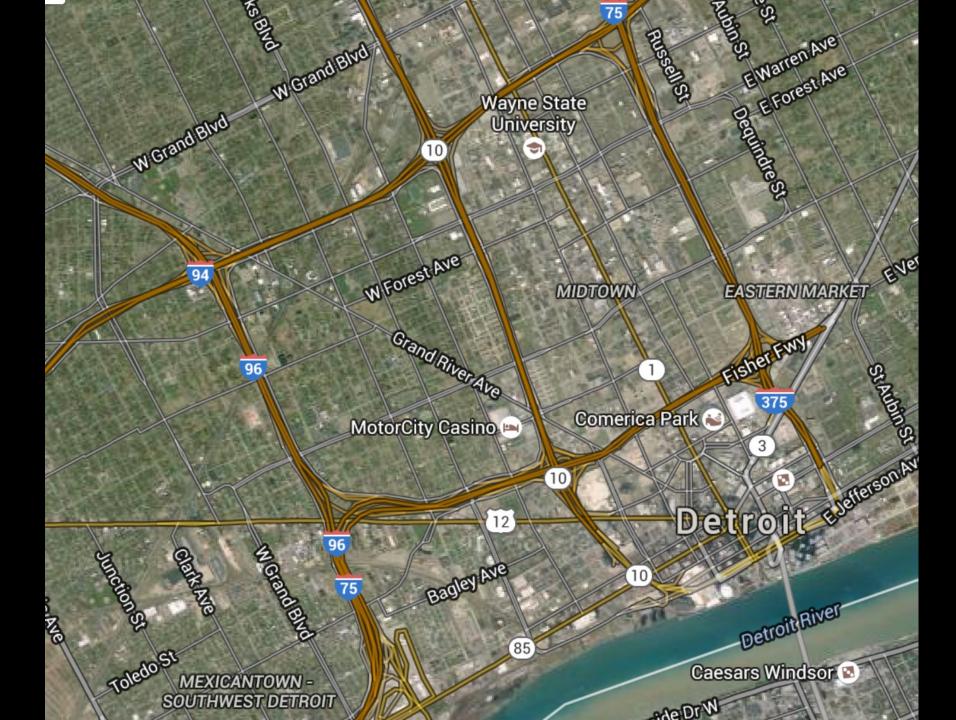


















**City of Detroit** 

#### NON-MOTORIZED URBAN TRANSPORTATION MASTER PLAN

June 2006



Prepared for: The City of Detroit Traffic Engineering Division Department of Public Works Prepared by: Giffels-Webster Engineers Carter-Burgess ArchiveDS Brogan & Partners



# HOWEVER.

### Prevention HOME | HEALTH | WEIGHT LOSS |

-



#### BEST WALKING CITIES FINDER

### **OKLAHOMA**

sparse on parks, and it has the lowest number of schools per square mile in the state.

#### No. 9: Enid

Enid is the 2nd-smallest city in Oklahoma on our list, and its tied with Lawton for the fewest parks in the state. Enid also has a low percentage of people who ride mass transit and a high crime rating--which is particularly surprising for one of the states smaller cities (fewer people often means fewer crimes).

#### No. 10: Oklahoma City

The least pedestrian-friendly city in Oklahoma is its capital--in fact, Oklahoma City is the worst city for pedestrians in the entire country. The state's biggest city state has its highest crime rate and one of its lowest percentages of people who walk to work. Located smack-dab in the center of the state, Oklahoma City also has one of the lowest Walk Scores, meaning its just too car-centric for walking in the downtown area to be enjoyable. The city is also on the low end of the state for school and park density. Overall, this town needs more work than any other on our list to become a city for walkers.

SELECT A STATE

NEXT

### BEST WALKING CITIES FINDER

## OKLAHOMA

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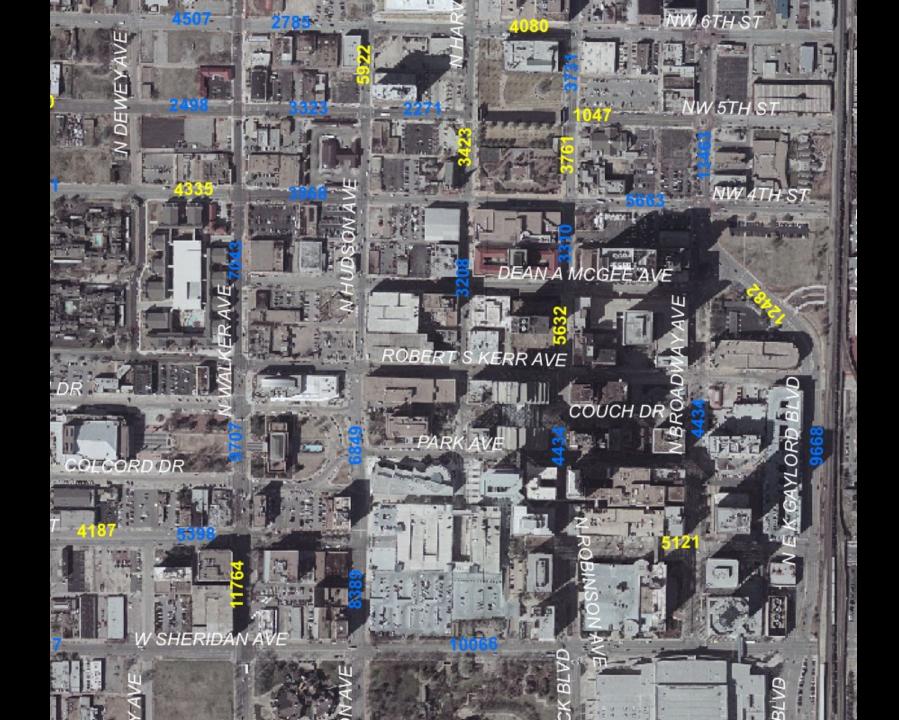
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# Typically, 2 lanes can easily handle 10,000 cars per **day**



### Sheridan: Peak 10,066

## Sheridan: Peak 10,066 Hudson: Peak 8389

**Sheridan: Peak 10,066 Hudson: Peak 8389 Robinson: Peak 5632** 

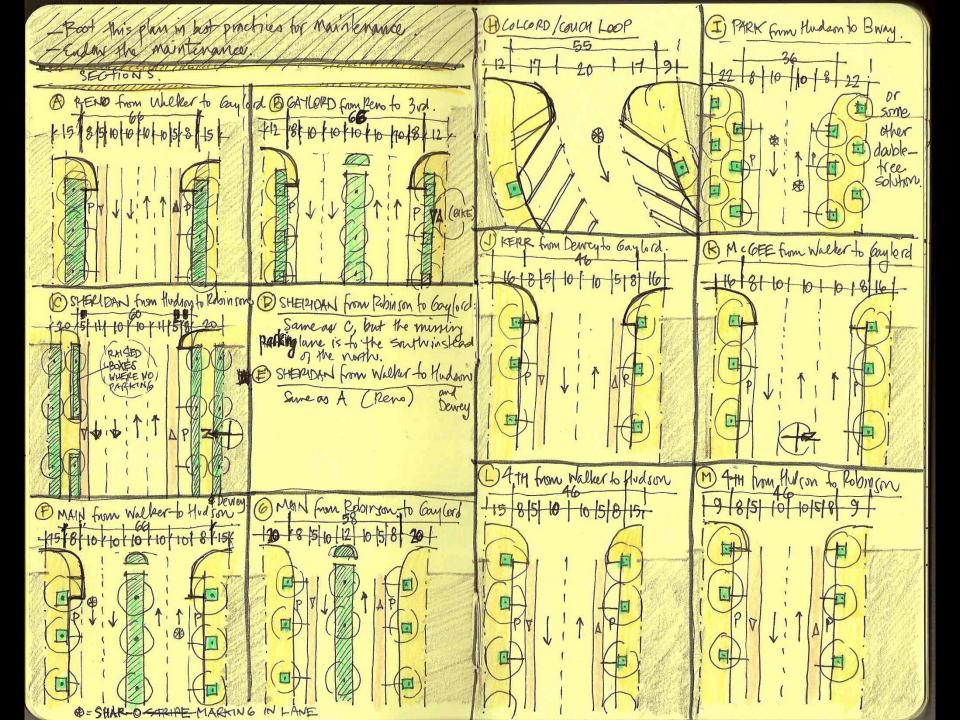
Sheridan: Peak 10,066 Hudson: Peak 8389 Robinson: Peak 5632 4<sup>th</sup>: Peak 5663

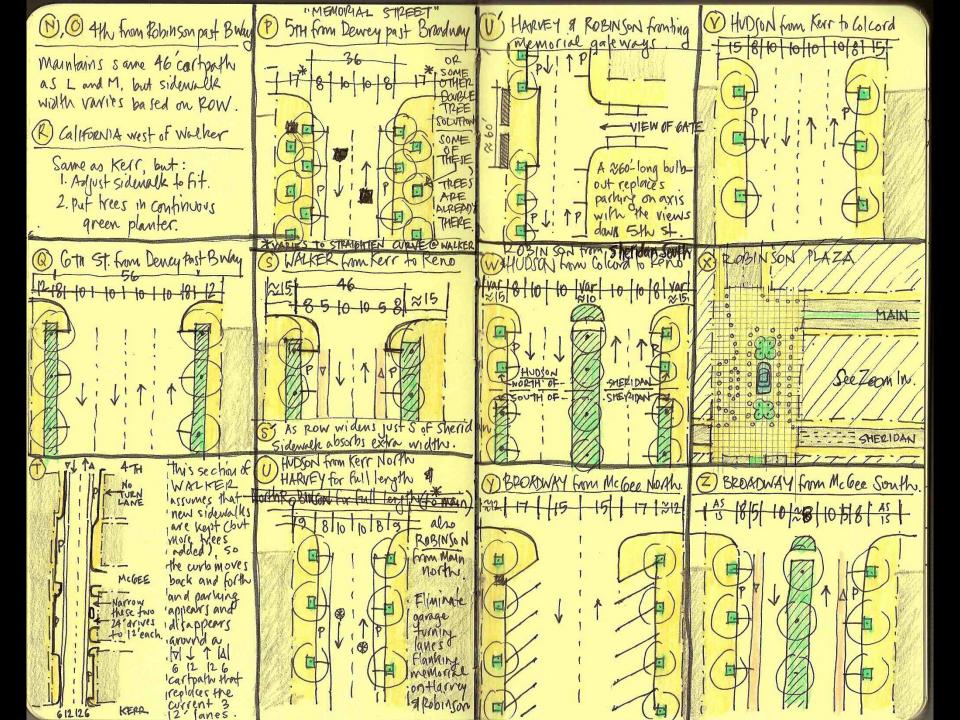
Sheridan: Peak 10,066 Hudson: Peak 8389 **Robinson: Peak 5632** 4<sup>th</sup>: Peak 5663 6<sup>th</sup>: Peak 4507



### Hudson Avenue: 8389 Cars/Day 6 lanes











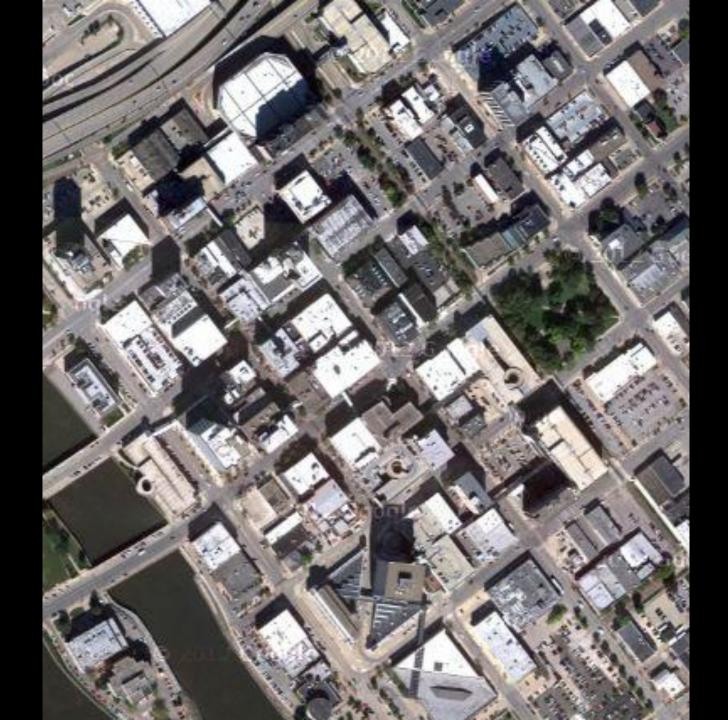








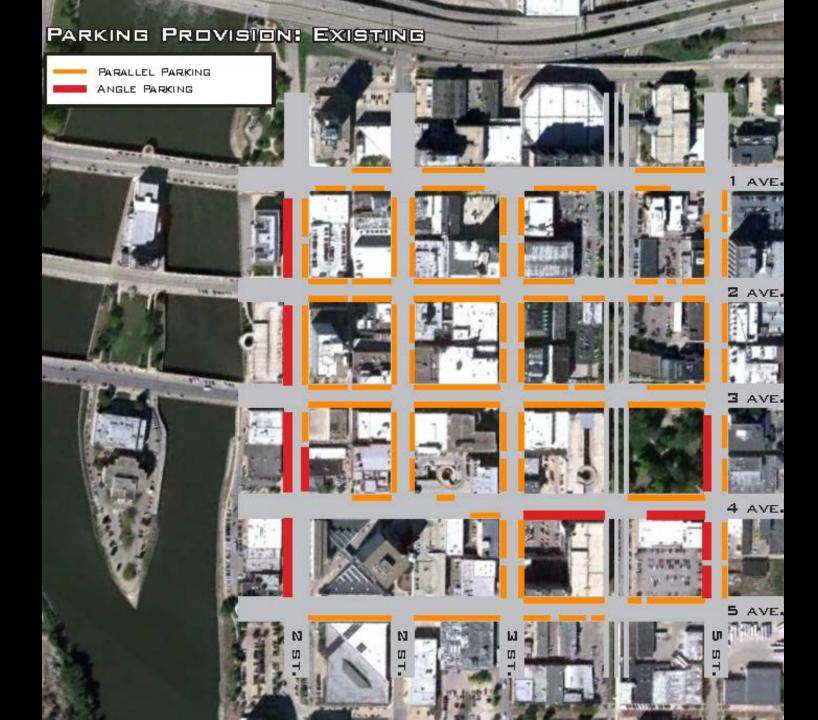


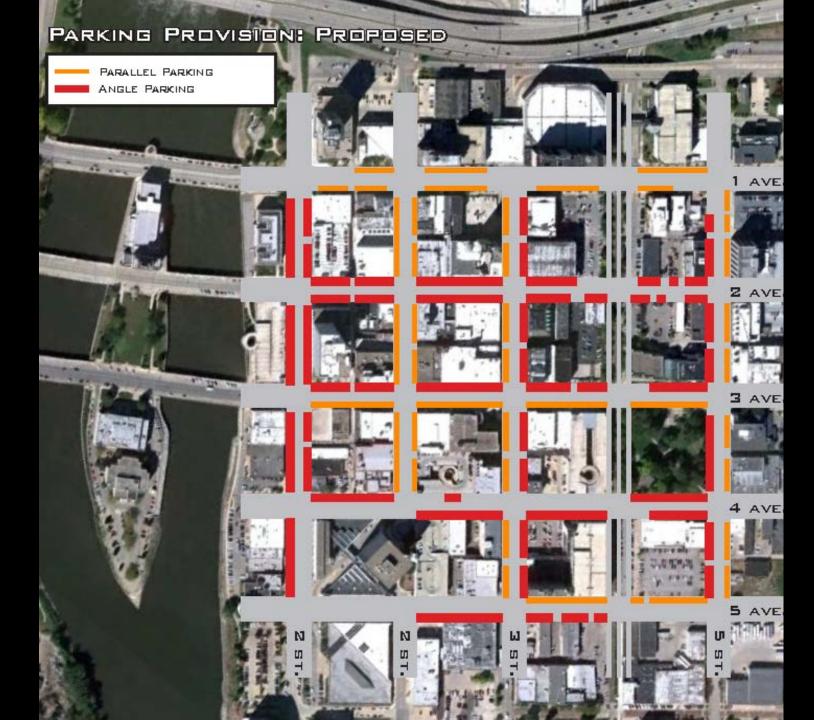


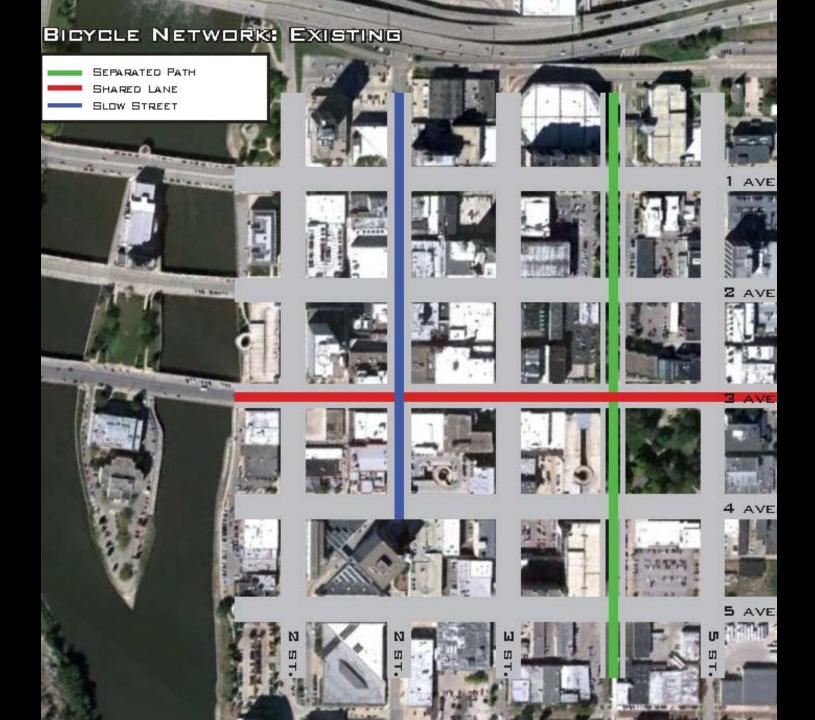


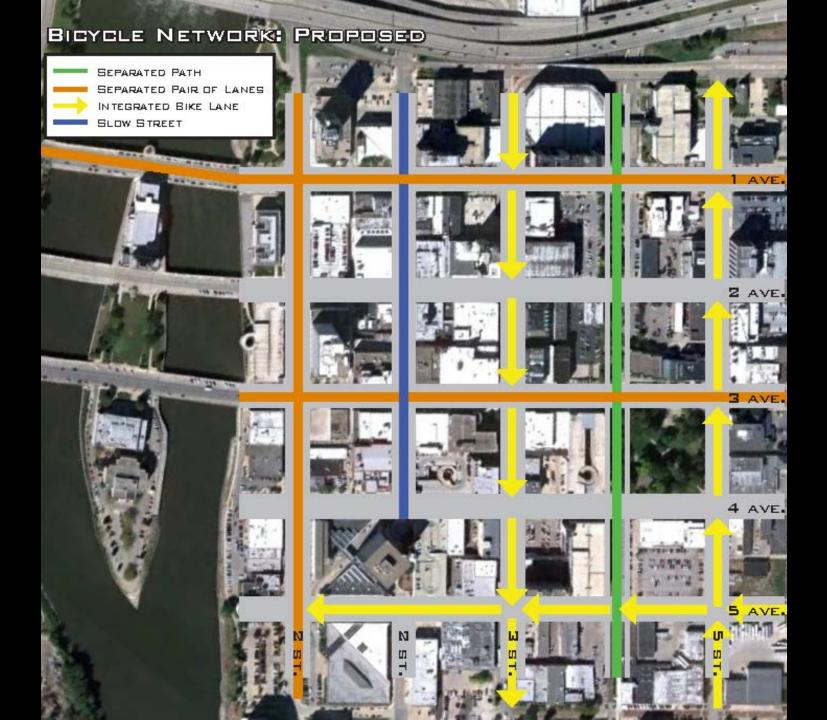














### WOakSt W/Oak St urikling Way

S'2nd St

W Ormsby Ave

日相合

S 3rd St

18.2

WOrmsby Ave

S list St

E Ormsby Ave.

Silistist

Better

S Brook St

S

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ElOrn



#### 2-WAYS - CAR CRASHES DOWN 48%

## 2-WAYS - CAR CRASHES DOWN 48% - CRIME DOWN 23%

## <u>2-WAYS</u> - CAR CRASHES DOWN 48% - CRIME DOWN 23%

**1-WAYS** 

## <u>2-WAYS</u> - CAR CRASHES DOWN 48% - CRIME DOWN 23%

#### 1-WAYS - CAR CRASHES UP 15%

## <u>2-WAYS</u> - CAR CRASHES DOWN 48% - CRIME DOWN 23%

# 1-WAYS - CAR CRASHES UP 15% - CRIME UP 36%

### CONNECTING AMERICA'S LEADERS CONNECTING AMERICA'S LEADERS GOONDECRIPTION OF CONNECTING AMERICA'S LEADERS HOME LATEST NEWS BY TOPIC COLUMNS AND BLOGS MAGAZINE EVENTS MANAGEMENT BOOKS SOURCEBOOK JOBS REPORTS AND WHITE PAPERS

#### Assessments



#### The Return of the Two-Way Street

Why the double-yellow stripe is making a comeback in downtowns.

By Alan Ehrenhalt | December 2009



Alan Ehrenhalt is Governing's former editor. Email him at ehrenhalt@yahoo.com.

Over the past couple of decades, Vancouver, Washington, has spent millions of dollars trying to revitalize its downtown, and especially the area around Main Street that used to be the primary commercial center. Just how much the city has spent isn't easy to determine. But it's been an ambitious program. Vancouver has totally refurbished a downtown park, subsidized condos and apartment buildings overlooking it and built a new downtown Hilton hotel.

Some of these investments have been successful, but they did next to nothing for Main Street itself. Through most of this decade, the street remained about as dreary as ever. Then, a year ago, the city council tried a new strategy. Rather than wait for the \$14 million more in state and federal money it was

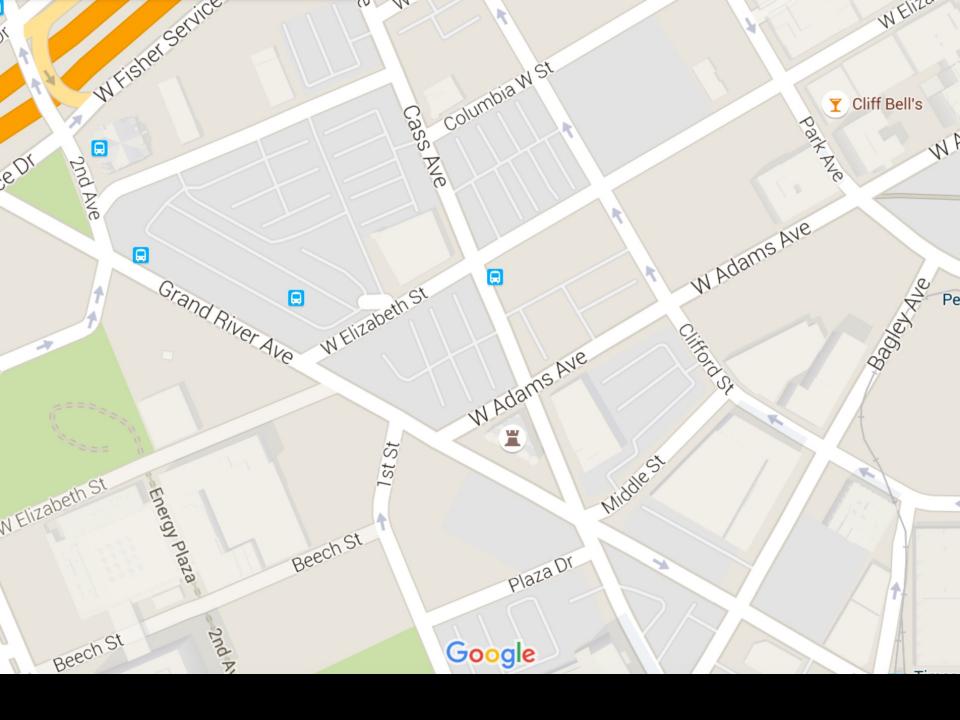


#### Vancouver, WA

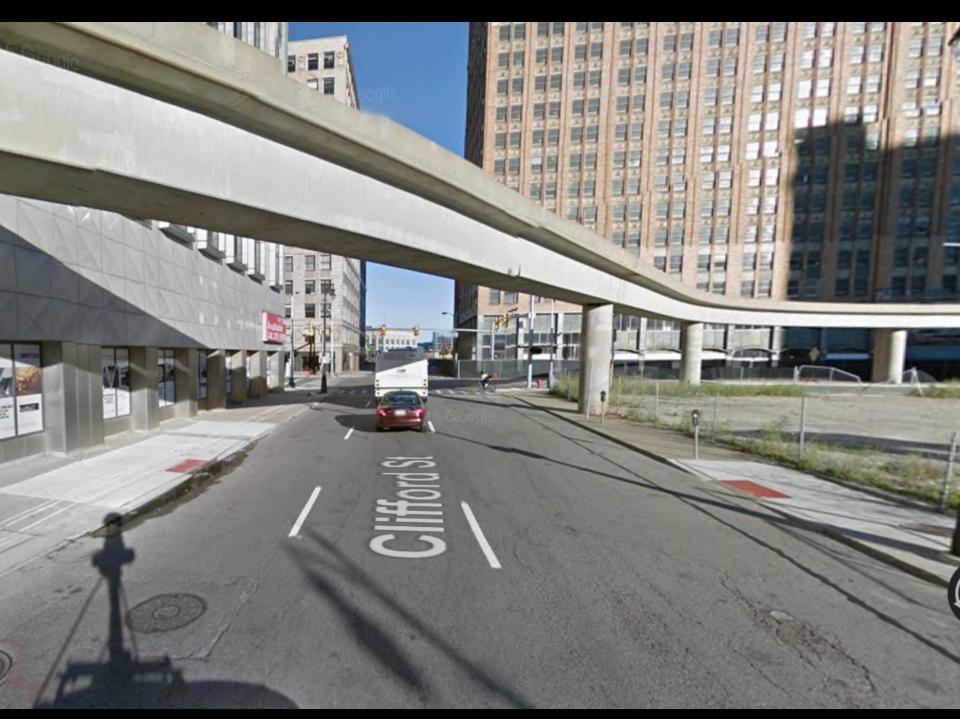
### **TWO-WAY STREETS NOW !**

- Safety
- Walkability
- Property Values
- Revitalization
- Neighborhoods

Signs Provided by: The East Spring Street Neighborhood Association

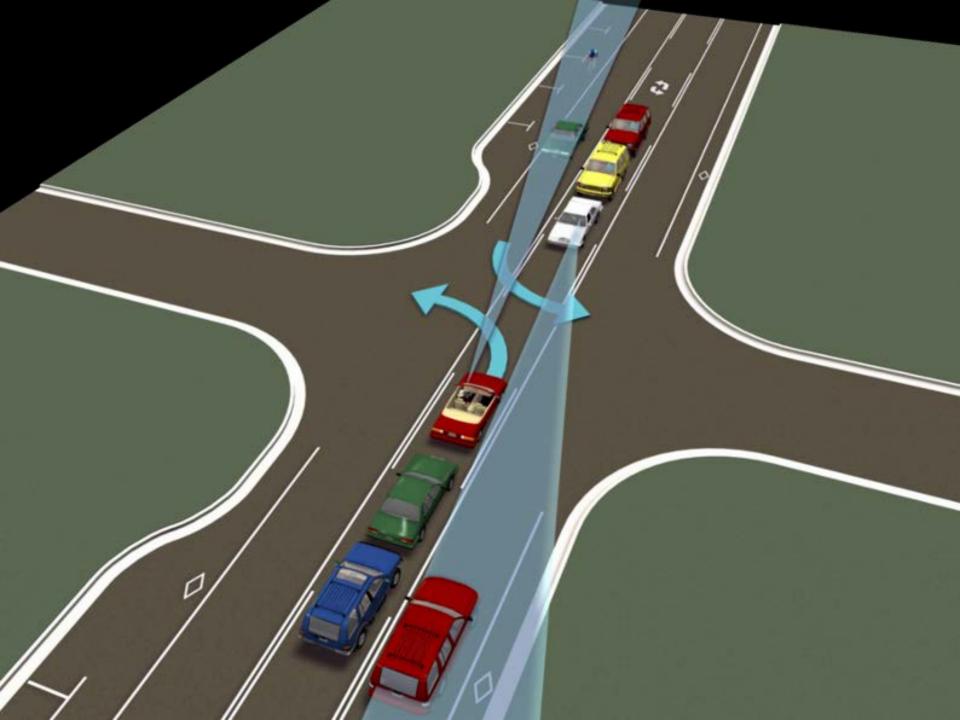


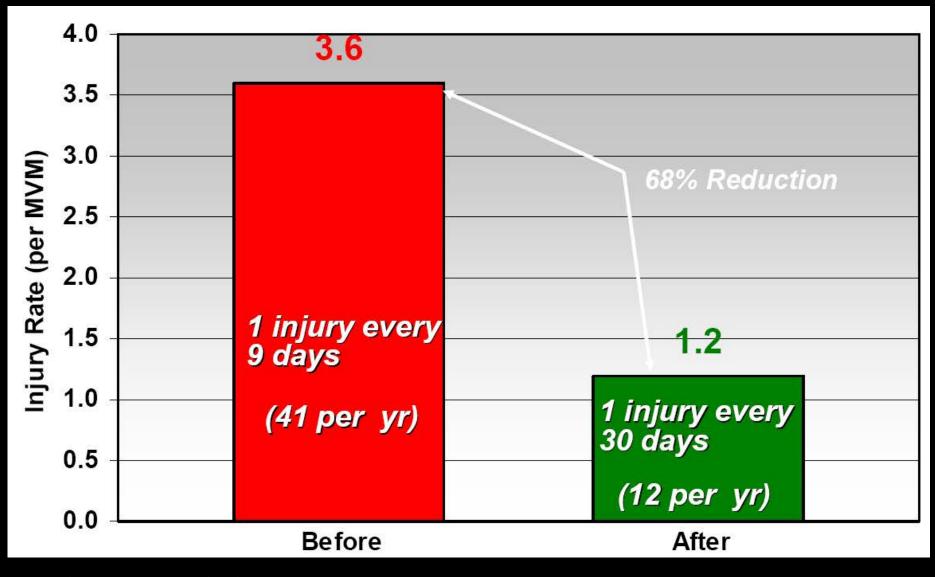






Opposing Vehicles In Blind Spots





Data: Edgewater Drive, Orlando, FL

#### Successful Road Diets

Location	Street	ADT Before	ADT After
San Leandro, CA	East 14th Street	17,700	16,700
Duluth, MN	21st. Avenue East	17,000	17,000
Ramsey County, MN	Rice Street	18,700	16,400
Toronto, ON	St. George Street	15,000	15,000
Kirkland, WA	Lake Washington Boulevard	23,000	25,900
Seattle, WA	North 45th Street	19,400	20,300
Covington, WA	State Road 516	29,900	32,800
Bellvue, WA	Montana Street	18,500	18,500
East Lansing, MI	Grand River Boulevard	23,000	23,000
Santa Monica, CA	Main Street	20,000	18,000
Helena, MT	U.S. 12	18,000	18,000
San Francisco, CA	Valencia Street	22,200	20,000
Oakland, CA	High Street	22,000	24,000
Orlando, FL	Edgewater Drive	20,500	21,000
Seattle, WA	Madison Street	17,000	18,000
Reno, NV	South Wells Avenue	18,000	17,500
University Place, WA	67th Avenue	17,000	15,000
University Place, WA	Cirque Avenue	16,900	14,400
East Lansing, MI	West Grand River Avenue	18,000	18,000
East Lansing, MI	Abbott Road	15,000	21,000
Charlotte, NC	East Boulevard	21,400	18,400











## ZOOM ZOOM DR.

"Increased lane widths are responsible for approximately 900 additional traffic fatalities per year."

-- Robert Noland, "Traffic Fatalities and Injuries: The Effect of Changing Infrastructure and Other trends," *Center for Transport Studies*, 2002.



## Width of streets is narrowed by popular demand

#### BY HELEN NIEMIEC STAFF WRITER

Complaints from residents about mandated street widths has resulted in an emerging street width policy for improved roads in Birmingham.

The City Commission has narrowed the standard width for 15 bon-fire route streets and is -expected to set a width for fire routes within a month.

"We need information and then we need to officially designate fire routes," said city commissioner Archie Damman III.

The city's engineering and public services department will present a report on street widths concerning fire routes at today's city commission meeting.

Nine residents attended the Jan. 18 long-range planning session where the street width policy changed. Susan Gienapp, who has endorsed narrower streets, had given the commission a report from Portland, Oregon that showed how it had narrowed streets.

The idea of "traffic calming" and residential streets that had more of a small town flavor came up a number of times during the Downtown Master Plan study.

The policy affects the approximately half of Birmingham's roadways that still don't have curbs, gutters and storm sewers and currently are classified as unimproved roads. The city has 45 miles of improved streets, 25 miles of unimproved streets without curbs or gutters; and 20 miles of unimproved streets with curbs.

The petition of three streets in

### BIRMINGHAM

the neighborhood immediately south of the downtown prompted the commission to rethink its... policy which was reaffirmed last year as 29-feet wide. On citizen petitions to pave and improve the streets, the city engineering department had specified that improved streets would be done at 29-foot widths.

"I support this concept," said city commissioner Eleanor Siewer ert of the new widths. "We could handle something with options. I was very influenced by reading the Portland report. After the master plan, I've become moto saware of what our streets look like."

City Manager Thomas Markus still has reservations about mirrower streets. Portland, he noted, has a public transit syntem where Birmingham restdents are reliant upon their cats and need more parking space.

Additionally, Markus expects that the narrower streets will become less used for cut-through traffic.

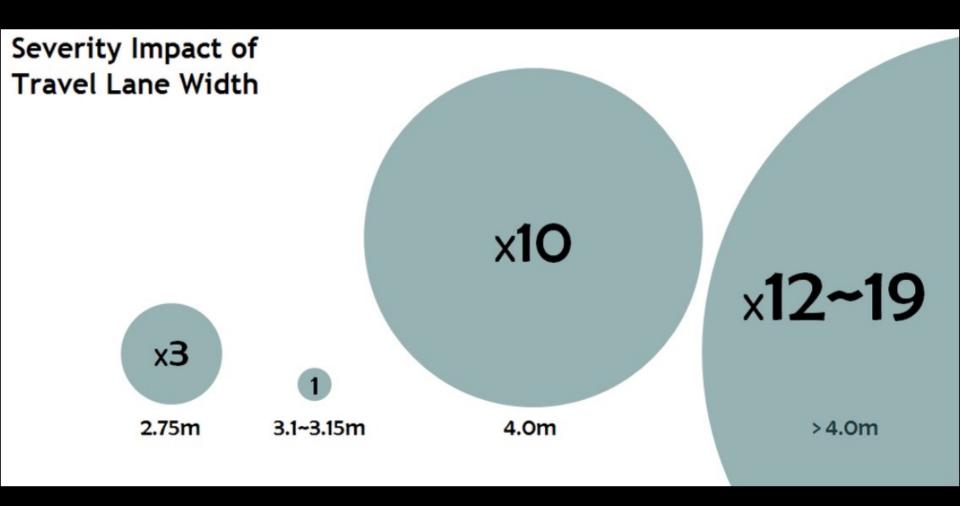
"When we downsize one neighborhood street, that will force traffic on the wider streets," Markus said

Birmingham went with a 29foot street width to allow safety vehicles, such as fire trucks and ambulances, to pass if cars are parked on both sides of a street. The large fire trucks are 9-feet. 10-inches wide. The street width policy last year was reaffirmed by a 4-3 city commission vote, though the topic of street width surfaced at every commission meeting where road improvements were discussed.

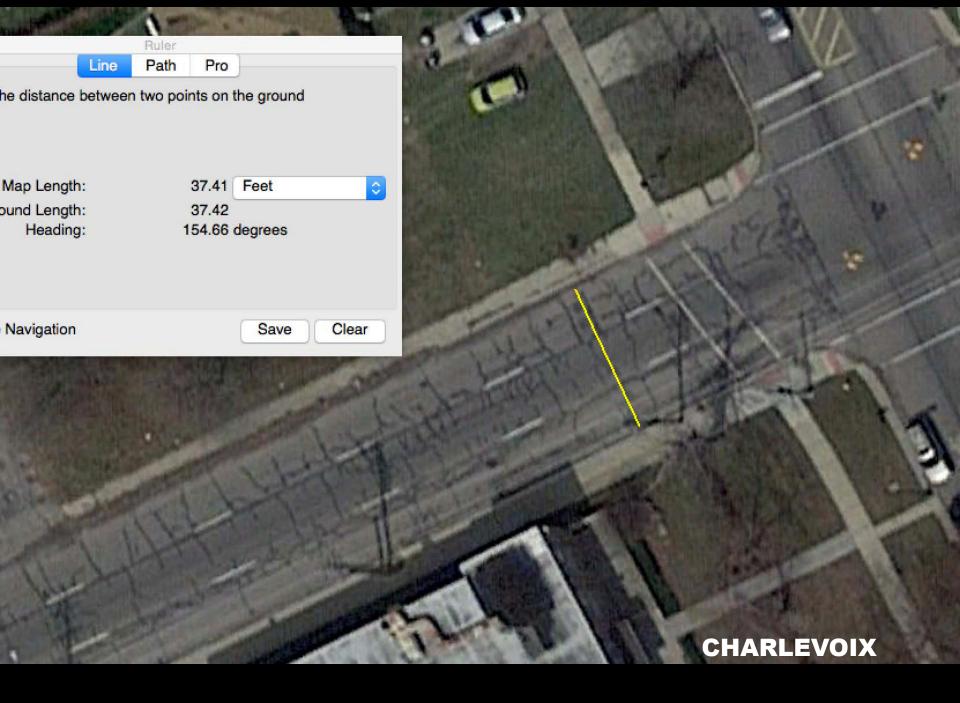
# Ten feet should be the default width for general purpose lanes at speeds of 45 mph or less.

1

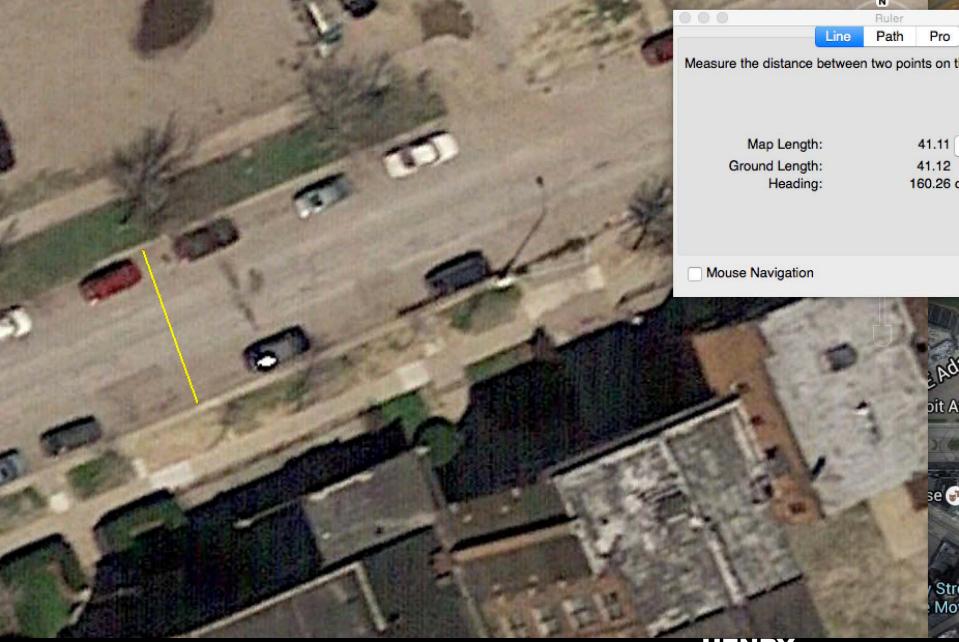
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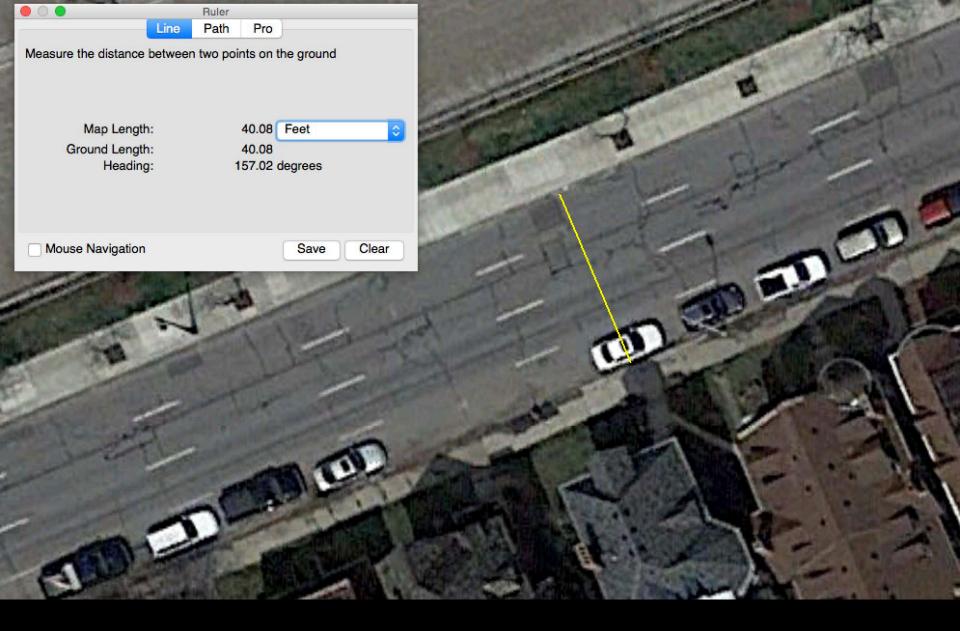
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### FOREST











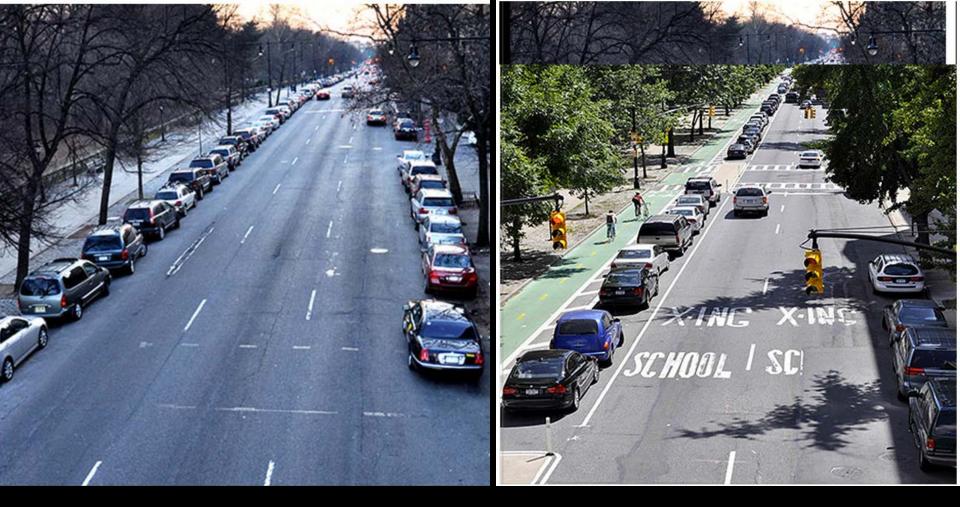




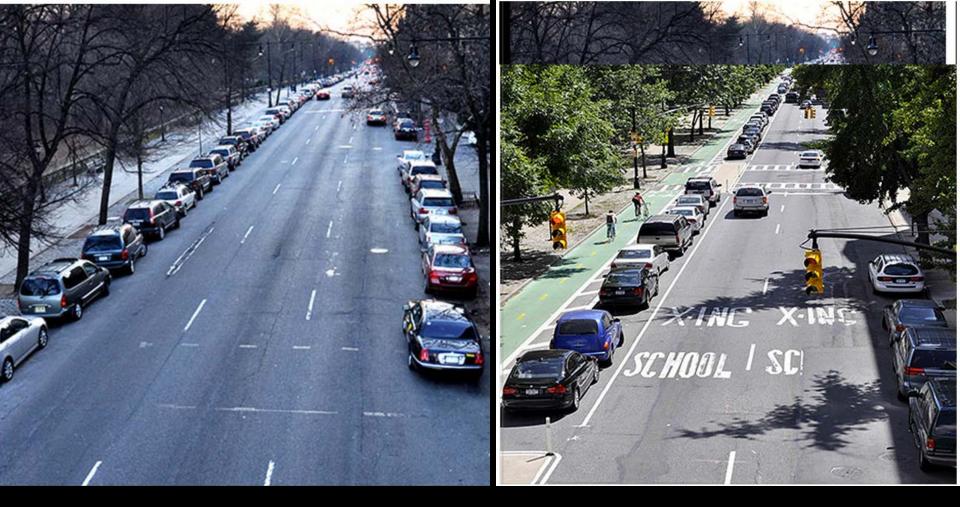




## **# OR CYCLISTS: TRIPLED**



### **# OR CYCLISTS: TRIPLED SPEEDING:** 75% $\rightarrow$ 17%



# OR CYCLISTS: TRIPLED SPEEDING: 75% → 17% INJURY CRASHES DOWN 63%



# OR CYCLISTS: TRIPLED SPEEDING: 75%  $\rightarrow$  17% INJURY CRASHES DOWN 63% CAR VOLUME, TRIP TIMES: UNCHANGED

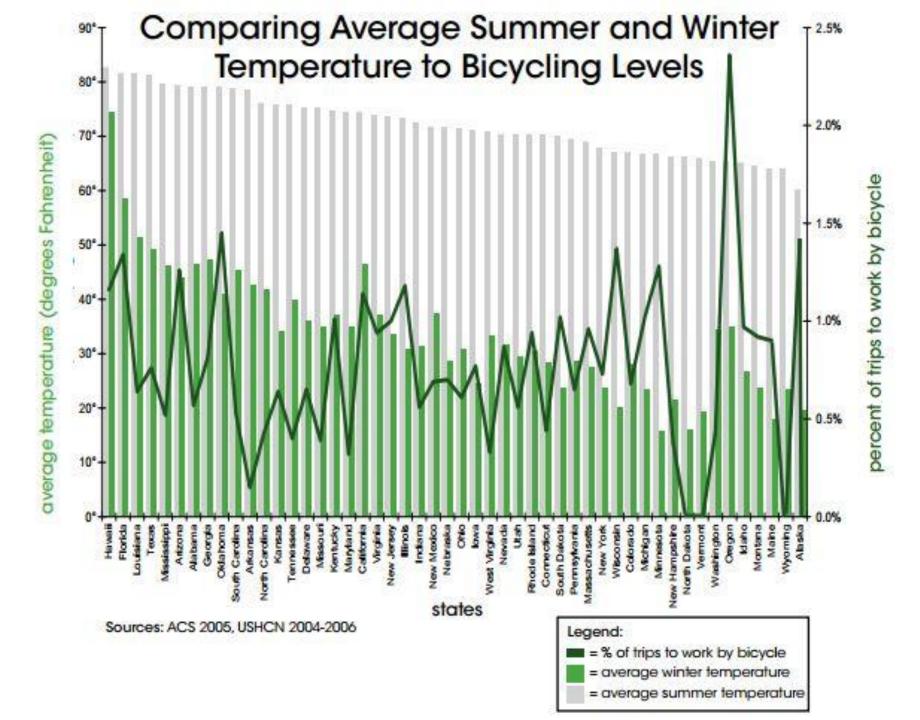








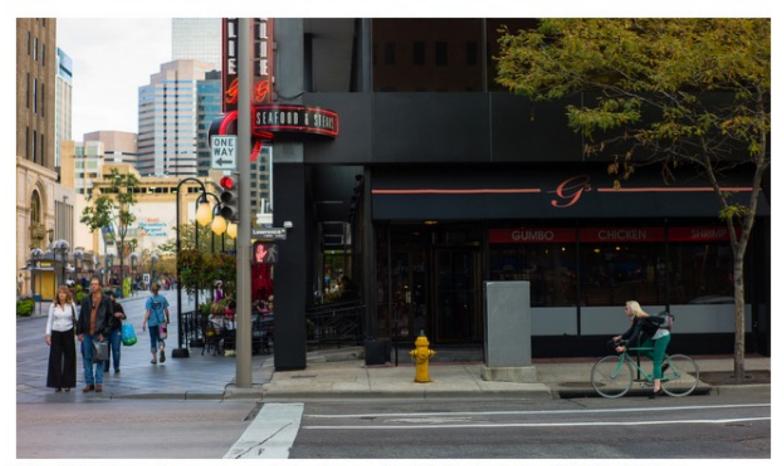




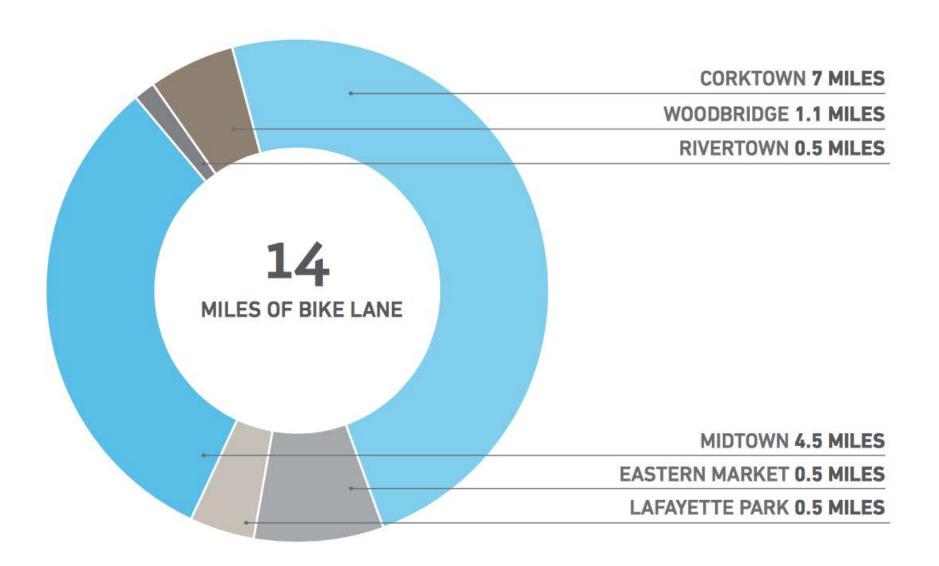
## DENVER TECH COMPANIES: 'THE NO. 1 THING THEY WANT IS BIKE LANES'

October 31, 2013

Michael Andersen, Green Lane Project staff writer



Bikeability: Denver's new economic development tool. Photo by Andrew Catellier (Flickr).











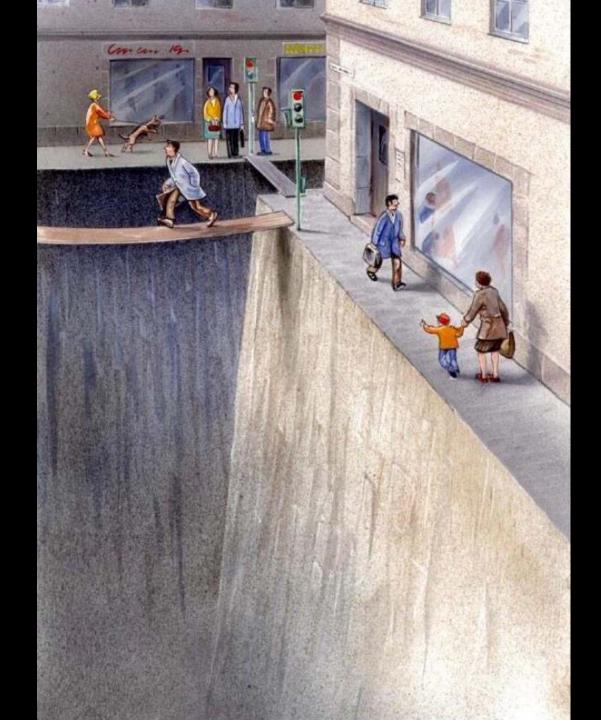


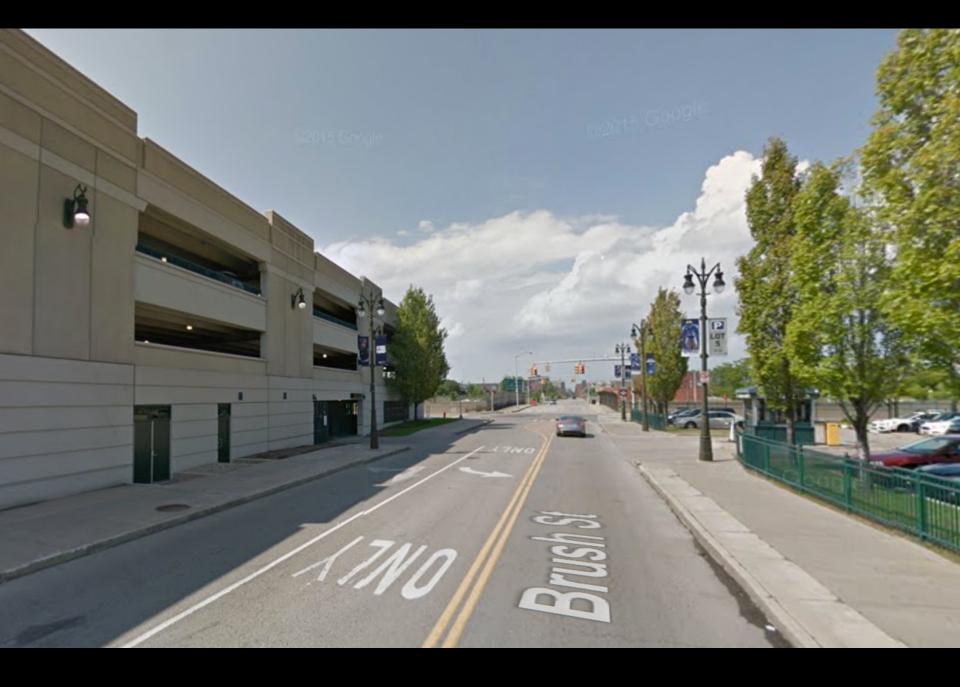


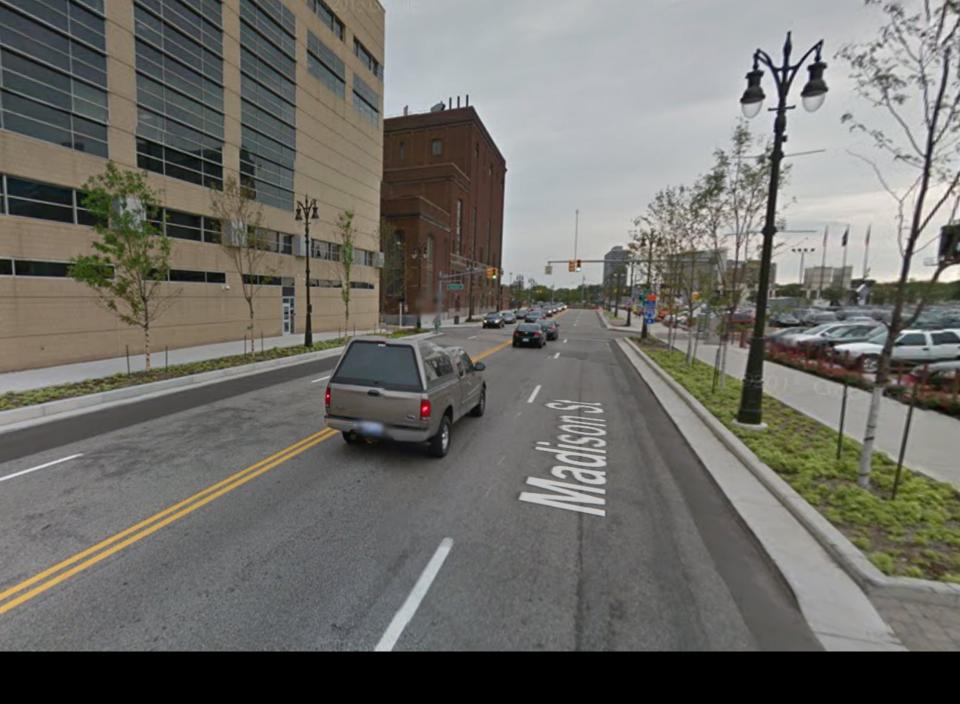




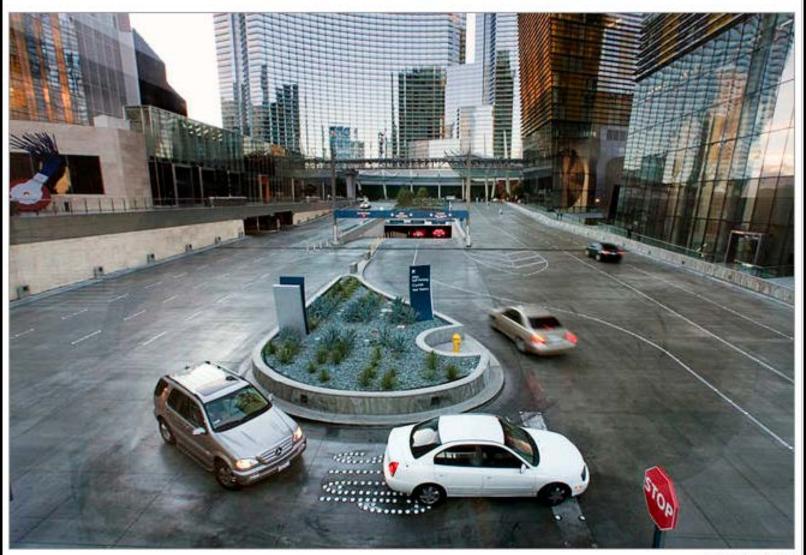






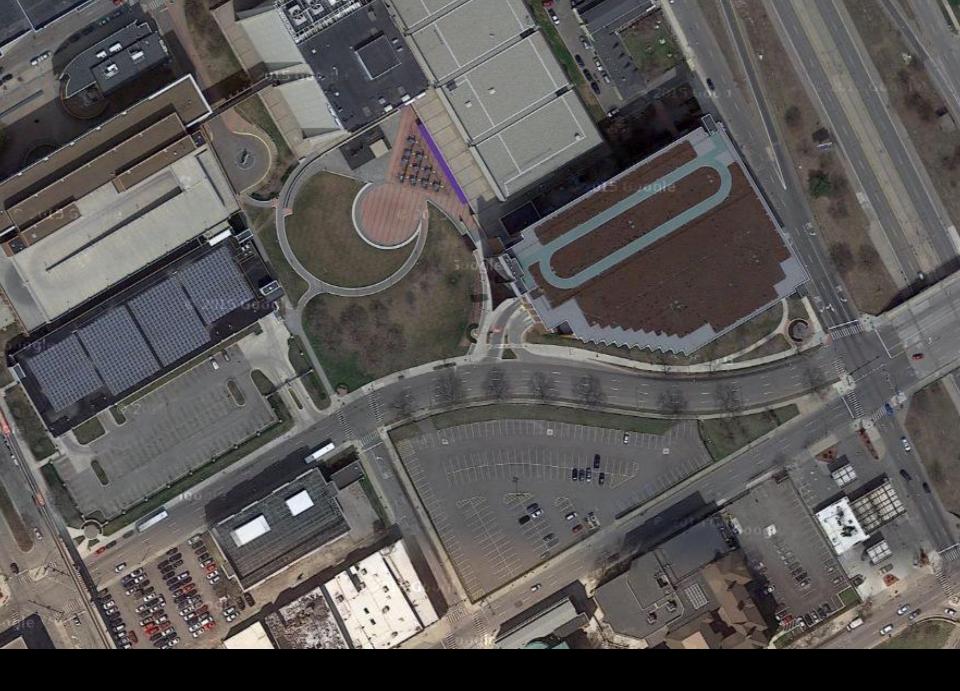


# Design challenges leave passers-by passing CityCenter by

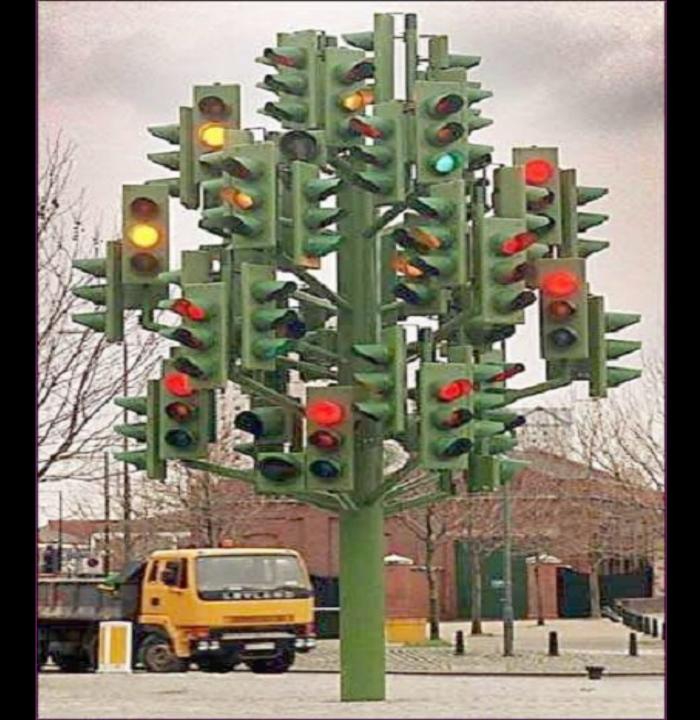


Some say the entrance to CityCenter is not inviting to pedestrians.

STEVE MARCUS









# PERSAUD ET. AL.

# **CRASH REDUCTIONS RELATED TO TRAFFIC SIGNAL REMOVAL IN PHILADELPHIA,** 1997

# PERSAUD ET. AL. 1972 472 SIGNALS REMOVED

# PERSAUD ET. AL. 1972 472 SIGNALS REMOVED DATA COLLECTED ON 199

# PERSAUD ET. AL. 1972 **472 SIGNALS REMOVED DATA COLLECTED ON 199 CRASHES REDUCED 24%**

PERSAUD ET. AL. 1972 **472 SIGNALS REMOVED DATA COLLECTED ON 199 CRASHES REDUCED 24% SEVERE INJURY CRASHES REDUCED 63 %** 

PERSAUD ET. AL. 1972 **472 SIGNALS REMOVED** DATA COLLECTED ON 199 **CRASHES REDUCED 24% SEVERE INJURY CRASHES REDUCED 63 % SEVERE PED INJURY CRASHES REDUCED 68%** 

# PERSAUD ET. AL.

"Traffic engineers in **Philadelphia believe that the** safety benefit stems from elimination of the local habit of speeding up to beat the red."



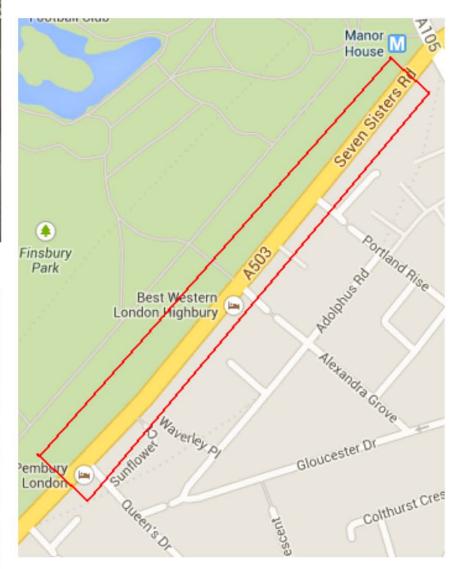
### Before



After



### Location



# STREETSBLOG USA

Podcast Transit Bike/Ped Smart Growth Contests

Friday, August 15, 2014

24 Comments

### Removing Center Lines Reduced Speeding on London Streets

by Angie Schmitt

		Corrected change in average speed (mph)
Seven Sisters Road	N/bound	- 7.0
	S/bound	- 8.6
Wickham Road	E/bound	- 7.4
	W/bound	- 7.5
Brighton Road	N/bound	- 5.6
	S/bound	- 5.4

Traffic speeds slowed after London resurfaced three streets and didn't restore center lines, even though resurfacing alone was shown to increase average speeds. Graphic: Transport for London





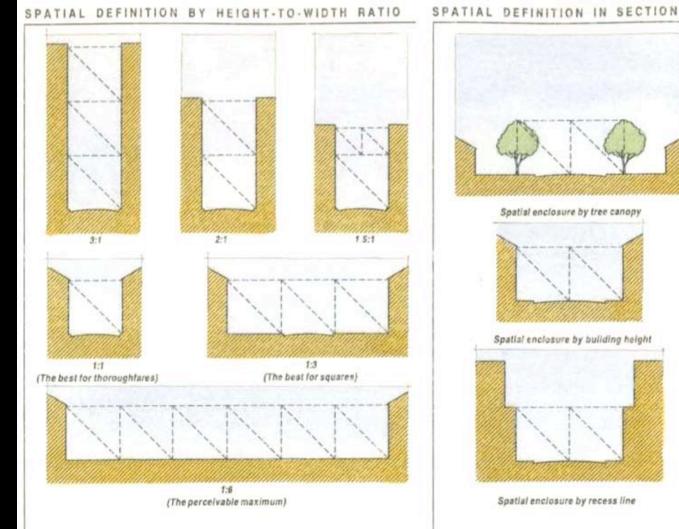
## **HOW DO YOU GET PEOPLE TO WALK?**

# A REASON TO WALK

# • A SAFE WALK

# A COMFORTABLE WALK





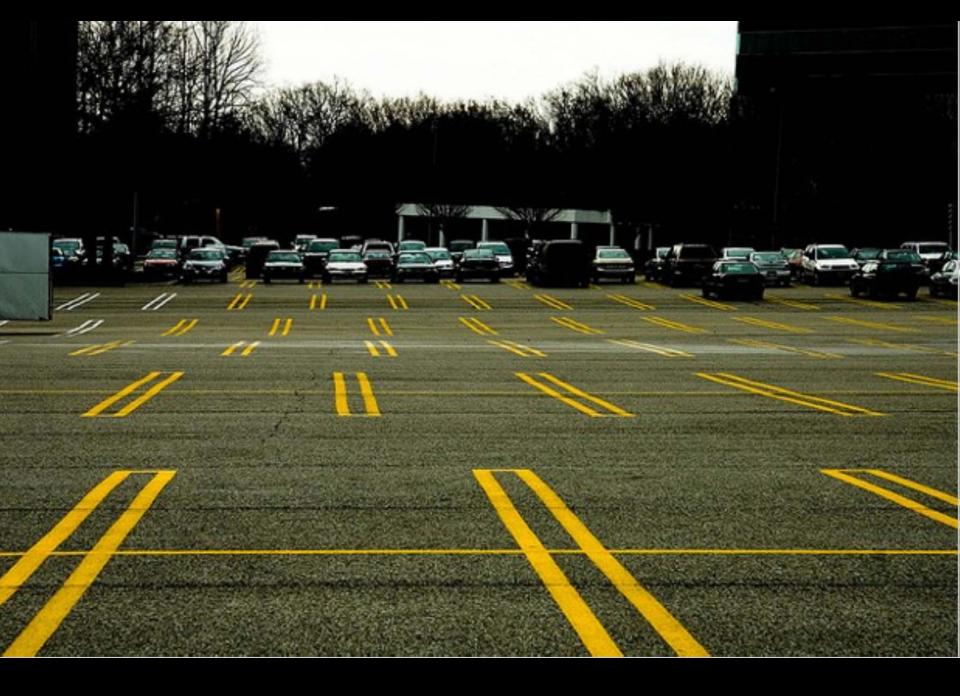
- Spatial Definition: the fabric achieved when enfronting facades are aligned in a coherent manner, and the defined space does not exceed a certain height-to-width ratio.
- Height-to-Width Ratio: the proportion of spatial enclosure related to the physiology of the human eye. If the width of space is such that the cone of vision encompasses less streat wall than open sky, the degree of spatial enclosure is slight. As a general rule, the tighter the ratio, the stronger the sense of place and, often, the higher the real estate value. See: Sense of Place
- Spatial Enclosure: the defining elements of a public space provided by lacades with disciplined tree planting as an alternative. Trees aligned for spatial enclosure are necessary on thoroughlares that exceed the maximum height-to-width ratios.
- Enclosure: a physical attribute of thoroughfares and open spaces, contributing to a sense of place. Enclosure of the public realm involves the definition of the public space by frontages as a room is defined by its walls. Controlling the degree of enclosure is one of the principal variables in the creation of an urban-to-rural transect. Enclosure is adjusted through the selection of frontage types or by a build-to line specifying the minimum building frontage and the minimum building height.



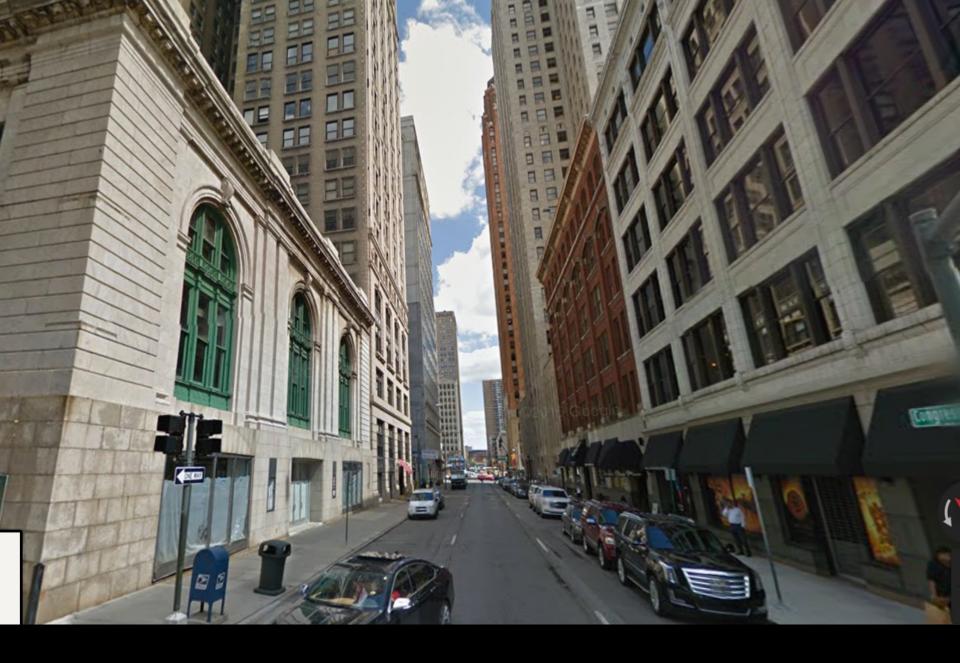
### 34 Likes 17 Comments











## **HOW DO YOU GET PEOPLE TO WALK?**

## • A REASON TO WALK

## • A SAFE WALK

## A COMFORTABLE WALK

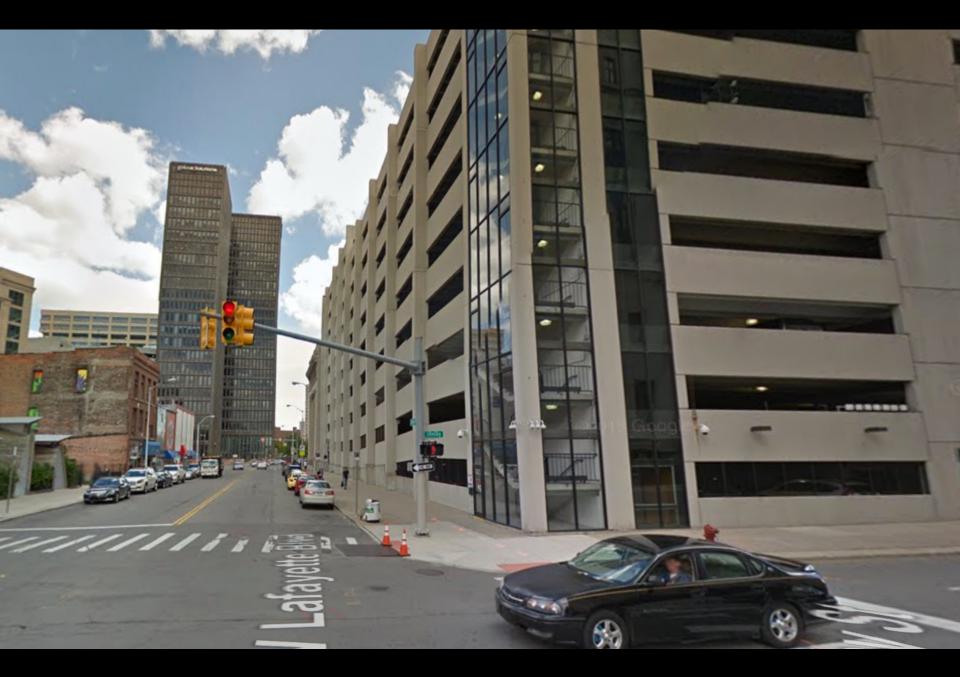
## AN INTERESTING WALK

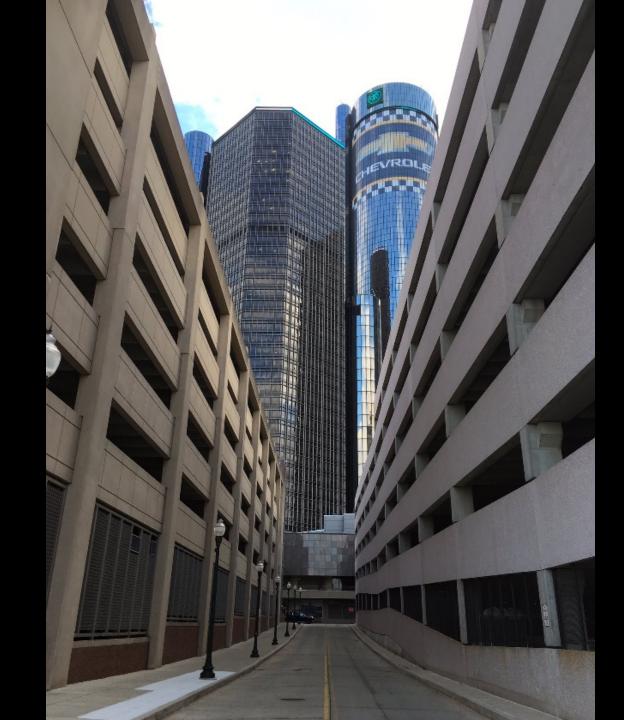


# OLLEGE OF ARCHITECTURE















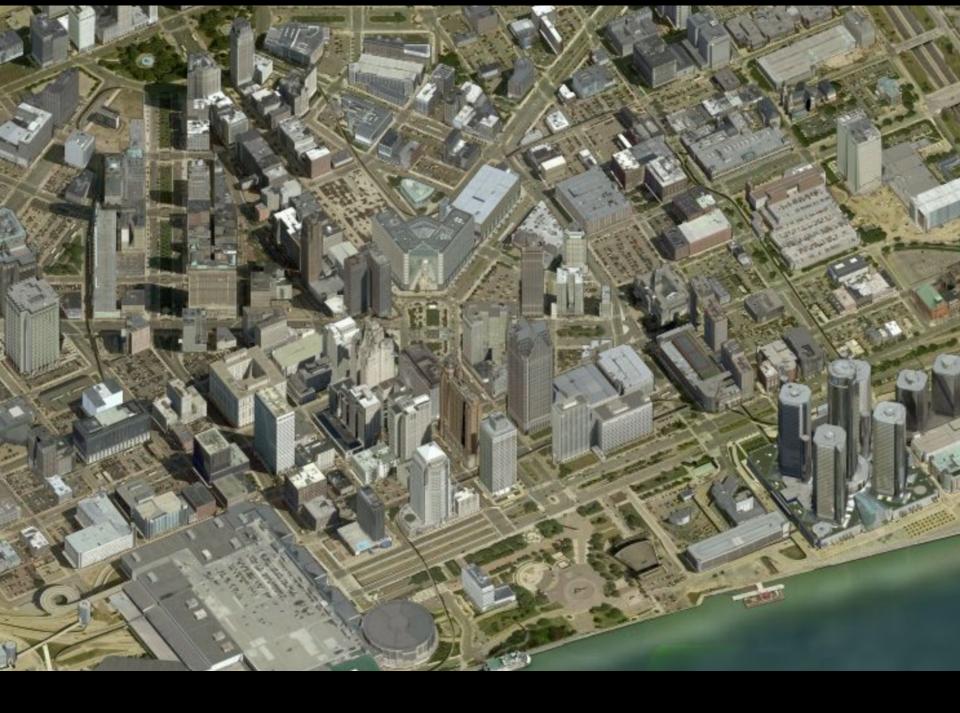
## **HOW DO YOU GET PEOPLE TO WALK?**

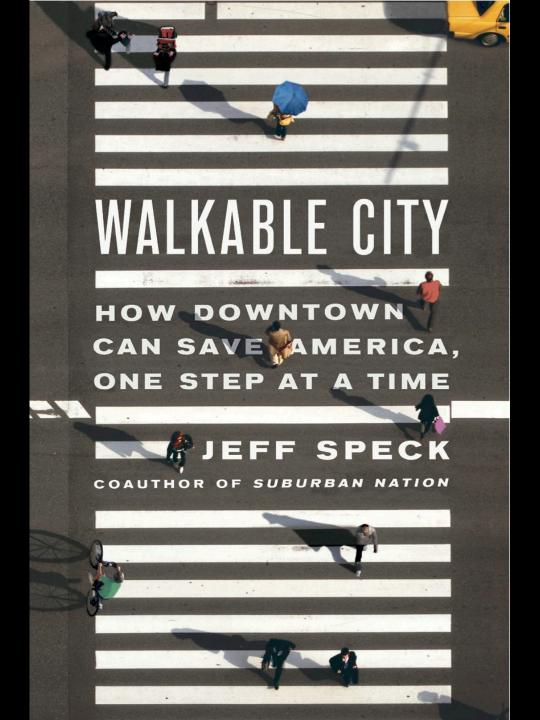
• A REASON TO WALK

• A SAFE WALK

A COMFORTABLE WALK

AN INTERESTING WALK







**10TH ANNIVERSARY EDITION** With a new preface by the authors

## SUBURBAN NATION

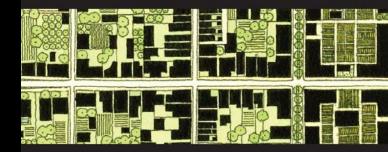
#### The Rise of Sprawl and the Decline of the American Dream

"Dissects the physical design of the suburbs brilliantly... [The authors] set forth more clearly than anyone has done in our time the elements of good town planning." —Paul Goldberger, *The New Yorker* 

Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck



## The Smart Growth Manual



From the authors of *Suburban Nation* Andres Duany and Jeff Speck with Mike Lydon

## Harvard University Graduate School of Design COMMENCEMENT

2014

It is schlarsting to vitruss the reacts of a grant para of langering work at the GSD. Each present by a grantaming estatement is a subscene of multiple langers at research and investigation carried act theory in thicks sension, and these septembers on the subscenest, with their heats replaced and the landt controverset can be tratice at these works, with the investigations of the ball controverset can be tratice the set at summer to the ball is at a stranger of investigation of investigation is and across classifiers. The test is and across classifiers is the test is descenteed in multiple is descenteed in multiple.

## **JUNE 23 – 24, 2016**

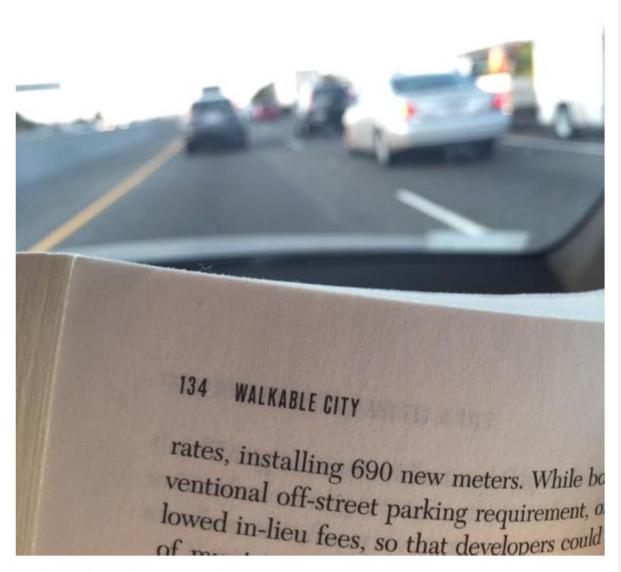
## Follow Jeff on Twitter: twitter.com/JeffSpeckAICP



#### **JUNE 23 – 24, 2016**



Daniela @citizen\_dani · 3h reading #walkablecity by @JeffSpeckAICP as I commute 1.25 hr home in carpool lane traffic #irony



6:06 PM - 14 Oct 2015 · Details

