

Local Street Networks and the Future of Claiborne Avenue

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Outline

- Arguments Against Restoring Claiborne
 - **Argument 1:** Eliminating the freeway will create traffic congestion and hurt the local economy.
 - **Argument 2:** Eliminating the elevated roadway will create gridlock on a surface boulevard.
 - **Argument 3:** Traffic fatalities will skyrocket as displaced traffic from Claiborne floods local streets.

Restoring Claiborne Avenue

Alternatives for the Future of Claiborne Avenue



A Report to the Claiborne Corridor Improvement Coalition and Congress for the New Urbanism

Prepared by Smart Mobility Inc. and Waggonner & Ball Architects

15 July 2010

New Orleans Claiborne Avenue Redevelopment Study



A University of New Orleans Analysis of
Best Practices and Public Opinion

MURP 4062: Applied Techniques for Transportation Planning,
Spring 2011

August 2011

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<http://www.cnu.org/restoringclaiborne>

<http://transportation.uno.edu/phire-content/assets/files/Claiborne%20Avenue%20Redevelopment%20Study.pdf>

Assertion 1:

**Eliminating the freeway will
create traffic congestion
and hurt the local economy.**

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In Depth: America's Most Congested Cities

Read the full story Matthew Wooley

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© AP Photo/Jacquelyn Martin

2. Washington, D.C.

(Washington-Arlington-Alexandria)

Annual delay per traveler: 62 hours

Excess fuel consumed by metro commuters: 90,801 gallons

Read on for [more lists and rankings](#), including the world's most expensive cities to live and America's fastest-falling neighborhoods.

Methodology: Rankings were determined using data from the Texas Transportation Institute (TTI), which calculates delay ratings through the use of U.S. Department of Transportation, and individual states' transportation department traffic data for 429 metropolitan statistical areas (geographic entities defined by the U.S. Office of Management and Budget). The TTI uses this information to calculate the additional amount of time travelers spend on the road, as the result of congestion, per year. If a commuter should spend 250 hours a year commuting, without traffic, but spends 300 hours a year commuting, TTI would assess the annual delay due to congestion at 50 hours. The more hours lost to traffic, the worse a city's congestion.

Does congestion hurt the economy?

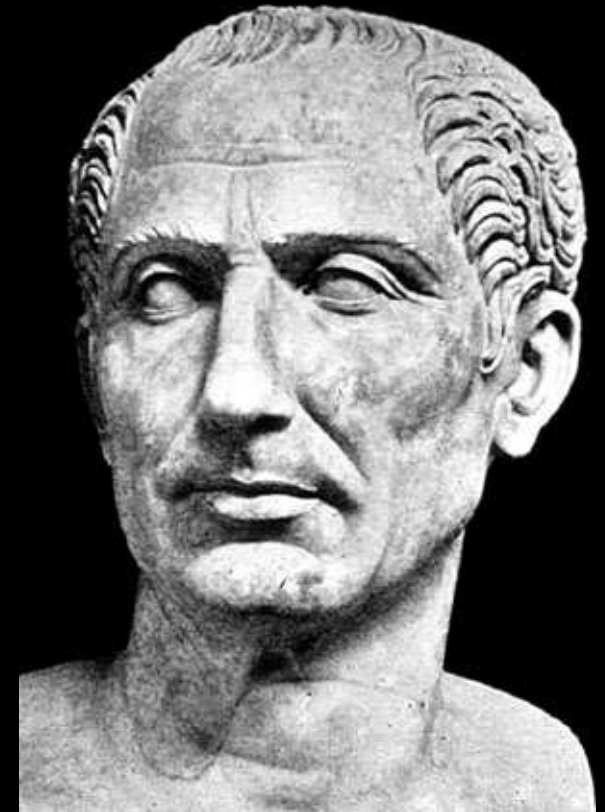
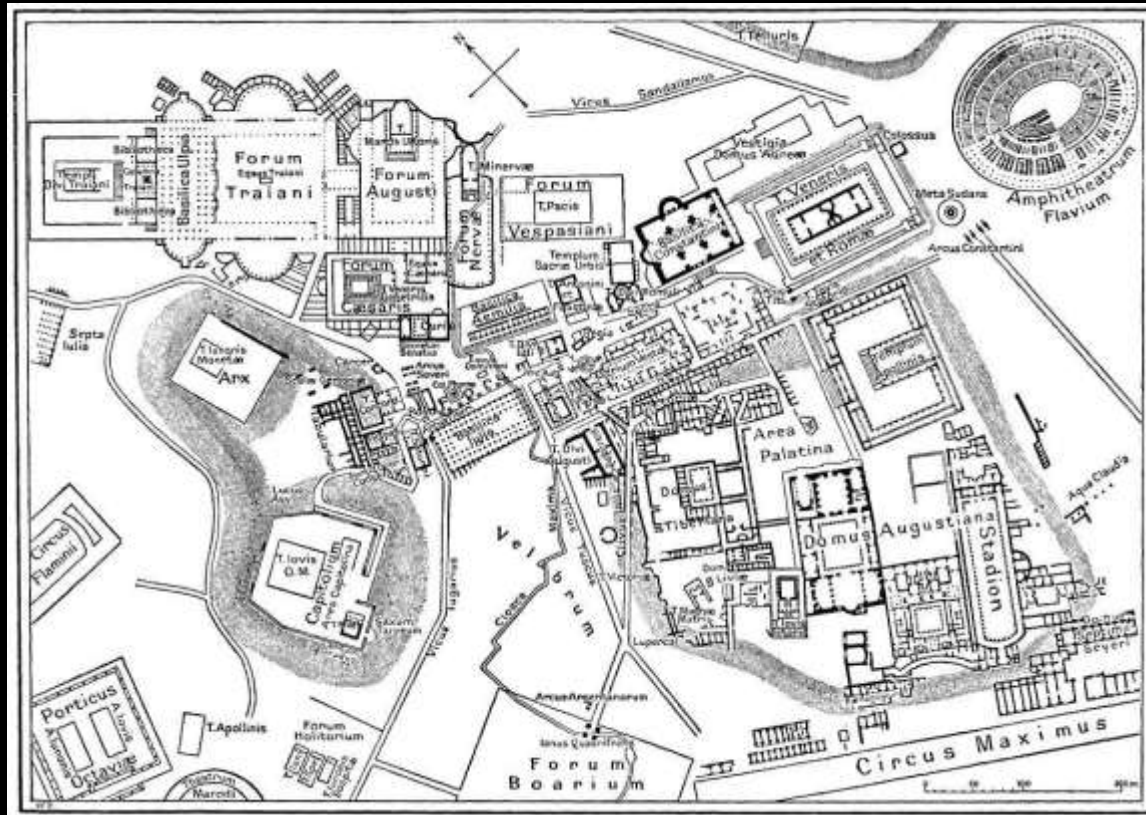
Metropolitan Gross Domestic Product			
Variable	Beta	t	Sig.
Delay Per Capita	0.701	10.165	.000
% Drive-alone Trips	- 0.227	-3.287	.001

R² = 0.663

N = 88

- For every 10% increase in vehicle delay...
- ...a region's GDP increases by 7%

**Traffic congestion is a by-product
of a vibrant economy.**



Julius Caesar

US Teardowns

- **Chattanooga**
 - Riverfront Parkway
- **Milwaukee**
 - Park East Freeway
- **New York**
 - Westside Highway
- **Oakland**
 - Cypress Freeway
- **Portland**
 - Harbor Drive Freeway
- **San Francisco:**
 - Central Freeway
 - Embarcadero Freeway

Riverfront Parkway, Chattanooga

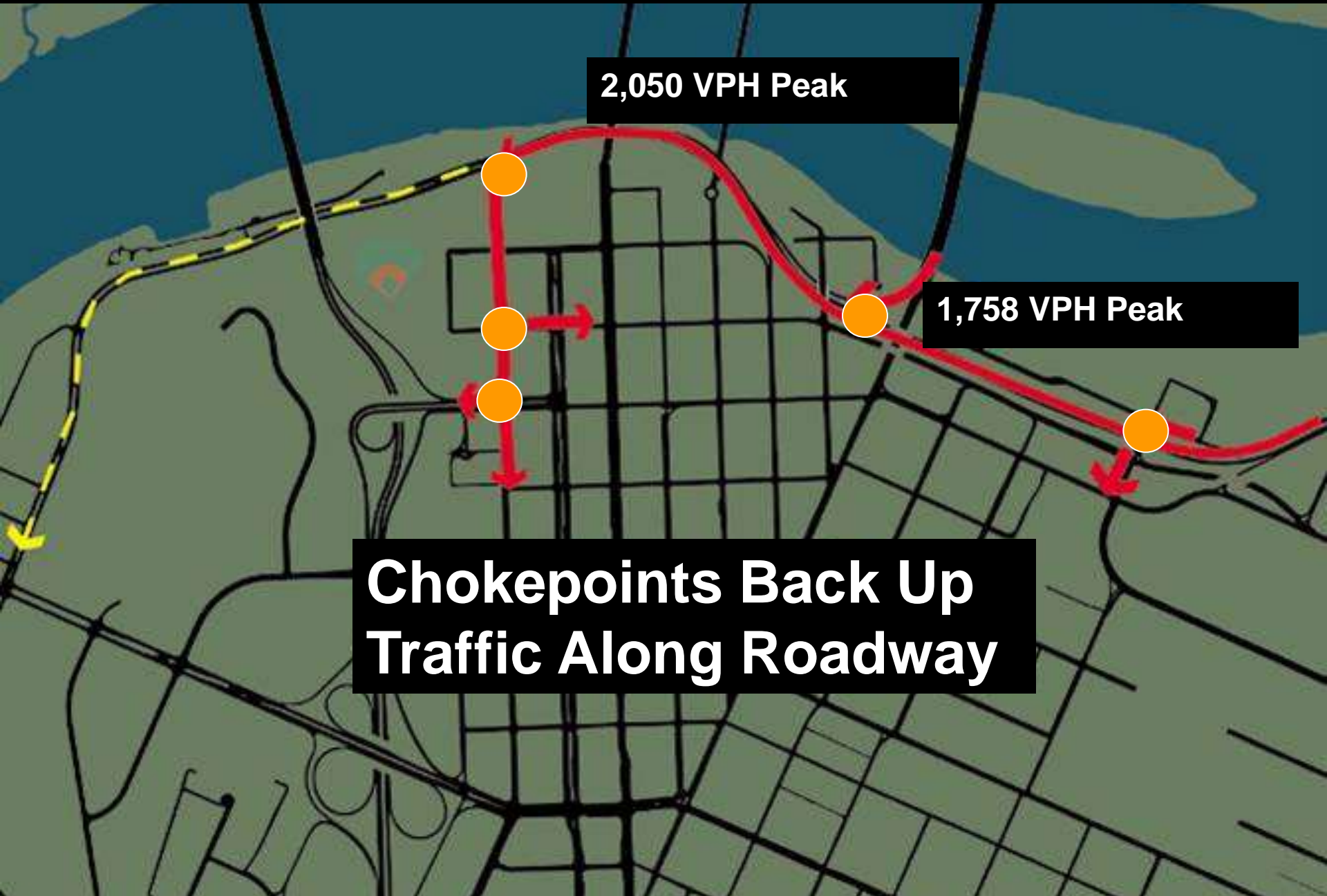


Central Freeway, San Francisco

Example 1: Chattanooga Riverfront Parkway



Example 1: Chattanooga Riverfront Parkway



2,050 VPH Peak

1,758 VPH Peak

Chokepoints Back Up Traffic Along Roadway

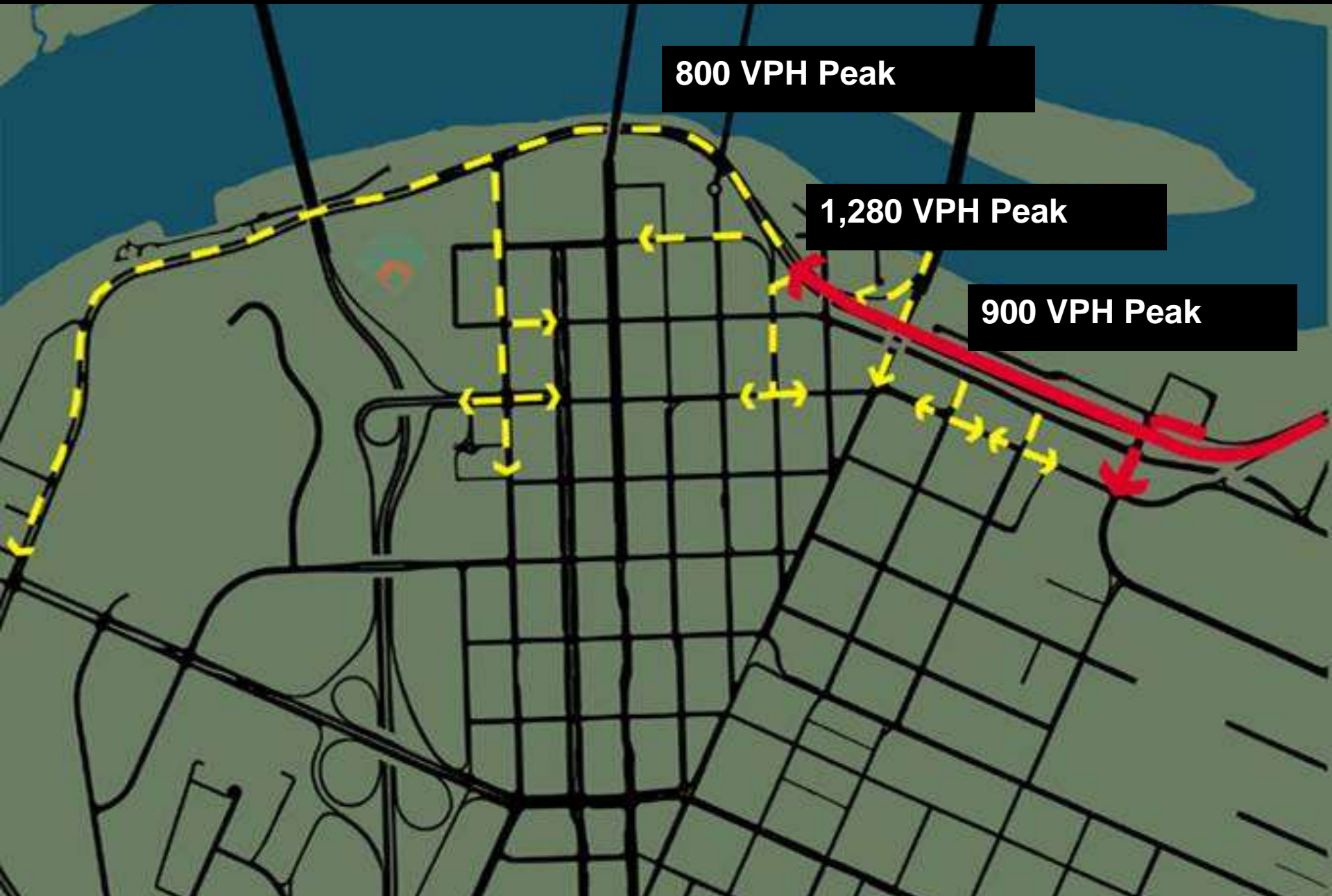
Solution: Taking Lanes?



The problem is not flow, but distribution



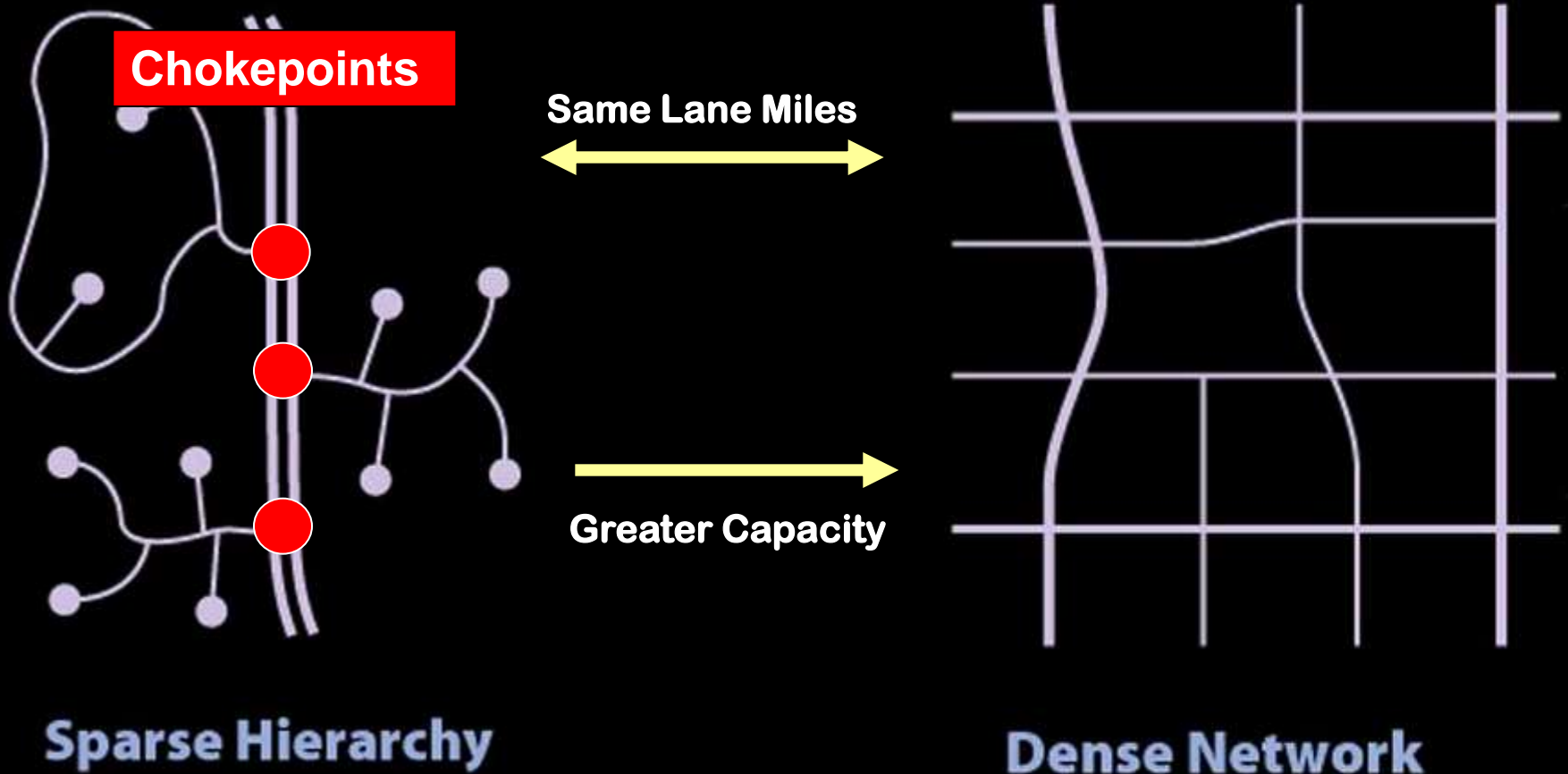
Solution: Diffuse Traffic into Grid





Lesson Learned:

Connected street networks move traffic efficiently by distributing it over larger areas.



Example 2: San Francisco's Central Freeway








Plan to Close S.F. Central Freeway Worries Neighbors / A few think of moving away -- merchants scared




February 26, 1996 | By Catherine Bowman, Chronicle Staff
Writer



For residents who live and work in the shadow of the Central Freeway, plans to close the structure for seismic repairs mean one thing: a giant, lasting headache.

The state Department of Transportation wants to shut down the freeway from midsummer until December to tear down the upper deck. Caltrans also wants to make improvements to the lower deck and do other work as well, meaning neighbors could face up to two years of noise and congestion.

Residents throughout the city are concerned about the ripple effect of closing the heavily-used freeway -- including the Fell Street off-ramp -- and wonder just how much longer it will take them to get around the inevitable street closures and other tie-ups. The freeway runs from the junction of Highway 101 and Interstate 80 to Fell Street and carries 76,000 vehicles each day.


  

What happened?

PAGE ONE -- Traffic Planners Baffled by Success No Central Freeway, no gridlock -- and no explanation

Carl Nolte, Chronicle Staff Writer
Friday, September 13, 1996

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- [Assemblywoman Mary Hayashi on Neiman Marcus radar](#) 11.27.11
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Traffic experts appear to have produced a minor urban miracle: the closure of much of San Francisco's Central Freeway without major traffic problems. But they have no idea how they did it.

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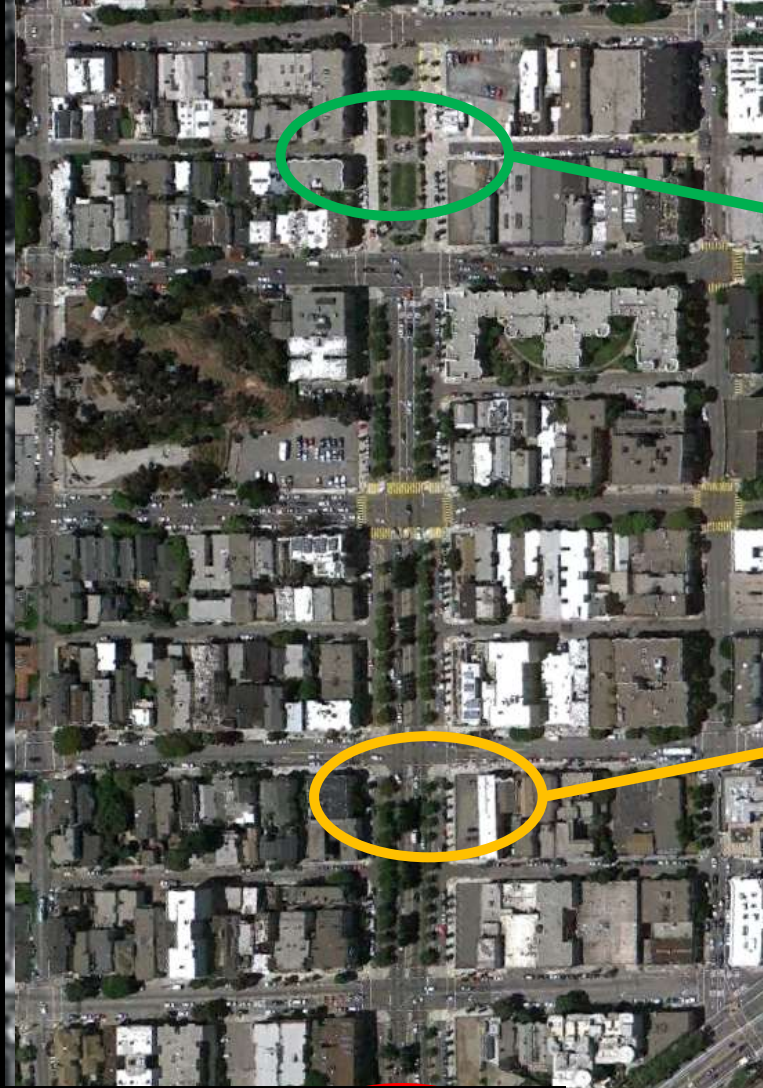
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``We have a success on our hands," said Jeff Weiss of Caltrans, the agency that had predicted traffic chaos once the half-mile stretch of freeway was shut down on August 25.

Caltrans and other traffic agencies made it sound as if San Francisco would stop cold without the freeway. The media relayed the message in grim scenarios of gridlock just around the corner, traffic jams of historic proportions. It would be ``serious," said Caltrans director James Van Loben Sels. It would be ``horrendous," said state senator Quentin Kopp, independent-San Francisco.

Only one thing was clear from the freeway closure: There were no traffic jams.

No one knows exactly why. The experts have a number of explanations. One is that

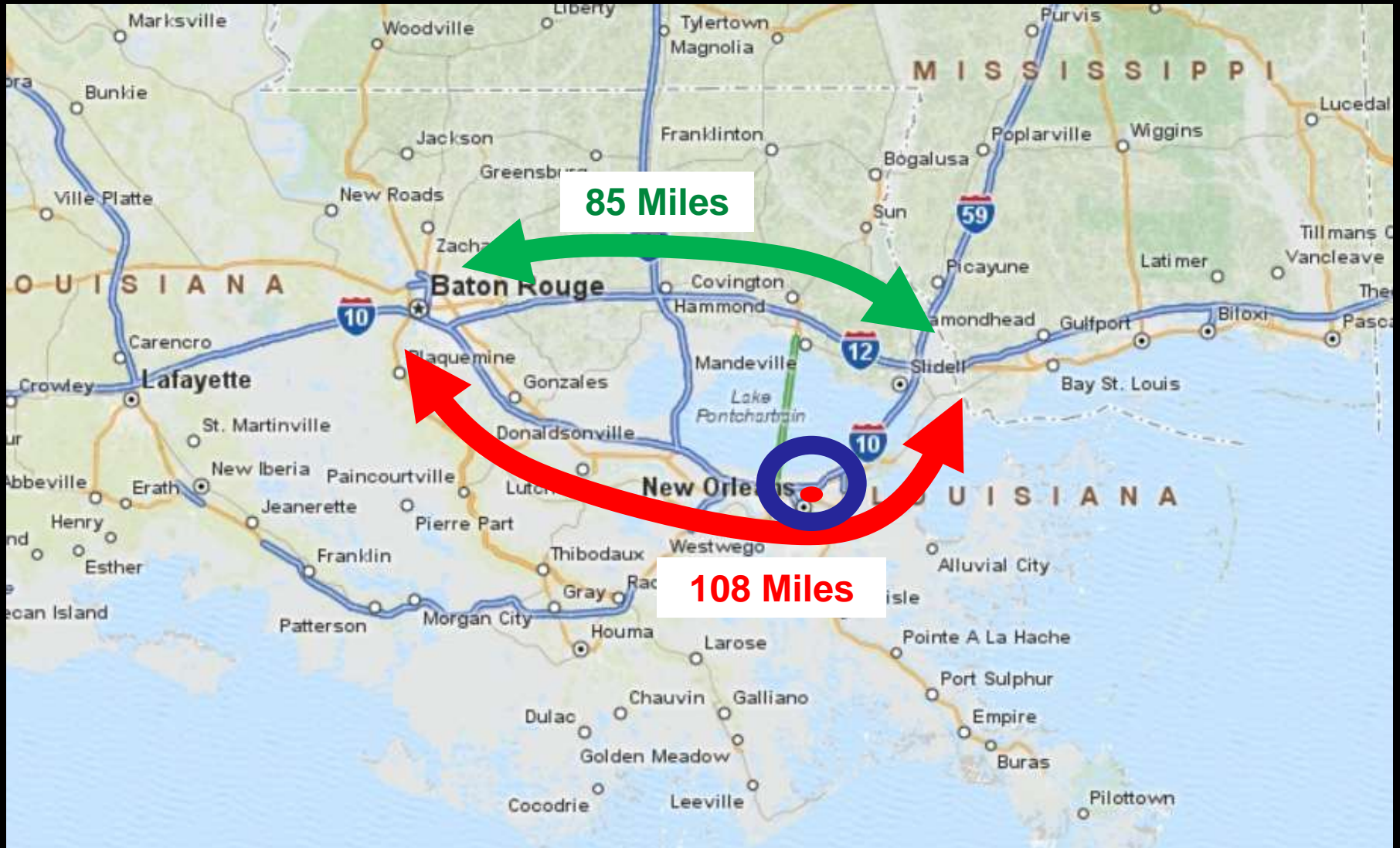


Traffic Effects:
- 76,000 Before
- 44,489 After

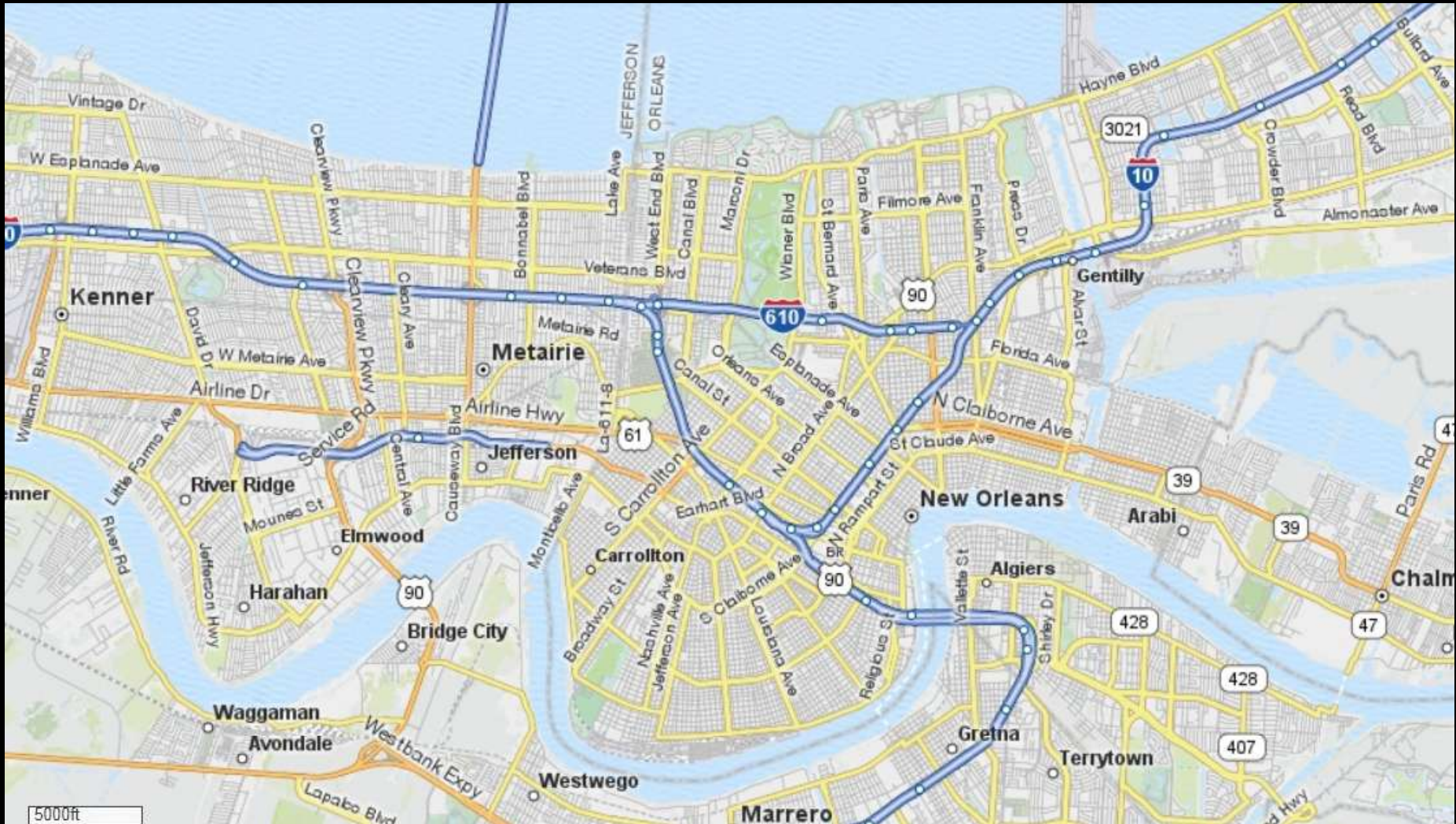
What About Traffic on Claiborne?



I-10/Claiborne in National Context



I-10 Claiborne in Regional Context



Distribution of Traffic

Westbound Travel Patterns on the Claiborne I-10 Corridor

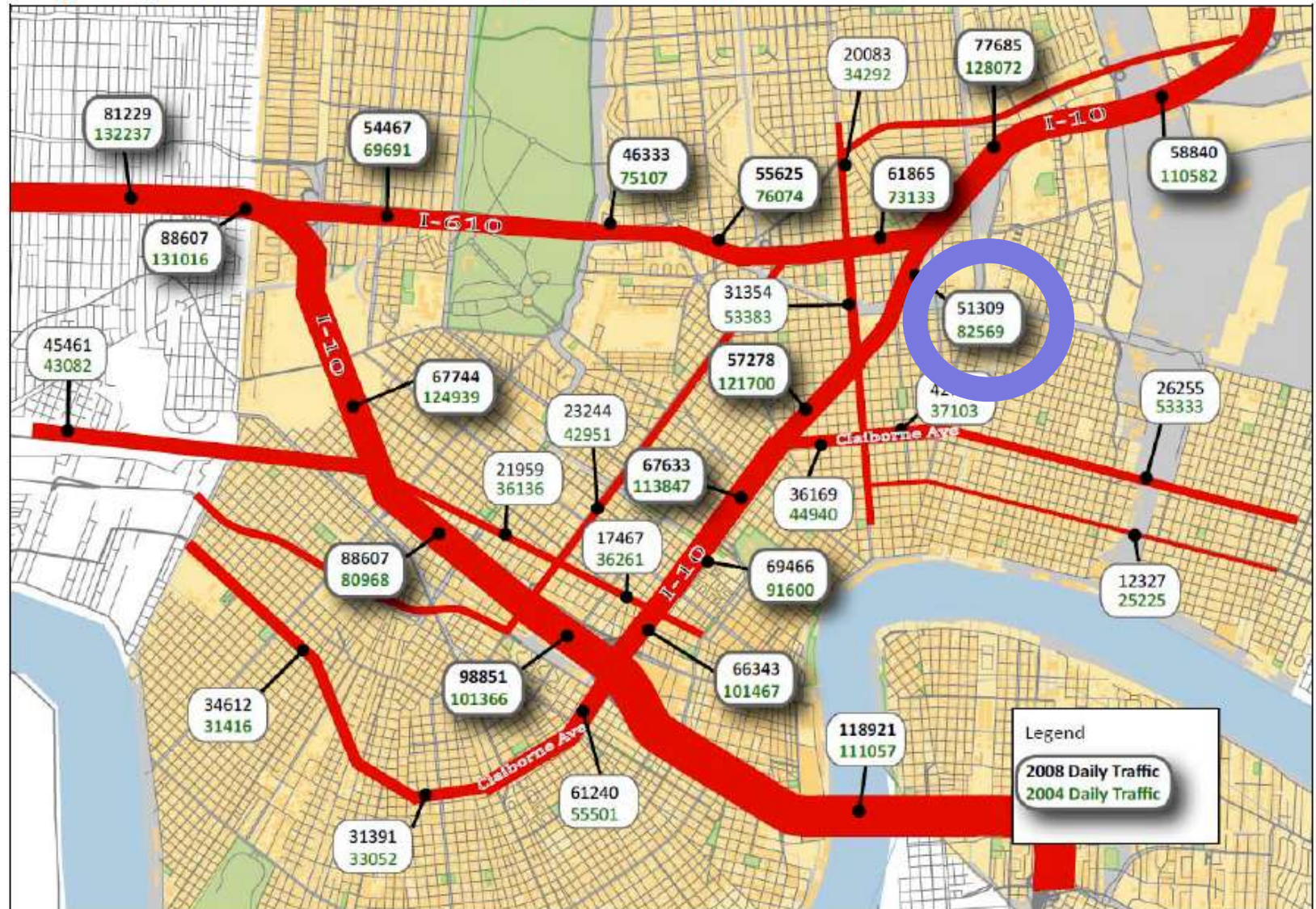


Eastbound Travel Patterns on the Claiborne I-10 Corridor



I-10 Claiborne in Regional Context

Daily Traffic Volumes in New Orleans, 2004 and 2008



Source: Louisiana Department of Transportation and Development

What would happen if Claiborne was converted to a 7-lane surface boulevard?

ARTPLAN 2009: Large Urbanized Area - [Print Preview]

File View Help

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Arterial Data

K	0.097	PHF	0.925	Control Type	Semiactuated
D	0.55	% Heavy Vehicles	2	Base Sat. Flow Rate	1950

Automobile Intersection and Segment Data

Segment #	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	FFS	Median Type
1 (to Canal)	120	0.42	3	3	12	12	Yes	1	425	0.18	No	1636	51309	2737	3	60	Restrictive
2 (to Orleans)	120	0.42	4	3	12	12	Yes	1	425	0.18	No	2376	51309	2737	3	60	Restrictive
3 (to Esplanade)	120	0.42	4	3	12	12	Yes	1	400	0.18	No	2376	51309	2737	3	60	Restrictive
4 (to St. Bernard)	120	0.42	4	3	12	12	Yes	1	375	0.18	No	1584	51309	2737	3	60	Restrictive
5 (to Elysian Fields)	120	0.42	3	3	12	12	Yes	1	375	0.18	No	3696	51309	2737	3	60	Restrictive

Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Canal)	2604	6070	1.021	46.86	D	0.82	16.03	D
2 (to Orleans)	2604	6070	1.021	42.43	D	0.82	21.84	C
3 (to Esplanade)	2604	6070	1.021	42.43	D	0.87	21.84	C
4 (to St. Bernard)	2604	6070	1.021	42.43	D	0.93	16.74	D
5 (to Elysian Fields)	2604	6070	1.021	46.86	D	0.93	26.60	B

Arterial Length	2.2098	Weighted g/C	0.42	FFS Delay	244.60	Threshold Delay	0.00	Auto Speed	21.09	Auto LOS	C
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<<-- | Properties | Intersection | Segment (Auto) | Segment (MM) | Ped SubSegment | LOS Results (Auto) | LOS Results (MM) | Service Volumes | -->>

Travel Times along Claiborne during Rush Hour

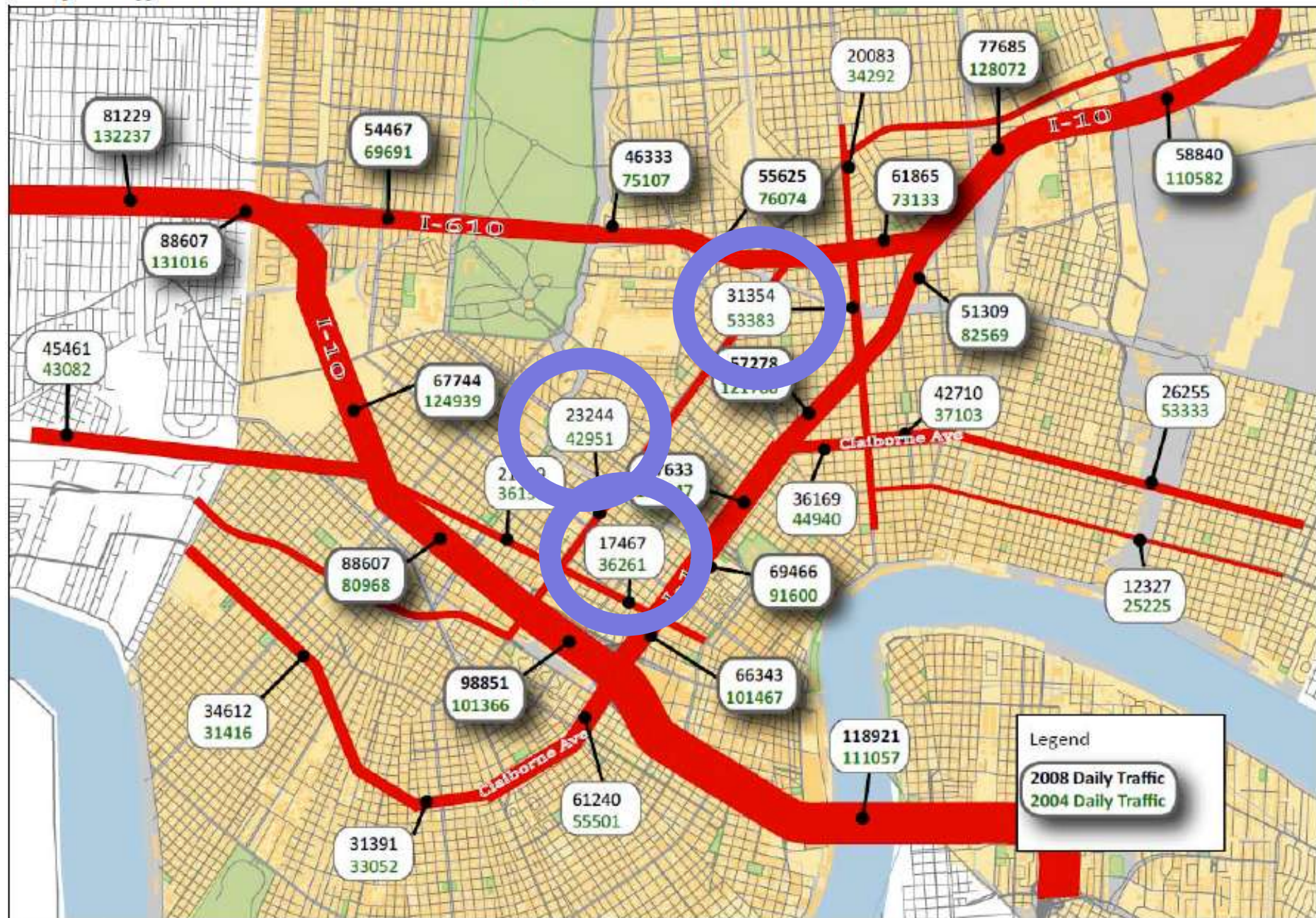


- 60 MPH: 2.2 minutes.
- 35 MPH: 3.7 minutes.
- 21 MPH: 6.25 minutes.

Network Redundancy



Daily Traffic Volumes in New Orleans, 2004 and 2008



Source: Louisiana Department of Transportation and Development

What happens if traffic volumes decrease by 50%, like in most cities?

ARTPLAN 2009: Large Urbanized Area - [Print Preview]

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Arterial Data

K	0.097	PHF	0.925	Control Type	Semiactuated
D	0.55	% Heavy Vehicles	2	Base Sat. Flow Rate	1950

Automobile Intersection and Segment Data

Segment #	Cycle Length	Thru g/C	Arr. Type	INT # Dir.Lanes	% Left Turns	% Right Turns	Left Turn Lanes	# Left Turn Lanes	LT Storage Length	Left g/C	Right Turn Lanes	Length	AADT	Hourly Vol.	SEG # Dir.Lanes	FFS	Median Type
1 (to Canal)	120	0.42	3	4	12	12	Yes	1	425	0.18	No	1636	25655	1369	3	60	Restrictive
2 (to Orleans)	120	0.42	4	4	12	12	Yes	1	425	0.18	No	2376	25655	1369	3	60	Restrictive
3 (to Esplanade)	120	0.42	4	3	12	12	Yes	1	400	0.18	No	2376	25655	1369	3	60	Restrictive
4 (to St. Bernard)	120	0.42	4	3	12	12	Yes	1	375	0.18	No	1584	25655	1369	3	60	Restrictive
5 (to Elysian Fields)	120	0.42	3	3	12	12	Yes	1	375	0.18	No	3696	25655	1369	3	60	Restrictive

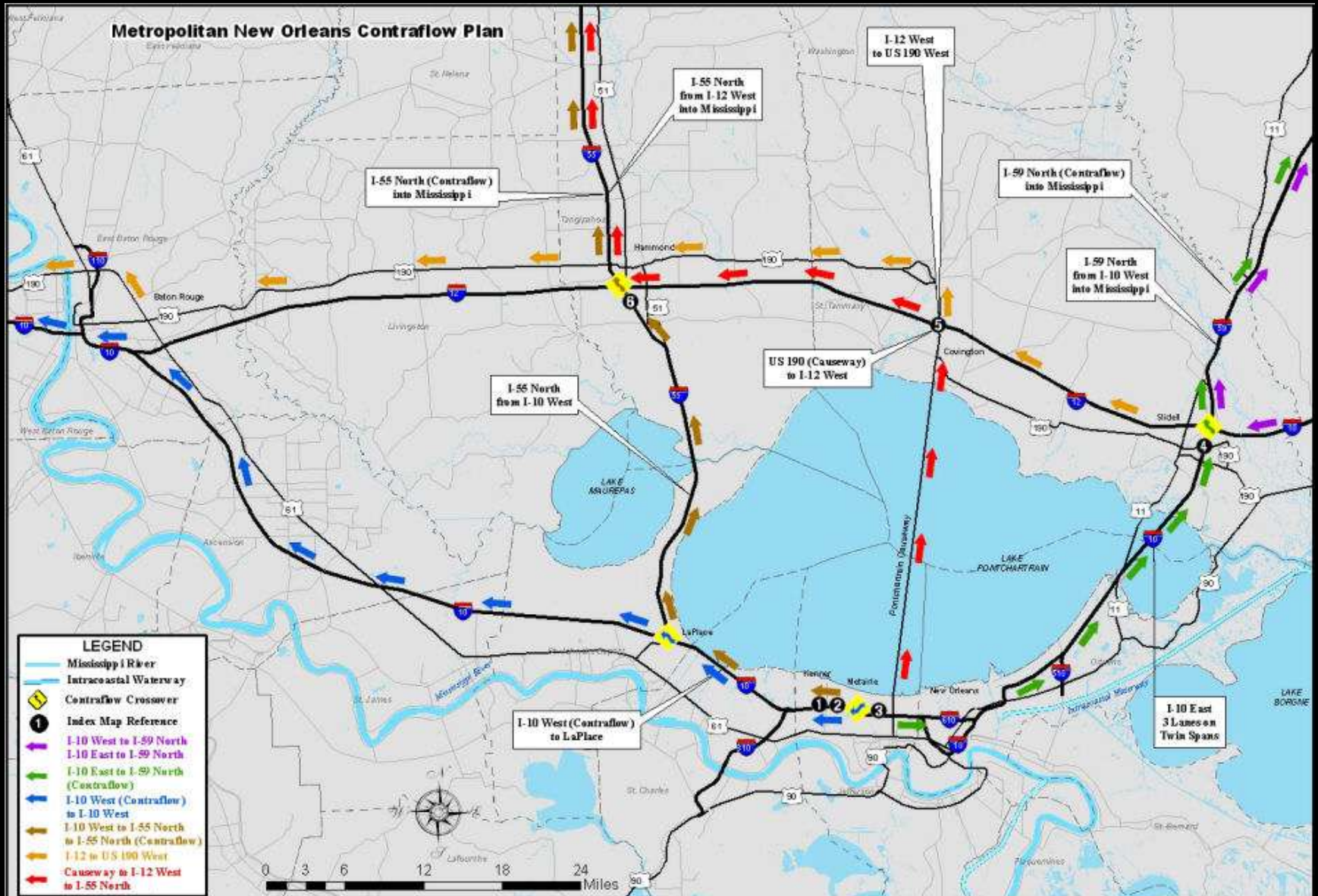
Automobile LOS

Segment #	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Int. Approach LOS	Queue Ratio	Speed (mph)	Segment LOS
1 (to Canal)	1302	7657	0.405	24.67	C	0.34	24.19	B
2 (to Orleans)	1302	7657	0.405	21.57	C	0.34	31.41	A
3 (to Esplanade)	1302	5794	0.535	23.50	C	0.36	30.28	A
4 (to St. Bernard)	1302	5794	0.535	23.43	C	0.38	24.40	B
5 (to Elysian Fields)	1302	5794	0.535	26.74	C	0.38	24.05	A

Arterial Length	2.2098	Weighted g/C	0.42	FFS Delay	134.95	Threshold Delay	0.00	Auto Speed	29.74	Auto LOS	B
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<<-- | Properties | Intersection | Segment (Auto) | Segment (MM) | Ped SubSegment | LOS Results (Auto) | LOS Results (MM) | Service Volumes | -->>

Hurricane Evacuation



Assertion:

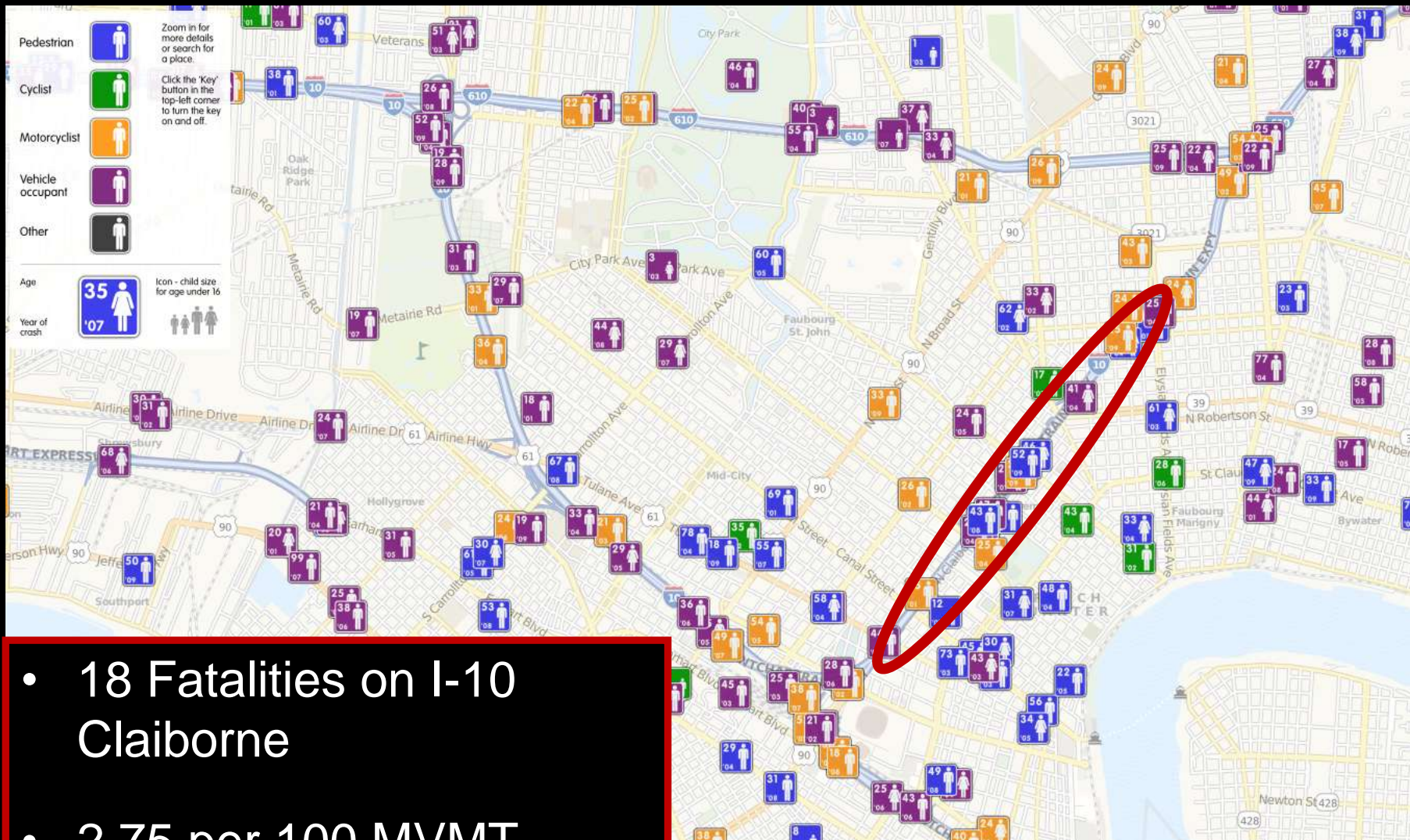
Traffic fatalities will skyrocket as displaced traffic from Claiborne floods local streets.

Traffic Fatalities per 100 MVMT

	Interstate	Arterial	Collector	Local
Fatalities	6,743	17,157	8,464	7,810
VMT	960,088	1,241,260	426,175	402,299
Fatality Rate	0.70	1.38	1.99	1.94

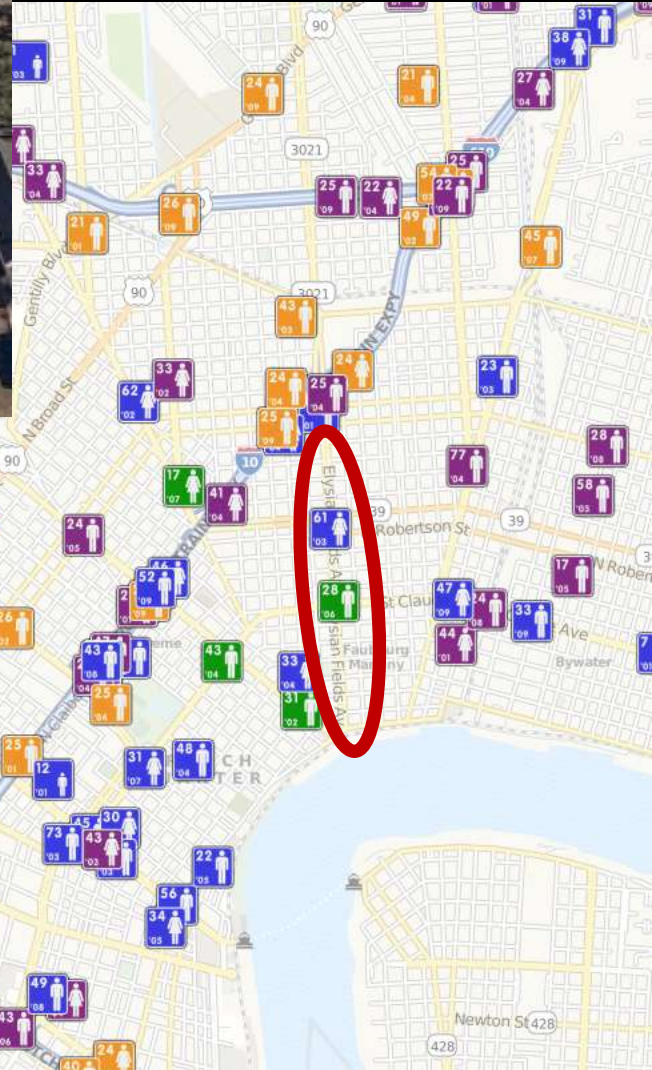
Source: Federal Highway Administration

Fatal Crash Incidence on I-10 Claiborne



- 18 Fatalities on I-10 Claiborne
- 2.75 per 100 MVMT

Elysian Fields



- 2 Fatalities on Elysian Fields
- 1.57 per 100 MVMT

Las Olas Blvd, Fort Lauderdale, FL



The Performance of Livable Streets

Per vehicle mile traveled, livable streets report:

- The complete elimination of traffic fatalities.
- 40% fewer TOTAL crashes



Octavia Blvd. San Francisco, CA

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