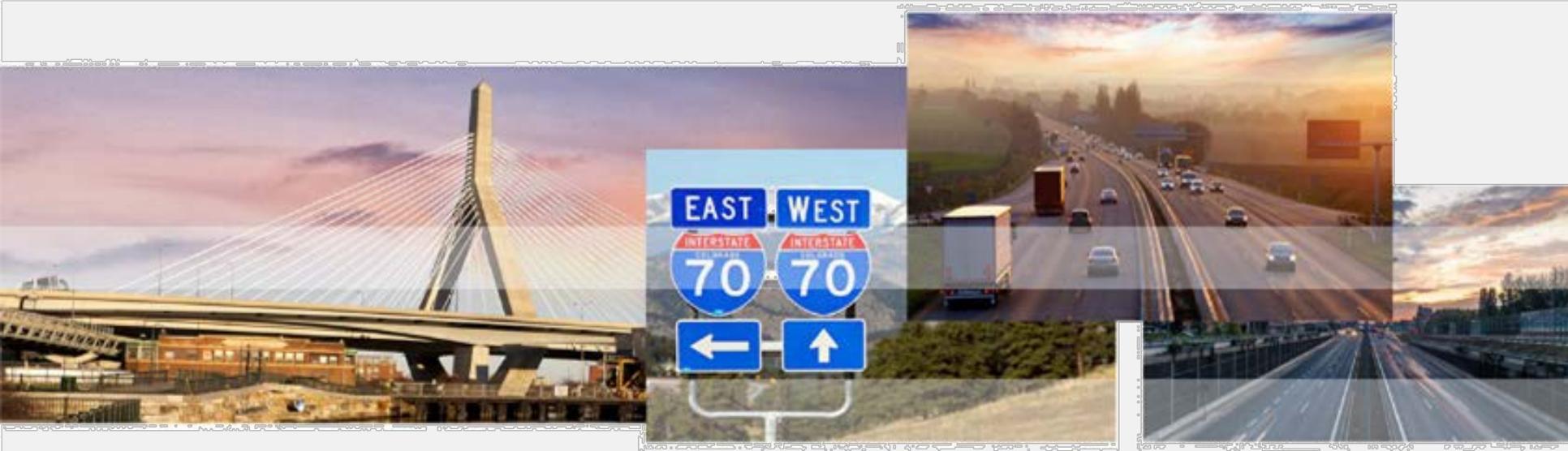


# Future Interstate Study



Taking the road more traveled by...

# Section 6021 of the FAST Act

TRB will “conduct a study on the actions needed to upgrade and restore the Dwight D. Eisenhower National System of Interstate and Defense Highways as a premier system that meets the growing and shifting demands of the 21st Century. “

# Study Committee



**Norman Augustine**  
*Chair*  
Retired



**Victoria Arroyo**  
Executive Director  
Georgetown Climate Center



**Moshe Ben-Akiva**  
Professor of Civil Engineering  
MIT



**Ann Drake**  
Chairman and CEO  
DSC Logistics



**Genevieve Giuliano**  
Professor  
University of Southern California



**Steve Heminger**  
Executive Director  
Metropolitan Transportation  
Commission



**Chris Hendrickson**  
Professor of Engineering  
Carnegie Mellon University



**Keith Killough**  
Director Transportation Analysis  
Arizona DOT



**Adrian Lund**  
President  
Insurance Institute for  
Highway Safety



**Joan McDonald**  
Principal  
JMM Strategic Solutions



**Norman Mineta**  
President and CEO  
Mineta & Associates, LLC



**Kirk Steudle**  
Director  
Michigan DOT



**Michael Townes**  
Retired



**Michael Walton**  
Professor  
Univ. of Texas at Austin

# Statement of Task

The study will make recommendations  
to address the need for  
**preservation and  
improvement**  
of the Interstate System

# Statement of Task (cont.)

By considering —

- the expected condition of the current Interstate System over the period of 50 years... including long-term deterioration and reconstruction needs;
- future demands on transportation infrastructure, including commercial and private traffic flows to serve future economic activity and growth;
- features that would take advantage of technological capabilities to address modern standards of construction, maintenance, and operations,
- modifications to the Interstate system to more efficiently serve national traffic flows

# Wild Cards

1. Climate Change
2. CAVE (Connected and Autonomous Vehicles — that might be Electric)
3. Trade & Tariffs

# Tapping into industry expertise

## Listening sessions

- Outreach to regional communities as well as to experts on specific topics
  - February, **San Francisco** — MPOs, regional councils, funding/financing, corridor coalitions
  - March, **Miami** — Environmental issues, resilience, climate change, public transit
  - May, **Detroit/Ann Arbor** — C/AVs, highway operations, asset management
  - July, **Chicago** — Freight, economic development, defense
  - September 12-13, **Austin** — Construction, land use, and social equity
  - November 7-8, **Washington DC** — Highway safety
- Commissioned papers to identify short-, mid- and long-term “agents” of change and effects on demand

# Timeline

- 2017 — Information gathering, listening sessions, white papers, case studies and modeling
- February 2018 — Analysis completion
- June 2018 — Report finalized
- December 2018 — Report delivery to Congress
- Jan-March 2019 — Dissemination activities

# Importance to Transportation

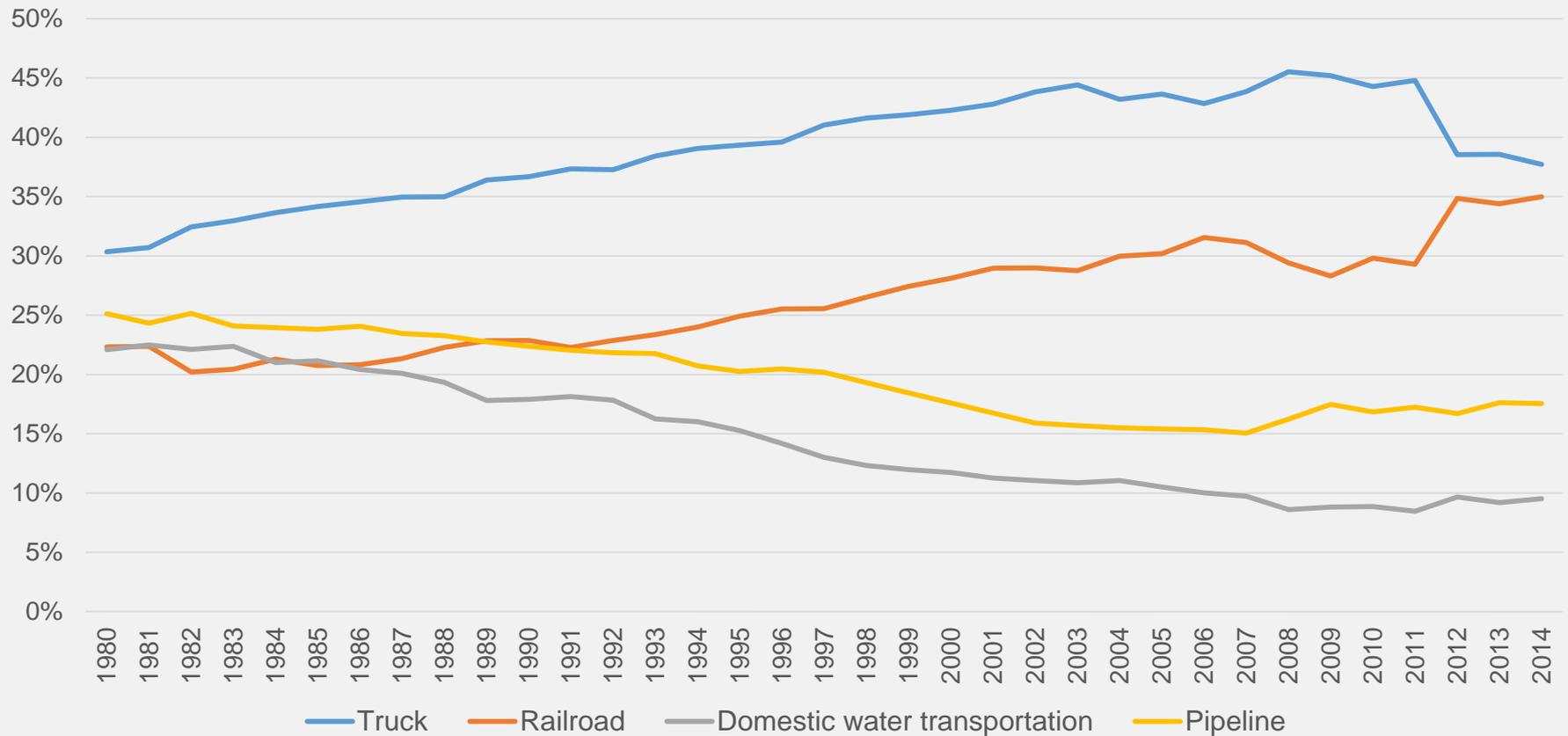
**Interstate System =**

**1%** total roadway mileage

**25%** vehicle miles traveled

# US Domestic Freight by Mode: 1980-2014

U.S. Domestic Freight Market Share by Mode (Ton-miles)



Source: USDOT Bureau of Transportation Statistics, 2017

# Importance to the Nation

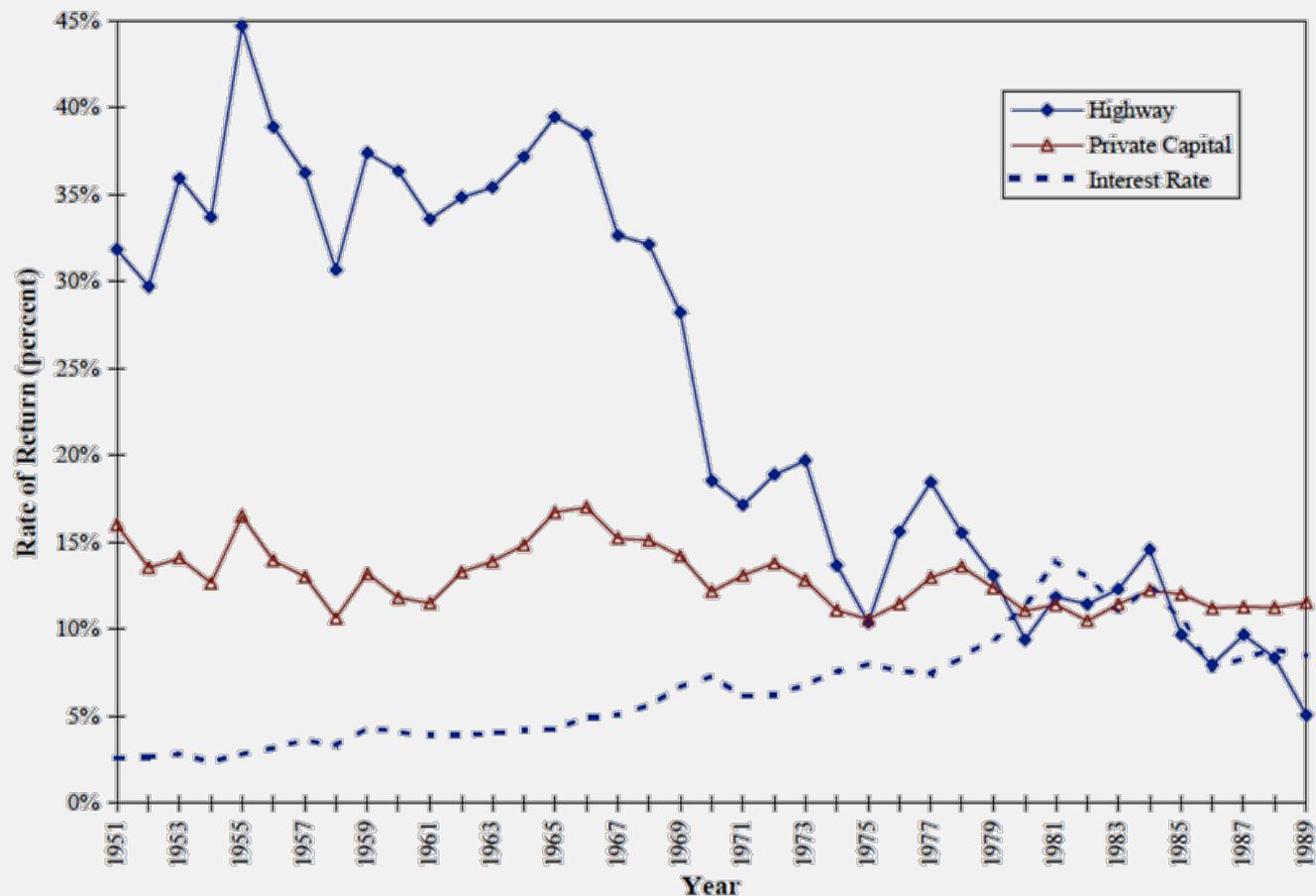
“The greatest public works project in the history of mankind.”

Every Congressman who ever cut a ribbon on the Interstate System



# Interstate Development: Great Early Returns

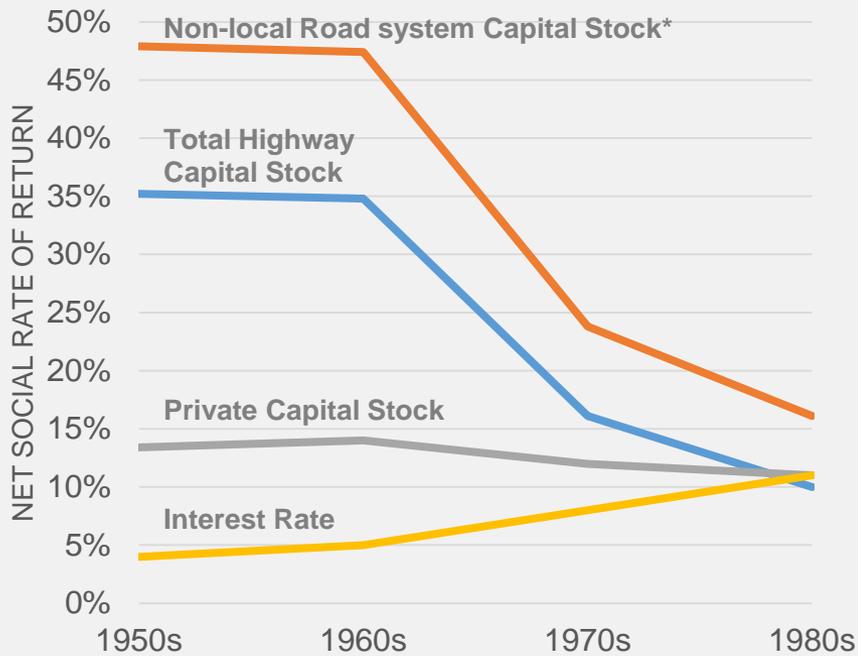
Net Rate of Return of Highway Capital, Private Capital,  
and Private Interest Rate (1951-1989)



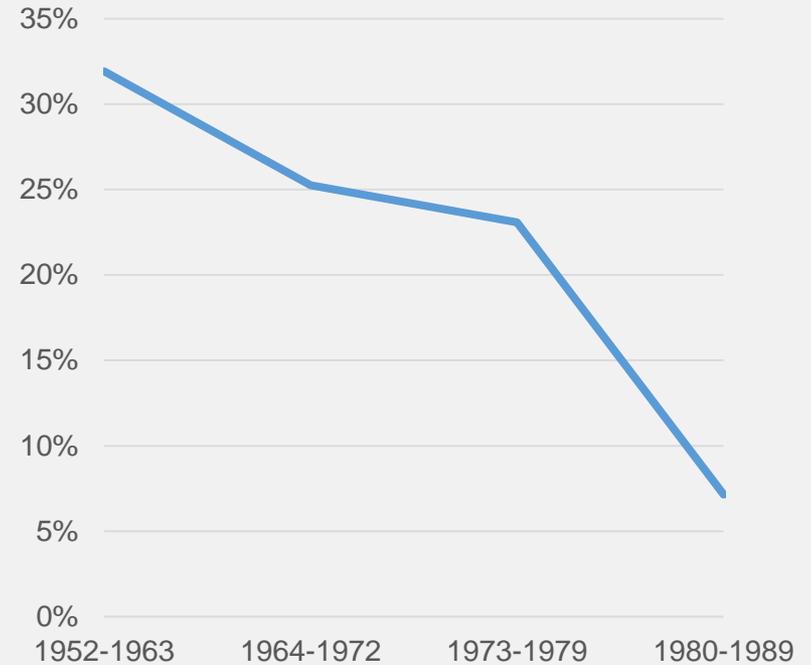
Source: Nadiri and Mamuneas, 1996

# Interstate Development: Later Diminishing Benefits

**Net Rate of Return from Total Highway Capital, Private Physical Capital, and Interest Rates**



**Share of Productivity Growth due to Highway Capital**



\* Proxy for National Highway System

# Freeways and Cities — A Fraught Relationship



In the original program, we did not include provisions for expressways through cities. That was added later. It greatly increased the cost of the program, and it is these expressways that are not very popular today. So I think we might have paid more attention to the bypassing of cities. Although, there again, a city doesn't want to be bypassed either. I'm not really sure what the answer is with relation to our big cities and the freeways.

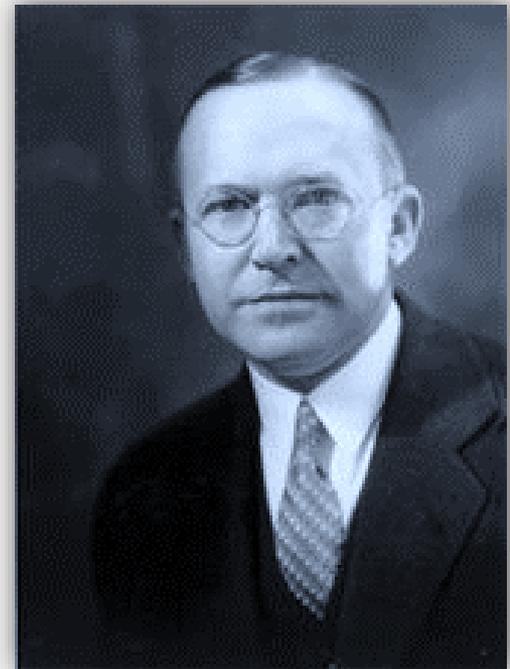
**General Lucius Clay**

*Chairman, President's Advisory Committee on a National Highway Program*

# Freeways Over Cities

[In bigger cities], only a major operation will suffice – nothing less than the creation of a depressed or an elevated artery (the former usually to be preferred) that will convey the massed movement pressing into, and through, the heart of the city, under or over the local cross streets without interruption by their conflicting traffic.

**Herbert Fairbank**  
*Toll Roads and Free Roads, 1939*



# Cities Over Freeways

Highway engineers currently act on the principle of the hostess who, spying at opposite ends of a crowded drawing room two people who have not yet met, thinks only of how to bring them together, though in doing so she may jostle and squeeze against her other guests, interrupt conversations, knock the cocktail tray out of the butler's hands, and embarrass the two recipients of her intentions, who would have been far happier had they been left alone.



If these engineers had the faintest insight into the art of city planning, they would know that long-distance highways should never enter a city's limits; that, on the contrary, they should bypass every large urban area, though offering a number of approaches.

**Lewis Mumford**  
*Landscape Architecture, 1955*

**Lewis Mumford**  
*Landscape Architecture, 1957*

# Freeway Revolts: San Francisco



Pickers protesting against the Southern Freeway marching at City Hall, April 18, 1961.

Photo: San Francisco History Center, San Francisco Public Library

## Revolt Against Freeways Led by San Francisco

LA Times, 9/2/1963

## Proposed S.F. Freeway Triggers Public Outcry

Residents Bitterly Oppose Any Moves They Fear Will Spoil Beauty of City

LA Times, 4/13/1964

## Study on Shifting S.F. Freeway Funds OK'd S.F. Freeway Revolt Refuses to Be Quieted

Delay Could Mean Loss in Federal Aid; Assembly May Reconsider Its Vote Today

LA Times, 5/20/1964

# Freeway Revolts: San Francisco



Save the Panhandle Park rally in Golden Gate Park, May 17, 1964.

Photo: Bancroft Library

SLIDE RULE NOT ENOUGH

## Freeway Engineers Take Beauty Hints

LA Times, 9/3/1963

## Angriest Freeway Revolt Brews Over New Routes

Pasadena Area Citizens, Officials  
Explode in Anger, Resentment

LA Times, 11/20/1964

## Monterey, Carmel Areas Fight Freeway Ugliness

Division of Highways Called Bureaucracy  
That Ignores Public, Monopolizes Design

LA Times, 9/3/1963

# Freeway Revolts: San Francisco

S.F. Has Until Monday to End Freeway Revolt, Get U.S. Fund



LA Times, 3/20/1966

**2 New Freeways  
Are Turned Down  
By San Francisco**

NY Times, 3/22/1966

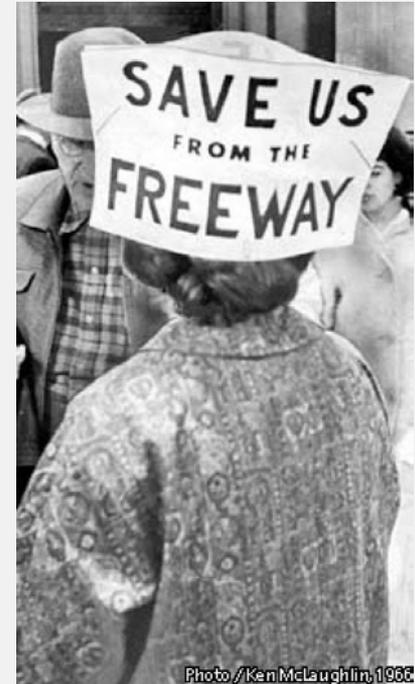
**FOES OF FREEWAY  
TRIUMPH ON COAST**

**But Battle Over 2 Routes in  
San Francisco Goes On**  
NY Times, 3/27/1966



**Freeway protesters in City Hall, c. 1960**

*Photo: San Francisco History Center,  
San Francisco Public Library*

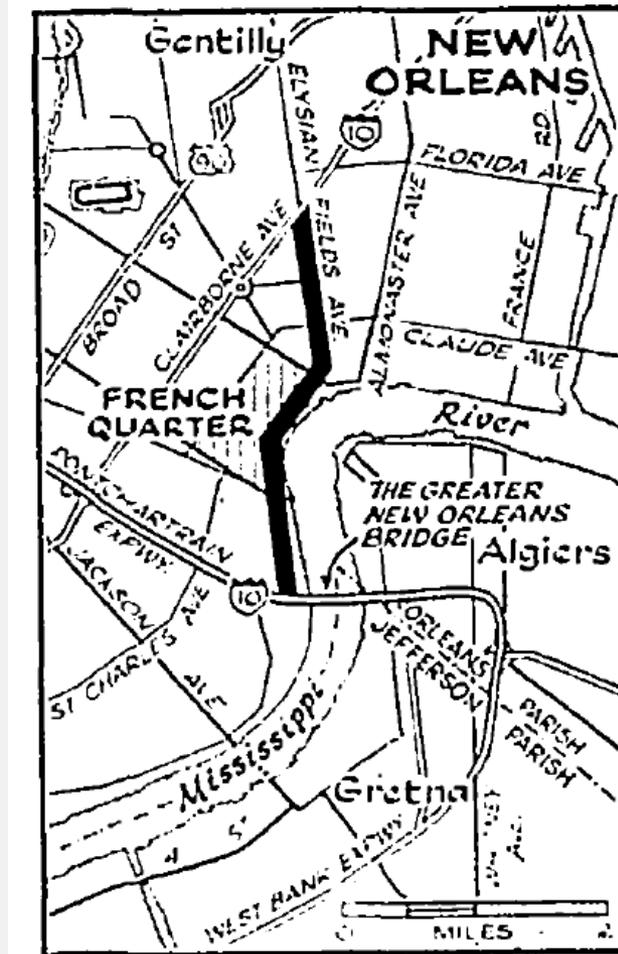


*Photo / Ken McLaughlin, 1966*

<http://www.sfgate.com/news/article/Farewell-to-freeway-Decades-of-revolt-force-2659456.php#photo-2136148>

# Freeway Revolts: New Orleans

*Volpe Vetoes a Freeway to Save French Quarter in New Orleans*



NY Times, 7/10/1969

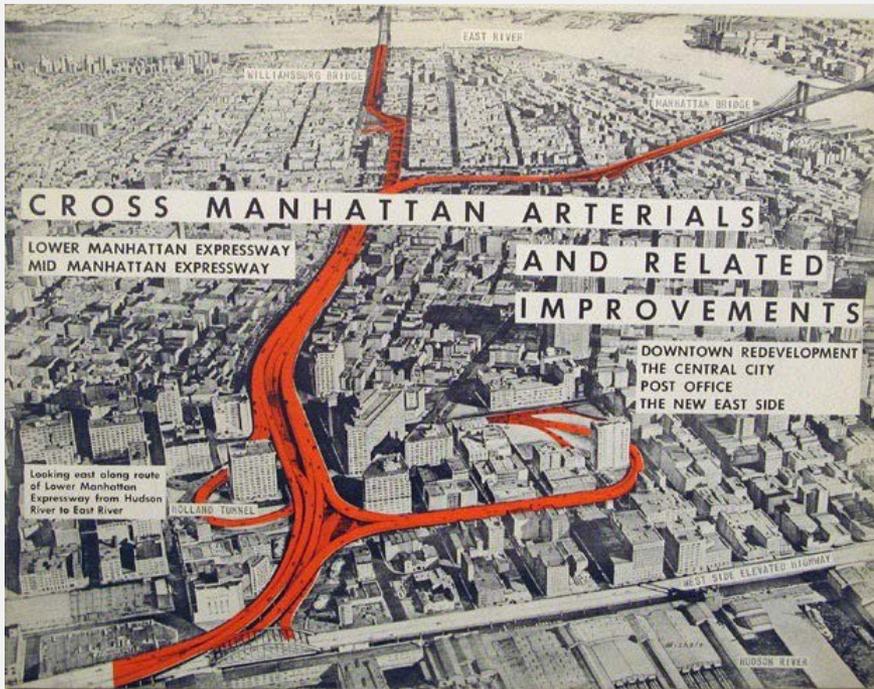
# Freeway Revolts: Washington D.C.

*Freeway Planning Struggle in Washington May  
Determine Shape of Nation's Urban Highway System*

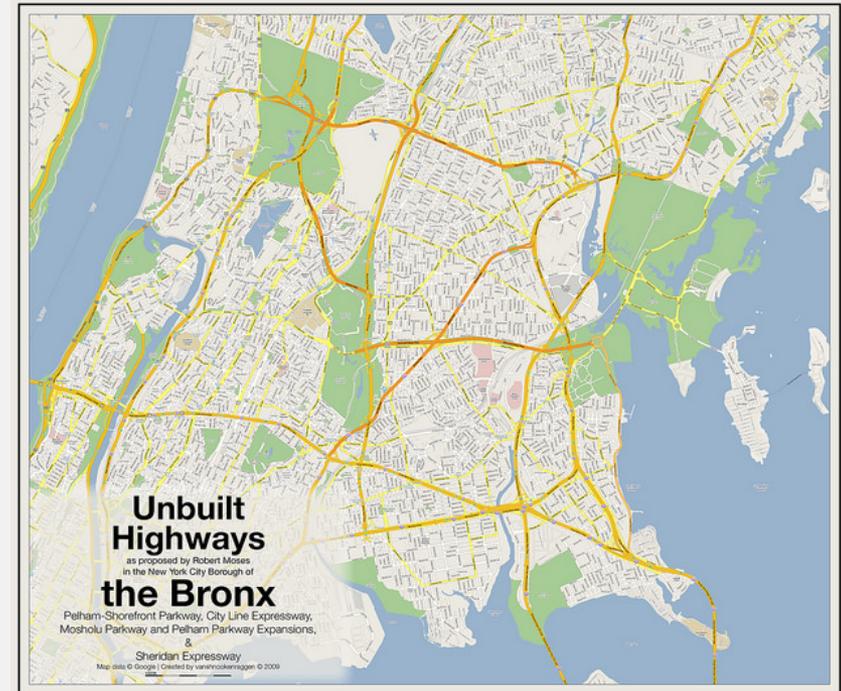
NY Times, 1/28/1968



# Freeway Revolts: New York



<http://urbandemos.nyu.edu/wp-content/uploads/2015/10/13-lomex-brochure.jpg>



<https://www.flickr.com/photos/vanshnookenraggen/21259565925/in/album-72157658381636785/>

# Freeway Revolts: Los Angeles



LA Times, 10/28/2014

Many of L.A.'s freeways were built during the 1960s, but a combination of a freeway revolt, skyrocketing costs and a failure to increase the gas tax doomed the expansion of the freeway system during the 1970s.

# Interstate Removal

## SF Embarcadero: Before & After

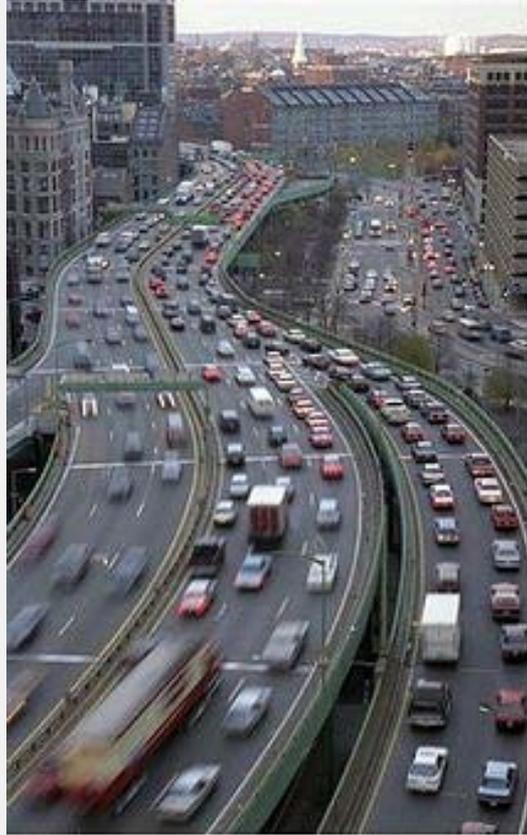


San Francisco Planning Department



# Interstate Removal

## Boston Big Dig: Before & After



**BEFORE**



**AFTER**

# Glass Half Empty



[The Interstate System] has its problems. It is so big, and its components so expensive, that maintaining the beast has become a real quandary. It represents a spectacular investment in a mode of transport that will wither without new fuel sources. It is clogged with rush-hour traffic that approaches the tie-ups it was intended, in part, to ease. And it has been blamed, and rightly, for a pox of unforeseen consequences: for hastening the messy sprawl of U.S. cities, carving up neighborhoods, gutting a thousand small-town shopping districts, and fostering an interchange glut of motels and fast-food joints as predictable as the roads themselves.

**Earl Swift**  
*The Big Roads, 2011*

# Glass Half Full

“Our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods... Together the unifying forces of our communication and transportation systems are dynamic elements in the very name we bear — United States. Without them, we would be a mere alliance of many separate parts.”

— Dwight D. Eisenhower, 1955



# Future Interstate Study

For more information:

***Interstate.trb.org***