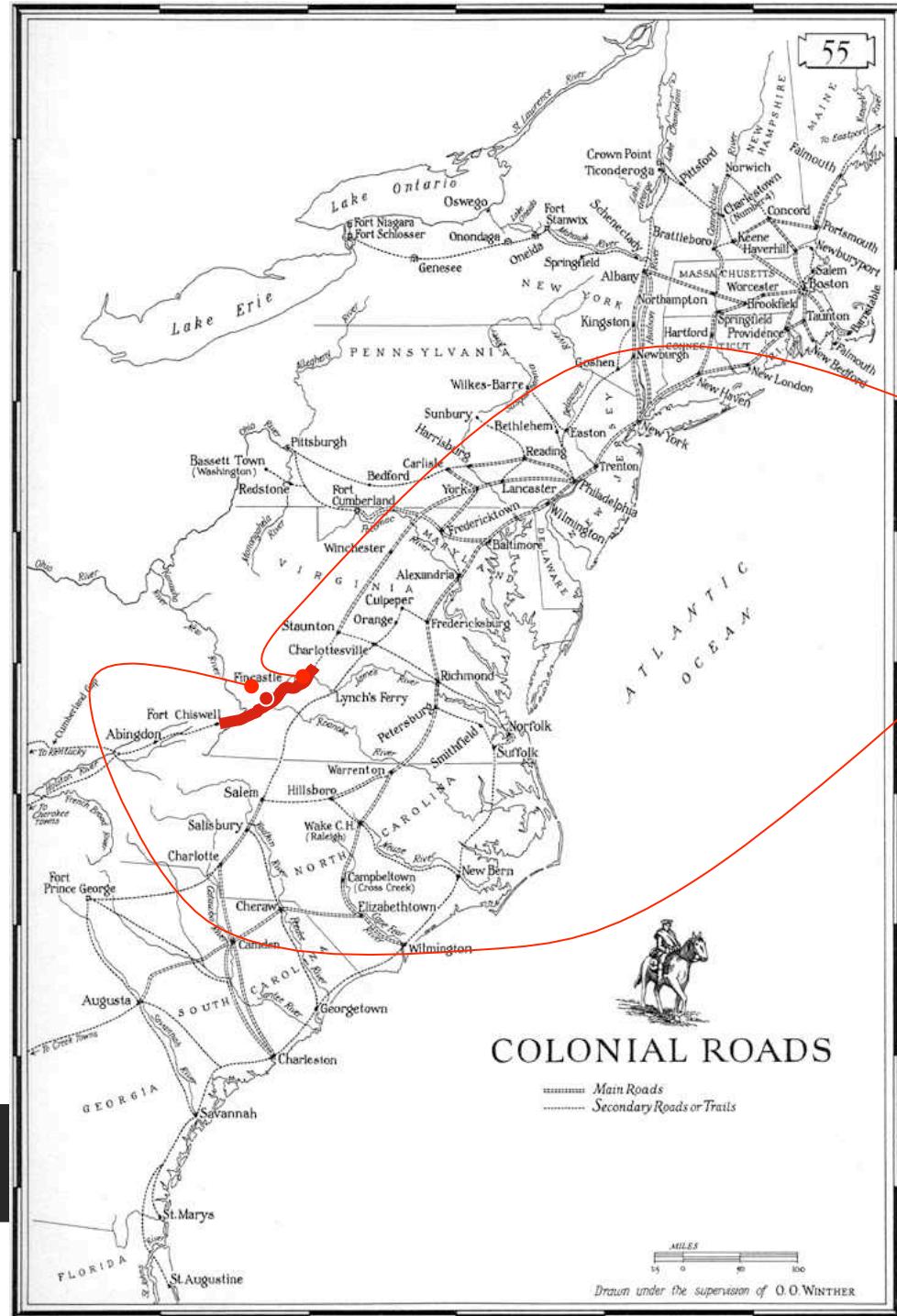


1920-1956 Suburbia blooms

Or... how many citizens does it take to
change a transportation network?

To understand growth, follow the infrastructure

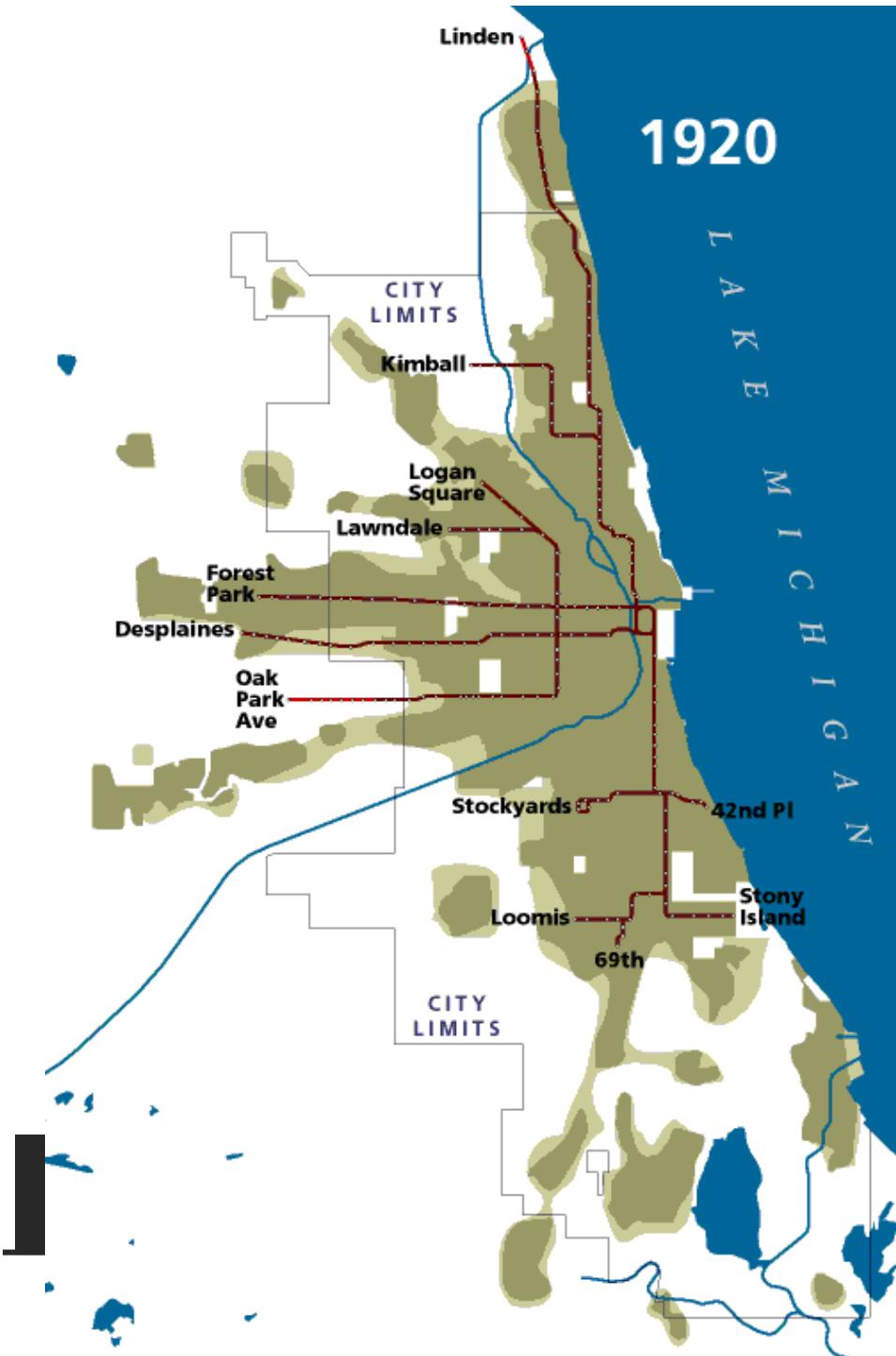
- Canals mid-1800's
- Railroads mid-1800's to 1940's
- State highways 1912 to 1950's
- Interstate highways (National System of Interstate and Defense Highways)
1958-present
- Hydrogen????
- Maglev????



overnment has been
business since late
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City growth follows infrastructure

- Chicago grows out along regional roads, rail lines and canals 1850 - 1920
- Chicago fills in 1930 - 1990 as support for local road network is established



Hog Butcher to the world!

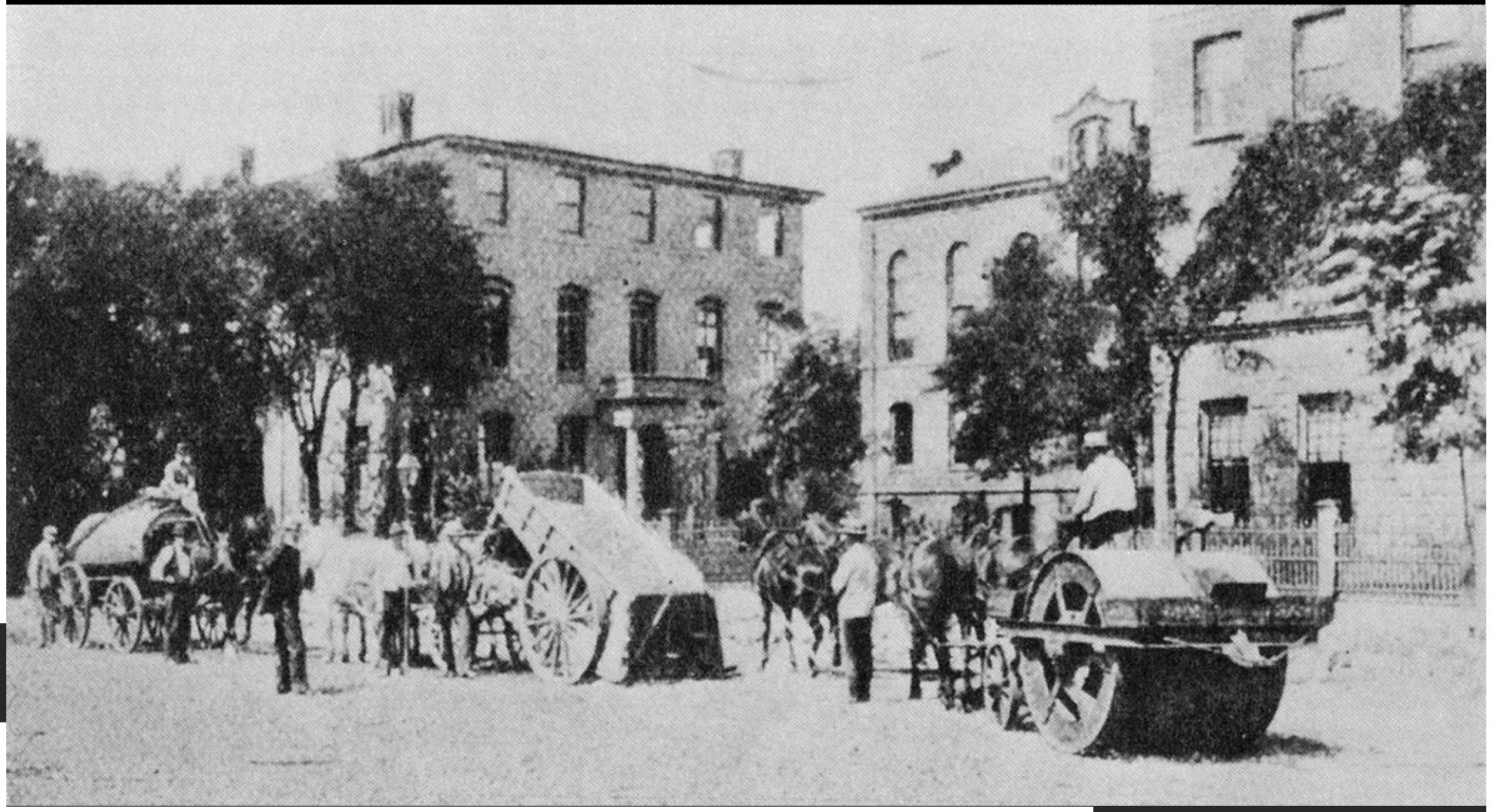
- 1850 pop. 29,963 1st railroads reach city
- 1860 pop. 109,260 12 railroads reach city, first street car line
- 1870 pop. 298,977 growth follows horsecar lines
- 1880 pop. 503,185 post-fire recovery outside of fire zone, first suburbs follow railroad lines
- 1890 pop 1,099,850 area doubles as towns agree to annexation. Cable car lines reach out from the loop to Evanston, Oak Park
- 1900 pop. 1,698,575 first elevated rail line opens, electric streetcars spur outlying development
- 1910 pop. 2,185,283
- 1920 pop. 2,701,705 North Shore Channel dug to improve water quality



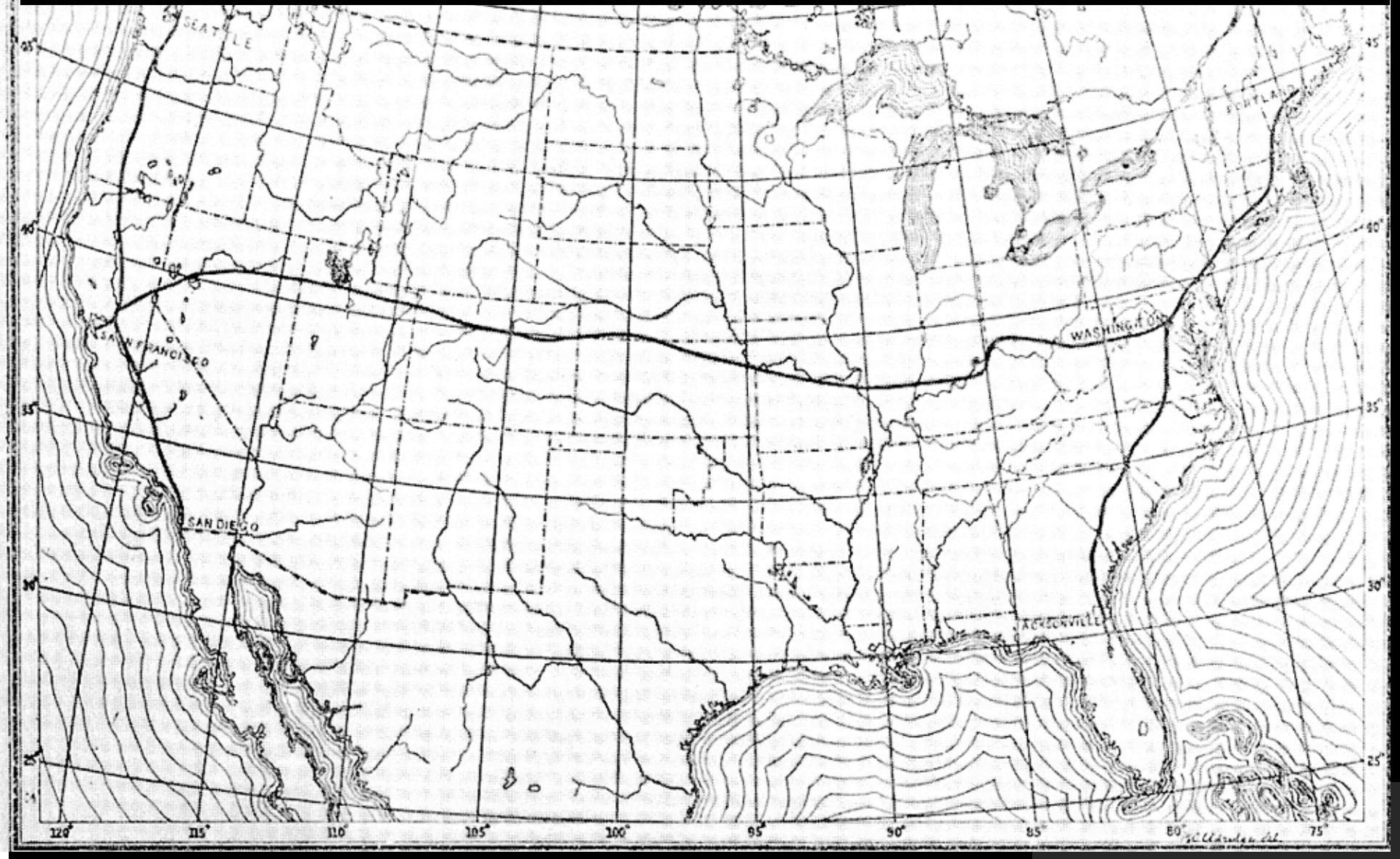
City of Big Shoulders

- 1930 pop. 3,376,438 Elevated train extension spurs growth, Century of Progress Exhibition 1933 builds parkland along lake
- 1940 pop. 3,396,808 depression still holding back growth
- 1950 pop. 3,620,962 Chicago Transit Authority manages regional rail and bus lines, growth outpaces rail development, dependence on cars begins
- 1960 pop. 3,550,404 first ring suburbs hold most of new growth
- 1970 pop. 3,369,359 expressway network built, train lines closed in 1950's reopen service to northern, western suburbs. New port facility at Lake Calumet follows St. Lawrence seaway completion in 1959.

1897 New Jersey Agricultural College: Road Building 101



General Roy Stone's call for National Demonstration Roads 1898





1898 6-10 electric car producers

- Prequel to “Who Killed the Electric Car”?
- GM’s EV-1



We have cars, now what we need is...



- 22 horsepower and no where to use it!

Henry Ford makes the car affordable
1908

Carl Fisher builds a brick paved “test track” in Indianapolis 1909, held the first 500 mile race in 1911

1903 first (civilian) cross country drive



- Dr. H. Nelson drives across America in 63 days
- drives a 20 hp. Winton
- Averages 90 miles per day

for 5 pts applied to either your midterm or final, email me (by 5pm Friday April 27) the name of the first “unsanctioned” coast to coast drive (race?) after 1960, the driver(s) name(s) the vehicle they drove, their start and end locations, the amount of time it took, and the publication associated with this drive. (hint, the name has 10 words in it)



Carl Fisher

secret route named Lincoln

...who could be against anything named

- 1913 “Hoosier Tour” to find a route to the West Coast
- Presented to the Annual Conference of Governors

From Times Square to Lincoln Park in San Francisco

Then the lobbying began...why?

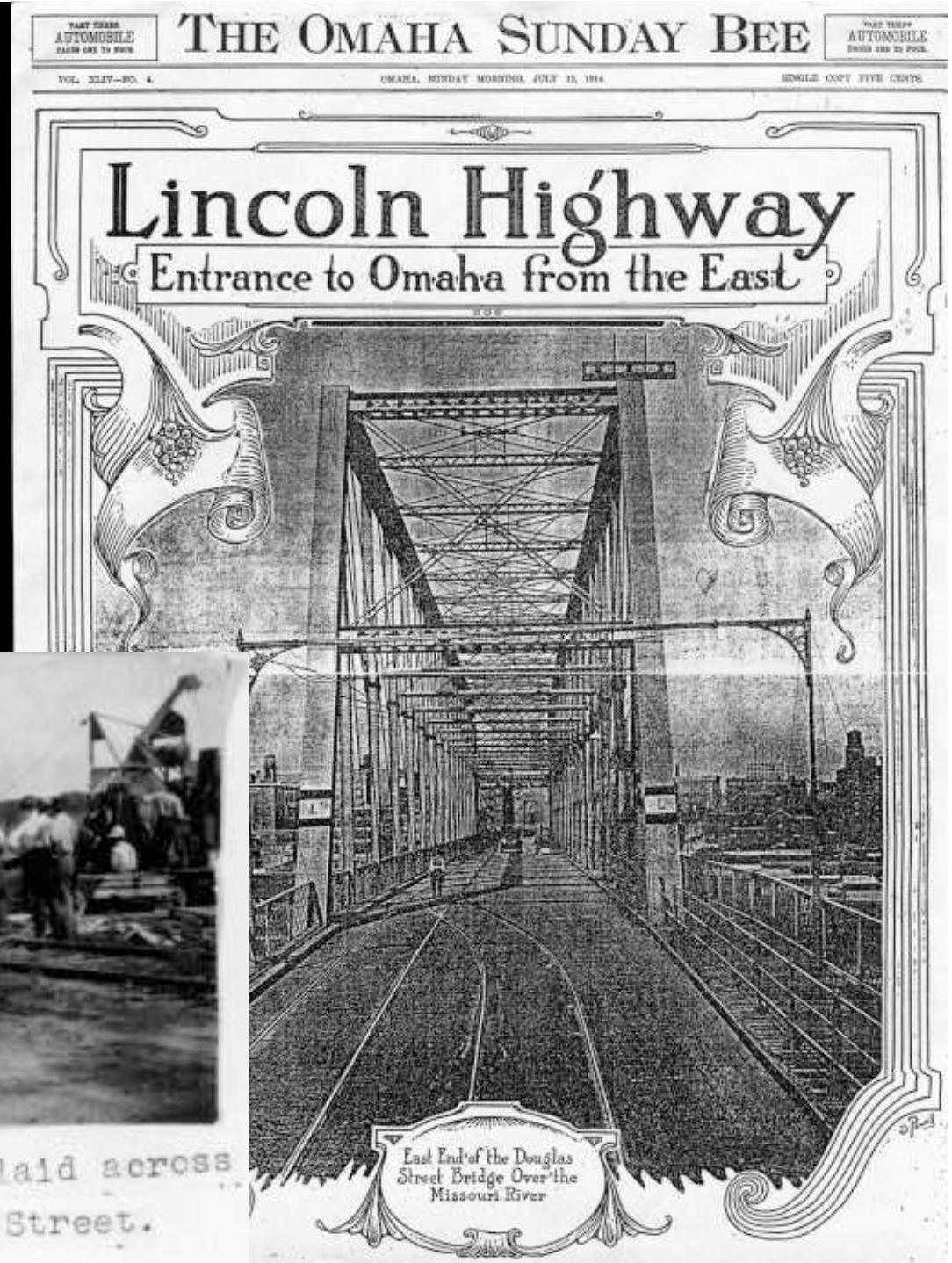


Big News in 1914

- Brick highway being built in Elkhorn Nebraska by 1920



The brick pavement being laid across the Union Pacific Track on Main Street.



1909 Cornell research in concrete paving



1910 Cornell research in Bitumen covered roads



- Macadam paving - John Loudon McAdam, stone overlaid with chips compacted with water 1798
- Paris paves with “Tar-macadam” 1854

Corduroy Roads Stafford, VA 1912



Even though road-building research had been going on for almost 20 years, localities held to traditional methods.

Early county road team



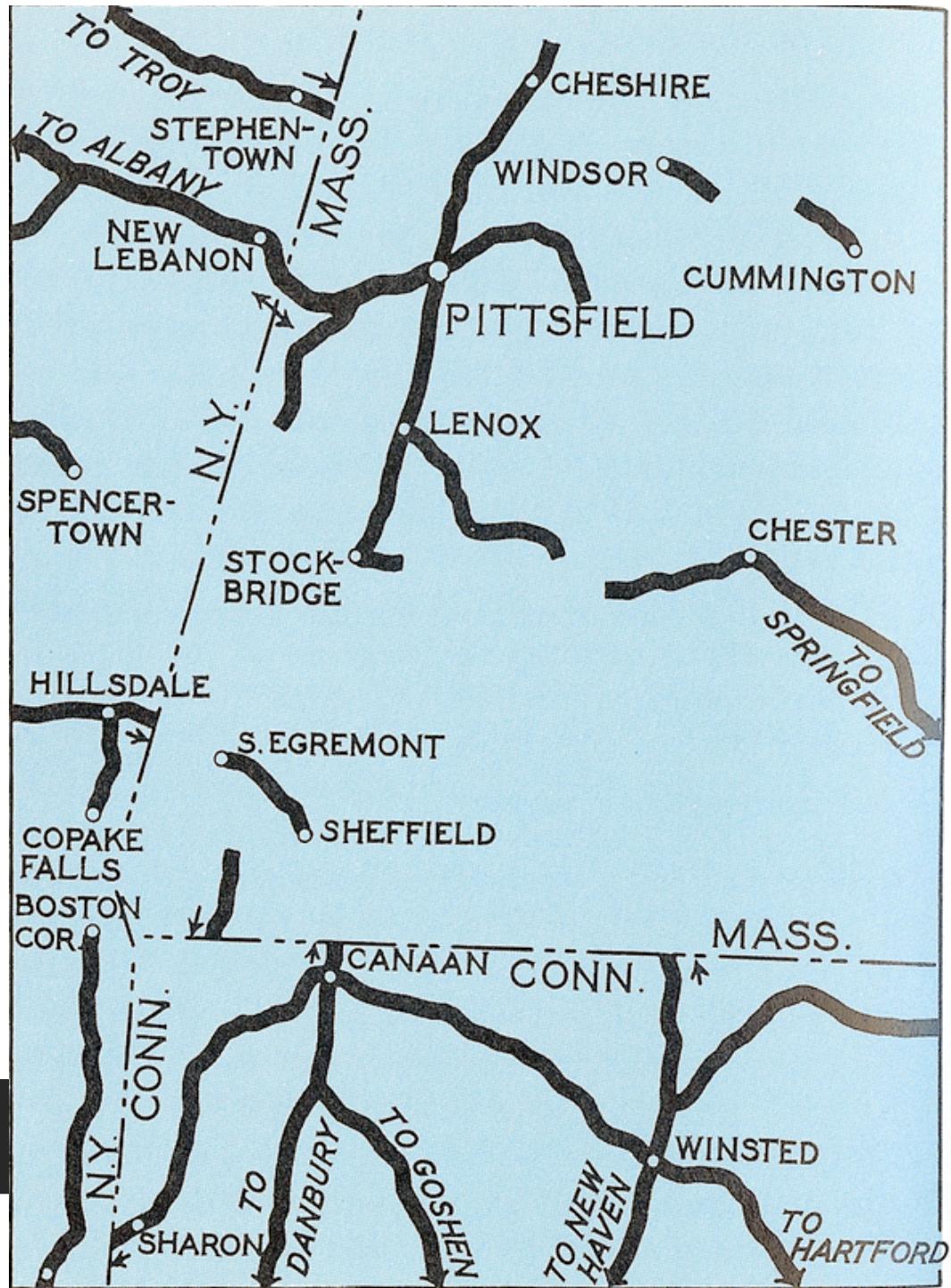
“Macadamized” road process 1912



- Grade
- Compact stone base
- Pour on hot asphalt or bitumen
- Dust with crushed rock chips

Federal Postal System to the rescue! R.F.D.
starts 1896...needs good roads!





1916 Federal Road Assistance to localities

ad act gives
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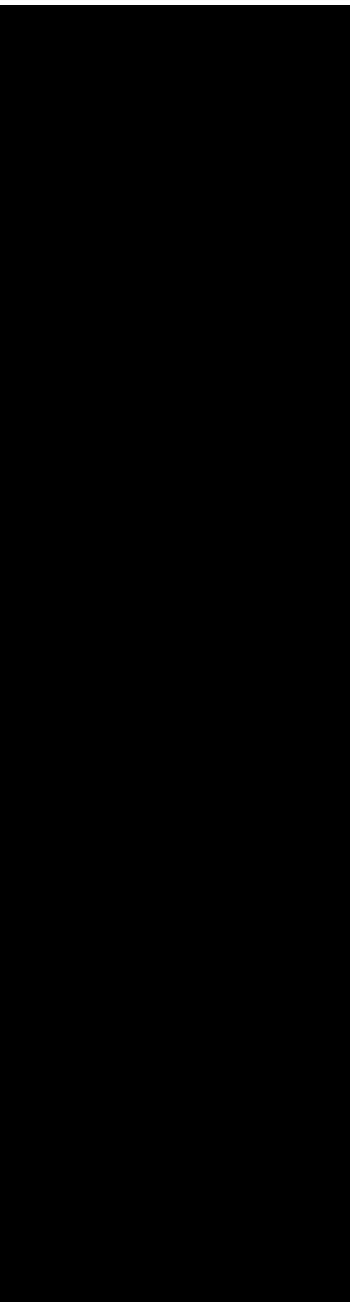
require that
s connect to
her... details,

1916 W.W.I. limits local and state matching money. Road-building
at a standstill...
sinkstill?





Michigan Innovates 1917



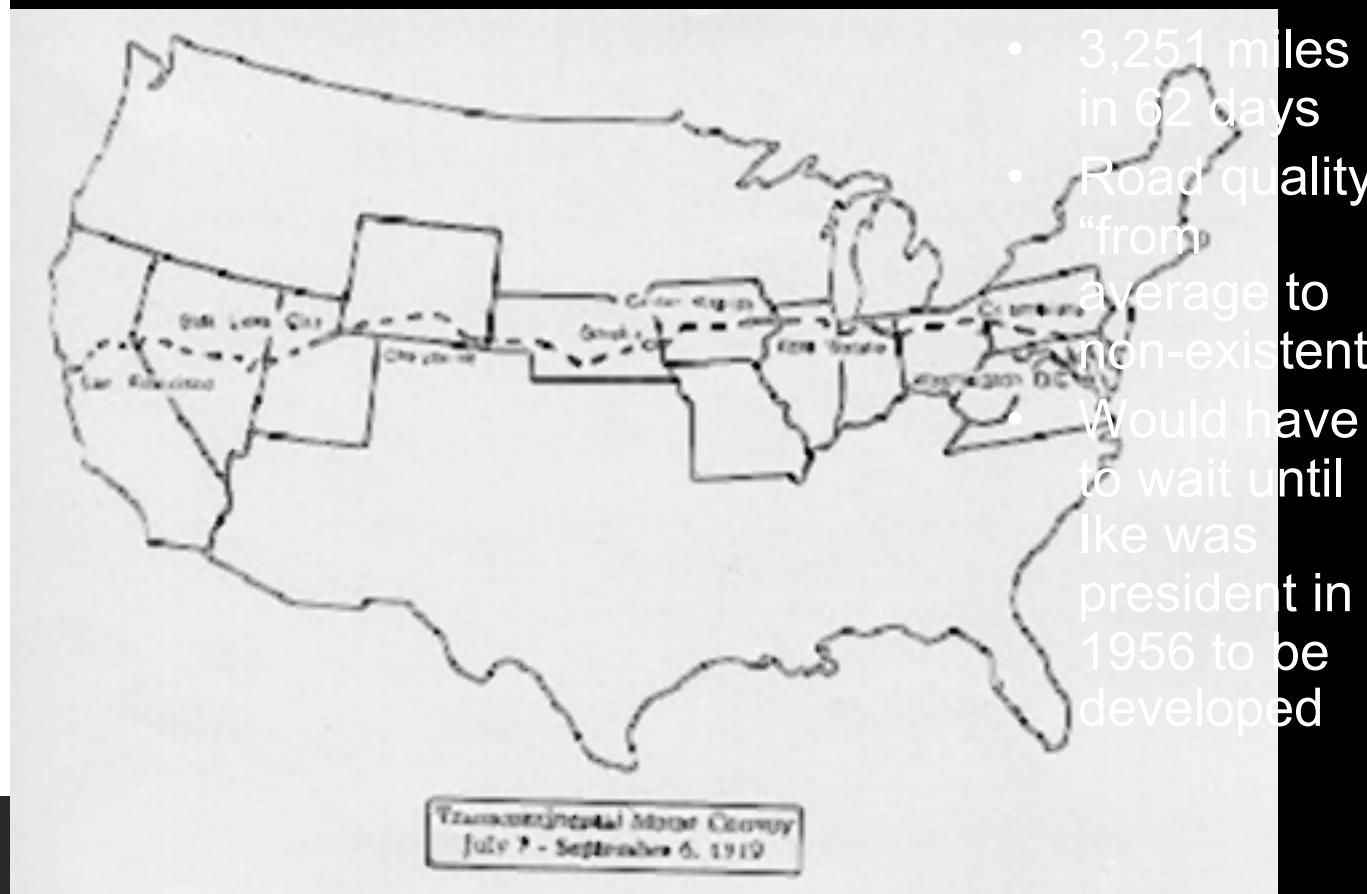
Who is this irritated Lieutenant Colonel?



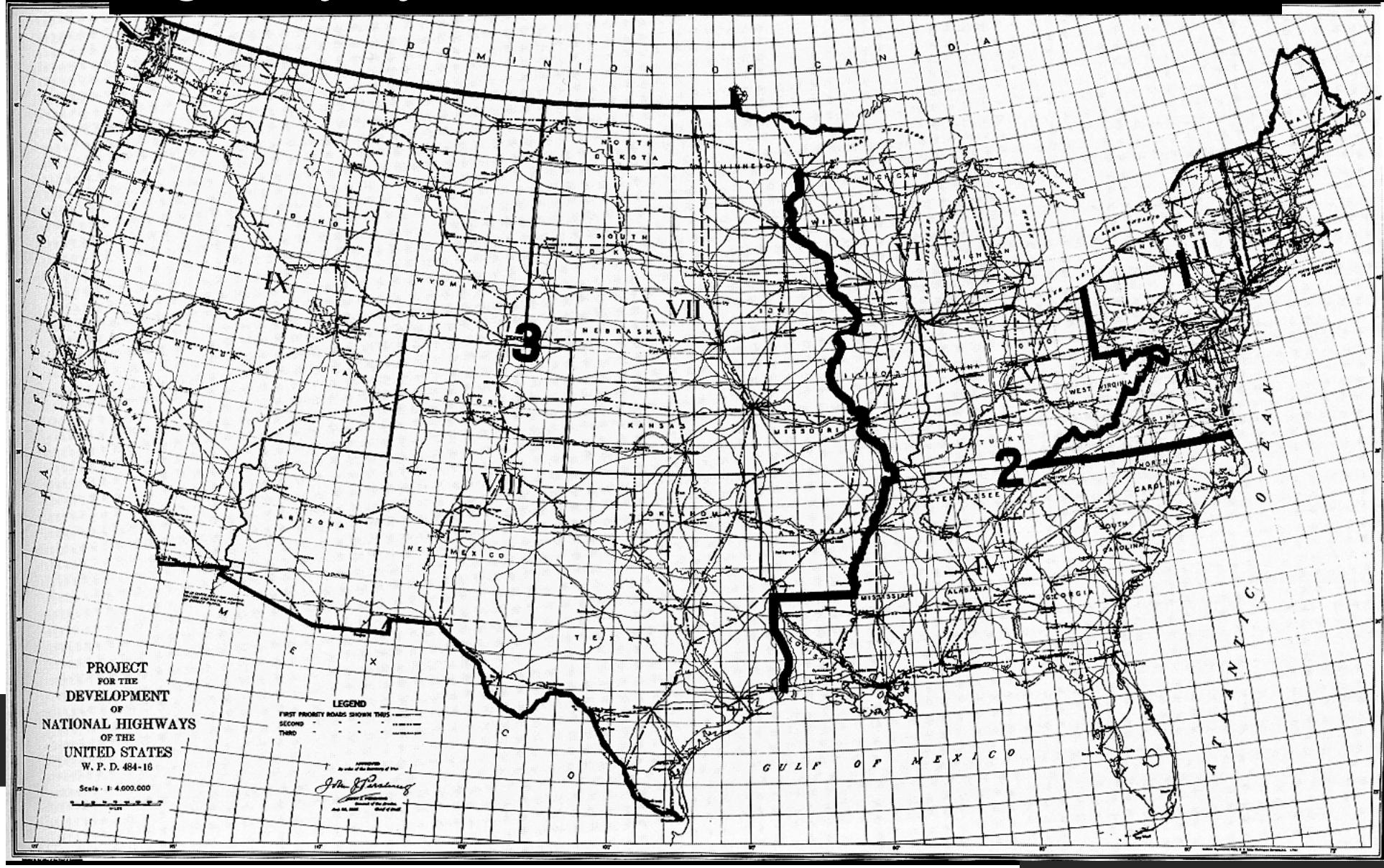
- 3,251 miles in 62 days
- Road quality “from average to non-existent”
- Would have to wait until Ike was president in 1956 to be developed

...and what does he have to do with I-81?

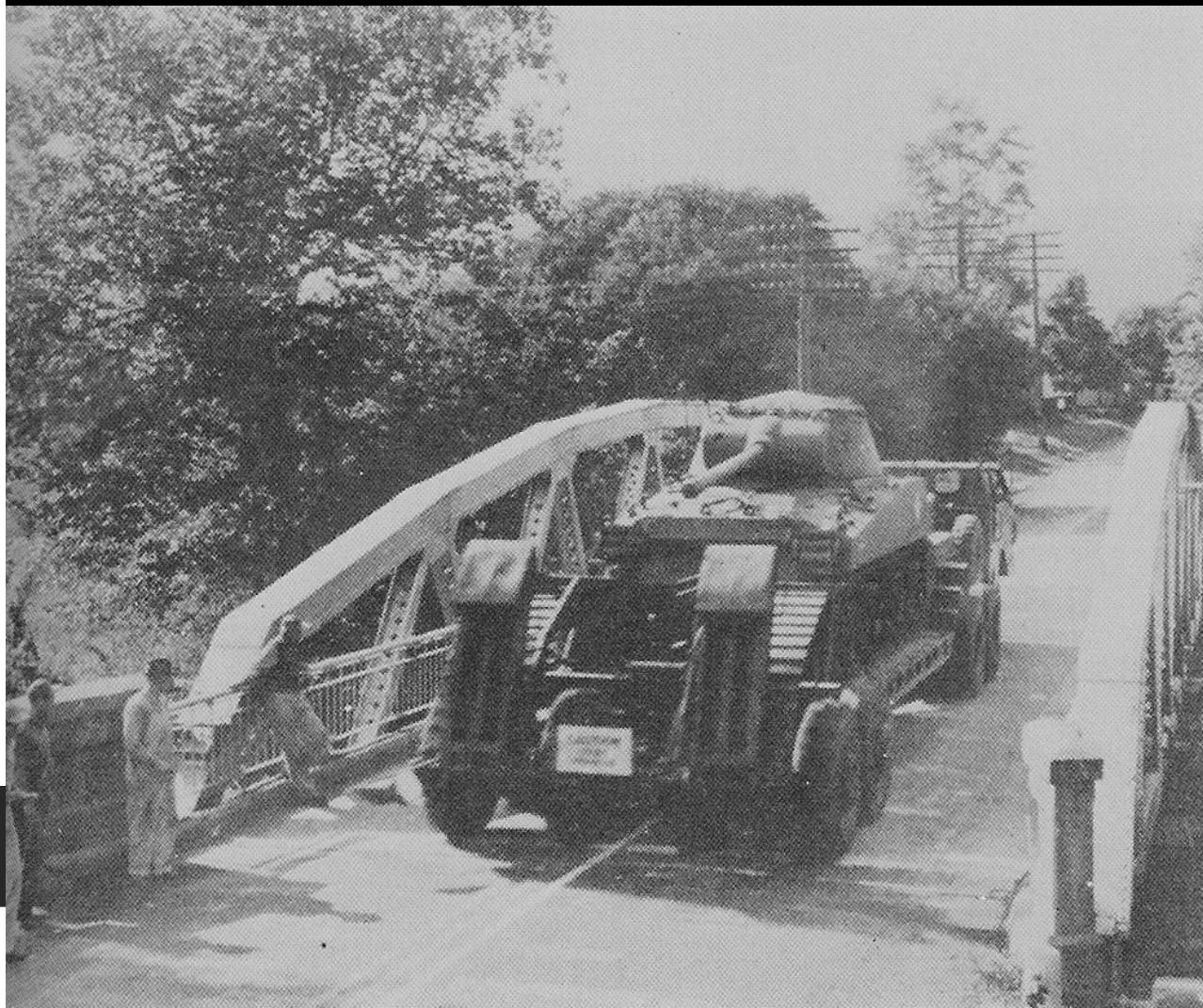
Eisenhower's 1919 road trip on the Lincoln Highway



1922 General Pershing's Defense highway system



Pershing's point



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1926, we have right of ways! We have cars!

We have traffic jams?

- Ford's success, consumer's headache



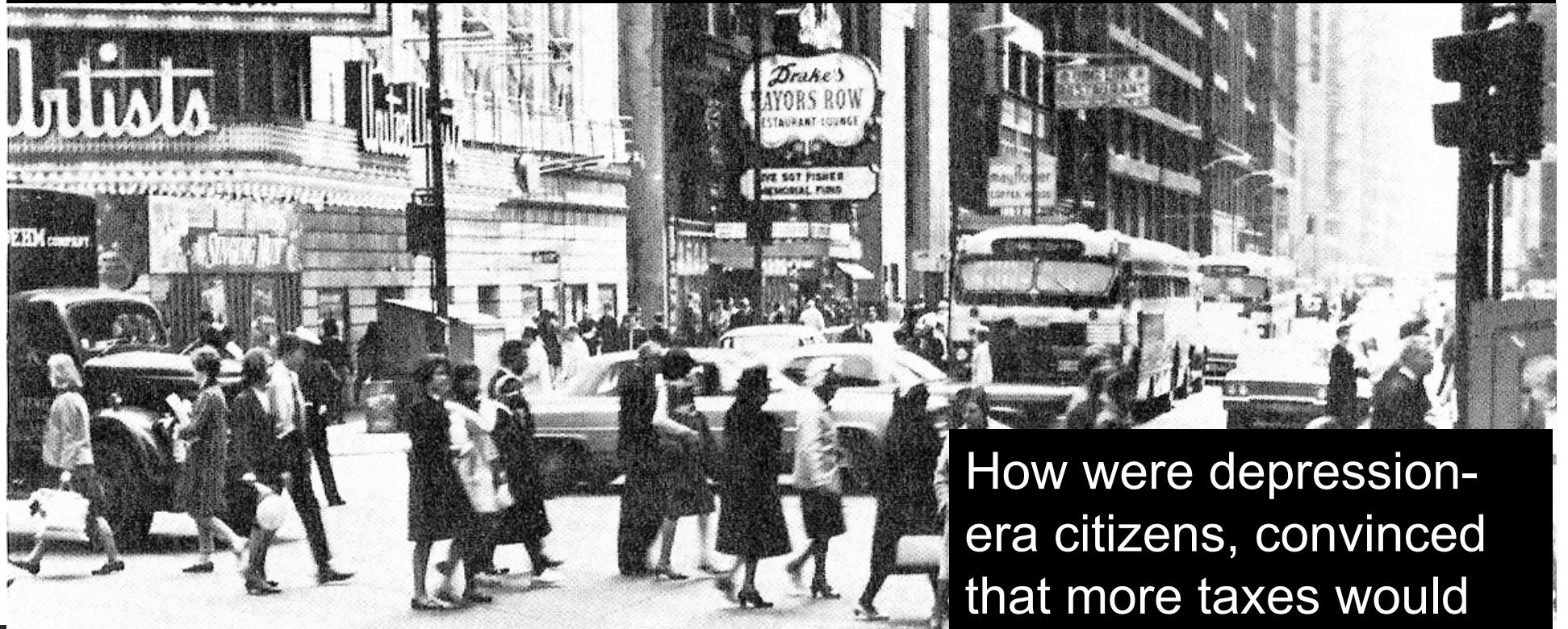
Route 1 Ventura, CA

Good news! Roads! Streetcars!



Without highways, all regional traffic moves through downtowns.
Dearborn at Randolph St. Chicago, 1910

1960, Federal Highways and Interstates re-route thru traffic



Dearborn at Randolph St. Chicago,
1960

How were depression-era citizens, convinced that more taxes would mean a better future for their children and their country?

1939, 51 million flock to see the future (1960)



- Icons: the trilon and the perisphere
- Key exhibit: General Motors Futurama



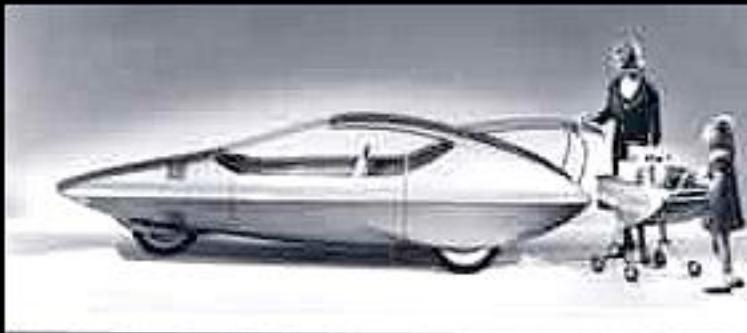
Futurama, future cities...



U.S. population 130,879,718 in 1939 so 51 million is almost 40%! Where else have we seen an exhibition viewed by this large percentage of a country's population?

Future Cars

1939



1997



1959



1963 Myers-Lawson
School of Construction



Future Roads



1939 48 states, 48 highway plans

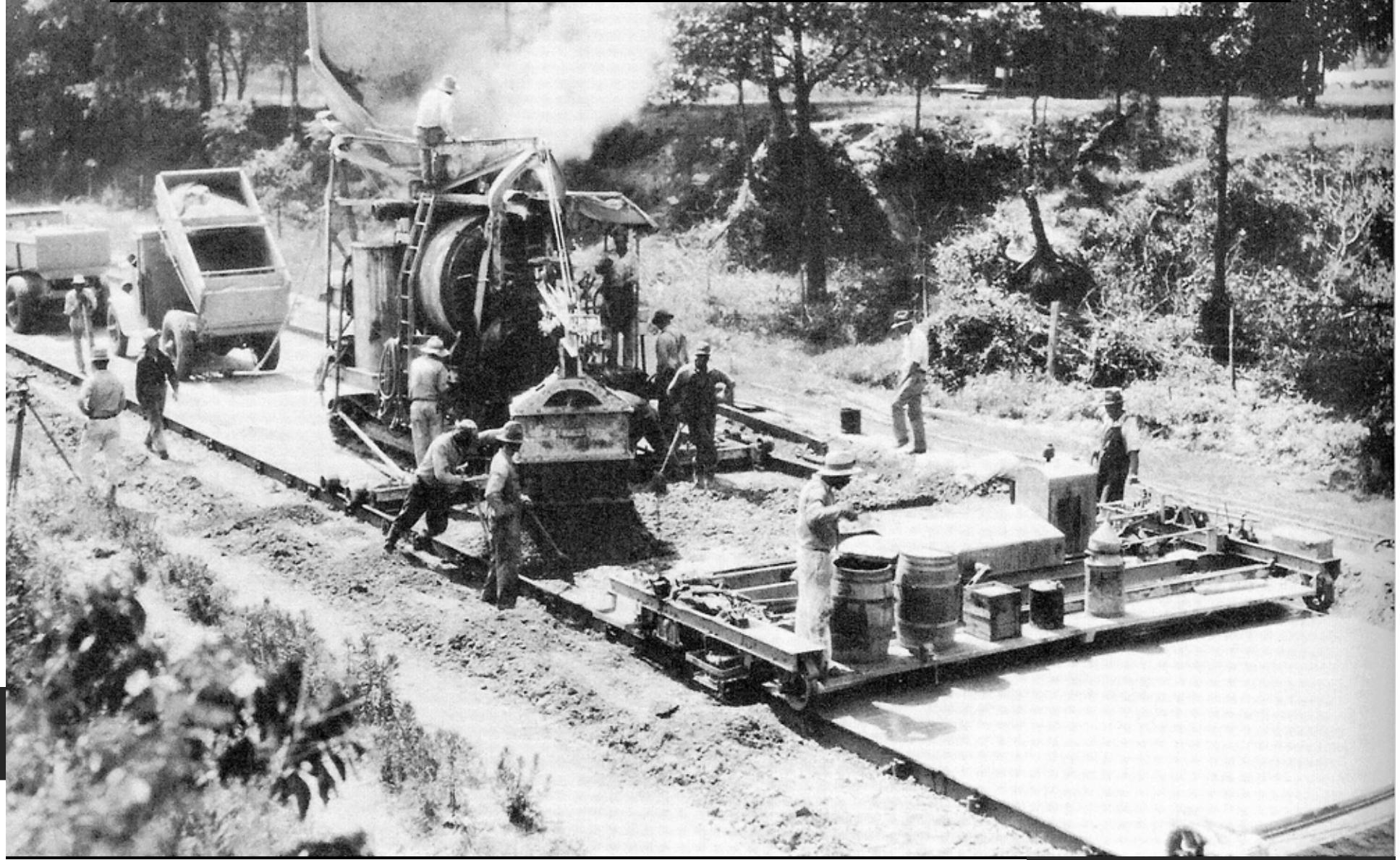


- 1939 Roosevelt proposes inter-regional highway system as part of the public works program
- \$4,800,000 proposal
- 1,000 foot right of way minimum

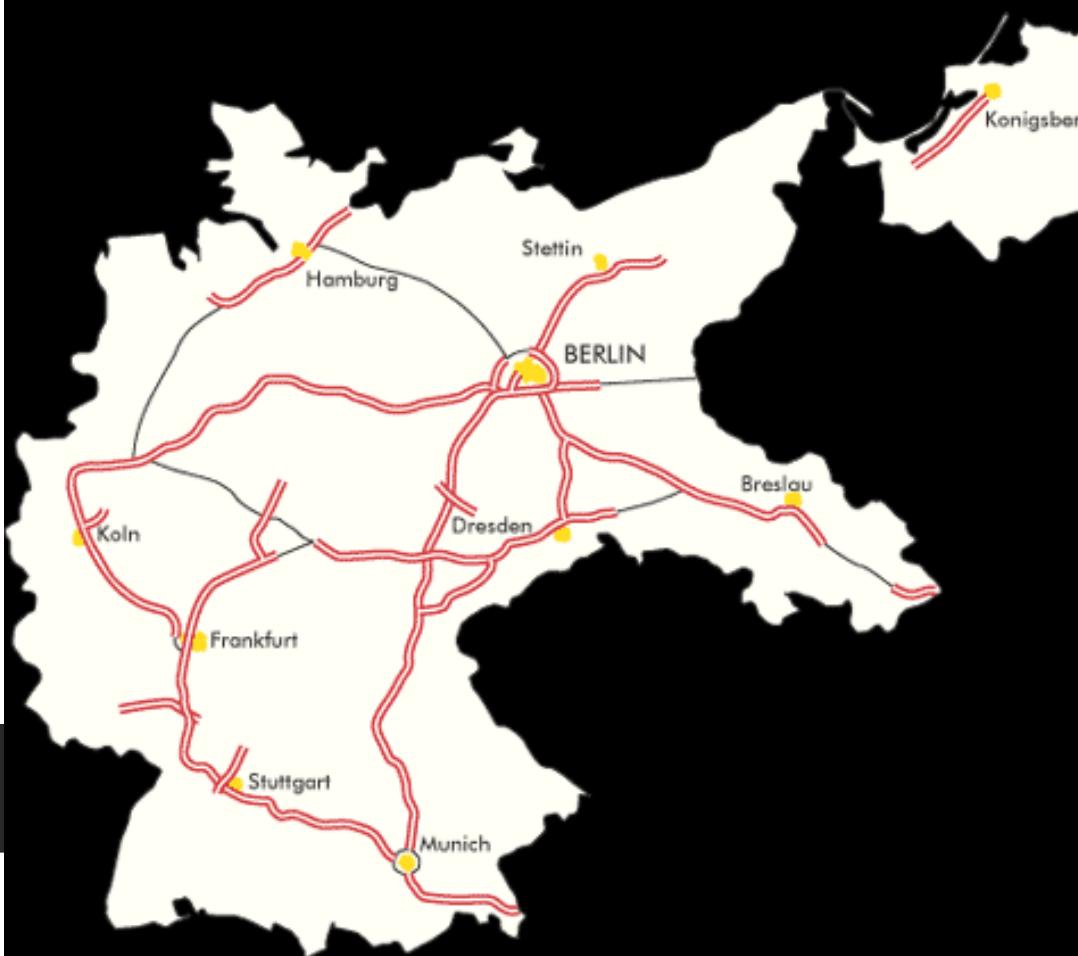
Like the railroad company owning the crystal palace property

- Roosevelt emphasized the “self-liquidating” nature of the program, meaning the gov’t could buy up land on each side of the r.o.w. and resell it at higher value after road completion
- Christian Peoples, the acquisition director noted the government could sell gasoline along the interstate to recoup costs.

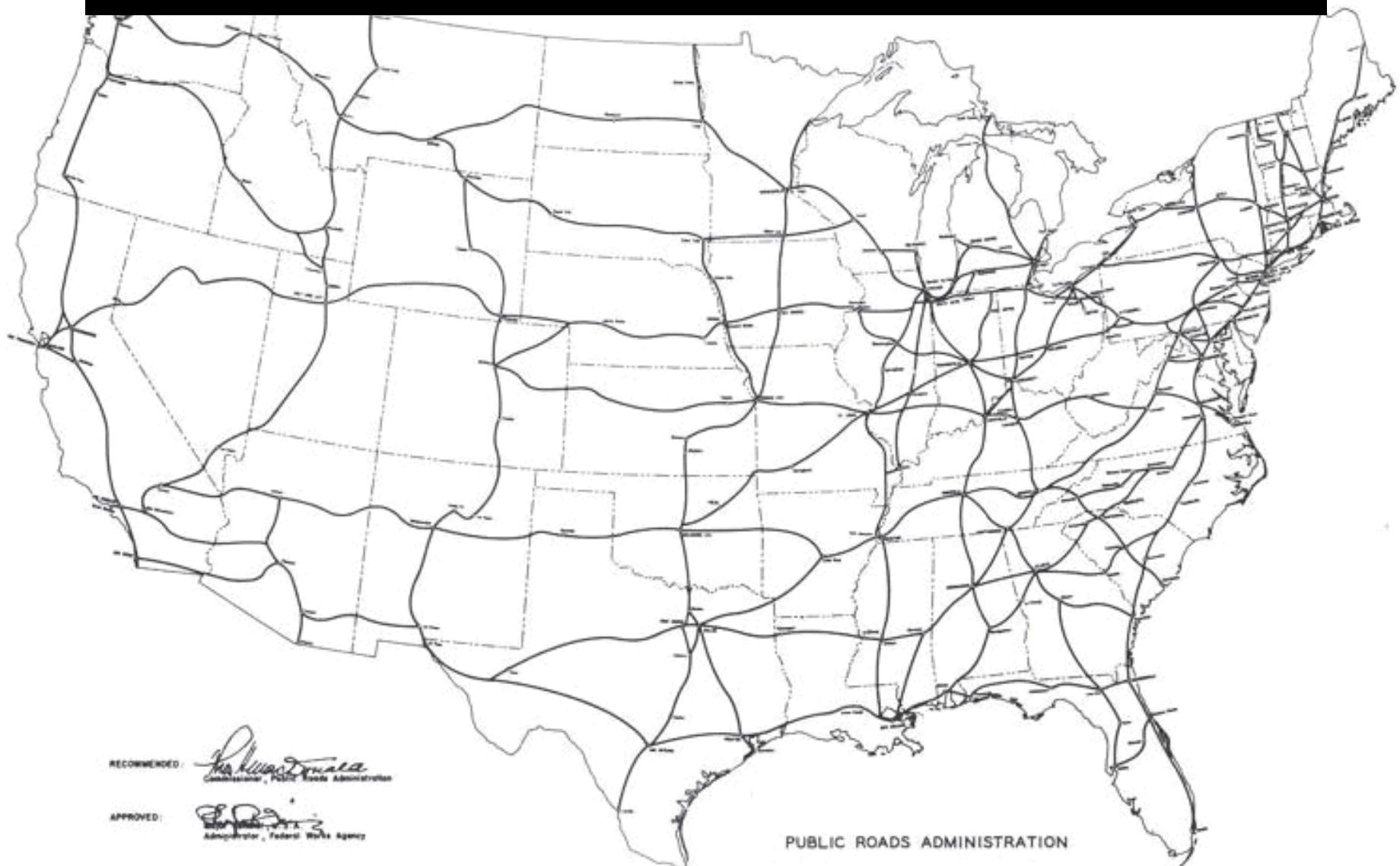
1928 Paving Train, Memphis



1933 Germany constructs the Autobahn 2,400 miles complete before W.W. II



1947 Interstate Proposal



NATIONAL SYSTEM OF INTERSTATE HIGHWAYS
SELECTED BY JOINT ACTION OF THE SEVERAL STATE HIGHWAY DEPARTMENTS
AS MODIFIED AND APPROVED
BY THE ADMINISTRATOR, FEDERAL WORKS AGENCY
AUGUST 2, 1947

Key to a national system, national standards

- Limited access
- Grade separated
- Min. design speed 55
- Max. design speed 75
- Max. grade 6%
- Min. 2 lanes each direction
- Min. lane width 12 feet
- 10 foot shoulders
- Min. 1.5% cross slope
- Min. median 36' or Jersey barrier
- Min. height clearance 14'

1949 Paving Train Iowa



1949 paving the Prairie



Postwar paving mechanization



Put on hold in W.W. II

- Supreme Allied Commander, Dwight Eisenhower elected President 1953
- Signed Federal Highway Act Feb. 22 1956



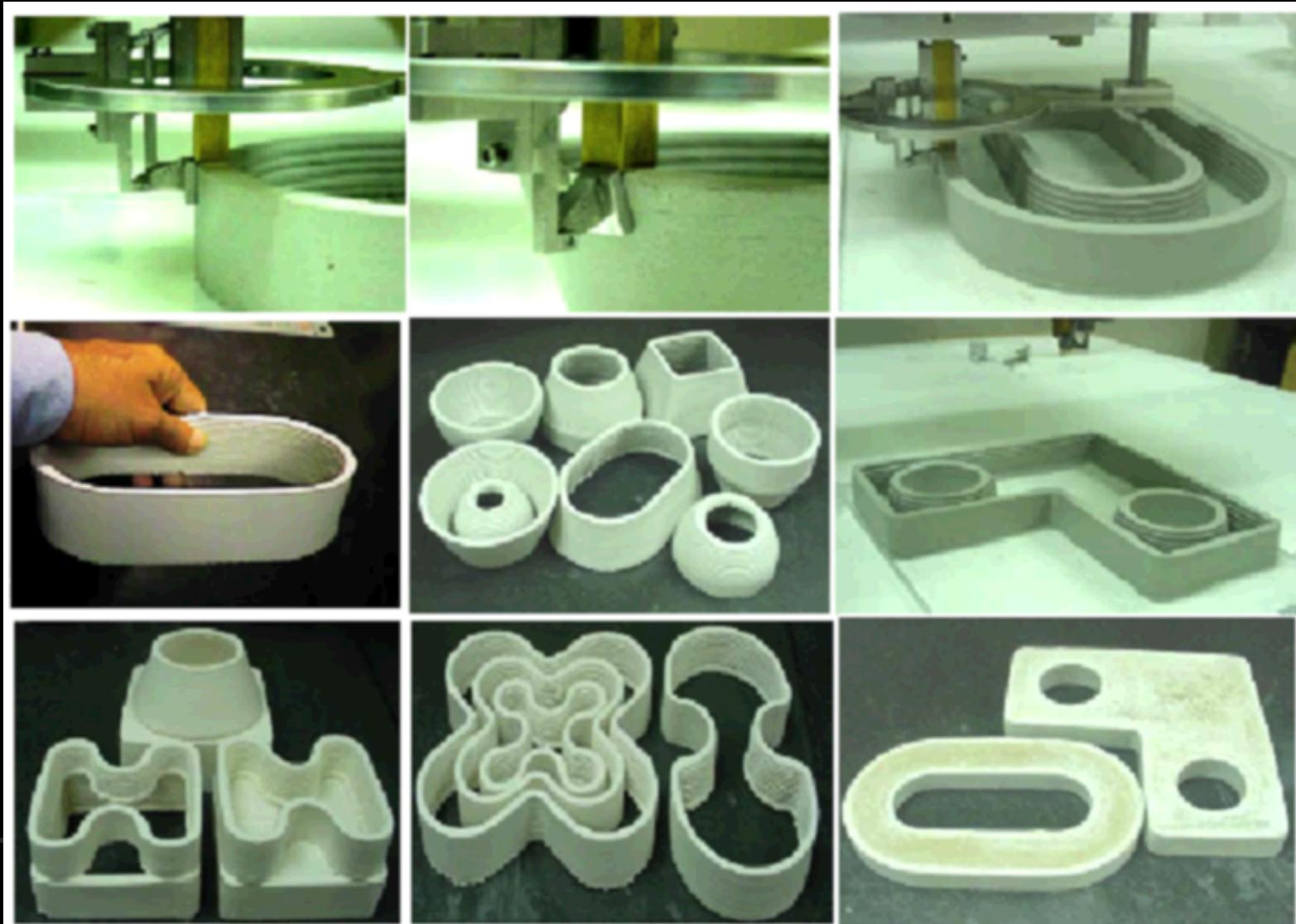


Gomanco Curbing Extruder...just follow the yellow stringline



If we can extrude curbs, gutters and low walls, what next?

Contour Crafted Concrete



Plotting out a house

