



Magic Highways? Did Disney Get it all right?

Or Steer Us Terribly Wrong?

Highway History and the Role of Landscape Architects in Moving US Forward

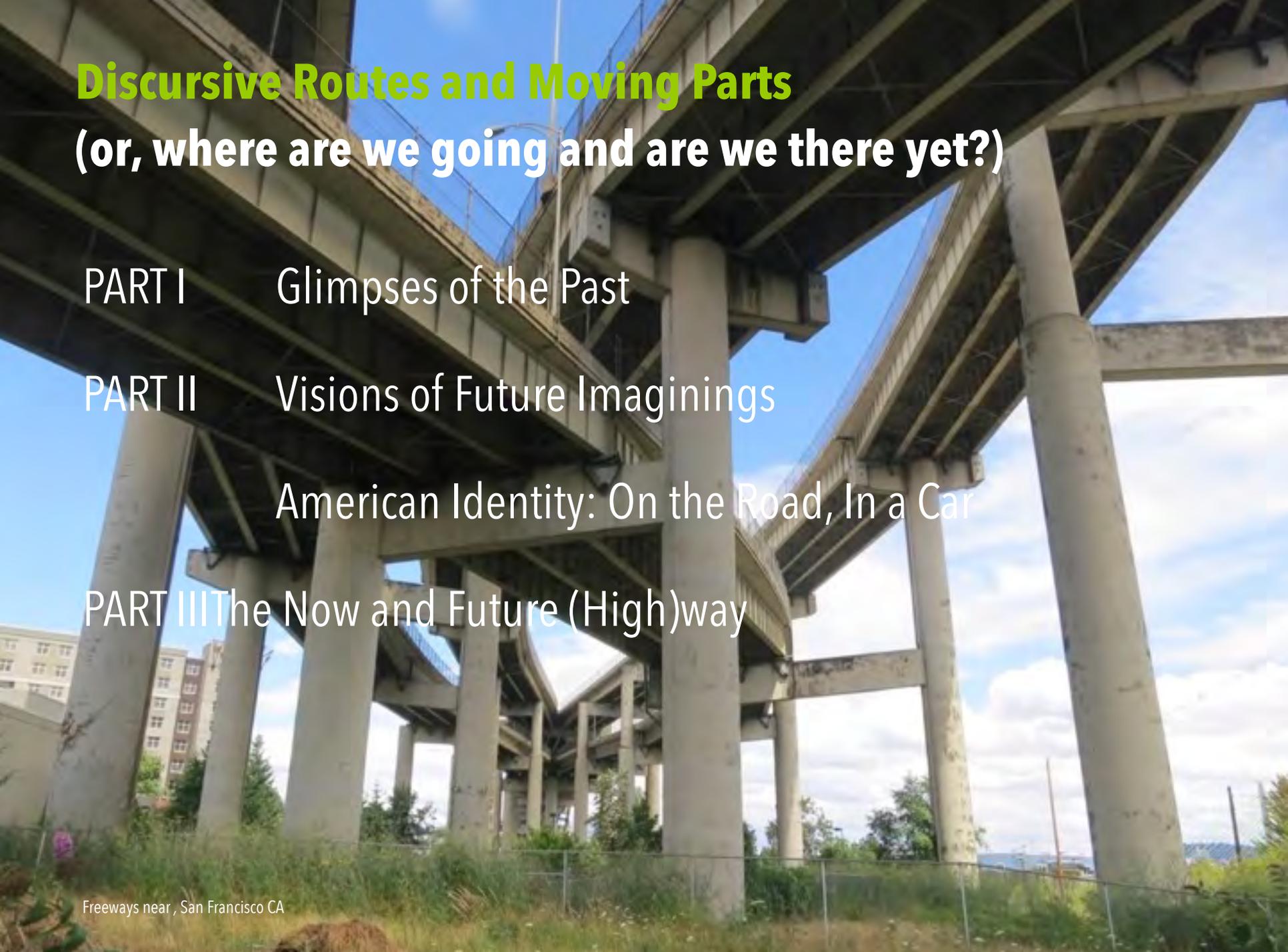
Elizabeth Umbanhowar, pla, asla, leed ap

WASLA Conference 2017

Spokane, Washington

April 21, 2017

Walt Disney, *Magic Highways: USA*, 1958



Discursive Routes and Moving Parts (or, where are we going and are we there yet?)

PART I Glimpses of the Past

PART II Visions of Future Imaginings

American Identity: On the Road, In a Car

PART III The Now and Future (High)way

PART I Glimpses of the Past



Walter Ruttmann, *Berlin Symphony of the City*, 1927

Glimpses of the Past

A Once and Mighty Network



Seattle Lake Shore & Eastern (SLS&E) train headed by locomotive D.H. Gilman at Columbia Street in Seattle, Date unknown SOURCE: Photographer unknown.

Glimpses of the Past

A Once and Mighty Network



1890—The period from 1860 to 1890 was one of rapid expansion. More than 70,300 miles of new lines were opened in that decade, bringing the total network up to 163,597 miles. By 1890, several trunk line railroads extended to the Pacific. In thirty years from 1860 to 1890, the total mileage of the region west of the Mississippi River increased from 2,175 to 72,389, and the population of that area increased fourfold.

Glimpses of the Past

A Once and Mighty Network



1950 — Today, the American railroads embrace 224,511 miles of road and 397,232 miles of tracks. These railroads handle approximately 54 per cent of the commercial passenger and 61 per cent of the freight business of the nation, carry more than 97 per cent of the United States mail, and perform nearly all of the commercial express traffic of the nation. During World War II these railroads handled more than 90 per cent of the war freight and 57 per cent of the organized troop movements.

Glimpses of the Past

A Once and Mighty Network



The Brown Brothers, Horse-drawn trolley next to 'Modern Electric Car' powered by the conduit between the rails on Broadway just north of the intersection with Broome Street in New York City, c. 1917, **SOURCE:** New York Times Archive

Glimpses of the Past

A Once and Mighty Network



Guide Map to Bicycle North of Yesler Avenue, Seattle WA, 1900 SOURCE: Seattle Municipal Archives



Anders Wilse, Magnolia Bike Path, 1900

SOURCE: Seattle Municipal Archives



Glimpses of the Past

A Once and Mighty Network



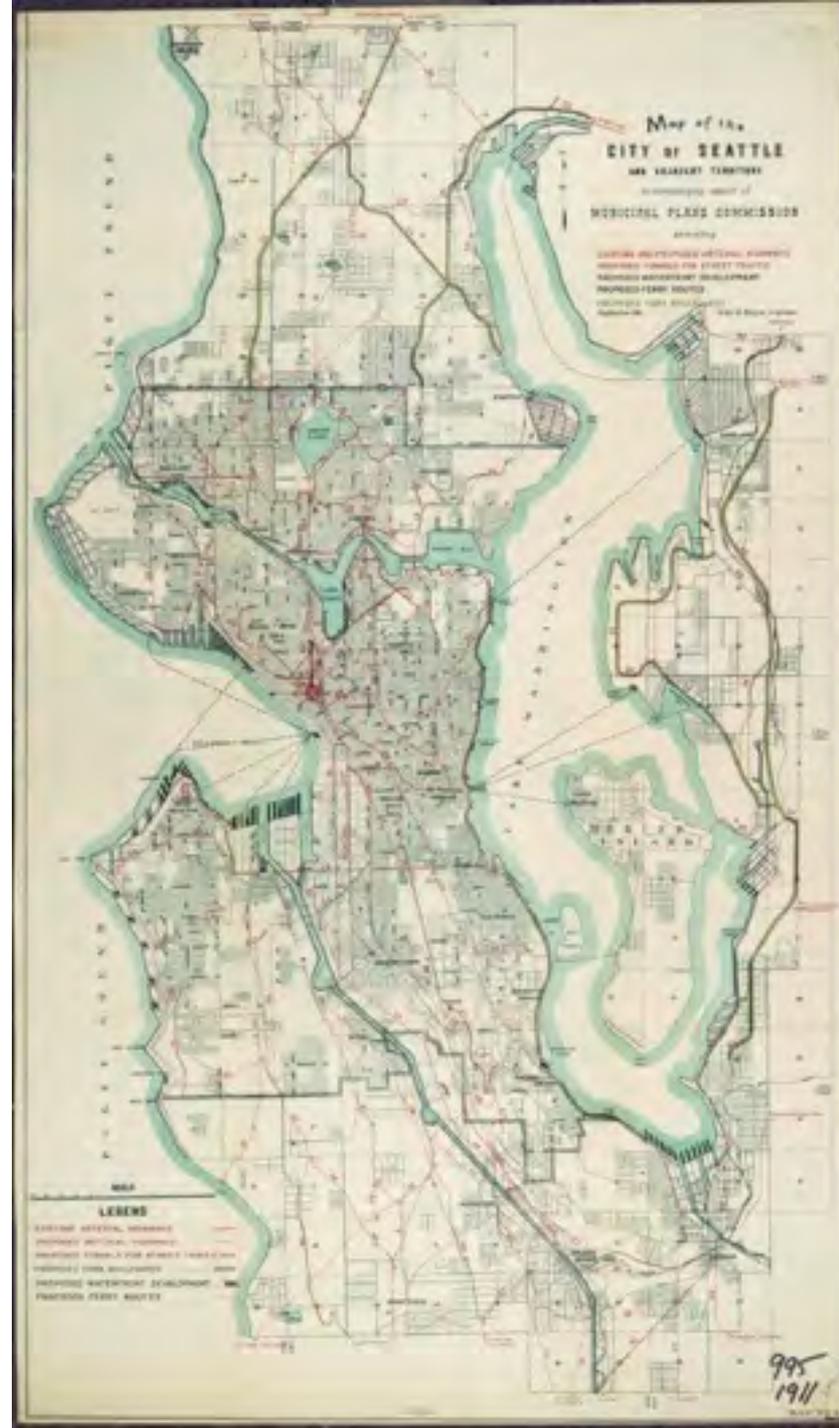
Section of Grand Central Terminal, New York City NY, **SOURCE:** *Scientific American*, 1912

Glimpses of the Past

A Once and Mighty Network

- "The city's growth through the years with a tendency to develop congested, undesirable and unhealthful districts, unless a program of parks and recreation is provided."
- **Expanded network of parks,** including making all of Mercer Island a park
~ Virgil Bogue 1911
- Expanded street car system
- **Rapid transit commuter trains** including a train between Kirkland and Seattle under Lake Washington

Virgil Bogue, Map of existing and proposed arterial highways, 1911



Glimpses of the Past

A Once and Mighty Network



Bird's eye view of Salt Lake City, Utah Territory 1870 by Augustus Koch, printed by the Chicago Lithographing Company

Glimpses of the Past

Roads as Landscape



Frederick Law Olmsted (1822-1903) and Calvert Vaux (1824-1895), *Greensward Plan* for design competition, Central Park, New York City, 1858



GENERAL PLAN
OF
RIVERSIDE

OLMSTED, VAUX & CO., LANDSCAPE ARCHITECTS

1869.

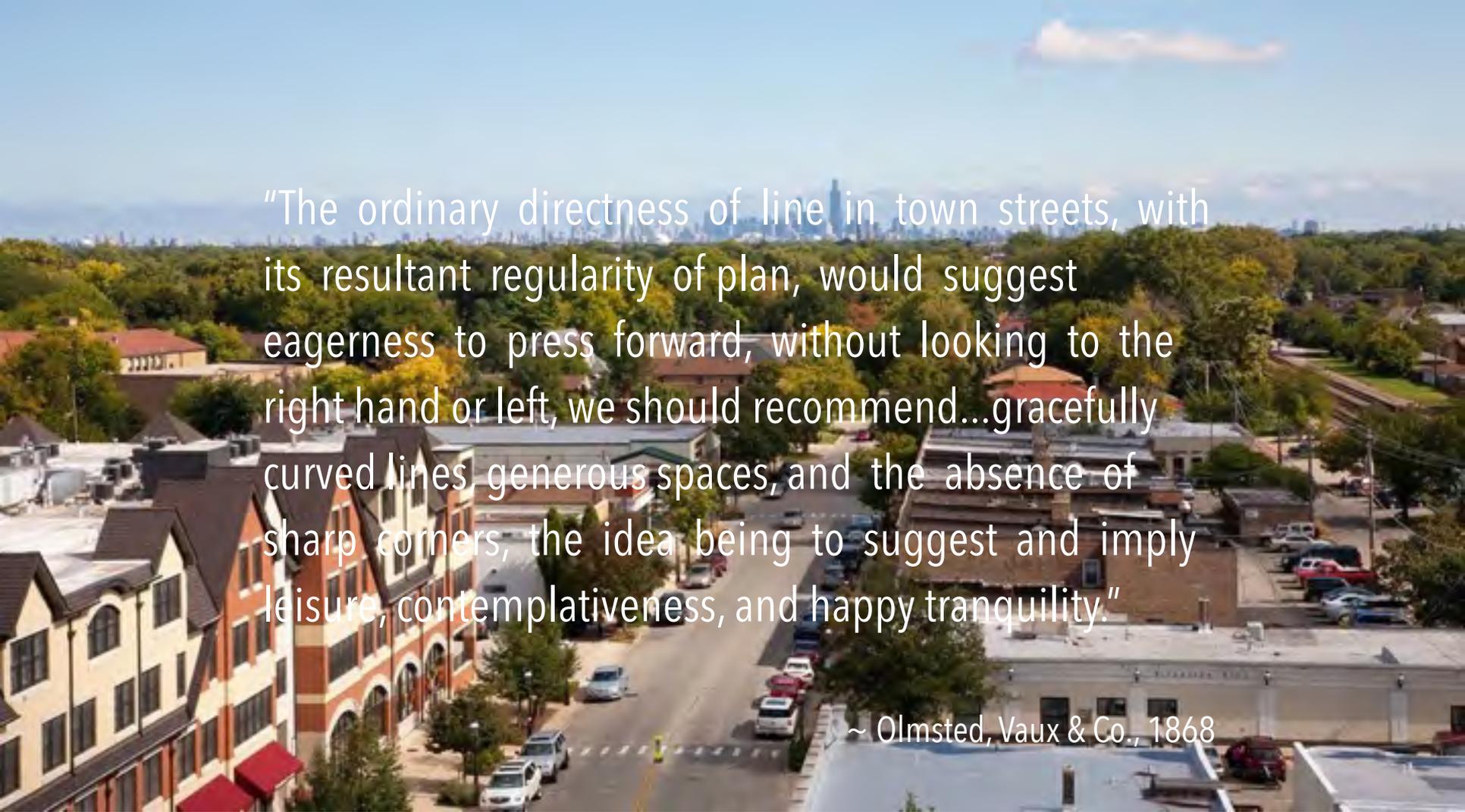
Scale: 100 feet to an inch.



Frederick Law Olmsted, Calvert Vaux and Company, *General Plan of Riverside IL along the Des Plaines River*, 1869

Glimpses of the Past

Roads as Landscape

An aerial photograph of a city street, likely in Chicago, showing a mix of residential and commercial buildings, trees, and a clear sky. The street is lined with cars and has a clear, straight path. In the background, a city skyline is visible under a blue sky with some clouds.

"The ordinary directness of line in town streets, with its resultant regularity of plan, would suggest eagerness to press forward, without looking to the right hand or left, we should recommend...gracefully curved lines, generous spaces, and the absence of sharp corners, the idea being to suggest and imply leisure, contemplativeness, and happy tranquility."

~ Olmsted, Vaux & Co., 1868

Glimpses of the Past

Roads as Landscape

"The construction of good roads and walks, the laying of sewer water, and gas pipes, and the supplying of sufficiently cheap, rapid, and comfortable conveyances to town centers is all that is necessary to give any farming land in a healthy and attractive situation the value of town lots"

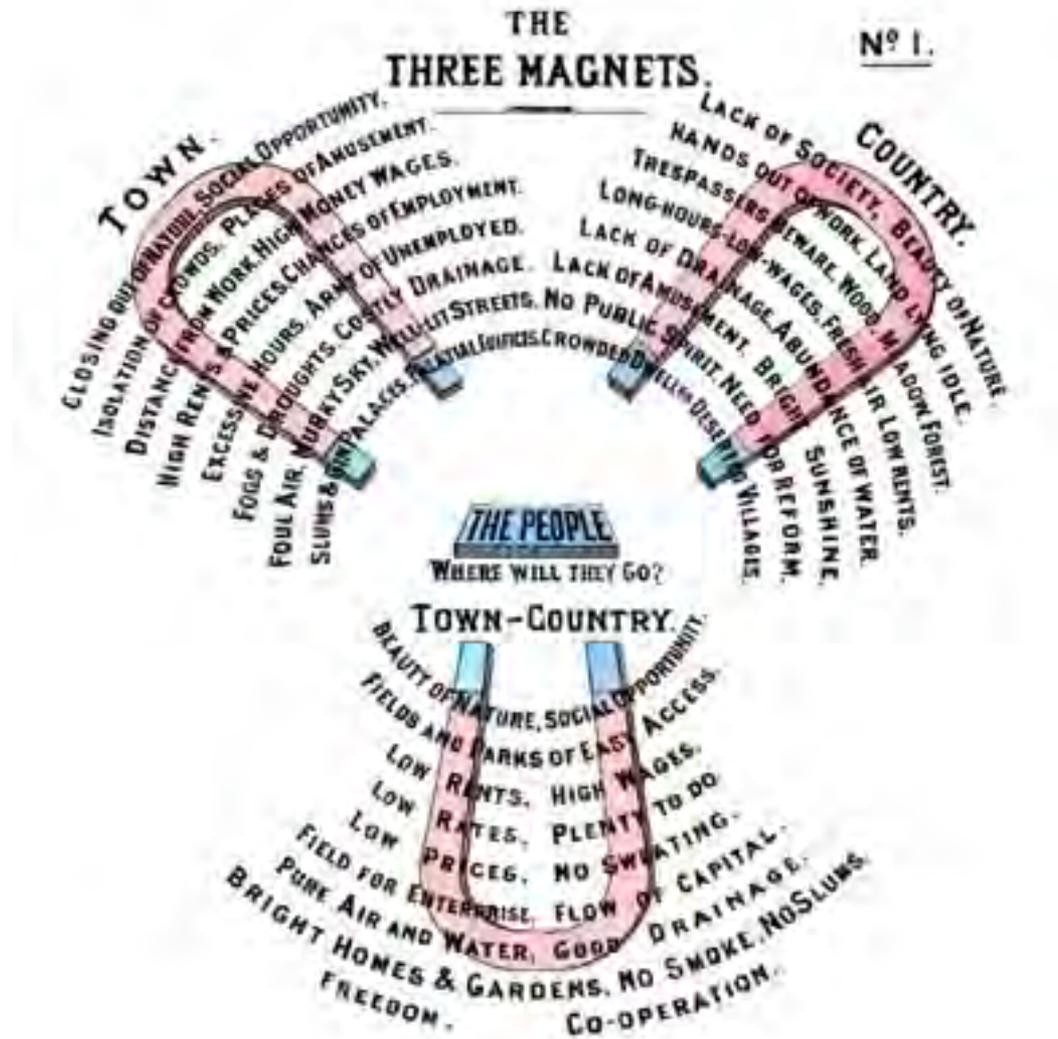
~ Frederick Law Olmsted,
Address to American Social Science Association, Boston, 1870

Glimpses of the Past

Roads as Landscape



Ebenezer Howard (1850-1928)



Ebenezer Howard *The Garden City*, 1902

Reproduced from the pages of "Punch" Christmas Number, 1910.

Yesterday



Living and Working in the Smoke

To-day



Living in the Suburbs—Working in the Smoke

To-morrow



Living & Working in the Sun at WELWYN GARDEN CITY

Glimpses of the Past

Roads as Landscape

Postcard advertising Welwyn Garden City . England, 1919

Glimpses of the Past

Roads as Landscape



Ebenezer Howard with Raymond Unwin (architect), *Letchworth*, Hertfordshire, United Kingdom, 1909





Reforming the City

Ebenezer Howard and The Garden City



Welwyn Garden City, England plan (left) and aerial view, 1919

Glimpses of the Past

Roads as Landscape



Ebenezer Howard with Raymond Unwin (architect), *Letchworth*, Hertfordshire, United Kingdom, 1909



MAP OF
MINNEAPOLIS, MINN.

SHOWING PARK SYSTEM
AS RECOMMENDED BY
PROF. H.W.S. CLEVELAND

1883.

Scale of Miles

Street-Car Lines are marked.

"[There is a]... preference of an extended system of boulevards,
or ornamental avenues, rather than a series of detached open
areas or public squares."

Glimpses of the Past

Roads as Landscape



Horace W. S. Cleveland, *Central (Loring) Park*, Minneapolis MN, c.1863



Glimpses of the Past

Roads as Landscape

"[There will be] parks embodying natural woods and beautiful landscapes located within the borders of the city or close enough to the heart of the population to be available for the great mass of the people...."

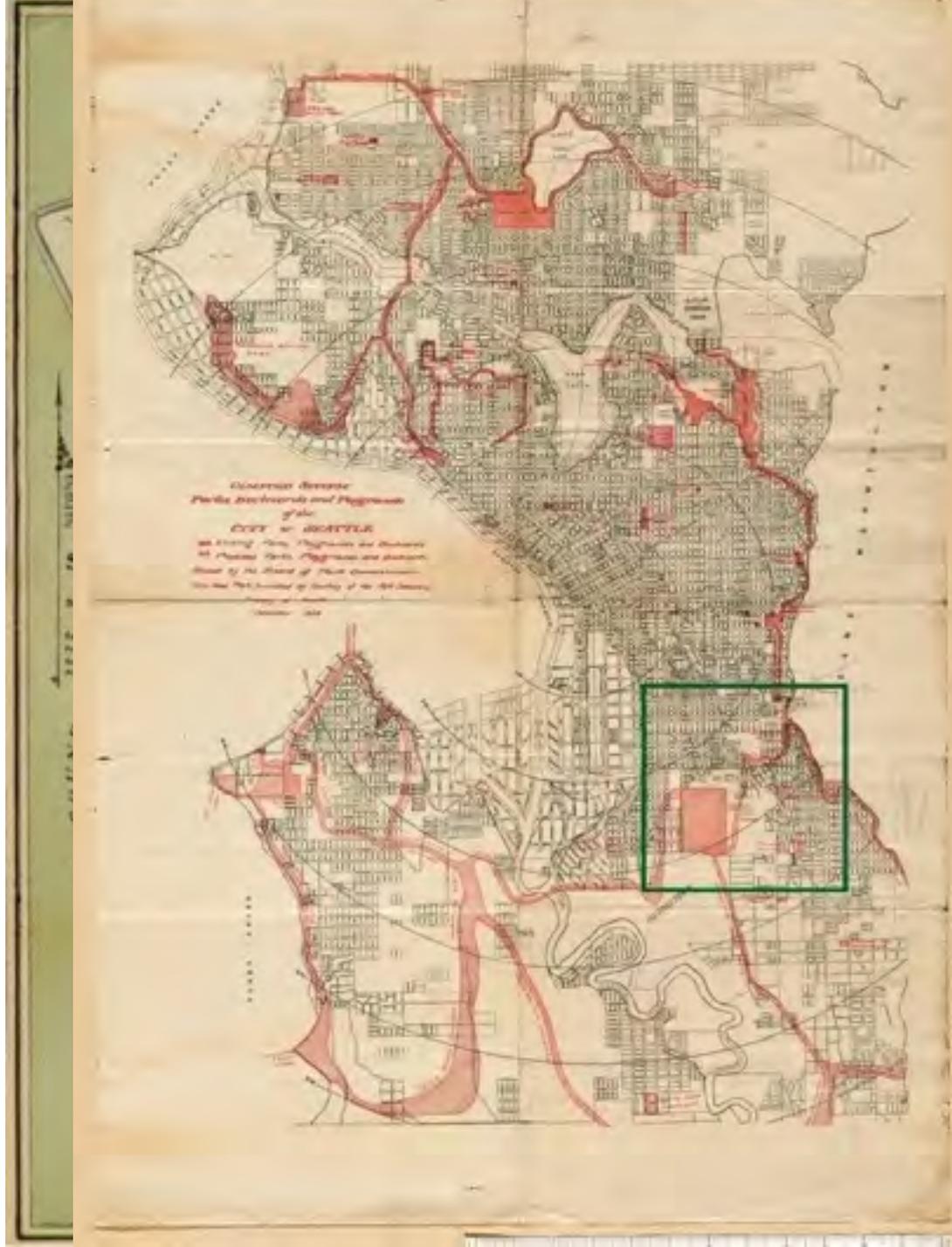
~ John Charles Olmsted

City of Seattle Parks and Boulevards Plan, 1908,

SOURCE Seattle Municipal Archives

Map of Olmsted System of Parks and Boulevards, 1908.

SOURCE: Seattle Municipal Archives, Item No. 2390.



Glimpses of the Past

Roads as Landscape



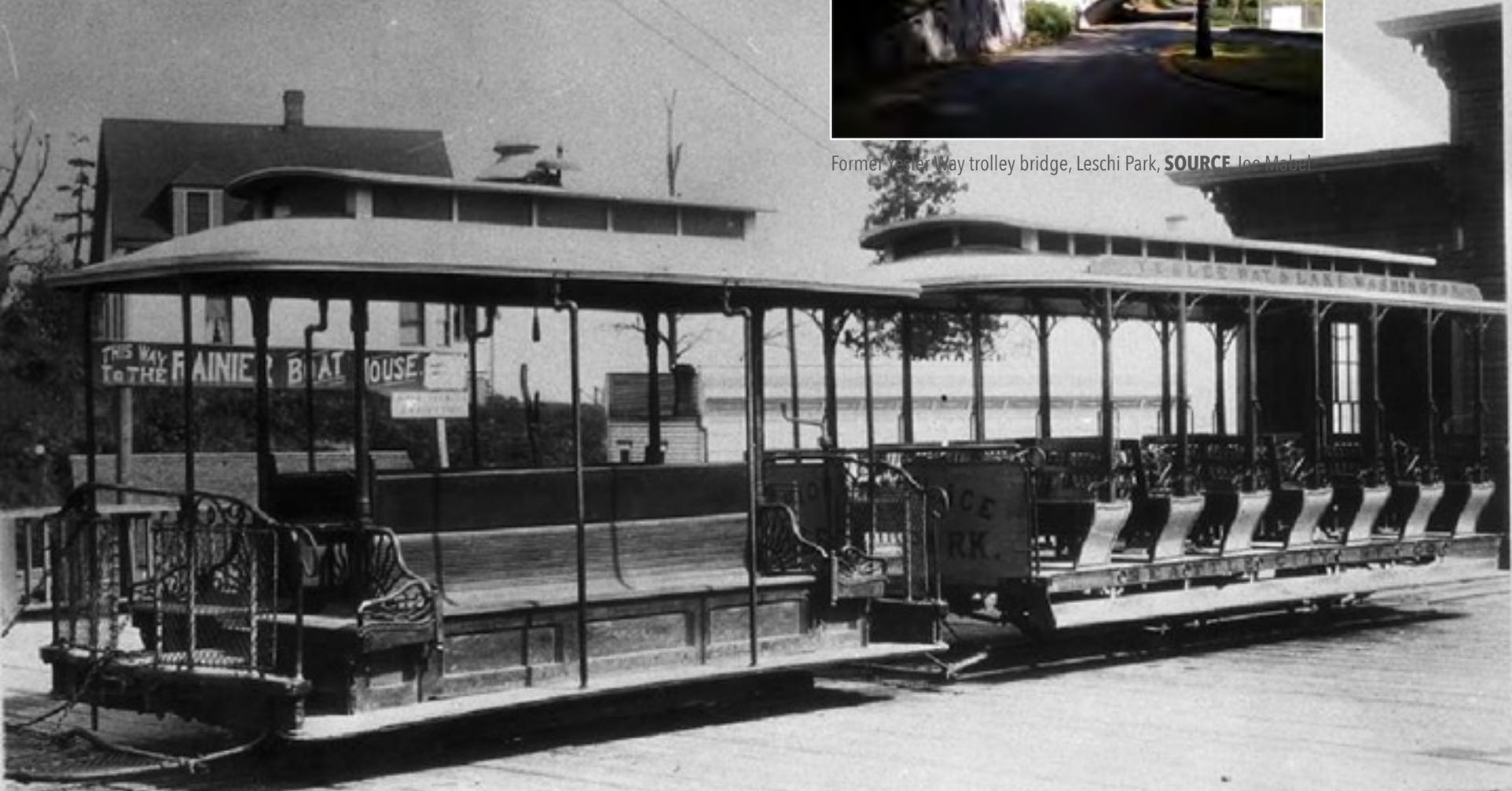
A Seattle Press Club caravan proceeds north past Mt. Baker on a nearly new Lake Washington Boulevard, 1916, **SOURCE** MOHAI

Glimpses of the Past

Roads as Landscape



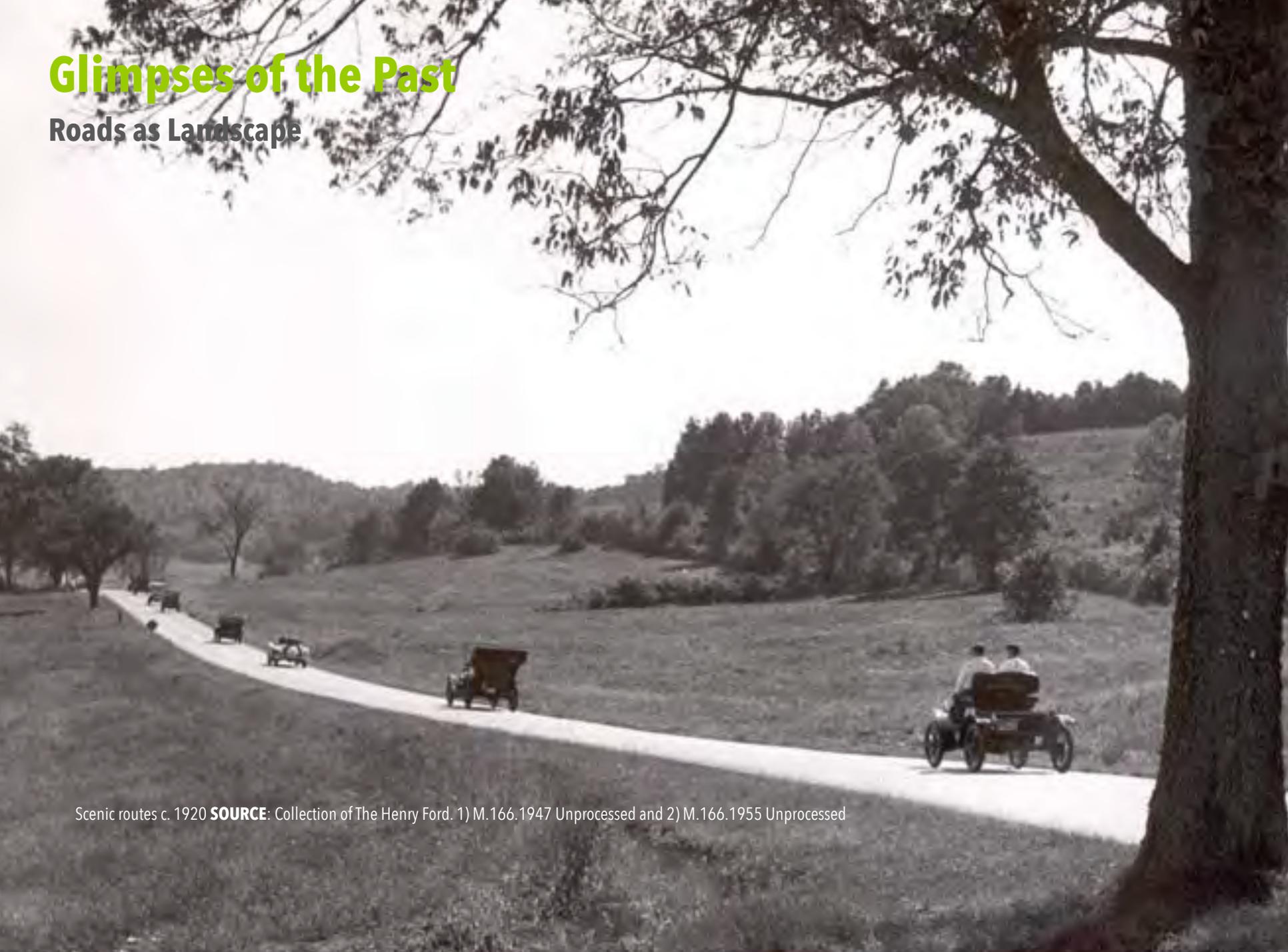
Former Yesler Way trolley bridge, Leschi Park, **SOURCE** Joe Mabel



Rail car for the Yesler Way to Lake Washington line at Rainier Boat House on Lake Washington, 1890 **SOURCE** Seattle Municipal Archive

Glimpses of the Past

Roads as Landscape



Scenic routes c. 1920 **SOURCE:** Collection of The Henry Ford. 1) M.166.1947 Unprocessed and 2) M.166.1955 Unprocessed

Glimpses of the Past

Roads are for cars



Gilmore D. Clarke, 1892-1982

Herman Merkel and Gilmore Clarke, *Bronx River Parkway on Woodlawn, Metropolitan North Station 1922 (above left) and Ardsley Road Overpass, 1928 (above right)*

Glimpses of the Past

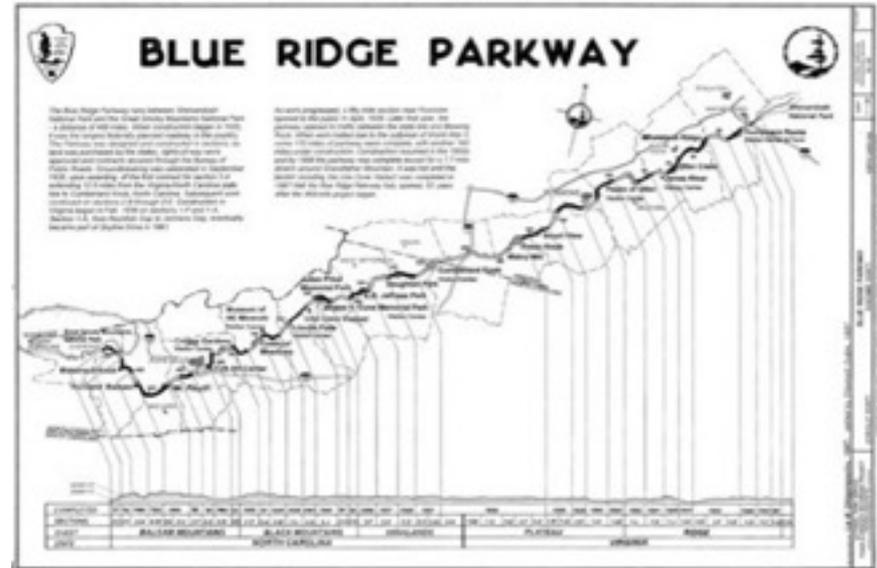
Roads as Landscape



Gilmore Clark and Franklin D. Roosevelt, Stone bridge on *Taconic State Parkway*, near Shrub Oak NY, 1925-1963

Glimpses of the Past

Roads as Landscape



Works Progress Administration and Stanley Abbott (landscape architect), *Blue Ridge Parkway*, North Carolina and Virginia, started in 1933



Glimpses of the Past

Roads as Landscape



Maud Sargent, *East River Drive viaduct*, New York NY, Gottscho-Schleisner Collection (Library of Congress), 1939



Maud Sargent, *Carl Schurz Park at East River Drive viaduct*, New York NY, 1939

Glimpses of the Past

Adapting to the Car*



Glimpses of the Past

Adapting to the Car*



Steve Fitch, *Gas station, Highway 40, Jensen, Utah 1971*, SOURCE American Art Museum

Glimpses of the Past

Adapting to the Car*



Glimpses of the Past

Adapting to the Car*

1927

One in every two families owned a car; 85% of world's cars made in US

1940

60 percent of Americans owned cars

1960

80 percent car ownership

2016

*SOURCE: Alana Samuels, "The Role of Highways in American Poverty," *The Atlantic*, March 18, 2014, and Peter Hall, "The City on the Highway: The Automobile Suburb, Long Island, Wisconsin, Los Angeles, Paris, 1930-1987," in *Cities of Tomorrow*, 2014



Glimpses of the Past

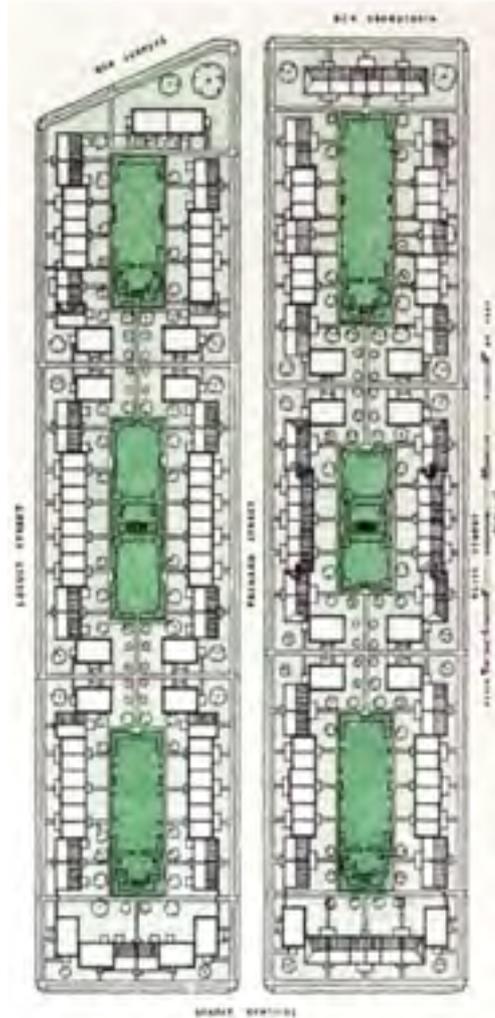
Adapting to the Car



Lewis Mumford, Alexander Bing, Clarence Stein, Benton McKay, Henry Wright, *Regional Planning Association of America* (RPAA), founded 1923

Glimpses of the Past

Adapting to the Car



Clarence Stein, Henry Wright, Frederick L. Ackermann (architect) and Marjorie Sewell Cautley (landscape architect), *Sunnyside*, Brooklyn NY, 1924-1928



Glimpses of the Past

Adapting to the Car



Clarence Stein and Henry Wright, *Radburn*, New Jersey, 1929



Clarence Stein and Henry Wright, *Radburn*, New Jersey, 1929



RADBURN

The Town for The Motor Age

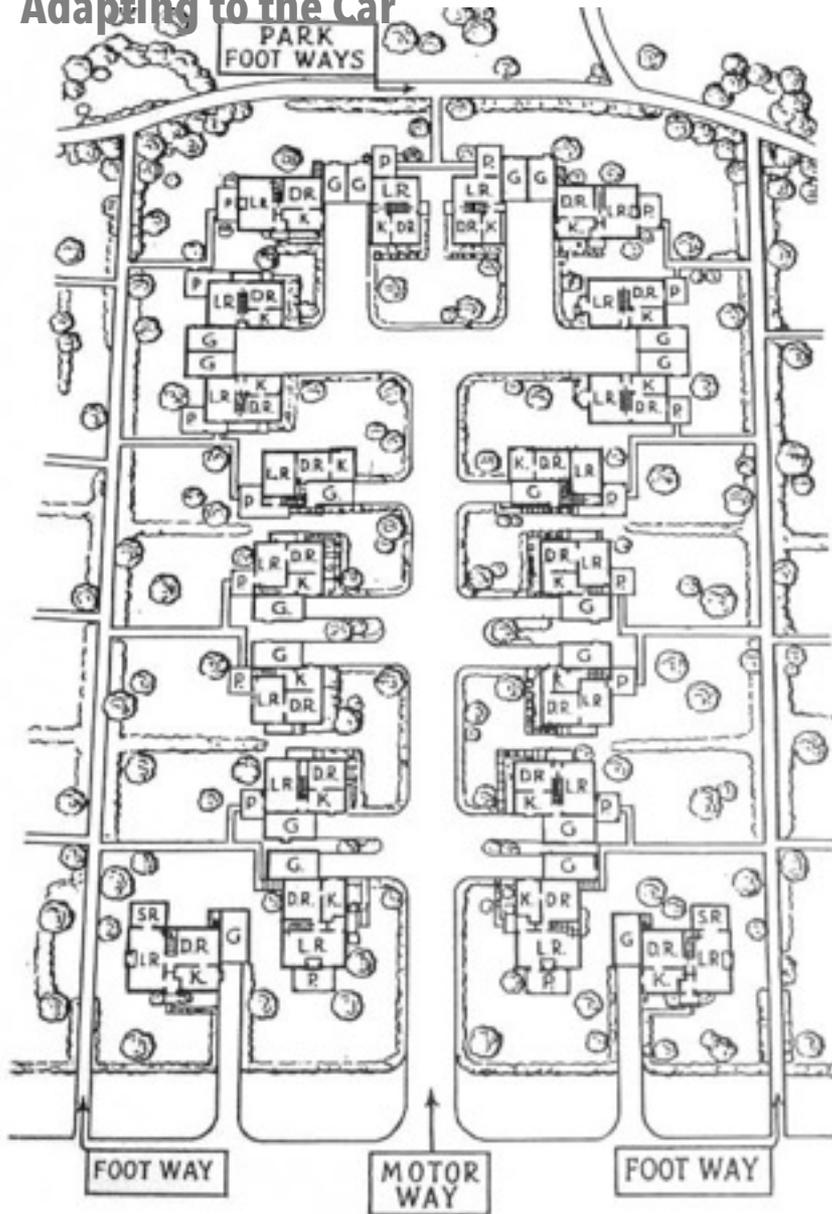


SAFE

for CHILDREN

Glimpses of the Past

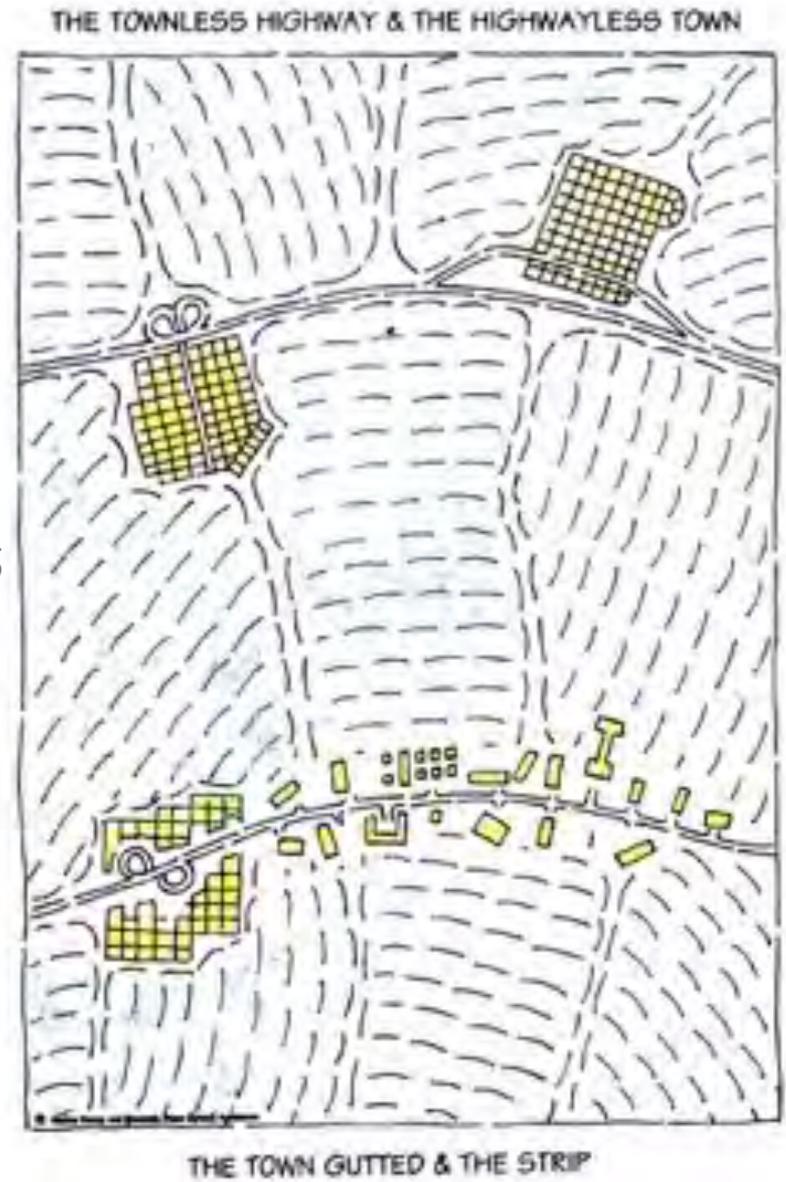
Adapting to the Car



Clarence Stein and Henry Wright, interstitial public paths, *Radburn*, New Jersey, 1929

“The townless highway is a motorway, in which the adjoining towns would be in the same relationship to the road as the residential cul-de-sacs in Radburn are to the main traffic avenues. What Radburn does in the local community, the townless highway would do for the community at large. Instead of a single roadtown slum, congealing between big cities the townless highway would encourage the building of real communities at definite and favorable points *off* the main road.”

~ Benton MacKaye, RPAA



PART II Visions of Future Imaginings

American Identity: On the Road, In a Car

CHEVROLET

Motor Division-General Motors Sales Corporation

P R E S E N T S

Conquering
Roads

Chevrolet, *Conquering Roads*, 1937

introduced by
L. J. "Tom" Hendon

Visions of Future Imaginings

The German Autobahn: A Model for America

Dwight Eisenhower Library

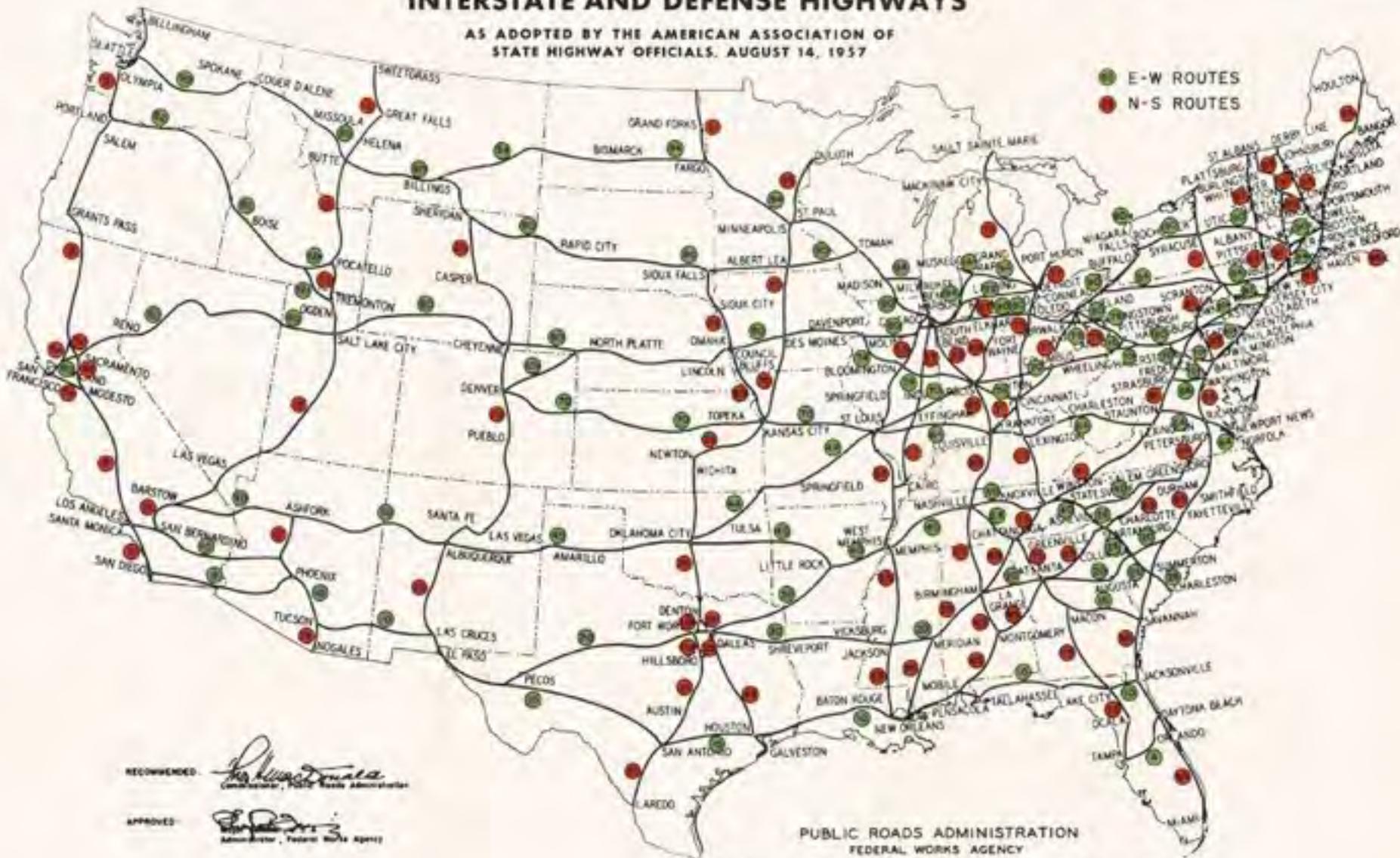


Dwight Eisenhower signs National Highway Aid Act, 1956 **SOURCE:** Dwight Eisenhower Library

OFFICIAL ROUTE NUMBERING FOR THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS

AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS
 1117 NATIONAL AVENUE, BOSTON
 MASSACHUSETTS 02116

AS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, AUGUST 14, 1957



RECOMMENDED: *W. W. C. Sullivan*
 Commissioner, Public Works Administration

APPROVED: *W. W. C. Sullivan*
 Administrator, Federal Works Agency

PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

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

1957 Interstate and Defense Highways Map, SOURCE: Society for History Education

Visions of Future Imaginings

The German Autobahn: A Model for America



Automobil-Verkehrs und Übungsstraße AVUS (Automobile traffic and training road) **SOURCE:** Bundesarchiv, Bild 183-2007-0625-501 / CC-BY-SA 3.0, CC BY-SA 3.0 de, <https://commons.wikimedia.org/w/index.php?curid=5348677>



North end of the AVUS near Berlin, Germany

SOURCE: A.Savin (Wikimedia Commons · WikiPhotoSpace)

Visions of Future Imaginings

The German Autobahn: A Model for America



Man in the High Castle television series

Visions of Future Imaginings

The German Autobahn: A Model for America



LMichael Zeno Diemer, Layout of the Drackensteiner Hang project: to negotiate the steep terrain with minimum disturbance, the two directions were routed on different sides of the mountain, 1938 **SOURCE** Der Schwäbische Albverein und seine Wandergebiete 1888-1938

Visions of Future Imaginings

The German Autobahn: A Model for America



Hitler shoveling dirt at the ceremonial opening of the Reichsautobahn in 1933 **SOURCE:** Bundesarchiv, Bild 183-R27373 / CC-BY-SA 3.0



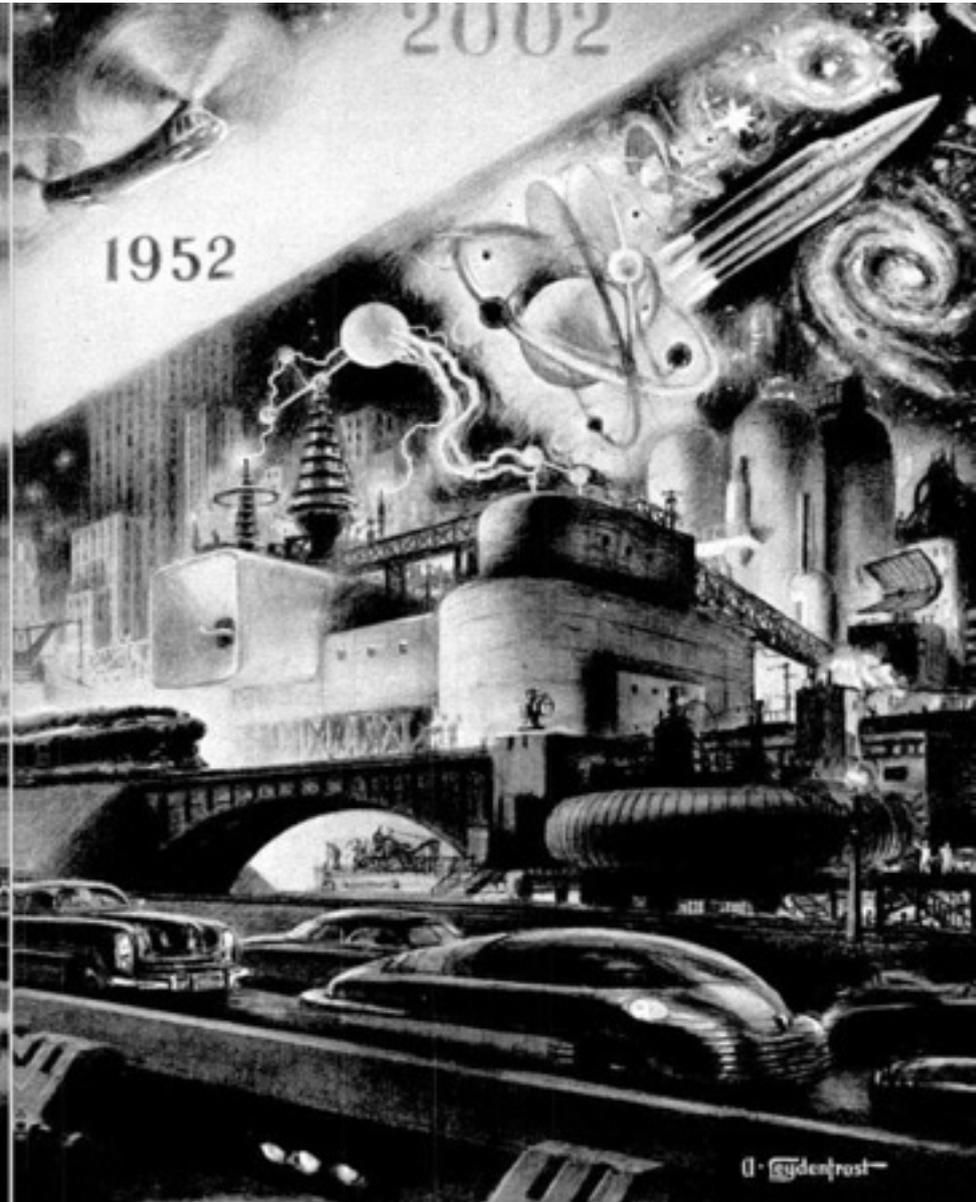
Warplanes hidden along the autobahn 1945 **SOURCE:** USSTAF (United States Strategic Air Forces, Library of Congress's Prints and Photographs division digital ID cph.3a2190



Berlin - Munich Reichsautobahn (present-day A9), southeast of Dessau, photographed in 1939

Visions of Future Imaginings

Modernism, Science and Science Fiction



Alexander Leydenfrost, "Science on the march" in the fiftieth anniversary issue of *Popular Mechanics*, January, 1952

Visions of Future Imaginings

"The motor omnibus companies competing against the suburban railways will find themselves hampered in the speed of their longer runs by the slower horse traffic on their routes. [Therefore they would] secure the power to form private roads of a new sort, upon which their vehicles will be free to travel up to the very limit of their possible speed."

HG Wells, *Anticipations*, 1901

~ HG Wells, *Anticipations*, 1901

125

ANTICIPATIONS

OF THE REACTION OF MECHANICAL AND SCIENTIFIC PROGRESS
UPON HUMAN LIFE AND THOUGHT

BY

H. G. WELLS

AUTHOR OF "WHEN THE SLEEPER WAKES"
"THE WAR OF THE WORLDS" "THE INVISIBLE MAN"



HARPER & BROTHERS
NEW YORK AND LONDON 1902

Visions of Future Imaginings

Modernism, Science and Science Fiction



Fritz Lang's *Metropolis* directed by Fritz Lang, 1927

Visions of Future Imaginings

Modernism, Science and Science Fiction

16W

General Motors Building, New York World's Fair



Norman Belle Geddes, General Motors Building, *New York World's Fair*, New York City NY, 1939

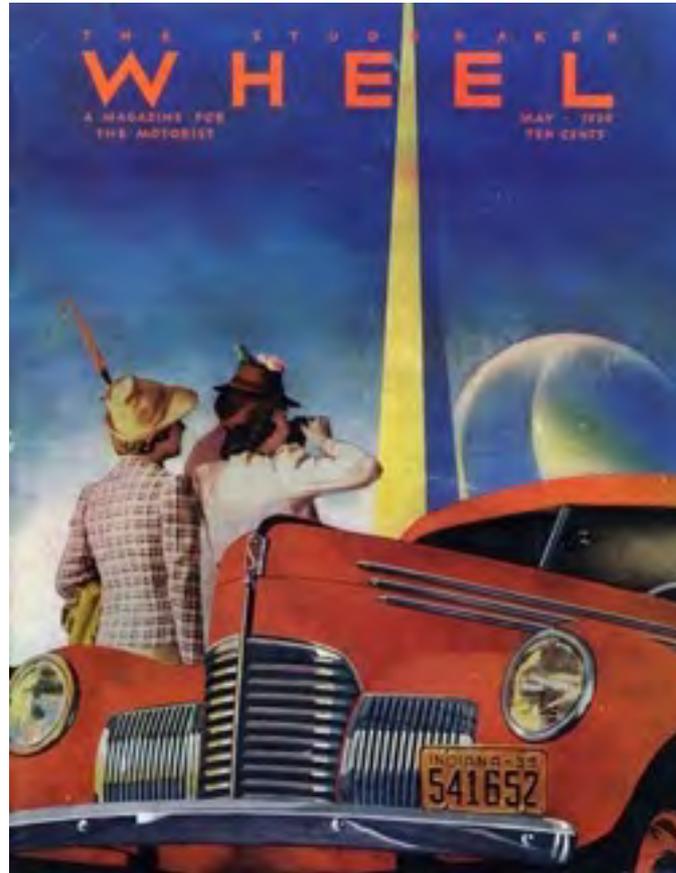
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Visions of Future Imaginings

Modernism, Science and Science Fiction



Advertisement, *New York World's Fair*, New York City NY, 1939



Trade Magazine, *New York World's Fair*, New York City NY, 1939



Ford Motor Company, "Roadway of Tomorrow", *New York World's Fair*, New York City NY, 1939

Visions of Future Imaginings

Modernism, Science and Science Fiction



Norman Belle Geddes, *Futura*, General Motors Building, *New York World's Fair*, New York City NY, 1939

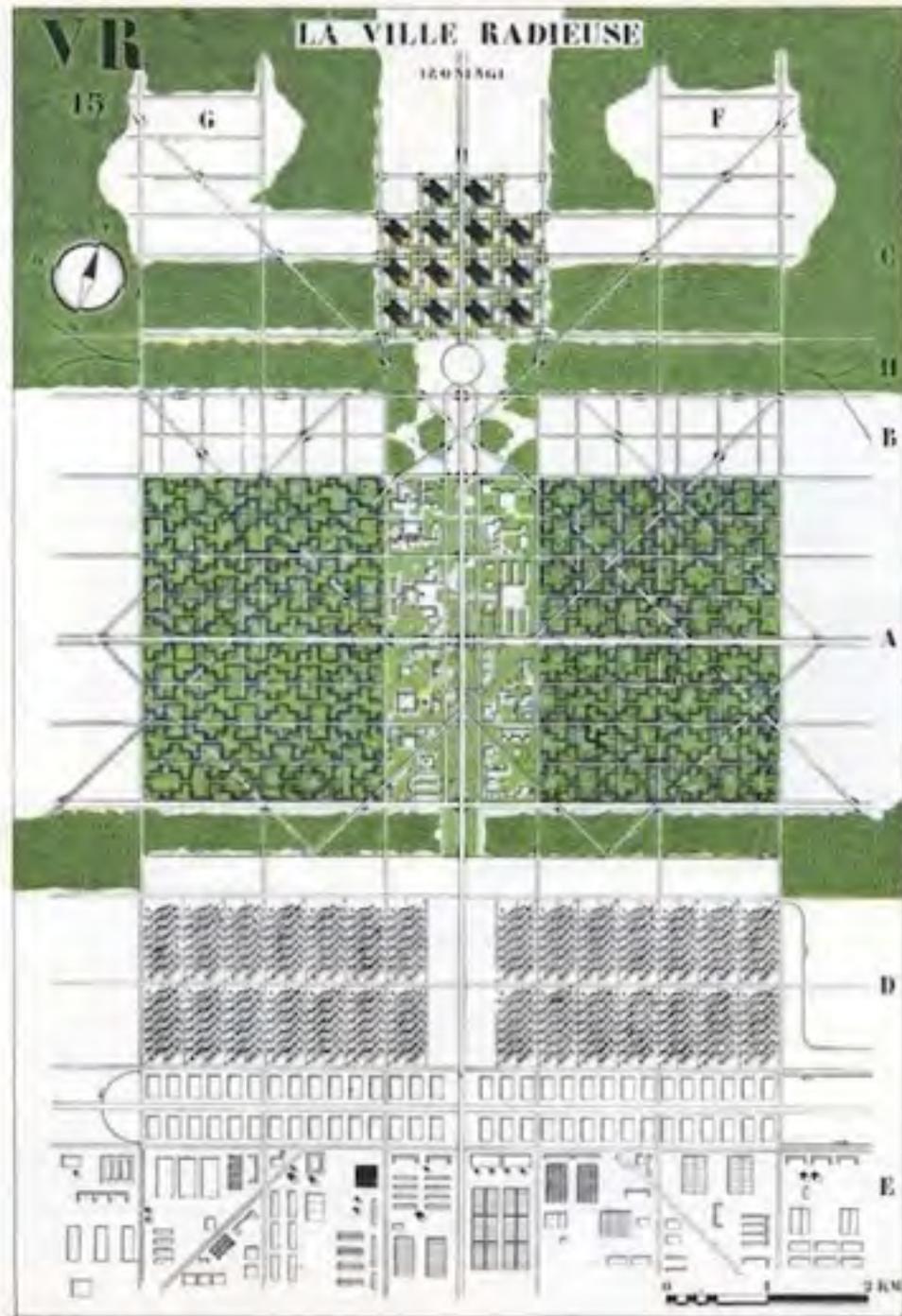
Visions of Future Imaginings

Modernism, Science and Science Fiction



Visions of Future Imaginings

Modernism, Science and Science Fiction



Sandstone cities, e.g.: government buildings or center for social studies, etc.

The business center

Railroad station and air terminal

Hotels
Embassies

Housing

Factories

Warehouses

Heavy industry

Le Corbusier, Rendering of the *Ville Radieuse*, or the Radiant City, 1933

Visions of Future Imaginings

Modernism, Science and Science Fiction

"Suppose we are entering the city by way of the Great Park. Our fast car takes the **special elevated motor track** between the majestic skyscrapers: as we approach nearer, there is seen the repetition against the sky of the twenty-four skyscrapers; to our left and right on the outskirts of each particular area are the municipal and administrative buildings; and enclosing the space are the museums and university buildings. **The whole city is a Park.**"

~ Le Corbusier, *The Radiant City*, 1933

Visions of Future Imaginings

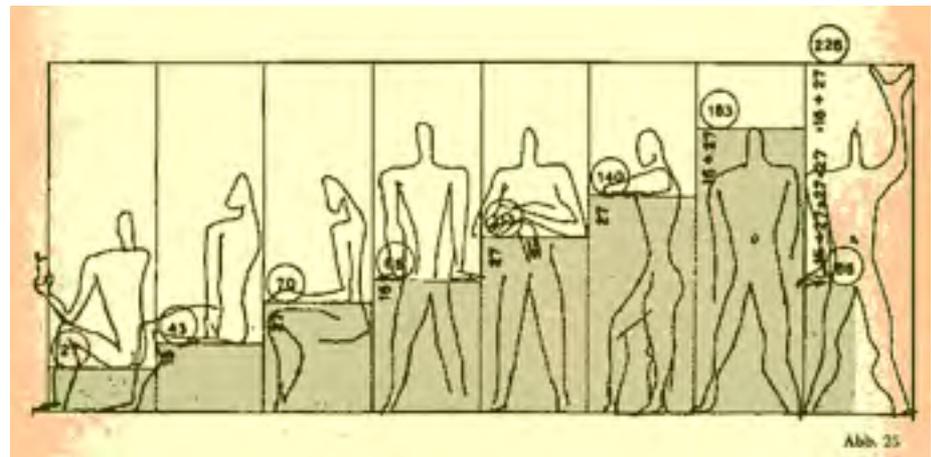
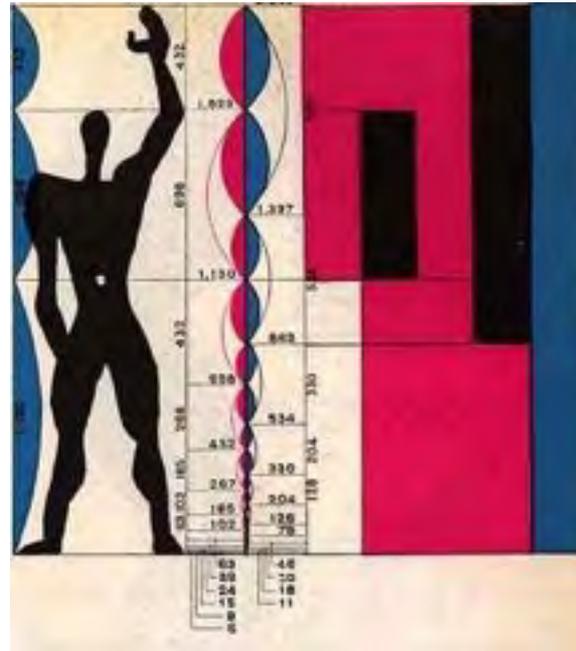
Modernism, Science and Science Fiction



Le Corbusier, *Study of Leonardo's Vitruvian Man*, 1937

"[A] range of harmonious measurements to suit the human scale, universally applicable to architecture and to mechanical things."

~ Le Corbusier

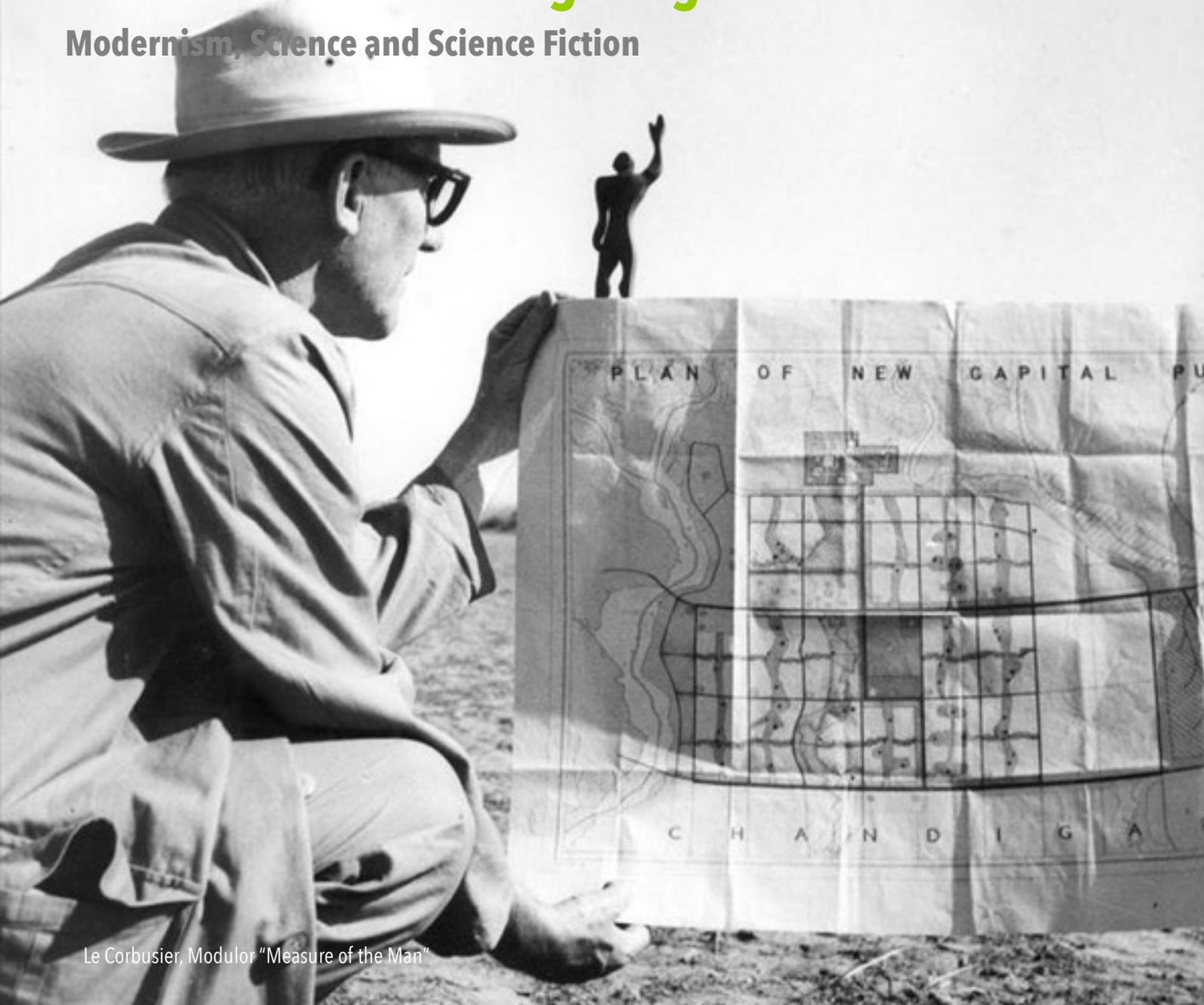


Le Corbusier, *Modulor*, 1937

Abb. 25

Visions of Future Imaginings

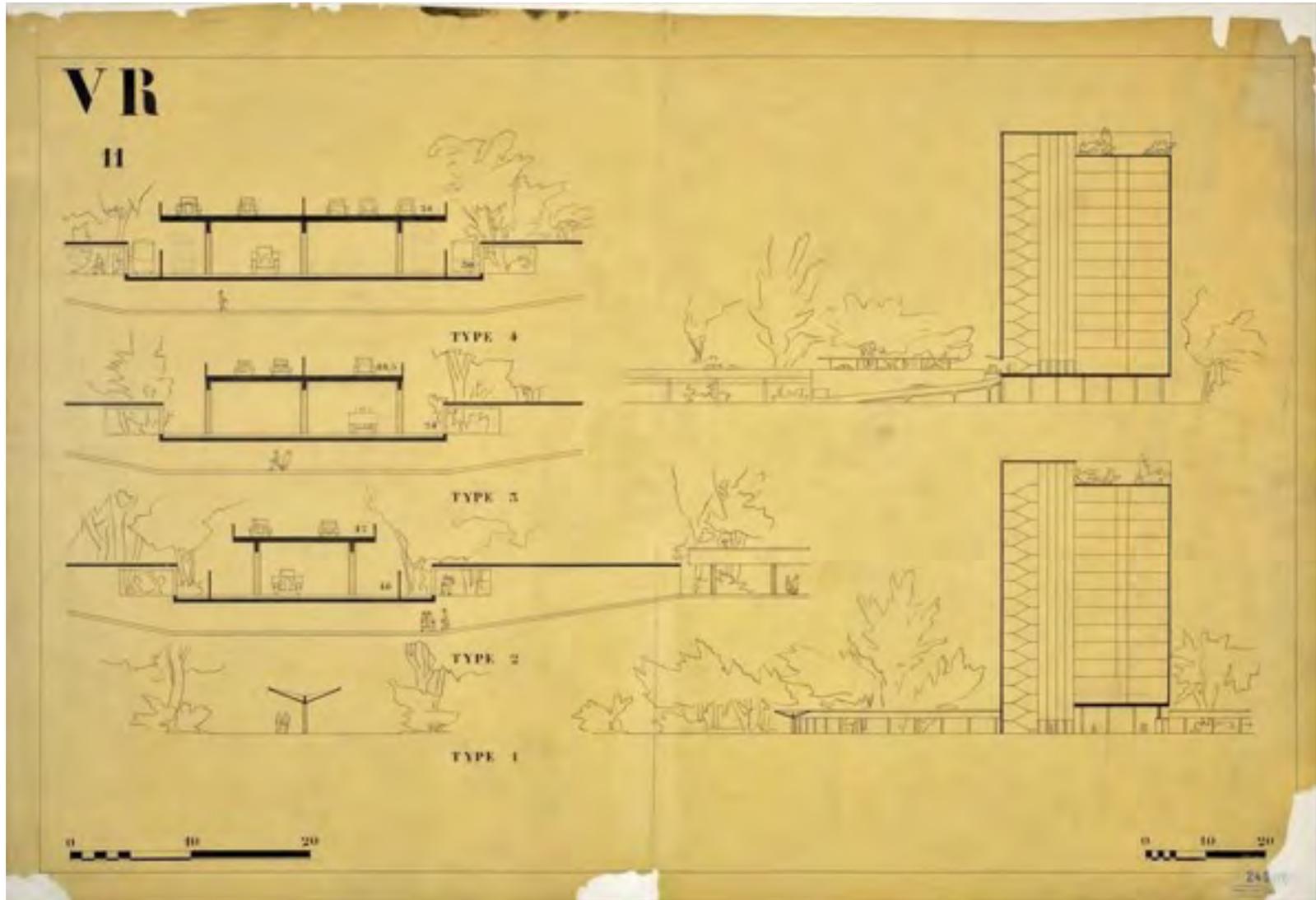
Modernism, Science and Science Fiction



Le Corbusier, Modulor "Measure of the Man"

Visions of Future Imaginings

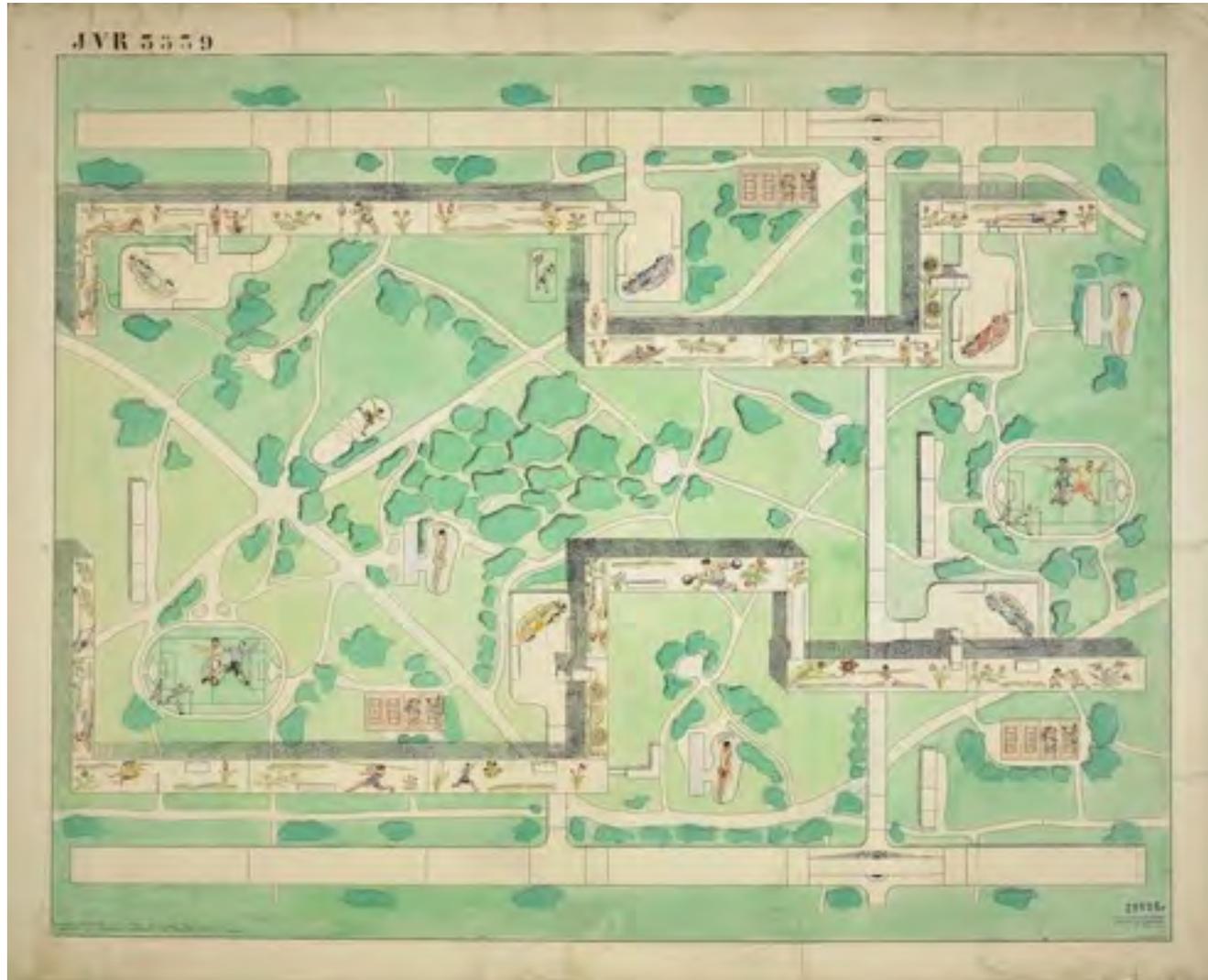
Modernism, Science and Science Fiction



Le Corbusier, *La Ville Radieuse (The Radiant City)*, Paris, France, 1924-30

Visions of Future Imaginings

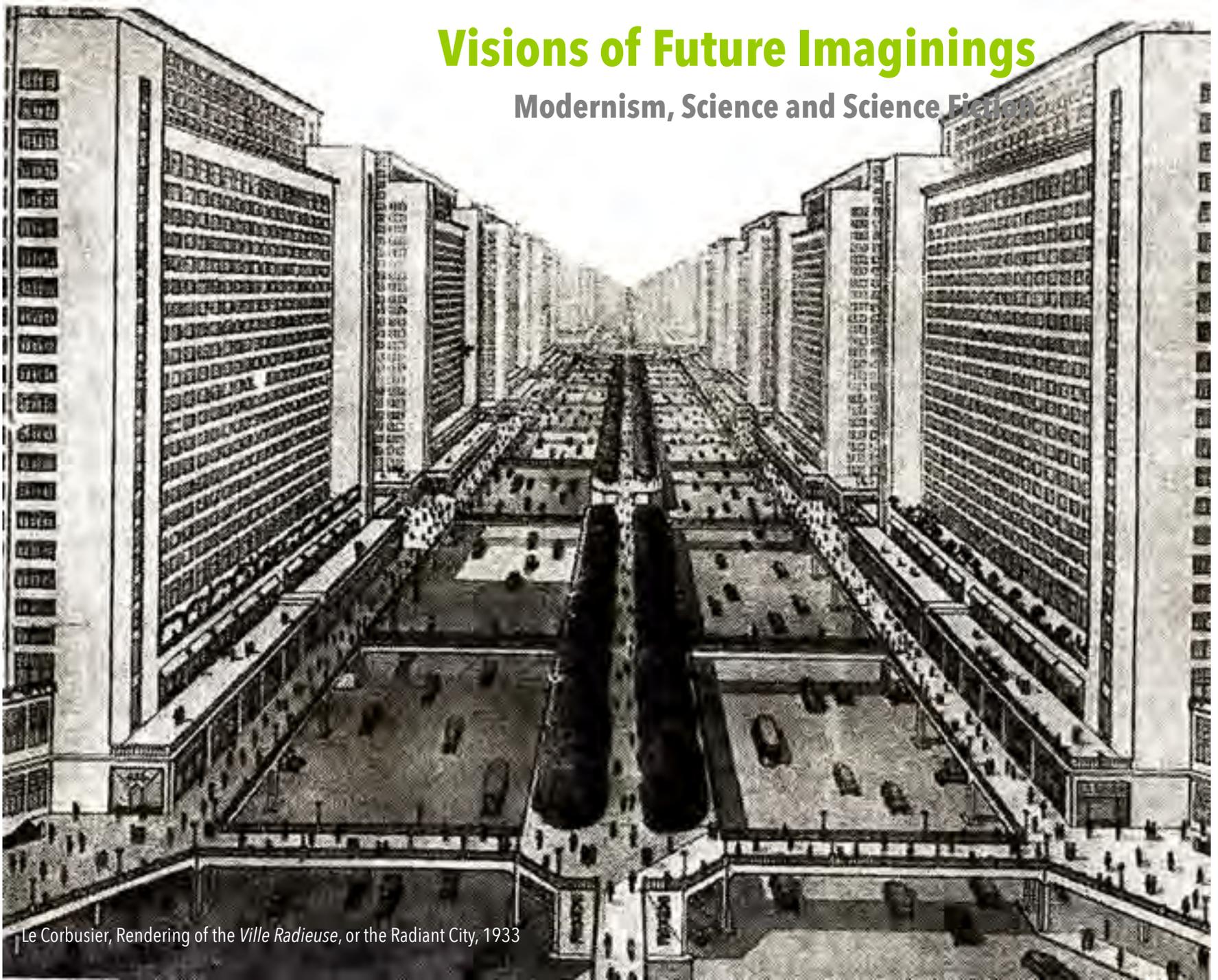
Modernism, Science and Science Fiction



Le Corbusier, *La Ville Radieuse* (The Radiant City), Paris, France, 1924-30

Visions of Future Imaginings

Modernism, Science and Science Fiction



Le Corbusier, Rendering of the *Ville Radieuse*, or the Radiant City, 1933

Visions of Future Imaginings

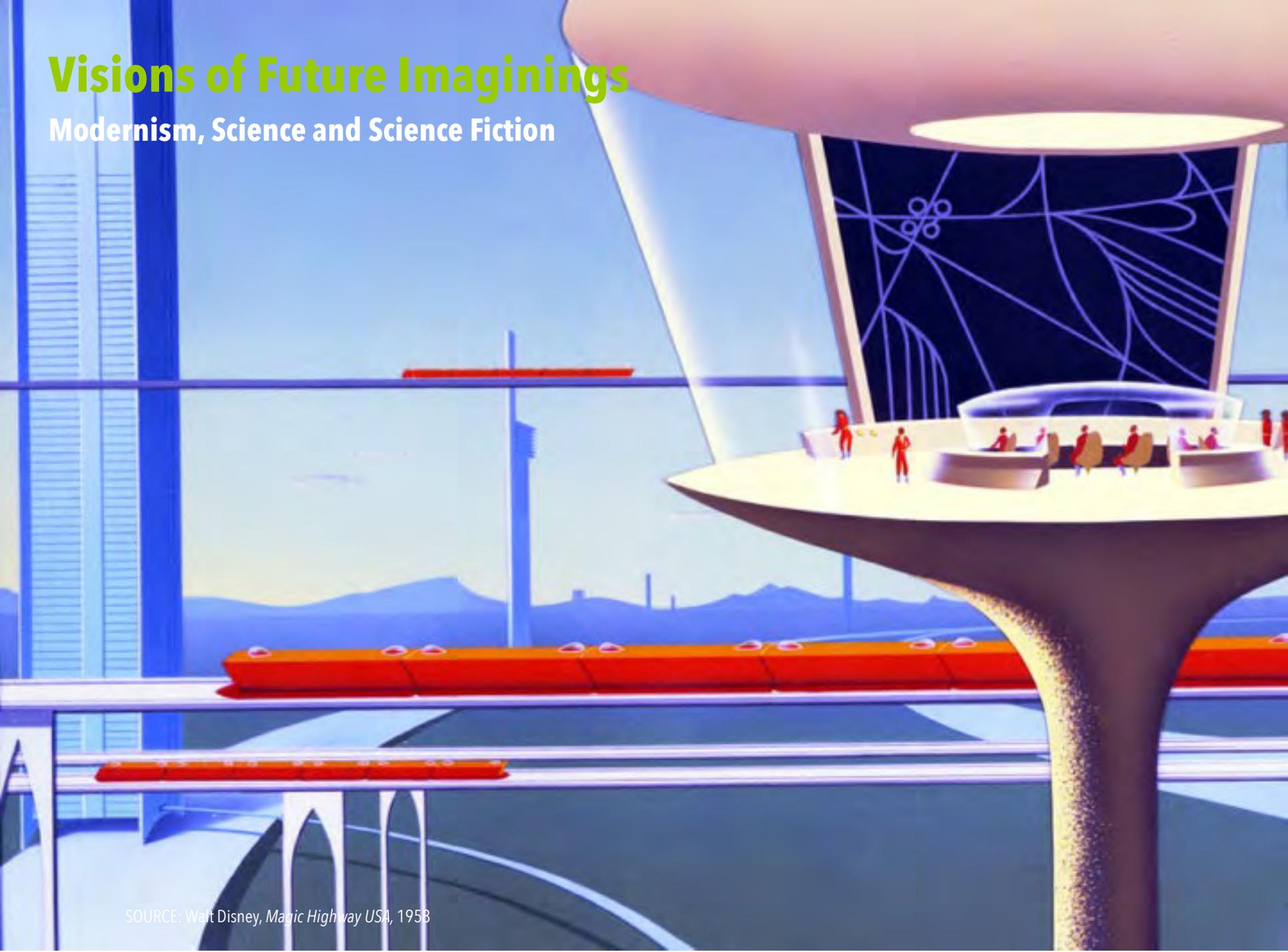
Modernism, Science and Science Fiction



SOURCE: Walt Disney, *Magic Highway USA*, 1958

Visions of Future Imaginings

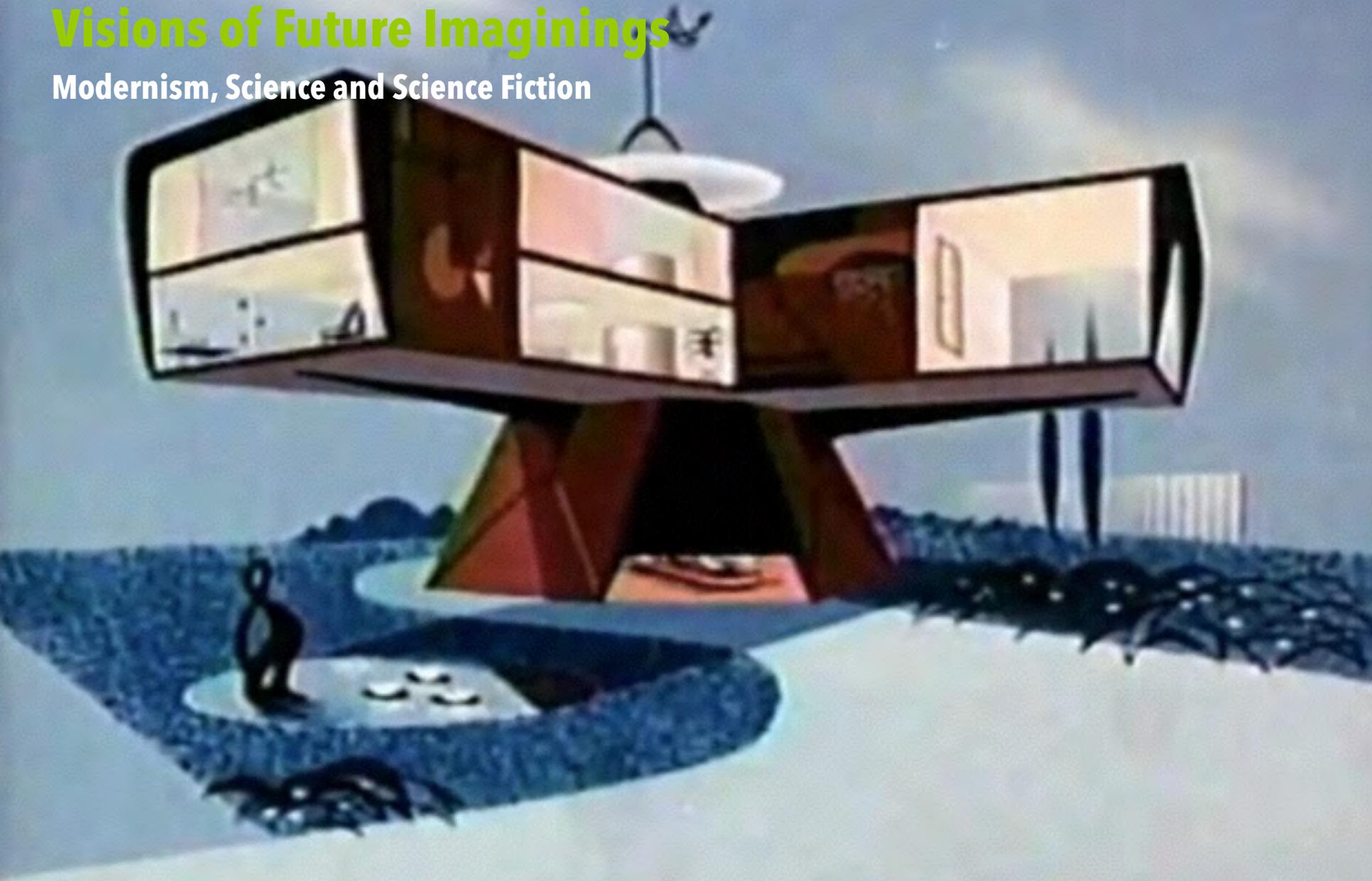
Modernism, Science and Science Fiction



SOURCE: Walt Disney, *Magic Highway USA*, 1958

Visions of Future Imaginings

Modernism, Science and Science Fiction



SOURCE: Walt Disney, *Magic Highway USA*, 1958

INFORMATION IN BRIEF

Total Project Length 33,655.76 feet
Total Project Cost \$7,675,688.45

* This total does not include costs of right-of-way, engineering and supervision.

BASIC FINANCING

United States P.W.A. Grant \$3,934,873.00
Toll Bridge Revenue Bonds 3,900,000.00

WORK PROGRAM

Construction Work Commenced Dec. 28, 1938
Date Opened to Traffic July 2, 1940

FLOATING STRUCTURE

Number of Standard Floating Sections	10
Number of Special Floating Sections	18
Length of Standard Floating Section	330 feet
Width of Standard Floating Section	60 feet
Depth of Standard Floating Section	14½ feet
Weight of Standard Floating Section	4,358 tons
Height of Roadway Above Water	7½ feet
Height of Rail Above Water	10½ feet
Width of Roadway—4 Traffic Lanes	45 feet
Sidewalks (2)	4 feet
Thickness, Bottom and Outside Walls	8 inches
Thickness, Cell Walls	6 inches
Size of Cell	14x14x14 feet
Number of Cells, Standard Section	96
Number of Water-tight Compartments, Standard Section	12
Length of Floating Draw Span	378 feet
Channel Opening	202 feet
Diameter Anchor Cables	2½ inches
Weight—Type "A" Standard Anchor	65 tons
Total Number of Anchors	64
Length of Floating Bridge	6,561 feet
Depth of Flotation	7 feet
Maximum Depth of Lake	210 feet

FEATURE FACTS

- (1) Largest Floating Structure ever built by man.
Weight—approximately 100,000 tons.
- (2) First reinforced concrete floating roadway bridge ever built.
- (3) Reinforcing steel equal to 700 miles of 1½-inch square bars used in pontoon construction.
- (4) Cost of floating structure and bridge approaches approximately \$300.00 per lineal foot.
- (5) Weight of Floating Structure 18 tons per lineal foot.
- (6) Total number of cells in floating structure—1900.
- (7) An average expenditure of \$18,000.00 was made every day over the 18-month construction period, Jan. 1, 1939, to June 30, 1940.
- (8) During the entire construction not a single fatality to workmen.
- (9) Short wave radio was used in locating the anchors.

BASIC TOLL:

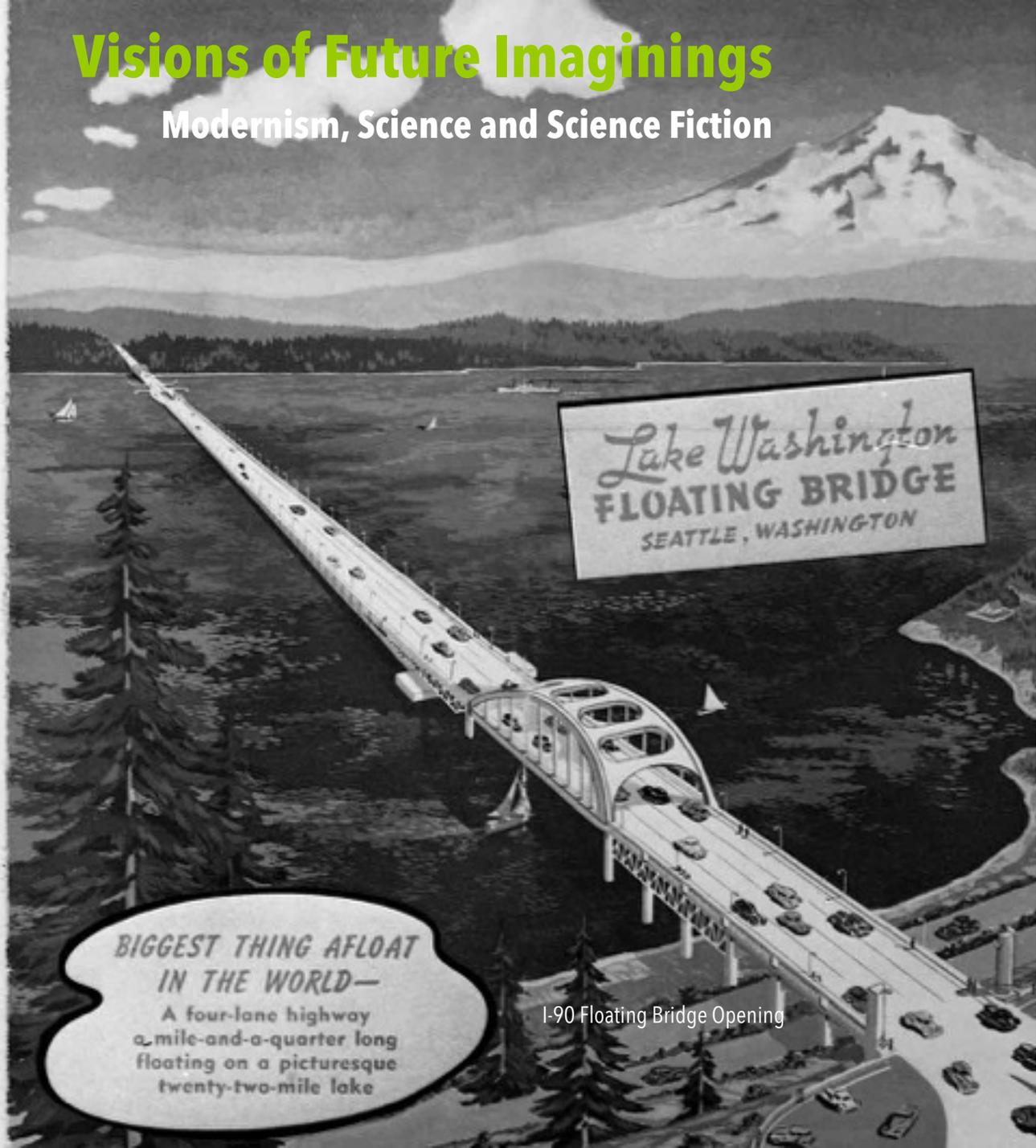
Passenger Car and driver, 25 cents.

For further information address:

WASHINGTON TOLL BRIDGE AUTHORITY
Transportation Building
OLYMPIA, WASHINGTON

Visions of Future Imaginings

Modernism, Science and Science Fiction



I-90 Floating Bridge Opening

*BIGGEST THING AFLOAT
IN THE WORLD—*

*A four-lane highway
a mile-and-a-quarter long
floating on a picturesque
twenty-two-mile lake*

Landscape Through a Car Window, Darkly

A new exhibition presents 1970s photography that challenged the traditional American landscape

By [Vicky Gan](#)

SMITHSONIAN.COM

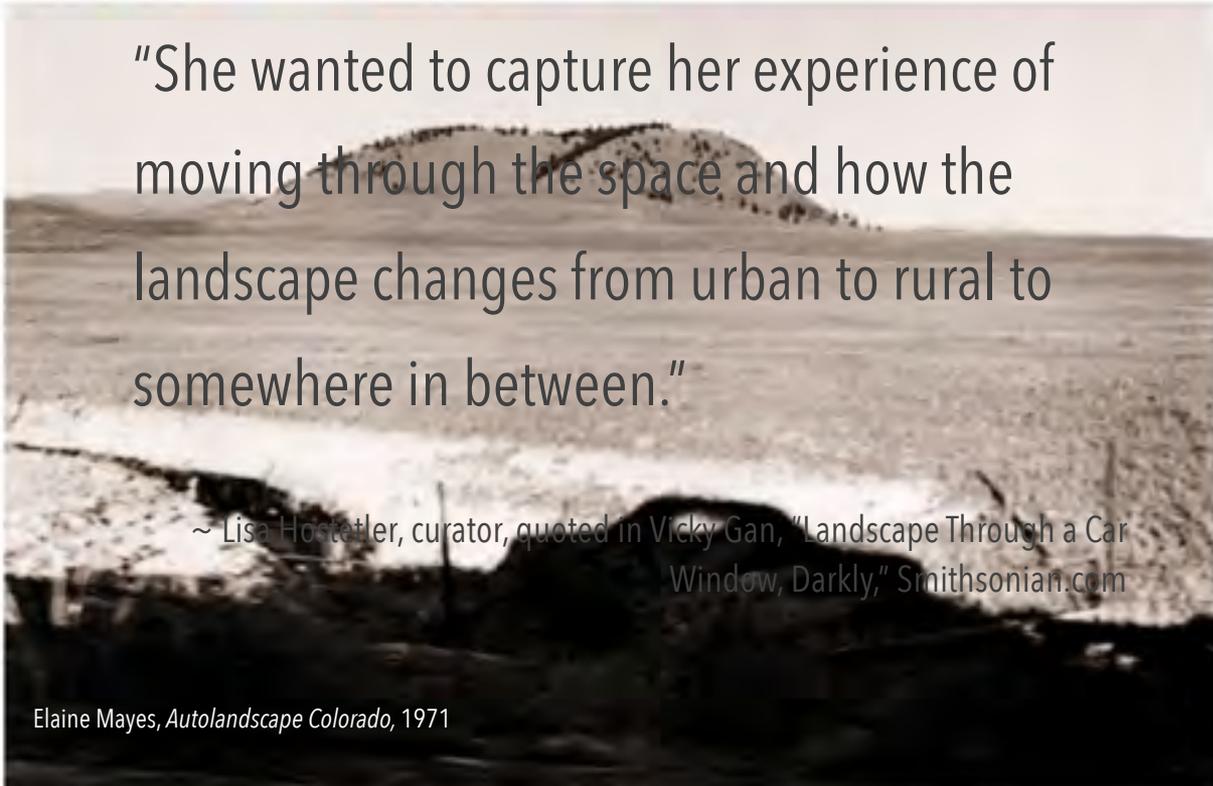
AUGUST 2, 2013



"She wanted to capture her experience of moving through the space and how the landscape changes from urban to rural to somewhere in between."

~ Lisa Hostetler, curator, quoted in Vicky Gan, "Landscape Through a Car Window, Darkly," Smithsonian.com

Elaine Mayes, *Autolandscape Colorado*, 1971



Visions of Future Imaginings

We are what we drive

"[O]ur perception of landscape: 1) that it is often mediated by the automobile and the glimpses we catch in transit; and 2) that it is telegraphic, leaping from one spot to the next."

~ Lisa Hostetler, curator, quoted in Vicky Gan, "Landscape Through a Car Window, Darkly," Smithsonian.com

Robbert Flick, SVO09/8, Marina del Rey, 180 Degree Views

Visions of Future Imaginings

We are what we drive



Nam June Paik, *Electronic Superhighway: Continental U.S., Alaska, Hawaii 1995*

Visions of Future Imaginings

We are what we drive

"Although it may be true to say that an American is a creature of four wheels, and to point out that American youth attributes much **more importance to arriving at driver's license age than at voting age**, it is also true that the car has become an **article of dress, without which we feel uncertain, unclad, and incomplete** in the urban compound."

~ Ernst Vikner

Visions of Future Imaginings

We are what we drive



Raymond Loewy's
Car of the Future

Electronic Garage Door Opener

Visions of Future Imaginings

We are what we drive



First drive-in movie theater by Richard Hollingshead, Camden NJ 1933

Visions of Future Imaginings

We are what we drive

"Although it may be true to say that an American is a creature of four wheels, and to point out that American youth attributes much more importance to arriving at driver's license age than at voting age, it is also true that the car has become an article of dress, without which we feel uncertain, unclad, and incomplete in the urban compound."

~ Ernst Vikne

The Now and Future Highway



Worker pulling up street car rail at Third Avenue for new bus lines in Seattle, 1943 SOURCE: MOHAI, *Seattle Post-Intelligencer* Collection, image number PI27194.

The Now and Future Highway

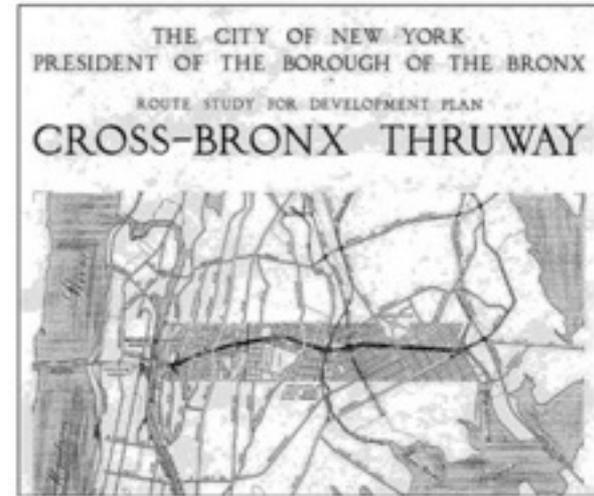
Roadways as Politics and Dogma



Robert Moses 1888-1981

"Those who can, build. Those who can't, criticize."

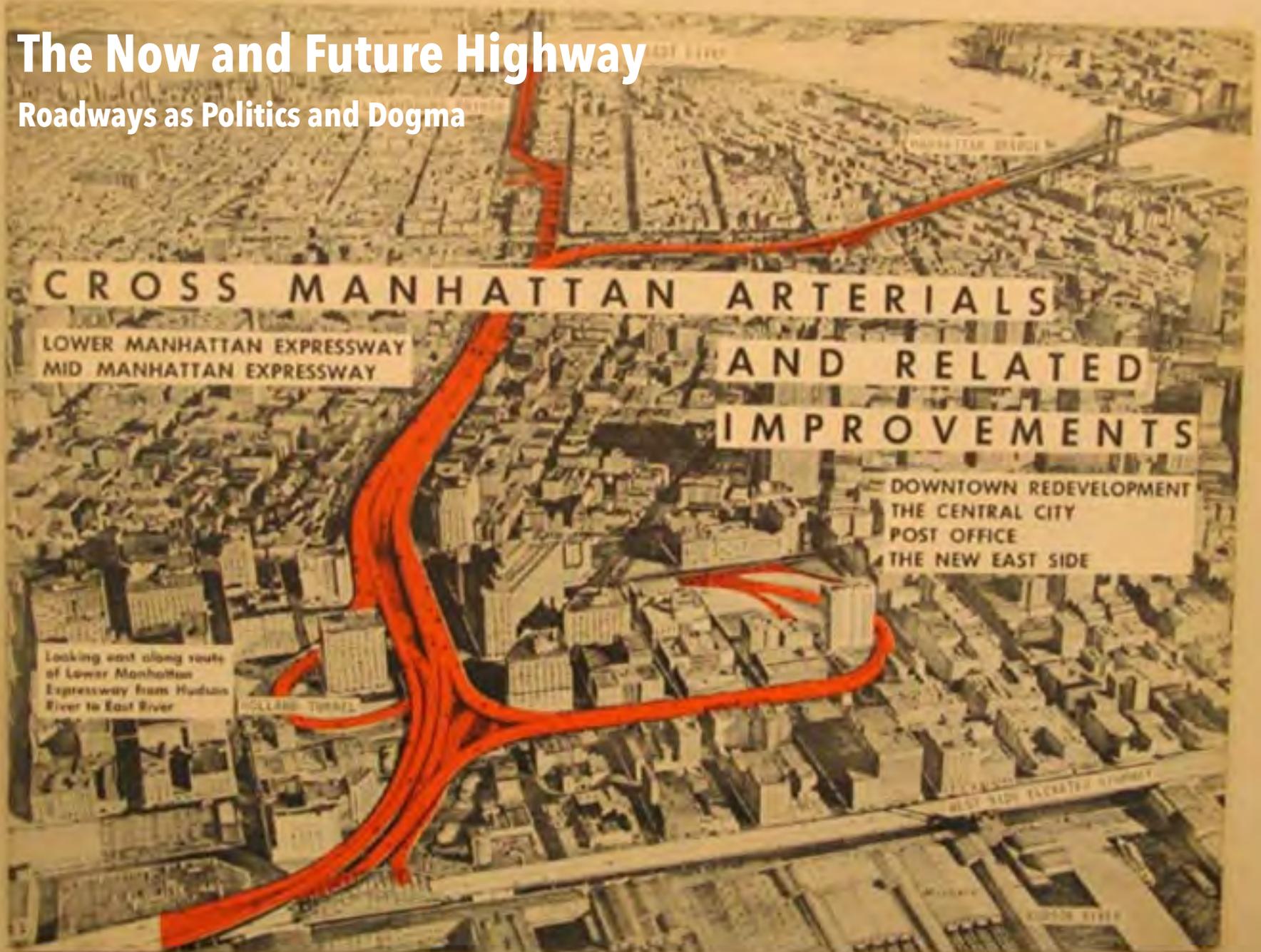
~ Robert Moses



Robert Moses, *Cross Bronx Expressway*, New York City NY, 1941-1945

The Now and Future Highway

Roadways as Politics and Dogma



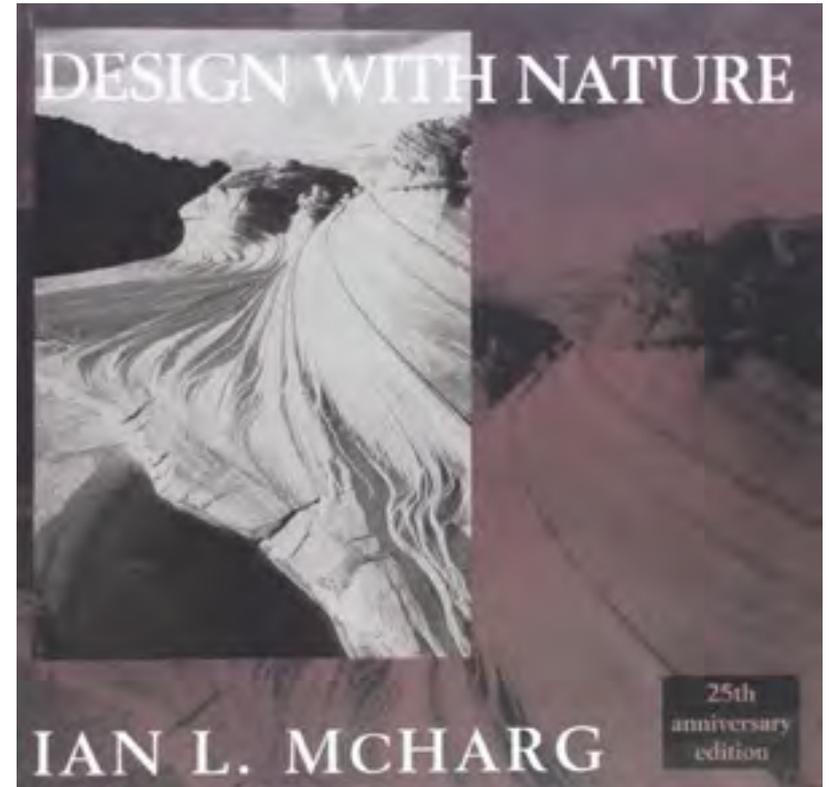
Robert Moses, proposed Lower Manhattan Expressway, 1959

The Now and Future Highway

Roadways as Politics and Dogma

“The task [of design] was given to those who, by instinct and training, were especially **suited to gouge and scar landscape and city without remorse—the engineers.**

[The engineer’s] competence is not the design of highways, merely of the structures that compose them—but only after they have been **designed by persons more knowing of man and the land.”**



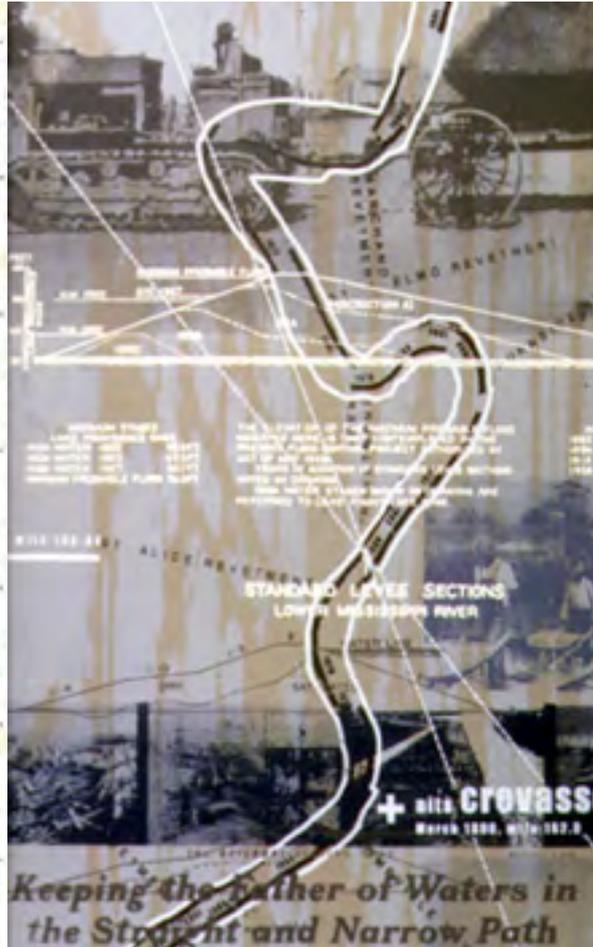
Ian McHarg, *Design with Nature*, 1969

The Now and Future Highway

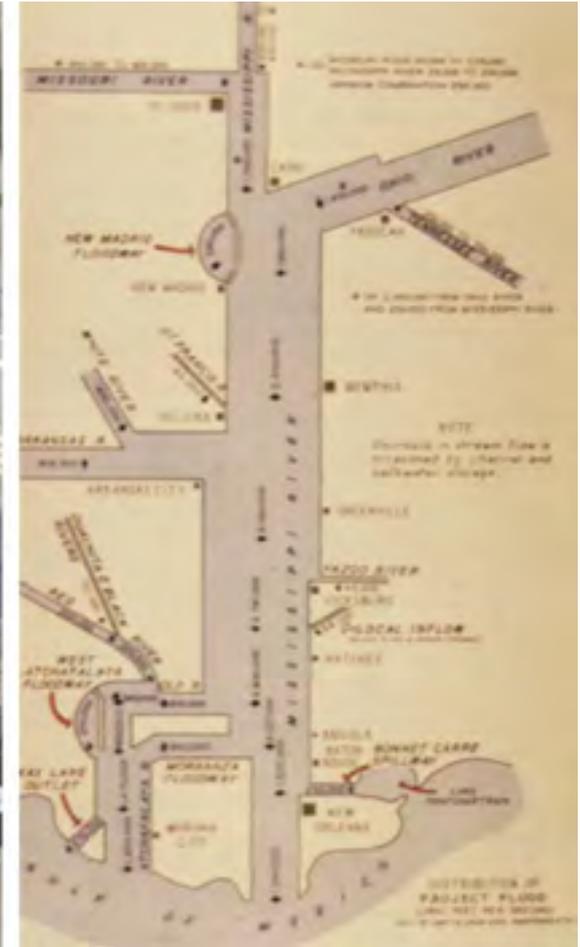
Roadways as Politics and Dogma



Harold Fisk, *Geological Investigation of the Alluvial Valley of the Lower Mississippi*, 1944



Anuradha Mathur, *Mississippi Floods: Designing A Shifting Landscape*, 2001



Army Corps of Engineers, *Mississippi Flood Control Plan*

The Now and Future Highway

Roadways as Politics and Dogma



"He seeks not unity with nature but conquest yet unity he finds, when his arrogance and ignorance are stilled and he lies under the greensward."

~ Ian L. McHarg,

Multiply and Subdue the Earth, 1969



Austin Hoyt , *Multiply and Subdue the Earth*, WGBH Educational Foundation for the Public Broadcast Laboratory of National Educational Television in 1969

The Now and Future Highway

Roadways as Politics and Dogma



SLOPE



SURFACE DRAINAGE



SOIL DRAINAGE



BEDROCK FOUNDATION



SOIL FOUNDATION



SUSCEPTIBILITY TO EROSION



The Now and Future Highway

Roadways as Politics and Dogma



The Now and Future Highway

Roadways as Politics and Dogma



FORM



LINE

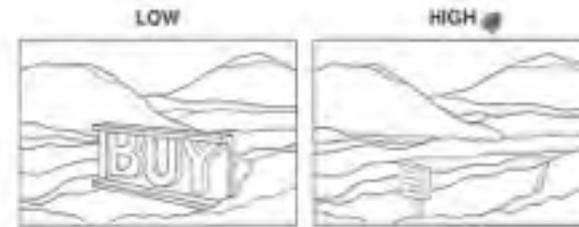


COLOR



TEXTURE

COMPATIBILITY WITH PATTERN
ELEMENTS



DOMINANCE



SCALE



DIVERSITY



CONTINUITY

COMPATIBILITY WITH PATTERN
CHARACTER

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Robert Moses with Earle Andrews (architect and engineer), Clarence C. Coombs (landscape architect), Arthur Howland, (chief engineer) and Herbert Magoon (engineer), Water Tower, *Jones Beach State Park*, Long Island, New York City NY, 1924-1929



The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Sunday traffic from New York City to the Jersey Shore in 1941 SOURCE: Library of Congress

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Robert Moses with Earle Andrews (architect and engineer), Clarence C. Coombs (landscape architect), Arthur Howland, (chief engineer) and Herbert Magoon (engineer), Water Tower, Jones Beach State Park, Long Island, New York City NY, 1924-1929

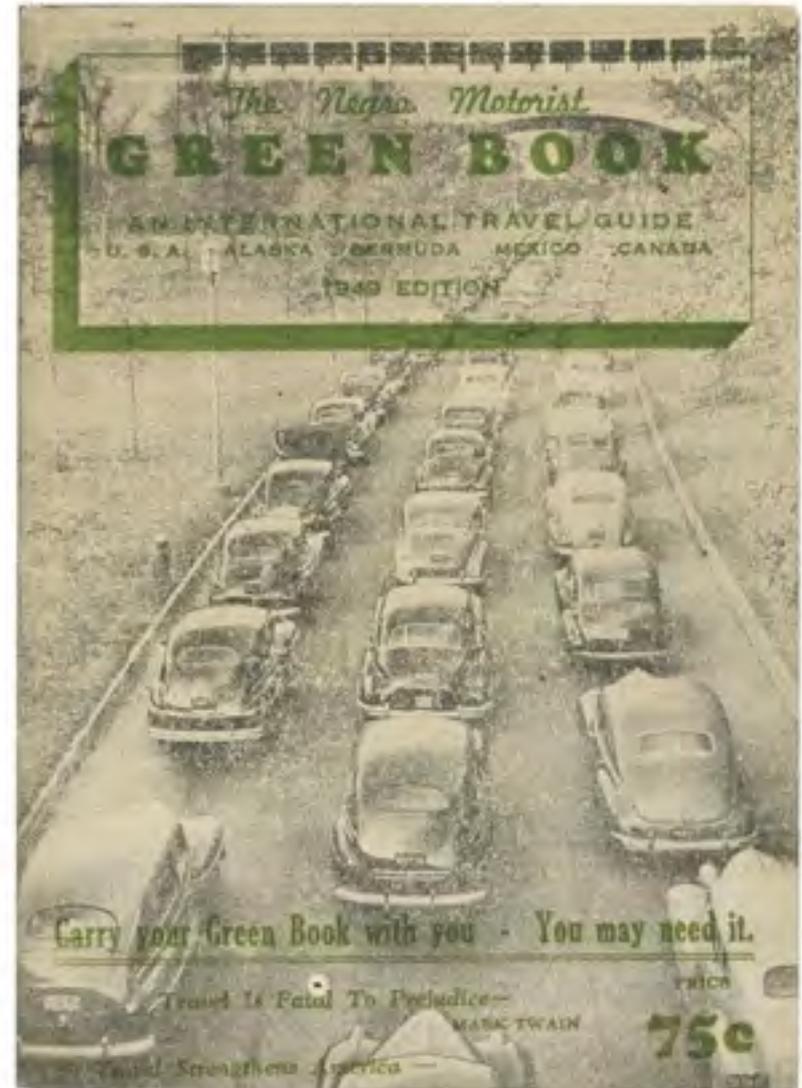
The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Victor Hugo Green, *The Negro Motorist Green Book*, 1936-1966

From the collections of The Henry Ford (#7.135.1736/TH077183)

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



the City attempted to relate a public school, a new playground, a center, and a second new school. This was of doubtful benefit, no school was sliced by an alley, and the school was closed, disarranged, and the school was closed.

7

the City attempted to relate a public school, a new playground, a center, and a second new school. This was of doubtful benefit, no school was sliced by an alley, and the school was closed, disarranged, and the school was closed.

NAME	ADDRESS	PHONE
John Doe	123 Main St	456-7890
Jane Smith	456 Elm St	123-4567
Bob Johnson	789 Oak St	987-6543
Alice Brown	101 Pine St	210-9876
Charlie White	202 Cedar St	345-6789
Diana Green	303 Birch St	432-1098
Frank Black	404 Spruce St	567-8901
Grace King	505 Willow St	654-3210
Henry Lee	606 Ash St	743-2109
Irene Hill	707 Hickory St	832-1098
Jack Adams	808 Sycamore St	921-0987
Karen Baker	909 Walnut St	010-9876
Leo Clark	1010 Chestnut St	109-8765
Mary Evans	1111 Maple St	208-7654
Ned Foster	1212 Poplar St	307-6543
Olivia Gibson	1313 Magnolia St	406-5432
Peter Hall	1414 Dogwood St	505-4321
Quinn Kelly	1515 Redwood St	604-3210
Rachel Lewis	1616 Cypress St	703-2109
Sam Miller	1717 Juniper St	802-1098
Tina Nelson	1818 Fir St	901-0987
Victor Ortiz	1919 Palm St	000-9876
Wendy Parker	2020 Olive St	100-8765
Xavier Quinn	2121 Pear St	200-7654
Yvonne Reed	2222 Peach St	300-6543
Zoe Ryan	2323 Plum St	400-5432
Adam Scott	2424 Apple St	500-4321
Bella Torres	2525 Cherry St	600-3210
Carl Walker	2626 Banana St	700-2109
Dora Young	2727 Orange St	800-1098
Eugene King	2828 Lemon St	900-0987
Fiona Lee	2929 Lime St	000-9876
George Hall	3030 Grapefruit St	100-8765
Helen Adams	3131 Tangerine St	200-7654
Ivan Baker	3232 Citrus St	300-6543
Jessica Clark	3333 Mandarin St	400-5432
Kyle Evans	3434 Tangerine St	500-4321
Laura Foster	3535 Citrus St	600-3210
Mark Gibson	3636 Mandarin St	700-2109
Nancy Hall	3737 Tangerine St	800-1098
Oscar King	3838 Citrus St	900-0987
Pamela Lee	3939 Mandarin St	000-9876
Quinn Adams	4040 Tangerine St	100-8765
Rachel Baker	4141 Citrus St	200-7654
Samuel Clark	4242 Mandarin St	300-6543
Tina Evans	4343 Tangerine St	400-5432
Victor Foster	4444 Citrus St	500-4321
Wendy Gibson	4545 Mandarin St	600-3210
Xavier Hall	4646 Tangerine St	700-2109
Yvonne King	4747 Citrus St	800-1098
Zoe Lee	4848 Mandarin St	900-0987
Adam Adams	4949 Tangerine St	000-9876
Bella Baker	5050 Citrus St	100-8765
Carl Clark	5151 Mandarin St	200-7654
Dora Evans	5252 Tangerine St	300-6543
Eugene Foster	5353 Citrus St	400-5432
Fiona Gibson	5454 Mandarin St	500-4321
George Hall	5555 Tangerine St	600-3210
Helen King	5656 Citrus St	700-2109
Ivan Lee	5757 Mandarin St	800-1098
Jessica Adams	5858 Tangerine St	900-0987
Kyle Baker	5959 Citrus St	000-9876
Laura Clark	6060 Mandarin St	100-8765
Mark Evans	6161 Tangerine St	200-7654
Nancy Foster	6262 Citrus St	300-6543
Oscar Gibson	6363 Mandarin St	400-5432
Pamela Hall	6464 Tangerine St	500-4321
Quinn King	6565 Citrus St	600-3210
Rachel Lee	6666 Mandarin St	700-2109
Samuel Adams	6767 Tangerine St	800-1098
Tina Baker	6868 Citrus St	900-0987
Victor Clark	6969 Mandarin St	000-9876
Wendy Evans	7070 Tangerine St	100-8765
Xavier Foster	7171 Citrus St	200-7654
Yvonne Gibson	7272 Mandarin St	300-6543
Zoe Hall	7373 Tangerine St	400-5432
Adam King	7474 Citrus St	500-4321
Bella Lee	7575 Mandarin St	600-3210
Carl Adams	7676 Tangerine St	700-2109
Dora Baker	7777 Citrus St	800-1098
Eugene Clark	7878 Mandarin St	900-0987
Fiona Evans	7979 Tangerine St	000-9876
George Foster	8080 Citrus St	100-8765
Helen Gibson	8181 Mandarin St	200-7654
Ivan Hall	8282 Tangerine St	300-6543
Jessica King	8383 Citrus St	400-5432
Kyle Lee	8484 Mandarin St	500-4321
Laura Adams	8585 Tangerine St	600-3210
Mark Baker	8686 Citrus St	700-2109
Nancy Clark	8787 Mandarin St	800-1098
Oscar Evans	8888 Tangerine St	900-0987
Pamela Foster	8989 Citrus St	000-9876
Quinn Gibson	9090 Mandarin St	100-8765
Rachel Hall	9191 Tangerine St	200-7654
Samuel King	9292 Citrus St	300-6543
Tina Lee	9393 Mandarin St	400-5432
Victor Adams	9494 Tangerine St	500-4321
Wendy Baker	9595 Citrus St	600-3210
Xavier Clark	9696 Mandarin St	700-2109
Yvonne Evans	9797 Tangerine St	800-1098
Zoe Foster	9898 Citrus St	900-0987
Adam Gibson	9999 Mandarin St	000-9876

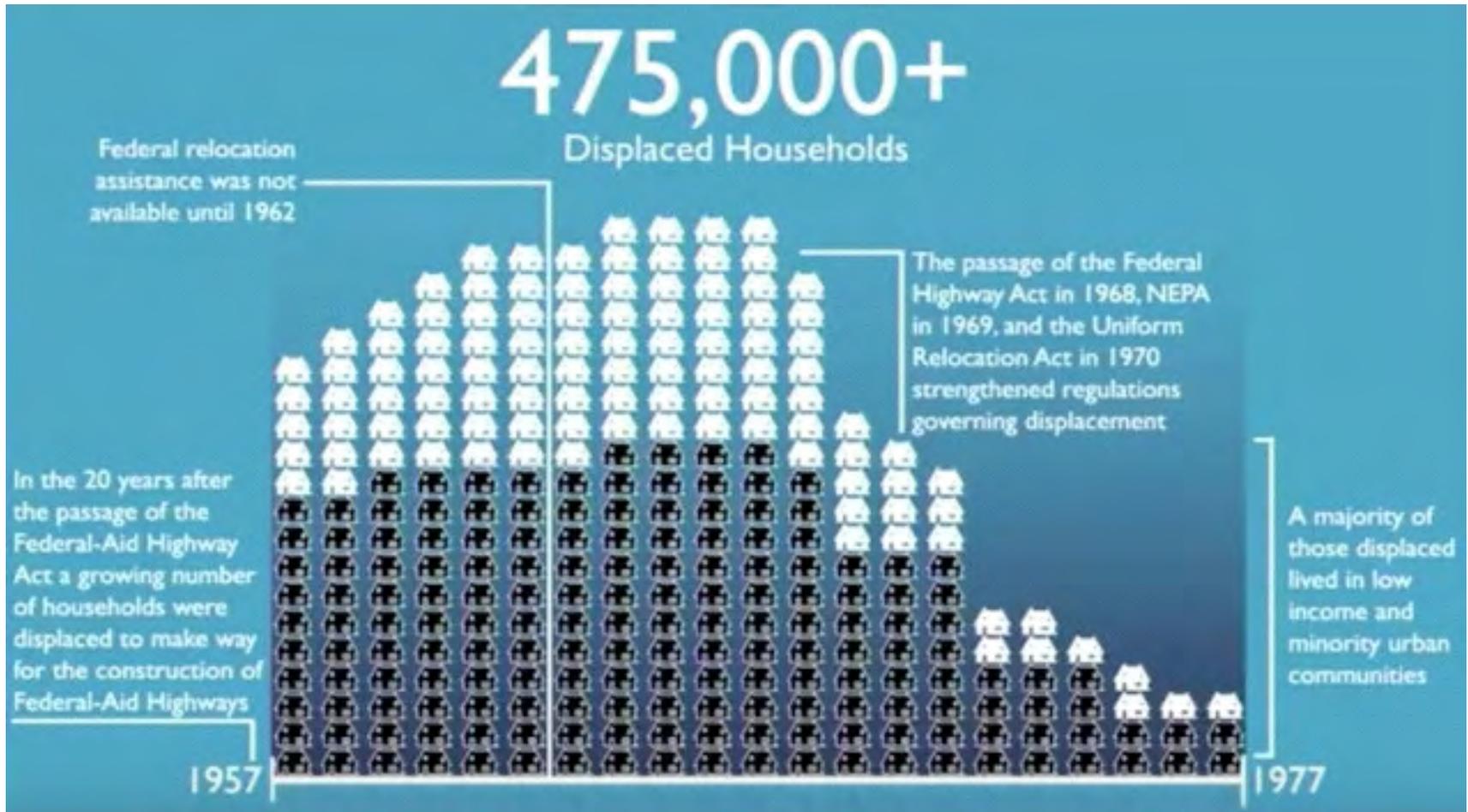
The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race

"Automobiles are often conveniently tagged as the villains responsible for the ills of cities and the disappointments and futilities of city planning. But the **destructive effects of automobiles are much less a cause than a symptom of our incompetence at city building**. Of course planners, including the highwaymen with fabulous sums of money and enormous powers at their disposal, are at a loss to make automobiles and cities compatible with one another. They do not know what to do with automobiles in cities because **they do not know how to plan for workable and vital cities anyhow –with or without automobiles.**"

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



SOURCE: Angie Schmitt, "Anthony Foxx Wants to Repair the Damage Done By Urban Highways," Streetsblog, March 30, 2016

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race

"During the first decade of Interstate highway construction, **335,000 homes were razed**, forcing families to look elsewhere for housing.... In many cases, the '**urban blight**' **targeted by the new road construction simply meant African-American communities**—often thriving ones. A great body of work shows that **urban freeways destroyed the hearts of African-American communities** in the South Bronx, Nashville, Austin, Los Angeles, Durham, and nearly every medium to large American city."

~ Kaid Benfield and Don Chen, 1999, *Once There Were Greenfields*

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Cla

"That was a misguided notion that somehow freeways were going to benefit cities, and instead what they've done is destroyed neighborhoods."

~ John Gallagher, a Detroit Free Press



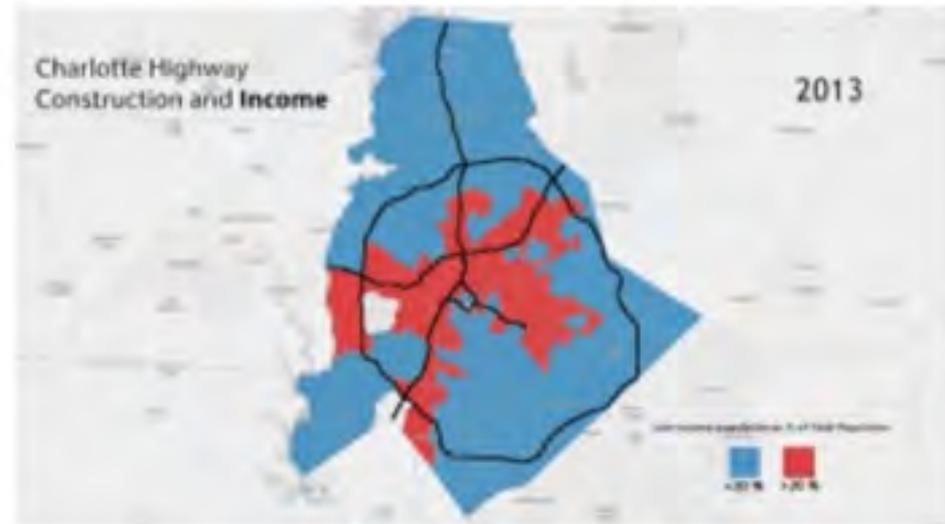
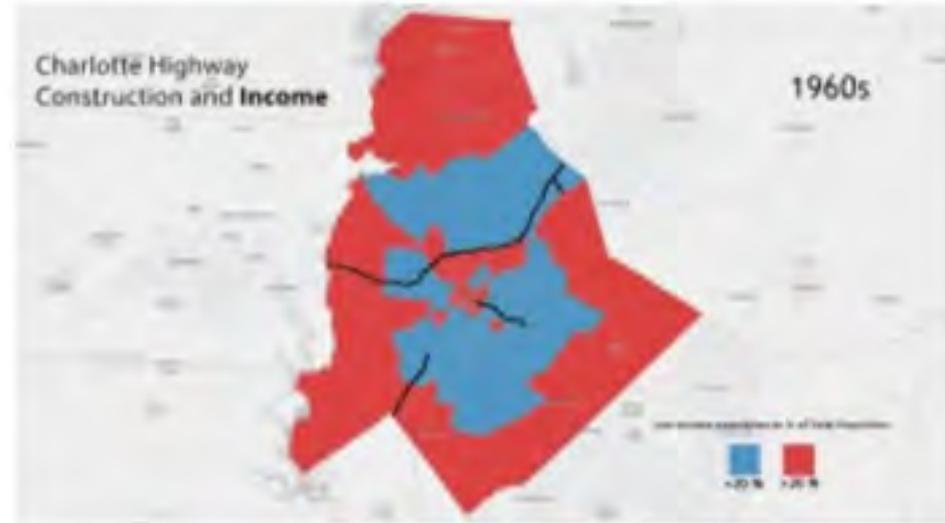
The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race

"We now know—overwhelmingly—that our urban freeways were routed through low-income neighborhoods. **Instead of connecting us to each other, highway decision makers separated us,** [Former Transportation Secretary Anthony] Foxx said. Reflecting on his hometown of Charlotte, North Carolina, he noted how the "connective tissue" of the African American neighborhood where he lived was destroyed by two highways—infrastructure that was planned and built before federal civil rights legislation could intervene. 'Neighbors were separated from neighbors. The corner store was gone because the corner was gone,' he said. 'A **new more convenient, high-speed thoroughfare had been created. But the way of life of another community had been destroyed.'**"

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Poor (red) and wealthy (blue) neighborhoods in Charlotte, NC, as the interstate highway system was just beginning and after it was completed

CREDIT: DEPARTMENT OF TRANSPORTATION

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race

BEFORE



MKSK Landscape Architecture, I-70, 71 Long Street Bridge and Cultural Wall, Columbus OH, 2014

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race



Eastern segment of Inner Loop in Rochester NY with new fill material **SOURCE:** Mike Bradley for the *New York Times*

The Now and Future Highway

Roadways as Politics: Urban "Renewal", Class and Race

"[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... [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."

~ Oval Office Memorandum, 1960

The Now and Future Highway

AMERICA'S INFRASTRUCTURE G.P.A.

D+

Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety and resilience.

METHODOLOGY >

AVIATION	D	PORTS	C
BRIDGES	C+	PUBLIC PARKS AND RECREATION	C-
DAMS	D	RAIL	C+
DRINKING WATER	D	ROADS	D
ENERGY	D+	SCHOOLS	D
HAZARDOUS WASTE	D	SOLID WASTE	B-
INLAND WATERWAYS	D-	TRANSIT	D
LEVEES	D-	WASTEWATER	D

A = Exceptional
 B = Good
 C = Mediocre
 D = Poor
 F = Failing

ESTIMATED INVESTMENT
 NEEDED BY 2020:

\$ 3.6 TRILLION

The Now and Future Highway



Collapse of I-35W Bridge in Minneapolis MN 2007 **SOURCE** U.S. Coast Guard

The Now and Future Highway

How do we approach transportation design and city planning

"Transportation investments that support active travel – like greenways, trails, sidewalks, traffic-calming devices, and public transit – create opportunities to increase routine physical activity, improve health, and lower health care costs. The same investments promote sustainability."

~ Todd Solomon, USDOT, 2013

The Now and Future Highway

Designing for Better Mobility

Figure 3.2-2 Cancer risk attributable to on-road sources



The Now and Future Highway

Designing for Better Mobility

“Transportation for America is urging people who care about walking, biking, and transit to contact their representatives: After months of promises to invest a trillion dollars in infrastructure, the first official action taken by the Trump administration on the issue is a proposal **to eliminate the popular TIGER competitive grant program, cut the funding that helps cities of all sizes build new transit lines, and terminate funding for the long-distance passenger rail** lines that rural areas depend on.”

~ from Angie Schmitt, *Streetsblog*, March 22, 2017

THE ROLE OF

Transportation

IN PROMOTING PHYSICAL ACTIVITY



SIDEWALKS

People who live in neighborhoods with sidewalks on most streets are

47%

more likely to be active at least 30 minutes a day.



TRAFFIC CALMING

Medians, speed bumps and other traffic-calming efforts can reduce the number of automobile crashes with pedestrian injuries by up to

15%



PUBLIC TRANSPORTATION

Public transit users take

30%

more steps per day than people who rely on cars.



BIKE FACILITIES

In Portland, Ore., bicycle commuters ride

49% of their miles

on roads with bike facilities, even though these are only 8% of road miles.



Active Living Research

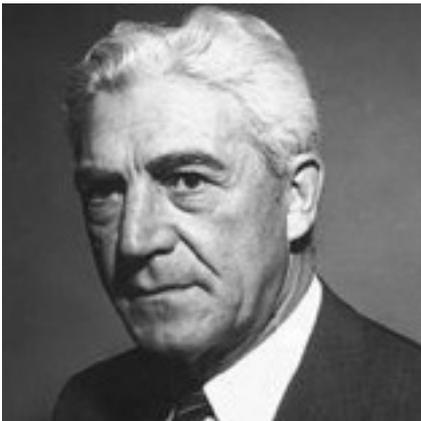
www.activelivingresearch.org

The Now and Future Highway

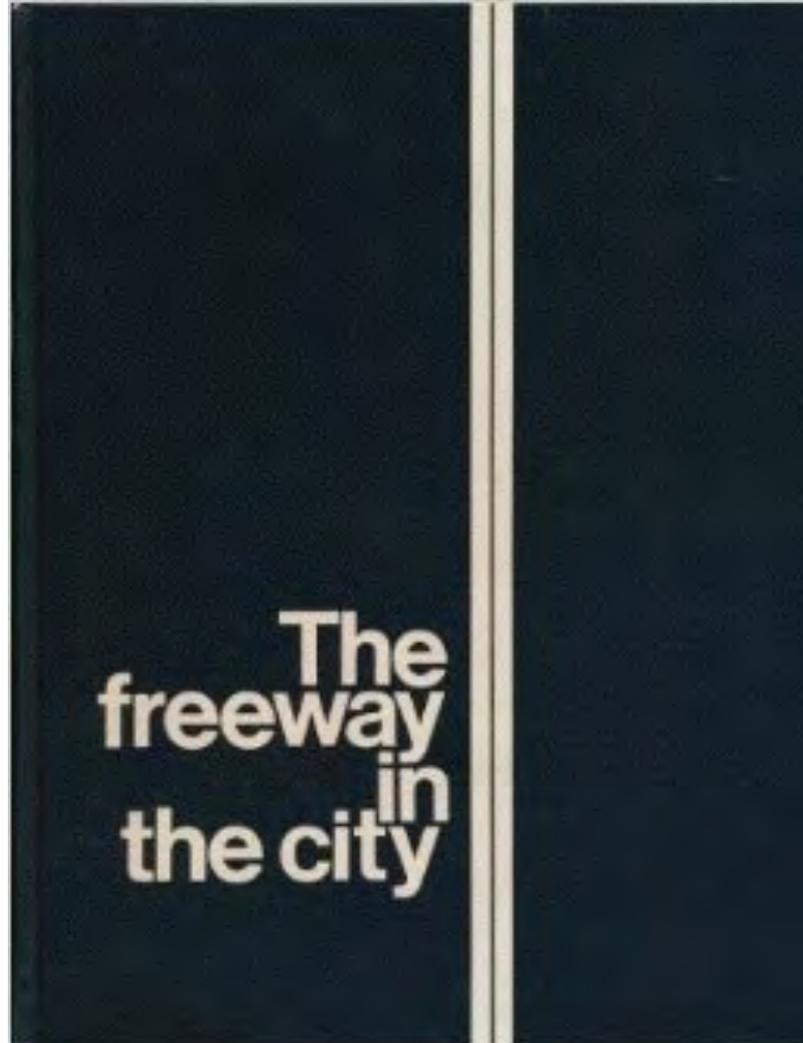
Designing for Better Mobility - Choreography of the City



Lawrence Halprin



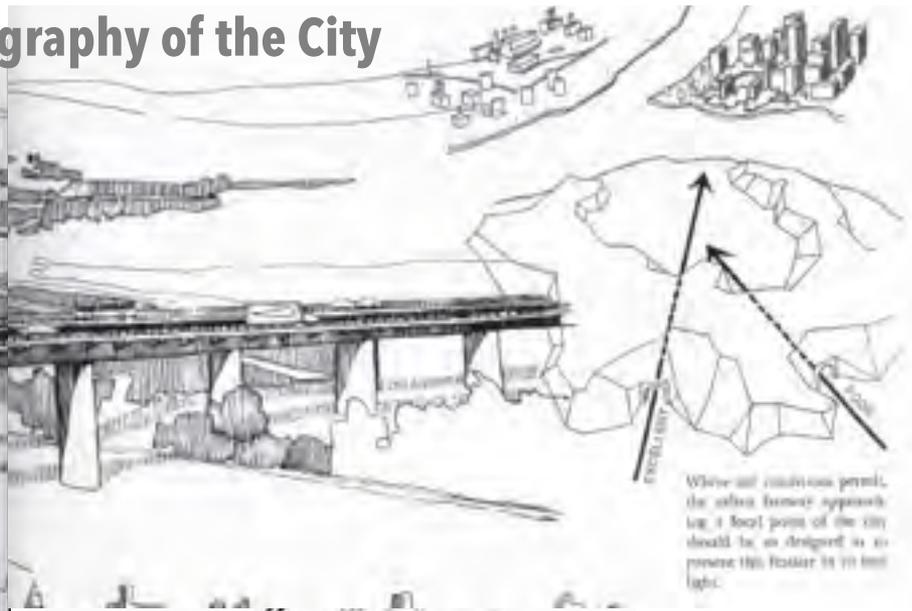
Michael Rapuano



Lawrence Halprin, Michael Rapuano, et al, *The Freeway in the City*, 1968

The Now and Future Highway

Designing for Better Mobility - Choreography of the City



Lawrence Halprin, Michael Rapuano, et al, *The Freeway in the City*, 1968

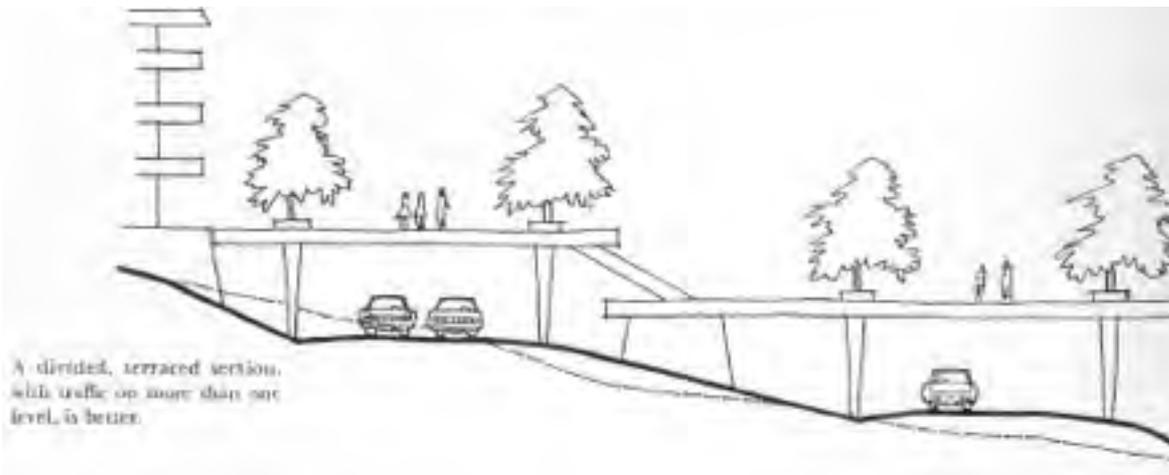


The Now and Future Highway

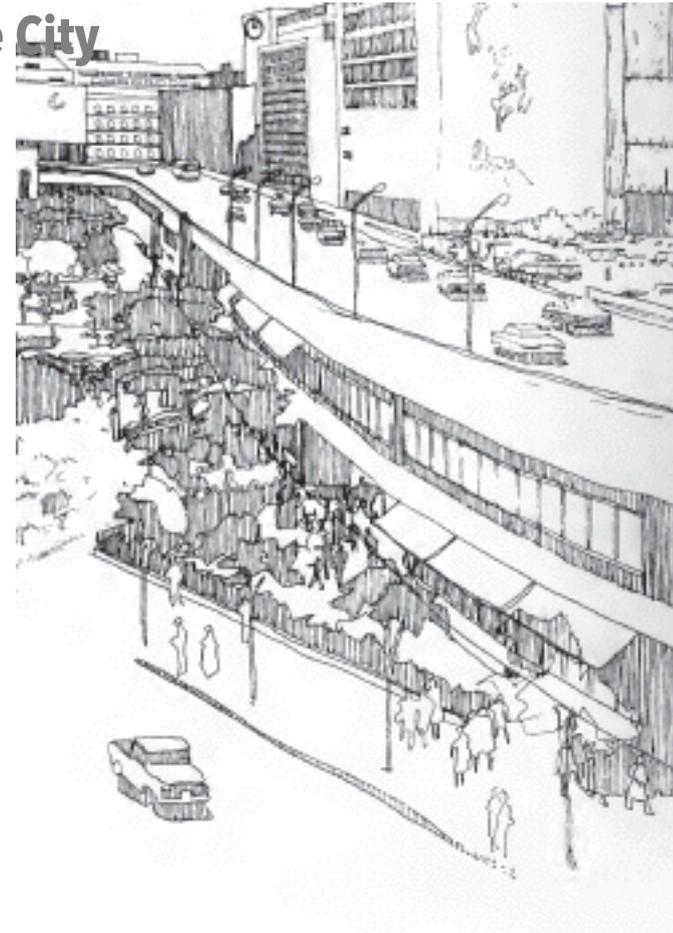
Designing for Better Mobility - Choreography of the City



The well planned urban freeway will separate drivers and pedestrians, providing each with suitable channels for movement.

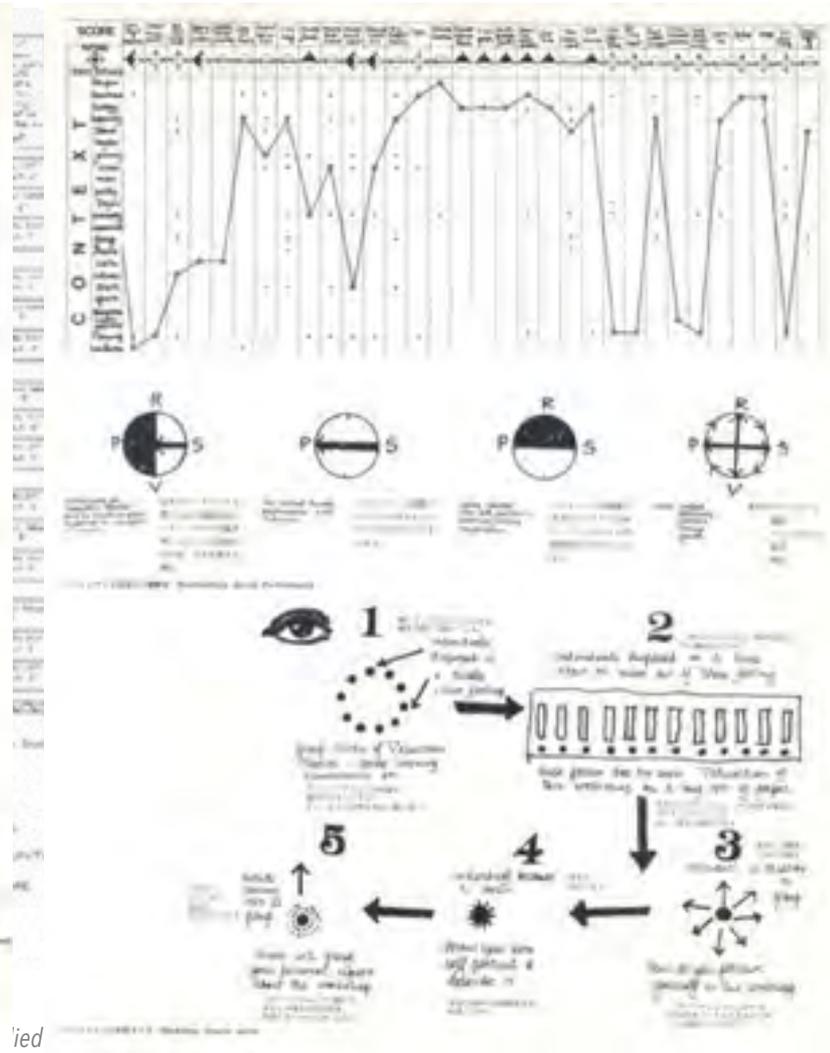
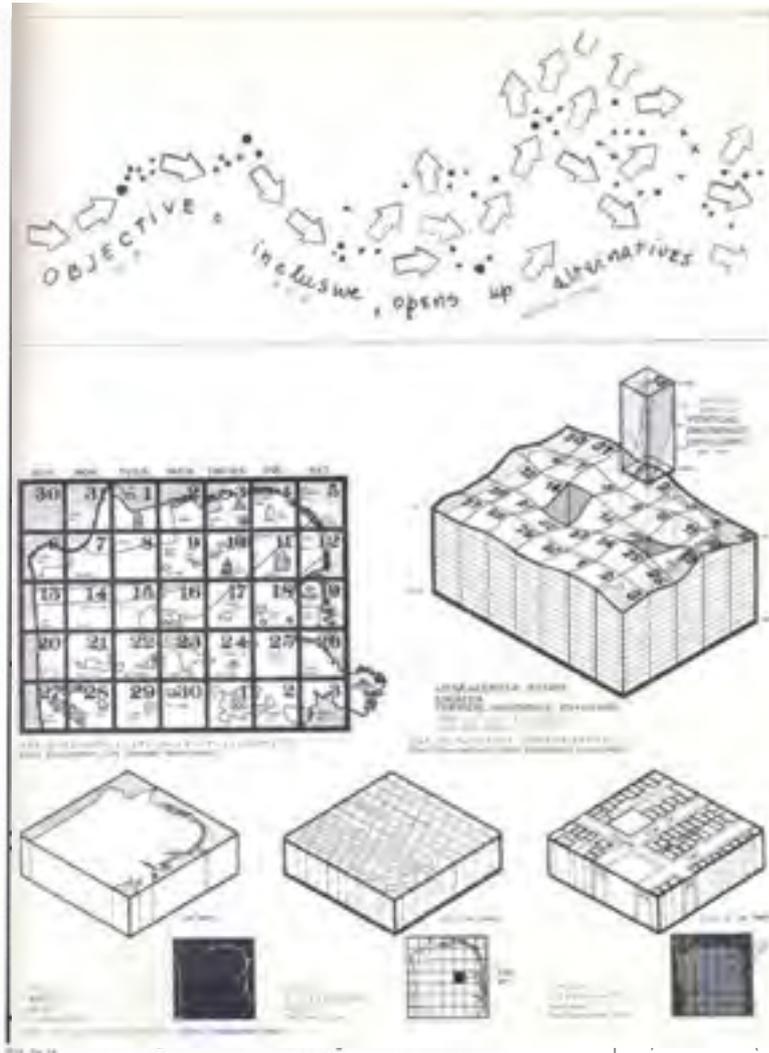


A divided, terraced section, with traffic on more than one level, is better.



The Now and Future Highway

Designing for Better Mobility - Choreography of the City



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The Now and Future Highway

Designing for Better Mobility - Choreography of the City



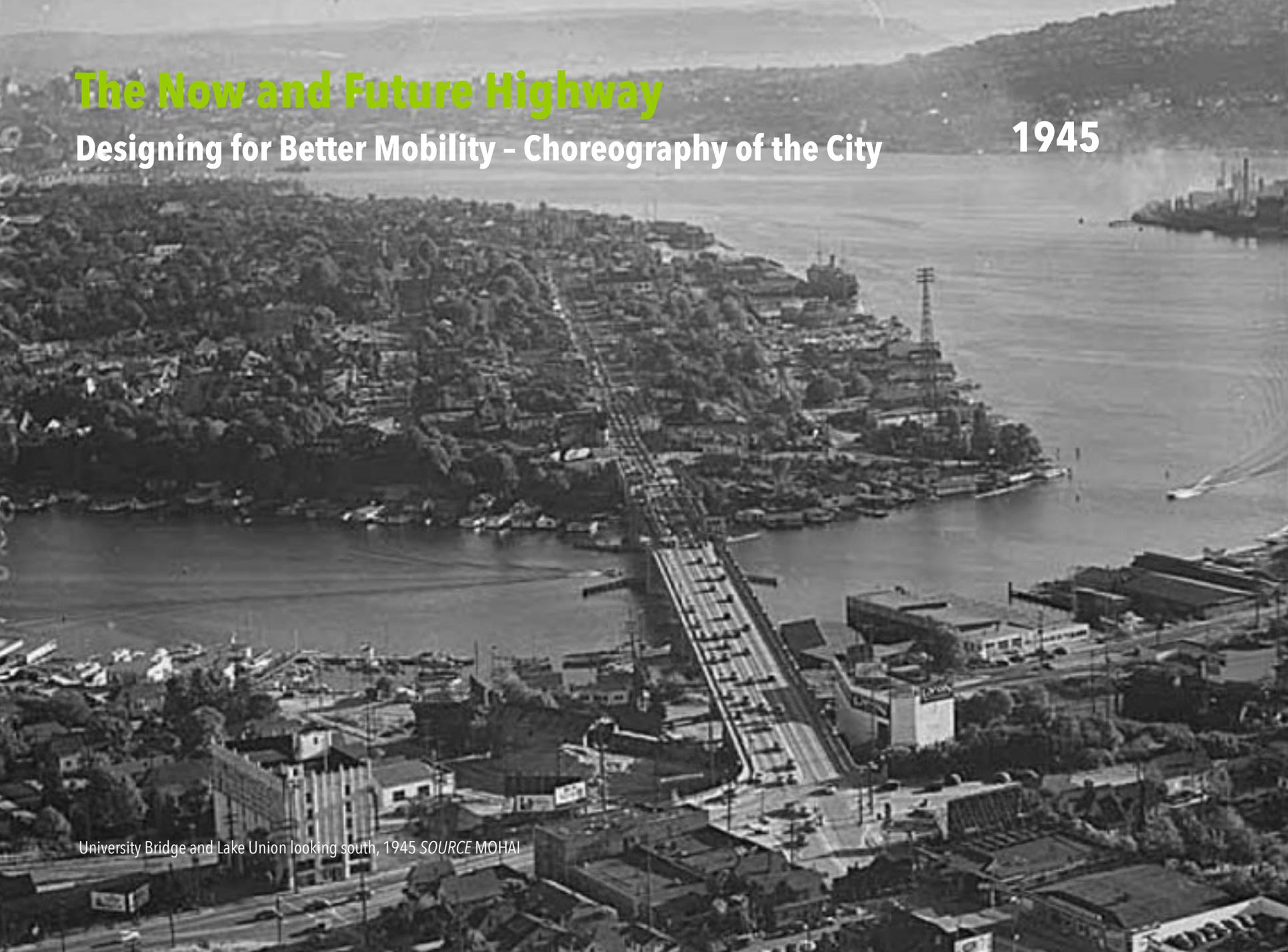
Lawrence Halprin, Angela Danadjieva and Sakuma James Peterson, *Freeway Park*, Seattle WA, 1971-1975

The Now and Future Highway

Designing for Better Mobility - Choreography of the City

1945

University Bridge and Lake Union looking south, 1945 SOURCE MOHAI



The Now and Future Highway

1952

Designing for Better Mobility – Choreography of the City

I-5 under construction, 1952 SOURCE Seattle Municipal Archives



The Now and Future Highway

1962

Designing for Better Mobility - Choreography of the City

LARC498 Neighborhood Design

July 25, 2016

Construction of elevated portions of the freeway east of Lake Union in 1962 with St. Mark's Cathedral. Source: Paul V. Thomas / The Seattle Times

The Now and Future Highway

2014

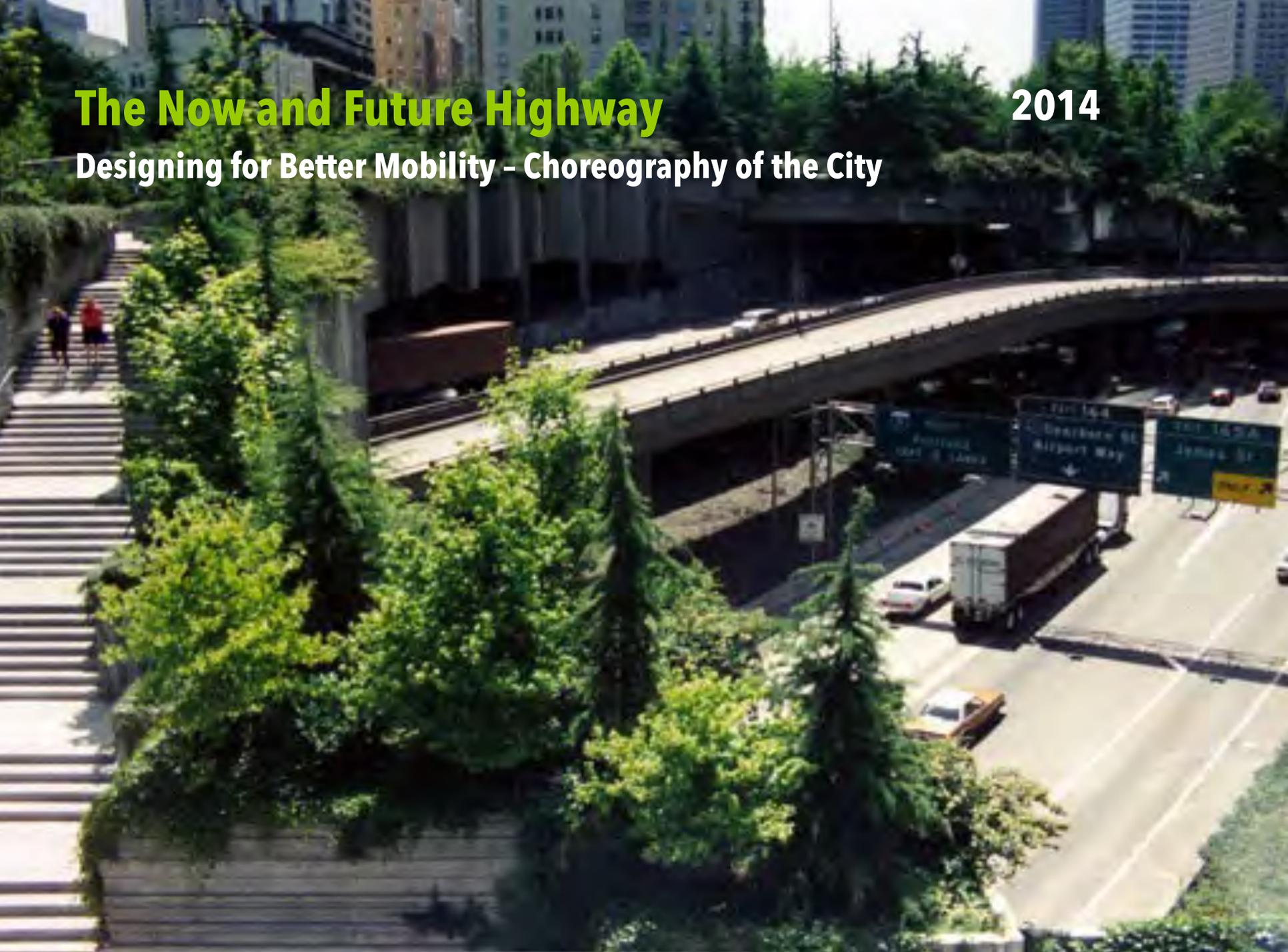
Designing for Better Mobility – Choreography of the City



The Now and Future Highway

2014

Designing for Better Mobility - Choreography of the City



Why Big Visions Matter

Reaching for the Stars

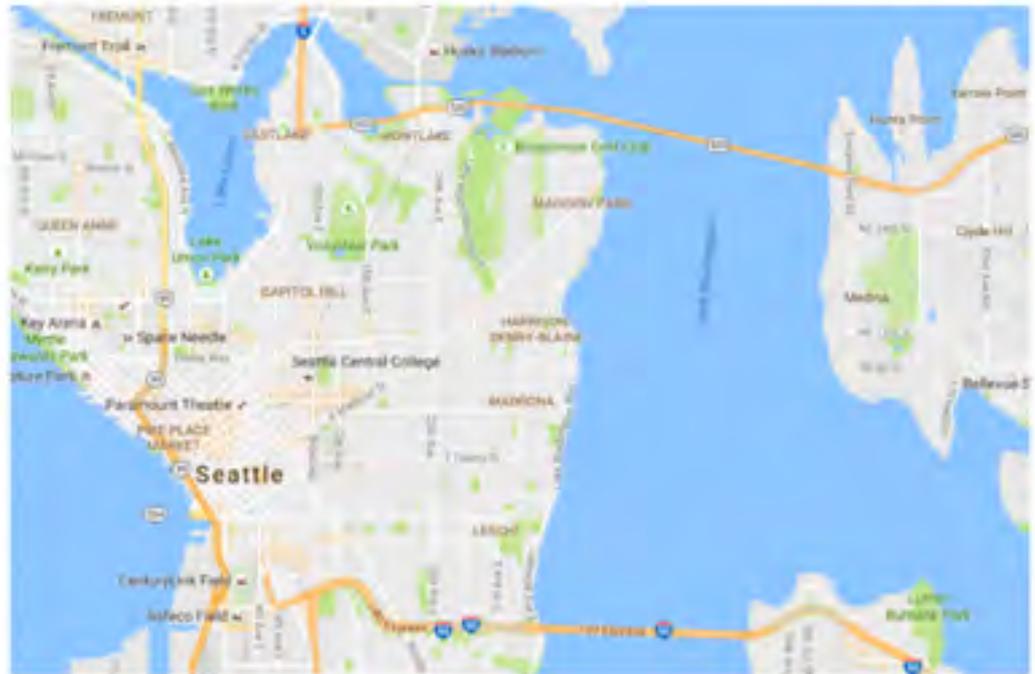


Why Big Visions Matter

HIGHWAYS / LAND USE & DEVELOPMENT / LIDDING I-5 / TRANSPORTATION / WALKING

What's Better Than A Lid? Remove I-5 Entirely From Central Seattle

By Doug Truman [@dmtruman](#) · On October 31, 2016



The Now and Future Highway

Strategies, Innovations, Possibilities



Centerton Nursery created this unusual "green highway" display at the Eastern Performance Trials at River Farm, Alexandria, VA, in September 2005. **SOURCE:** American Horticultural Society.

The Now and Future Highway

Strategies, Innovations, Possibilities



The Now and Future Highway

Strategies, Innovations, Possibilities



Keystone Parkway, Carmel IN

The Now and Future Highway

Strategies, Innovations, Possibilities



Wildlife crossing, Motorway 26 in Hardt Forest, Germany



Green walls, 25 de Mayo Highway, Buenos Aires, Argentina



Green over Grey, *Mountains and Trees, Waves and Pebbles*, Guildford Town Centre in Surrey, BC

The Now and Future Highway

Strategies, Innovations, Possibilities



The Now and Future Highway

Strategies, Innovations, Possibilities



Ooms Civiël et al, *SolaRoad*, solar paving, between Krommenie and Wormerveer (suburbs of Amsterdam), Netherlands, 2014



The Now and Future Highway

Strategies, Innovations, Possibilities



Scott and Julie Brusaw Solar Panels for roadways, Sandpoint ID, 2010

The Now and Future Highway

Strategies, Innovations, Possibilities



The Now and Future Highway

The Now and Future Highway

Strategies, Innovations, Possibilities



Harbor Drive 1962 before removal in 1974 **SOURCE** City of Portland Archives

The Now and Future Highway

Strategies, Innovations, Possibilities



Embarcadero Freeway (State Route 480), San Francisco CA

SOURCE Gerald P Hawkins

Embarcadero,, San Francisco CA **SOURCE** Ja Jing

The Now and Future Highway

Strategies, Innovations, Possibilities



Chenoggye elevated freeway before removal in 2005

SOURCE: The Preservation Institute

The Now and Future Highway

Strategies, Innovations, Possibilities



M-30 Ring Road **SOURCE** Urban Dispatch

West 8, Manzanares River, Madrid, Spain **SOURCE** West 8

The Now and Future Highway

Strategies, Innovations, Possibilities

1934



Railroad Avenue (later Alaskan Way), Seattle, Washington, USA, looking north from the foot of Marion Street, 1934, *SOURCE* Seattle Municipal Archives

2242
2-2-34

The Now and Future Highway

Strategies, Innovations, Possibilities

1952

Architect Paul Thiry (1904-1993) called the project "half-baked" and called for a tunnel "superhighway" to handle all downtown traffic. He worried that the viaduct would create a blighted neighborhood in its shadows and destroy the flexibility of waterfront railroad and truck traffic.

~ from Alaska Way History: Planning and Design, HistoryLink.org

Alaska Way Viaduct under construction 1952. SOURCE Seattle Municipal Archives

1952
4-9-52

The Now and Future Highway

1959

Strategies, Innovations, Possibilities

"A finer solution would be a freeway -- an arterial with sufficient land on either side so it wouldn't be encroached on by commercial or residential enterprises"

~ from John T. Jacobsen, architect, in Alaska Way History: Planning and Design, HistoryLink.org

"[City Engineer Ralph] Finke emphasized that because utilities would move to the viaduct, the unsightly poles with jutting arms would be removed, the viaduct would mask unsightly low-level buildings behind it, and it would not dwarf its surroundings. Additionally, it would offer a scenic drive that would be popular with tourists."

Alaskan Way Viaduct under construction 1959, SOURCE Museum of History and Industry

"We've got to have the Alaskan Way Viaduct. It will be of scenic benefit to tourists, for one thing."

~ in "Alaska Way History: Planning and Design," HistoryLink.org

~ Joshua Vogel, architect and planner at University of Washington in Robert Heilman "Landscape Freeway Ideal

The Now and Future Highway

Strategies, Innovations, Possibilities

2012



The Now and Future Highway

Strategies, Innovations, Possibilities

2014



South end demolition of Alaskan Way Viaduct, 2014 SOURCE Washington State Department of Transportation

The Now and Future Highway Strategies, Innovations, Possibilities

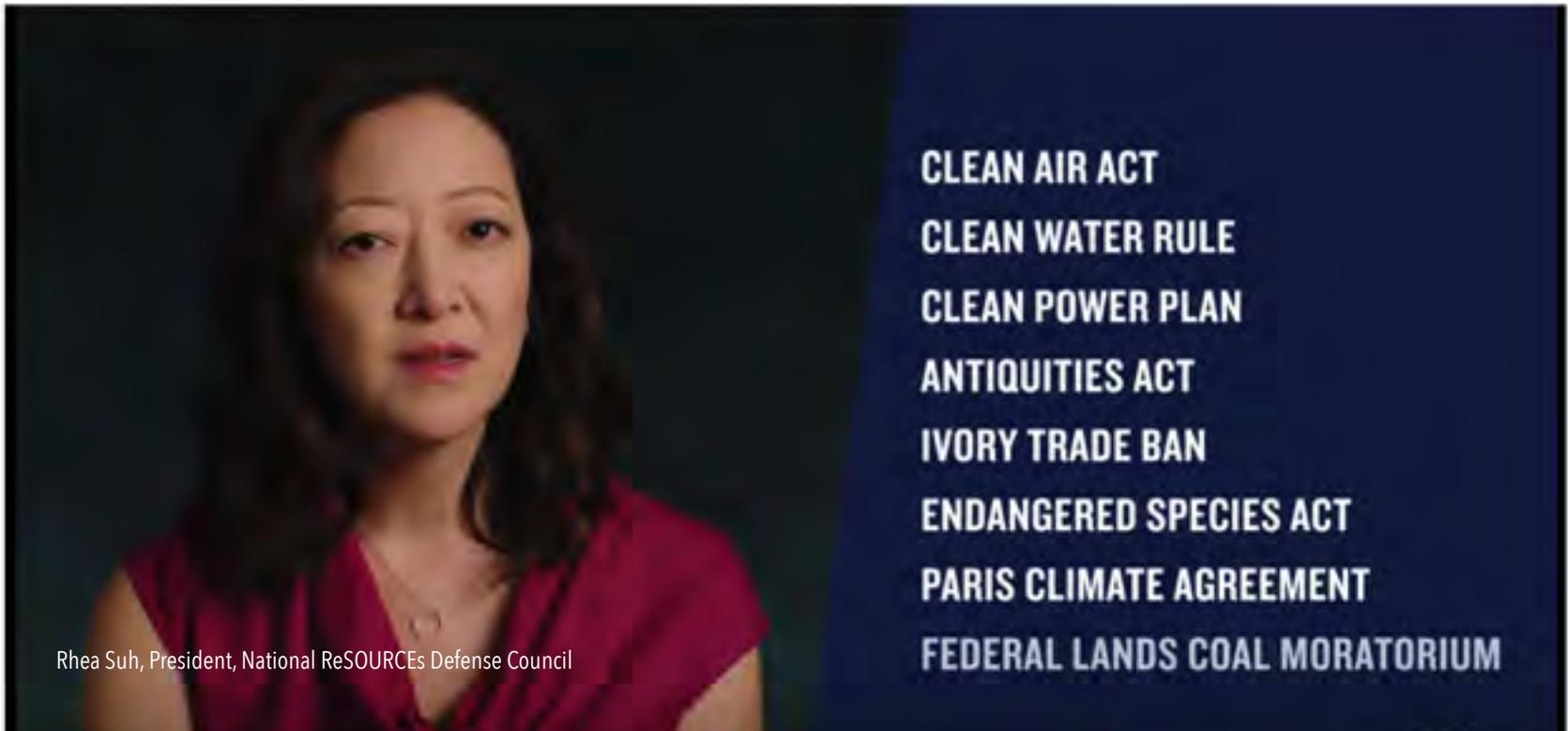
James Corner/Field Operations *Seattle Central Waterfront Master Plan, 2014*



Trump's War on Our Planet and Health

The administration's assault on our environment and health is unlike any threat we've ever faced.

February 10, 2017



Rhea Suh, President, National ReSOURCEs Defense Council

Portland Advocates Won't Settle for Business-as-Usual Highway Spending

By Angie Schmitt | Mar 23, 2017 |  2



Even Portland still pours most of its regional transportation money into highways. But a new advocacy coalition is calling for change. Photo: Bike Portland

The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure

- 
- SEATTLE**
 - Aubrey Davis Park (I-90)
 - Evergreen Point Road Lid (SR 520)
 - Freeway Park (I-5)
 - Luther Burbank Lid (I-90)
 - Mount Baker Tunnel (Lid) (I-90)
 - Sara Smith Park (I-90)
 - Alaskan Way Viaduct Replacement Lid (I-5)
 - DENVER**
 - I-76
 - VENTURA, CALIFORNIA**
 - Ventura Beach + Town (US 101)
 - LOS ANGELES**
 - Memorial Park (I-210)
 - 14th Street to 17th Street (I-10)
 - Glendale 136 Deck Park (Space 136)
 - Hollywood Central Park (US 101)
 - Ocean Avenue to 6th Street (I-10)
 - Park 101 (US 101)
 - SAN DIEGO**
 - Terrace Park (I-15)
 - I-5 S-Curve
 - PHOENIX**
 - Margaret T. Hance Park (I-10)
 - AUSTIN, TEXAS**
 - I-35 Reconnect Austin
 - DALLAS**
 - Kyle Warren Park (Woodall Rodgers Freeway)
 - I-30 Deck Park
 - I-30 The Canyon
 - I-345 Freeway
 - Mockingbird Station Bridge
 - 35E Around Dallas Zoo
 - HOUSTON**
 - I-45/I-10/I-69/US 59

HIGHWAY REPARATIONS

Dozens of parks over (or on) highways have been built in the United States. But they are only the start. Ideas for new parks over highways are reaching various stages of chatter, and even planning, around the country. This map represents only a selection of the park and open space projects completed or proposed in the United States. Long-running arguments about environmental justice, however, aren't the drivers. Frank real estate economics are. City leaders—business and development leaders—are catching on to the fact that highways represent wasted space, space that can drive new development.

MAP DATA COURTESY OJB LANDSCAPE ARCHITECTURE

A selection of the park and open space projects completed or proposed in the United States from *LAM* February 2017. Image courtesy of Dolly Holmes. Map data courtesy of OJB Landscape Architecture

The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure



Trimet and Donald McDonald (architect) Tilikum Crossing on the Portland-Milwaukie Lightrail (Orange Line), Portland OR

The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure



7N Architects, RankinFraser Landscape Architects, Garscube Landscape Link, Glasgow, Scotland



The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure



PFS Studio, Underpass Park, Toronto ON, 2012

The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure



Eskyu Architecture, *Linear Landscapes: Fabricating a Rural/Urban Interface* (Noise Barrier / Noise Enclosure Design Competition Design Competition), Hong Kong **SOURCE** <http://eskyiu.com/linear-landscapes/>

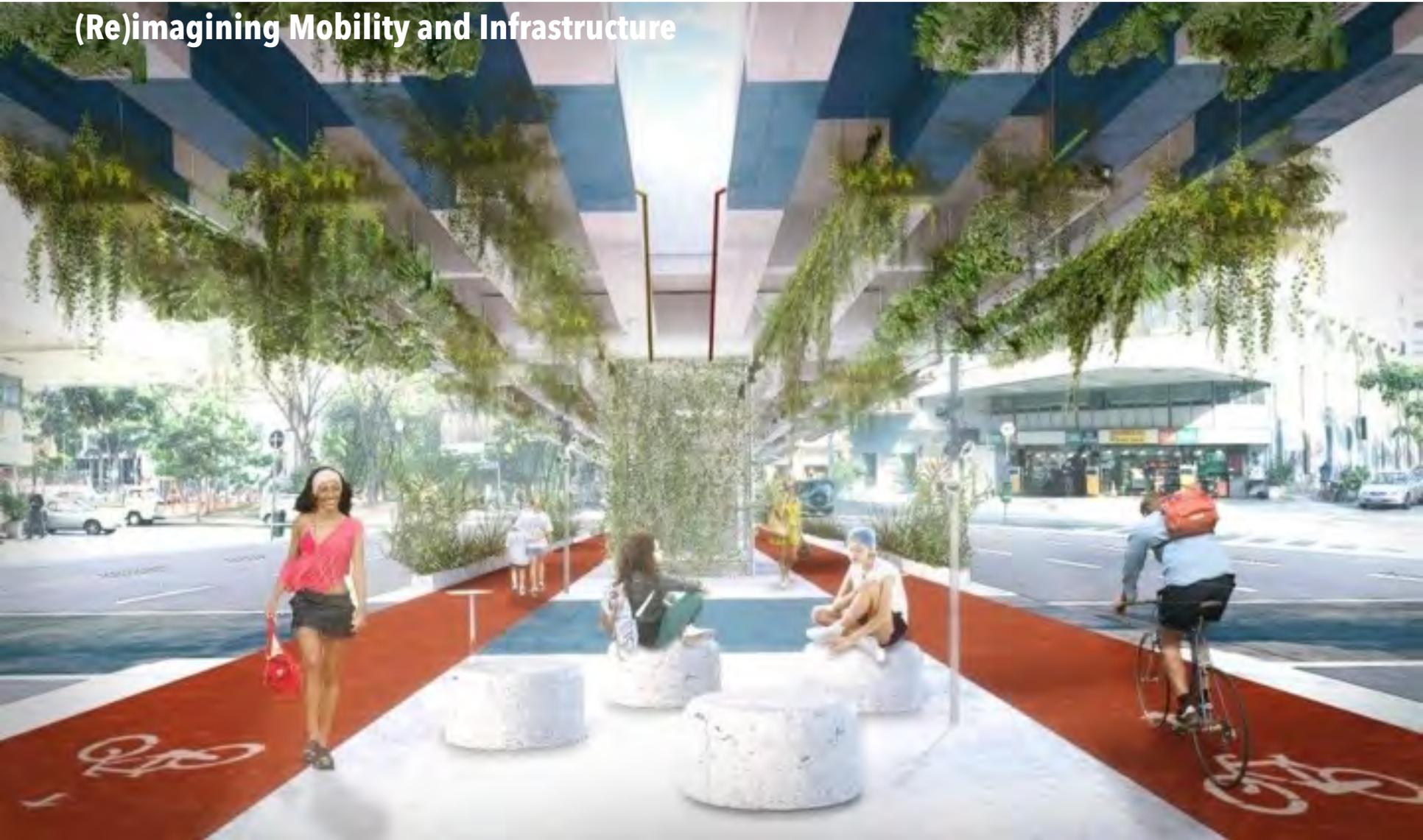
The Now and Future (High)Way

(Re)imagining Mobility and Infrastructure



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Nick Pedersen, Green City: Collingswood NJ for the Nature Conservancy **SOURCE** <https://nick-pedersen.com/green-city/>

The Now and Future (High)Way

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"In the annals of history, many recognize that we have moved as far as we can go on untamed wheels. A nation in gridlock from its auto-bred lifestyle, an environment choking from its auto exhausts, **a landscape sacked by its highways, has distressed Americans** so much that even this go-for-it nation is posting "No Growth" signs on development from shore to shore. All these dead ends mark a moment for larger considerations. **The future of our motorized culture is up for change."**

~ Jane Holtz Kay

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*Free movement of people and commerce
is the backbone of this country.*



Mural on Aurora Avenue, Seattle WA

The Now and Future (High)Way



Sheridan Expressway

The Now and Future (High)Way

“While plans have been proposed and languished for decades, we’re taking action to **finally right the wrongs of the past by reconnecting South Bronx** communities that have dealt with **unnecessary barriers to revitalization and growth**. The project will create an interconnected South Bronx with access to the Waterfront, recreation, and less traffic on local streets while simultaneously better supporting those who use the Hunts Point Market—a vital economic engine for the borough.”

~ Mario Cuomo, Press Release, March 20, 2017

The Now and Future (High)Way

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\$1.8 BILLION

New York State to raze Robert Moses's Sheridan Expressway in the Bronx

By ANDREW DAVIS • March 20, 2017

City Terrain East Newsletter Transportation Urbanism

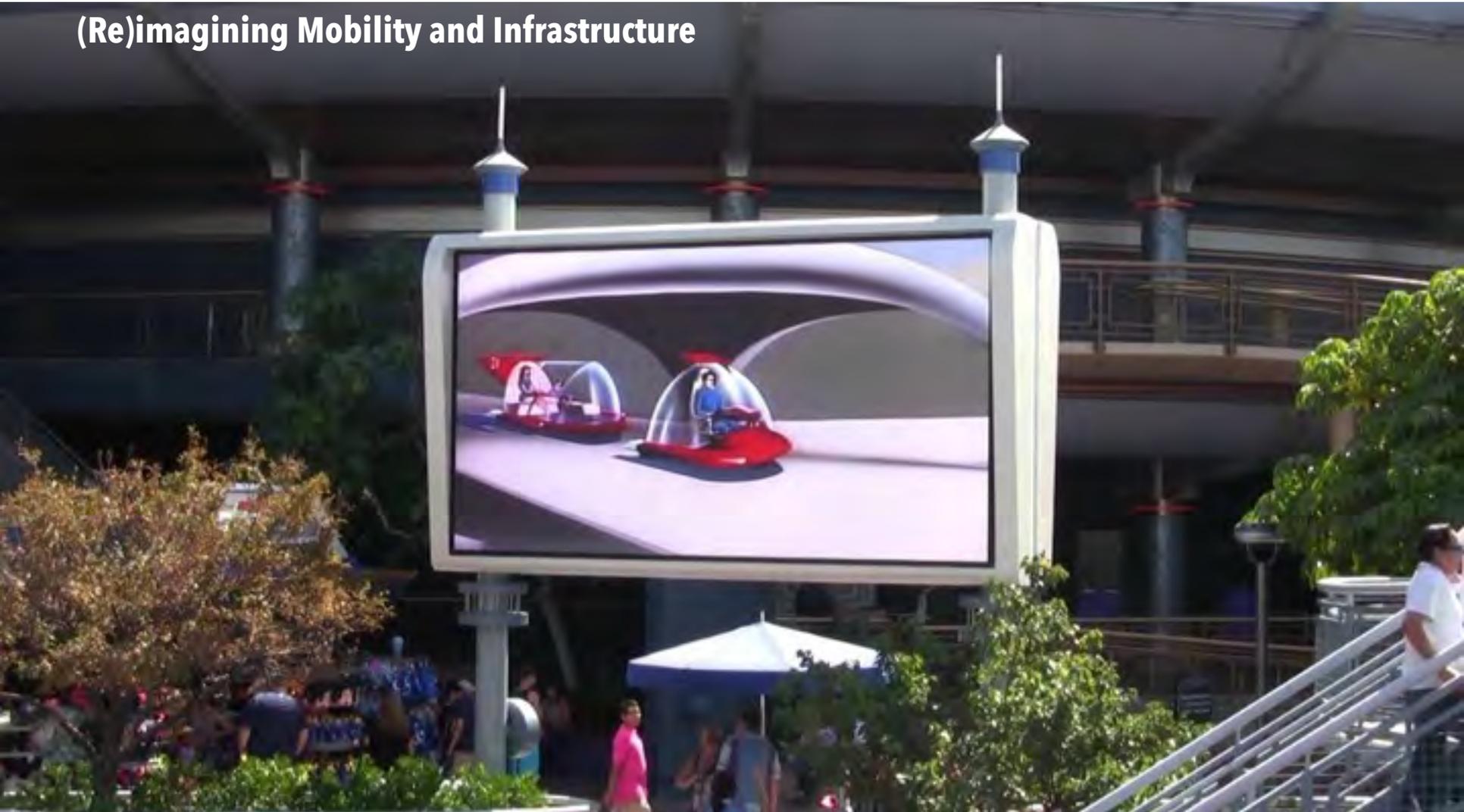


Redesign of Robert Moses' Sheridan Expressway SOURCE NY Department of Transportation



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"Magic Highway" on large screen and continuously looped at Autopia, Disneyland, Anaheim CA

A vibrant, futuristic city street scene. The buildings are covered in lush green vertical gardens. A white drone flies in the sky. A sleek, white train is stopped at a station. People are walking on the sidewalks. A small stream flows through the center of the street. The overall atmosphere is clean, green, and technologically advanced.

Thank you!

QUESTIONS?

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