

Dismantling the Streetcar System:

What Have We Learned?

By John Hillegass



**42 Line - Courtesy of National
Capital Trolley Museum**

Historic Context

- DC Streetcar System

Analysis

- Plan to Convert to Buses
- Comparing Indicators

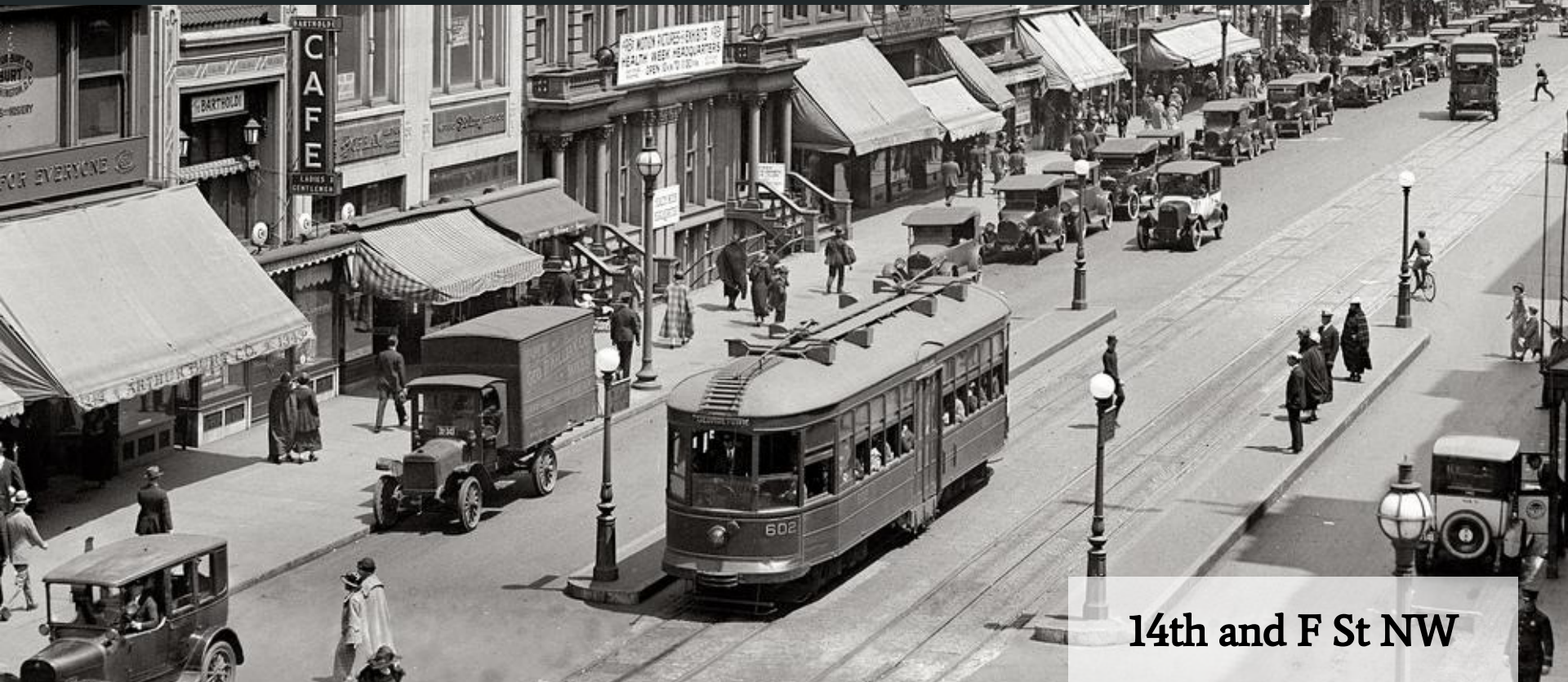
What Have We Learned?

- Old Technologies
- New Technologies

— Agenda

Streets of Streetcars

The DC Streetcar System in the Early 20th Century



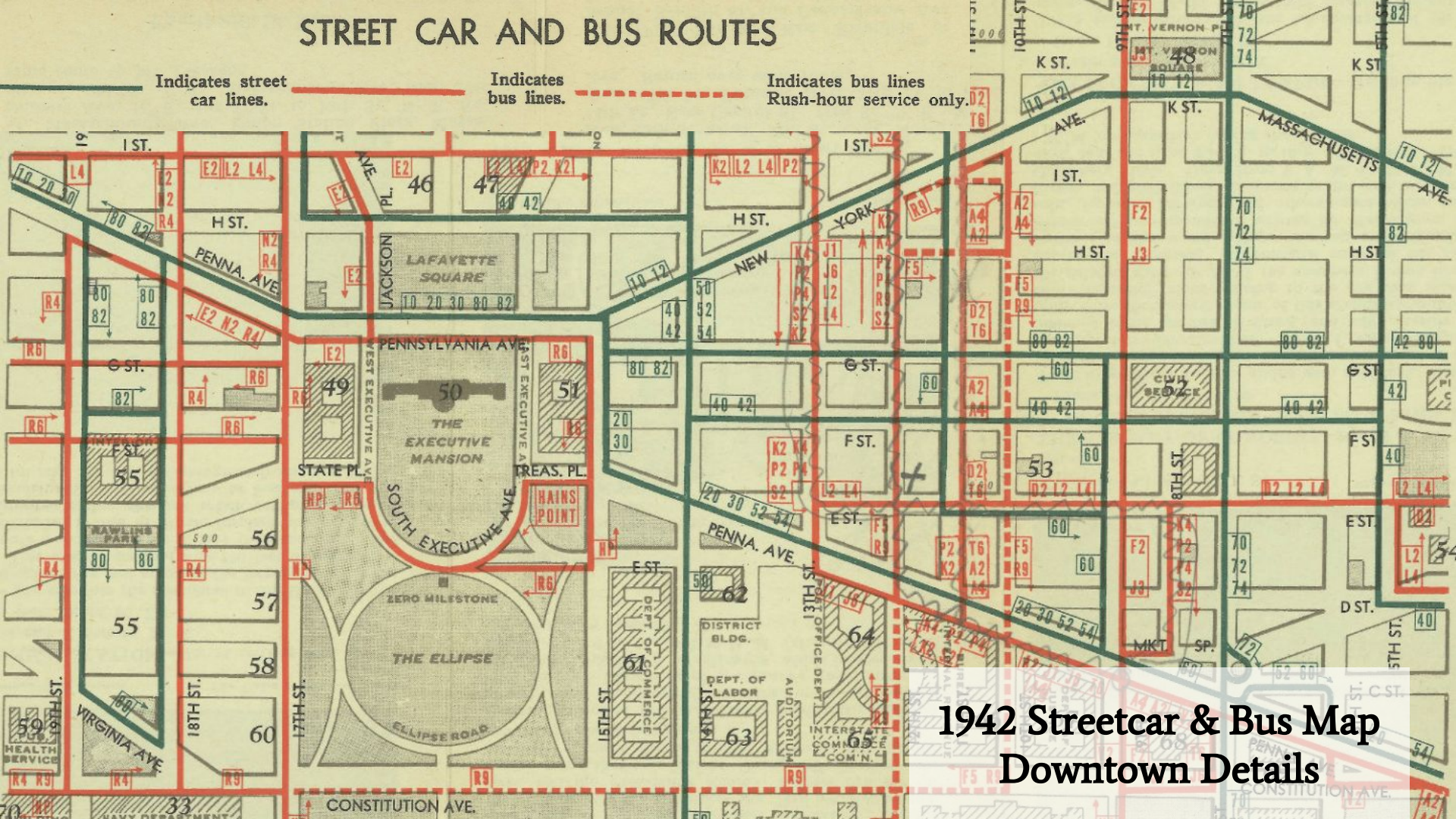
14th and F St NW

STREET CAR AND BUS ROUTES

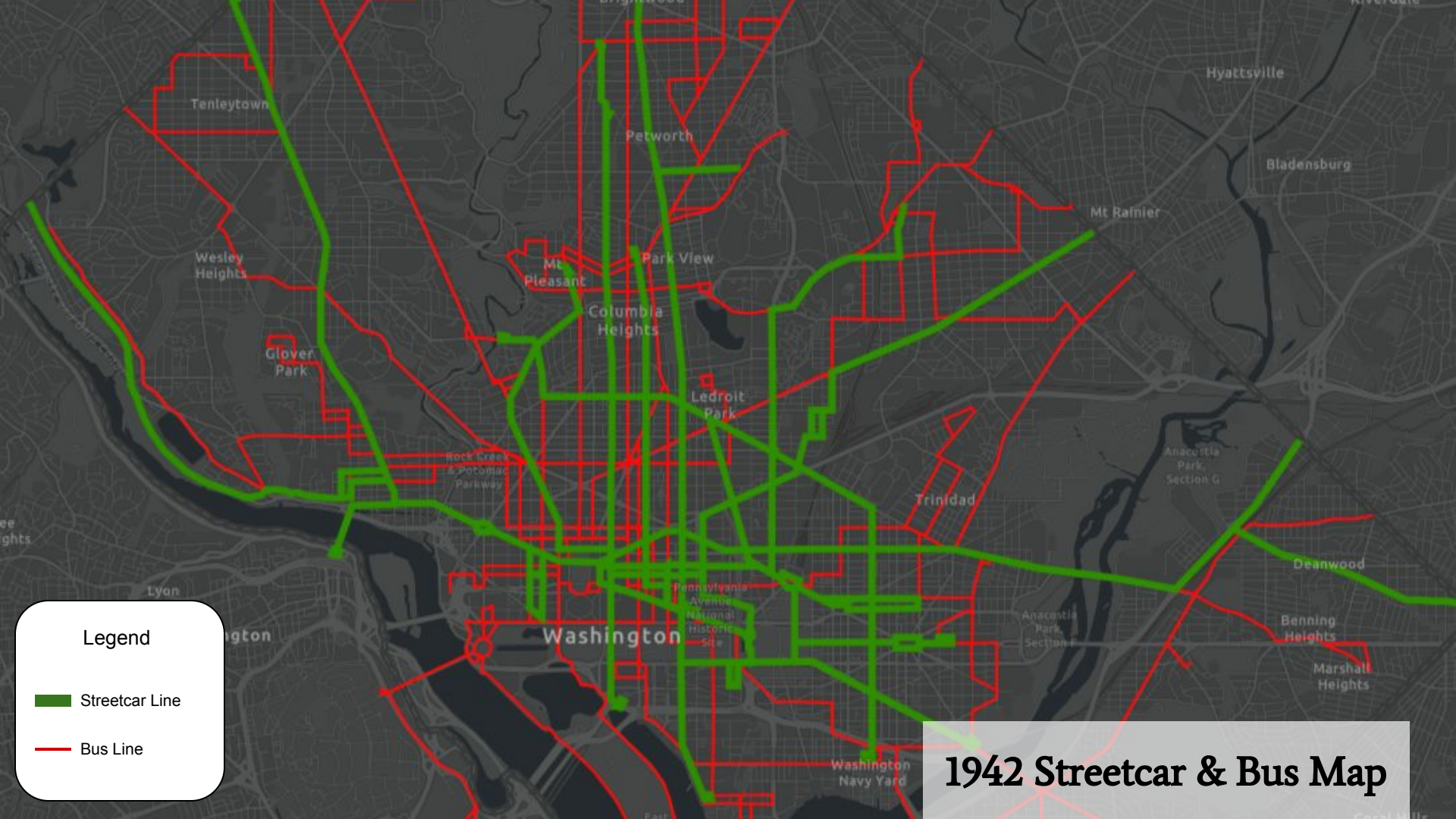
Indicates street car lines.

Indicates bus lines.

Indicates bus lines
Rush-hour service only.



1942 Streetcar & Bus Map
Downtown Details



Legend

Streetcar Line

Bus Line

1942 Streetcar & Bus Map



14th and Penn NW

338 Million

Streetcar Passengers in 1946

Zero

Streetcar Passengers by January 29, 1962



Streets of Autos

Pressures on the Streetcar System

13th & Penn NW



DC's First Buses, 1921

The Washington Post

Registered in U. S. Patent Office.
An Independent Newspaper
(Published every day in the year.)

Eugene Meyer, Publisher.
Floyd B. Harrison, Comptroller.

Outmoded Street Cars.

What with all the bright lights and gay bunting about the city, our attention was momentarily distracted from the new, pastel-green and slick-running street cars that have made their appearance in Washington. They are vastly superior to their creaking predecessors, but still they do not seem to be the final solution to the District transportation problem. There is more hope of developing a modern transportation system in the pending plan to substitute buses on the northern reaches of Connecticut Avenue.

Fortunately, it now develops that buses can offer transport almost, if not equally,

TELEPHONE NATIONAL 4200

Friday, June 21, 1935.

Slum Clearance Vs. Made Work.

as cheap. More than that speed and comparative of buses need not be operating schedules which rarely must follow. tracks, a bus can be direct express, depending on patrons, a point already

It is some years now since the last "tram" was seen in the heart of either London or Paris. As well as in art galleries, we might seek to emulate the older capitals in transportation efficiency.

It's A Long Trail.

With the close of the fiscal year only a few days away, and Congress engaged in a struggle to complete a heavy legislative program before the end of the summer, President Roosevelt has unexcusedly sent his so-called tax message. The name is a misnomer. For the proposals are not intended to produce revenue, but primarily to redi-

The Washington Post
June 21, 1935

World War II

The Last Heyday for Streetcar Transit in DC



Millions of troops
are on the move...



Is YOUR trip necessary?

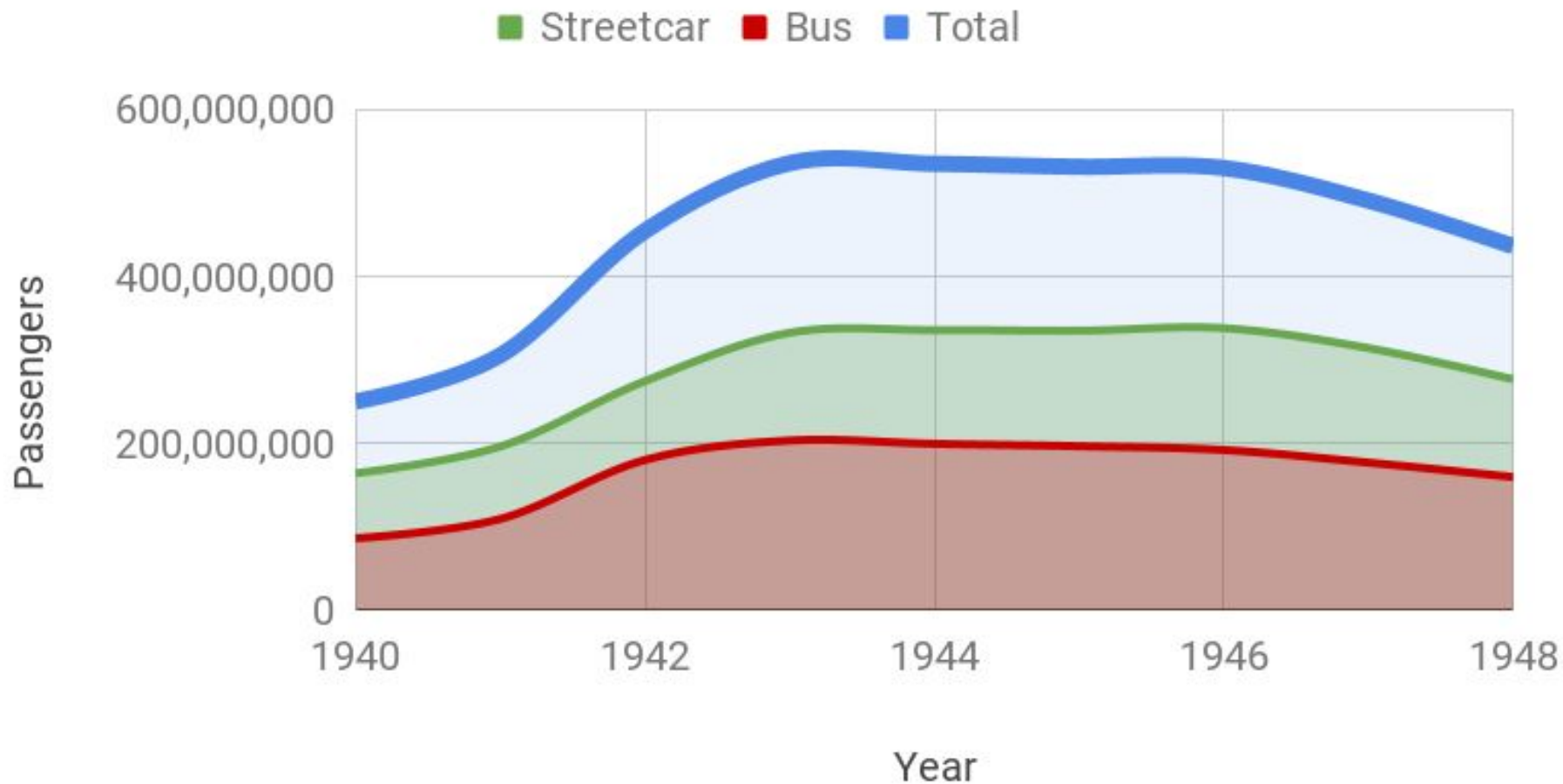
OFFICE OF DEFENSE TRANSPORTATION

I'll carry mine too!



TRUCKS AND TIRES MUST LAST TILL VICTORY

DC Streetcar and Bus Ridership: 1940-1948



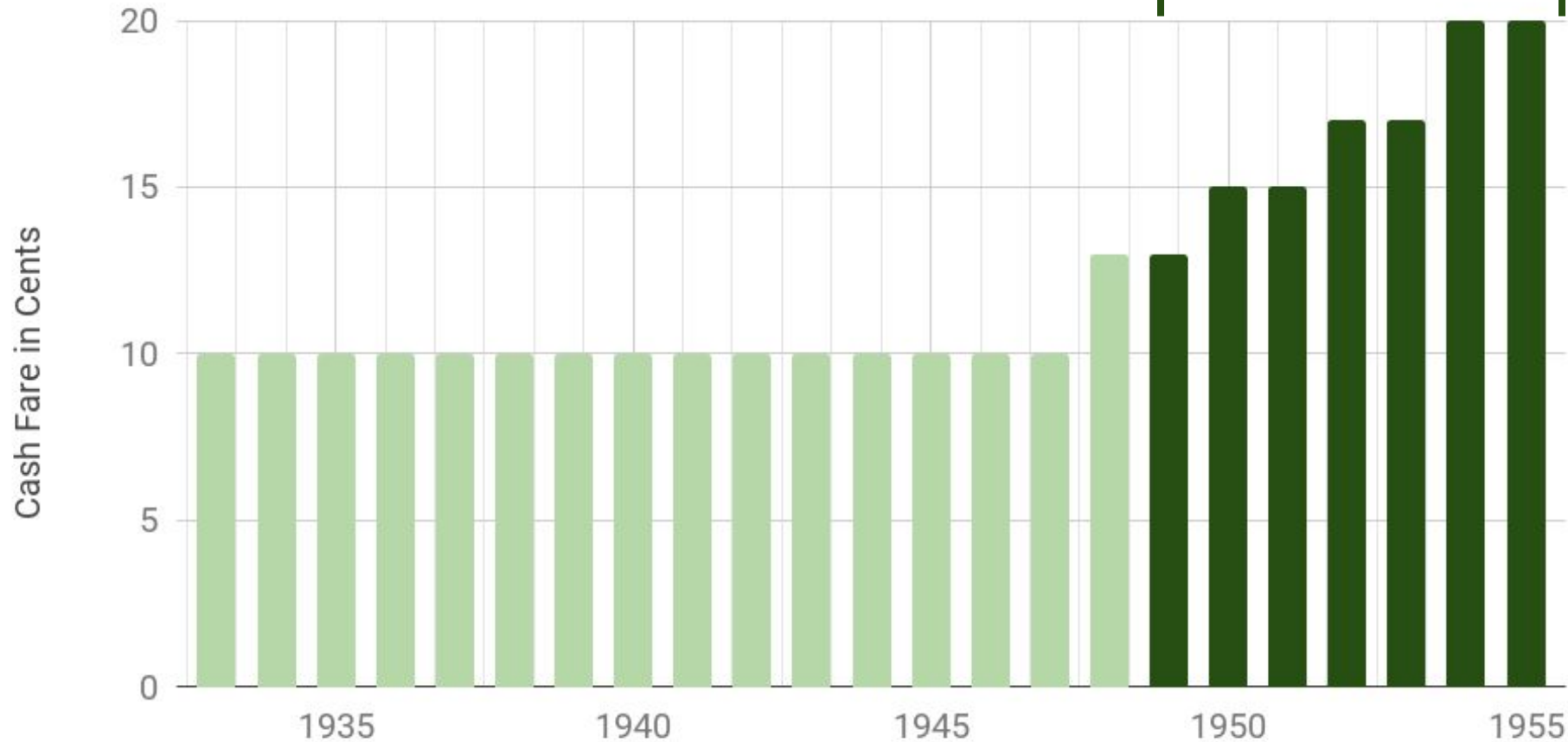
Wolfson Purchases Capital Transit in 1949



Louis E. Wolfson

Capital Transit Company: Cash Fare 1933-1955

Wolfson Ownership



“...the Wolfson group is ‘milking’ the Capital Transit Co. preparatory to dumping the system on the Government.”

Sam Zagoria
‘Senate Subcommittee Blasts
CTC for Selfishness’
The Washington Post
May 2, 1954

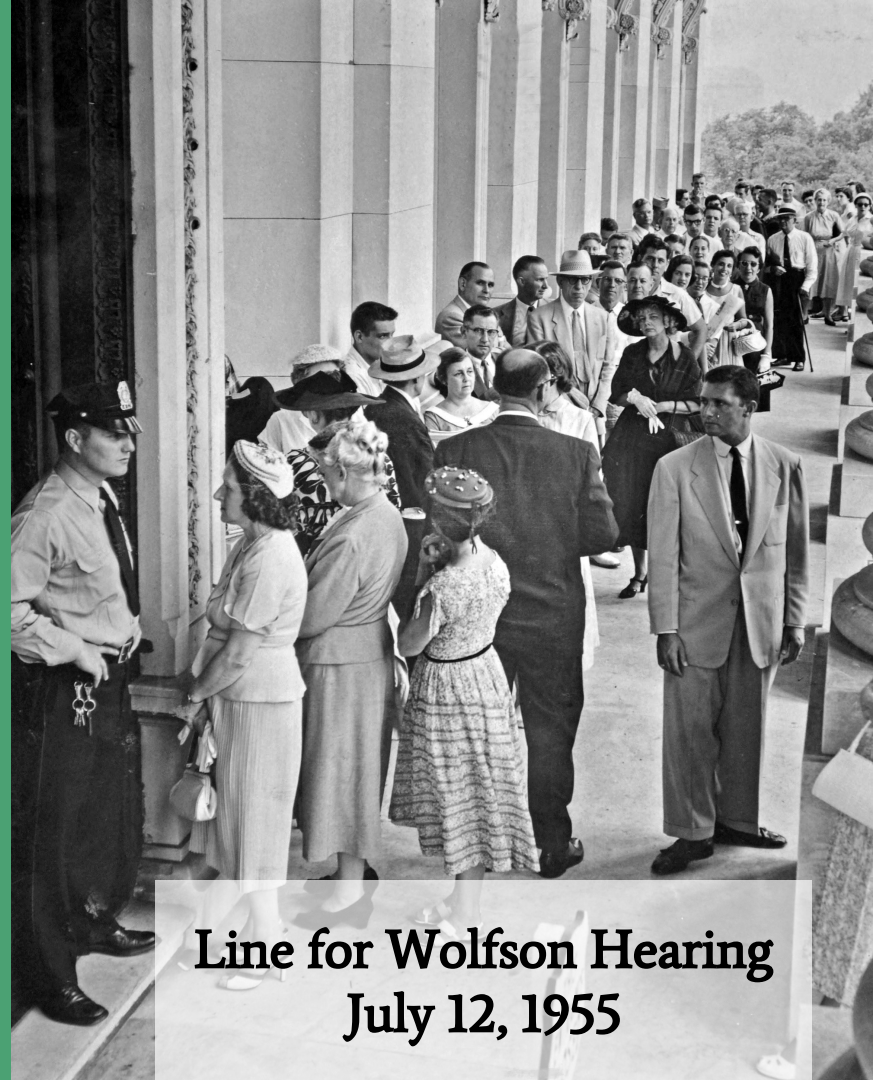
1955 Transit Strike

The Straw that Broke the Streetcar's Back



**First Day of 1955
Transit Strike**

7 Weeks Without Transit Service



**Line for Wolfson Hearing
July 12, 1955**



July 1: Transit Strike Begins

August 14: Eisenhower Signs
Capital Transit Franchise Surrender Bill

August 21: CTC and Union Sign
Agreement to End Strike

**Union Votes to Accept
Contract, End Strike**



**Chalk purchases
transit company**



Chalk & Wolfson

Public Law 757

CHAPTER 669

AN ACT

To grant a franchise to D. C. Transit System, Inc., and for other purposes.



SEC. 7. The Corporation shall be obligated to initiate and carry out a plan of gradual conversion of its street railway operations to bus operations within seven years from the date of the enactment of this Act upon terms and conditions prescribed by the Commission, with such regard as is reasonably possible when appropriate to the highway development plans of the District of Columbia and the economies implicit in coordinating the Corporation's track removal program with such plans; except that upon good and sufficient cause shown the Commission may in its discretion extend beyond seven years, the period for carrying out such conversion. All of the provisions of the full paragraph of the District of Columbia Appropriation Act, 1942 (55 Stat. 499, 533), under the title "HIGHWAY FUND, GASOLINE TAX AND

Conversion to
bus operation.

Track removal.

Public Law 757

CHAPTER 669

Explicit Objectives:

- Establish D.C. Transit
- Convert streetcar lines to bus lines in 7 years
- Remove streetcar tracks

stem, Inc., and for other purposes.

to initiate and carry out
trolley operations to bus
from the enactment of this
the Commission, with
appropriate to the highway
District and the economies

Conversion to
bus operation.

implicit in coordinating the Corporation's track removal program with such plans; except that upon good and sufficient cause shown the Commission may in its discretion extend beyond seven years, the period for carrying out such conversion. All of the provisions of the full paragraph of the District of Columbia Appropriation Act, 1942 (55 Stat. 499, 533), under the title "HIGHWAY FUND, GASOLINE TAX AND

Track removal.

Public Law 757

CHAPTER 669

Explicit Objectives:

- Establish D.C. Transit
- Convert streetcar lines to bus lines in 7 years
- Remove streetcar tracks

Implicit Intentions:

- Ease Congestion
- Speed automobile traffic
- More reliable transit
- Faster Transit
- More Affordable Transit

Track removal.

Public Law 757

WHO?



DC Transit & Public Utilities
Commission (PUC)

WHAT?



Convert to buses, remove tracks
Missing: Intended outcomes, metrics

WHERE?



Washington Metropolitan Area

WHEN?



Within Seven Years

WHY?



*Missing: Reasoning, Justification,
Data, Demand Studies, etc.*

HOW?



Left to DC Transit & Oversight of PUC
Missing: Implementation, Sequencing



**Removing Tracks
Glen Echo Line**

Streetcar Lovers Scorning Buses

The desire named streetcar is showing itself in a refusal to ride buses.

In effect, that was the testimony given yesterday by Edward McLean, chief accountant of the Public Utilities Commission.

He said D. C. Transit System lost 1,351,431 fares in the 27 weeks ending Sept. 10. He said a statistical analysis indicated that some 500,000 riders turned sour because of the nickel increase in the single adult cash fare that took effect March 6.

But, he said, the remainder — some 844,000 fares — quit transit because of the substitution of buses on the lines they had used.

Testified Before PUC

McLean testified before the PUC on the company's application for a fare increase. He said afterward that the loss

raise a serious question about future abandonments for the PUC and the new National

One unanswered key question: How many of the trolley riders who won't use buses are permanent holdouts?

to the Agency last summer. Then, Congress told the PUC not to convert any more trolley lines without first checking with the Agency to see if they were needed in its overall transit plan. If there is "a substantial possibility" that the facilities will be needed, Congress said, the PUC can withhold approval of such conversion and even order the

gram to 49.4 per cent of completion when it substituted buses for trolleys on the Wis-

But not until yesterday were the effects on patronage brought into the picture.

Exhibit Introduced

The company had testified that the 2.3 per cent loss in patronage in the 27 weeks after March 6 — 1.6 million fares on an annual basis — was caused entirely by the nickel fare increase.

increase can account for a patronage drop of only 0.8 per cent

the opinion that the three converted lines failed to attract as many riders because the conversion "tampered with the riding habits" of the public.

He also cited somewhat different routings. On the Cabin John line, where the substitution of single-trolley service with bus service for many miles convenience

The Washington Post
December 7, 1960



32 RIVERDALE
MARYLAND

SPEC

D.C. Transit

D.C. Transit
LAST DAY
of Streetcar

SINCLAIR

FIRE BATTERED

1968

Transit Indicators

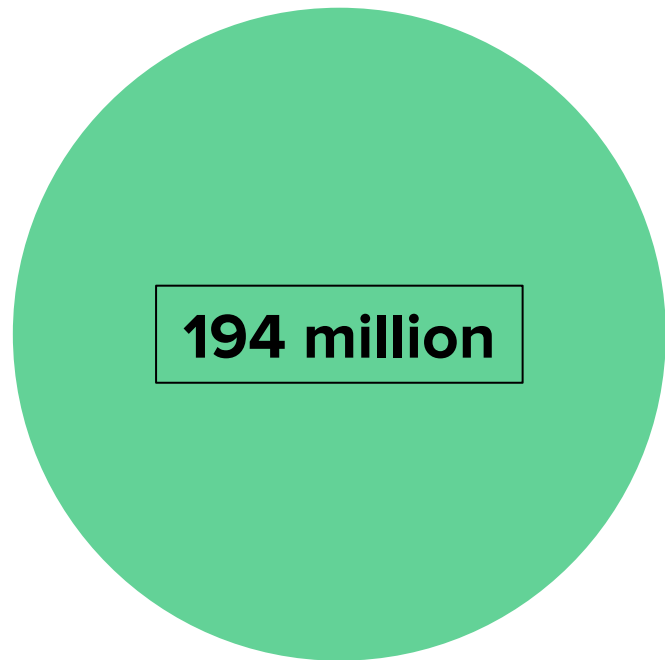
Did Dismantling the Streetcar System Improve Transit?



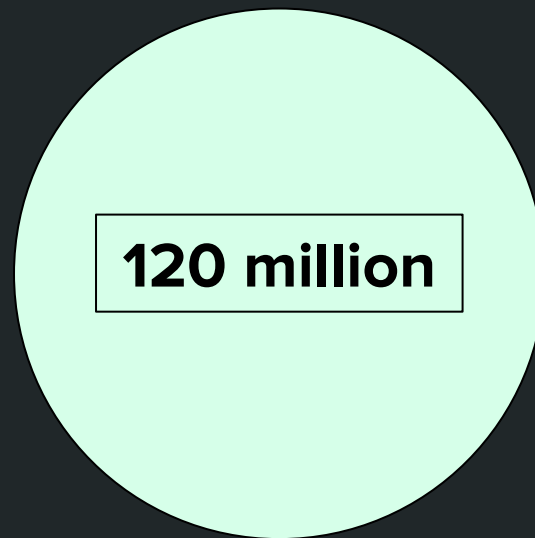
8th and M Street SE

Indicators of Reliable Transit: PASSENGER COUNTS

1946 Bus Ridership

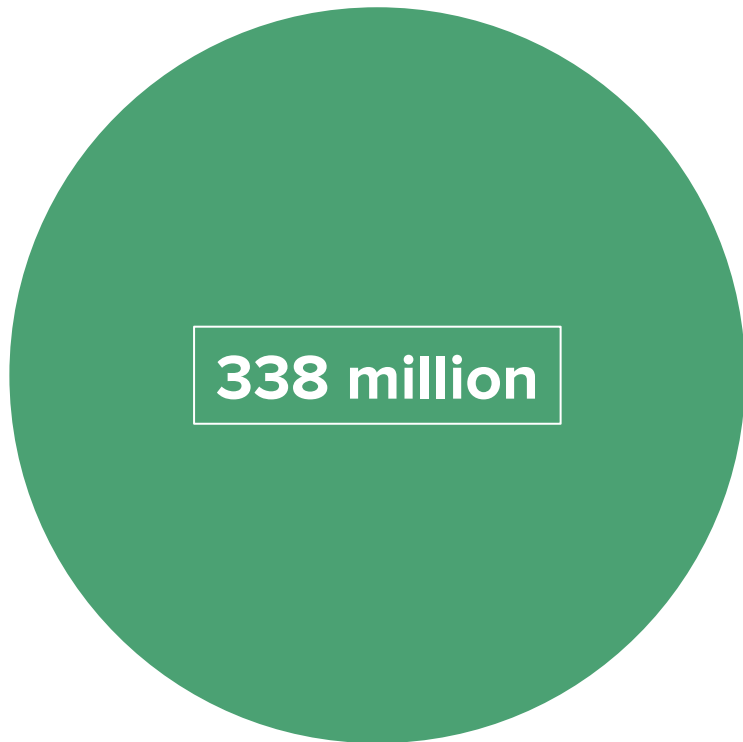


2017 Bus Ridership

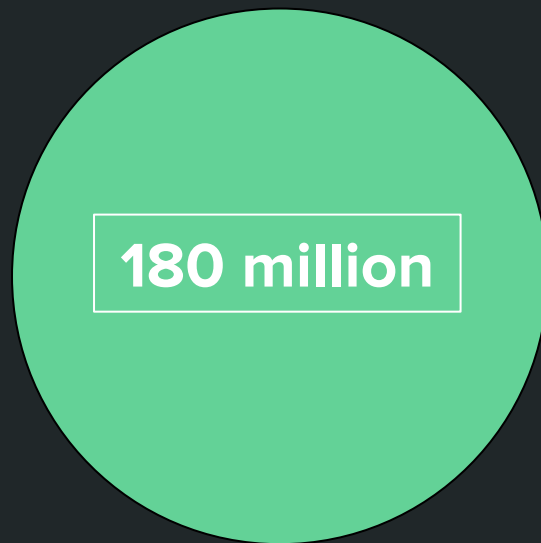


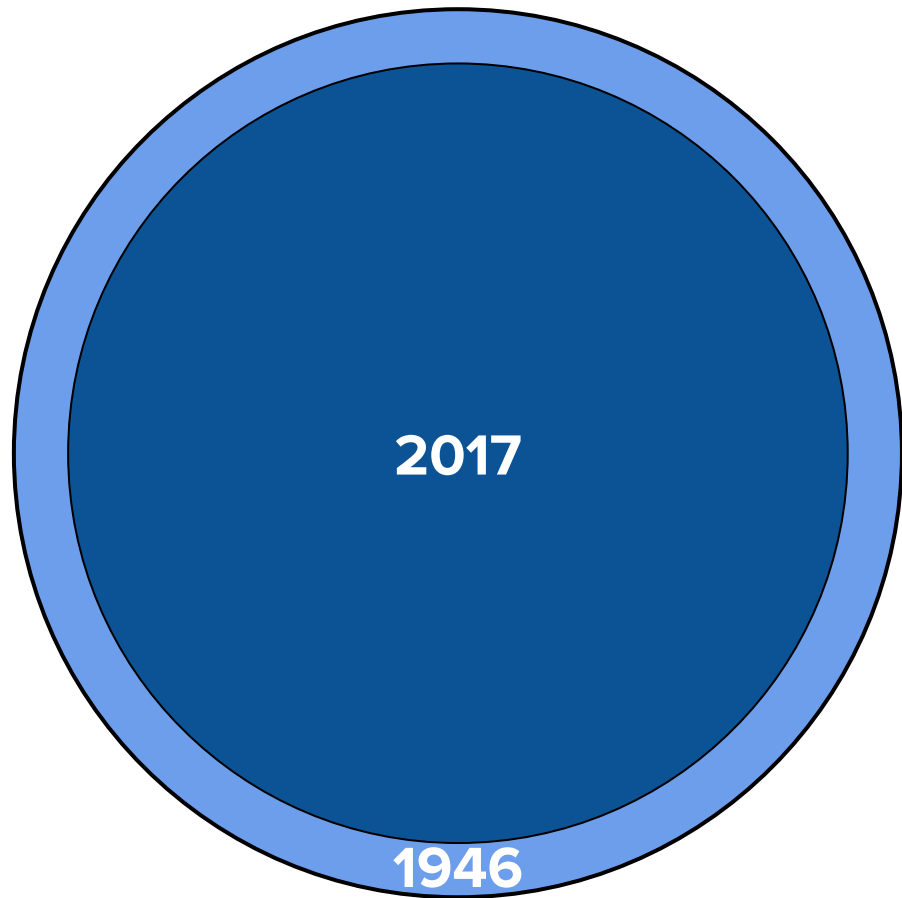
Indicators of Reliable Transit: PASSENGER COUNTS

1946 Streetcar Ridership



2017 Metrorail Ridership





District Population

1946 Population: 899,000

2017 Population: 694,000

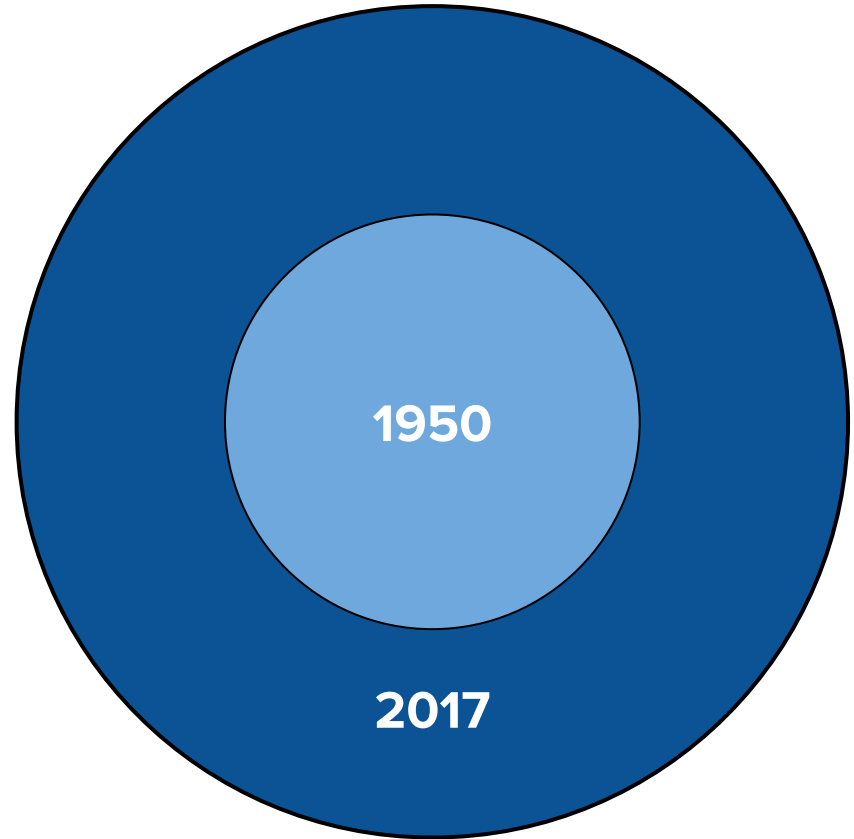
**District Population
was 1.3x larger in 1946**

DC Metro Population

1950 Population: 1,457,601

2017 Population: 6,216,589

**DC Metro Area
Population in 1950
was $\frac{1}{4}$ the size**



By itself,
Population
Cannot Explain
Differences in Transit Use

Indicators of Reliable Transit: **HEADWAYS** Georgia Ave

120 sec

1945

South of Upshur, Georgia Avenue was served by the 70, 72, and 74 lines. Each line was scheduled every 8 minutes during rush hour.

327 sec

2018

Today, Georgia Ave is served by the 70 and express 79. The 70 runs every 12 mins and the 79 every 10 mins during rush hour, the 74 no longer serves Georgia Ave.

Indicators of Reliable Transit: **TRIPS PER HOUR**

Pennsylvania & 8th SE

40 Streetcars

1945

Rush Hour Service
Route 30, 54, 90, 92

27 Buses

2018

Rush Hour Peak - 8am - 9am
Routes 30N, 30S, 32, 34, 36, 39, 90, 92

The Streetcar System
was More Reliable than
Today's Bus System



Legend



1942 Streetcar
Line ¼ Mile Buffer





2018 Metro Line
¼ Mile Buffer


**¼ Mile from 1942 Streetcar
& 2018 Metro Lines in DC**



Legend

 1942 Streetcar
Line 1/4 Mile Buffer

 2018 Metro Line
1/4 Mile Buffer

 2018 Streetcar
Line 1/4 Mile Buffer

**1/4 Mile from 1942 Streetcar
& 2018 Rail Lines in DC**

The Streetcar System
Provided More Coverage
in DC than Today's
Metrorail System

Indicators of Faster Transit: **SCHEDULED RUN TIMES**
Route 70: Silver Spring to Downtown

42-49 mins

1946

Georgia & Eastern Ave NW to
7th & Pennsylvania NW

40-50 mins

2018

Georgia & Eastern Ave NW to
7th & Pennsylvania NW

Indicators of Faster Transit: **SCHEDULED RUN TIMES**
Route 30: Friendship Heights - Anacostia River

62 mins

1946

Friendship Heights to west bank of
Anacostia River (Barney Circle)

50-85 mins

2018

Friendship Heights to east bank of
Anacostia River (Penn & Minn Ave SE)

The Streetcar System
was About as Fast as
Today's Bus System

Indicators of Affordable Transit: **FARES**

20%

of hourly minimum wage

1956

Flat 20¢
Minimum Wage = \$1 per hour

20-59%

of DMV avg hourly min. wage

DC = 15-45%

MD = 20-59%

VA = 28-83%

2018

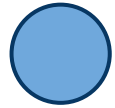
Varies \$2 to \$6

Min. Wage DMV Avg = \$10.20

DC = \$13.25, MD = \$10.10, VA = \$7.25

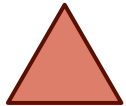
The Streetcar System
was More Affordable
for Riders than Today's
Metro & Bus System

Indicators of Traffic Car Volume



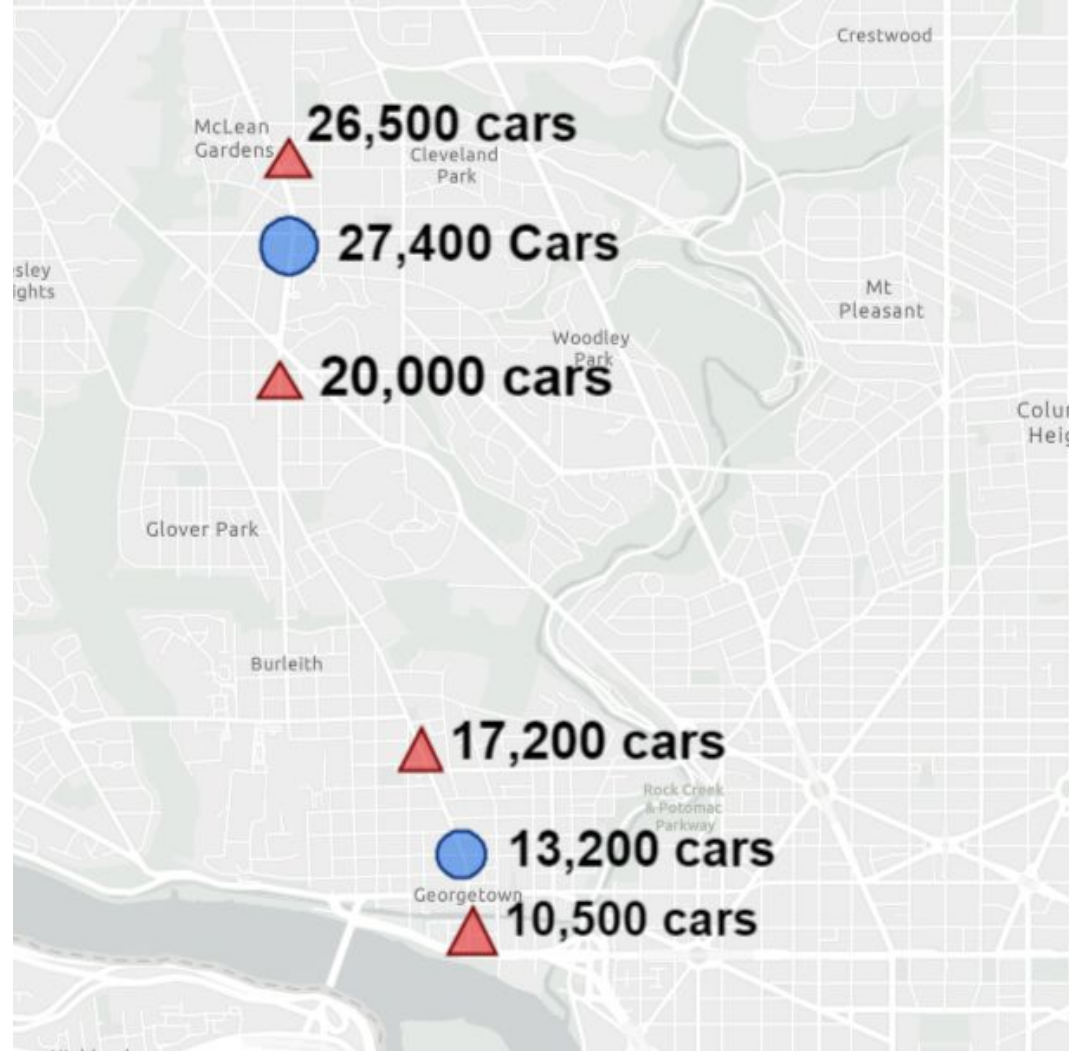
1959 Counts

Daily Traffic Volume shared by Highway Director Harold Aitken, locations approximate.

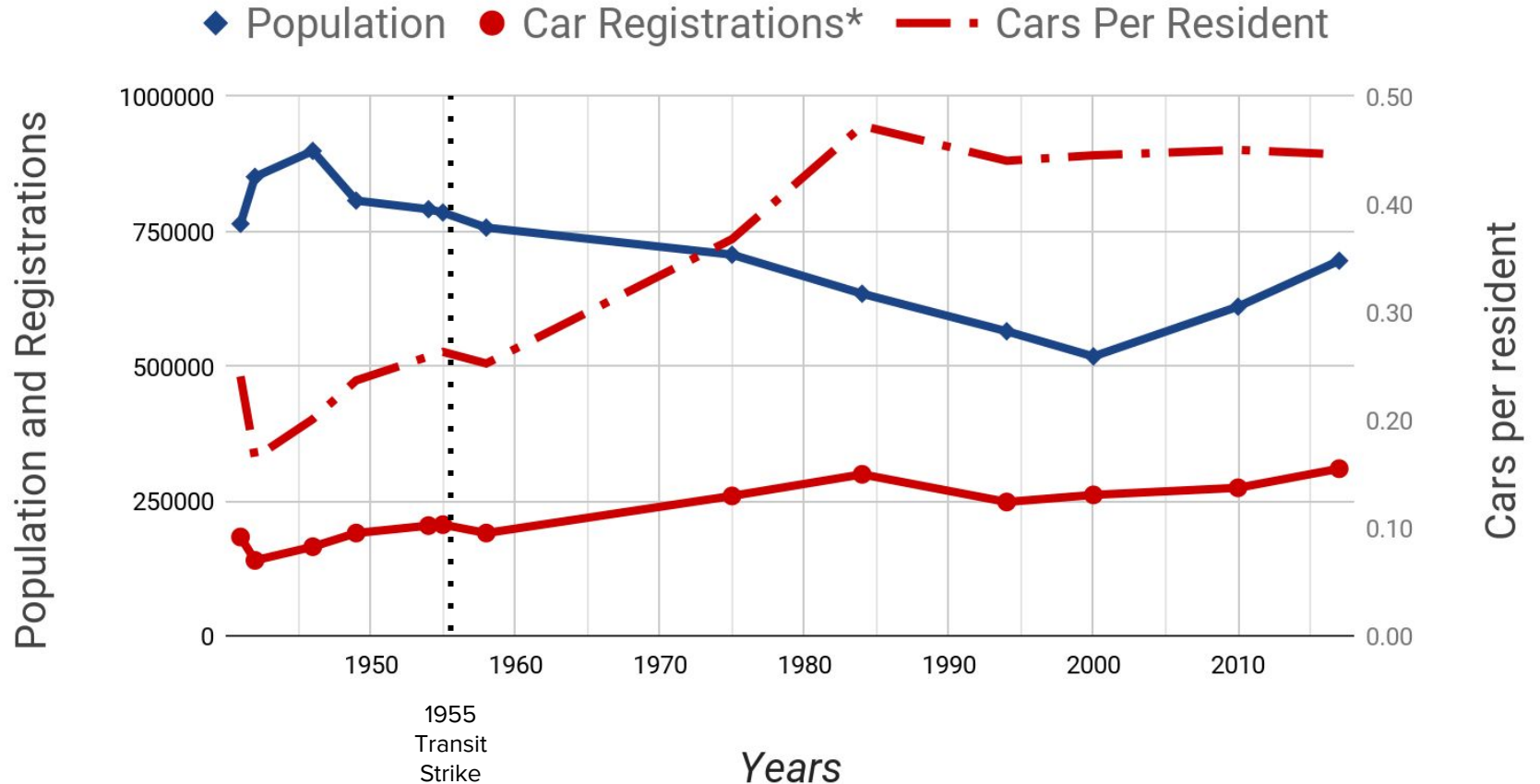


2015 Counts

DDOT Average Annual Daily Volumes



District of Columbia: Population, Car Registrations, and Cars per DC Resident



*Car Registrations for 1946 and 2000 estimated

Cars, Buses, and
Streetcars Co-existed
on our Streets for Several
Decades Before 1962



1100 Block of G St NW

Indicators of Better Transit: **Review**

Passenger Counts

Streetcars

Headways (Frequency)

Streetcars

Span of Service

Equivalent

Coverage

Streetcars

Scheduled Run Times

Equivalent

Fares as % of Min. Wage

Streetcars

Car Volume

Equivalent

“...whoever was benefited by the change-over [to buses], it was not the transit rider.”

Jack Eisen
The Washington Post
January 29, 1972

What Can We Learn?

The Wisdom of Old Infrastructure



Penn & 20th NW



Pedestrian Islands



Penn & 13th NW



K Street Transitway



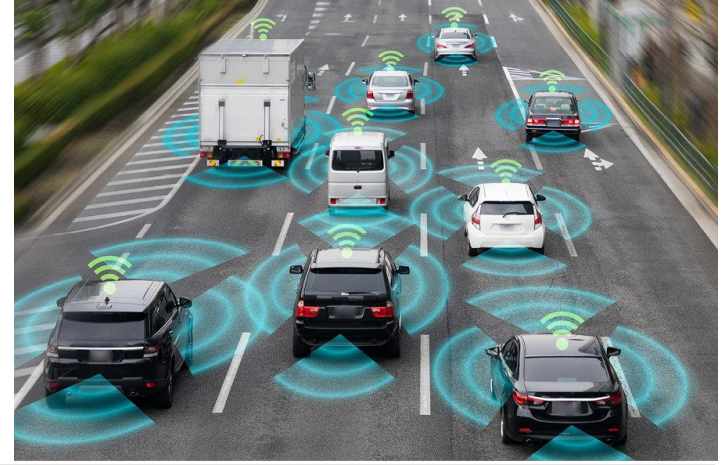
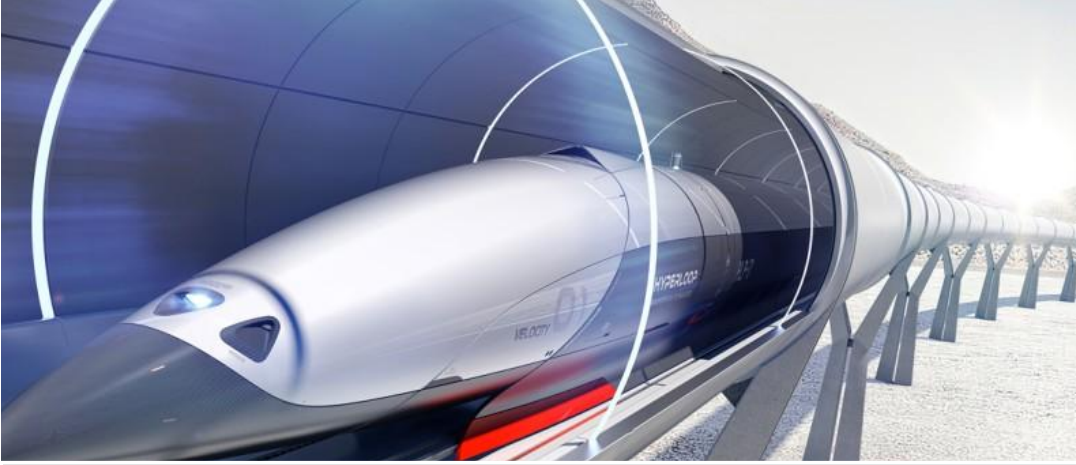
**42 Line - Courtesy of National
Capital Trolley Museum**



15th Street NW

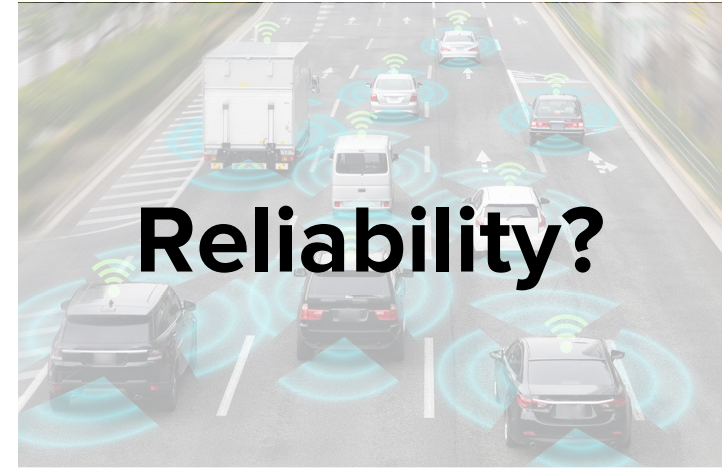
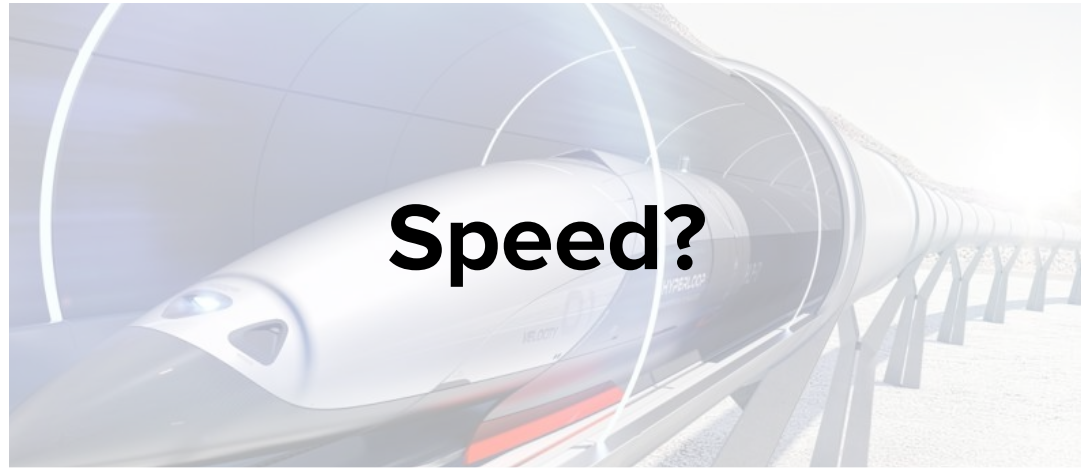
What Should We Learn?

A Healthy Skepticism of New Technology



The Promises of New Technology





How To Complement, Not Replace *Create Car-Free Alternatives*



Who benefits?

What already exists?

Where is the need?

When will it be useful?

Why is it necessary?

How is it measured?

ACCESS

COST

COVERAGE

EQUITY

RELIABILITY

SPEED

3+ Million Passengers Since Opening



H Street Streetcar

Conclusions

Public Law 757

WHO?



DC Transit & Public Utilities
Commission (PUC)

WHAT?



Convert to buses, remove tracks

WHERE?

es, metrics

Area

WHEN?

Plans Have Power

WHY?



Data, Demand Studies, etc.

HOW?



Left to DC Transit & Oversight of PUC
Missing: Implementation, Sequencing

Indicators of Better Transit: **Review**

Passenger Counts

Streetcars

Headway (5 min. or less)

Streetcars

Span of service

Streetcars

Coverage

Streetcars

Schedule

Streetcars

Fares as % of Min. Wage

Streetcars

Car Volume

Equivalent

**Better Transit
Is Possible**

An aerial, top-down view of a city street scene, likely from the mid-20th century. The image is heavily filtered with a green color. In the center, a semi-transparent green rectangle with a thin dark border contains the text "The Past Holds Lessons For The Future" in a bold, black, sans-serif font. The background shows a grid of streets, vintage cars, and pedestrians, with long shadows cast across the pavement.

The Past Holds Lessons For The Future



The Promises of New Technology May Fall Short

The Pro
W



UBER



Thank You



400 Block G St NW

. 1950 *Census of Population - Preliminary Counts*. 1950a: U.S. Department of Commerce.

. 2015 *Traffic Volumes, District Department of Transportation*. 2017. Washington, DC.

An Act Making Appropriations to Provide for the Expenses of the Government of the District of Columbia for the Fiscal Year Ending June Thirtieth, Nineteen Hundred and Fourteen, and for Other Purposes, Public Law Sec. 8 Par. 1, (1913): .

"All-Bus Plan here Pressed at Hearing." 1956a. *The Washington Post and Times Herald (1954-1959)*, February 24, 1.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/148842405?accountid=11091>.

"All-Time District Traffic Record Set as Transit Strike Brings Out Cars: D.C. Auto Traffic Record Set - ProQuest." 1955a. *The Washington Post*, July 2,.

<https://search-proquest-com.proxy.library.georgetown.edu/docview/148647368?accountid=11091>.

"Area Drivers Get New Colors on Tags this Year, but D.C. Cars Keep Same Old Green-and-White - ProQuest." 1954. *The Washington Post*, February 28,

M13. <https://search-proquest-com.proxy.library.georgetown.edu/docview/152642036?accountid=11091>.

"Auto use Declines as Workers Turn to Buses and Streetcars." 1946a. *The Washington Post*, June 18, 1.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151886544/F4594B0A822A4F4BPQ/6?accountid=11091>

"Bus Shift to Speed NW Traffic." 1959a. *The Washington Post, Times Herald (1959-1973)*, December 2, 1.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/140976185?accountid=11091>.

"Buses in Capital Will be Increased." 1921. *The Washington Post (1877-1922)*, September 25, 49.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/145884854?accountid=11091>.

"Capital Transit Net Off 10.8% in Nine Months." 1946b. *The Washington Post*, October 26, 12.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151856009/F4594B0A822A4F4BPQ/3?accountid=11091>

"Capital Transit Net Up 68% during July." 1947a. *The Washington Post*, August 30, B9.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151912500/8DF4D17DB512489BPQ/27?accountid=11091>

- "Civic Group's Petition may Delay Shift of 3 Trolley Lines to Buses." 1960a. *The Washington Post, Times Herald (1959-1973)*, January 1, A3.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/141205366?accountid=11091>.
- "D.C. Auto Registrations due to Exceed 200,000 - ProQuest." 1950b. *The Washington Post*, April 21,.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/152270998?accountid=11091>.
- "D.C. Cars show 36,511 Decrease: Car Registry Drops 19.7% in District South Carolina is Only State Showing Increase; Truck Decline is Small - ProQuest." 1943. *The Washington Post*, February 18, 1.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/151630903?accountid=11091>.
- "D.C. has Good Chance to Beat 1946 Traffic Safety Record: New Traffic Safety Record may be Set." 1947b. *The Washington Post*, December 14, M1.
<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151972835/F4594B0A822A4F4BPQ/12?accountid=11091>.
- "D.C. Mailing Tag Applications to 150,000 Owners of Cars - ProQuest." 1952. *The Washington Post*, February 18, 1.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/152522547?accountid=11091>.
- "D.C. Motor Vehicle Total at Peak - ProQuest." 1950c. *The Washington Post*, January 15, M11.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/152280673?accountid=11091>.
- "D.C. Transit Reports Net Loss of \$30,337 in January." 1960b. *The Washington Post, Times Herald (1959-1973)*, March 4, A14.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/141144482?accountid=11091>.
- "District of Columbia Metrobus Timetables." WMATA., accessed December 20, 2018,
<https://www.wmata.com/schedules/timetables/all-routes.cfm?State=DC>.
- "Last 3 Trolleys of County End 50-Years Runs." 1947c. *The Washington Post (1923-1954)*, August 5, B9.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/151916228?accountid=11091>.
- "Last Streetcars Run Today on 3 Major Lines." 1960c. *The Washington Post, Times Herald (1959-1973)*, January 2, D1.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/141238266?accountid=11091>.

"Licenses Redesigned to Promote Local Identity: D.C. Plates Get New Look Starting Soon - ProQuest." 1984. *The Washington Post*, August 28, B1.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/138235192?accountid=11091>.

"Metro Says it Doesn't Know what to do about Falling Ridership. an Internal Report Lays Out Exactly what to do." b. *Washington Post*.
https://www.washingtonpost.com/local/trafficandcommuting/metro-says-it-doesnt-know-what-to-do-about-its-falling-ridership-an-internal-report-lays-out-exactly-what-to-do/2018/10/03/d8771d2e-c721-11e8-b2b5-79270f9cce17_story.html.

. *Metrobus Monthly Ridership 2017*. c.

. *Metrorail Average Weekday Passenger Boardings 2017*. d.

"Outmoded Street Cars." 1935. *The Washington Post*, June 21, 8.
<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/150592644/pageviewPDF/5C59C2FB4D484D7FPQ/1?accountid=11091>.

"Plea to Keep Streetcars Gets Support." 1958. *Washington Post*, August 24, A21.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/149034590/9F10375450E49EBPO/1?accountid=11091>.

"Proposed Car-Related Taxes would make City's Highest: Proposal would make D.C. Car-Related Costs Highest in Area Mayor Washington's Budget Proposal TAXES ON WASHINGTON AREA AUTOMOBILES - ProQuest." 1975. *The Washington Post*, March 31, C1.
<https://search-proquest-com.proxy.library.georgetown.edu/docview/146408703?accountid=11091>.

Public Law 84-389, U.S. Congress, (1955b): .

Public Law 84-757, U.S. Congress, (1956b): .

"Seize Capital Transit and End the Strike." 1955c. *The Washington Post and Times Herald (1954-1959)*, July 8, 20.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/148612088?accountid=11091>.

"Streetcar Lovers Scorning Buses." 1960d. *The Washington Post, Times Herald (1959-1973)*, December 7, C1.
<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/141285202?accountid=11091>.

"Strike-Bound D.C. Workers Plan Car Pools in Crisis." 1951. *The Washington Post (1923-1954)*, July 2, 1.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/152385981?accountid=11091>.

"Timetable of Principal Strike Events." 1955d. *The Washington Post and Times Herald (1954-1959)*, August 22, 9.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/148699983?accountid=11091>.

"Timetable Released for Transit System Change to Bus Lines." 1959b. *The Washington Post and Times Herald (1954-1959)*, January 28, B1.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/149185714?accountid=11091>.

"Tire Shortage Cuts Number of D.C. Autos - ProQuest." 1942. *The Washington Post*, April 1, 25.

<https://search-proquest-com.proxy.library.georgetown.edu/docview/151584701?accountid=11091>.

"To do Away with Horses." 1886. *The Washington Post (1877-1922)*, December 11, 1.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/137954815?accountid=11091>.

"Traffic Declines on Trolley Lines." 1930. *The Washington Post (1923-1954)*, April 18, 18.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/150079739?accountid=11091>.

"Transit Fare Increase." 1947. *The Washington Post*, October 24, 20.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151948889/DFE0DD27D8994B2BPQ/7?accountid=11091>.

"Transit Line Traffic shows 23% Upturn." 1944. *The Washington Post*, January 2,.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151752824/DFE0DD27D8994B2BPQ/6?accountid=11091>.

"Trolleys that Aren'T there Still Put Kink in Auto Traffic." 1960e. *The Washington Post, Times Herald (1959-1973)*, January 14, B2.

<http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/141205077?accountid=11091>.

"Undermanned, Capital Transit Load Sets Peak." 1945. *The Washington Post*, March 1,.

<https://search-proquest-com.proxy.library.georgetown.edu/hnpwashingtonpost/docview/151759520/DEF9D7AB0717478APQ/1?accountid=11091>.

. *Washington Area Trends - how Many Vehicles are there in the Washington Area?*. 1999. 1755 Massachusetts Avenue, NW, Suite 550, Washington, DC 20036: Greater Washington Research Center.

Bassett, Grace. 1955. "7-Year Delay Period Urged in Bus Conversion." *The Washington Post and Times Herald (1954-1959)*, October 6, 13. <http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/148603535?accountid=11091>.

Department of Motor Vehicles. *Historical Registration Data FY2010 - FY2017*.

Eisen, Jack. 1958. "Chalk's Fast Transit Idea Endorsed." *The Washington Post and Times Herald (1954-1959)*, September 10, B1. <http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/148962336?accountid=11091>.

———. 1959. "Trolleys to End Runs on 3 Old Lines Sunday." *The Washington Post, Times Herald (1959-1973)*, December 31, B1. <http://proxy.library.georgetown.edu/login?url=https://search.proquest.com/docview/140918245?accountid=11091>.

Goodman, S. Oliver. 1950. "Capital Transit Pays Record \$1 Dividend: Quarterly Figure Doubles Previous; Fare Rise is Cited." *Washington Post*, August 25, 1. <https://search-proquest-com.proxy.library.georgetown.edu/docview/152295959/79082F182F614C91PQ/1?accountid=11091>.

King, LeRoy O. 1972. *100 Years of Capital Traction: The Story of Streetcars in the Nation's Capital*. Second ed. Dallas, Texas: LeRoy O. King Jr.

Kohler, Peter C. 2001. *Capital Transit: Washington's Street Cars: The Final Era 1933-1962*. First ed. Colesville, MD: National Capital Trolley Museum.

Le Corbusier. 1929. *The City of Tomorrow and its Planning*. New York: Payson & Clarke, Ltd.

Lyons, Richard L. and Wes Barthelmes. 1956. "House Vote due Today on Transit Franchise." *The Washington Post and Times Herald (1954-1959)*, May 17, 1. <https://search.proquest.com/docview/148824395>.

Mohl, Raymond A. 1985. *The New City: Urban America in the Industrial Age, 1860-1920*. Arlington Heights, Ill: Harlan Davidson. https://www.goodreads.com/work/best_book/3073251-the-new-city-urban-america-in-the-industrial-age-1860-1920-american-h.