

Exploring Self-Sufficiency in Transportation Infrastructure Analyzing the Interrelationship of Federal, State, and Local Funding in Major U.S. Metropolitan Areas

Jonathan Gifford (jgifford@gmu.edu), Susan Binder, Valentina Farias (afarias4@gmu.edu) & **Mustafa Sever** (msever@gmu.edu)

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Agenda

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 - Takeaways
- **Operational Funding and Finance**
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 - Local
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 - Background
 - Sources of Funds
 - Uses of Funds
 - Plan
 - Innovative Financing
 - Takeaways

Introduction to Funding and Finance

- ❑ Funding: Defined as money provided, especially by an organization or government, for a particular purpose.
- ❑ Finance: Defined as the act of obtaining or furnishing money or capital for a purchase or enterprise.

Introduction to Funding and Finance

- ❑ Capital Funding and Finance: Refers to the financing of assets or investments that provide long-term benefits, such as infrastructure, equipment, and property.
- ❑ Operational Funding and Finance: Involves financing the day-to-day operations of an organization, covering expenses like salaries, utilities, and maintenance.

Evolution of Federal Highway Funding in the United States

Overview of historical development of highway funding in the United States:

- ❑ Federal surface transportation programs funded by motor fuel taxes into the **Highway Trust Fund (HTF)** since 1956.
- ❑ Trust fund revenues stagnated beginning 2001, ultimately leading to deficits.
- ❑ Congress initiated Treasury general fund transfers in 2008 to sustain the HTF.
- ❑ Projections indicate an annual \$40 billion shortfall in surface transportation revenues by the end of the current decade..

Evolution of Federal Highway Financing in the United States

Congress has typically relied upon pay as you go infrastructure investment however, financing through various means over the years has been an option:

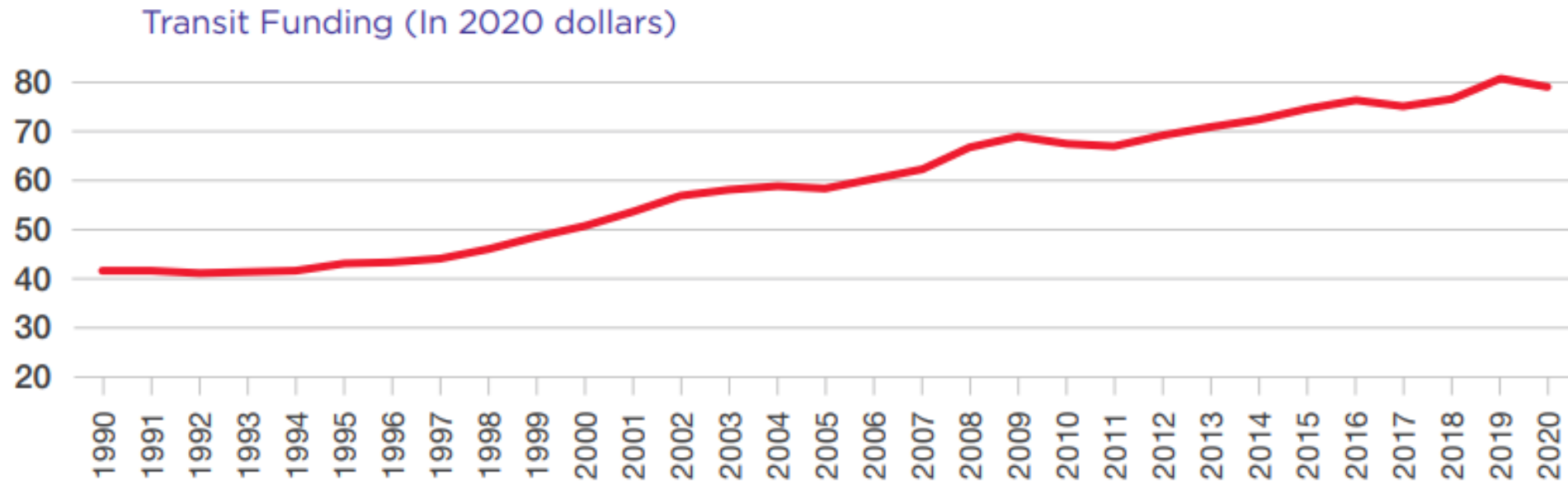
- ❑ This support includes tax preferences for state and local government borrowing.
- ❑ Federal loans, such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, have been instrumental.
- ❑ Congress has also encouraged private investment through public-private partnerships (P3s).

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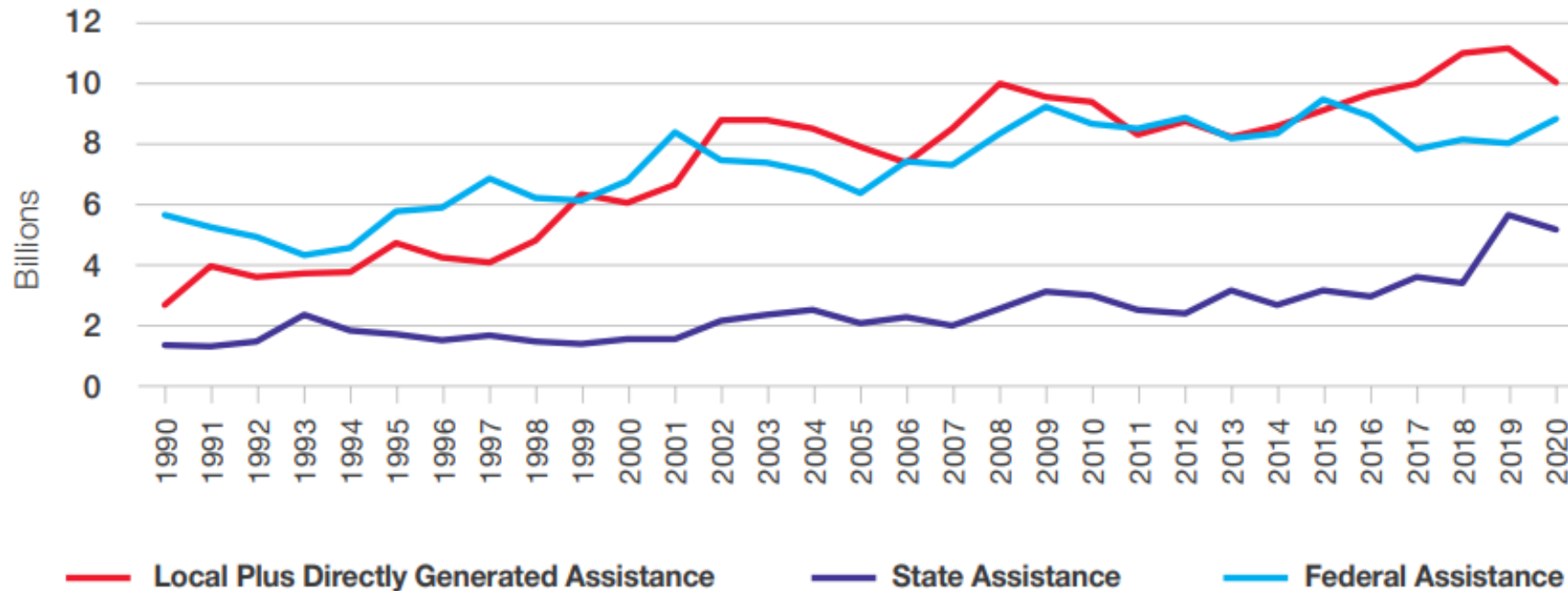
- ❑ Federal funds sub-accounts for highways and transit.
- ❑ Financing mechanisms differ: Project-specific, not formulaic.
- ❑ Growing federal commitment evident. This support includes tax preferences for state and local government borrowing.

Example: Evolution of Public Transit Funding in the United States



SOURCE: APTA FACT BOOK ANALYSIS

Evolution of Public Transit Funding in the United States



SOURCE: APTA FACT BOOK ANALYSIS

Infrastructure Investment and Jobs Act (IIJA)

- ❑ Landmark bipartisan legislation.
- ❑ Aims to revitalize U.S. infrastructure and create jobs.
- ❑ Historic investment of over \$1 trillion.
- ❑ Funds allocated to transportation, broadband, water, energy, and more.
- ❑ Expected to create millions of jobs.
- ❑ Phased rollout over several years.

Infrastructure Investment and Jobs Act (IIJA)

Infrastructure Investment and Jobs Act (IIJA)'s impact on transportation:

- ❑ Authorizes spending on federal highway and public transportation programs through September 30, 2026
- ❑ \$118 billion in general fund transfers to the HTF.
- ❑ Many of the continuing programs are not subject to subsequent annual appropriations acts
- ❑ IIJA provides additional non-trust fund sums via advance multiyear supplemental appropriations

Current Selected Federal Funding Programs

Multimodal Project Discretionary Grants (MPDG).

- ❑ Objective: Support projects aligned with the Department's strategic goals.
- ❑ **Mega** Grants: Funding for large-scale transportation projects.
- ❑ **INFRA** Grants: Targeting critical transportation challenges.
- ❑ **Rural** Grants: Supporting transportation projects in rural areas.

Current Selected Federal Funding Programs

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program

Program Overview:

- Formerly known as BUILD and TIGER
- Discretionary grant program under USDOT

Objectives:

- Investment in Road, Rail, Transit, and Port Projects

Eligibility Requirements:

- Open to State and Local Project Sponsors
- Supports Multimodal, Multi-Jurisdictional Projects

Current Federal Funding Programs

Other influential federal funding programs include:

Program Name	Category	Five-year Funding Amount
Airport Infrastructure Grants	Airports and Federal Aviation Administration Facilities	\$15,000,000,000
Amtrak National Network Grants	Passenger and Freight Rail	\$15,750,000,000
Bridge Formula Program	Roads, Bridges and Major Projects	\$26,675,000,000
Bridge Investment Program	Roads, Bridges and Major Projects	\$12,200,000,000
Congestion Mitigation & Air Quality Improvement Program	Roads, Bridges and Major Projects	\$13,200,000,000
Federal-State Partnership for Intercity Passenger Rail Grants	Passenger and Freight Rail	\$36,000,000,000
Highway Safety Improvement Program	Safety	\$15,557,499,996
National Highway Performance Program	Roads, Bridges and Major Projects	\$148,000,000,000
Surface Transportation Block Grant Program	Roads, Bridges and Major Projects	\$72,000,000,000
Urbanized Area Formula Grants	Public Transportation	\$33,390,947,107

Combination of Capital Funding and Finance Mechanisms at State Level

Funding:

- State Grant Programs
- State Revolving Funds (SRFs)
- State Matching Programs
- Transportation Sales Tax Programs

Financing:

- State Infrastructure Bank (SIB)
- State Transportation Bond Programs
- State P3 Programs

Current Local Funding and Finance Mechanisms

- Local Option Sales Taxes (LOST)
- Special Assessment Districts (SADs)
- Impact Fees
- Tax Increment Financing (TIF)
- Local Bond Measures
- Transportation Improvement Districts (TIDs)
- Developer Contributions

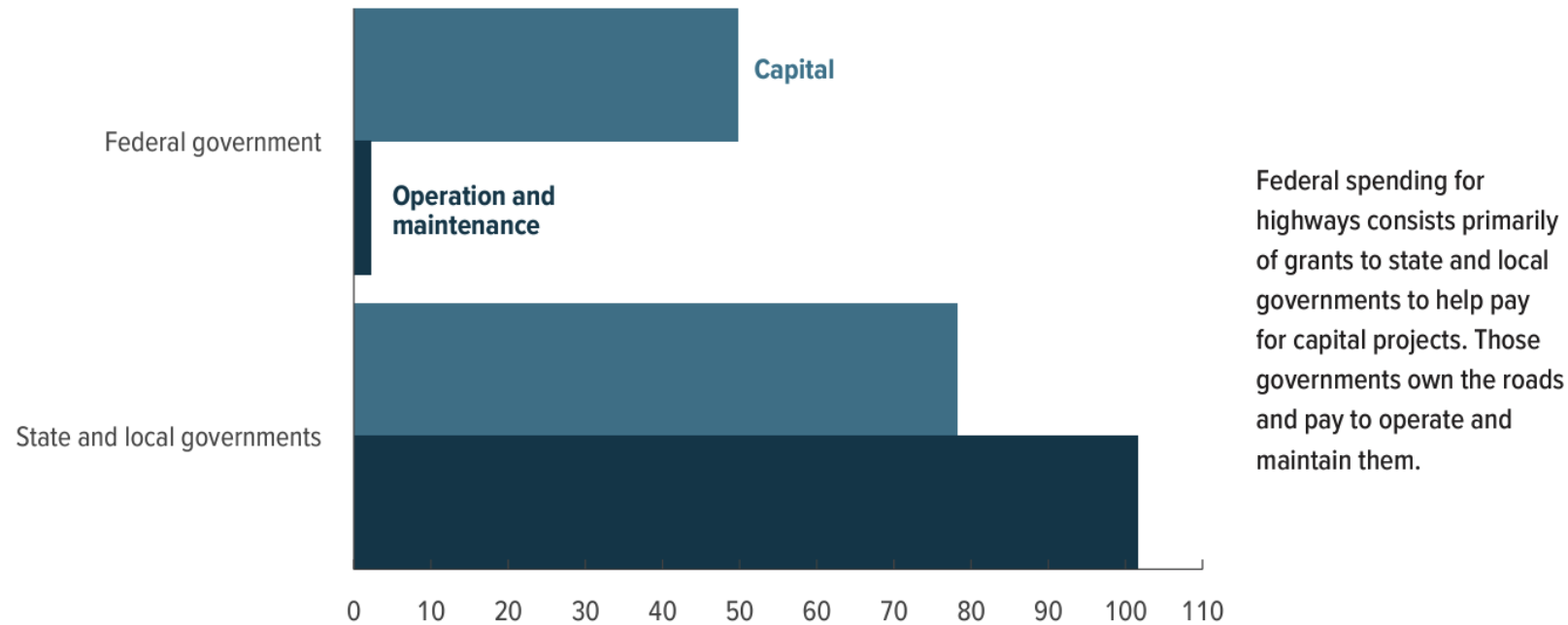
Operating Costs

- ❑ Transportation assets have a regular life cycle, which needs maintenance
 - Average semi-trailer truck causes as much damage as 5,000-10,000 cars
 - New vehicles – new challenges (ex. EV)
- ❑ Highways: necessary operating services such as maintaining and repairing existing assets (ex: filling potholes, guardrail replacement, snow removal), and covering costs of funding highway-related activities (ex: education about highway safety, police enforcement)
- ❑ Transit: necessary operating services include labor, fuel, insurance, repairs, and maintenance

Limited Federal Funding for Highway Operations

Spending for Highways, by Level of Government and Type of Spending, 2022

Billions of dollars



Federal spending for highways consists primarily of grants to state and local governments to help pay for capital projects. Those governments own the roads and pay to operate and maintain them.

Data source: Congressional Budget Office. See www.cbo.gov/publication/59634#data.

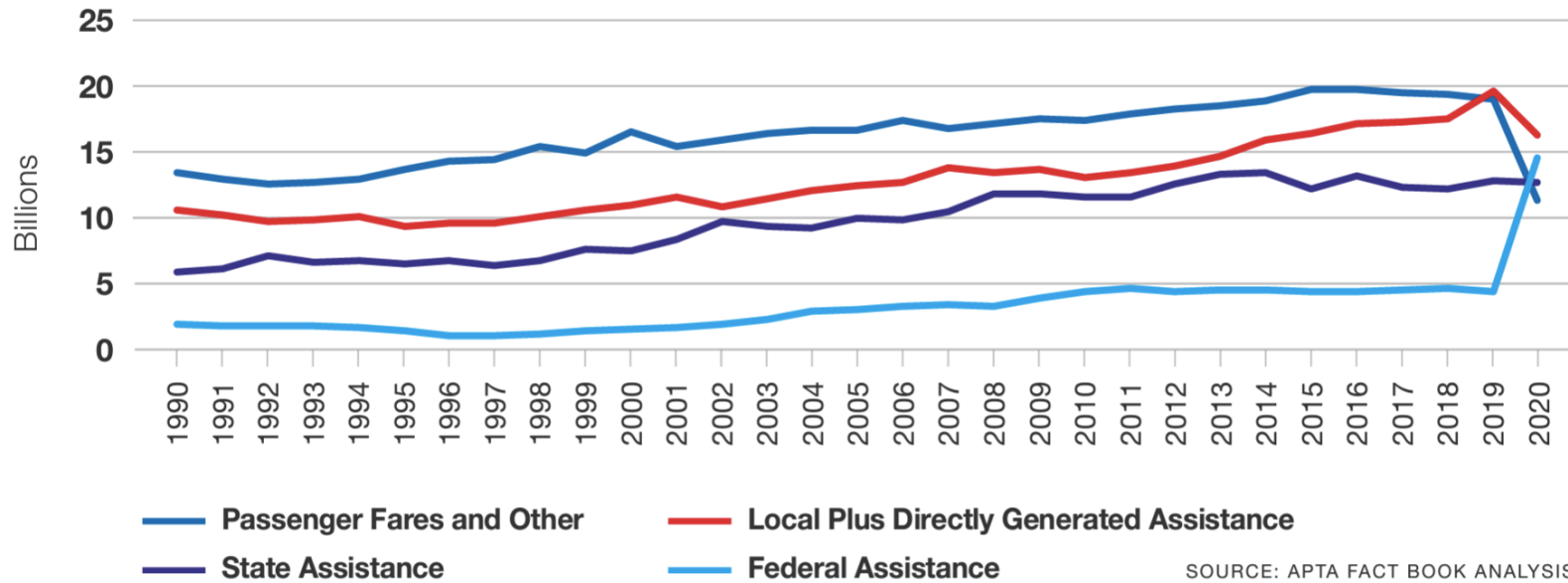
- Most infrastructure is owned by state and local governments, they must operate and maintain it.
- Intergovernmental transfer: State DOTs as designated recipients of federal funds, local governments as sub-recipients (Local governments receive federal funds through the state government)

Federal Funding and Financing for Operating Costs - Transit

- Use of federal funds increased with COVID

Figure 27: Federal COVID Relief Supplanted Fare Losses

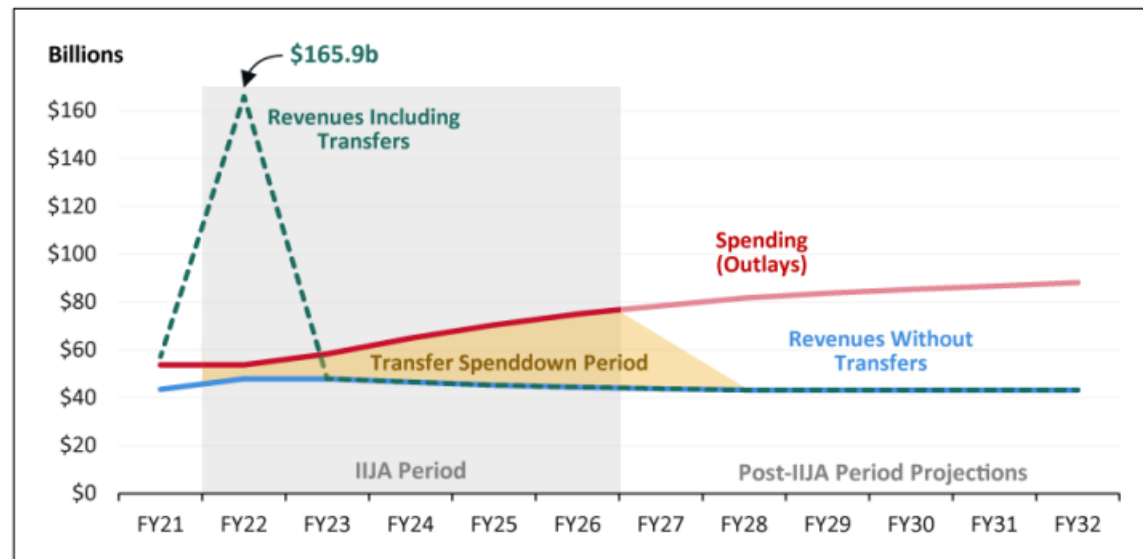
Operating Funding by Source (In 2020 dollars)



SOURCE: APTA FACT BOOK ANALYSIS

Takeaways

- ❑ The Underlying Problem: Revenue mechanisms dedicated for the current Pay as you go is not sustainable
- ❑ Taking into account the value of time, receiving public benefits earlier can be worth paying the cost of financing

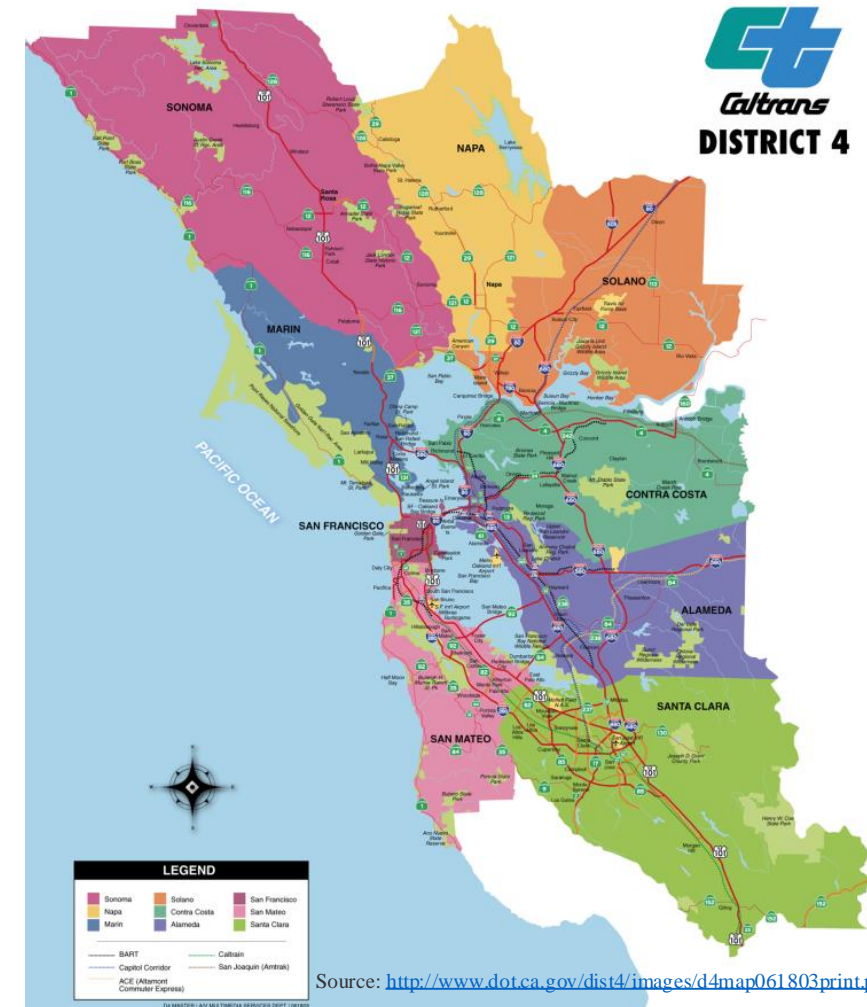


Source: Figure created by CRS based on CBO, Highway Trust Fund Projections: May 2023 HTF Baseline 2022- 2033.

San Francisco Bay Area Case Study

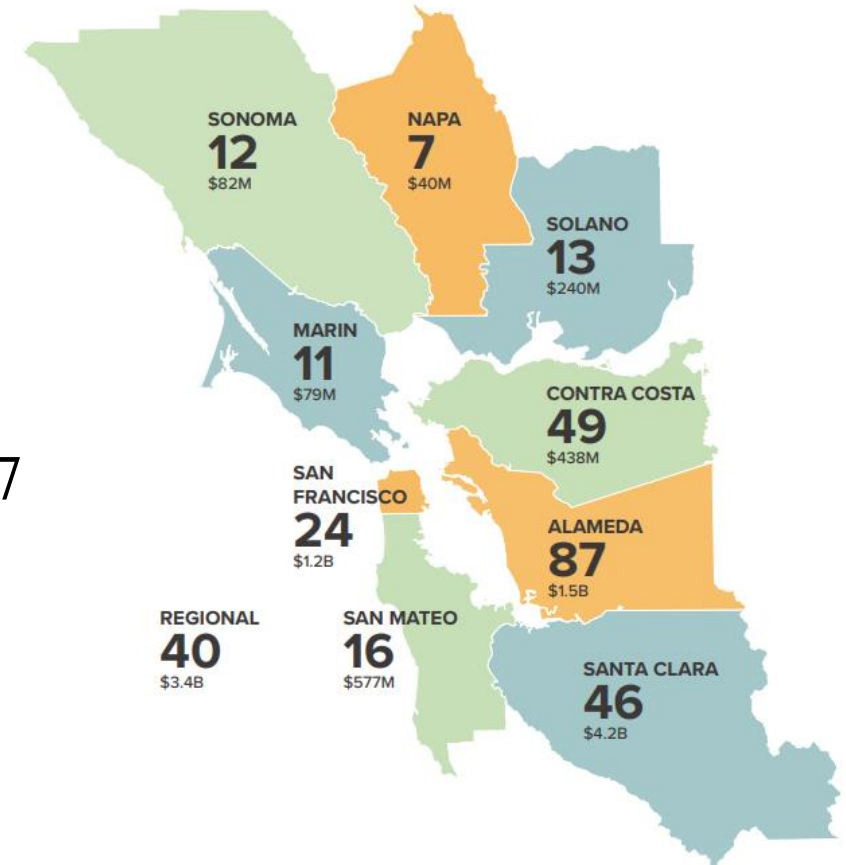
Background:

- ❑ Population: Approximately 7.75 million people
- ❑ Average Income: High household incomes, notably from the tech industry
- ❑ The Metropolitan Transportation Commission (MTC) serves as the transportation planning, financing, and coordinating agency



San Francisco Bay Area Funding Sources

- ❑ The funding landscape for Bay Area transportation agencies is both diverse and complex,
- ❑ Over 300 projects planned for 2025-2028, totaling \$11.7 billion in funding.
- ❑ Funding supports essential phases like environmental planning, design, engineering, and construction.



Number of Projects And Funding In The 2025 TIP

Source:

https://mtc.ca.gov/sites/default/files/documents/2024-09/Final_TIP_Update_2025_Fact_Sheet_English.pdf

San Francisco Bay Area Funding Sources – Federal

Name of the Program	Source
One Bay Area Grants	FHWA
Carbon Reduction Program	FHWA
National Highway Freight Program (NHFP)	FHWA
FTA State of Good Repair Grants: Transit Capital Priorities	FTA
FTA Transit Expansion Grants: Next Generation Transit	FTA
Transit & Intercity Rail Expansion and Modernization	Bipartisan Infrastructure Law
Nationally Significant Mobility & Goods Movement	Bipartisan Infrastructure Law
Safety, Equity, Resilience & Other Local Priority Projects	Bipartisan Infrastructure Law
Bridge & Highway	Bipartisan Infrastructure Law

San Francisco Bay Area's Transportation Programs with Federal Funding Sources

San Francisco Bay Area Funding Sources – Regional

Funded through voter-approved regional measures

MTC Assesses regional needs and enhances stakeholder collaboration.

Regional Measure 3: Funds highway and transit improvements.

Regional Measure 2: Supports projects for highways, transit, bicycles, and pedestrians.

Regional Measure 1: Financed upgrades to bridges and roadways across the Bay Area.

San Francisco Bay Area Funding Sources – State and Local

State-Level Funding:

Cap-and-Trade Program: Offsets greenhouse gas emissions through competitive project funding.

Gasoline & Diesel Excise Taxes: Funds highways, local streets, and transit.

Regional Early Action Planning Grant Program (REAP 2): Supports sustainable, inclusive local planning efforts.

Local-Level Funding:

County Transit & Transportation Sales Taxes: Funds local projects and initiatives.

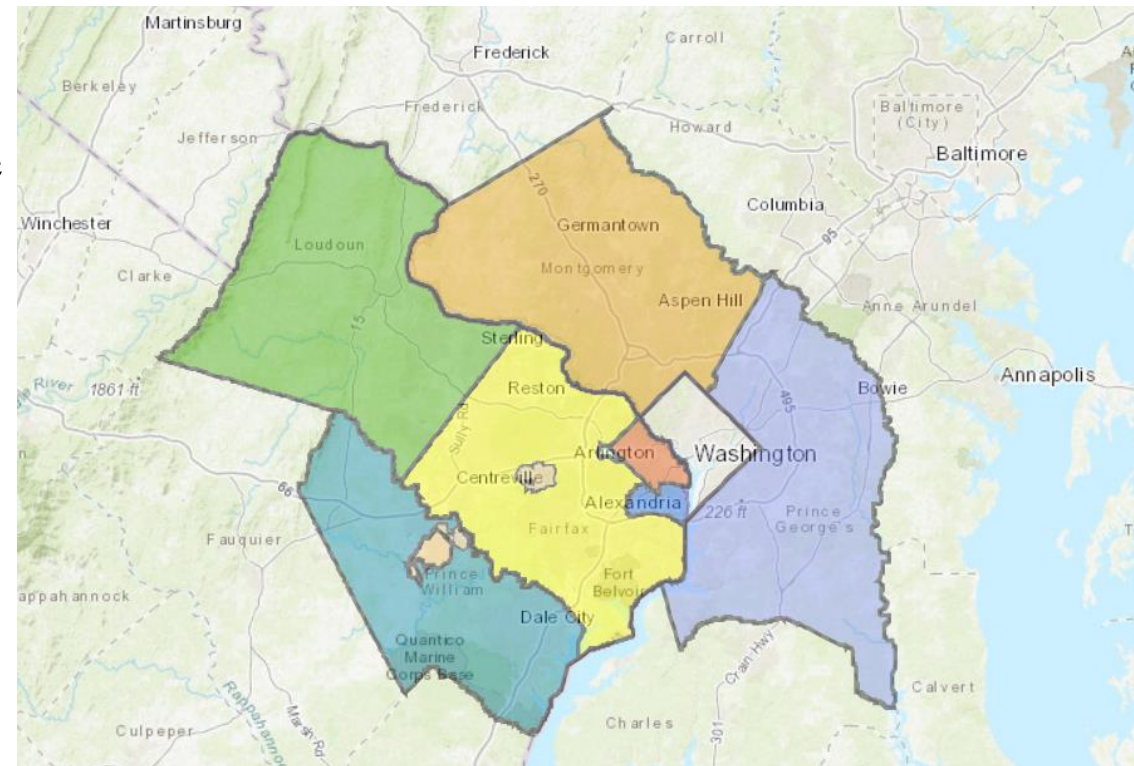
Local Highway Bridge Program (HBP): Maintains and repairs local bridges.

Highway Safety Improvement Program (HSIP): Funds safety improvements on local roads.

Washington Metropolitan Area Case Study

Background:

- ❑ Population: Approximately 6.64 million people
- ❑ Average Income: around \$98,000 per year
- ❑ Units of Government: Multiple counties (e.g., Fairfax, Montgomery), cities (e.g., Washington D.C.), towns, and special districts
- ❑ The National Capital Region Transportation Planning Board (TPB) serves as the area's Metropolitan Planning Organization (MPO)



Source: <https://www.ncpc.gov/maps/national-capital-region/>

Washington Metropolitan Area Funding Sources - Federal

Name of the Program	Source
BUILD Discretionary Grants	FHWA
Bridge Replacement and Rehabilitation	FHWA
Congestion Mitigation and Air Quality Improvement Demonstration	FHWA
High Priority Project	FHWA
Highway Infrastructure	FHWA
Highway Safety Improvement	FHWA
National Highway Freight	FHWA
Regional Surface Transportation	FHWA
Special Project	FHWA
State Planning & Research	FHWA
State Transportation Innovation Council	FHWA
Surface Transportation Block	FHWA
Transportation Alternatives	FHWA
TIFIA Loan	FHWA
Section 5303 – Metropolitan Transportation Planning	FTA
Section 5304 – Statewide Transportation Planning Grant	FTA
Section 5307 – Urbanized Area Formula	FTA
Section 5309 – Capital Investment Grant	FTA
Section 5310 – Elderly and Persons with Disabilities	FTA
Section 5311 – Non-urbanized Area Formula	FTA
Section 5337 – State of Good Repair	FTA
Section 5339(c) – Low or No Emission Vehicle	FTA
Section 5339 – Bus and Bus Facilities Formula	FTA
Passenger Rail Investment and Improvement Act	FTA

National Capital Region Transportation Programs with Federal Funding Sources

Washington Metropolitan Area Funding Sources - Regional

WMATA manages the region's
Metrorail, Metrobus, and
MetroAccess systems.

Relies on state, local, and federal
funding sources.

2024-2029 Capital Improvement
Program and 10-Year Plan outline
WMATA's capital needs.

Capital Needs divided into State of
Good Repair and Future
Compliance

Washington Metropolitan Area Funding Sources - State and Local

Maryland: Fuel taxes, sales taxes, and vehicle registration fees support highway and transit infrastructure.

Virginia: Similar funding sources, overseen by the Commonwealth Transportation Board (CTB) and the Six-Year Improvement Program (SYIP).

District of Columbia: Develops its Capital Improvement Program (CIP), approved by the U.S. Congress.

Self-Sufficiency Comparison

Next Steps:

- Explore the possible factors behind the Dependency Ratio difference
- Understand the Implications of Dependency Ratio
- Carried out more case studies to increase the sample size

Region	Federal Dependency Ratio (Federal/Total)
National Capital Region	48.07%
San Francisco Bay Area	18.10%

Federal Funds Dependency Ratios for the National Capital Region and the San Francisco Bay Area

Thank you!



QUESTIONS



COMMENTS



FEEDBACK

In-Class Exercise

- Three Groups developing approaches to funding and financing:
- Background on the Project:
 - American Legion Bridge connecting Virginia and Maryland through Interstate 495
 - Intensely used asset – reached the end of its useful life
 - Physical and operations problem – demand higher



Source: MDOT

In-Class Exercise

Exercise Time Break Down:

- 50 minutes to discuss in groups
- 50 minutes to present (16 minutes per team: 8 minute presentation for each group and 25 minute discussion at the end).

In-Class Exercise

Funding and Financing sources (in millions)	Total Dollars (in million)	Percentage
Federal MPDG/MEGA/INFRA Grants - Maximum: US\$ 2,419		
Federal Bridge Investment Program Grant - Minimum: US\$ 2.5 - Maximum: US\$ 3,000 *If you are choosing to apply to this grant, you must match it with a minimum of US\$800 from state sources (20% of the project cost).		
TIFIA loans or municipal bonds		
User Fees (Tolls)		
Increase share of fuel taxes allotted to the project		
Creation of special economic districts		
Vehicle Miles Traveled taxes		
Innovative Financing - Private equity through P3 model (ex: HOT lanes, Express Toll Lanes, availability payments)		