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Environmental and
Energy Study Institute

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Next Stop: Sustainable Public Transit and Mobility

Briefing Series: The Next Era of Transportation and Infrastructure

Tuesday, May 20, 2025

About EESI



Nonpartisan Educational Resources for Policymakers

A bipartisan Congressional caucus founded EESI in 1984 to provide nonpartisan information on environmental, energy, and climate policies



Direct Assistance for Equitable and Inclusive Financing Program

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



Commitment to Diversity, Equity, Inclusion, and Justice

We recognize that systemic barriers impede fair environmental, energy, and climate policies and limit the full participation of Black, Indigenous, people of color, and legacy and frontline communities in decision-making



Sustainable Solutions

Our mission is to advance science-based solutions for climate change, energy, and environmental challenges in order to achieve our vision of a sustainable, resilient, and equitable world

Polymaker Education



Briefings and Webcasts

Live, in-person and online public briefings, archived recordings, and written summaries



Climate Change Solutions

Bi-weekly newsletter with everything policymakers and concerned citizens need to know, including a legislation and hearings tracker



Fact Sheets and Issue Briefs

Timely, objective coverage of environmental, clean energy, and climate change topics



Social Media (@EESlonline)

Active engagement on Bluesky, Facebook, LinkedIn, X, and YouTube



Upcoming Briefings



The Next Era of Transportation and Infrastructure

4

Like Trains? Then Choo-Choose to Learn About Federal Rail Policy

Wednesday, May 28, 2:00 pm - 3:00 pm

Shifting Gears: Policies for a More Sustainable Highway System

Friday, June 13, 12:00 pm - 1:00 pm

Beating the Heat: A 2025 Heat Policy Agenda

Tuesday, June 17, 2:00 pm - 3:00 pm

2025 Congressional Renewable Energy and Energy Efficiency EXPO and Policy Forum

Thursday, July 24, 9:00 am - 7:00 pm

Sign up for our *Climate Change Solutions* newsletter here: eesi.org/signup



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What did you think of the briefing?

Please take 2 minutes to let us know at:
www.eesi.org/survey

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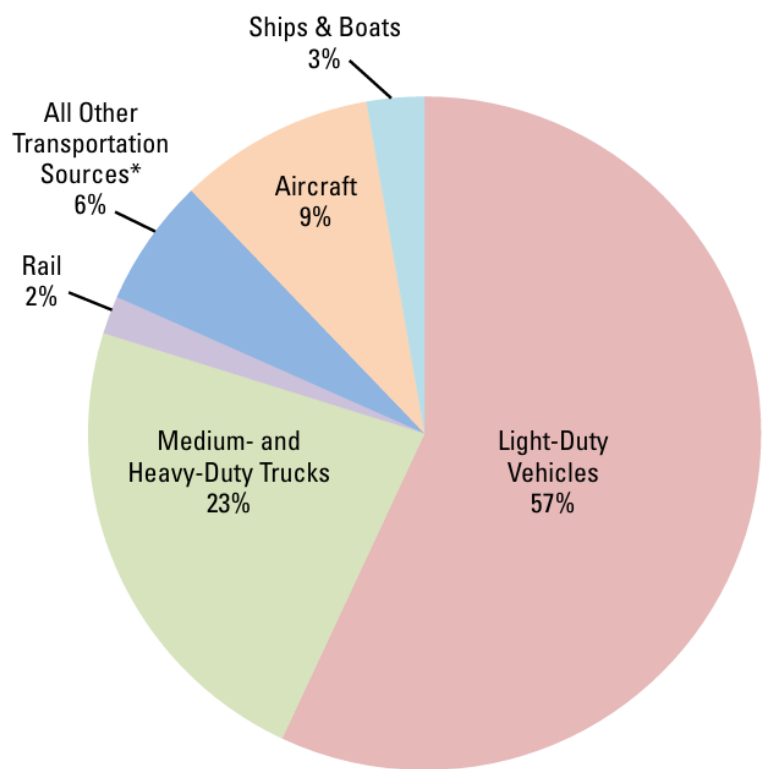
Tuesday, May 20, 2025

Next Stop: Sustainable Public Transit and Mobility

Rebecca Higgins, Eno Center for Transportation

Transportation and Climate Change: Basic Facts

Transport Sector: 28% of U.S. GHG emissions; 15% of global GHG emissions



Share of U.S. Transportation Sector
GHG Emissions by Source, 2022^{4,5}

Reducing Transport Emissions:

- Energy efficiency side solution:
Reduce emissions-intensity of vehicle miles traveled
→ Support transition from ICE to low/zero emission vehicles
- Demand side solution:
Reduce demand for miles traveled by high emissions vehicles
→ Support alternatives to single occupancy ICE vehicle travel

Transportation and Climate Change: Policy Tools

➤ Funding and other carrots

- Tax Credits and funding for purchase of zero emission vehicles or fleets
- Funding and tax credits for electric charging infrastructure
- Infrastructure Funding programs
- Transit benefits and other incentive programs

➤ Regulations, Pricing, and other sticks

- CAFE and GHG standards
- Congestion pricing, tolling, HOT lanes
- Carbon pricing

Public Transit as Sustainability Solution

- Per passenger emissions efficiency
 - Buses and trains can reduce greenhouse gas (GHG) emissions by up to two-thirds per passenger, per kilometer compared to private vehicles.
- Propulsion efficiency
 - Zero emission buses can reduce CO₂ emissions by upwards of 270,000 pounds per year compared to diesel and CNG buses
- Land-use efficiency
 - Mutual benefits of transit and denser land-use; both also support other zero-emission mobility options, e.g. biking and walking

Public Transit as Sustainability Solution

- Policy Tools for Advancing Transit for Sustainability
 - Networks of bus and rail facilitate the demand-side intervention of shifting transport modes away from single occupancy vehicles
 - Federal grants and loans opportunities to expand transit access and enable demand-side reduction of emissions
 - Public ownership of transit systems and existing reliance on federal funding facilitates use of both carrots and sticks to transition to ZEBs

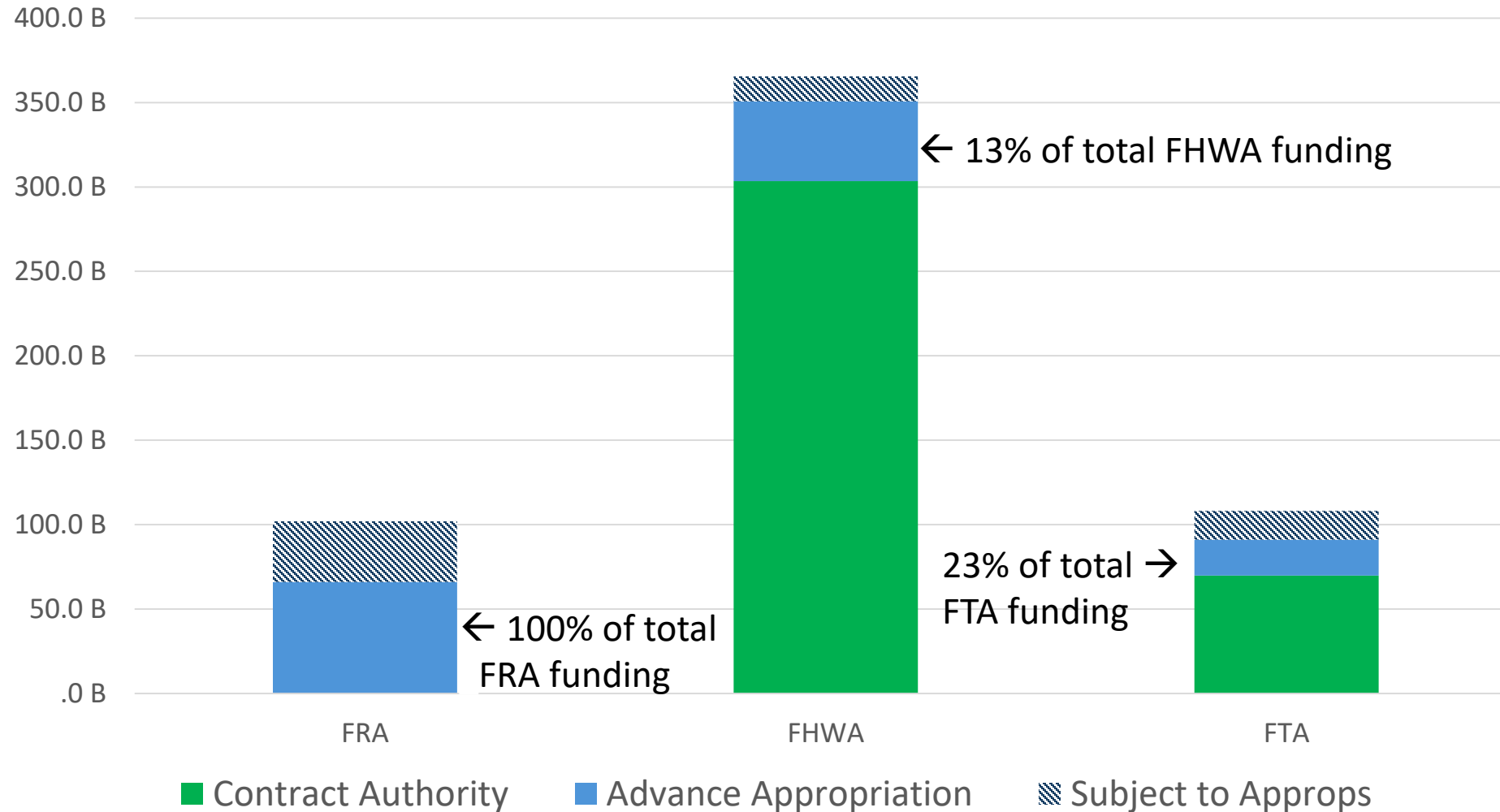
Transportation Reauthorization

- Committee Jurisdiction
 - House: Transportation and Infrastructure
 - Senate: Banking, Housing, and Urban Affairs (Public Transit); Commerce (Rail, Aviation, Safety); Environment and Public Works (Highways)
- Infrastructure Investment and Jobs Act
 - FY2022-FY2026
 - \$660.8 Billion in total authorized funding

Transportation Reauthorization

- Transportation Funding
 - Contract Authority – Dollars from Highway Trust Fund that are authorized and appropriated in the reauthorization
 - Subject to Appropriations – General Fund dollars, authorized but not appropriated in the reauthorization
 - Advanced Appropriations – 5 years of funding appropriated in Division J of IIJA authorization law
- Funding Shortfall
 - Reconciliation bill creates revenue for Highway account, not for transit account

IIJA Surface Transportation Funding



FTA Advanced Appropriation Programs

Capital Investment Grants	8,000 M
Low-No Emissions Bus Competitive Grants	5,250 M
State of Good Repair Grants	4,750 M
All Stations Accessibility Program	1,750 M
Ferry Service for Rural Communities	1,000 M
Electric or Low-Emitting Ferry Program	250 M
Enhanced Mobility of Seniors and Individuals with Disabilities	250 M



Driving Prosperity with Modern Transit

EESI Briefing, May 20, 2025, Jonah Crespo

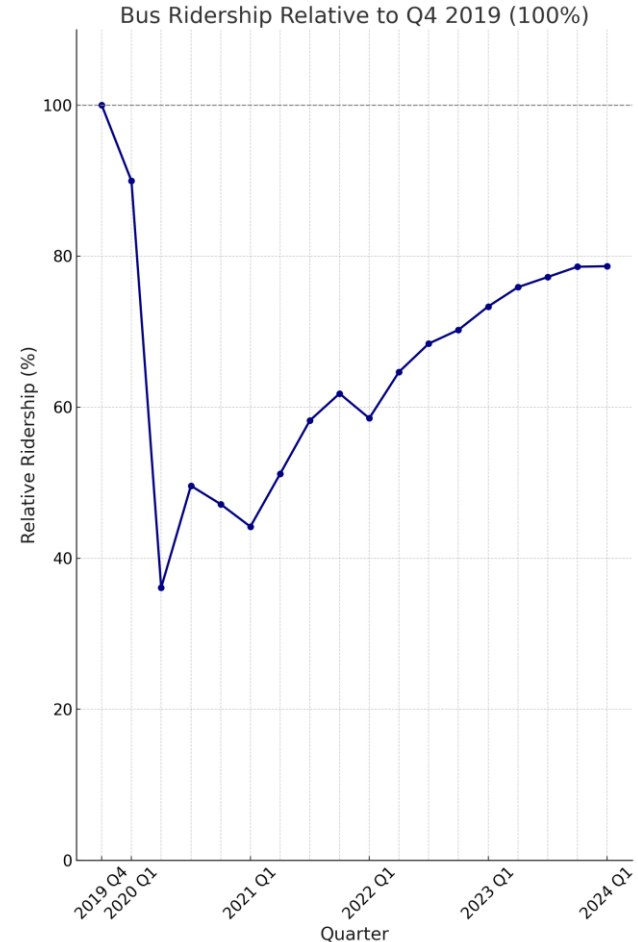
Driving Prosperity Through Modern Transit

- Transit is rebounding, now is the time to invest in better fleets
- Transit is a mode of modern, accessible, and reliable transportation which supports local economic development, skilled jobs, and keeps America moving



Rising Demand for Transit Services

- Post-COVID Ridership on the rise
- Projected to exceed pre-pandemic levels
- Driven by more than just commuters



Modern Fleets Improve the Community

- Less congested streets
- Rider experience is seamless
- More affordable transportation
- Better service leads to repeated service!



Transit Spurs Economic Development

- Every \$1 in transit investment returns \$5
- Transit Orientated Development supports walkable and vibrant communities
- Cleaner fleets complement neighborhood development



Transit Spurs Economic Development



Transit Spurs Economic Development



Investments in Transit Fuel American Jobs

- 77% of federal transit funds flow back to American businesses and jobs
- New technologies require skilled labor
- Transit drives foot traffic and local commerce



Smarter Fleets, Better Performance

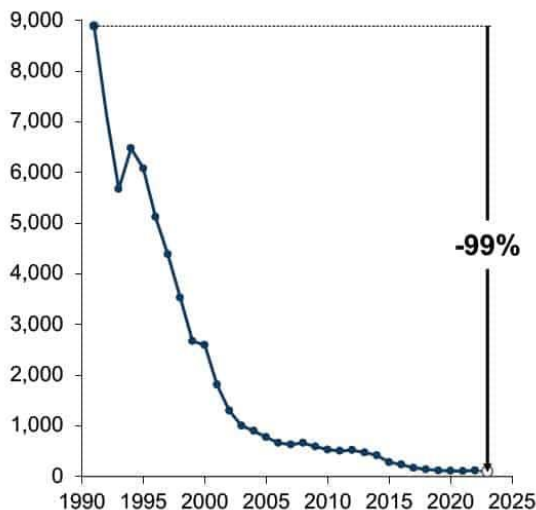
- Electric buses require less maintenance
- Battery prices are dropping rapidly
- Fewer breakdowns = higher uptimes, service



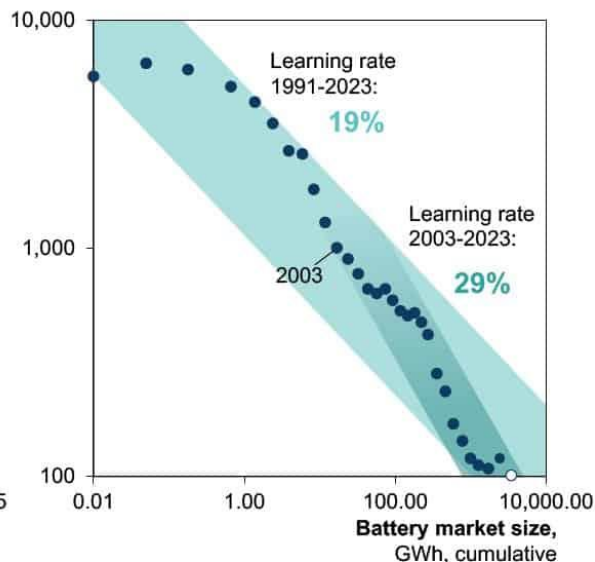
Smarter Fleets, Better Performance

Figure 3: Lithium-ion battery prices, \$/kWh (left), \$/kWh log scale (right)

Battery cost decline



Battery cost versus market size, log-log scale



Source: Ziegler and Trancik (2021)⁸ for 1991-2014, BNEF Lithium-Ion Battery Price Survey (2023)⁹ for 2015-2023, RMI analysis

Reaching More Riders, Unlocking Local Spending

- 50% of trips are for non-work purposes
- Transit access improves local economic participation
- Federal programs help fund transit service

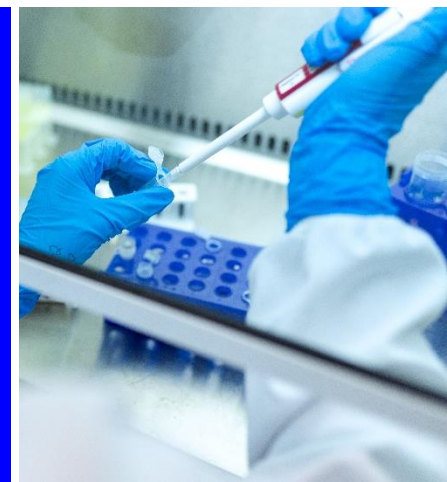




**Arnold
Ventures**

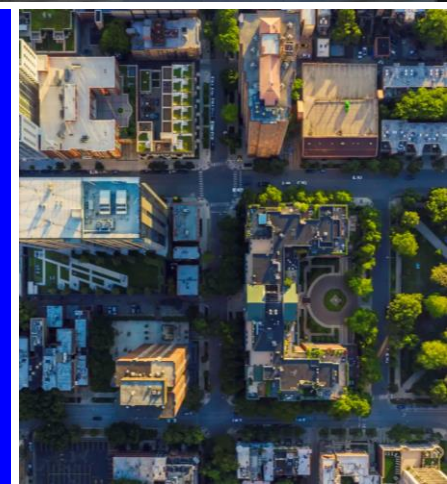
EESI Webinar

AV's core mission is to invest in evidence-based solutions that **maximize opportunity** and **minimize injustice**.



Infrastructure

- Arnold Ventures (AV) aims to bolster the country's ability to build the necessary infrastructure faster, better, and at lower cost.
 - This includes supporting policymakers at the federal, state, and local levels to craft and implement solutions;
 - identifying and removing barriers that unnecessarily slow down building timelines and add costs;
 - and working to enhance the capacity of government to effectively support delivering on the promise of major infrastructure investments.



Transit is a partnership between:

- Government
 - Federal
 - State
 - Local
- Local Businesses
- Employees
- Community organizations
- Riders
- Residents
- Advocates
- Real Estate
- Manufacturers and Service Providers



What are the main challenges and opportunities for public transportation?



Challenges

- Uncertain funding environment
- Changes to ridership patterns post-COVID
- Continued advances in the transportation sector

Opportunities

- Project delivery and streamlining
- Maximize the investment around transit
- Adopt new technology and practices



Uncertain funding environment

- Federal
 - Surface transportation bill reauthorization bill in 2026 or beyond –unclear funding environment
- State
 - Varies depending on state commitment to transit
- Local
 - Some areas are generating new local funding sources
 - Others are reconsidering local support
- Farebox
 - Many systems are not generating the fares they once did



Ridership changes post-COVID

- Pandemic impacted ridership across transit agencies
- Many systems back to pre-pandemic ridership levels or even higher
- Many systems are still significantly below pre-pandemic highs
- Commuter ridership not the driver it once was
- Ridership patterns have shifted to all-day service needs



Continued Technological Advances in Transportation Sector

- Transit is one of several non-car transportation modes
- Continued advancement of competing and complementary modes where transit operates
- Advance of autonomous vehicle technology



Near-Term Opportunities

- Project Delivery
- Program Streamlining
- Project Prioritization
- Maximize the investment in transit (TOD)
- Technology Adoption

Philanthropy's Role



Creating dialogue through research, policy and data that:

- Supports policymakers at the federal, state, and local levels to craft and implement solutions;
- Identifies and removes barriers that unnecessarily slow down building timelines and add costs;
- Works to enhance the capacity of government to effectively support delivering on the promise of major infrastructure investments



Reach out at jstoltzfus@arnoldventures.org