INTERCITY BUS & RAIL TRAVEL STUDY

Preliminary Findings

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TPB Technical Committee
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Preliminary Findings

Image credit: MWCOG

Amtrak ridership is nearing pre-pandemic levels with over 4.5 million trips in FY 2023, while intercity bus ridership is recovering more slowly at over 1 million trips.

The top origin-destination pairs are TPB - New York for both Amtrak (62 average daily train trips) and intercity bus (214 average daily bus trips).

Union Station in Washington, DC, is the busiest intercity stop, with 77 daily train trips and 171 daily bus trips.

Amtrak averages 173 daily train arrivals at different stops in the region, followed by FlixBus with 60 daily bus trips.

Big data sources such as Replica, NHTS NextGen OD, and Streetlight do not provide high-quality data for intercity travel studies.
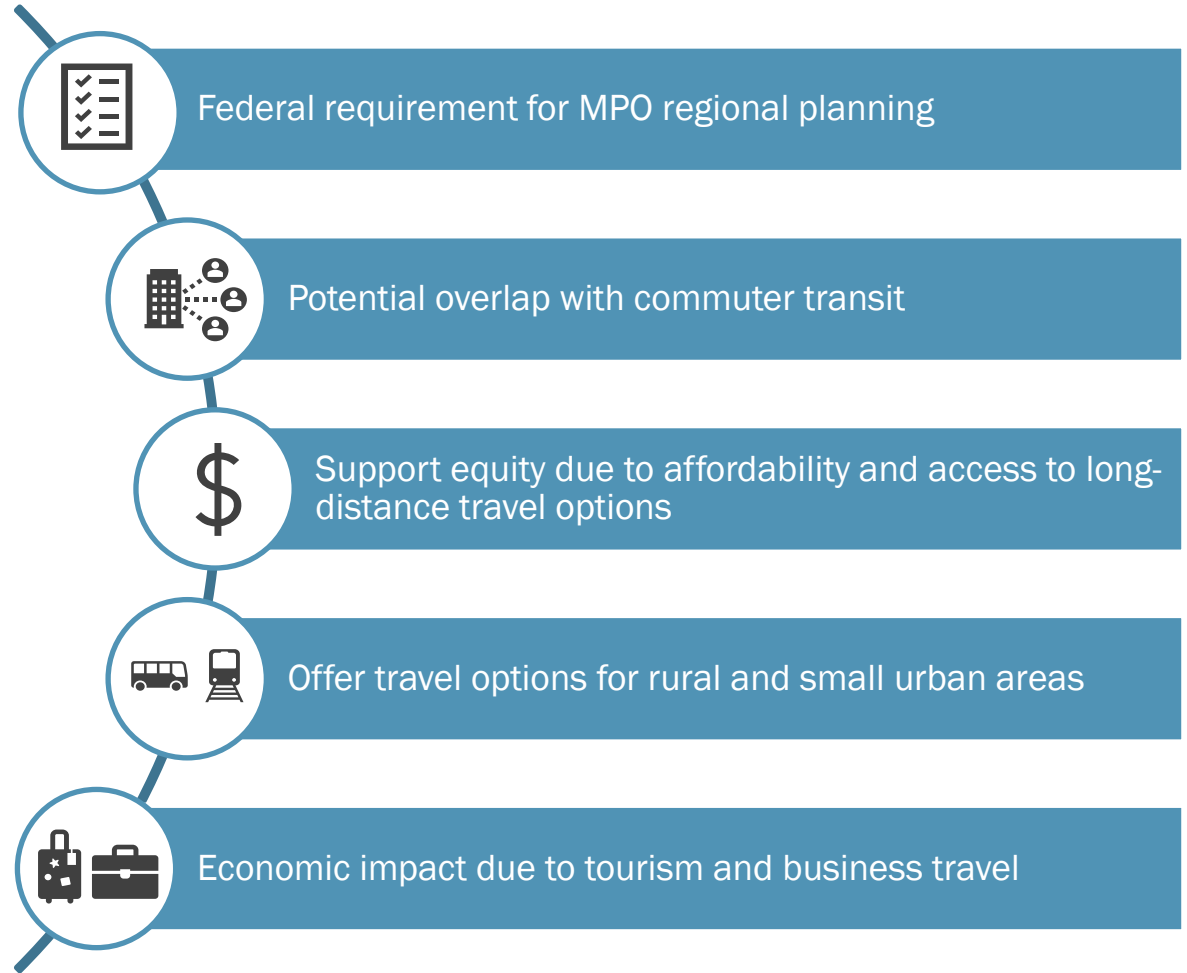
The intercept survey found that 61% of respondents traveled by bus, 28% by train. The primary reasons for travel were personal/leisure (35%) and visiting family or friends (35%).
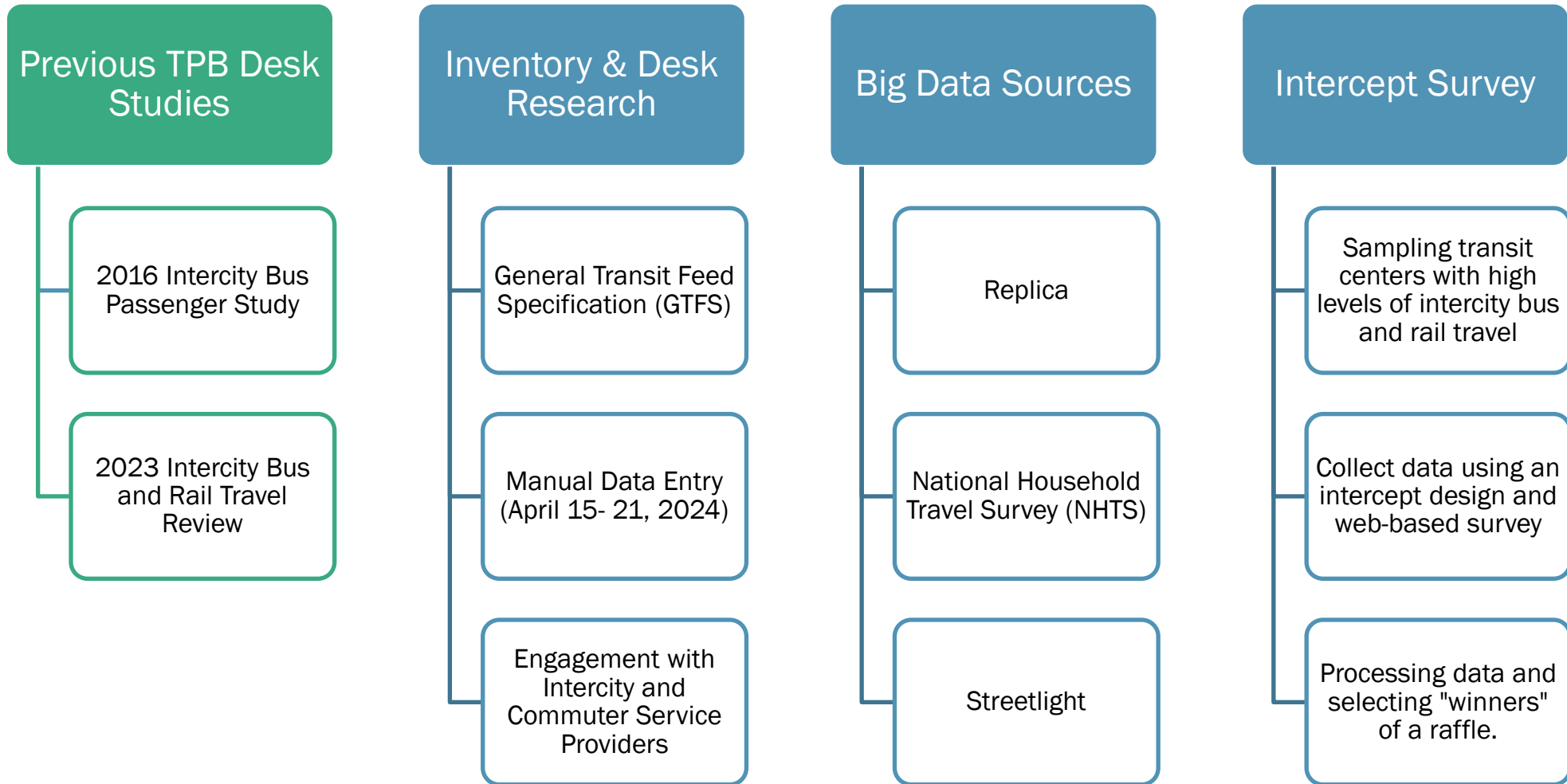
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Why Study Intercity Travel?

Image credit: usatoday.com

- Federal requirement for MPO regional planning
- Potential overlap with commuter transit
- Support equity due to affordability and access to long-distance travel options
- Offer travel options for rural and small urban areas
- Economic impact due to tourism and business travel

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Project Scope

Previous TPB Desk Studies
- 2016 Intercity Bus Passenger Study
- 2023 Intercity Bus and Rail Travel Review

Inventory & Desk Research
- General Transit Feed Specification (GTFS)
- Manual Data Entry (April 15- 21, 2024)
- Engagement with Intercity and Commuter Service Providers

Big Data Sources
- Replica
- National Household Travel Survey (NHTS)
- Streetlight

Intercept Survey
- Sampling transit centers with high levels of intercity bus and rail travel
- Collect data using an intercept design and web-based survey
- Processing data and selecting "winners" of a raffle.

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Intercity Bus & Rail Network Snapshot

Intercity Transit Major Corridors and Destinations

Links Over 50 Cities Across 21 States

- Mostly Northeast Corridor
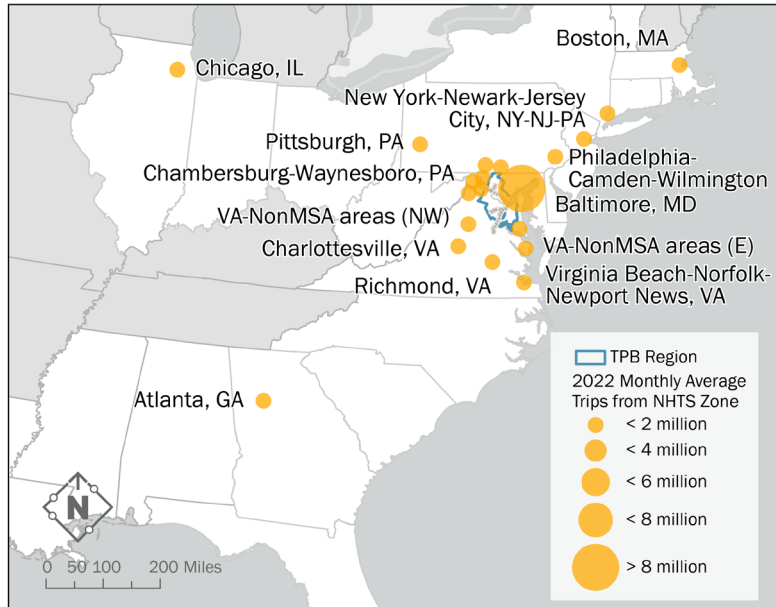
Service Providers

- 1 Intercity Rail
- 13 Intercity Bus
- 3 Commuter Bus
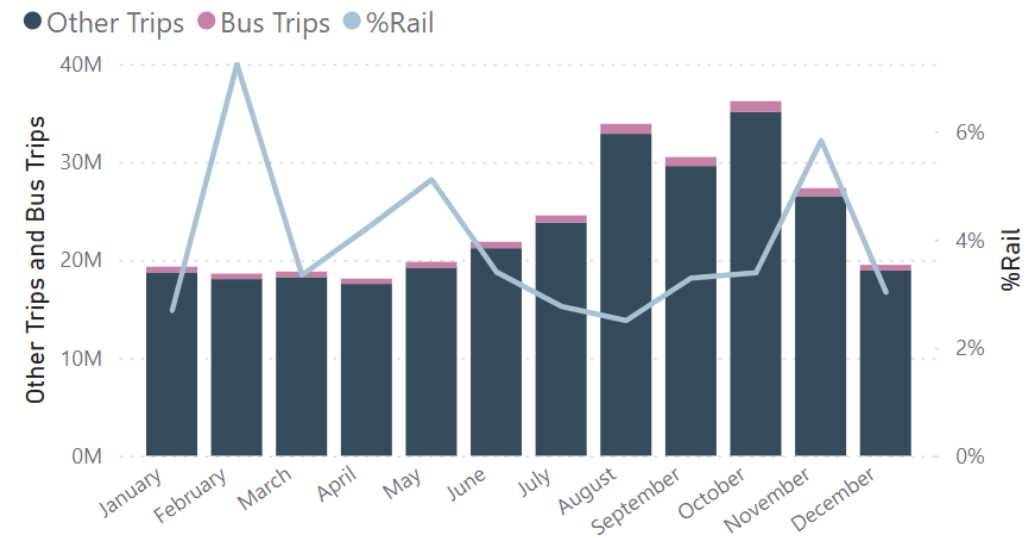- 2 Commuter Rail

Recent or Future Service Changes

- Megabus Bankruptcy
- Virginia Breeze Expansion

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Trip Volume: 2022 NHTS NextGen OD

Average Monthly Trip Volumes by Origin Zone
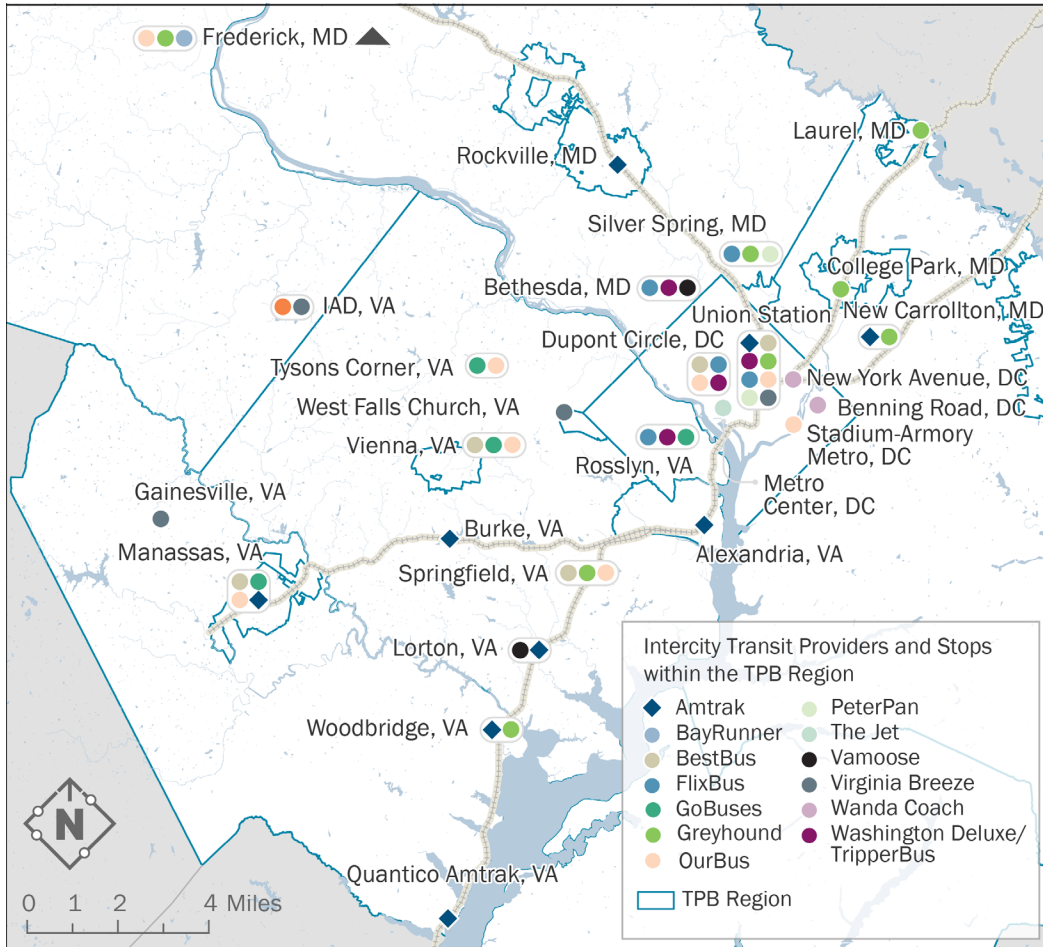

Monthly Travel Trends to the TPB Region

Key Findings

- The largest number of trips to the TPB region start and end in zones in the neighboring states of Virginia and Maryland.
- Many of the same zones are present in origin and destination, indicating a strong bidirectional travel flow for these regions.
- The number of trips overall increases in August and during the fall. Rail trips peak in February and are also high in May and November.
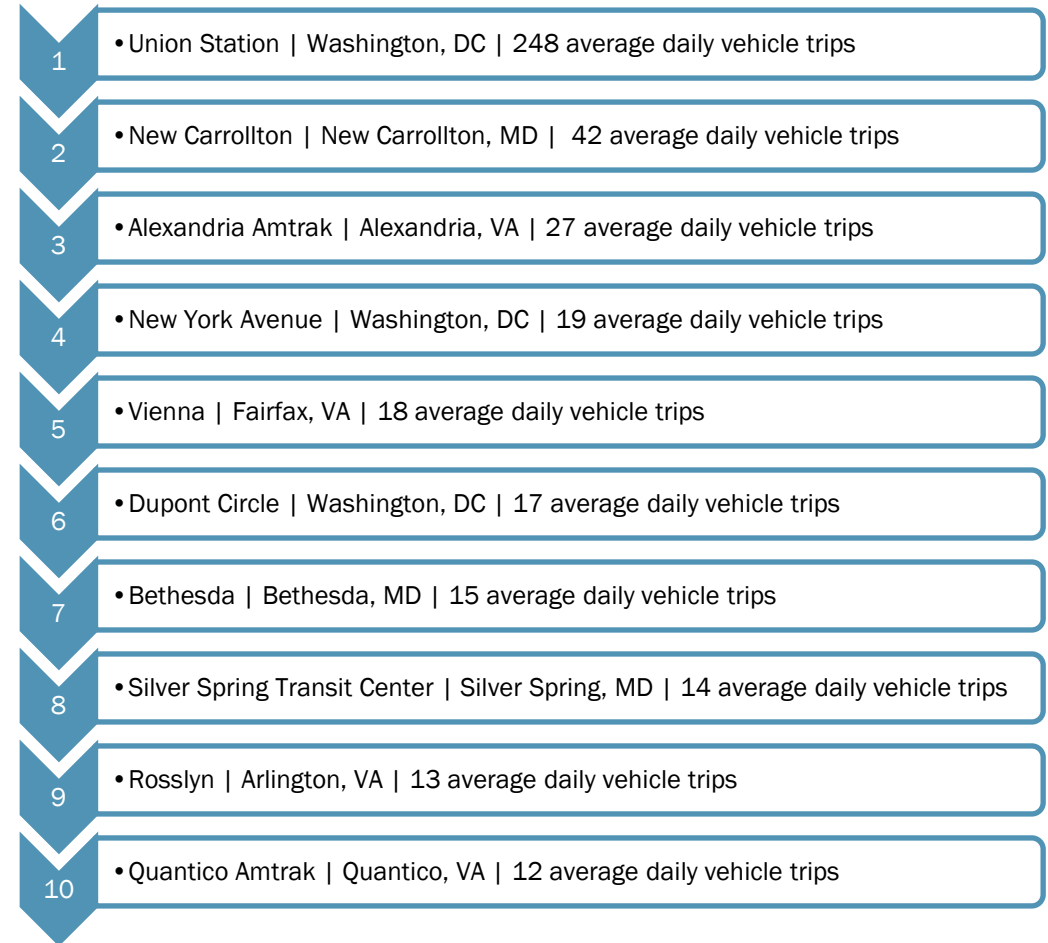
TPB's Intercity Travel Stops

31 Intercity Stops Within the TPB Region

Map showing Intercity Transit Providers and Stops within the TPB Region, including locations such as Frederick, MD; Laurel, MD; Rockville, MD; Silver Spring, MD; College Park, MD; Bethesda, MD; IAD, VA; Union Station; New Carrollton, MD; Dupont Circle, DC; Tysons Corner, VA; New York Avenue, DC; West Falls Church, VA; Benning Road, DC; Stadium-Armory Metro, DC; Vienna, VA; Rosslyn, VA; Metro Center, DC; Gainesville, VA; Burke, VA; Manassas, VA; Alexandria, VA; Springfield, VA; Lorton, VA; Woodbridge, VA; Quantico Amtrak, VA.

Legend — Intercity Transit Providers and Stops within the TPB Region:
- Amtrak
- BayRunner
- BestBus
- FlixBus
- GoBuses
- Greyhound
- OurBus
- PeterPan
- The Jet
- Vamoose
- Virginia Breeze
- Wanda Coach
- Washington Deluxe/TripperBus
- TPB Region

Scale: 0 1 2 4 Miles

Top Intercity Stops

1. •Union Station | Washington, DC | 248 average daily vehicle trips
2. •New Carrollton | New Carrollton, MD | 42 average daily vehicle trips
3. •Alexandria Amtrak | Alexandria, VA | 27 average daily vehicle trips
4. •New York Avenue | Washington, DC | 19 average daily vehicle trips
5. •Vienna | Fairfax, VA | 18 average daily vehicle trips
6. •Dupont Circle | Washington, DC | 17 average daily vehicle trips
7. •Bethesda | Bethesda, MD | 15 average daily vehicle trips
8. •Silver Spring Transit Center | Silver Spring, MD | 14 average daily vehicle trips
9. •Rosslyn | Arlington, VA | 13 average daily vehicle trips
10. •Quantico Amtrak | Quantico, VA | 12 average daily vehicle trips

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Top Origins and Destinations

Amtrak

1. TPB - New York (62 average daily train trips)
2. TPB – Boston (56 average daily train trips)
3. TPB – Norfolk (21 average daily train trips)
4. TPB – Newport News (14 average daily train trips)
5. TPB – Roanoke (11 average daily train trips)

Intercity Bus

1. TPB - New York (214 average daily bus trips)
2. TPB – Atlanta (27 average daily bus trips)
3. TPB – Richmond (12 average daily bus trips)
4. TPB – Chicago (9 average daily bus trips)
5. TPB – BWI (7 average daily bus trips)

Commuter Bus & Rail

1. Baltimore Penn – Washington (MARC): 44 average daily train trips
2. Gaithersburg - BWI Business Dist. (MTA Commuter Bus): 25 average daily bus trips
3. Charlotte Hall/Waldorf – DC (MTA Commuter Bus): 24 average daily bus trips
4. Annapolis - Washington DC (MTA Commuter Bus): 19 average daily bus trips
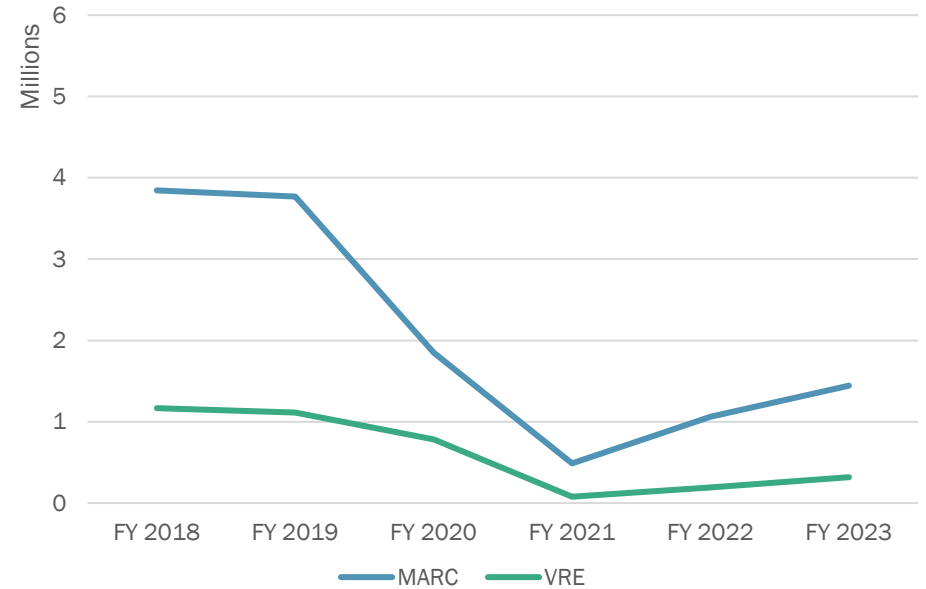5. Sunderland / Dunkirk – DC (MTA Commuter Bus): 19 average daily bus trips

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Ridership at Union Station
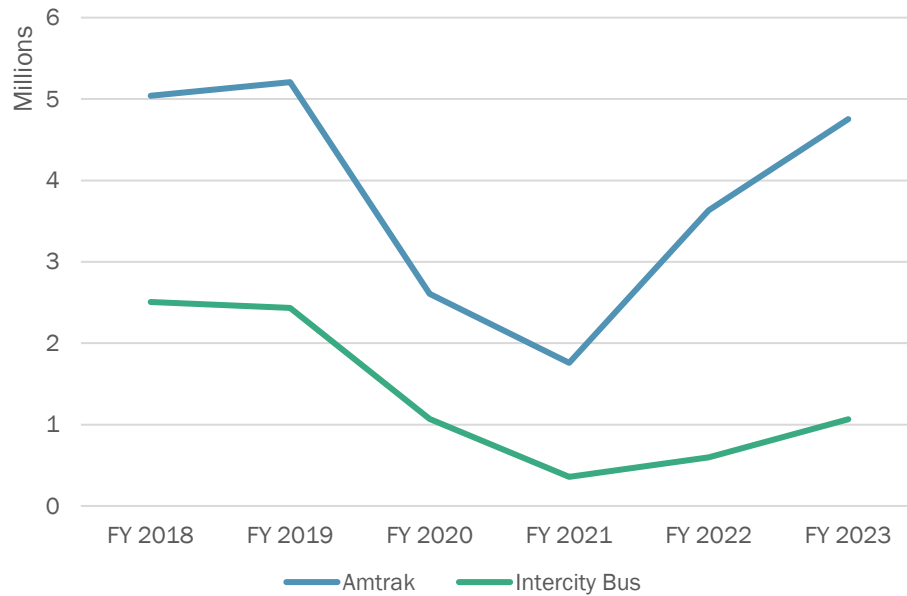
Intercity Service Ridership

Commuter Service Ridership

Intercity Bus & Rail

- Amtrak is near its pre-pandemic highs
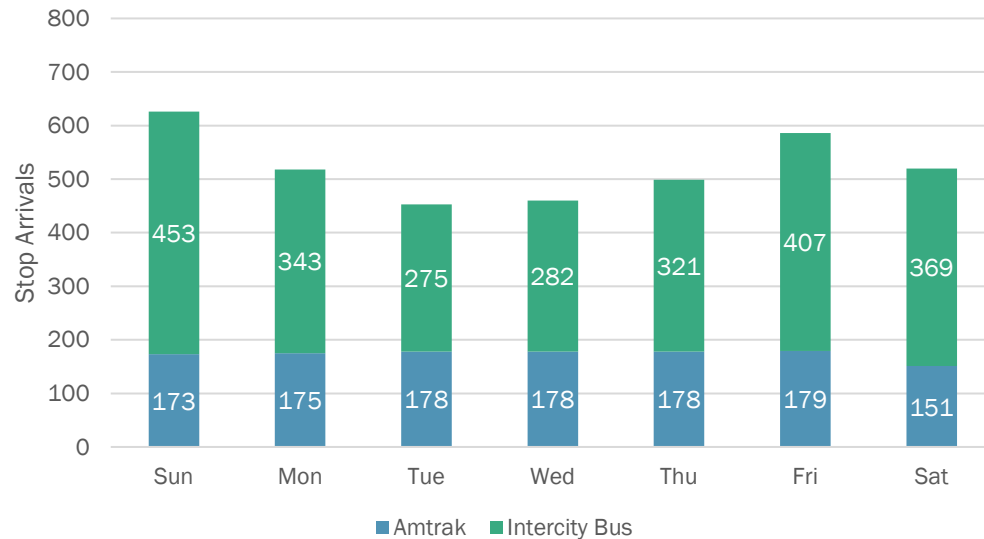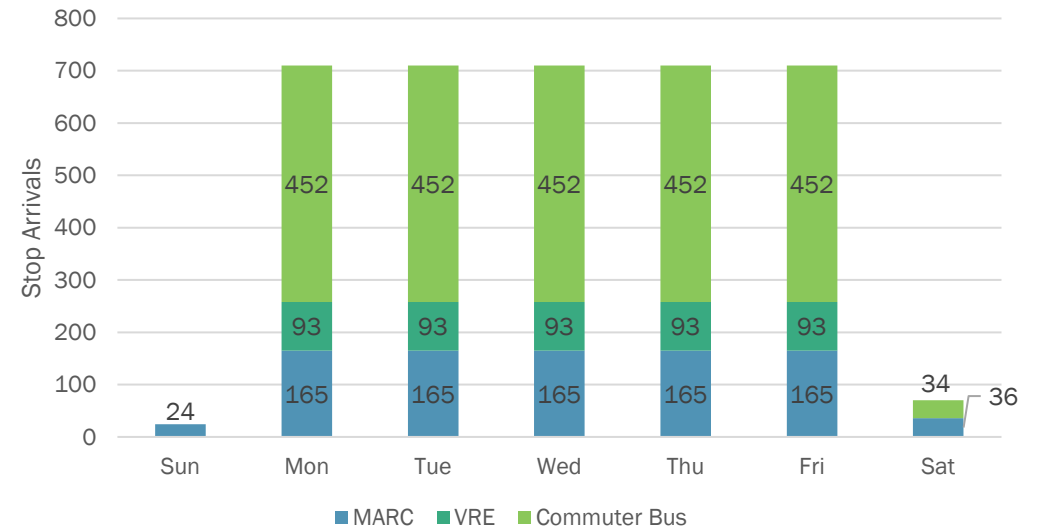- Intercity bus ridership has been slower to recover

Commuter Rail

- Services have been slower to recover than Amtrak

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Regional Trip Patterns

Daily Vehicle Trips – Amtrak & Intercity Bus

Daily Vehicle Trips – MARC, VRE & Commuter Bus

Holiday Week Stop Arrivals by Provider

Provider	Average Week	Memorial Day	July 4th	Labor Day	Thanksgiving	Christmas
Amtrak	1,212	1,184	1,212	1,212	1,217	1,217
BayRunner	104	104	104	104	104	104
FlixBus	416	418	443	458	470	472
Greyhound	406	406	406	406	406	406
PeterPan	185	185	185	117	--	--

[1] Virginia Breeze is excluded from this analysis as the GTFS feed is expired and does not line up with the holiday periods examined.

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Intercept Survey - Methods

Image credit: MWCOG

Location

- In-person intercept survey conducted primarily at major transit hubs throughout the TPB. region, with a special focus on Union Station.

Survey Details

- 5-minute questionnaire about trip origin, destination and other details.
- Two options to take the survey:
  - Tablets handed out by interviewers
  - Postcards with QR codes
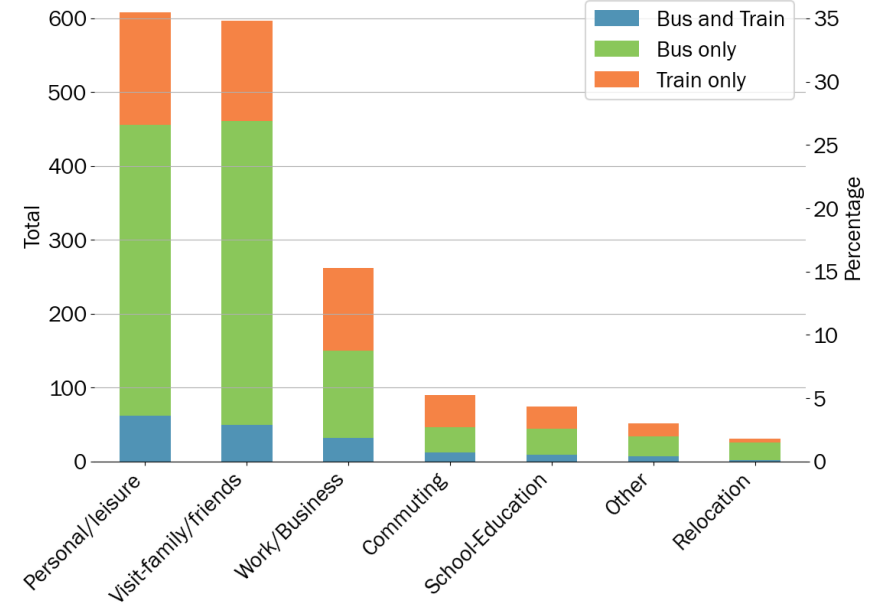- All eligible respondents were entered into a raffle to win a $100 Amazon gift codes.

Timeline & Responses

- Fielded over four weeks in September and October 2024.
- Achieved a total of 1,708 completes.

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Intercept Survey – Preliminary Findings
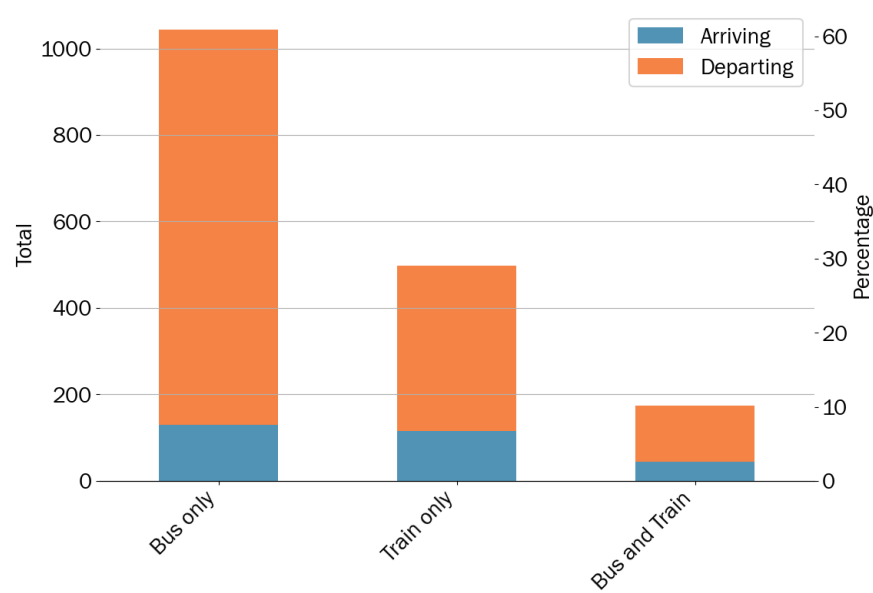
Travel Mode

Trip Purpose

Key Findings

- Most respondents traveled by bus (61%), while 28% used trains exclusively. About 10% reported a combination of bus and train travel.
- The majority of the survey participants were leaving the TPB region.
- The primary reasons for travel were personal/leisure (35%) and visiting family or friends (35%).
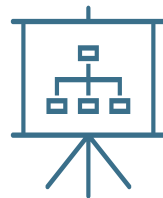
Next Steps

Complete Survey Data Analysis (October 2024)

- Travel Patterns
- Demographics
- Accessibility & Equity

Reporting & Web Map (December 2024)

- Inventory & Desk Research
- Big Data Sources
- Intercept Survey

Technical Committee Presentations (December 2024)

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Appendix A: Big Data Sources

Criteria	Replica		NHTS
	Places Dataset	_County-to-County Origin-Destination_	_NextGen OD_
Data Source	LBS	LBS	Survey
Geographic Granularity	Customizable (down to Block Group or custom)	City/County	NHTS zones
Temporal Granularity	Hour of Day	Average Weekday/Saturday	Month Totals
Available Modes	Walking, biking, carpooling, commercial, on-demand auto, private auto, public transit, and other travel modes	Private auto, auto passenger, transit, walking, biking, and other.	Air, Rail, Vehicles
Data Span	Fall 2019 – Fall 2023	Fall 2019 – Fall 2023	1969 -2022 (every 5-8 years)
Update Frequency	Biannual	Weekly	Monthly
Most recent data	Spring 2023	12-day lag	2022
Available Trip Purposes	Home, work, work from home, school, shop, social, recreation, eating, lodging, region departure, and other.	N/A	Work / Non-work
Socio-Demographics	OD land use, age, sex, race, ethnicity, income, employment, education, household role, subfamily, commute mode, household size, language (only available within a megaregion)	N/A	N/A
Maximum Trip Length (Miles)	12,000	12,000	300+
Maximum Trip Duration (Minutes)	8,000	8,000	N/A
Data Fidelity	Average day in a season	Average day in a week	Monthly
ETL Process	Direct database access	Flat file data download	Flat file data download
Other Available Information	Activity chain	Expenditures	

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