THINKTENNESSEE

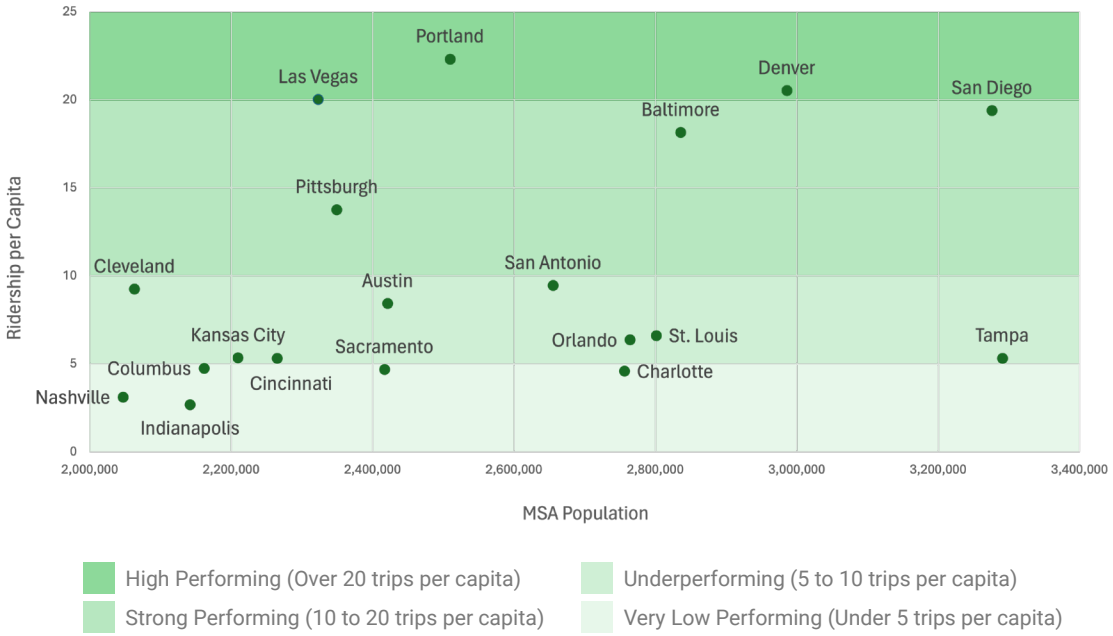
RESEARCH REPORT

Investments Today Matter Tomorrow:
Transit Lessons from Other Metro Areas

In 2022, Nashville's metro region reached just over two million people, making it the 35th largest region in the country.[1] According to the Greater Nashville Regional Council (GNRC), the Nashville region is on track to reach three million people by 2040.[2] In 2022, Nashville's annual transit ridership was around 6.5 million trips, which is behind many of our peers, including Cleveland and Columbus.[3] However, strategic, immediate, and long-term investments in our transit system can substantially increase ridership as Nashville grows and bring its ridership in line with high-performing future peer cities of three million, including San Diego (63,544,417), Denver (61,284,680), and Baltimore (51,454,797).

Using information from the National Transit Database (NTD), Think*Tennessee* analyzed transit data for the top 35 metro regions, including Nashville. The data tells a clear story: all cities, regardless of size or region, can be high-performing transit cities if they invest in increasing service and are committed to prioritizing transit over private vehicles, particularly in the densest part of the urban core. The best-performing transit cities have invested in robust frequent bus service, and a network of dedicated-lane, high-capacity corridors combining bus rapid transit (BRT) and rail transit.

Midsize Metro Areas Can Achieve High per Capita Transit Ridership



Think*Tennessee* compiled 2022, 2021, and 2019 ridership data for every major transit agency in each region's metropolitan statistical area (MSA) and used 2022 data to compile ridership by mode, service hours provided, and operating expenses to analyze the efficiency and effectiveness of the service provided in each region.[4] Based on this data, the metros were divided into four categories: high performing, strong, underperforming, and very low.[5]

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KEY TAKEAWAYS

1. Nashville's current transit system is underfunded, provides low levels of service, and is underperforming.
2. If Nashville makes the right investments today, it could increase transit ridership by 600% to 800% as it grows.
3. A robust frequent bus network is the backbone of every high-performing transit city.
4. BRT corridors can be a critical element of high-performing transit cities, but they must meet BRT Standard design guidelines to live up to their potential.
5. Single high-capacity corridors can produce high ridership per mile, but they are usually not enough to increase ridership citywide without additional investments.
6. Light rail performs best when routed through the urban core compared to routes utilizing former freight rail track.

1 Nashville's current transit system is underfunded, provides low levels of service, and is underperforming.

Nashville spends fewer dollars per capita on transit and provides fewer hours of service than peer cities. As a result, Nashville's total annual transit ridership and our transit ridership per capita is the second lowest among the top 35 metros. Only Indianapolis has lower ridership and lower transit service hours. Kansas City has nearly double Nashville's transit ridership despite lower service hours because of their high-performing streetcar line.

	Nashville	Cleveland	Indianapolis	Columbus	Kansas City
Metro Population	2,046,828	2,063,132	2,141,779	2,161,511	2,209,494
Transit Ridership	6,512,365	19,081,613	5,751,302	10,275,316	11,807,263
Ridership/Capita	3.18	9.25	2.69	4.75	5.34
Service Hours (VRH)	648,025	1,584,028	666,606	1,009,154	581,599
Operating Expenses	$78,663,692	$239,698,711	$107,691,151	$143,288,146	$104,993,681
Operating Expenses/ Capita	$38.43	$116.18	$50.28	$66.29	$47.52

2 If Nashville makes the right investments today, it could increase transit ridership by 600% to 800% as it grows.

The Nashville region is expected to grow to three million by 2040.[6] Many regions of this size have significantly higher transit ridership than Nashville. San Diego, Denver, and Baltimore have 50% more population than Nashville today, but their transit ridership is 600-800% higher.

	Nashville	San Diego	Denver	Baltimore
Population	2,046,828	3,276,208	2,985,871	2,835,672
Transit Ridership	6,512,365	63,544,417	61,284,680	50,205,947
Transit Ridership vs Nashville	N/A	876%	841%	671%
Ridership/ Capita	3.18	19.4	20.5	17.7
LRT Miles	0	130	120	58
LRT Ridership	0	29,739,499	13,604,641	2,903,523

3 A robust frequent bus network is the backbone of every high-performing transit city.

The foundation of every successful transit city is a robust frequent transit network that provides at least 15-min frequent service, 20-24 hours per day, 7 days a week. Each of the high-performing transit cities (i.e. has a ridership per capita over 20) has prioritized hours of service, with a particular focus on a frequent bus network. All eight high-performing transit cities provide more annual transit service hours than residents (over 100% VRH per capita) and each transit service hour generates over 17 trips. Six additional "strong" transit cities have over 87% VRH per capita and each service hour generates over 14 trips.

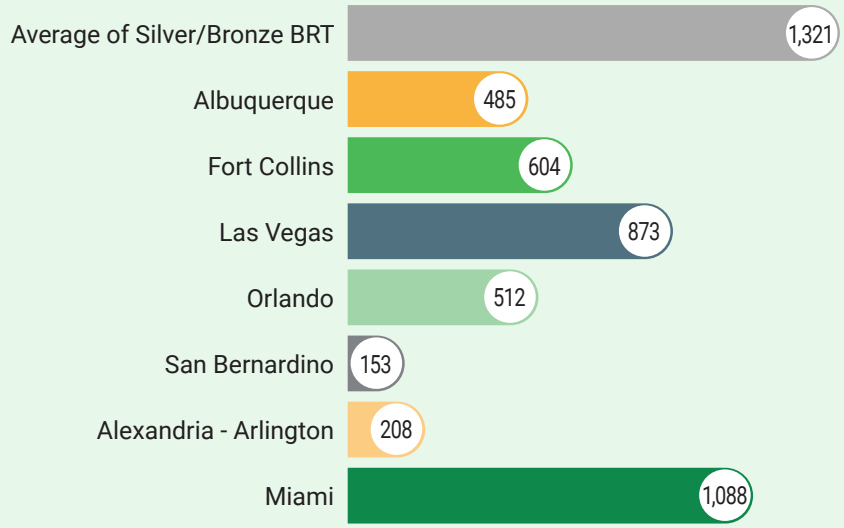
4

BRT corridors can be a critical element of high-performing transit cities, but they must meet BRT Standard design guidelines to live up to their potential.

Bus Rapid Transit (BRT) corridors are a cost-effective way to prioritize transit riders over private vehicles. Important design features include dedicated lanes, center-running alignment, transit signal priority, off-board fare collection, and level platform boarding. There are now at least 24 cities with BRT, and while BRT can have similar technical capacity to light rail, BRT corridors are not meeting those expectations in many cities.

BRT ridership is not yet consistently tracked by the NTD, however data on 16 BRT projects show the corridors average 1,191 daily passengers per mile.[7] The seven best performing corridors have committed to high-quality service and are rated either Silver or Bronze by the Institute for Transportation and Development Policy's BRT Standard or are in regions that already have high transit ridership. The non-rated BRT corridors average only 560 daily passengers per mile. Since the quality of BRT can be degraded during the design process, it is likely that cities choosing BRT as a cost-cutting measure are not as committed to the design elements that ensure high-quality service.

BRT Rate Bronze or Silver Has Higher Ridership than Non-Rated Systems



Silver or Bronze rated BRT compared to non-rated BRT passengers per mile

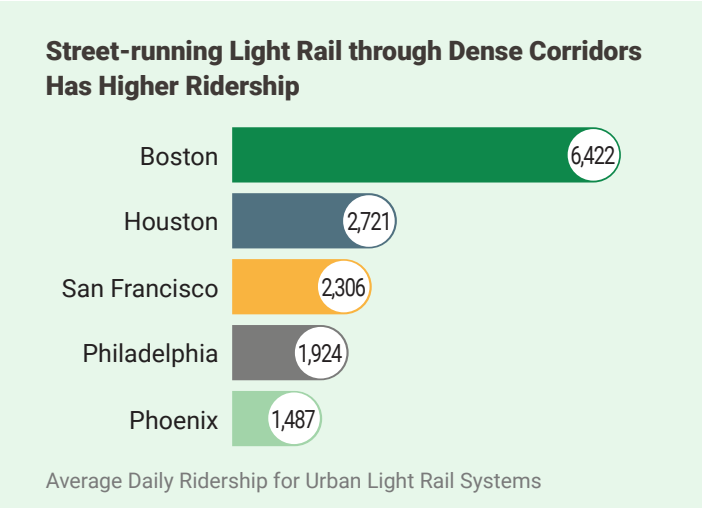
5

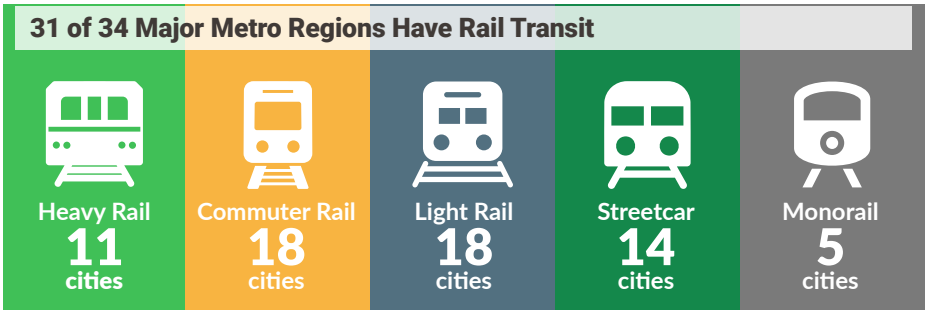
Single high-capacity corridors can produce high ridership per mile, but they are usually not enough to increase ridership citywide without additional investments.

Successful single-corridor projects should be supported by robust investments in frequent bus service and eventual extensions of high-capacity corridor projects to create a network of high-capacity transit corridors. For example, the Kansas City Streetcar is one of the highest performing streetcar projects in the country with 1,234,901 annual trips on a 1.9-mile corridor. With an average weekday ridership of 6,107 that is an impressive 3,215 trips per mile.[8] Overall, however, Kansas City's transit system is only producing 11,807,263 trips per year, which is still an "underperforming transit city." As it continues to invest in a robust frequent bus system and extensions to the streetcar line, it is likely their overall ridership will increase substantially.

6 Light rail performs best when routed through the urban core compared to routes utilizing former freight rail track.

While light rail ridership is down from its peak of 548 million passengers in 2016 and is at 70% of pre-pandemic ridership (compared to 77% recovery for transit overall), light rail ridership per mile still outperforms BRT per mile ridership.[9,10] Pre-pandemic, the average daily ridership per mile for the 19 largest light rail systems was 2,003, even when including low-performing systems in St. Louis, Baltimore, and Cleveland.[11] The five "urban" light rail systems that are mostly or exclusively street-running, provide direct access to destinations, and pass through the city's densest neighborhoods averaged 2,972 passengers/mile. It is worth noting that 31 of the 34 regions studied have invested in rail transit (heavy rail, light rail, commuter rail, streetcar, or monorail). In 17 of the 34 metros, there is a rail connection to the airport. When you include Los Angeles, San Diego, and Orlando (which have convenient bus connections to the airport from rail), the number is 20 metros.





References

1. US Census, MSA Population Totals (2022): https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html
2. GNRC, Regional Transportation Plan (RTP), 2021-2045 Update: https://www.gnrc.org/194/Regional-Transportation-Plan
3. Federal Transit Administration (FTA) National Transit Database, Transit Agency Profiles (2022): https://www.transit.dot.gov/ntd/transit-agency-profiles
4. Major transit agency was defined as having fixed guideway transit and/or over 1 million annual unlinked passenger trips.
5. Ridership per capita is calculated using total annual ridership divided by the MSA population. Given that many of the transit agencies do not cover the entire MSA region, this metric is not necessarily an accurate evaluation of the transit service being provided in a service area, but is the most consistent way to compare ridership across metro regions.
6. GNRC, Regional Transportation Plan (RTP), 2021-2045 Update: https://www.gnrc.org/194/Regional-Transportation-Plan
7. The National Transit Database (NTD) does not consistently track BRT corridor ridership, however EMBARQ has tracked 16 BRT projects; see Global BRT Data: https://brtdata.org/location/northern_america/united_states. Ridership data for BRT is pre-pandemic.
8. Christof Spieler, "Trains, Buses, People: 2nd Edition", pg. 236.
9. APTA, Quarterly and Annual Totals by Mode (2023): https://www.apta.com/research-technical-resources/transit-statistics/ridership-report/
10. APTA, Public Transportation Ridership Update (Dec 2023): APTA_POLICY_BRIEF_Transit_Ridership_12-01-2023.pdf
11. Because available BRT ridership data was pre-pandemic, light rail ridership data from 2019 was used for consistency.

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