

# BUS NETWORK REDESIGN

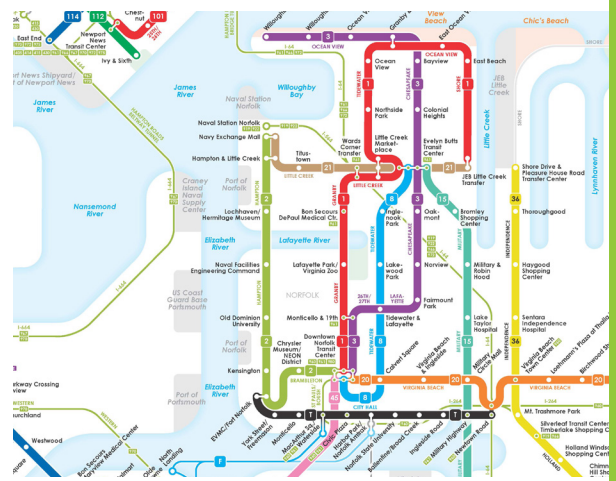
Foursquare ITP is a national leader with experience in all aspects of **bus network redesigns**, from **service evaluation**, to **planning**, to **public engagement**, to all aspects of implementation right up to **launch day**.

Our hybrid qualitative/quantitative driven process to redesigns facilitates the creation of innovative plans that will redefine the bus network from the ground up. Foursquare ITP's experience and approach in bus network redesigns includes:

- Bus network redesigns for systems that range from large urban systems (e.g., **Baltimore, MD** and **Hampton Roads, VA**) to small communities (e.g., **Martinsburg, WV** and **Bloomington, IN**).
- A non-formulaic approach; we tailor our planning process to meet the goals and objectives that the agency and community are seeking to achieve.
- The consideration of a broad array of service types to best meet the goals of the system, including **high-capacity bus** service, many types of **fixed route** service, and **microtransit**.
- The confidence in our **Transportation Data Science Team** to process and visualize complex data-sets, allowing for a better understand of the current transit system and to identify areas for improvement.
- Leveraging our in-house **service planning tools** and calculators to help account for the intricacies of service operations for each of our clients.
- A comprehensive approach to exploring feedback from the public and stakeholders to ensure that the plans will provide riders and potential riders with bus service that **meets their needs** in an **equitable manner**.
- A **collaborative** service planning process involving regular engagement with agency staff, bus operators, and key stakeholders.

We create **realistic** and **implementable** bus network plans and associated capital improvements—both cost constrained and aspirational—to meet agency goals and objectives. It is our mission to guide agencies through a bus network redesign process that positively impacts their customers, now and into the future.

Foursquare ITP authored two seminal reports on bus network redesigns: **TCRP Report 221: Redesigning Transit Networks for the New Mobility Future** and **TCRP Synthesis 140: Comprehensive Bus Network Redesigns**. We are completing work now on **TCRP Synthesis SA-52: Assessing Equity and Identifying Impacts Associated with Bus Network Redesigns**.



## Example Projects

### Maryland Transit Administration (MTA), Baltimore, MD

Foursquare ITP worked with the Maryland Department of Transportation's Maryland Transit Administration to redesign the local and express bus network in Baltimore to improve job access and provide higher quality bus service for a city and region whose bus service had been long neglected. Branded BaltimoreLink, our work covered all aspects of the bus network redesign from service evaluation, through planning, engagement, scheduling, and implementation of an operating-cost-neutral redesign. The plan's accuracy was less than one percent off from scheduled service. Once implemented, BaltimoreLink consisted of a 12-route high-frequency interconnected network for quick travel times across the densest part of the region; improved crosstown connections to address suburb-to-suburb commuting; and improved access to transit for 15% more jobs, 28% more carless households, and 29% more low-income households.

### Hampton Roads Transit (HRT), Norfolk-Virginia Beach-Newport News, VA

Through two projects, the HRT Regional Transit Transformation and the HRT Transit Strategic Plan, Foursquare ITP developed a new vision and strategy for regional mobility through redesigning the bus network to address declining transit ridership, increase job opportunities, and ensure that the region remains economically competitive. The bus network redesign included the adoption of new service design guidelines, a new system designed around them, and the design of a 13-route Regional Transit System consisting of high-frequency service supported by feeder service and microtransit zones. This concrete and actionable plan resulted in, for the first time ever for the agency, a dedicated funding commitment from the state to implement the Regional Transit System.

### Eastern Panhandle Transit Authority (EPTA), Martinsburg, WV

This small urban system redesign was an opportunity to develop a new system based on the changing socio-economic setting within the region and to help change perceptions about using transit. The redesign plan reshaped the services that EPTA provided, offering service to more places, expanded service levels, and more direct service between low-income communities and key destinations. The changes implemented from this redesign sparked a transit renaissance in West Virginia's panhandle; ridership continued to climb year after year, even while most of the rest of the transit industry experienced falling ridership performance. Since the redesign, Foursquare ITP was retained twice more to perform additional service planning to help build off of the initial redesign success.

### Jacksonville Transit Authority (JTA), Jacksonville, FL

Through JTA's Major Service Plan Update, Foursquare ITP developed specific strategies to redesign and guide improvements to JTA's services across a very large region. This redesign resulted in a future service framework and long-term system concept to be implemented over 10 years, including revising services for a new downtown transit hub and expansion of frequent transit and BRT. More recently, Foursquare ITP is working with JTA to redesign the transit system again to address changing regional dynamics brought on by the pandemic. This recent work is on-going and will result in a completely redesigned and implemented system.

### Muskegon Area Transit System (MATS), Muskegon, MI

Foursquare ITP conducted a bus network redesign for the Muskegon area's fixed-route bus network to better serve riders and adjust paratransit service to reflect a fairer cost allocation arrangement and put the agency on a more sustainable financial path. The service, implemented six months (fixed-route) and one year (microtransit) following plan completion, helped MATS to develop and implement a Financial plan and cost allocation method to bring fairness to the funding process, as well as adjustments to paratransit service to better serve ADA-certified riders.



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