

# TRANSIT OPERATIONS AND FACILITIES PLANNING

## Our Expertise

We bridge the gap between plans and their practical implementation, working with **transit operations staff** and on the details of **scheduling service, managing and procuring transit fleets**, and **optimizing operational systems and controls**. At Foursquare ITP, we apply our extensive experience in **transit service planning** and **organizational strategic planning** to the everyday challenges of providing effective transit **operations and personnel management**. Our direct work with **transit operators, trainers, supervisors, schedulers, IT, and maintenance staff** allows us to translate ideas and plan into actions that are implementable and supported by those who will need to execute the plan.

## Our Specialties

- Comprehensive Operational Analysis (COA)
- Procurement support for purchased transportation
- Technical support for contract development
- Fleet planning
- Electric bus transition planning
- Scheduling, blocking, and runcutting assistance
- General transit feed specification (GTFS) creation
- Bus operator engagement
- Bus stop sign and spacing optimization
- Operations oversight and assistance

## WMATA New Bus Operating Division Study

As part of WMATA's New Bus Operating Division Study, Foursquare ITP developed a model and led the analysis to estimate the potential operating cost savings of reassigning bus fleet between bus operating and maintenance (O&M) divisions. This study evaluated the feasibility of building a new bus O&M division in eastern Montgomery County, with potential use as a shared facility by WMATA's Metrobus and Montgomery County's Ride On buses. Our team played a lead role in preparing a detailed review of existing bus services operated by both Metrobus and Ride On, assessing the need for the new facility and defining the potential cost savings. We also developed criteria for evaluating and selecting a site for building an efficient bus O&M division.

**"The staff consistently deliver with such a high level of professionalism and an exceptional work product."**

Tom Hewitt, Former Director of Service Development, Maryland Transit Administration





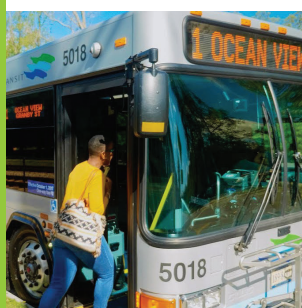
## BaltimoreLink Operator Inreach Program

Foursquare ITP led the redesign of the MTA bus network in Baltimore, Maryland, under the branded project and service title: "BaltimoreLink." BaltimoreLink was a multi-phase transit planning project that reconceived all local and express bus service that operate under MTA to create an improved and interconnected transit system. Foursquare ITP designed and led an extensive "in-reach" program to MTA bus operators, maintenance staff, and other front-line employees. This program consisted of a detailed syllabus with monthly meetings and open forums in each bus operating division to share progress of the plan and gain the input of bus operators and supervisors. The in-reach program was critical in ensuring frontline staff support for and understanding of the major network transformation.



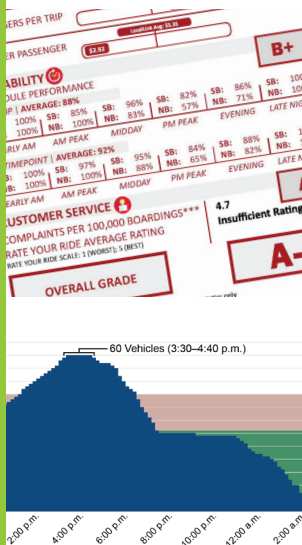
## Enhanced Bus Service Planning and Scheduling

The Lehigh and Northampton Transportation Authority in Allentown Pennsylvania asked Foursquare ITP to evaluate its plans for a proposed Enhanced Bus Service (EBS) in the Lehigh Valley region to connect key activity centers with limited stop, higher frequency bus lines. Using a route performance analysis, our transit propensity tool, and high-frequency multimodal analysis, Foursquare ITP evaluated quantitative and qualitative data to develop final alignments for the EBS and feeder routes that will address the community's needs. We also developed the scheduling, blocking, and runcutting for service implementation, including interlining and other schedule efficiency tools.



## HRT Capital Improvement Plan: Fleet Plan

Foursquare ITP has led the development of Hampton Roads Transit's annual Capital Improvement Program (CIP) since 2012. This includes working across the agency to develop a Capital Needs Inventory for the agency, including documenting all capital needs, including fleet needs. The fleet plan details the critical needs for the HRT fixed-route bus, light rail, ferry, paratransit, and non-revenue fleets. To develop a realistic fleet plan, Foursquare ITP deployed its Fleet Assessor tool which inventories asset attributes and projects annual fleet retirement, overhaul, and new purchase needs across the five year outlook.



## BaltimoreLink Performance Measurement and Reporting

As a part of ongoing support for MDOT MTA's Office of Service Development (OSD) and the core bus system, BaltimoreLink, Foursquare ITP is currently supporting MTA's Office of Service Development (OSD) in evaluating each route that comprises the BaltimoreLink bus network and the performance of the system overall. To facilitate this evaluation, Foursquare ITP has worked with OSD to create an internal monitoring plan and developed performance report cards per month and by pick, along with companion dashboards created in Tableau to quickly visualize service performance for a variety of measures at the system-, service type- and route-level.

## DDOT Battery Electric Bus Transition Planning

Foursquare ITP is assisting the District Department of Transportation (DDOT) in preparing to transition to a 100% zero-emissions fleet. To support this effort, Foursquare ITP staff are scheduling and re-blocking future transit service under anticipated battery electric bus limitations. Foursquare ITP will also assist in finding solutions such as on-route vehicle charging and deploying charge management strategies to decrease the need for expanding the fleet as DDOT transitions from diesel to fully electric vehicles.



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