Wake Transit Plan – Major Investment Study (MIS): Bus Rapid Transit (BRT) Implementation Evaluation Framework
Design Standards & Performance Measures
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BRT Evaluation Framework - Recommended by TPAC – May 9, 2018;
Recommended by TCC – June 7, 2018
BRT Design Standards & Performance Measures – Recommended by TPAC – May 22, 2018
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Item Summary
BRT Evaluation Framework
The evaluation metrics, as presented in this document, are meant to allow potential BRT corridors to be compared to one another to identify which alignment alternatives have the potential to be most successful. Comparisons will be made over two tiers of evaluation, described below (please note that both tiers of the evaluation will take place within Phase 1 of the MIS planning process):

- Tier 1: All potential concept alignments within each of the four corridors will be evaluated in order to understand strengths and weaknesses of each of the variants within the north, south, east and west corridors. Because corridors with multiple variants may have shared segments that are common to two or more variants, all concept alignments within a corridor will be broken into unique segments
- Tier 2: Using the results of the Tier 1 evaluation, the travel demand analysis, and feedback from the public engagement process, potential BRT projects will be defined.

Some of the metrics are based on data points that factored into the Federal Transit Administration's (FTA's) Capital Investment Grant (CIG) funding criteria. Metrics are also based on feedback collected during the first round of public engagement regarding the prioritization of large projects. Data sources for the evaluation metrics are a combination of publicly available data sets and projections that will developed as part of the MIS process. It is important to note that the evaluation framework developed for the MIS is designed to serve as a decision-making aid in selecting and prioritizing corridor alignments.

The eight categories defined, each with their own sets of prioritization metrics, are:

- Speed & Reliability
- Supporting Bus Network Connections
- Connectivity
- Equity
- Ridership & Cost Effectiveness
- Transit Supportive Land Use
- Sustainability
- Constructability

BRT Design Standards & Performance Measures

The Federal Transit Administration Capital Investment Grant (FTA CIG) program sets minimum requirements for projects to be eligible for funding for BRT infrastructure. This BRT Design Standards & Performance Measures document meets, and in some cases exceeds those minimum requirements based on the objectives for BRT in Wake County. BRT projects must include the same service levels and design characteristics regardless of which program funds are being sought from, with one exception: Over 50 percent of the route must operate in a separated running way dedicated for transit use during peak periods in order to be eligible for New Starts funding.

This document presents three separate sets of standards and/or measures, which are Infrastructure Design Standards, Service Design Standards and, Performance Measures and Targets

Infrastructure Design Standards

The Wake Transit Plan identifies 20 miles of BRT infrastructure improvements. The purpose of the infrastructure is to improve bus speed and reliability, maintain existing customer base and attract new riders through branding, and stimulate economic development. The following infrastructure design standards (defined further in the document) are:

- Stop Spacing
- Dedicated Running Way
- Intersections Priority Treatments
- BRT Station Design and Amenities

Service Design Standards

The BRT infrastructure can be used in multiple ways, both by branded BRT service and other bus routes. Defined BRT service does not preclude other bus routes from using the infrastructure. The following service design standards (defined further in the document) are:

- Span of Service
- Service Frequencies
- Vehicle Loading

Performance Measures

Performance measures consist of a limited set of focused metrics that capture the critical aspects of service productivity, efficiency, effectiveness, reliability, and speed; at the same time, these performance measures can be easily reproduced and communicated. It is recommended that each performance measure be monitored separately for each dedicated BRT line. These only apply to BRT-branded routes that only operate entirely within BRT infrastructure. The following performance measures (defined further in the document) are:

- Passenger Boardings per Revenue Hour
- Operating Cost Per Boarding
- Farebox Recovery
- On-Time Performance
- Average Operating Speed