Executive Summary

1 Overview

In 2015, on behalf of Centro, the Syracuse Metropolitan Transportation Council initiated an examination into the feasibility of enhanced transit for the Syracuse area, particularly the City of Syracuse. This examination, the Syracuse Metropolitan Area Regional Transit Study Phase 1 (SMART 1), builds upon the analysis and findings of the 2014 Syracuse Transit System Analysis (STSA) completed by the New York State Department of Transportation (NYSDOT) as a component of The I-81 Challenge. The goal of the STSA was to develop a strategy to assist the Syracuse metropolitan area in achieving a balanced transportation system that supports economic growth, improves quality of life, and supports the vision of the communities it serves. The STSA presented a series of short-term, mid-term, and long-term recommendations detailing how the Syracuse Metropolitan Area's transit system could be structured to meet identified needs in a cost-effective manner. The analysis identified six transit improvement corridors to evaluate enhancements (i.e., Bus Rapid Transit, Light Rail Transit and Commuter Rail) that could potentially meet the goals and objectives of the STSA.

Two transit improvement corridors identified in the STSA were selected for further analysis in the SMART 1 study: 1) the Regional Transportation Center (RTC) – Syracuse University (SU) corridor and 2) the Eastwood – Onondaga Community College (OCC) corridor. The STSA found that these corridors had the greatest potential to support enhanced transit service due, in large part, to relatively high existing ridership and the presence of significant ridership generators along the corridors.

The SMART 1 study completed an evaluation of modes, alignments, station locations, ridership, service plans, capital/maintenance/operational costs, economic development, land use, zoning, engineering feasibility and environmental factors associated with the key corridors to identify a Locally Preferred Alternative (LPA) for each corridor. Throughout this project, the SMTC engaged in a public outreach process in order to get as much input, feedback and community involvement as possible.

Goals, Objectives, and Purpose and Need statements were developed at the outset of the study to guide its development. Once these were established, an extensive existing conditions research was prepared for a number of categories. The first stage of analysis within the SMART 1 process was mode screening that examined various modes of transit potentially applicable in the study corridors. The mode screening recommended against several high capital cost alternatives--Light Rail Transit (LRT), modern streetcar, and Bus Rapid Transit (BRT) – Busway, which would be very difficult to fund and construct and would be unlikely to provide significant marginal benefit. The next step was to develop specific route and mode alternatives for each of the modes recommended for further consideration: BRT – Bus Lane, BRT – Mixed Traffic, and Existing Service Improvements. These alternatives are based on previous planning studies such as the STSA, existing conditions research, comments from the public and stakeholders, and transit operations analysis. The final element of this study was to develop criteria for selecting a LPA and applying them to arrive at a final recommendation. The SMART 1 document concludes with an Implementation Plan and Financial Plan that describe the steps required for financing and constructing the LPA.

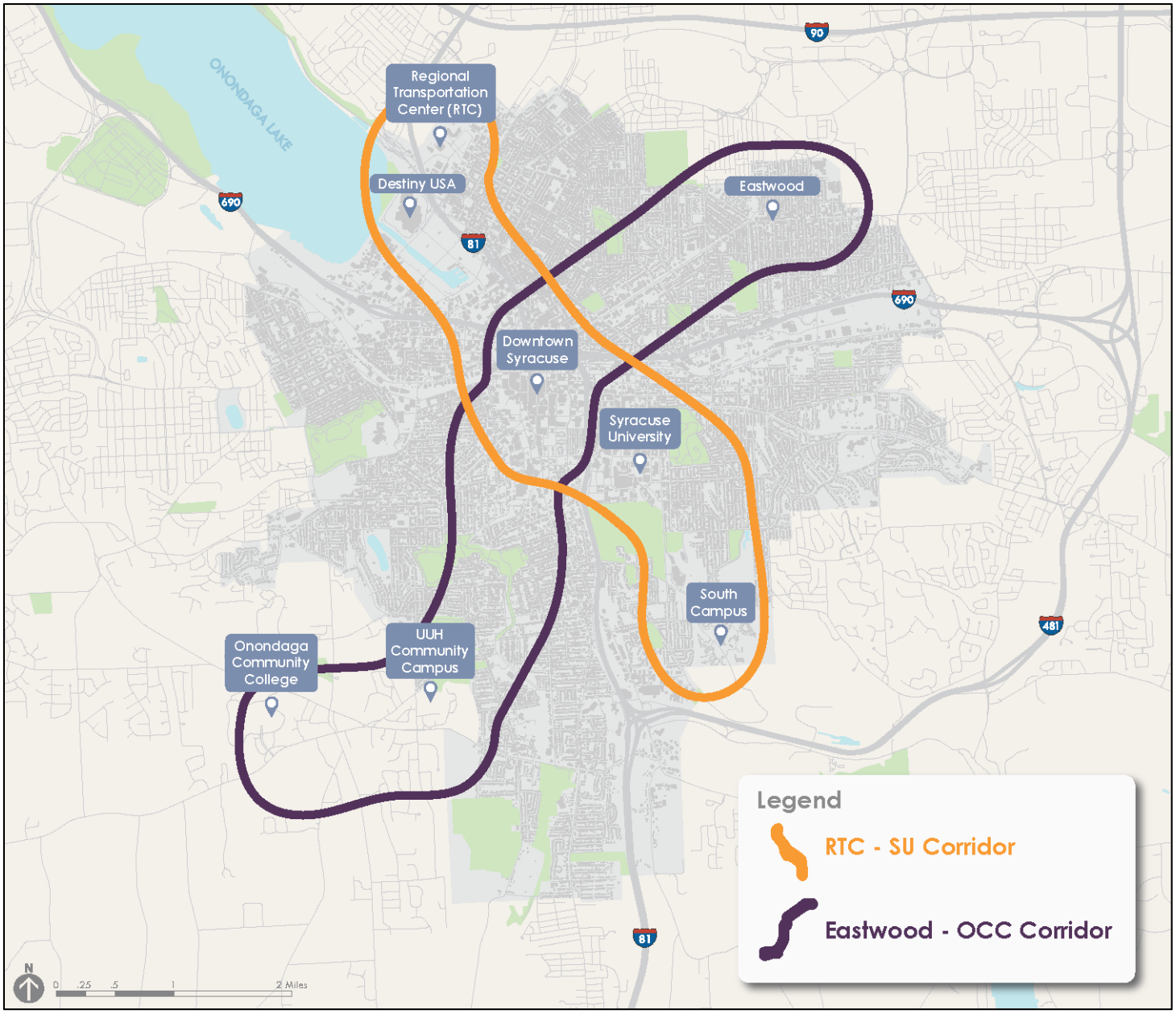
1.1 Public Outreach

As indicated, the SMTC engaged in a public outreach process in order to get as much input, feedback and community involvement as possible during the SMART 1 planning study. The public outreach program for this project was designed to be transparent and comprehensive assuring the

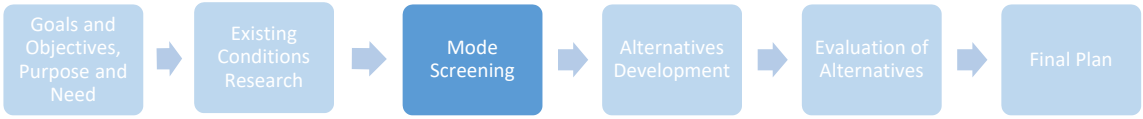
opportunity for involvement in all phases and at all levels of the planning process. This was achieved by providing early and continuing involvement, complete information, full access to key decisions, and multiple avenues for sharing opinions and ideas. Public outreach efforts included a strong educational component, intended to exchange clear information about issues, challenges, and local priorities, with particular attention toward issues of transit access and connectivity. Three public meetings were held throughout the development of the SMART 1 study. The first meeting took place in February 2016 and the second in November 2016. The final public meeting occurred in November 2017.

Two rounds of focus groups occurred in the study process. The first round of focus group meetings included one meeting for each of three groups: major employers, social service providers, and educational institutions. On February 6 and February 13, 2017, two additional focus group meetings were held with the Lakefront Area TNT and the Greater North Salina Business Association to elicit more specific feedback on the alignment alternatives that were being evaluated. Lastly, between April and May 2016, SMTC and the consultant team held 9 pop-up meetings where staff distributed SMART 1 brochures and spoke with members of the public.

SMART 1 study corridors



2 Mode Screening



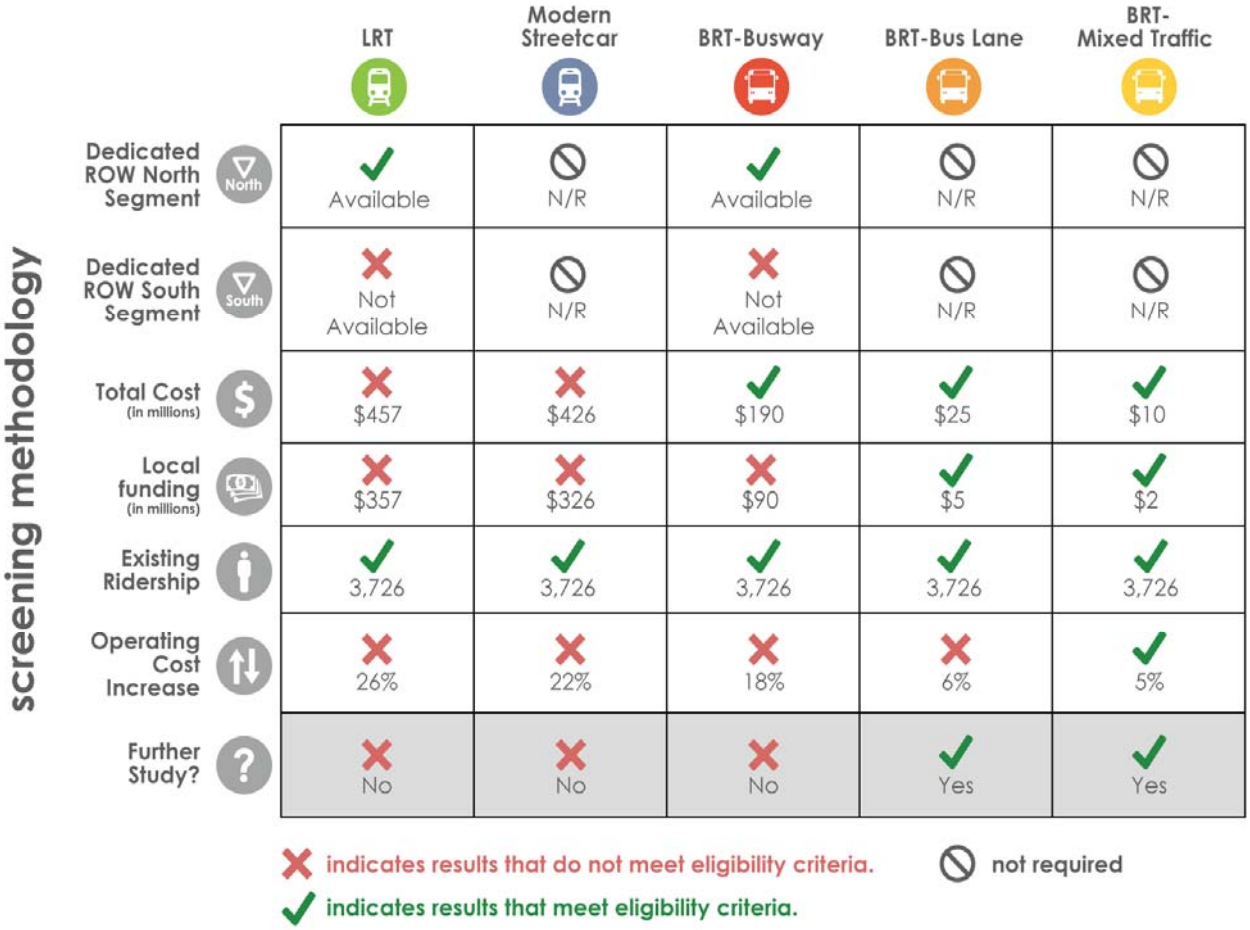
At the outset of the SMART 1 study, five different "enhanced transit" mode options were under consideration including two rail options (i.e., LRT and modern streetcar) and three BRT options (i.e., BRT – Busway, BRT – Bus Lane, and BRT – Mixed Traffic). These were "screened" against a set of eligibility criteria to determine which ones were worth progressing into additional evaluation. The screening criteria were largely based on FTA Small Starts funding guidance.

The purpose of this stage of analysis was not to examine route or precise design alternatives or to determine funding qualification definitively, but to determine what general level of capital investment and improvement might be justified within the study corridors. Based on the FTA Small Starts program eligibility criteria the following screening criteria were developed and applied to the mode alternatives.

- The **Total Cost** criteria refers to a capital cost less than $300 million.
- **Local Funding** represents the amount that the Syracuse region would have to raise from local and other non-federal sources. It is calculated by taking the Total Cost and subtracting the $100M funding cap for the Small Starts program or calculating a minimum 20% local match if the project's cost is below that level.
- **Existing Ridership** is the total current Centro ridership on all routes that travel for a significant distance within the specified SMART 1 study corridor.
- **Operating Cost Increase** compares the projected operating cost of a mode alternative to Centro's total operating cost. The project operating cost is based on known operating costs of comparable existing systems. No reductions in local service were assumed because existing service in the corridors is generally relatively infrequent and it would be necessary to cover local stops even after rapid transit was implemented. FTA also imposes certain requirements about the extent to which local service budgets can be reduced after implementation of a funded project.
- In addition to the Small Starts based criteria, one other criterion was added to take into consideration the specific requirements of certain modes for **dedicated or at least substantially prioritized, rights-of-way**. Without them their performance characteristics are diminished to the point of not providing the high levels of speed, reliability and capacity required to justify their costs.

The matrices on the pages below show the results of applying the screening criteria to the RTC - SU and the Eastwood – OCC corridors. The eligibility screening analysis indicated that more capital intensive modes of transit, such as BRT - Busway and LRT, would not meet the eligibility criteria to be considered for FTA Small Starts funding, the primary source for transit capital funding for projects like this around the United States. This is due to three main factors: the projected high capital and operating cost of these modes, the lack of available ROW to take advantage of their benefits, and the relatively low ridership in the study corridors (as compared to transit systems throughout the U.S.). Two modes, BRT – Bus Lane and BRT – Mixed Traffic, as well as existing service improvements, were recommended for further analysis in the SMART 1 study.

RTC - SU Corridor Mode Assessment



Eastwood - OCC Corridor Mode Assessment

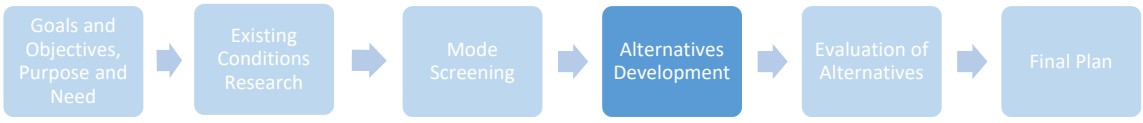
screening methodology

	LRT	Modern Streetcar	BRT-Busway	BRT-Bus Lane	BRT-Mixed Traffic
Dedicated ROW North Segment	✓ Available	⊘ N/R	✓ Available	⊘ N/R	⊘ N/R
Dedicated ROW South Segment	✗ Not Available	⊘ N/R	✗ Not Available	⊘ N/R	⊘ N/R
Total Cost (in millions)	✗ $526	✗ $491	✓ $219	✓ $27	✓ $11
Local funding (in millions)	✗ $426	✗ $391	✗ $119	✓ $5	✓ $2
Existing Ridership	✓ 3,456	✓ 3,456	✓ 3,456	✓ 3,456	✓ 3,456
Operating Cost Increase	✗ 30%	✗ 25%	✗ 20%	✗ 7%	✗ 6%
Further Study?	✗ No	✗ No	✗ No	✓ Yes	✓ Yes

✗ indicates results that do not meet eligibility criteria. ⊘ not required

✓ indicates results that meet eligibility criteria.

3 Alternatives Development



The Mode Screening identified the transit modes (i.e., BRT – Mixed Traffic and BRT – Bus Lane) that are most likely to meet the eligibility criteria for the Small Starts funding program and, therefore, meet the transit needs of the Syracuse region through established funding programs. The next step was to define specific alternatives, with each alternative consisting of a specific mode on a specific route.

The Small Starts program requires an “alternative” to consist of the following features:

- Defined stations with shelters and schedule information meeting ADA requirements;
- Traffic signal pre-emption and queue jump lanes;
- Headways of at most 10 minutes during the peak and 20 minutes during off peak times, or 15 minutes for both peak and off-peak for at least 14 hours on weekdays; and
- Brand identification.

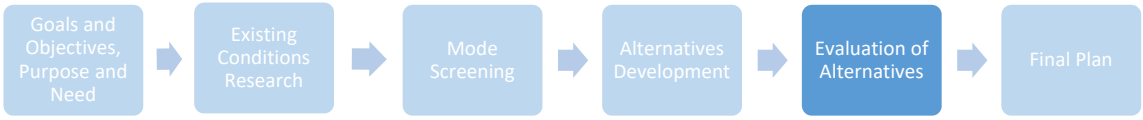
In addition to the above Small Starts program requirements, the characteristics of the alternatives include specific routings, station locations, transit priority locations, station characteristics, schedule frequencies, and calculated run times. In order identify station locations, a specific route must be determined within each corridor. The combination of a specific route and a mode option can then be used to define individual alternatives. When conducting Alternatives Analysis, agencies are also required to study a "no-build" alternative to better understand what operational improvements could be made without the capital investment. Each corridor in this study also included an existing service improvements alternative to meet this requirement.

Characteristics that were considered in the development of alternative routes included directness, connections to important activity centers, accessibility for pedestrians, and use of main commercial streets where possible, both to provide access to these places and to avoid noise and traffic impacts on quieter residential or secondary streets. These characteristics provide the environment needed for fast and frequent BRT service while limiting any adverse effects. In most cases, this type of direct route existed along only one potential routing.

On both the Eastwood-OCC and RTC-SU corridors, Existing Service Improvements, offers increased frequency—especially at off-peak hours—potential rationalization of peak-hour scheduling, and slightly increased span of service. Travel time would not be improved substantially over existing service, though riders would benefit from other improvements, including potential reduction of average wait times. The Existing Service Improvements represents a "no build" alternative for each corridor.

Two "build" alternatives were defined for each corridor, which offer substantial benefits in terms of travel time: a reduction of between 25 and 30 percent, or up to 20 minutes, compared to existing travel times and the Existing Service Improvements alternative. On both corridors, the BRT - Bus Lane alternative would offer slight (approximately 2 minute) travel time improvements over the alternatives without bus lanes. FTA requirements would mean the BRT – Mixed Traffic and BRT – Bus Lane alternatives would offer substantially improved frequency relative to existing service and the Existing Service Improvements alternative.

4 Evaluation of Alternatives



FTA determines a Small Starts project's rating, and therefore likelihood of funding, based on a number of factors grouped into Project Justification and Local Financial Commitment categories. The criteria are comprehensive and are meant to take into consideration the wide range of benefits that improved transit brings to a community.

The evaluation criteria for ranking the SMART1 alternatives are based on these Small Starts rating categories. This provides both a sound basis for choosing between the alternatives and an understanding of how they are likely to perform relative to other projects currently in the Small Starts process. The Small Starts process is competitive, so projects that rank higher on the criteria are more likely to be funded. The 14 evaluation criteria take into account the SMART1 project goals and objectives and are simplified from what FTA would require for a final submittal for Small Starts funding since the purpose of the Alternatives Analysis is to choose between them, not optimize the LPA for grant competition.

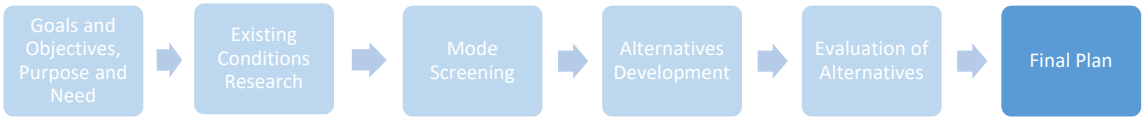
The result of the criteria analysis for each corridor are shown on the next page. The base alternative, or No-Build, in both corridors received the lowest score. Along the RTC - SU corridor, Alternative 1 scored

30 out of 42 points; the second highest score for the corridor. Alternative 2 scored the highest with 34 points, while Alternative 3 (27 points) tied for the lowest score. Alternative 2 scored the highest due to more significant benefits than the other options, such as reasonable cost, and general community support, which Alternative 3 lacked.

Relative to the Eastwood - OCC corridor, Alternative 1 scored 31 points making it the second lowest score on the corridor. Alternatives 2 and 3 both received 34 points and tied for the most points. Alternatives 2 and 3 tied for best score due to more significant benefits combined with reasonable costs. The two balanced each other out with Alternative 2 having significant benefits at a lower cost and Alternative 3 having more benefits, but at a proportionately higher cost.

RTC-SU corridor		Eastwood-OCC corridor	
Alternative	Score	Alternative	Score
Base case	27	Base case	26
Alternative 1 (Existing Service Improvements)	30	Alternative 1 (Existing Service Improvements)	31
Alternative 2 (BRT Mixed Traffic via Salina St)	34	Alternative 2 (BRT Mixed Traffic)	34
Alternative 3 (BRT Bus Lane via Solar St)	27	Alternative 3 (BRT Bus Lane)	34

5 Locally Preferred Alternative



Based on the criteria analysis described in the Evaluation of Alternatives section, an LPA consisting of Alternative 2 – BRT-Mixed Traffic was chosen for both corridors. Collectively, implementing both corridors at once will create a BRT system that increases the number of trips that can be made through connections, in effect creating four corridors rather than just two, and therefore increase ridership on both. Relative to capital and operating costs of the LPA, the following preliminary, planning level order-of - magnitude costs have been created. To implement both corridors at once, the capital cost would be approximately $33.528 million.

Capital cost

BRT – Mixed Traffic	
RTC – SU Corridor	Eastwood – OCC Corridor
$13.982 million	**$19.546 million**

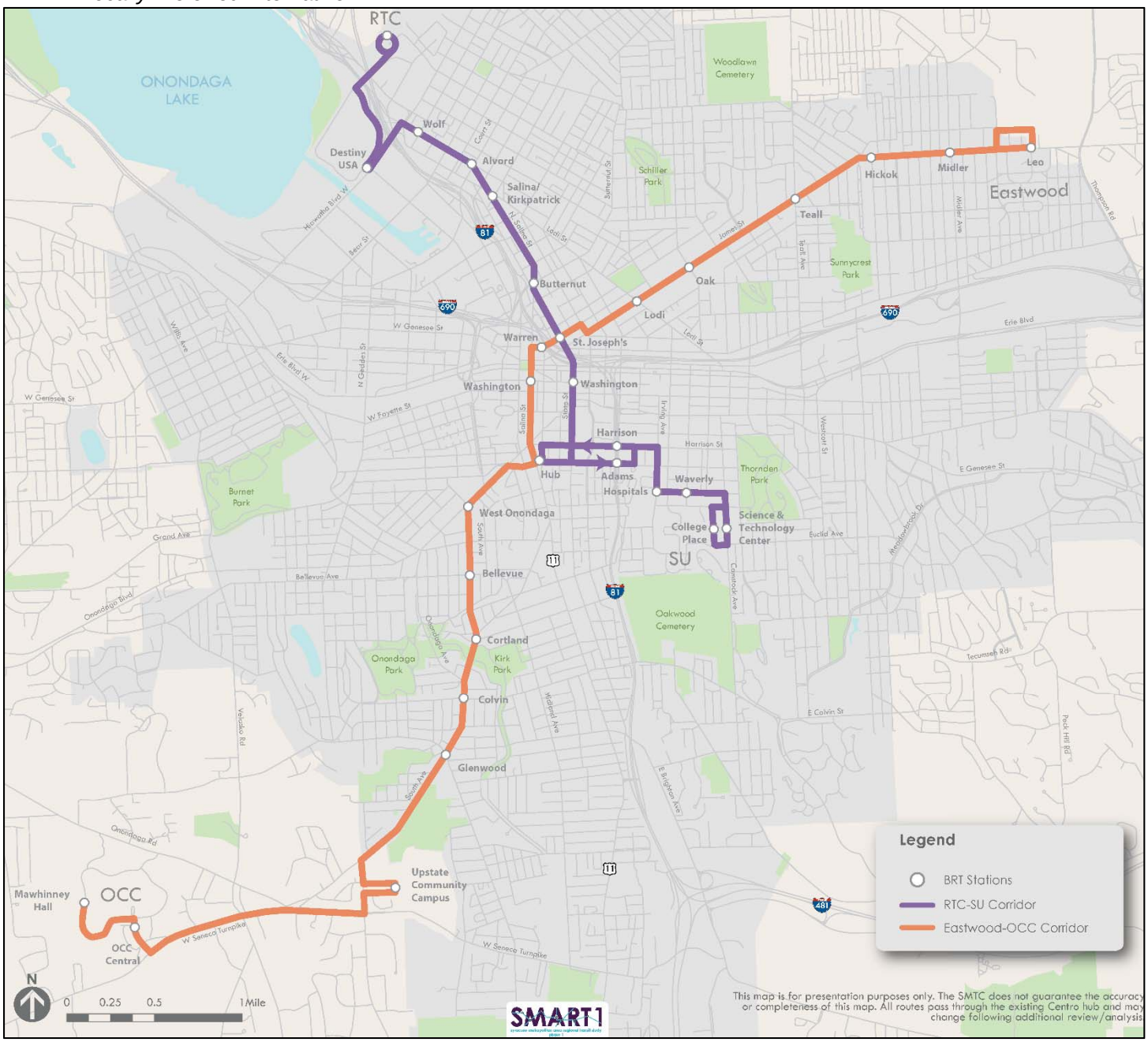
Operating cost (annual)

BRT – Mixed Traffic	
RTC – SU Corridor	Eastwood – OCC Corridor
$3.481 million	**$4.751 million**

The relative closeness of the evaluation criteria summation process indicated that the BRT - Mixed Traffic alternatives as developed met the technical requirements of the study goals. Additional analysis, however, was required to arrive at a clearer LPA recommendation for the area. Three additional factors beyond the Small Starts inspired criteria, were considered: intangible benefits, support for the goals of SMTC's LRTP, and support for economic development in Syracuse neighborhoods.

An enhanced transit system is critical to achieving these goals and inspiring people, businesses and institutions to support implementation and funding. With this support, regional leadership can decide to spend the money required to transform the transit system.

Locally Preferred Alternative



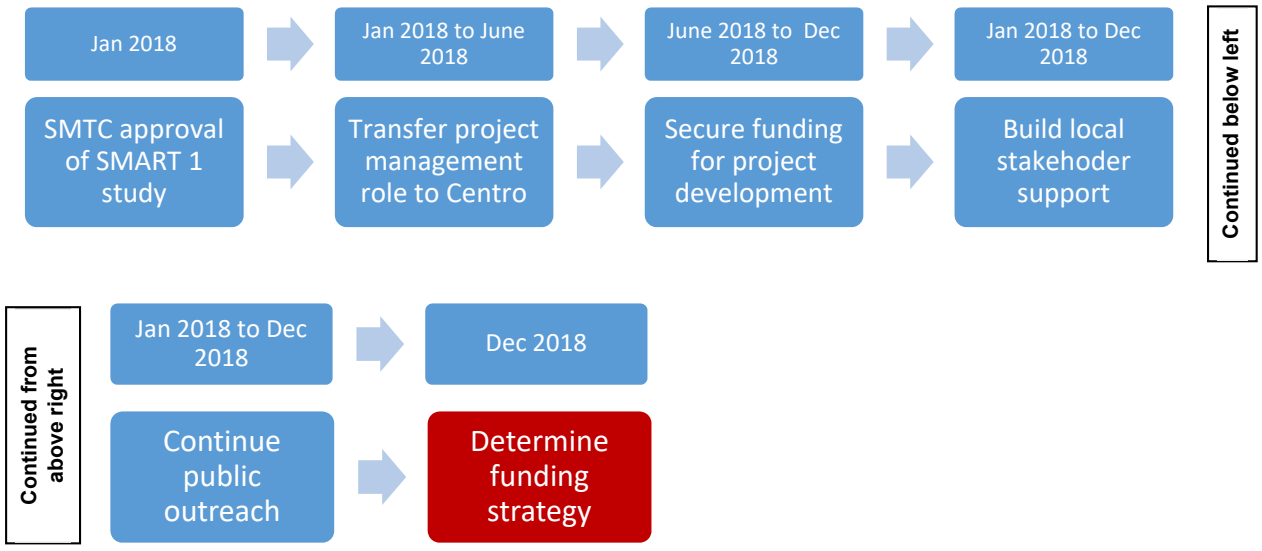
6 Implementation Plan and Financial Plan

Implementation Plan

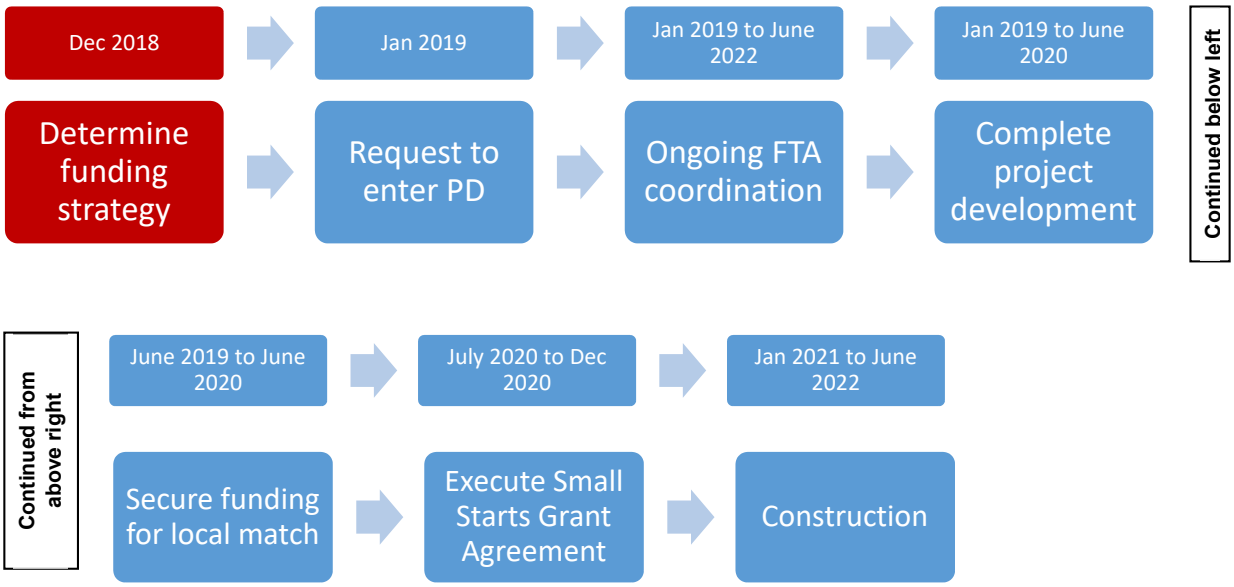
The LPA could, potentially, be funded through the FTA's Section 5309 Small Starts, but there are also alternatives to this funding source. The implementation and financial plan, therefore, describes a planning and implementation process that could move forward with or without the use of Small Starts funding. Each approach has its advantages and disadvantages (see Funding Plan section), and the final decision on the preferred approach will be made in the next phase of work. This next phase will take the project through project development, which includes advanced planning, engineering, environmental assessment, and additional public outreach. This applies to both the Small Starts and non-Small Starts tracks.

The Syracuse region has never used the Small Starts program. Stakeholders, project staff, and the public would need to be educated on the program's requirements and how it can be used to bring larger rapid transit projects to fruition. Either approach (i.e., Tracks One or Two) would require a coordinated effort between SMTC, Centro, and other stakeholders to assemble project funding from multiple federal, state, and/or local sources. The graphic below provides a plausible approach to establishing next steps with the outcome being to determine a funding strategy to advance (Track One or Track Two).

Short-Term Next Steps



Track One – Small Starts



The Federal Transit Administration's Section 5309 Capital Investment Grant (CIG) program is one of the primary funding sources for new BRT, streetcar, LRT, heavy rail, and commuter rail projects in the U.S. The program consists of three main components, distinguished by the size and type of project: New Starts, Small Starts, and Core Capacity. The target CIG program for the SMART 1 LPA is the Small Starts program, which is oriented towards projects with a maximum total capital cost of $300 million. Several New York State projects are currently in the Small Starts Project Development pipeline, including the Capital District Transportation Authority's River Corridor and Washington/Western BRT projects, and the New York City DOT Woodhaven Boulevard Select Bus Service.

Applying for Small Starts funding is a multi-step, and multi-year process, conducted in close coordination with FTA. The Small Starts evaluation process is designed to evaluate the effectiveness and benefits of the proposed project as well as the financial commitment and readiness of the project sponsor. The first step is to request entry into Project Development. This is the phase whereby a project sponsor completes project design/engineering, environmental evaluation, and third-party agreements, and also secures necessary funding for construction. Projects are recommended for funding by FTA, but actual federal funding is appropriated by Congress in its Annual Budget. Once funding has been appropriated and the project sponsor has satisfied all necessary Project Development requirements, FTA executes a Small Starts Grant Agreement to authorize project construction.

A key requirement to enter Small Starts Project Development is the need for committed non-5309 funding to complete Project Development activities, including engineering, design and NEPA. This may be the most difficult practical hurdle for an agency seeking to pursue the Small Starts program, and suggests that advanced work to secure Project Development funds from non-5309 sources is an essential element of the project implementation and funding strategy. Funds expended on planning and design after permission to enter project development has been received are eligible for pre-award authority for reimbursement by FTA if the project is selected for funding.

Track Two – Non-Small Starts

The non-Small Starts funding approach would use a variety of other smaller grant programs, itemized in the Financial Plan section. Coordinating between these programs would then become a large part of the management of the implementation of the project. In this approach, the project would likely be implemented in steps as funding comes available for specific elements. A non-Small Starts process would allow Centro to phase implementation of BRT project elements over time based on available funding. For example, essential station elements, vehicles, related technologies (i.e., transit signal priority) could be deployed in an initial phase or multiple phases, with further project elements implemented at a later date subject to available funding. In this case, a critical aspect of the implementation plan will be defining what those essential elements are to activate the service on day one, and what amount of capital and operating funding is required to implement that opening day vision.

Financial Plan

Financial planning for transit capital projects is in a particularly dynamic state given policies and actions of the current federal administration. For example, FTA is currently rating candidate Small Starts projects as required by statute, but is not currently recommending rated projects for funding. The financial plan considers both capital and operating funding. A wide variety of capital funding sources are available on the Federal and State levels that could be used to fund the SMART 1 LPA. These sources include Small Starts, other Federal transit and highway programs, and State transit, highway, and economic development programs. Capital funding may also be available from local private sources, particularly for the construction of stations, where stakeholders may be interested in helping to fund the construction of a station at one or more of their facilities. While often requiring extensive application processes, the SMART 1 LPA provides significant mobility and economic benefits to the City of Syracuse and its residents and is likely to score well relative to other applicants for one or more of these programs.

Operating funding is a more significant challenge, both because it is a continuous, ongoing requirement and due to the limited sources available. The number of programs available to cover transit operating expenses in New York State consists primarily of the Mortgage Recording Tax and State Transit Operating Assistance (STOA). The Mortgage Recording Tax is fixed and STOA is a formula program tied to passengers carried and service miles operated. Both of these funding sources are already fully programmed by Centro. Federal funding for transit operations is only available to rural and other small communities and not available to the Syracuse region. This will require the exploration of innovative funding and revenue sources such as support from major institutions, increases in fare revenue, service operational efficiencies, and employer pass programs.