

The Rock Hill-York County Rapid Transit Study (RYC) has completed a comprehensive process of analyzing alternatives to provide rapid transit service connections between Rock Hill-York County and the greater Charlotte region. The study process has identified a Locally Preferred Alternative (LPA) including a broader system-wide transit concept plan as final recommendations. The LPA satisfies early planning steps required by the Federal Transit Administration (FTA) as part of a long list of requirements necessary to compete for federal transit funds. The LPA recommendations include short and long-term approaches to implementation of Bus Rapid Transit (BRT) service within the US 21 corridor connecting downtown Rock Hill to Charlotte. Major study findings are summarized below:

#### **PURPOSE AND NEED FOR TRANSIT**

Early study findings identified several RYC issues and needs that transit could play a role in addressing. These include:

- Congestion will continue to worsen and exceed efficient levels of service primarily in major radial north-south corridors (i.e., I-77 and US 21) connecting the study area to central Charlotte.
- There are two “equally important” trip-making patterns for Rock Hill–York County commuters.
  - Longer commute trips to Charlotte
  - Shorter internal trips to destinations within the Rock Hill–York County area
- Study area land use patterns are extremely suburban and low-density-- not very transit supportive.
- However, future plans envision redevelopment as well as new population and employment centers (e.g., Textile Corridor, Gold Hill Commons, Celanese, and Regent Park).
- Existing corridors offer relatively few environmental constraints, although sensitivity should be taken with regard to Catawba River crossings.
- There is a lack of travel choices and mobility options for disadvantaged communities, as well as, the greater commuting public.

#### **DEVELOPING THE LOCALLY PREFERRED ALTERNATIVE**

The analysis of potential transit alternatives involved investigating various corridor alignments (e.g., I-77, US 21, Norfolk Southern Railroad, etc.), coupled with various transit modal technologies. Transit technologies examined included Light Rail Transit, Bus Rapid Transit (BRT), Commuter Rail, and Diesel Multiple Unit. Ten alternatives were evaluated using four evaluation categories: mobility/ridership, land use/accessibility, cost/cost-effectiveness, and environmental impact. Highlights from the evaluation include:

- All alternatives demonstrated extremely low ridership for year 2030 ranging from 35 to 195 riders per mile (600 to 3,500 riders per day). *General rule-of-thumb for rapid transit feasibility is 1,500 to 2,000 riders per mile*
- US 21/BRT ranked best across the evaluation categories.
  - US 21 ranked best in terms of land use/accessibility connecting several development/redevelopment initiatives

- However, overall US 21 land use patterns are still relatively suburban and low-density
- Rapid transit alternatives can be extremely expensive with capital cost ranging from \$400 million to over \$1 billion
- BRT ranked best in terms of cost/cost effectiveness, as well as, provision of more flexible implementation schedule
- US 21 has relatively low impacts to community and environmental features (assuming the already programmed project for the Catawba Bridge crossing)

### **KEY FINDINGS FOR LPA**

In light of the evaluation results for the ten alternatives, it was determined by the study committees that the focus for the later tasks of the study further examine the US 21/BRT Alternative. This final phase of work involved refinement of the alignment, station area/corridor master planning, refined cost estimates, and implementation strategy. With low ridership results, high implementation cost, and need for transit supportive land use changes, key findings for this phase of work include:

#### ***Alignment***

- US 21 alignment would include both exclusive BRT right-of-way as well as operations in mixed traffic corresponding to corridor conditions.
  - For example, Cherry Rd. BRT operations would occur in mixed traffic to avoid disruption to recent streetscape investments
  - Northern portions of the alignment would utilize exclusive right-of-way opportunities (e.g., adjacent to Norfolk Southern Railroad)
- Two possible alignment connections to downtown Rock Hill (i.e., Cherry Rd or Anderson/Dave Lyle Boulevard) were analyzed.
  - Cherry Rd. was identified as the preferred alignment option offering better connections to existing activity centers, more transit supportive land use, and lower capital costs
  - Although several underutilized tracts of land are located along Anderson Rd./Dave Lyle Boulevard, the greenway/parkway character for the Dave Lyle portion of the corridor preclude higher intensity development and limit transit potential

#### ***Land Use/Corridor Master Planning***

- Emphasis should be placed on encouraging appropriate transit supportive land use and development regulations, connecting major corridor destinations, and preserving rights-of-way for the transit alignment where appropriate through new development areas.
- RYC's land use recommendations mirror Charlotte's initiatives to make land use and zoning policy changes early in the transit development process in order to make transit projects more viable and competitive for FTA funds.
- RYC's corridor master planning activities identified station concepts which vary to complement redevelopment and new development opportunities, maximize ridership, and protect existing community features along the US 21 corridor.

***Cost and Implementation Strategy***

- The full LPA project is estimated to cost \$511-\$516 million in capital costs.
- RYC's implementation approach involves four phases of project deployment.
  - Phase 1 (2008 to 2010) - Initial start-up phase would involve all day limited stop services connecting Rock Hill – York County to the CATS end-of-line light rail station at I-485
    - Estimated to cost \$10 - \$15 million in capital and \$500 thousand in annual operating cost
  - Phase 2 (2010 to 2015) – Addition of local bus service to Tega Cay and Fort Mill and new connections to Gold Hill Commons
    - Estimated to cost \$38 million in capital and \$1.3 million in additional annual operating cost
  - Phase 3 (2015 to 2020) – Implement first stage of exclusive BRT right-of-way segments
    - Estimated to cost \$200 million in capital and \$1.8 million in additional annual operating cost
  - Phase 4 (2020 to 2035) – Completion of entire exclusive BRT right-of-way segments
    - Estimated to cost \$263 million in capital and \$1.5 million in additional annual operating cost

**ADVANCING STUDY RECOMMENDATIONS**

A phased approach will allow Rock Hill-York County flexibility in building a stable transit organization, securing funds incrementally, and keeping resources in line with demand. Ultimately, long-term BRT service could be converted to rail transit once appropriate demand warrants. However, to continue advancing study recommendations in the near-term, a number of activities should occur. The LPA must be endorsed by the RFATS Board, and officially adopted into the cost constrained Long Range Transportation Plan. Early actions should be to advance RYC land use and zoning recommendations such as updating local Comprehensive Plans and development regulations addressing the corridor. A solid financial program including a stable local funding source and organizational/governance structure also must be finalized to competitively seek federal funds. Thus, in recognition of the aforementioned activities it will be most important that the RYC committees, local governments, and RFATS continue to advance early action RYC work items over the remainder of 2007. These include:

- Adopt land use/zoning changes supportive of transit implementation in the US 21 corridor.
- Identify and pursue a stable long-term local funding source.
- Build public awareness and support for transit investment.
- Explore options to address transit governance and organizational structure.
- Seek to implement Phase 1 bus service in coordination with CATS and the opening of the South Corridor Light Rail line.
- Continue coordination with FTA to secure federal funds as project viability increases over time.

## **RFATS EXECUTIVE SUMMARY (CONTINUED)**

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