Regional Transit Framework Plan

Corridor Alternatives Evaluation & Recommendations

Prepared for the Berkeley-Charleston-Dorchester Council of Governments

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Regional Transit Framework Plan

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Background

The goal of the Regional Transit Framework Plan (RTFP) is to identify and prioritize a High Capacity Transit (HCT) network for the Berkeley-Charleston-Dorchester (BCD) region that serves wide-ranging trip needs, connects the region, enhances the quality of life, and supports economic growth and development. The RTFP serves as a blueprint for future transit investment in the region through 2040 and will be consistent with recommendations from the Long-Range Transportation Plan (LRTP) that is currently being updated.

Purpose

The purpose of this document is to provide an overview of the process of identifying, evaluating, and selecting the most promising high capacity transit corridors for the BCD region that will move into the next step of the analysis process.

Identification of Initial Corridors

An initial set of corridors was developed through a rigorous review of previous and on-going studies, coordination with the BCDCOG staff, travel market analysis, stakeholder and public input. Below is a summary of the studies that were reviewed, staff feedback, the travel market analysis and public input.

Additional information related to the specific studies listed below can be found in the Goals, Objectives and Performance Measures Technical Memo.

OurRegion OurPlan

OurRegion OurPlan (OROP) developed a framework for how to manage the rapid growth the region is experiencing and is forecasted to continue over the next several decades. OROP specifically identified a comprehensive regional transit network that can be viewed in the Goals, Objectives and Performance Measures Technical Memo. The corridors identified in that study were the foundation for future studies, including the I-26 ALT Study, CARTA's Comprehensive Operations Analysis, the update to the Long-Range Transportation Plan, and the RTFP.

I-26ALT Study

The purpose of the I-26ALT Study was to improve transit service and enhance regional mobility along the 22-mile I-26 Corridor connecting Summerville, North Charleston, and downtown Charleston. The study effort identified a fixed guideway transit alternative for the corridor. This project is now known as the Lowcountry Rapid Transit (BRT) project and serves as the backbone of a larger more comprehensive high capacity transit network.

CARTA Comprehensive Operations Analysis

The Charleston Area Regional Transportation Authority (CARTA) Comprehensive Operational Analysis (COA) provided an in-depth analysis of the transit system. Using a detailed market, service, and operational analysis the COA identified strengths as well as opportunities for improvements in the short- and mid-term timeframes. The

COA also outlined the resources needed to expand the system over a decade.

Short-term recommendations revolved around reliable service, reinvestment in upgrading the system, and readying corridors for future investment. Short-term recommendations focus on improving the quality of service for current customers, ways to optimize the system (e.g. removing or modifying network inefficiencies), and setting aside revenues for capital reserves. The mid-term recommendations, a fiscally unconstrained needs assessment, revolve around high capacity transit corridors and premium transit along the I-26 Corridor to grow the system over a decade.

Long-Range Transportation Plan

A region's LRTP sets priorities for spending federal funds on transportation projects such as highways, roads, bridges, transit facilities and service, bicycle and pedestrian routes, and related enhancements. The LRTP is a guide for the development of a regional transportation system that meets the current and future mobility needs of area residents and visitors. A federally required document for all metropolitan areas, a LRTP must be updated at least once every five years to stay in compliance with federal regulations. The LRTP documents the region's vision and goals for the transportation system and guides the project prioritization and expenditure of federal transportation funding. Recommended strategies related to public transit in the BCDCOG's current LRTP, titled the 2035 LRTP, are service enhancements; facilities, equipment, amenities and land use coordination; explore and develop new modes and technologies; and institutional and funding strategies for additional safety and marketing. The LRTP was being updated during the identification of potential HCT corridors as part of this study, but the recommendations that come out of this study will also inform the LRTP.

Other Relevant Studies

In addition to the studies mentioned above, there were other studies that were reviewed at a high level to ensure consistency with the community's vision and to understand future projects that could have an impact on the implementation of high capacity transit. These studies included, Rethink Folly Road, Plan West Ashley, I-26 ALT Study, and the Neck Master Plan.

In addition to these studies, the project team understands that there are on-going discussions about future improvements to the I-26 and I-526 interstate corridors. These two interstates have significant regional impact, carrying several thousand vehicles per day, and transit integration should be part of the discussion moving forward.

Staff Feedback

After reviewing the aforementioned studies, the project team continued bi-weekly coordination to obtain feedback from the BCDCOG staff and other stakeholders.

Market Analysis

A thorough review and analysis of the current transit market was key to understanding three critical components, including travel patterns, transit potential and transit need, and gaps analysis. The Travel Market Analysis Technical Memo provides a detailed review of these. Below is a summary of those components from the technical memo.

Travel Patterns

The Travel Patterns Memo identified key corridors for transit service, focusing on the region's most prevalent travel patterns, regardless of mode. Using BCDCOG's regional Travel Demand Model, the study team estimated current and future traffic volumes between and within 15 designated districts. The model showed that the top three travel flows were internal trips in the North Charleston, Mount Pleasant, and West Ashley / James Island districts. The top three external travel flows were between the North Charleston and Goose Creek, Summerville, and West Ashley / James Island districts, respectively. These travel flows were documented and can be viewed in the Travel Market Analysis Technical Memo.

Transit Potential and Transit Need

The Market Analysis Technical Memo identified the existing and strongest transit corridors in the BCD region and highlighted areas with relatively high transit need, including ***transit potential*** and ***transit need***. Transit potential analyzed population and employment densities, while transit need focused on socio-economic characteristics such as income, automobile availability, age, and disability status that are indicative of a higher propensity to use transit. A series of maps were included in the technical memo, they detailed both the transit potential and transit need for the region.

In addition to density and socio-economic characteristics, transit use influencers were identified in the study area. Influencers may include certain land uses such as retail centers, civic buildings, multifamily housing, educational institutions, medical facilities, and major employment centers. These influencers tend to generate transit trips at a higher rate than other types of land uses.

Gaps Analysis

The Gaps Analysis consisted of two distinct components. First, the Local Service Gaps Analysis compared the need and potential for transit service to the availability of local transit service. Second, the Commuter Service Gaps Analysis compared the distribution of workers associated with major employment clusters to the alignment and stop locations of CARTA and TCL commuter services. The purpose of this analysis was to provide a foundation for identifying areas of potential service enhancements for both local and commuter service. A series of maps identifying local bus and regional commuter service gaps were included in the technical memo.

Public Input

Finally, the project team received feedback on the initial HCT corridors from the public and stakeholders through

an online Wikimap exercise and an interactive public workshop.

Wikimap

Wikimap was utilized to allow the public the opportunity to provide specific comments related to points of interest in relation to their current and future travel choices as well as corridors that they considered important for future transit investment. The information obtained through Wikimap mirrored the corridors that were identified in previous studies analyzed for the RTFP.

Public Workshop

In January 2018, the BCDCOG hosted a stakeholder workshop and an open house public workshop to share the progress on the RTFP and gather feedback on HCT corridors and transit mode selection. SmartScreen TVs were placed around the room for individuals to view and interact with the screens learning about transit in general and about the draft set of corridors. A voting station was also present that displayed live results as participants voted on up to three HCT corridors they saw as vital for implementation in the immediate future.

In addition to the in-person meeting, an online meeting, displaying the same information, was available from January 29 until February 27. A summary of the feedback received from the workshop and the online meeting can be found in the Stakeholder and Public Charrette Meeting Summary.

Identification of HCT Corridors

The project team combined the information from the technical work, coordination with BCDCOG staff, feedback from the stakeholders and the public and identified 14 corridors that showed promise for high capacity transit in the BCD region. The 14 corridors are listed below and are illustrated on **Figure 1**.

High Capacity Transit Corridors for Evaluation

- **Corridor A** – Ridgeville-Airport-Charleston (I-26)
- **Corridor B** – Moncks Corner-Summerville (Hwy 17A)
- **Corridor C** – Moncks Corner-Charleston (Hwy 52)
- **Corridor D** – Extension of the Lowcountry Rapid Transit (BRT) project to Ridgeville (Hwy 78)
- **Corridor E** – Summerville-Airport-Charleston (Dorchester Road)
- **Corridor F** – Summerville-Charleston (Dorchester Road)
- **Corridor G** – Mt Pleasant-West Ashley (I-526)
- **Corridor H** – Airport-Charleston (Meeting Street)
- **Corridor I** – Airport-Charleston (I-26/King Street)
- **Corridor J** – Airport-West Ashley-Charleston (Cosgrove Avenue)
- **Corridor K** – West Ashley-Charleston (Glenn McConnell Pkwy/Hwy 17)
- **Corridor L** – West Ashley-Charleston (Hwy 17)
- **Corridor M** – James Island-Charleston (Folly Road)
- **Corridor N** – Mt Pleasant-Charleston (Hwy 17)

Figure 1: Potential High Capacity Transit Corridors

Corridor Evaluation Process

Once identified, the 14 corridors were evaluated using a set of evaluation criteria that was developed through a collaborative process with the BCDCOG staff. The following summarizes how the screening measures were developed and how they were used to evaluate the 14 corridors.

Screening Measures

Screening measures are used to evaluate the competitiveness of regionally significant transit corridors before detailed ridership computer modeling takes place. The screening measures considered many aspects of the built environment, current transit utilization as well as existing and future conditions.

The screening measures were developed after reviewing previous studies, industry best practices, the Goals and Objectives of this study, as well as collaboration with the BCDCOG staff. Based on this, an initial list of screening measures was developed. Using insight gathered during the study process and data availability, the project team refined, in coordination with BCDCOG staff, the list of screening measures identified in the Goals and Objectives memo into a final list of measures. The screening measures had high, medium, and low rating system. The rating system compared each corridor per the individual measure.

Table 1 details the final screening criteria and rating methodology used to determine the competitiveness of the 14 corridors.

Screening results

The Level of Performance of “High, Moderate and Low” was determined based on the results of each evaluation measure; **Figure 2** illustrates the results of the screening process based on the evaluation measures identified in **Table 1**.

Based on the results, Corridors C, E, F, J, and K scored High. Corridors A, H, I, L, M, and N scored Moderate and Corridors B and G scored Low. Corridor D was not analyzed because the purpose of the given corridor was to connect to Ridgeville to the high capacity transit network and that connection was already accomplished through Corridor A.

Corridor Selection Refinement Process

As the project team began to look at the corridors in more detail and make distinctions between them, it became evident that there were other factors that needed to be considered. There was overlap with some of the corridors that scored High and Moderate. For example, Corridors E and F generally have the same alignment except that Corridor E serves the Airport/Boeing area and Corridor F does not. Both utilize Dorchester Road and Rivers Avenue to serve Summerville and Downtown Charleston.

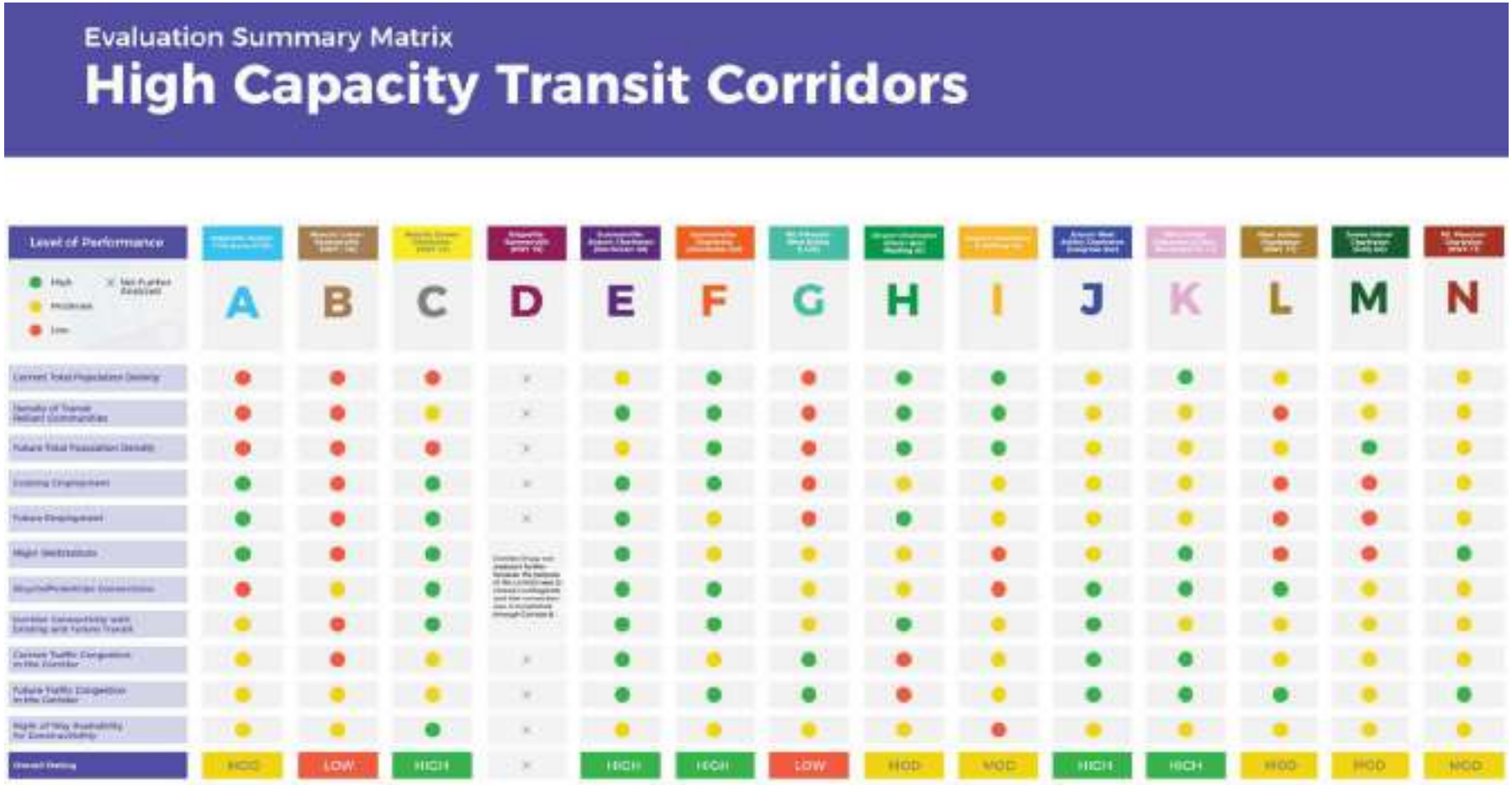
Table 1: Screening Measures for Evaluation of Potential HCT Corridors

Measure Name	Measure Analyzed	Assumptions	Rating Methodology
Existing Population	Population density	Population per square mile within 0.5 miles of each corridor	Compared the population density against each corridor and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low
Existing Transit Dependent Population	Density of: • Zero-auto household • Low-income household • Minority population • Disabled population • Youth population • Senior population	Transit dependent population per square mile within 0.5 miles of each corridor	Compared the transit dependent population density against each corridor and for each measure and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low
Future Population	Future population density (2040)	2040 Population per square mile within 0.5 miles of each corridor	Compared future population density against each corridor and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low
Existing Employment	Total employment	Total employment within 0.5 miles of each corridor	Compared existing employment against each corridor and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low

Measure Name	Measure Analyzed	Assumptions	Rating Methodology
Future Employment	Total future employment (2040)	2040 Total employment within 0.5 miles of each corridor	Compared future employment against each corridor and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low
Destinations Served	Destinations within 1/2 mile of corridor	Total number of destinations within 0.5 miles of each corridor	Compared total number of destinations against each corridor and assigned the following score: • Upper third: High • Middle third: Medium • Bottom third: Low
Non-Motorized Access	Connections to bike lanes, bikeways, shared-use paths, etc.	Connections intersecting the corridor	Compared total number of non-motorized access connections against each corridor and assigned the following score: • 3 or more connections: High • 1-2 connections: Medium • 0 connections: Low
Transit Integration	Total connections to existing/planned transit routes	Connections to CARTA, TriCounty Link (TCL) commuter routes, and future BRT line	Compared total number of transit connections against each corridor and assigned the following score: • 18 or more connections: High • 11-17 connections: Medium • 10 or less connections: Low

Measure Name	Measure Analyzed	Assumptions	Rating Methodology
Existing Traffic Conditions	Existing vehicular capacity (volume over capacity ratio)	Used predominant Level of Service (LOS) throughout each corridor, the worst the performance the higher the score in favor of transit in the corridor	Compared the existing traffic conditions against each corridor and assigned the following score: • LOS E/F: High • LOS C/D: Medium • LOS A/B: Low
Future Traffic Conditions	Future vehicular capacity (volume over capacity ratio)	Used predominant Level of Service (LOS) throughout each corridor, the worst the performance the higher the score in favor of transit in the corridor	Compared the future traffic conditions against each corridor and assigned the following score: • LOS E/F: High • LOS C/D: Medium • LOS A/B: Low
Right-of-Way (ROW)	Availability of ROW	Considered ROW and elements such as bridges and railroad crossings	Based on a visual inspection of ROW availability each corridor was scored as follows: • High ROW availability: High • Moderate ROW availability: Medium • Low ROD availability: Low

Figure 2: Evaluation Summary Matrix



HCT Transit Modes

High Capacity Transit (HCT) service can provide viable transportation options for those traveling throughout the region. For purposes of this analysis the study team identified the following HCT mode options for the most promising corridors to move into the next phase of the study. Those modes are:

- **Express Bus** – Express bus, currently operating in the CARTA system, provides enhanced-speed, moderate-volume commuter or regional service and is designed to operate primarily on the region's freeway and highway system, either in mixed traffic, or managed lanes. Given that express bus service typically operates from park-and-ride locations, initial capital costs are low.
- **Bus Rapid Transit (BRT)** – BRT is "a bus-based rapid transit system that can achieve high capacity and speed at relatively low cost by combining segregated bus lanes that are typically median aligned, off-board fare collection, level boarding, bus priority at intersections, and other quality-of-service elements (such as information technology and strong branding)."[1]
- **BRT Lite** – BRT Lite is a less capital intensive form for BRT. BRT Lite generally operates in mixed traffic; when compared to BRT stations with fixed guideways, BRT Lite stops are simpler and have shelters, seating, lighting and passenger information. BRT Lite and BRT can utilize traffic signal prioritization to improve overall travel times.
- **Light Rail Transit (LRT)** – LRT Light Rail is a mode of transit service (also called streetcar, tramway, or trolley) operating passenger rail cars singly (or in short, usually two-car or three-car, trains) on fixed rails in right-of-way that is often separated from other traffic for part or much of the way typically operated electrically with power being drawn from an overhead electric line via a trolley or a pantograph and may have either high platform loading or low level boarding using steps.[2]

The project team evaluated these modes throughout the screening process; however, the population and employment density needed to support light rail and justify the cost to build and maintain a light rail system in these corridors has not yet materialized. As these corridors continue to grow and mature, they should be reevaluated to consider such mode.

[1] Institute for Transportation and Development Policy

[2] American Public Transportation Association

Corridors Summary Sheets

The following is a brief overview of each corridor, the existing transit services that connect to the corridor, and the general recommendation for each corridor.

Corridor A: Ridgeville-Airport-Charleston

Corridor Overview

Corridor A, shown in **Figure 3**, is 38 miles long and generally travels within Interstate 26, which is a major north-south connector for the region. The Corridor connects to Downtown Charleston, North Charleston, Summerville and Ridgeville. It connects to three of the region's top 10 major employment clusters, including the Historic Peninsula, the Medical University of South Carolina (MUSC), and the Airport/Boeing area.

Existing Transit Service

Corridor A connects to several existing CARTA routes, including the 11, 12, 13, 20, 30, 31, 32, 102, 103, 104, 211, XP1, XP3, and XP4. This corridor also connects to existing TCL commuter routes CS2, and CS3, and the future Lowcountry Rapid Transit (LCRT) line.

Recommendation

Robust express bus service, connecting to key park-and-ride lots in the region, can help meet the travel demands of the corridor without the large price tag of dedicated high capacity transit. Given the level of regional importance of this corridor and the fact that it uses an interstate highway, the study team recommends that the corridor be considered in future I-26 studies for express bus service that may include lane enhancements, bus on shoulder and/or high occupancy lanes.

Figure 3: Corridor A | Ridgeville to Airport to Charleston

Corridor B: Moncks Corner-Summerville

Corridor Overview

Corridor B, illustrated in **Figure** 4, travels along Highway 17A, a major east-west thoroughfare, connecting Moncks Corner and Summerville. It connects to one of the region's top 10 major employment clusters (Santee Cooper) which has approximately 2,200 employees. Significant residential growth is occurring and is expected to continue along the corridor in the future.

Existing Transit Service

Corridor B does not connect to any existing CARTA routes; however, it does connect to three TCL commuter routes, including route CS2, CS3, and CS6. In addition to existing transit routes, it also connects to the future LCRT line in Summerville.

Recommendation

As growth is projected for the area in the future, important actions are needed to provide additional mobility once demand materializes. Actions such as preserving ROW, neighborhood connectivity, and adding transit service to establish transit ridership in the corridor for eventual HCT improvements need to be considered.

Figure 4: Corridor B | Moncks Corner to Summerville

Corridor C

Corridor Overview

Corridor C is the one of the longest corridors at 32 miles (**Figure 5**). Corridor C connects Moncks Corner to downtown Charleston using Highways 52 and 78 (Rivers Avenue).

Existing Transit Service

Corridor A connects to several existing CARTA routes 10, 11, 12, 13, 20, 30, 31, 32, 40, 102, 103, 104, 211, 213, XP1, XP2, XP3, and XP4. It also connects to the existing TCL commuter routes CS1, CS2 and CS3. Finally, Corridor C overlaps with the future LCRT line for almost half of its alignment, providing an opportunity to utilize the future infrastructure of the LCRT.

Recommendation

Corridor C scored well during the technical analysis, but lacks contiguous density to support dedicated high capacity transit, such as BRT or LRT. Growth is projected and important actions are needed to provide additional mobility once demand materializes; actions such as preserving ROW, neighborhood connectivity, and adding transit service to establish transit ridership in the corridor for eventual HCT improvements. Corridor C allows for an eventual connection to the LCRT and could use the LCRT improvements from North Charleston to Downtown Charleston. BRT Lite is recommended for this corridor and will advance into more detailed analysis.

Figure 5: Corridor C | Moncks Corner to Downtown Charleston

Corridor D

Corridor Overview

Corridor D was one of the shortest corridors and served as an extension of the voter approved LCRT (**Figure 6**). Corridor D connected the northern terminus of the LCRT in the Town of Summerville north along HWY 78 to the Town of Ridgeville.

Existing Transit Service

TCL routes CS2 and CS6 connect Ridgeville to Summerville and North Charleston, with transfer opportunities to other transit routes.

Recommendation

Per discussion with the project team, Corridor D was not analyzed because the purpose of the given corridor was to connect to Ridgeville to the HCT network and that connection was accomplished via Corridor A.

Actions that should be taken to prepare the corridor for future additional transit service include preserving ROW and ensuring neighborhood connectivity to ensure efficient transit access.

Figure 6: Corridor D | Ridgeville-Summerville (HWY 78)

Corridor E

Corridor Overview

Corridor E, shown in **Figure 7**, is 26 miles long and extends from Summerville to Downtown Charleston using Dorchester Road, International Boulevard, Rivers Avenue and Meeting Street.

Existing Transit Service

Corridor E connects to existing CARTA routes 10, 11, 12, 13, 20, 30, 31, 32, 40, 102, 103, 104, 211, 213, XP1, XP2, XP3, and XP4. It also connects to the existing TCL commuter route CS6 and overlaps with the future LCRT line, providing an opportunity to utilize the future infrastructure of the LCRT.

Recommendation

Corridor E was the best performing corridor based on the screening metrics. The key to Corridor E is the potential to serve the region's second largest employment cluster (Airport/Boeing). Additional coordination is needed with the Airport and Boeing to better understand how the alignment for Corridor E could be modified to serve this area; especially since, at the time of this analysis various airport roadway access plans were being considered. Lastly, Corridor E has the opportunity to travel on the future LCRT alignment. BRT is recommended for this corridor and will advance into more detailed analysis.

Figure 7: Corridor E | Summerville to Downtown Charleston (International Blvd)

Corridor F

Corridor Overview

Corridor F, illustrated in **Figure 8**, is 25 miles long and extends from Summerville to Downtown Charleston using Dorchester Road, Rivers Avenue, and Meeting Street.

Existing Transit Service

Corridor F connects to existing CARTA routes 10, 11, 12, 13, 20, 30, 31, 32, 40, 102, 103, 104, 211, 213, XP1, XP2, XP3, and XP4. It also connects to TCL commuter route CS6 and overlaps with the future LCRT line, providing an opportunity to utilize the future infrastructure of the LCRT.

Recommendation

Corridor F performed very well during the analysis, and is quite similar to Corridor E. However, the route does not deviate to serve the Airport/Boeing employment cluster, instead it continues to the Superstop at Cosgrove Avenue and Rivers Avenue and eventually to downtown Charleston along the LCRT alignment. Due to its duplication and similarities with Corridor E, it is recommended that Corridor F does not move forward.

Figure 8: Corridor F | Summerville to Downtown Charleston (Dorchester Rd)

Corridor G

Corridor Overview

Corridor G connects Mt Pleasant to West Ashley over the Wando, Cooper and Ashley rivers via I-526. This is one of the region's busiest roadways with certain sections carrying up to 93,000[3] average daily trips each day. This corridor connects four of the region's top 10 major employment clusters, including the Leeds Faber, and the Airport/Boeing area, which makes it important to the movement of people and goods through the region. **Figure 9** shows the extent of Corridor G.

Existing Transit Service

Corridor G connects to existing CARTA routes 10, 11, 12, 13, 33, 40, 103, XP1, XP2, XP3, XP4, TCL B-105, as well as the future LCRT line.

Recommendation

Robust express bus service, connecting to key park-and-ride lots in the region, can help meet the travel demands of the corridor without the large price tag of dedicated high capacity transit. Given the level of regional importance of this corridor and the fact that it is an interstate highway the study team recommends that the be considered in future studies of I-526 that may include lane enhancements, bus on shoulder, or high occupancy lanes.

Figure 9: Corridor G | Mt Pleasant to West Ashley (I-526)

[3] SCDOT Traffic Counts 2009-2017: https://scdot.maps.arcgis.com/ (2017 data)

Corridor H

Corridor Overview

Corridor H, illustrated in **Figure 10**, is 11 miles long and extends from the Airport/Boeing employment cluster to Downtown Charleston. Corridor H performed moderately in comparison to the other corridors, and is very similar to Corridors E and F. The Corridor has its northern terminus at the Airport/Boeing employment cluster and continues southbound using International Boulevard, Montague Avenue. It then connects to the Superstop at Cosgrove Avenue and Rivers Avenue, continues south on Rivers Avenue and Meeting Street eventually to Downtown Charleston along the LCRT alignment.

Existing Transit Service

Corridor F connects to existing CARTA routes 10, 11, 12, 13, 20, 30, 31, 32, 40, 102, 103, 104, 211, 213, XP1, XP2, XP3, and XP4. It does not connect to TCL commuter routes but the corridor does overlap with the future LCRT line, providing an opportunity to utilize the future infrastructure of the LCRT.

Recommendation

Due to its moderate performance, duplication and similarities with Corridors E and F, it is recommended that Corridor H does not move forward for additional analysis.

Figure 10: Corridor H | Airport/Boeing to Downtown Charleston (Meeting St)

Corridor I

Corridor Overview

Corridor I is 10.5 miles long and extends from the Airport/Boeing employment cluster to Downtown Charleston via International Boulevard, I-26, and King Street into Downtown Charleston (**Figure 11**). Corridor I performed moderately in comparison to the other corridors and also shares similarities with Corridors E, F, and H since they connect the Airport/Boeing employment cluster and downtown Charleston.

Existing Transit Service

Routes that intersect the Corridor are CARTA routes 11, 12, 13, 20, 30, 31, 32, 102, 103, 104, 211, 213, XP1, XP3, and XP4. The Corridor does not connect to TCL commuter routes nor does it overlap with the future LCRT line.

Recommendation

Due to its moderate performance, duplication and similarities with Corridors E, F, and H it is recommended that Corridor I not move forward for additional analysis.

Figure 11: Corridor I | Airport/Boeing to Downtown Charleston (King St)

Corridor J

Corridor Overview

Corridor J, shown in **Figure 12**, is 10 miles long and extends from the Airport/Boeing employment cluster to West Ashley to Downtown Charleston, it performed well in comparison to the other corridors and is very similar to Corridors E, F, H, and I. The Corridor has its northern terminus at the Airport/Boeing employment cluster and continues southbound using International Boulevard, Montague Avenue, connects to the Superstop at Cosgrove Avenue and Rivers Avenue, continues south on Rivers Avenue, west on Cosgrove Avenue and Sam Rittenberg Boulevard into West Ashley, continuing south and south east on Old Towne Road and St. Andrews Boulevard to cross the Savannah Highway bridge connecting to MUSC in Downtown Charleston.

Existing Transit Service

Corridor J connects to existing CARTA routes 10, 11, 12, 13, 30, 31, 32, 33, 102, 103, 104, 204, 204, 213, XP1, XP2, XP3, and XP4. It does not connect to TCL commuter routes and does overlap with the future LCRT line.

Recommendation

Due to its duplication and similarities with Corridors E, F, H and I, it is recommended that Corridor J does not move forward.

Figure 12: Corridor J | Airport/Boeing to West Ashley to Downtown Charleston

Corridor K

Corridor Overview

Corridor K was one of the highest performing corridors in comparison to the other corridors. The corridor connects to the Citadel Mall area, MUSC and historic Downtown Charleston. The corridor originates in West Ashley at Bees Ferry Road, traveling southeast along Glenn McConnell Parkway, then turns south on Orleans Road and finally turns east on Savannah Highway to connect to MUSC in downtown Charleston. Corridor K can be seen in **Figure 13**.

Existing Transit Service

Corridor K connects to existing CARTA routes 30, 31, 32, 33, 102, 203, 204, 213, 301, XP2, and XP3. The corridor also connects to TCL routes C-201 and C-204B, and C-204G. Corridor K does not overlap with the future LCRT line.

Recommendation

The recommendation for this corridor is BRT. BRT can provide West Ashley residents reliable travel times to/from downtown Charleston via Highway 17 especially since traffic congestion is expected to continue to be high in the future.

Figure 13: Corridor K | West Ashley to Downtown Charleston (Glen McConnell/Hwy 17)

Corridor L

Corridor Overview

Corridor L was one of the lowest performing routes in comparison to the other corridors. The corridor is 10.5 miles long and extends from West Ashley near Bees Ferry Road along Savannah Highway (Hwy 17) to Downtown Charleston. It connects to two of the highest employment clusters, including MUSC and Historic Downtown.

Existing Transit Service

Corridor L currently connects to existing CARTA routes 30, 31, 33, 102, 203, 204, 213, 301, XP2, and XP3. It does not connect to any TCL routes. The corridor also connects to TCL routes C-201 and C-204B, and C-204G. Corridor K does not overlap with the future LCRT line.

Recommendation

Corridor L is very similar to Corridor K and did not perform well mainly because it lacks a good anchor at the end of the line near Bees Ferry Road. It also does not provide a direct connection to the Citadel Mall area, which Corridor K does.

Figure 14: Corridor L | West Ashley to Downtown Charleston (Hwy 17)

Corridor M

Corridor Overview

Corridor M was a moderate performing corridor in comparison to the other corridors. Corridor M connects James Island to MUSC and downtown Charleston. The corridor originates at Fort Johnson Road and Folly Road, travels north on Folly Road and west on Savannah Highway into downtown Charleston.

Existing Transit Service

Corridor N connects to existing CARTA routes 30, 31, 33, 102, 203, 204, 213, XP1, XP2, and XP3. Future service changes will allow for a connection to TCL routes serving John's Island. In addition, the corridor does not overlap with the future LCRT line.

Recommendation

The recommendation for this corridor is BRT Lite. BRT Lite would be able to connect James Island residents with reliable travel times to/from downtown Charleston via Folly Road.

Figure 15: Corridor M | James Island to Downtown Charleston (Folly Rd)

Corridor N

Corridor Overview

Corridor N was a moderate performing corridor in comparison to the other corridors. Corridor N connects Mt Pleasant to MUSC in downtown Charleston. The corridor originates at the intersection of SC 41 Highway 17 traveling westbound along Highway 17, south on Houston Northcutt Boulevard, west on Coleman Boulevard, merging back west onto Highway 17 crossing the Arthur Ravenel Junior Bridge, south on Meeting Street and west on Spring/Calhoun Street.

Existing Transit Service

Corridor N connects to existing CARTA routes 40, 41, 42, and XP2. It does connect to TCL commuter routes C-203 and B105. A portion of the corridor overlaps with the future LCRT line.

Recommendation

The recommendation for this corridor is BRT. BRT would be able to provide Mt Pleasant residents reliable travel times to/from downtown Charleston via Highway 17 especially since traffic congestion is projected to continue to be high in the future.

Figure 16: Corridor N | Mt Pleasant to Downtown Charleston (Hwy 17)

Challenges/Opportunities

Each of the 14 corridors that were evaluated has challenges and opportunities related to implementation. Several of the corridors that were evaluated utilize bridges, especially those that travel from Mt Pleasant, West Ashley, and John's Island into Downtown Charleston. Bridges can present challenges to providing dedicated transit facilities, such as BRT in an exclusive guideway, but allow for buses to operate in mixed traffic.

Other challenges are land use and zoning policies in the corridors. In order for high capacity transit to be successful it must be paired with the right mix, density and pattern of land uses around the transit corridor and stations. Currently the land use patterns along these corridors are generally low to moderate density suburban development that is not very transit supportive. For these corridors to be successful, changes to land use and zoning policies will need to occur.

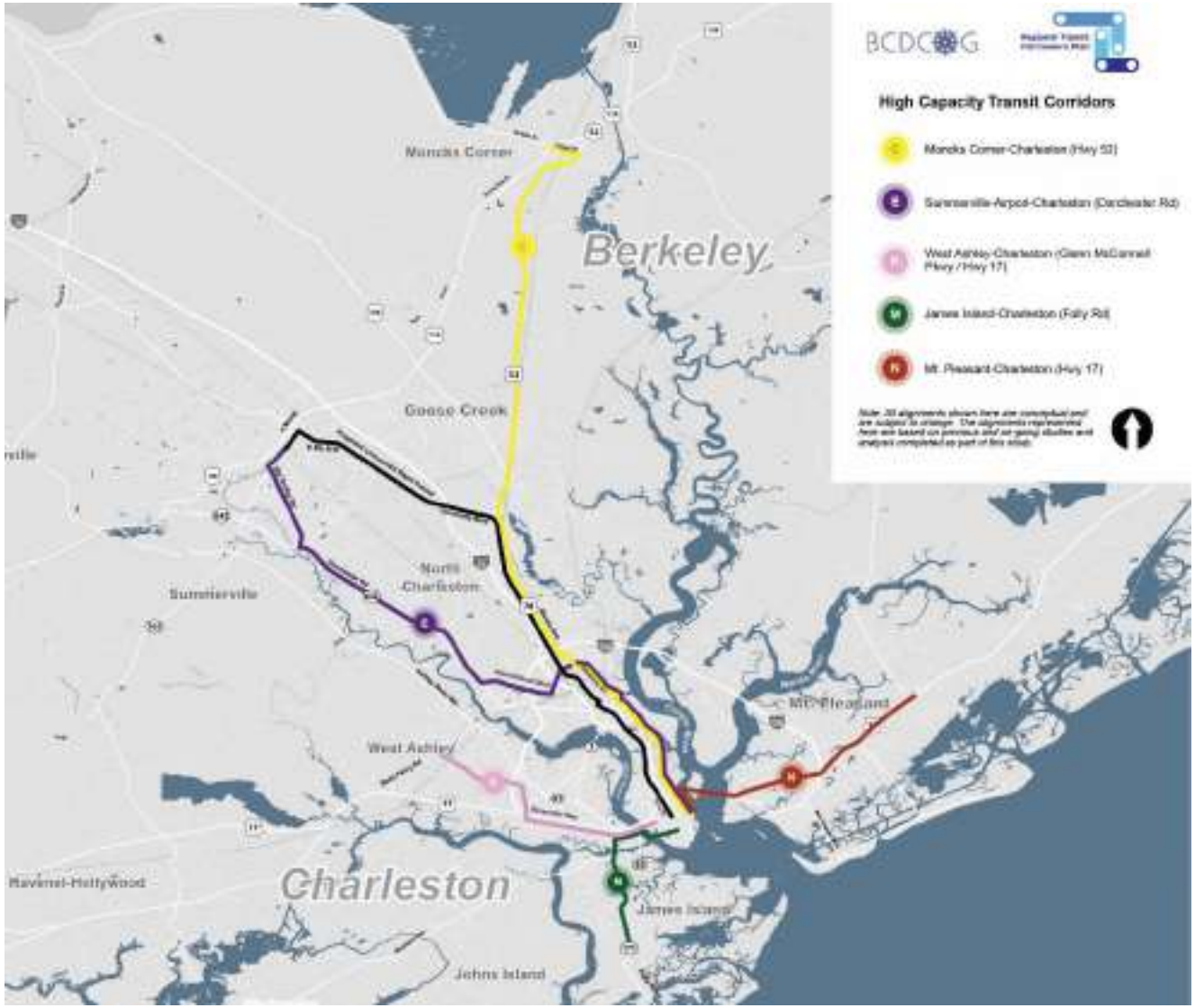
Summary of Recommendations

The results of the analysis showed that there were seven promising corridors. Of the seven, two were in the South Carolina Department of Transportation (SCDOT) interstate system right-of-way: Interstate 26 and Interstate 526. Given the level of importance of those two facilities and the ongoing and future studies by SCDOT to improve those facilities, these two corridors are recommended for consideration in their ongoing and future studies.

Removing the two corridors traveling on the interstate system, it was recommended to advance five corridors for further detailed analysis (**Figure 17**). The five corridors that were recommended to advance for further detailed analysis include:

- **Corridor C** – Moncks Corner-Charleston (Hwy 52)
- **Corridor E** – Summerville-Airport-Charleston (Dorchester Road)
- (Cosgrove Avenue)
- **Corridor K** – West Ashley-Charleston (Glenn McConnell Pkwy/Hwy 17)
- **Corridor M** – James Island-Charleston (Folly Road)
- **Corridor N** – Mt Pleasant-Charleston (Hwy 17)

Figure 17: High Capacity Priority Corridors



Next Steps

The detailed analysis on the five corridors will include:

1. The use of the Federal Transit Administration's (FTA) Simplified Trips On Project Software (STOPS) model to understand ridership potential on each of the HCT corridors.
2. An analysis of the underlying local bus network and any modifications recommendations in order to complement the HCT corridors.
3. A financial cash flow model that will provide an idea of potential capital costs and operation and maintenance costs.

Once these tasks are complete, the project team will document the study process and recommendations in a final report. The end result of this study will be a prioritized list of HCT corridors that will inform the LRTP for future programming and funding discussions.