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6 Roadway Infrastructure

6.1 Roadway Characteristics

Information gathered on the existing roadway characteristics for the LCRT project is described in the following segments including tables and figures illustrating the various roadway characteristics.

6.1.1 Summerville to Berlin G Myers Parkway – Segment 1

Along North Main Street (US 17A) from West Richardson Avenue to E 1st N Street, the existing roadway is a three-lane typical section consisting of asphalt pavement, curb and gutter, and sidewalks with a buffer along the eastbound travel lanes. A park, Hutchinson Square, is located west of the roadway and the sidewalk connects to the roadway segment to the north. From E 1st N Street north to US 78, the roadway widens to a five-lane typical section with curb and gutter. The posted speed limit throughout this roadway section is 35 mph.

Along US 78, from North Main Street (US 17A) to Berlin G Myers Parkway (SC 165), the roadway consists of a two lane section with auxiliary turn lanes added at both intersections. There is no curb and gutter present in the section of roadway. The existing shoulders are a mixture of valley gutter and earth shoulders. The posted speed limit throughout this roadway section is 35 mph.

There are several north terminus alignment options in the Summerville area. Roadways included in these options include Berlin G Myers Parkway, US 17A (North Main Street), and Sigma Drive. All of the roadways listed for the south terminus options are constructed of asphalt pavement with curb and gutter. Additional information regarding functional classification, ownership, posted speed limit, number of travel lanes, and median width can be found in Table 6.1 and on Figures 6.1 through 6.6.

Pavement condition for roadways in this section appear to be in moderate to good condition, and additional information regarding pavement condition and its impact on potential pavement design will be obtained from SCDOT during the alternative evaluation study phase.

6.1.2 Berlin G Myers Parkway to Otranto Road – Segment 2

Southeast of the Berlin G Myers Parkway intersection, US 78 consists of a two-lane roadway with asphalt pavement and earth shoulders for approximately 3.5 miles to the intersection of Market Road. No curb and gutter is present along this section and the posted speed limit is 45 mph. From Market Road heading southeast to the US 78/US 52 split, the roadway widens to a five-lane typical section with asphalt pavement and curb and gutter. Auxiliary turn lanes are present at major intersections. From the US 78/US 52 split south to Otranto Road, the roadway widens to an eight-lane section with landscaped median, and a mixture of curb and gutter along with earth shoulder sections. The posted speed along this section of roadway is 45 mph.

Pavement condition from Berlin G Myers Parkway to the fairgrounds appears to be in moderate condition, pavement condition from the fairgrounds to Otranto Road appears to be in moderate to good condition. Additional information regarding pavement condition and its impact on

potential pavement design will be obtained from SCDOT during the alternative evaluation study phase.

6.1.3 Otranto Road to Success Street – Segment 3

From Otranto Road heading south to the US 52(Rivers Avenue) ramps to I-26, Rivers Avenue consists of an eight-lane typical section with asphalt pavement, curb and gutter, and grassed median. Continuing south along Rivers Avenue, from the US 52/I-26 ramps to Ashley Phosphate Road, the typical section consists of a seven-lane typical section with asphalt pavement, paved median, and curb and gutter. Auxiliary turn lanes are present at the major intersections. From Ashley Phosphate Road to approximately 1,700 feet south of Montague Avenue, the roadway consists of a six-lane typical section with asphalt pavement, curb and gutter, and a wide grassed median (with sporadic trees) varying from 60 to 80 feet. There is also a large number of median cross-overs throughout this section of roadway. Continuing south from approximately 1,700 feet south of Montague Avenue to Durant Avenue, the typical section consists of a seven-lane roadway with asphalt pavement and curb and gutter. From Durant Avenue south to Success Street, the typical section consists of a five-lane roadway with concrete travel lanes, asphalt median, parking/bike lanes, and curb and gutter. The posted speed limit throughout this entire segment is 45 mph.

Pavement condition from Otranto Road to Durant Street appears to be in moderate to good condition, pavement condition of the concrete and asphalt pavement from the Durant Street to Success Street appears to be in moderate condition. Additional information regarding pavement condition and its impact on potential pavement design will be obtained from SCDOT during the alternative evaluation study phase.

6.1.4 Success Street to Mt. Pleasant Street – Segment 4

From Success Street heading south, King Street Extension and Meeting Street to their intersection with Mt. Pleasant Street were studied. Along King Street Extension, the typical section consists of a two-lane roadway with asphalt pavement and earth shoulders. Along the west side of King Street Extension, curb and gutter replaces the earth shoulders and continues to the Mt. Pleasant Street intersection. Auxiliary turn lanes are added at several intersections. The posted speed limit for King Street Extension is 40 mph. Along Meeting Street, the typical section consists of a five-lane roadway with asphalt pavement and curb and gutter. At the Milford Street intersection and continuing south to Mt. Pleasant Street, the roadway narrows from five lanes to four lanes, with wider outside lanes provided that also serve as parking for the numerous business along this section of roadway. The posted speed limit throughout this segment is 45 mph.

Pavement condition for roadways in this section appear to be in moderate to good condition, and additional information regarding pavement condition and its impact on potential pavement design will be obtained from SCDOT during the alternative evaluation study phase.

6.1.5 Mt. Pleasant Street to Line Street – Segment 5

From Mt. Pleasant Street heading south, Meeting Street narrows to a two-lane roadway with asphalt pavement, on-street parking, and curb and gutter. Beginning at Romney Street, the roadway widens back out to a four-lane typical section with the removal of on-street parking.

This typical section is carried down to US 17. From US 17 south to Line Street the roadway consists of five lanes with asphalt pavement and curb and gutter. The posted speed limit for Meeting Street in this segment is 35 mph. There are several south terminus alignment options in the downtown Charleston area. Roadways included in these options include Meeting Street, Calhoun Street, King Street, Courtenay Drive, Jonathan Lucas Street, Doughty Street, Bee Street, President Street, Ashley Avenue, Cannon Street, Woolfe Street, Lockwood Drive and Spring Street. All of the roadways listed for the south terminus options are constructed of asphalt pavement with curb and gutter. Additional information regarding functional classification, ownership, posted speed limit, number of travel lanes and median width can be found in Table 6.1 and Figures 6.1 through 6.6.

Pavement condition for roadways in this section appear to be in moderate condition, and additional information regarding pavement condition and its impact on potential pavement design will be obtained from SCDOT during the alternative evaluation study phase.

Table 6.1 Functional Classification, Ownership, and Design Speed

Route	Road name	County	Functional classification	Ownership	Posted speed
US 78	E. 5 th North St. from US 17A to E. Owens Dr.	Dorchester	Principal Arterial	SCDOT	30
US 78	Highway 78 from E. Owens Dr. to I-26	Dorchester/ Charleston	Principal Arterial	SCDOT	45
US 78	University Blvd. from I-26 to Rivers Ave.	Charleston	Principal Arterial	SCDOT	45
US 78	Rivers Ave. from US 52 to King Street	Charleston	Principal Arterial	SCDOT	45
US 17A	North Main St. from Richardson Ave. to Berlin G Myers Pkwy.	Dorchester	Principal Arterial	SCDOT	30
US 17A	North Main St. from: US 78 to Brighton Park Blvd.	Berkeley	Principal Arterial	SCDOT	45
SC 165	Berlin G Myers Pkwy.	Dorchester/Berkeley	Minor Arterial	SCDOT	45
L-6266	Sigma Dr.	Berkeley	Local	Private	25
L-1527	Brighton Park Blvd.	Berkeley	Local	Private	35
I-26	Interstate 26	Berkeley/Charleston	Interstate	SCDOT	65
US 52	Rivers Ave. from University Blvd. to Carner Ave.	Charleston	Principal Arterial	SCDOT	45
US 52	Carner Ave.	Charleston	Principal Arterial	SCDOT	40
US 52	Meeting St. from Carner Ave. to Mt. Pleasant St.	Charleston	Principal Arterial	SCDOT	40
US 52	Meeting St. from Mt Pleasant St to Line Street	Charleston	Principal Arterial	SCDOT	30
US 78	King Street from Rivers Ave. to Line Street	Charleston	Minor Arterial	SCDOT	35
S-49	Mt Pleasant St.	Charleston	Major Collector	SCDOT	25
S-107	Meeting St.	Charleston	Principal Arterial	SCDOT	25
S-404	Calhoun St.	Charleston	Principal Arterial	SCDOT	25
S-550	Courtenay Dr.	Charleston	Local	SCDOT	25
S-669	Jonathan Lucas St.	Charleston	Local	SCDOT	25

Route	Road name	County	Functional classification	Ownership	Posted speed
L-554	Doughty St.	Charleston	Local	SCDOT	25
S-551	Bee St.	Charleston	Local	City of Charleston	25
S-670	President St.	Charleston	Local	SCDOT	25
S-103	Ashley Ave.	Charleston	Minor Arterial	SCDOT	25
S-1037	Cannon St.	Charleston	Minor Arterial	SCDOT	25
S-104	King St.	Charleston	Principal Arterial	SCDOT	25
S-2127	Woolfe St.	Charleston	Local	SCDOT	25
S-658	Lockwood Dr.	Charleston	Major Collector	SCDOT	35
US 17A	Spring St.	Charleston	Principal Arterial	SCDOT	25
S-3	Spring St.	Charleston	Minor Arterial	SCDOT	25

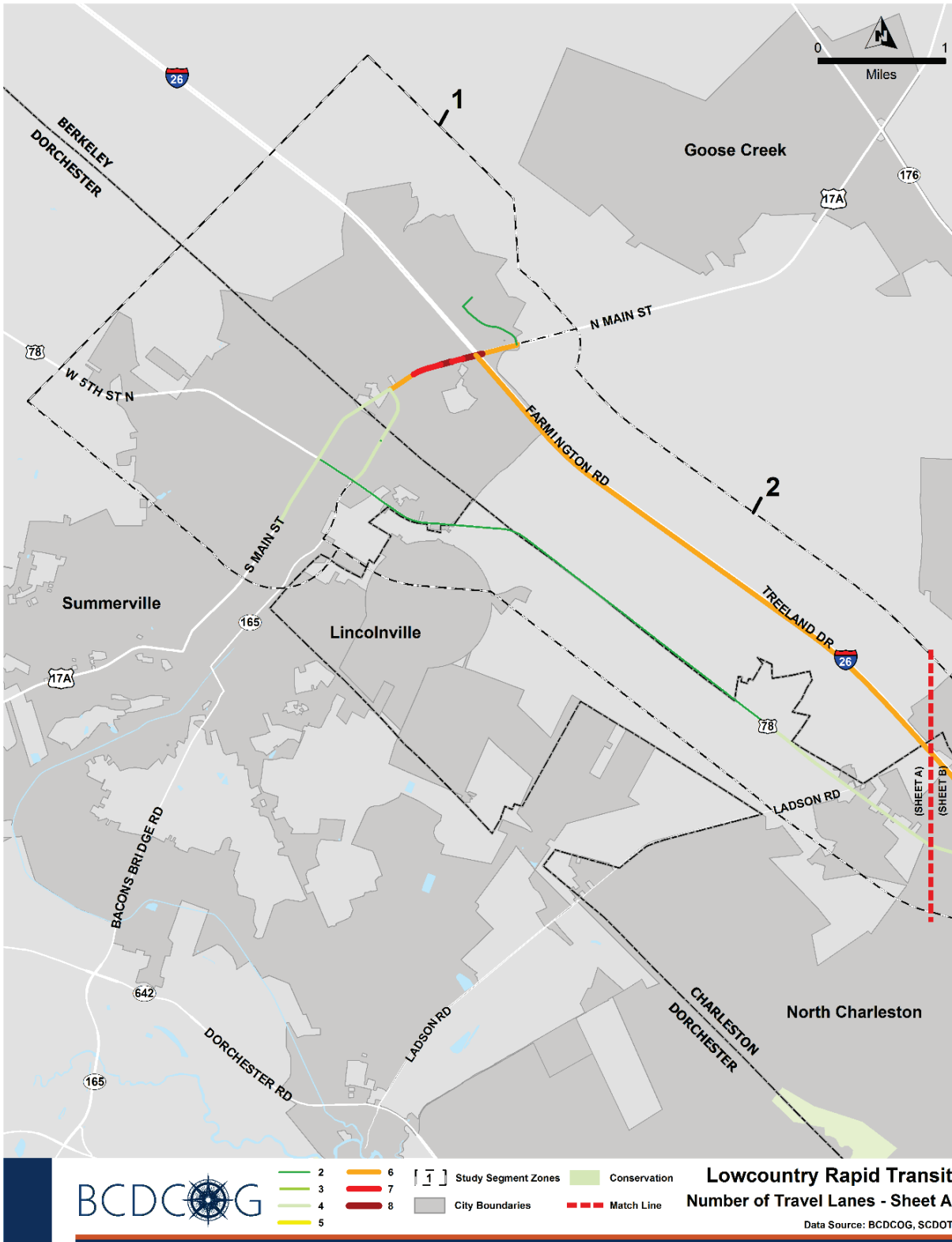


Figure 6.1 Number of Travel Lanes (Sheet A)



Figure 6.2 Number of Travel Lanes (Sheet B)



Figure 6.3 Number of Travel Lanes (Sheet C)

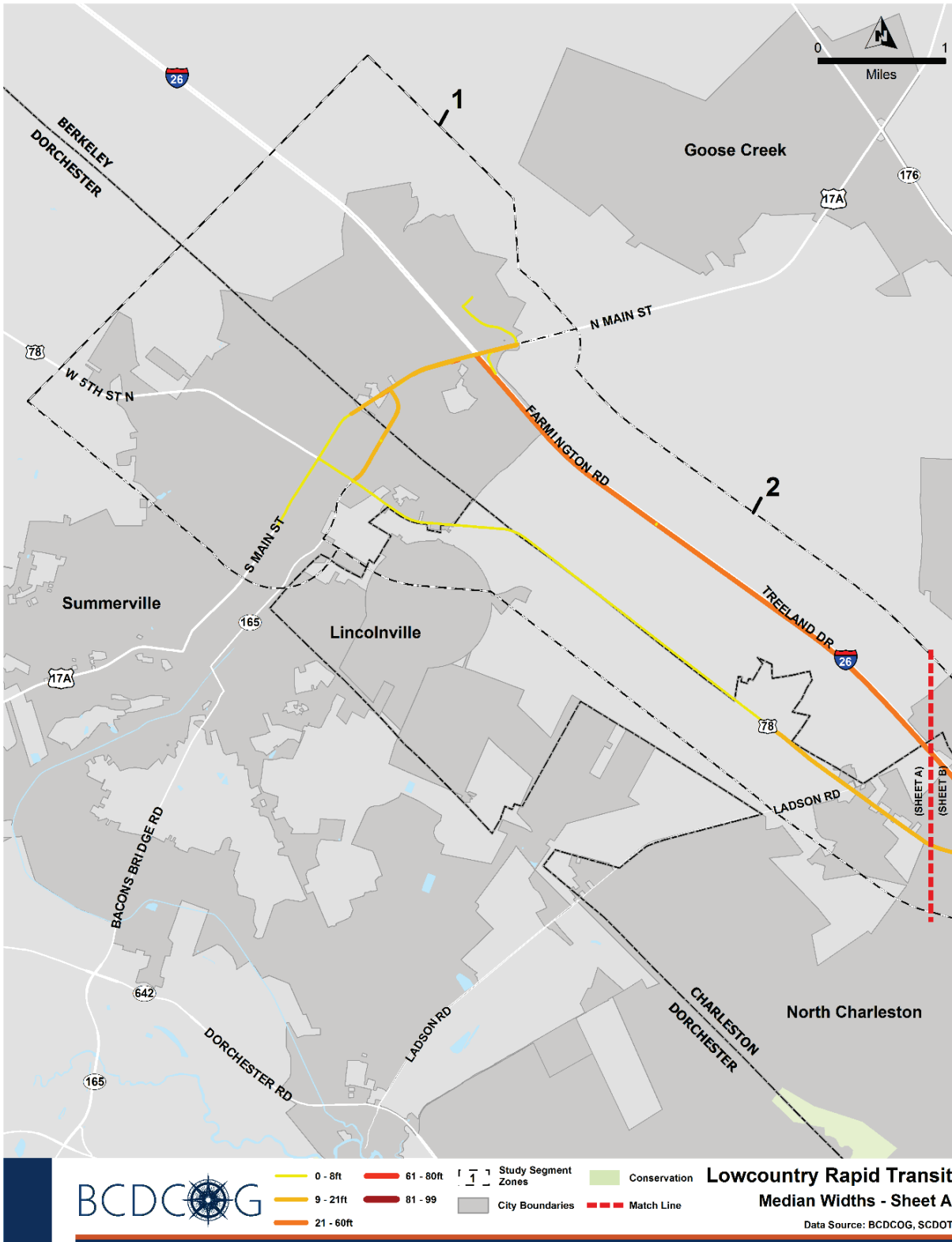


Figure 6.4 Median Widths (Sheet A)

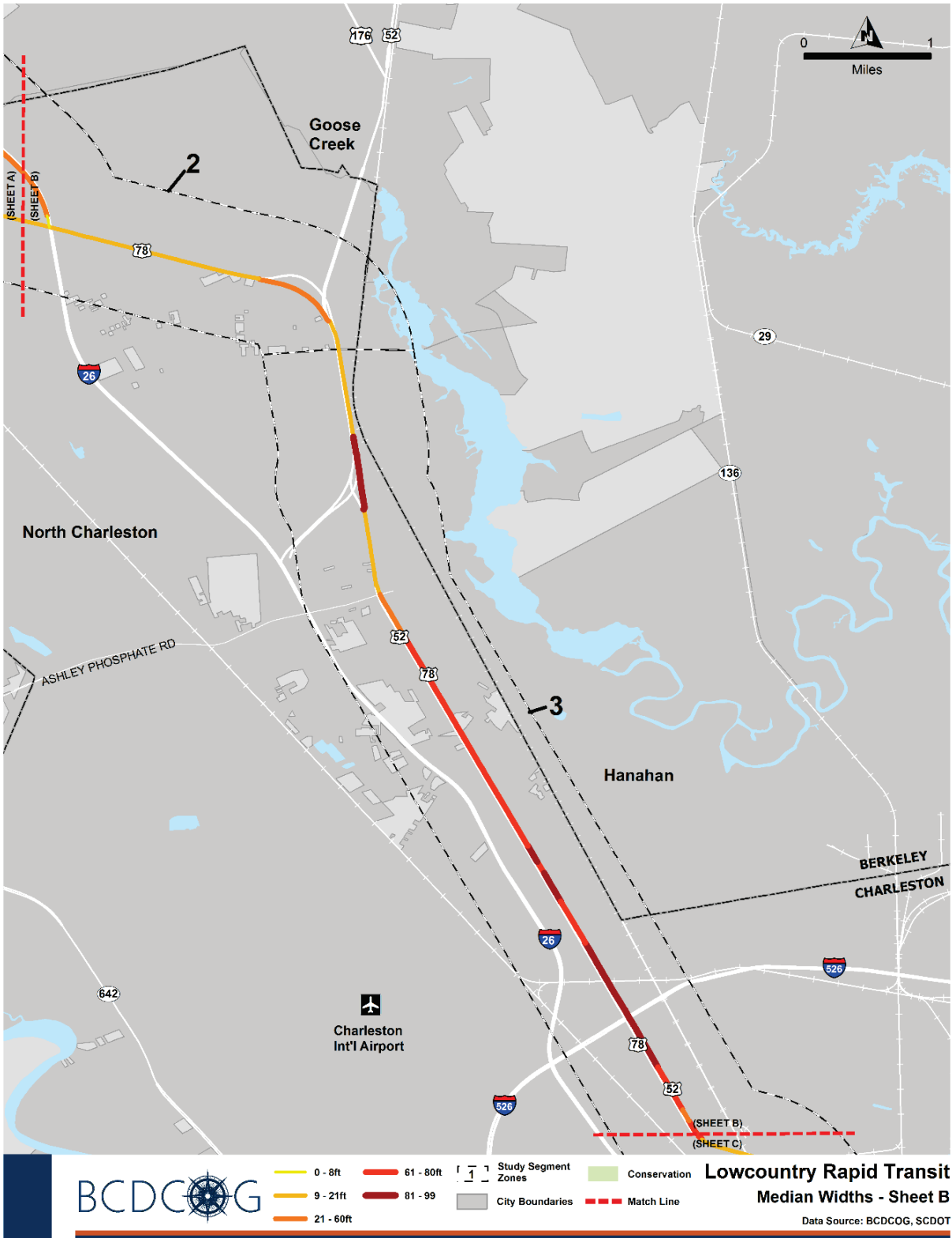


Figure 6.5 Median Widths (Sheet B)

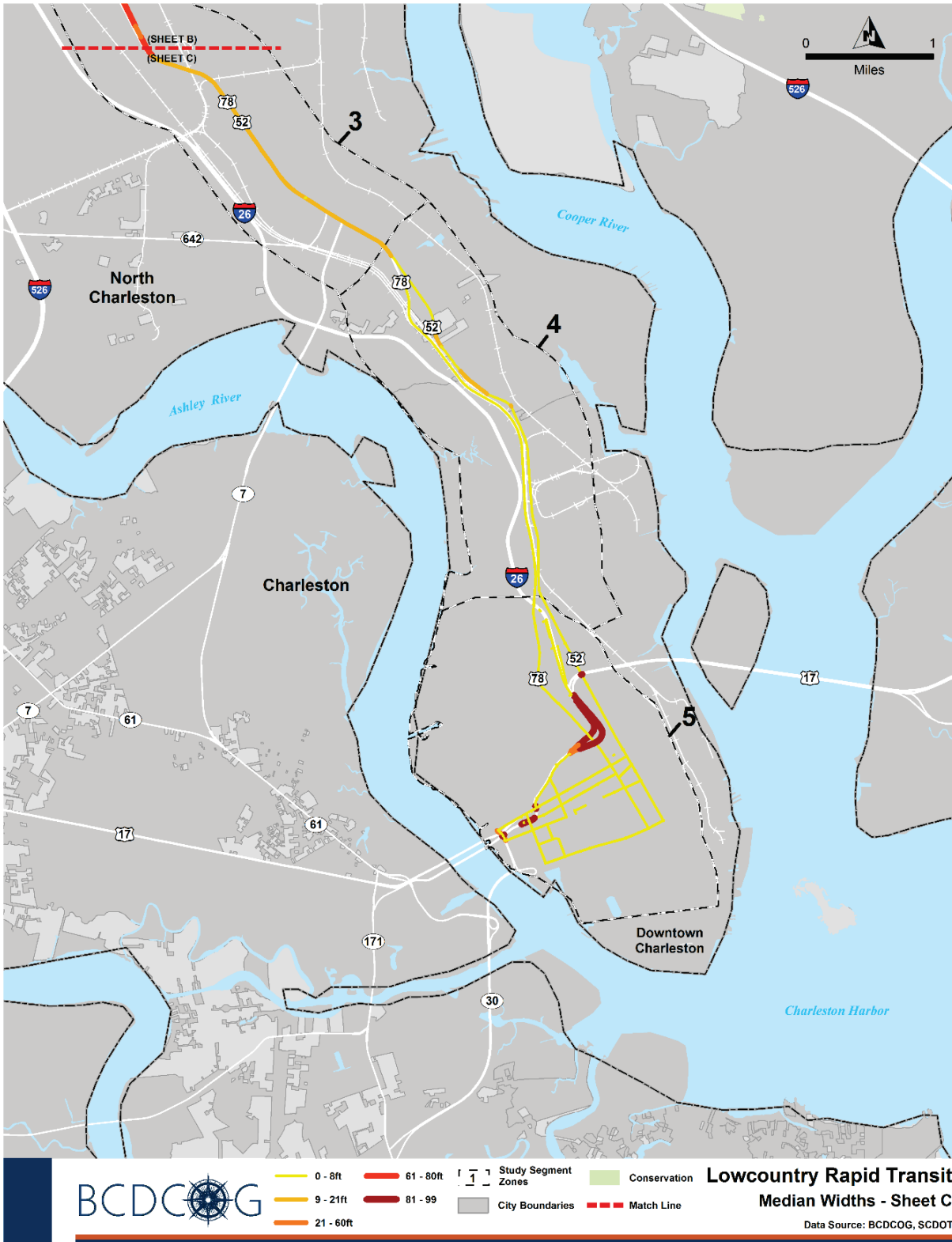


Figure 6.6 Median Widths (Sheet C)

6.2 Existing Utilities

Initial information on existing utility owners in the study area is summarized in Table 6.2. As analysis of the proposed LCRT progresses, existing plans from the utility companies will be requested and reviewed to determine their possible influence on potential alternatives.

Table 6.2 Existing Utilities within the Study Area

Utility	Contact	Address	Phone number	Email
AT&T	Kay Jefferson	385 Meeting St. Charleston, SC 29403	(843) 745-4424	carol.jefferson@bellsouth.com
Spirit	Kevin Comalander	385 Meeting St. Room 322 Charleston, SC 29403	(843) 726-8318	Kevin.Comalander@spiritcom.com
Berkeley County Water and Sanitation Authority	Ashley Yeh	212 Oakley Plantation Drive Moncks Corner	(843) 719-2316	
Berkeley Electric Co-Op	Kevin Mims	551 Rembert C. Dennis Blvd. PO Box 1234 Moncks Corner, SC 29461	(843) 553-5020 Ext 8442	kevinm@bec.coop
Charleston Water System	Eydia Owens	103 Saint Phillip Street Charleston, SC 29403	(843) 727-6869	owenslh@charlestoncpw.com
College of Charleston				
Comcast Cablevision-Low Country	Dave Priddy	440 Bell Oaks Drive North Charleston, SC 29405	(843) 266-3156	Dave_priddy@comcast.com
Dominion Carolina Gas Transmission	Nate Hendrix	121 Moore Hopkins Lane Columbia, SC 29210	(803) 888-3480	Nathaniel.E.Hendrix@dominionenergy.com
Home Telephone	Jeff Varner	579 Stoney Landing Road Moncks Corner, SC 29461	(843) 761-9539	Jeff.varner@hometelco.com
Century Link (Level 3 Communications)	George Hernandez	3770 Lucius Road Columbia, SC 29201	(864) 751-2212	George.hernandez@level3.com
Medical University of South Carolina				
MCI – Now Verizon	Eric Crane	311 Carrington Drive Garner Drive, NC 27529	(919) 326-5604 Mobile:(919) 696-6616	Eric.crane@verisonbusiness.com
Wide Open West (W.O.W.) – (formerly Knowlogy of the Low Country)	Richard Henslee	4507 Dorchester Road North Charleston, SC 29406	(843)225-1113	Richard.henslee@wowinc.com
Santee Cooper Regional Water System	Brian Lynch			Brian.Lynch@santeecooper.com
SCE&G Electric	Connie Beall	220 Operation Way Cayce, SC 29033	(803)217-4733	Connie.Beall@scana.com

Utility	Contact	Address	Phone number	Email
SCE&G Gas				
Summerville CPW	B.K. Bonge	215 North Cedar Street Summerville, SC 29483	(843)875-8795	bbonge@summervillecpw.com
SCDOT	Steve Littlejohn	1408 Shop Road Columbia, SC 29201	(803)737-0256	littejosl@scdot.org
Spirit Communications	Bill Meyerhoff	3691 Leeds Avenue MC S-25 North Charleston, SC 29405	(843)737-7039	Bill.meyerhoff@spiritcom.com
Time Warner Murrells Inlet	Willie Wilson	410 Charlie Road Summerville, SC 29485		Willie.Wilson@charter.com

6.3 Existing Right-of-Way

Existing right-of-way for the proposed LCRT study alignment is currently owned and maintained by the SCDOT. For the northern and southern terminus alignment options roadway ownership is classified as a mixture of SCDOT, city of Charleston, Charleston County, and private ownership. The project team is currently coordinating with the appropriate agencies to determine ownership of all alignment options for the project. Existing right-of-way widths vary greatly throughout the project study area. Construction plans for previously built sections of roadway have been obtained from SCDOT and other agencies in order to determine the existing right-of-way widths, and will be shown in the conceptual plan submittal.

6.4 Existing Bridges and Culverts

6.4.1 US 78 Culvert over Sawmill Creek

This culvert carries US 78 over Sawmill Creek near Summerville, SC in Dorchester County. The structure carries two 12-foot lanes of traffic and four-foot grass shoulders with average daily traffic (ADT) of 15,000. This reinforced concrete culvert has two 8’x10’ barrels and a total length of 53’-0”. SCDOT Asset ID is 3858. The National Bridge Inventory (NBI) Structure Inventory and Appraisal Report (SIA) evaluated the culvert retaining condition as “5” which indicates moderate to major deterioration or disintegration with extensive cracking, minor settlement, and noticeable scouring.

6.4.2 US 17 Alt. NB Bridge over I-26

This bridge carries US 17 Alternate North Bound (North Main Street) over I-26 near Summerville, SC in Berkeley County. The structure carries 12-foot wide lanes including three lanes through in each direction plus an additional ramp lane in each direction and two turn lanes for westbound (WB) traffic entering I-26 eastbound (EB). ADT is 53,100 and the SCDOT Asset ID is 3820. The structure consists of concrete stringers topped with a concrete deck with a total structure width of 145’-11” and five spans for a total length of 320’-0”. The NBI SIA evaluated the superstructure and substructure as “7” indicating good condition.

6.4.3 US 17 Alt. Culvert over Sawmill Creek

This culvert carries US 17 Alt over Sawmill Creek near Summerville, SC in Berkeley County. The structure carries eight 12-foot lanes of traffic plus grass shoulders and a sidewalk and has an ADT of 35,000. This reinforced concrete culvert has two 8'x10' barrels and a total length of 104'-0". SCDOT Asset ID is 709. The NBI SIA evaluated the culvert retaining condition as "6" which indicates deterioration or initial disintegration with minor cracking and scouring.

6.4.4 Brighton Park Blvd. Culvert over Sawmill Creek

This culvert carries Brighton Park Blvd. over Sawmill Creek near Summerville, SC in Berkeley County. This reinforced concrete culvert has three 8'x10' barrels and a total length of 152'-0". The structure carries four 12-foot lanes of traffic plus grass median, shoulders, and sidewalks. The culvert was recently constructed and is in good condition.

6.4.5 S-535 Bridge over I-26

This bridge carries S-535 (Royle Road) over I-26 between Summerville, SC and Ladson, SC in Berkeley County. The structure carries two 12-foot lanes with 1.5-foot shoulders. ADT is 8,300 and the SCDOT Asset ID is 3604. The structure consists of five spans of concrete stringers topped with a concrete deck with a total structure width of 31'-6" and five spans for a total length of 262'-0". The original structure was built in 1961 and was raised in 1998 to provide a minimum 17'-0" vertical clearance over I-26. Beneath the structure, I-26 is a divided six-lane section with an approximately 50-foot grass median. The NBI SIA evaluated the superstructure and substructure as "6" indicating satisfactory condition.

6.4.6 S-62 Bridge over I-26

This bridge carries S-62 over I-26 near Ladson, SC in Berkeley County. The structure carries 12-foot wide lanes including two lanes through in each direction plus one turn lane for EB traffic to I-26 WB and two turn lanes for WB traffic to I-26 EB. ADT is 36,700 and the SCDOT Asset ID is 3599. The structure consists of five spans of steel and concrete stringers topped with a concrete deck with a total structure width of 99'-4" and five spans for a total length of 262'-0". The original structure was built in 1961 and was widened and raised in 1979 to provide a minimum 17'-0" vertical clearance over I-26. Beneath the structure, I-26 is a divided six-lane section with an approximately 50-foot grass median. The NBI SIA evaluated the superstructure and substructure as "6" indicating satisfactory condition.

6.4.7 US 78 Bridge over Popperdam Creek

This bridge carries US 78 over Popperdam Creek near Ladson, SC in Charleston County. The structure carries four 12-foot lanes with a center turn lane and five-foot sidewalks on each side. ADT is 40,500 and the SCDOT Asset ID is 6052. The structure consists of one span of concrete stringers topped with a concrete deck with a total structure width of 77'-0" and one span for a total length of 56'-8". The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.8 US 78 Bridge over I-26

This bridge carries US 78 over I-26 near Ladson, SC in Charleston County. The structure carries 12-foot wide lanes including two lanes through plus an additional on-coming ramp lane in each direction and width for two turn lanes in the middle for WB traffic to I-26 EB just off of the

bridge. ADT is 39,400 and the SCDOT Asset ID is 3826. The structure consists of four spans of steel and concrete stringers topped with a concrete deck with a total structure width of 109'-10" and two spans for a total length of 278'-0". The structure provides a 17'-4" vertical clearance over I-26. Beneath the structure, I-26 is an eight-lane section with bridge piers in the median. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.9 US 78 Culvert over Filbin Creek

This culvert carries US 78 SB over Filbin Creek in North Charleston, SC in Charleston County. The ADT is 29,700. The structure carries four 12-foot lanes of traffic, four-foot grass shoulders and a sidewalk. This is a double 6' x 6' reinforced box culvert, approximately 80 feet in length. An SCDOT Asset ID was not found for this structure.

6.4.10 US 52 Bridge over Filbin Creek

This bridge carries US 52 over Filbin Creek in North Charleston, SC in Charleston County. The structure carries four 12-foot lanes and a five-foot sidewalk. ADT is 29,700 and the SCDOT Asset ID is 4477. The structure consists of one span of concrete slab with a total structure width of 60'-0" and three spans for a total length of 45'-0". The NBI SIA evaluated the superstructure as "6" indicating satisfactory condition and the substructure as "5" indicating fair condition

6.4.11 I-526 WB Bridge over US 52

This bridge carries I-526 WB over US 52 in North Charleston, SC in Charleston County. The structure carries three 12-foot lanes with 10-foot shoulders. ADT is 42,650 and the SCDOT Asset ID is 8525. The structure consists of steel stringers topped with a concrete deck over US 52 with a total structure width of 50'-11" and 234 spans for a total length of 10,615'. The structure provides a 16'-4" minimum vertical clearance over US 52. Beneath the structure, US 52 is a six-lane section plus two turn lanes in each direction, with a 65-foot grass median with a pier in the middle. The NBI SIA evaluated the superstructure as "7" indicating good condition and substructure as "6" indicating satisfactory condition.

6.4.12 I-526 EB Bridge over US 52

This bridge carries I-526 EB over US 52 in North Charleston, SC in Charleston County. The structure carries three 12-foot lanes with 10-foot shoulders. ADT is 42,650 and the SCDOT Asset ID is 8519. The structure consists of steel stringers topped with a concrete deck over US 52 with a total structure width of 50'-11" and 234 spans for a total length of 10,615'. The structure provides a 16'-4" minimum vertical clearance over US 52. Beneath the structure, US 52 is a six-lane section plus two turn lanes in each direction, with a 65-foot grass median with a pier in the middle. The NBI SIA evaluated the superstructure as "7" indicating good condition and substructure as "6" indicating satisfactory condition.

6.4.13 S-62 Bridge over US 52 and US 78

This bridge carries S-62 over US 52 in North Charleston, SC in Charleston County. The structure carries four 12-foot lanes with four-foot shoulders and a four-foot raised median. ADT is 9,100 and the SCDOT Asset ID is 4058. The structure consists of five spans of concrete stringers topped with a concrete deck with a total structure width of 66'-7" and five spans for a total length of 277'-0". The structure provides a 16'-4" minimum vertical clearance over NB US 52. Beneath the structure, US 52 is a six-lane section plus a turn lane in the SB direction, with a

40-foot grass median between piers. The NBI SIA evaluated the superstructure and substructure as “6” indicating satisfactory condition.

6.4.14 US 52 Bridge over SCL Railroad

This bridge carries US 52 over the Seaboard Coastal Line (SCL) Railroad in North Charleston, SC in Charleston County. The structure carries seven 12-foot lanes with a four-foot raised median and five-foot sidewalks on each side. ADT is 17,700 and the SCDOT Asset ID is 714. The structure consists of steel stringers topped with a concrete deck with a total structure width of 100'-4" and four spans for a total length of 224'-9". The original structure was built in 1935 and was widened in 1972. The structure provides a 13'-0" minimum vertical clearance over private road S-39. The NBI SIA evaluated the superstructure and substructure as “6” indicating satisfactory condition.

6.4.15 US 78 Bridge over SCL Railroad and S-39

This bridge carries US 78 over S-39 (Meeting Street) and SCL Railroad in North Charleston, SC in Charleston County. The structure carries two 12-foot lanes with four-foot shoulders and 5.5-foot sidewalks on each side. ADT is 9,100 and the SCDOT Asset ID is 229. The structure consists of steel stringers topped with a concrete deck with a total structure width of 46'-0" and eight spans for a total length of 1230'-2". The structure provides a 24'-3" minimum vertical clearance over S-39 (Meeting Street). The NBI SIA evaluated the superstructure and substructure as “8” indicating very good condition.

6.4.16 Port Access Bridges from I-26 to Proposed Port Terminal over King Street Extension

These are a series of new construction ramp bridges carrying traffic from the new proposed Port Terminal over King Street Extension and onto I-26. Construction is currently underway with an expected completion mid-year 2020. The bridges include Ramp A, Ramp B, Ramp C, and Ramp D. Each structure carries one 16-foot lane with 10-foot and six-foot shoulders. SCDOT Asset IDs have not been assigned yet. Beneath the structure, King Street Extension is a two 12-foot lane section. The vertical clearance is constrained by Ramp D at 25'-4". The horizontal clearance is constrained by Ramp C with a clearance to bridge substructures of 10'-2" to one side and 3'-8" to the other.

6.4.17 I-26 Bridge over Heriot St. Viaduct

This bridge carries I-26 into downtown Charleston, SC in Charleston County. The structure carries six 12-foot lanes with seven-foot shoulders. ADT is 81,000 and the SCDOT Asset ID is 5231. The structure consists of steel stringers topped with a concrete deck with a total structure width of 100'-0" and 96 spans for a total length of 6,184'. A minimum 25'-11" vertical clearance is provided over King Street. Under the structure, King Street is a two-lane section with an additional parking lane for a total of 35 feet paved. The minimum horizontal clearance is 19.5' from the edge of pavement to the bridge substructure on both sides. The NBI SIA evaluated the superstructure as “6” indicating satisfactory condition and substructure as “5” indicating fair condition.

6.4.18 I-26 WB Ramp Bridge over Meeting Street

This bridge carries US 17 traffic on a Ramp to I-26 WB, crossing over Meeting Street in Charleston, SC in Charleston County. The structure carries one 16-foot lane with six-foot shoulders. ADT is 14,600 and the SCDOT Asset ID is 9827. The structure consists of steel stringers topped with a concrete deck with a total structure width of 30'-10" and eight spans for a total length of 1,234'. The structure provides in excess of 20'-0" minimum vertical clearance. Beneath the structure, Meeting Street is a six-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to bridge substructures in each direction. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.19 US 17 SB Bridge over Meeting Street and I-26

This bridge carries US 17 SB traffic from Mount Pleasant over the Ravenel Bridge to downtown, crossing over Meeting Street in Charleston, SC in Charleston County. The structure carries two 12-foot lanes with six-foot shoulders. ADT is 48,400 and the SCDOT Asset ID is 9832. The structure consists steel stringers topped with a concrete deck over Meeting Street with a total structure width of 66' and 12 spans for a total length of 700'. The structure provides in excess of 20'-0" minimum vertical clearance. Beneath the structure, Meeting Street is a six-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to bridge substructures in each direction. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.20 US 17 NB Bridge over Meeting Street

This bridge carries US 17 NB traffic from downtown onto the Ravenel Bridge, crossing over Meeting Street in Charleston, SC in Charleston County. The structure carries two 12-foot lanes with six-foot shoulders. ADT is 48,400 and the SCDOT Asset ID is 9825. The structure consists steel stringers topped with a concrete deck over Meeting Street with a total structure width of 38'-10" and five spans for a total length of 929'. The structure provides in excess of 20'-0" minimum vertical clearance. Beneath the structure, Meeting Street is a six-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to bridge substructures in each direction. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.21 I-26 EB Ramp over I-26, U S 17 Ramps and Meeting Street

This bridge carries I-26 EB traffic onto the Ravenel Bridge, crossing over Meeting Street in Charleston, SC in Charleston County. The structure carries two 12-foot lanes with six-foot shoulders. ADT is 14,000 and the SCDOT Asset ID is 9826. The structure consists of steel stringers topped with a concrete deck over Meeting Street with a total structure width of 38'-10" and 28 spans for a total length of 4,038'. The structure provides in excess of 20'-0" minimum vertical clearance. Beneath the structure, Meeting Street is a six-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to bridge substructures in each direction. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.22 I-26 Ramp EB Bridge over FR I-26 EBL to US 17 SBL over US 78 (King Street)

This bridge carries I-26 EB traffic onto US 17 SB, crossing over US 78 (King Street) in Charleston, SC in Charleston County. The structure carries two 12-foot lanes with 10-foot shoulders. ADT is 35,800 and the SCDOT Asset ID is 5476. The structure consists of concrete stringers topped with a concrete deck over King Street with a total structure width of 66' and 11 spans for a total length of 692'. The structure provides a minimum vertical clearance of 14'-10". Beneath the structure, King Street is a three-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to the bridge substructure. The NBI SIA evaluated the superstructure and substructure as "6" indicating satisfactory condition.

6.4.23 I-26 Ramp WB Bridge over FR US 17 NBL to I-26 WBL over US 78 (King Street)

This bridge carries US 17 NB traffic onto I-26 WB, crossing over US 78 (King Street) in Charleston, SC in Charleston County. The structure carries two 12-foot lanes with 10-foot shoulders. ADT is 35,800 and the SCDOT Asset ID is 5477. The structure consists of concrete and steel stringers topped with a concrete deck over King Street with a total structure width of 38' and 17 spans for a total length of 631'. The structure provides in a minimum vertical clearance of 16'-10". Beneath the structure, King Street is a three-lane section plus sidewalks in each direction. A minimum of approximately 16 feet horizontal clearance is provided from the edge of travel to the bridge substructure. The NBI SIA evaluated the superstructure as "7" indicating good condition and substructure as "6" indicating satisfactory condition.

6.4.24 US 17 SB Bridge over Lockwood Blvd

This bridge carries US 17 SB over Lockwood Blvd near downtown Charleston, SC in Charleston County. The structure carries two 12-foot lanes with a six-foot and a 10-foot shoulder. ADT is 30,600 and the SCDOT Asset ID is 9138. The structure consists of steel stringers topped with a concrete deck with a total structure width of 43'-4" and eight spans for a total length of 925'. A minimum 17'-1" vertical clearance is provided over the NB lane of Lockwood Drive. Under the structure, Lockwood Drive is a five-lane section with a four-foot concrete median. The minimum horizontal clearance is 12.2' from the edge of pavement to the bridge substructure. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

6.4.25 US 17 NB Bridge over Lockwood Blvd

This bridge carries US 17 (NB over Lockwood Blvd near downtown Charleston, SC in Charleston County. The structure carries three 12-foot lanes with a six-foot and a 10-foot shoulder. ADT is 30,600 and the SCDOT Asset ID is 9137. The structure consists of steel stringers topped with a concrete deck with a total structure width of 55'-4" and seven spans for a total length of 902'. A minimum 17'-1" vertical clearance is provided over the SB lane of Lockwood Drive. Under the structure, Lockwood Drive is a five-lane section plus a turn lane with a four-foot concrete median. The minimum horizontal clearance is 12 feet from the edge of pavement to the bridge substructure. The NBI SIA evaluated the superstructure and substructure as "7" indicating good condition.

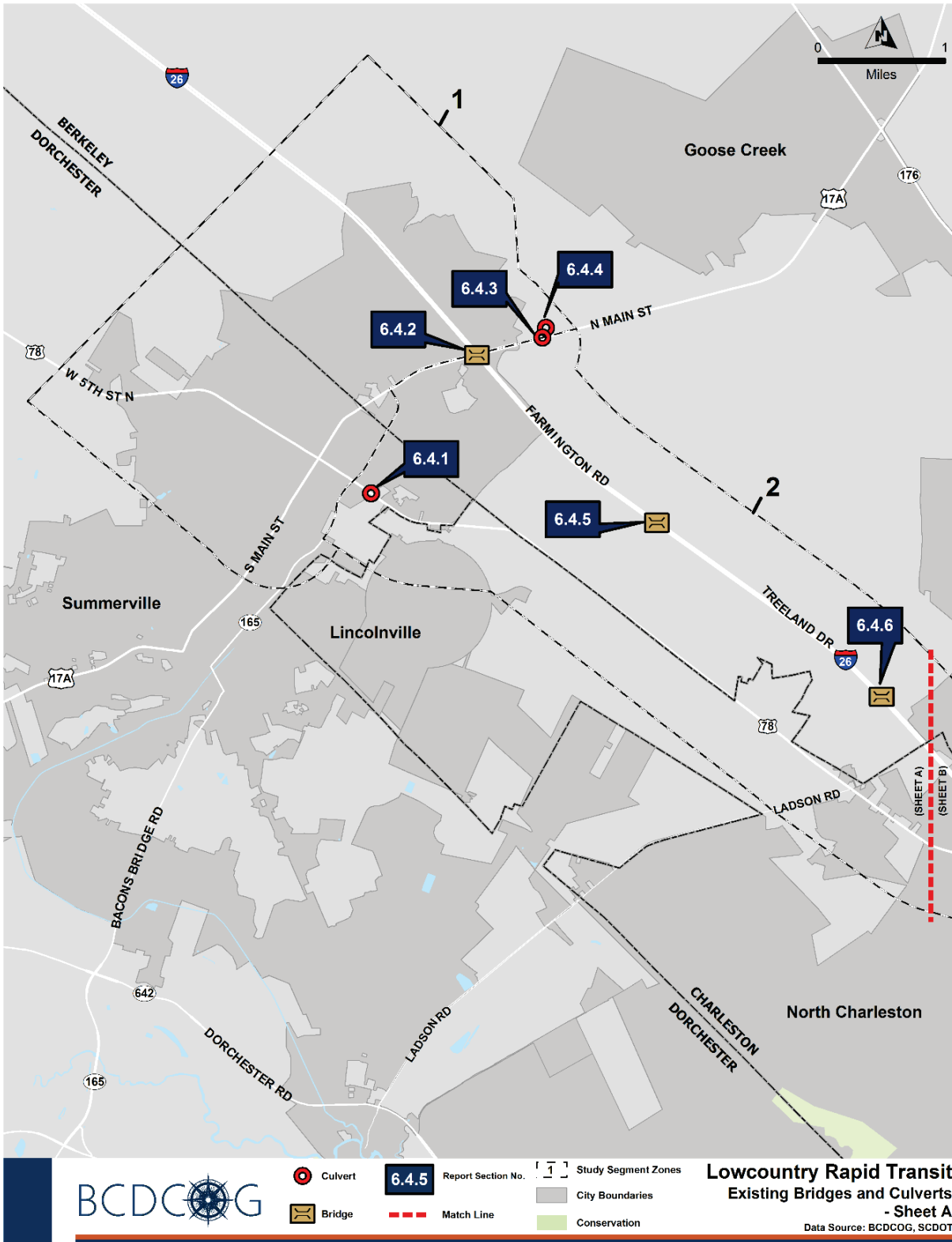


Figure 6.7 Existing Bridges and Culverts (Sheet A)

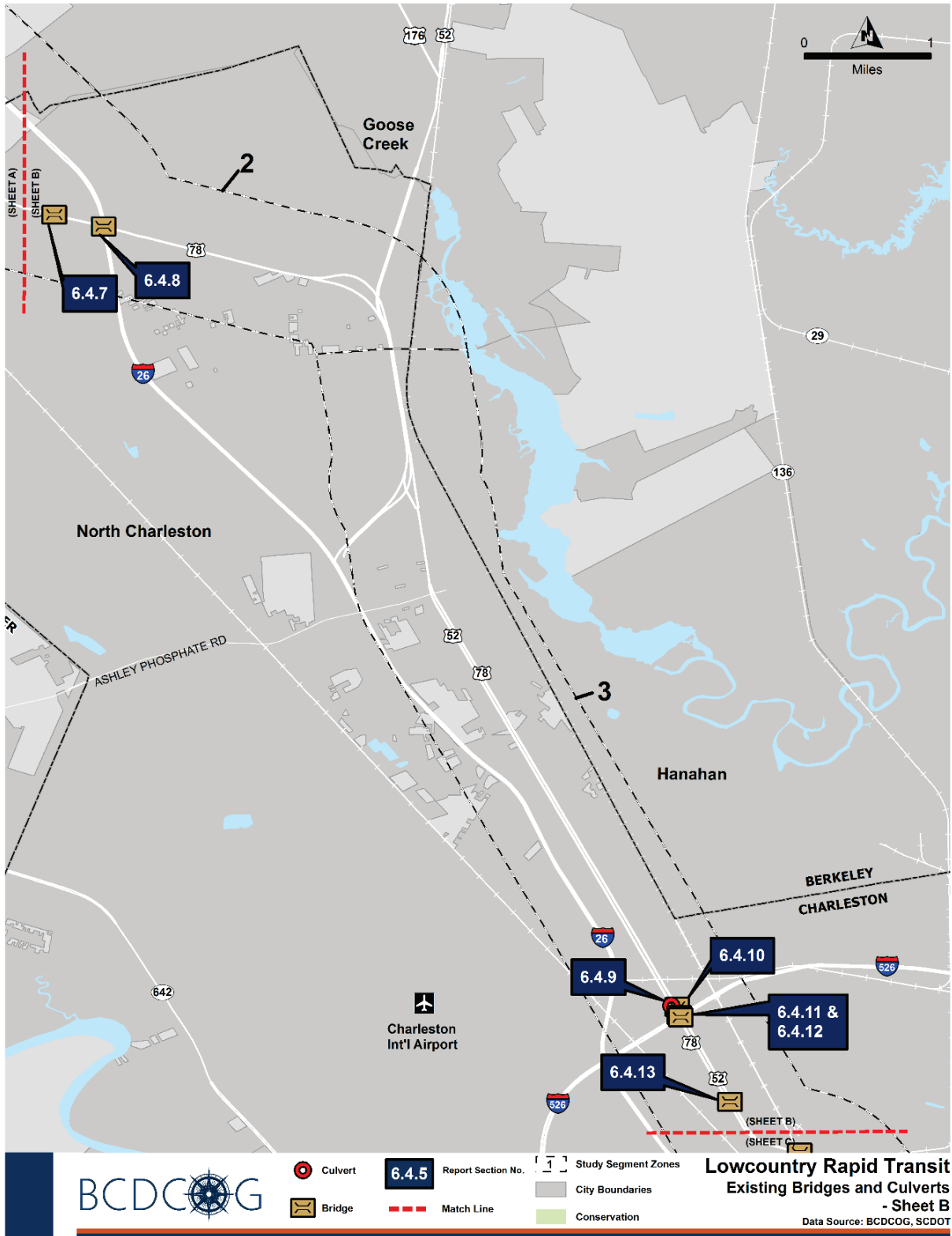


Figure 6.8 Existing Bridges and Culverts (Sheet B)

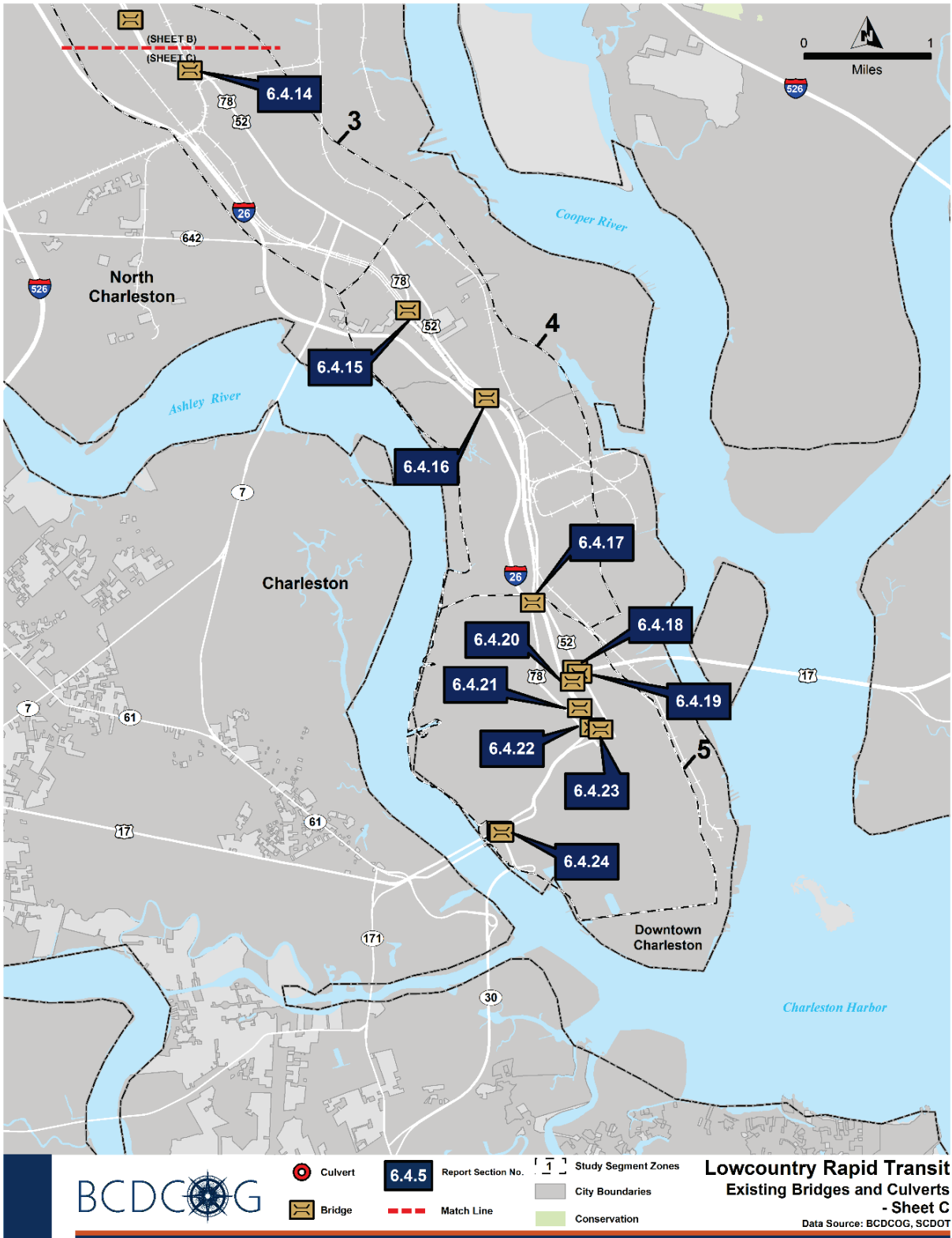


Figure 6.9 Existing Bridges and Culverts (Sheet C)

6.5 Existing Railroad Crossings

6.5.1 Main Street/US 17-A

Main Street/US 17-A SC ID is a single track, public at-grade crossing located near the city of Summerville, SC in Dorchester County. The primary operating railroad is NS. The United States Department of Transportation (USDOT) inventory number is 721467R and railroad mile post (MP) is 21.77. The estimated number of trains per day is 14 with maximum time table railroad speed of 49 mph and highway posted vehicle speed of 35 mph. The crossing's gates and flashers are controlled by motion detection circuits with two cantilevered structures with flashers and two gates arms. The NB gate also covers pedestrian sidewalk as well as the NB lane. The intersection with W. Doty Avenue is not signalized, so no preemption circuits exist. A single low ground clearance sign is displayed for SB vehicle traffic (W10-5).

6.5.2 Rivers Ave/US-52/US-78

Rivers Ave/US-78 SC ID 4739 is a single track, public at-grade crossing located in Charleston, SC in Charleston County. The primary operating railroad is NS. USDOT inventory number is 721431H and railroad MP is 8.95. The estimated number of trains per day is 12 with maximum time table railroad speed of 49 mph and highway posted vehicle speed of 45 mph. The crossing's cantilevered flashers are controlled by DC circuits with no gates installed. Nearby intersections are not signalized and are not interconnected.

6.5.3 Rivers Ave/US-52/US-78

Rivers Ave/US-78 SC ID is a double track, public grade separated crossing located in Charleston, SC in Charleston County. The primary operating railroad is NS. USDOT inventory number is 721432P and railroad MP is 0.5. The estimated number of trains per day is two with maximum time table railroad speed of 10 mph and highway posted vehicle speed of 45 mph.

6.5.4 Rivers Ave/US-52/US-78

Rivers Ave/US-52/US-78 SC ID 5033 is a single track, public at-grade crossing located in North Charleston, SC in Charleston County. The primary operating railroad is CSX. USDOT inventory number is 631985M and railroad MP is 416.05. The estimated number of trains per day is one with maximum time table railroad speed of 10 mph and highway posted vehicle speed of 35 mph. The crossing's cantilevered flashers gates are controlled by motion detection circuits. Nearby intersection Durant is signalized and interconnected with simultaneous pre-emption.

6.5.5 King Street Extension/US-78

King Street Extension/US-78 SC ID is a single track, public grade separated crossing located in Charleston, SC in Charleston County. The primary operating railroad is CSX. USDOT inventory number is 721389L and railroad MP is 4.4. The estimated number of trains per day is 12 with maximum time table railroad speed of 15 mph and highway posted vehicle speed of 45 mph.

6.5.6 King Street Extension/US-78

King Street Extension/US-78 SC ID is a single track, public at-grade crossing located in Charleston, SC in Charleston County. The primary operating railroad is CSX. USDOT inventory number is 915253M and railroad MP is 388.57. The estimated number of trains per day is one with maximum time table railroad speed of 10 mph and highway posted vehicle speed of 45

mph. The crossing consists of cross bucks and yield signs. Nearby intersections are not signalized and are not interconnected.

6.5.7 Meeting Street/US-52

Meeting Street/US 52 SC ID 6258 is a single track, public at-grade crossing located in Charleston, SC in Charleston County. The primary operating railroad is CSX. USDOT inventory number is 632177M and railroad MP is 419.05. The estimated number of trains per day is two switching moves with maximum time table railroad speed of 10 mph and highway posted vehicle speed of 45 mph. The crossing's cantilevered flashers gates are controlled by motion detection circuits. Nearby intersections are not signalized and are not interconnected.

6.5.8 Meeting Street/US-52

Meeting Street/US 52 SC ID 5245 is a single track, public at-grade crossing located in Charleston, SC in Charleston County. The primary operating railroad is NS. USDOT inventory number is 721394H and railroad MP is 2.8. The estimated number of trains per day is five with maximum time table railroad speed of 10 mph and highway posted vehicle speed of 45 mph. The crossing's cantilevered flashers are controlled by motion detection circuits with no gates installed. Nearby intersections are not signalized and are not interconnected.

6.5.9 Meeting Street/US-52

Meeting Street/US 52 SC ID 6659 is a single track, public at-grade crossing located in Charleston, SC in Charleston County. The primary operating railroad is CSX. USDOT inventory number is 631997G and railroad is MP 392.97. The estimated number of trains per day is one with five switching moves, maximum time table railroad speed of 10 mph and highway posted vehicle speed of 35 mph. The crossing's cantilevered flashers are controlled by DC circuits with no gates installed. Nearby intersections are not signalized and are not interconnected.

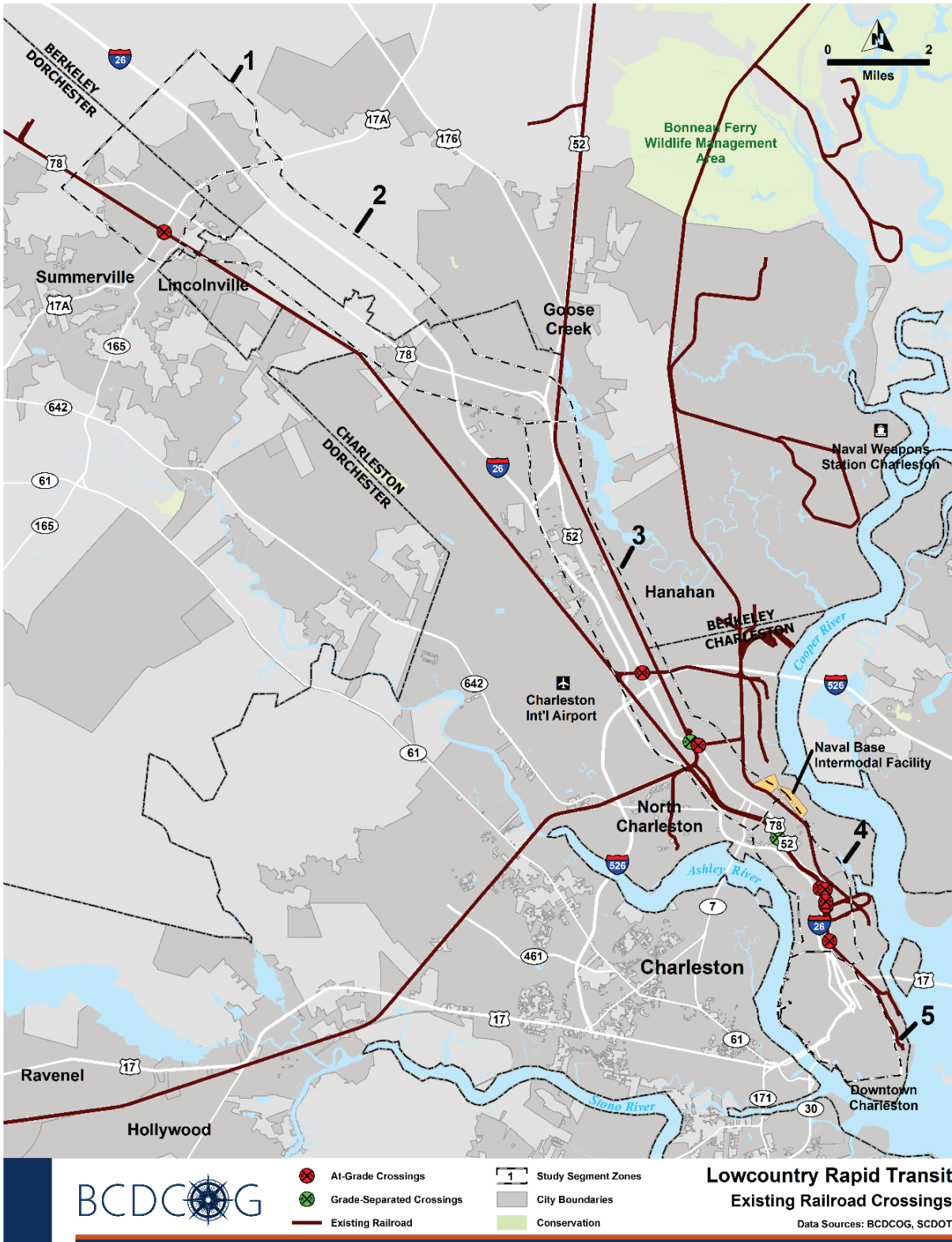


Figure 6.10 Existing Railroad Crossings

6.6 Existing Drainage Conditions

6.6.1 Summerville to Berlin G Myers Parkway – Segment 1

There were no significant drainage issues identified in this segment during discussions with SCDOT. As the LCRT progresses into Phase 2, further detailed discussions will be held with SCDOT to identify any drainage issues or coordination that needs to take place as part of the LCRT and roadway improvements.

6.6.2 Berlin G Myers Parkway to Otranto Road – Segment 2

There were no significant drainage issues identified in this segment during discussions with SCDOT. As the LCRT progresses into Phase 2, further detailed discussions will be held with SCDOT to identify any drainage issues or coordination that needs to take place as part of the LCRT and roadway improvements.

6.6.3 Otranto Road to Success Street – Segment 3

There were no significant drainage issues identified in this segment during discussions with SCDOT. As the LCRT progresses into Phase 2, further detailed discussions will be held with SCDOT to identify any drainage issues or coordination that needs to take place as part of the LCRT and roadway improvements.

6.6.4 Success Street to Mt. Pleasant Street – Segment 4

There were no significant drainage issues identified in this segment during discussions with SCDOT. As the LCRT progresses into Phase 2, further detailed discussions will be held with SCDOT to identify any drainage issues or coordination that needs to take place as part of the LCRT and roadway improvements.

6.6.5 Mt. Pleasant Street to Line Street – Segment 5

A number of projects addressing drainage and flooding are in various stages of design and construction in the Downtown Charleston area.

- Spring/Fishburne Drainage Improvement Project – the city of Charleston is currently constructing Phase 3 of a five phase drainage improvement project along the Crosstown Expressway (Crosstown) in order to address long time flooding issues. The project is anticipated to be completed in 2023 and is designed to keep the Crosstown from flooding in the 10-year rainfall event.
- Calhoun West Drainage Study – Charleston is currently performing a drainage study on the Calhoun West drainage basin to alleviate many existing drainage problems. Preliminary modeling shows that Calhoun Street floods up to 1.5 feet between Jonathan Lucas and Smith Street during the one-year event. Drainage improvements in this area are not currently funded.
- Huger Street Drainage –Charleston recently completed a drainage study for the Huger Street drainage basin which identified areas of frequent flooding. Included in that area is the intersection of Huger Street and King Street which sees nearly three feet of floodwaters during heavy rainfall events. Even with the recommended \$5 million in

improvements, the intersection would still see nearly one-foot of flooding in the 10-year storm.

6.7 Existing Lighting

6.7.1 Summerville to Berlin G Myers Parkway – Segment 1

This area begins in downtown Summerville and proceeds along the route to Berlin G Myers Parkway. Downtown Summerville has existing decorative fixture lighting, both pedestal-mounted along sidewalks and mast-arm mounted at signalized intersections. These fixtures terminate at the railroad tracks. To the east, cobra-head fixtures on wooden posts are featured along North Main Street. The lighting in this area does not seem to follow any regulated pattern and some are mounted on utility poles. Once the route turns south onto E 5th Street N, while there appear to be some fixtures present furnished by the adjacent businesses, there is no dedicated roadway lighting along US 78. The end of this segment is the intersection with Berlin G Myers Parkway where there is a span-wire mounted traffic signal, but no apparent lighting in place.

6.7.2 Berlin G Myers Parkway to Otranto Road – Segment 2

This segment follows US 78 from Berlin G Myers Parkway to Otranto Road. There is no existing roadway lighting along the route from Berlin G Myers Parkway to Ingleside Boulevard, where the traffic signal has mast-arm mounted lights. Starting at Medical Plaza Drive across from CSU and continuing to the interchange with Goose Creek Road, there are decorative pedestal fixtures along the multi-use path. In addition, there are some cobra-head fixtures attached to utility poles at wide spacing on the opposite side of the route.

6.7.3 Otranto Road to Success Street – Segment 3

This segment follows US 78 from Otranto Road to Success Street. From Otranto Road to Montague Avenue, cobra-head fixtures are placed on shared utility poles at very long spacing and irregular intervals. From Montague Avenue to McMillan Avenue, there are cobra-heads mounted on shared utility poles at a shorter spacing than the previous section. From McMillan Avenue to Success Street, there are cobra-head fixtures on dedicated poles at regular intervals.

6.7.4 Success Street to Mt. Pleasant Street – Segment 4

This segment follows US 78 from Success Street to Mt. Pleasant Street/Morrison Road. Rivers Avenue/King Street has dedicated-mount cobra-heads to Azalea Drive. Past Azalea, King Street has cobra-head fixtures at irregular intervals continuing to Mt. Pleasant Street. Carner Avenue and Meeting Street have cobra-heads mounted on wooden posts at somewhat regular intervals down to Mt. Pleasant Street.

6.7.5 Mt. Pleasant Street to Line Street – Segment 5

The main route of this segment follows Meeting Street from Mt. Pleasant Street/Morrison Road and terminates at Line Street. Meeting Street throughout this segment has a mixture of cobra-heads and pedestal-mounted decorative fixtures. King Street has cobra-heads mounted on shared poles. Pedestal-mounted decorative fixtures mixed with similar cobra-head mountings as previous begin at Grove Street and continue south to Line Street.

6.8 Existing Parking

6.8.1 Summerville to Berlin G Myers Parkway – Segment 1

The area along North Main Street near downtown Summerville and E 5th Street N from Berlin G Myers Parkway north is comprised of a mix of uses, but is predominately retail. Going east toward I-26 on North Main Street from E 5th Street N, this stretch of the route becomes more commercial in use. Large shopping centers flank Main Street approaching the I-26 interchange anchored by Target on the north side and Walmart on the south. There is no on-street parking anywhere along North Main Street; however, some on-street parking is available adjacent to the railroad along Doty Avenue and Luke Avenue and on Richardson Avenue. Public parking is otherwise currently limited in downtown Summerville.

E 5th Street N is similarly mixed-use from North Main Street to Berlin G Myers Parkway. There are wide paved shoulders along the route, some of which are used as parking for the adjacent businesses. The intersection of E 5th Street and Berlin G Myers Parkway has vacant property on two corners.

In this segment, potential LCRT stops are identified in downtown Summerville and at the intersection of E 5th Street N with Berlin G Myers Parkway.

6.8.2 Berlin G Myers Parkway to Otranto Road – Segment 2

This segment follows US 78 from Berlin G Myers Parkway to Otranto Road. The area along E 5th Street N heading south transitions to more residential use and lighter density than in Summerville. There is no parking currently available anywhere along this segment. As the route leaves Summerville and heads south toward Charleston, the road classification and development become more rural in nature.

There are four locations identified as potential stations in Segment 2. The Royle Road location (Lincolville) has one vacant corner of the intersection with US 78. The intersection with College Park Road near the Fairgrounds is developed on all quadrants including two existing shopping centers, anchored by Fred's and Piggly Wiggly. The third proposed station is at CSU just south of where US 78 crosses I-26. There are limited options here for independent LCRT parking due to the university and Trident Health hospital complex across the street. The last of this segment would be at Otranto Road. This area features a T-Mobile Call Center and a Honda dealership. There is an existing park-and-ride facility in the T-Mobile Call Center parking lot for CARTA riders to use. This particular lot will be replaced by a new facility located off of Melnick Drive which is currently under construction.

6.8.3 Otranto Road to Success Street – Segment 3

This segment follows US 78 from Otranto Road to Success Street. Through this section, US 78 (Rivers Avenue) is a multi-lane arterial highway. Development along this segment is mostly commercial in nature. Multiple shopping centers are contained within this segment. No on-street parking is available anywhere in Segment 3.

There are six locations identified as potential stations in Segment 3. At the intersection of Rivers Avenue with Ashley Phosphate Road (Northwoods Mall), commercial out-parcels line the main

route and a large shopping center anchored by Walmart is off the NE corner. The TTC station would be a short distance away in the vicinity of Mabeline Road and College Drive. Aviation Avenue/Remount Road would indicate a station closest to Charleston International Airport. This area has similar light commercial development and features shopping centers in the area anchored by At Home and Old Time Pottery. The North Charleston station would be located near Montague Avenue where crossing Rivers Avenue is achieved by a partial cloverleaf interchange. There are various light industrial and commercial businesses including restaurants and lodging in this area. Liberty Hill station near Durant Avenue leads to Park Circle and the intersection with Rivers Avenue is light industrial with a few commercial parcels. Shipwatch Square near the intersection of McMillan Avenue with Rivers Avenue has a large vacant lot, as well as a large parking lot at the Rivers Center for Business & Technology.

6.8.4 Success Street to Mt. Pleasant Street – Segment 4

This segment follows US 78 from Success Street to Mt. Pleasant Street/Morrison Road. In this area, potential LCRT routes follow both US 78 (Rivers Avenue and King Street Extension) and US 52 (Carner Ave and Meeting Street). This area is primarily industrial mixed with residential. No on-street parking is available on any of the proposed paths.

There are three possible stations located in Segment 4. Stromboli Avenue is located where Hackemann Avenue meets Meeting Street or Hackemann Avenue meets King Street Extension. Magnolia is located at Meeting Street and Milford Street or at King Street Extension and Milford Street. These locations are primarily industrial in use. Upper Peninsula (Mt. Pleasant Street) is the final station in Segment 4 as well as the transition to the final segment. At this point, the land use along the route is transitioning back toward commercial.

6.8.5 Mt. Pleasant Street to Line Street – Segment 5

The main route of this segment follows Meeting Street from Mt. Pleasant Street/Morrison Road and terminates at Line Street. The land use in Segment 5 is denser than elsewhere along the corridor and is a mixture of commercial and residential with several churches along Meeting Street. As with the majority of the proposed route, there is no on-street parking on Meeting Street from Mt. Pleasant Street to Line Street. Meeting Street does have some on-street parking to the south of Line, starting at John Street and continuing down to Calhoun Street.

An alternate route down King Street would feature higher-density residential use. This would follow King Street down to Calhoun Street. There is existing on-street parking along King Street from Cannon Street to Calhoun Street.

There are three stations located along the main route of this southernmost segment. Romney Street is located among higher density residential land use. No existing parking is available in this location. Huger Street's intersection with Meeting Street is just south of the Ravenel Bridge. There are multi-unit residences in this area and a vacant lot in the northeast corner. The final station at Line Street is at the north end of Downtown Charleston. The land use changes to commercial along Meeting Street and is surrounded by high-density single-unit and multi-unit residences.