

## Town Center to London Bridge Road

From Town Center to London Bridge Road, the former NSRR right-of-way runs a straight, east/west path. The corridor consists mostly of residential and commercial development, with some industrial development also included. *See Sheets 12 through 24 for a detailed layout of this area.*

### Strategic Growth Areas

The Pembroke SGA, described in the previous section, encompasses the initial section of this corridor – from Town Center to the western bank of Thalia Creek. The next SGA that the project corridor passes through is the Rosemont SGA, beginning just north of Majestic Circle and extending east to Groveland Road (see **Figure 22**). The vision for the Rosemont SGA has been defined by the plan as a mixed-use development with a neighborhood center, improved pedestrian and trail facilities, and a street block structure created to accommodate development and mobility. The key recommendations developed include designing a “transit ready” framework that permits adequate scale and density. The shared-use path aligns with these needs as it will offer a trail facility to improve pedestrian mobility; it also is accommodating of a transit line.

Starting at Groveland Road, and reaching east to London Bridge Road, is the Lynnhaven SGA (see **Figure 23**). According to the Plan’s vision, the Lynnhaven SGA will be a series of mixed-use and flexible developments along with targeted public infrastructure improvements. The commercial properties will have the opportunity to take advantage of potential transit. At the center of the redevelopment may be a new transit station that can provide park-

**Table 3**

	At-Grade	At-Grade Mid-Block	At-Grade Signalized	Elevated	Water Crossing
Thalia Creek					X
South Thalia Road	X				
Kentucky Avenue		X			
Lynn Shores Drive			X		
Rosemont Road				X	
Plaza Trail		X			
Lynnhaven Road		X			
Lynnhaven Parkway				X	
Lynnhaven River					X
London Bridge				X	

*All at-grade crossings will be handled on a case-by-case basis. Typically, an at-grade crossing will be stop controlled and cross perpendicular to the vehicular travel way. Safety measures including but not limited to signage, flashing beacons, bollards, channelization, and gates will be employed as necessary. Signalized at-grade crossings include intersections with existing signals as well as those with proposed future signal installations. Pedestrian movements will be incorporated into the signal designs.*

and-ride connection to nearby attractions. The plan to develop this area includes connecting future transit to employment, recreational destinations, and a park-and-ride, as well as improving multi-modal connections from the adjacent neighborhoods. The implementation of a shared-use path would help to link these areas and add to multi-modal connections for bicycle and pedestrian traffic.

### Street Crossings

The 5-foot sidewalk begins west of the Constitution Station to connect the station to Central Park. Both the 5-foot sidewalk

and 14-foot path continue east of the station to the next major crossing—a water crossing at Thalia Creek. For the path to continue over Thalia Creek, a structure will be required. It is recommended that this structure be parallel to, but separate from, the proposed LRT structure. By separating these two structures, the lesser load requirements can be used for the shared-use path structure. Although the decision will ultimately be made during design, it is recommended that the structures be built to accommodate a 14-foot path on both sides of the LRT; this will allow for future expansion of the 5-foot path without having to modify the structure crossing Thalia Creek. At this location, it is important to consider the Thalia Creek Greenway Plans to ensure a connection between the two facilities is coordinated.

There are several existing at-grade street crossings between Thalia Creek and Kentucky Avenue. These streets are residential in nature and carry a low volume of vehicular traffic. These streets include South Fir Avenue, South Thalia Road, and South Budding Avenue. South Fir Avenue and South Budding Avenue are planned to be closed with the HRT LRT project, leaving South Thalia Road as the only crossing in this vicinity. The at-grade crossing with South Thalia Road will be at-grade and stop sign-controlled. All LRT at-grade crossings will have flasher and gate protection.

Kentucky Avenue is the next major street that the proposed path alignment crosses. Kentucky Avenue is a two-lane facility with signalized intersections at Bonney Road and Virginia Beach Boulevard; however, the shared-use path crosses Kentucky Avenue in-between these two intersections. Therefore, a mid-block crossing is recommended with the shared-use path and sidewalk having stop signs to control the flow across Kentucky Avenue.

The next major road that the path alignment nears is Lynn Shores Drive South. The former NSRR right-of-way is approximately 50 feet south of the existing signal for Lynn Shores Drive and Virginia Beach Boulevard. To stop traffic mid-block for pedestrians and bicyclists within this distance is not advised per the MUTCD. Along the parallel section of Virginia Beach Boulevard, there is an existing sidewalk. The proposed 5-foot sidewalk alignment takes advantage of this existing facility, and connects to the existing Virginia Beach Boulevard sidewalk west of the Lynn Shores Drive intersection. This sidewalk is linked to the controlled intersection at Lynn Shores Drive South and Virginia Beach Boulevard, providing a safe crossing for pedestrians. The 14-foot shared-use path continues south of the tracks and crosses Lynn Shores Drive. The 14-foot path will be stop sign-controlled. There is also a gated crossing proposed with the LRT plans that will give users of the shared-use path an opportunity to cross Lynn Shores Drive with the trains.

To the east of Lynn Shores Drive South is the Rosemont transit station. Each transit station allows for connectivity between the northern and southern sides of the tracks. Here, bicycles and pedestrians traveling on the existing sidewalk have the option to transfer to the 14-foot path on the south side of the LRT tracks. The 14-foot path continues along the south side of the LRT track alignment, and next reaches North Rosemont Road. Due to the high traffic volume on this six-lane facility, the path will cross Rosemont Road as an elevated structure. This structure will be separate from the LRT elevated structure over Rosemont Road; both will require a 16.5-foot clearance over the roadway. It is recommended that the pedestrian structure be designed with 3.5 percent slopes. Due to the straight alignment, it is recommended that the approach and decent be in-line, without any need for switchbacks or meandering of the path.

While there is an existing traffic signal at the Rosemont Road/Bonney Road/I-264 Off-Ramp intersection, there are extremely high volumes of vehicles making turns which pose safety concerns for crossing pedestrians and bicyclists at-grade. Channelizing devices will be used to deter pedestrian traffic from crossing Rosemont Road at-grade mid-block. More detailed levels of design will be required to determine the best way to connect north/south pedestrian traffic to the elevated structure.

Between Rosemont Road and Plaza Trail, the alignment of the path makes a gradual shift south. This allows enough right-of-way to incorporate a Z-crossing and again include a 5-foot sidewalk on the north side of the tracks. At the location immediately following the proposed Z-crossing, the existing right-of-way limits shift. There is a parcel on the south side of the proposed LRT tracks, GPIN 14876490460000, which is state property. In order to avoid discontinuity of the shared-use path, right-of-way acquisition

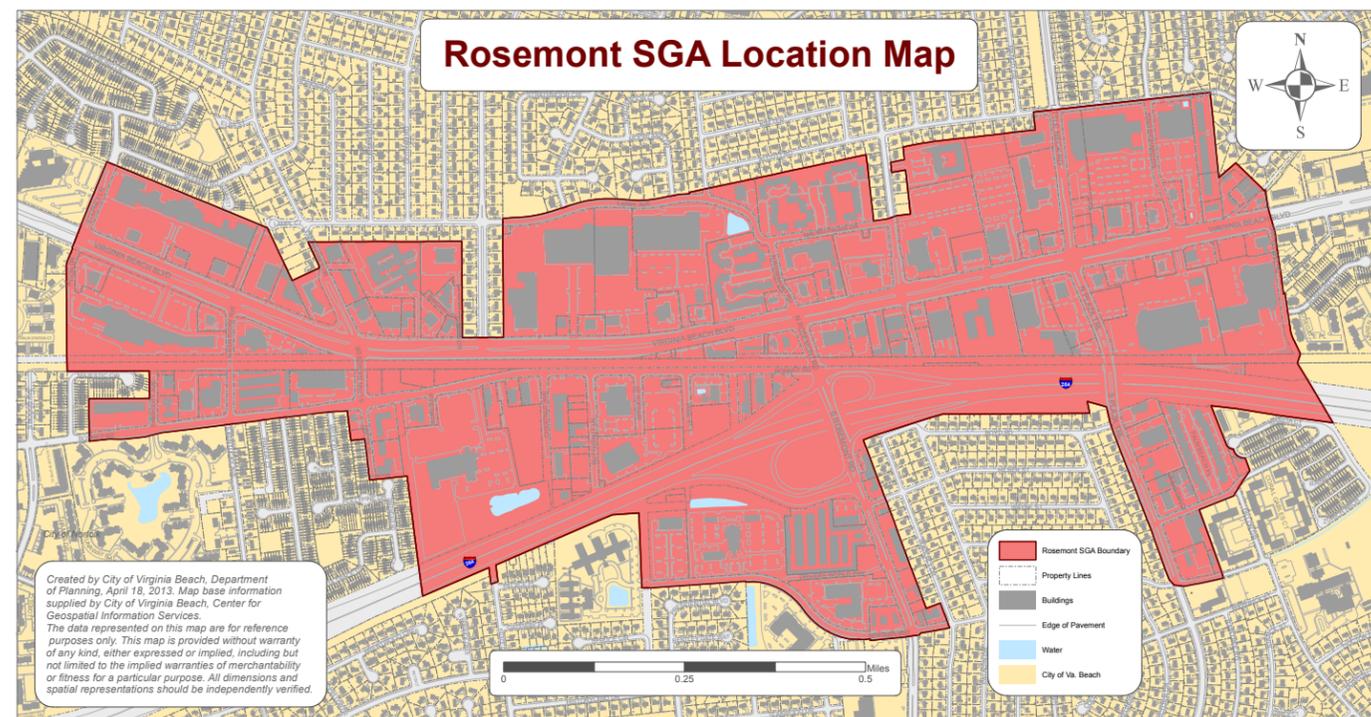


Figure 22: Rosemont SGA Location Map

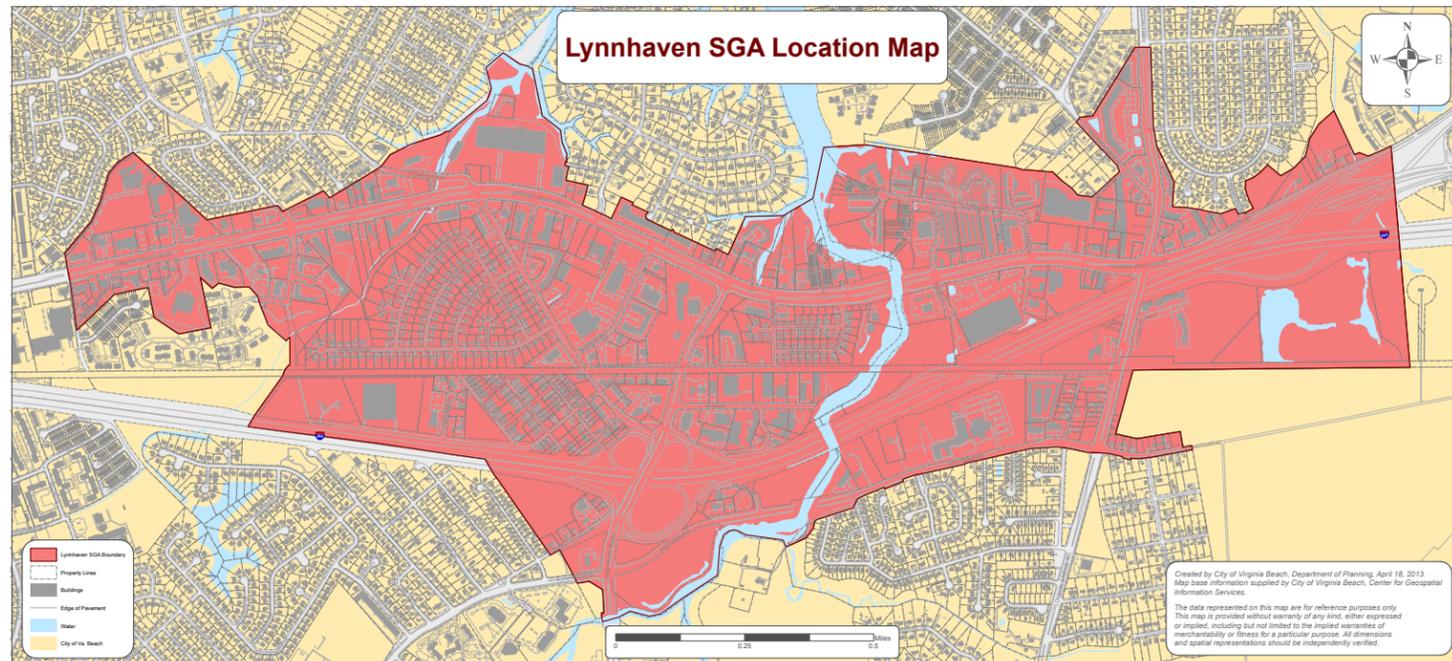


Figure 23: Lynnhaven SGA Location Map

is necessary. In the layout of the proposed path design, it was assumed that this right-of-way will be purchased. This dual pathway layout continues until Plaza Trail. At Plaza Trail, a mid-block crossing is recommended to cross the four-lane facility. If design of the path is advanced, sight distances at this location need to be considered in light of its proximity to the fill and crossing of I-264 over Plaza Trail. Safety measures such as pre-flashers on the south side of the Interstate-264 bridge, as well as other signing and marking measures, will be considered. The City may elect to perform a signal warrant analysis or designate this as an elevated crossing.

The next intersection is at Lynnhaven Road. At this preliminary level, a mid-block crossing is recommended to allow bicycles and pedestrians to safely cross the two-lane roadway with the path and sidewalk being stop sign-controlled. However, there is a potential opportunity to coordinate the station design at Lynnhaven Road with HRT in order to utilize the proposed signalized crossing with flashers that is intended to serve the future station.

Lynnhaven Parkway is the next major intersection where the rail is grade-separated from the roadway. At this location, the 5-foot sidewalk and 14-foot path are both present. The 5-foot sidewalk will continue as an at-grade crossing. The existing stop sign controlled intersection at Southern Boulevard and Lynnhaven Parkway can be used by traffic on the 5-foot sidewalk. The 14-foot path will be elevated. Similar to previously proposed elevated bicycle/pedestrian

structures, the structure will be separate from that of the LRT. It will be a stand-alone structure, will have a 16.5-foot clearance, and is recommended to be designed with 3.5 percent grades. This will allow a safe crossing without interrupting traffic on Lynnhaven Parkway.

As the proposed path approaches Lynnhaven River, a water crossing will be required. Similar to the Thalia Creek crossing, it is recommended that the structures be built to accommodate a 14-foot path on both sides of the LRT to allow for future expansion.

The mapping at the I-264 underpass was insufficient for the purposes of this study, and conditions are quite different from those at the previous underpass. The width between the two rows of columns is 41 feet 4 inches, so both sets of tracks can fit there, but that leaves no room for the paths. The 14-foot path along the south side must taper into the 8- to 10-foot space between the southern row of bridge columns and the Jersey barriers along the on-ramp. Those barriers must be modified to prevent path users from climbing over and entering the on-ramp, where vehicle speeds often exceed 45 mph.

The next major intersection is at London Bridge Road. At this location, the path will again be elevated. The structure will require a 16.5-foot clearance over the roadway. It is recommended that the pedestrian structure be designed with 3.5 percent slopes. There is a new multi-use path on the east side of the signalized intersection along London Bridge Road. In final design stages, the two paths will connect via a switchback when the proposed shared-use path meets grade.

### Transit Stops

The first transit stop east of the Town Center station is the Rosemont Station at Lynn Shores Drive. East of the Rosemont Station is the Lynnhaven Station, which is located west of Lynnhaven Road. Near each station are proposed park-and-ride facilities.

### Drainage

From Town Center to London Bridge Road, the majority of the existing corridor uses an open ditch drainage system. Generally, there are 8 feet or more of separation between the proposed edge of the path and the right-of-way line. Similar to the section from Newtown Road to the Oceanfront, the proposed path will pave over the existing ditch, requiring drainage improvements to be made.

Potential main outfalls were identified between Town Center and London Bridge Road to be Thalia Creek, Pinetree Branch, and Lynnhaven River. If stormwater runoff quality measures are not met through wet or dry swales, a parcel on the east bank of Thalia Creek would need to be identified for placement of a BMP. This would require right-of-way acquisition by the City, as the City does not currently own land in this area. On the southwest side of Pinetree Branch, a parcel could be designated for BMP use if needed. Currently, the City owns parcels in this area, GPIN 1487-93-9540-0000 and GPIN 1497-13-5255-0000. If use of either was approved, right-of-way acquisition would not be necessary. The East Branch of the Lynnhaven River was identified as the easternmost outfall along the corridor from Town Center to London Bridge Road. If BMP land area is needed, it would be desirable for the City to permit a parcel on each side of the river; the City already owns a parcel on the southwest side, GPIN 1497-63-7012-0000. If this parcel could be used, right-of-way would only be needed on the eastern side of the East Branch of the Lynnhaven River.

### Preliminary Opinion of Probable Cost

This 4.7-mile section of the project is estimated to cost approximately \$37.2 million based on conceptual level planning. This price estimate includes two elevated structures and two water crossings totaling about \$18.1 million. On a price per mile basis, this section of the project is about \$4.2 million per mile. This cost per mile is the highest of the sections, but also includes the most structural elements.

