

CHAPTER 5

5.0 FINAL RECOMMENDATIONS

This chapter of the report discusses the final recommendations prepared for the US 1 Corridor in the Phase II Study. The recommendations are based on the Preferred Alternative selected by the corridor stakeholders and are broken down by different elements of the corridor improvement and preservation plan. The corridor plan elements included land use, highway, local street network, transit, and bicycle and pedestrian recommendations.

The recommendations are also broken down into five implementation phases spreading from year 2015 to year 2050 by taking into account funding needs, multi-modal mobility needs, economic development goals, and other planned transportation projects in the study area such as the Southeast High Speed Rail (SEHSR). These recommendations are based on detailed technical evaluation of future land use and transportation conditions in the Phase II study area and extensive steering committee and citizen inputs.

The technical evaluation results are documented in Chapter 3 and Chapter 4 of this report, and the community engagement process and feedbacks are documented in Chapter 6 of this report. Chapter 7 of this report identifies the partnership and regulatory options that are available to advance the land use and transportation recommendations for funding and implementation.

5.1 Ultimate Improvements

The long term ultimate improvements for the US 1 corridor provide a multi-modal transportation plan that is consistent with regional transportation and land use plans. In order to meet these requirements, the Freeway with Local Street Enhancements was selected as the preferred conceptual alternative. This section examines the recommendation in detail, examining specific details related to land use, the US 1 freeway, the local street network, bicycle and pedestrian accommodations, and transit.

5.1.1 Land Use

The land use vision developed for the Phase II study area can be summarized as follows:

- Industrial and economic development south of the Town of Franklinton and in the immediate vicinity of the highway and rail corridors;
- Low-density residential and agricultural uses and rural preservation north of the Town of Franklinton; and

- Preservation and extension of the Town of Franklinton’s traditional land use pattern.

In order to achieve this land use vision for the US 1 corridor, nodal development opportunities were explored around future highway interchanges. More specifically, future US 1 interchanges at the Bert Winston Road Extension and the NC 56 Bypass were analyzed to determine land capacity and constraints and type of future land use designations that can support anticipated growth in the area.

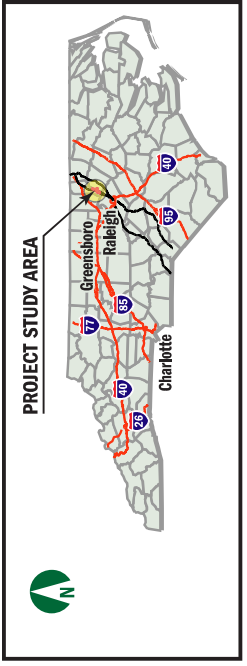
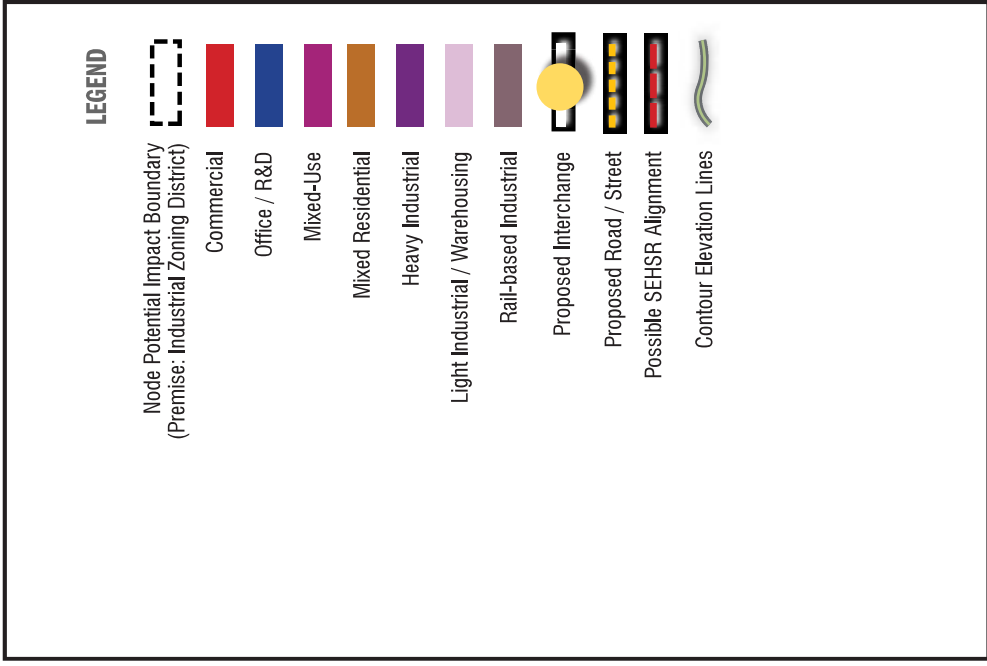
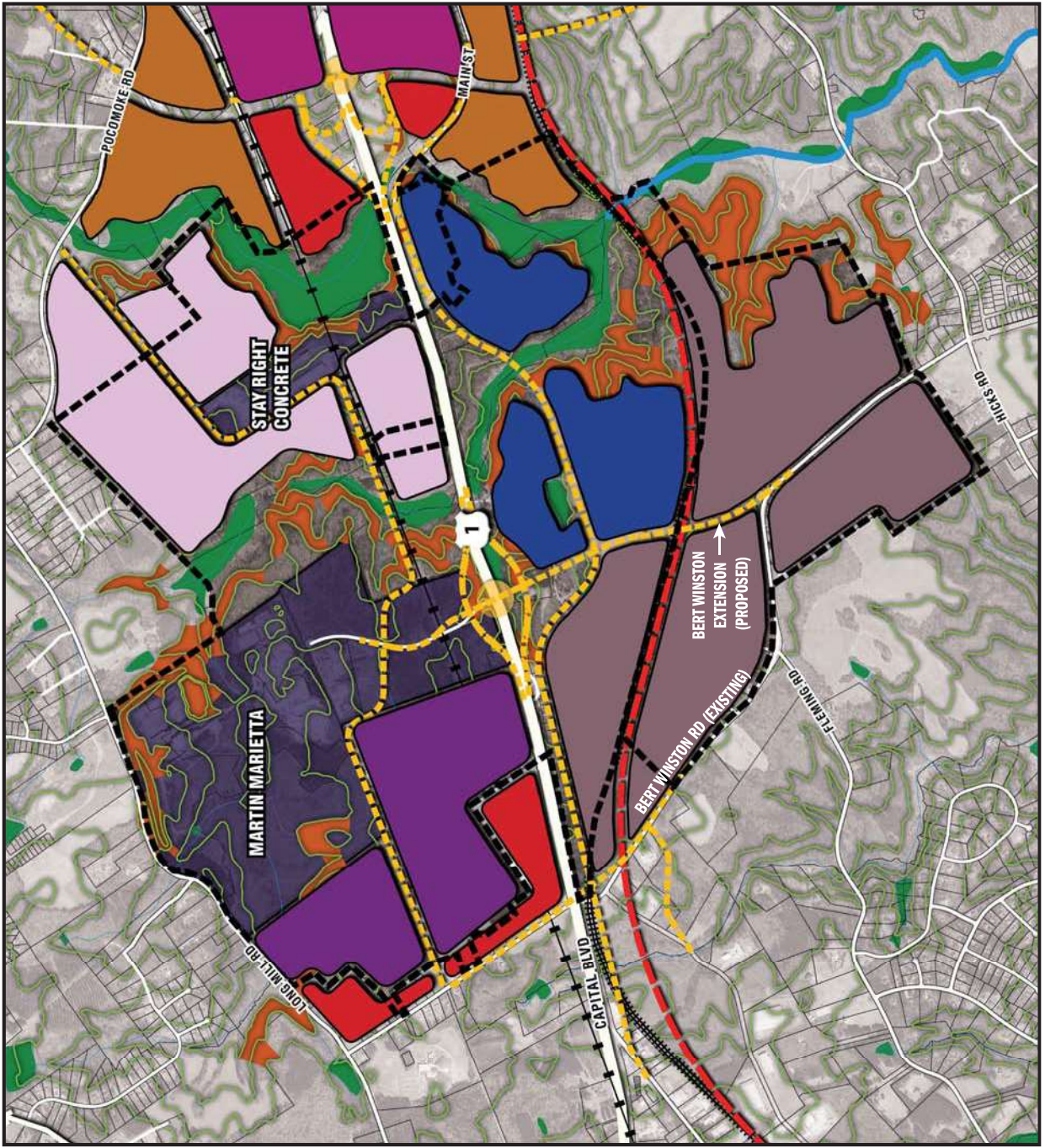
This land use analysis included an evaluation of constraints to development, local and regional land use comparisons to examine space requirements of various types of land uses, surrounding local roadway network, and the future local roadway network for vehicles, bicyclists, and pedestrians.

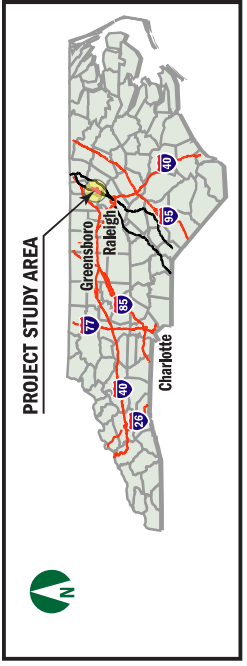
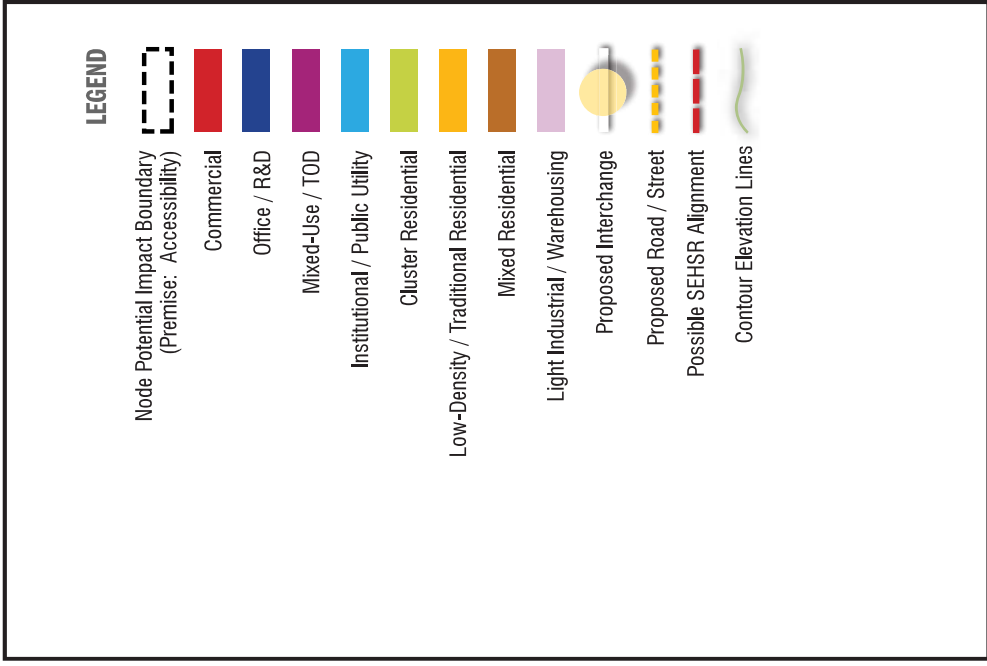
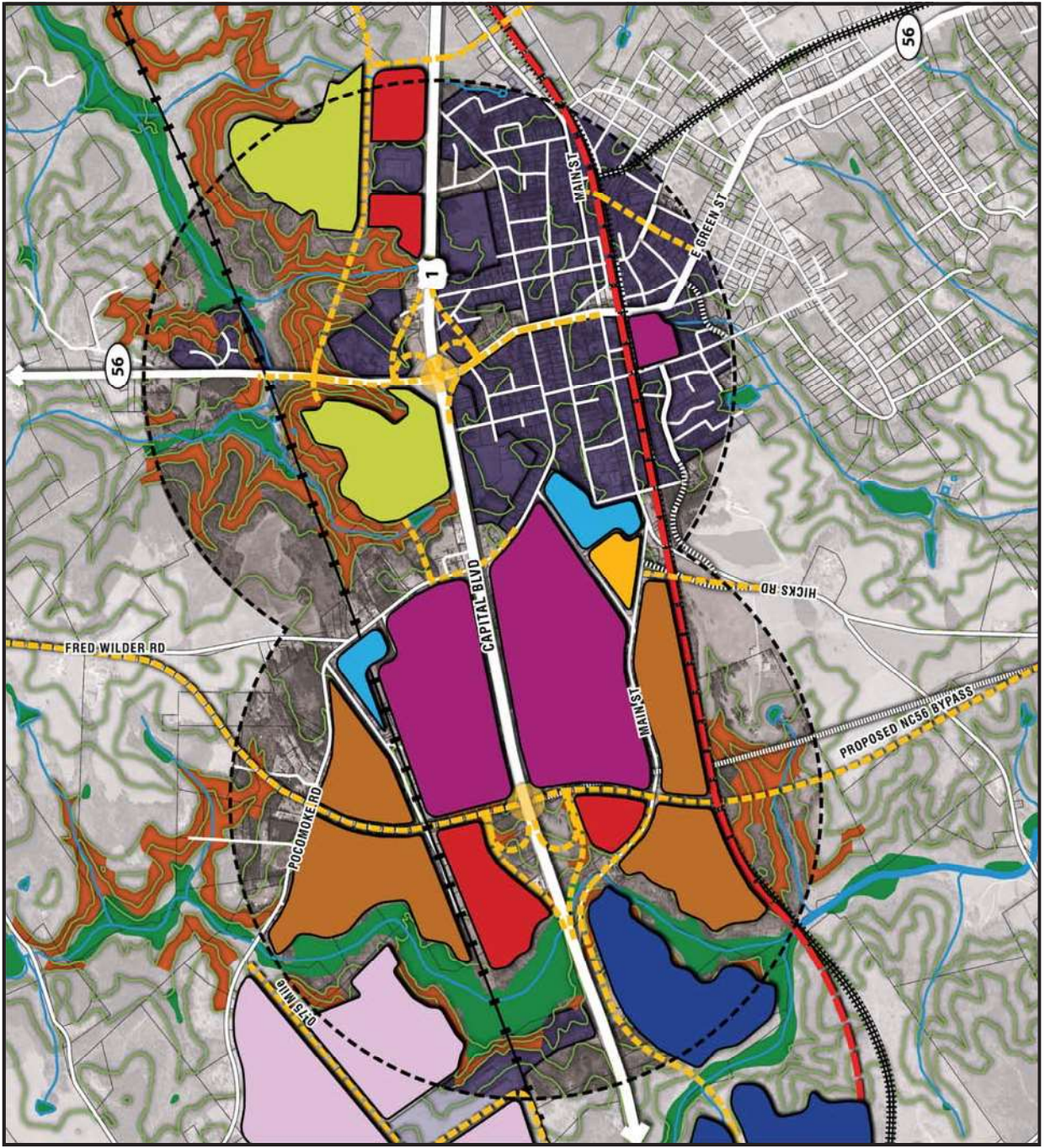
The land use development opportunities identified for the Bert Winston Extension node are illustrated in Figure 5-1. The development opportunities include the following:

- A heavy industrial / manufacturing zone south of Martin Marietta, buffered from Bert Winston Road by future commercial development, with the existing organic recycling facility redeveloped as part of a larger assembly.
- A light industrial / flex-warehousing zone at the northwest, with a direct connection to Pocomoke Road and the future NC 56 bypass interchange for greater flexibility for truck access, and a use pattern more compatible with adjacent residential.
- An office / research / corporate zone straddling the forks of Cedar Creek, exploiting the desirable natural landscape, the visibility to the future interstate, and the connection to downtown Franklinton.
- A rail-based manufacturing / warehousing / distribution zone on either side of the CSX line, with room for smaller businesses that might benefit from rail access as in Garner’s Greenfield North Business Park, or line synergies as in the Charlotte’s Red Line, but less integrated than a true freight village.

The land use development opportunities identified for the NC 56 Bypass node are illustrated in Figure 5-2. The development opportunities include the following:

- Providing for transit-oriented development (TOD) at or near the interchange to minimize transit routing through Franklinton while providing good connectivity and access through the local street network.
- Encouraging mixed-use at the center of the node to allow for denser (but contained) residential and commercial development to complement downtown Franklinton.





- Broadening the market for future retail by including areas of mixed residential (single-family detached and attached homes, four-unit townhouses, small apartment buildings) away from Franklinton’s historic neighborhoods but close to downtown, transit and open space.
- Preserving (limited) space for straight auto-oriented commercial, close to interchange locations to minimize spillover traffic into downtown and residential areas.
- Expanding Franklinton’s traditional / historic single-family fabric in key infill locations.
- Preserving sensitive environmental areas with residential cluster development.

5.1.2 US 1 Roadway Alternatives

Four conceptual alternatives were evaluated to support the long-term vision of the US 1 corridor, referred to in this report as the Ultimate Improvements. The alternatives considered include:

- No-Build Alternative
- Superstreet Alternative
- Freeway Only alternative
- Freeway with Local Street Enhancement Alternative

After an evaluation of several conceptual alternatives (see Chapter 3), two concepts were identified for more detailed analysis. These two concepts are: 1) US 1 Superstreet; and 2) US 1 Freeway with Local Street Enhancements.

The roadway alternatives were evaluated for interchange types on US 1 and alignments for local streets (see Chapters 3 and 4). As part of the Freeway Alternatives and prior to implementation of the freeway with fully controlled access, the local street network would have to be improved with a system of backage and/or frontage roads to establish connectivity between local streets and proposed interchanges. The recommended transportation alternatives are discussed in the following sections.

5.1.3 Recommended Freeway Alternative - Ultimate

The recommended ultimate design for the US 1 Corridor Study is a US 1 Freeway with an expanded Local Street network to provide access for developments that would otherwise access US 1 directly. The proposed Local Street enhancements rely on a system of local roads along the western and eastern sides of US 1.

The Ultimate Freeway with Local Streets plan is shown in Figure 5-3A for the South Section, Figure 5-3B for the Central Section, and Figure 5-3C for the North Section. A series of typical sections is shown in Figure 5-4 for the freeway and local streets in the South, Central, and North Sections. The following sections detail the interchange locations and types, other bridge crossings, and the local street enhancements.

5.1.3.1 *Recommended Interchange Concepts with Freeway*

The recommended Ultimate Freeway alternative includes four interchanges. These four interchange locations (listed from south to north) and the recommended interchange type are listed below:

US 1 at the proposed New Bert Winston Road extension: A simple diamond interchange is proposed for this location (see Figure 5-3A).

US 1 at the proposed NC 56 Bypass: This future interchange is proposed as a half clover with loop, and ramps in the southwest and southeast quadrants. In order to serve local development, the ramp termini intersections are proposed as four-legged intersections with local streets extending to the north (see Figure 5-3B).

US 1 at the existing NC 56: Under existing conditions, there is a tight diamond interchange which does not meet current roadway design or traffic operations standards for a freeway. It is anticipated that this interchange would be improved to a partial cloverleaf with one additional ramp. Specifically, the interchange would include a loop and ramp in both the northwest and northeast quadrants. In addition, the southeast quadrant would have a short free flow northbound ramp providing flow to NC 56 eastbound toward downtown Franklinton (see Figure 5-3B).

US 1 in northern Franklin County: A future interchange is proposed in northern Franklin County to provide access for development north of Franklinton. After consideration of multiple tie-in points, it was identified that the existing Swan Street would be the preferred location for an interchange. On the west it would tie into the proposed local street system and on the east it would tie-into a future Northeast Connector. The interchange is proposed as a half clover with loops and ramps in the northwest and northeast quadrants to minimize impacts on the south while keeping the interchange footprint south of the McGhee Farms property (see Figure 5-3C).

5.1.3.2 *Recommended East-West Connectors on Bridge over US 1 with Freeway*

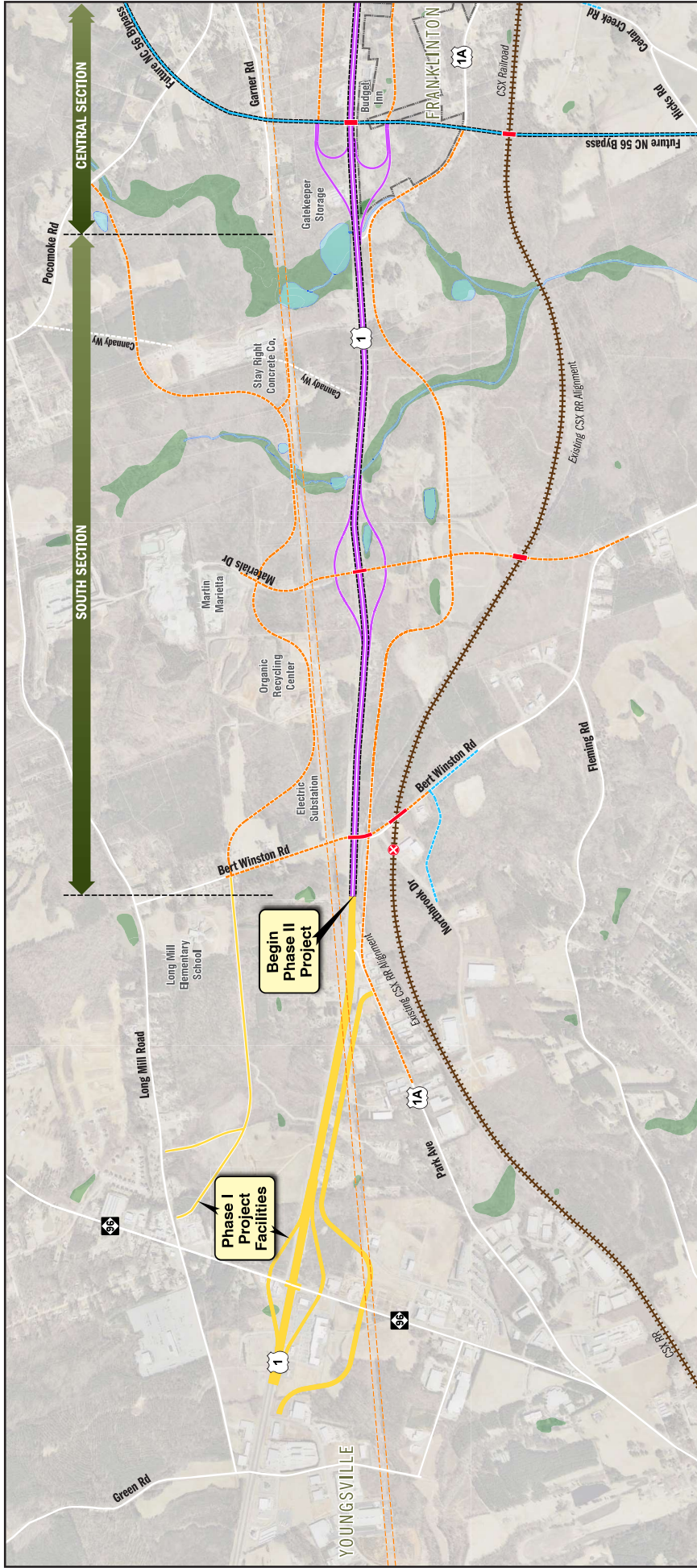
When the ultimate freeway is completed, it is necessary to provide overpass bridges at three locations (separate from the interchange locations). The overpasses will serve to link the local



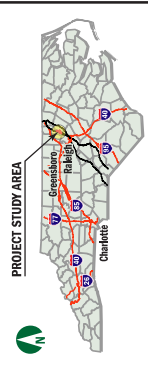
North Corridor Study Phase II



0 400 800 1,600 ft
Scale in feet



LEGEND	US 1 Corridor (Freeway) US 1 Interchanges Phase I Proposed Improvement Municipal Boundary	Other Roadways and Streets Proposed Boulevard (CTP) Preferred Alternative (Local Street) Proposed Local Street (CTP or SEHSR) Overpass SEHR Pedestrian Crossings	Railroad Future SEHSR / CSX Rail Proposed Casing of At-Grade Rail Crossing	Environment Surface Waters Wetlands Utilities Electric Transmission Line Easement
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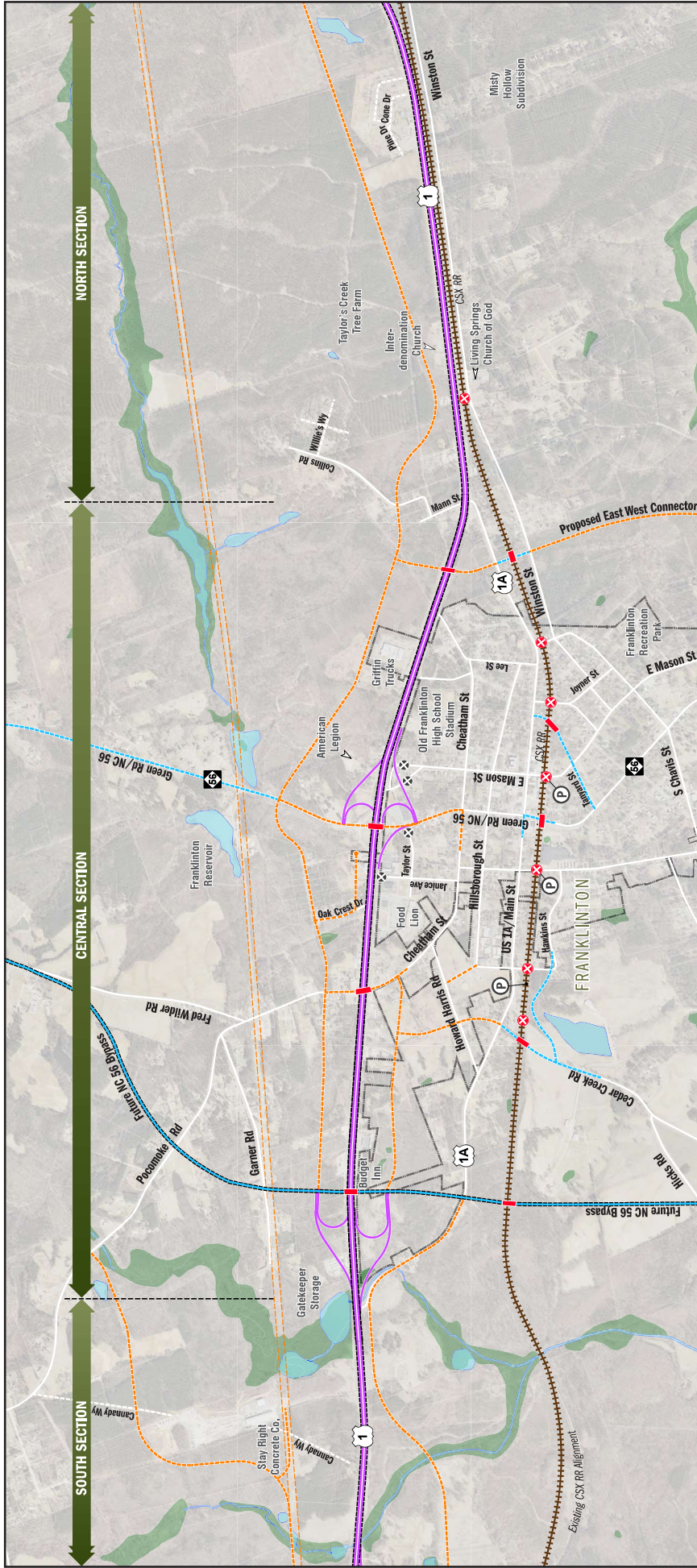
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North Corridor Study Phase II



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Scale in feet



LEGEND

	US 1 Corridor (Freeway)		Railroad		Future SEHSR / CSX Rail		Environment
	US 1 Interchanges		Proposed Closing of At-Grade		Surface Waters		Wetlands
	Phase I Proposed Improvement		Rail Crossing		Utilities		Electric Transmission Line Easement
	Municipal Boundary		Proposed Local Street (CTP or SEHSR)		Proposed Boulevard (CTP)		Proposed Roadway Closure
	Overpass		SEHSR Pedestrian Crossings		SEHSR Pedestrian Crossings		
	SEHSR Pedestrian Crossings						
	Proposed Roadway Closure						

Other Roadways and Streets

- Proposed Boulevard (CTP)
- Preferred/Alternative (Local Street)
- Proposed Local Street (CTP or SEHSR)
- Overpass
- SEHSR Pedestrian Crossings
- Proposed Roadway Closure

Railroad

- Future SEHSR / CSX Rail
- Proposed Closing of At-Grade
- Rail Crossing

Environment

- Surface Waters
- Wetlands
- Utilities
- Electric Transmission Line Easement

PROJECT STUDY AREA

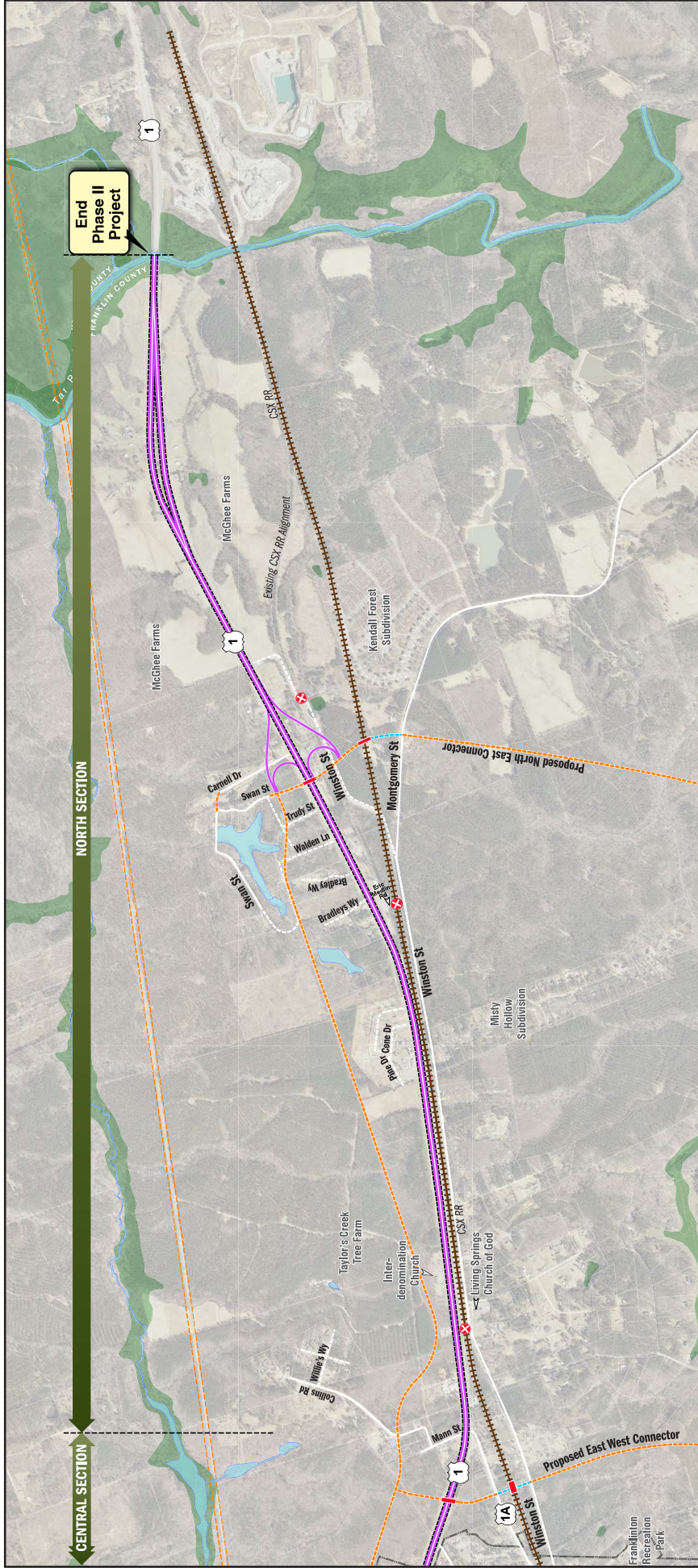
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North Corridor Study Phase II



0 400 800 1,600 ft
Scale in feet



LEGEND

US 1 Corridor (Freeway)	Future SEHSR / CSX Rail	Surface Waters
US 1 Interchanges	Proposed Closing of At-Grade	Wetlands
Phase I Proposed Improvement	Rail Crossing	Utilities
Municipal Boundary	Proposed Local Street (CTP or SEHSR)	Electric Transmission Line Easement
Proposed Boulevard (CTP)	Overpass	
Preferred Alternative (Local Street)	SEHR Pedestrian Crossings	
Proposed Local Street (CTP or SEHSR)		

Other Roadways and Streets

- Proposed Boulevard (CTP)
- Preferred Alternative (Local Street)
- Proposed Local Street (CTP or SEHSR)
- Overpass
- SEHR Pedestrian Crossings

Railroad

- Future SEHSR / CSX Rail
- Proposed Closing of At-Grade
- Rail Crossing

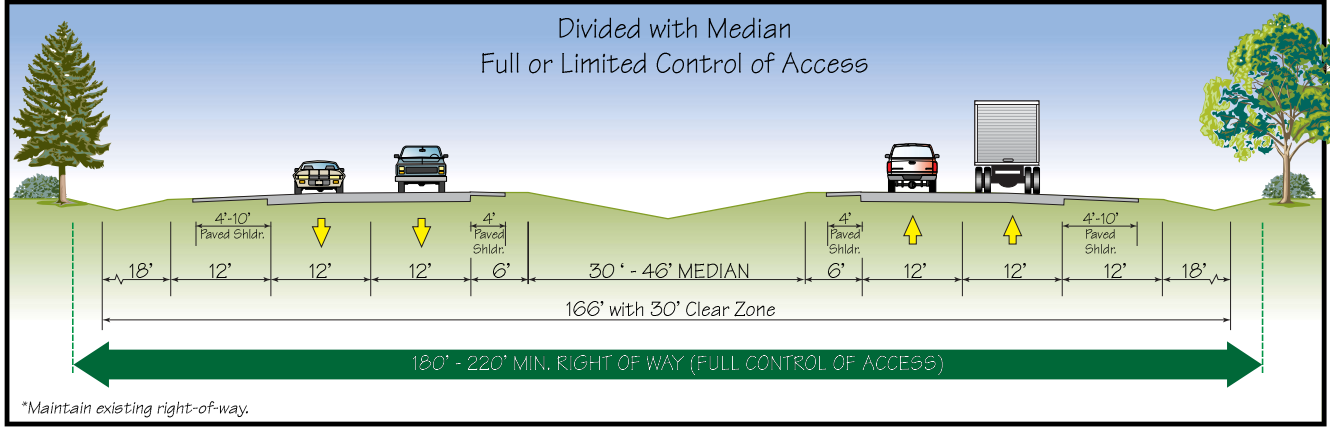
Environment

- Surface Waters
- Wetlands
- Utilities
- Electric Transmission Line Easement

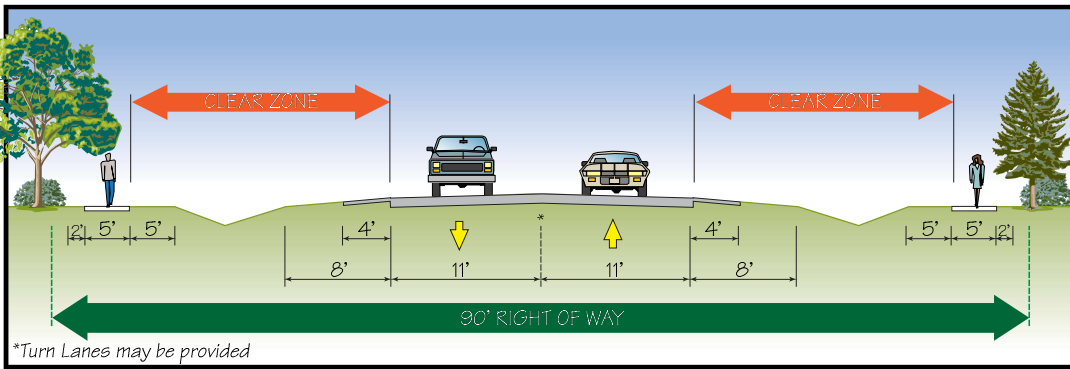
PROJECT STUDY AREA

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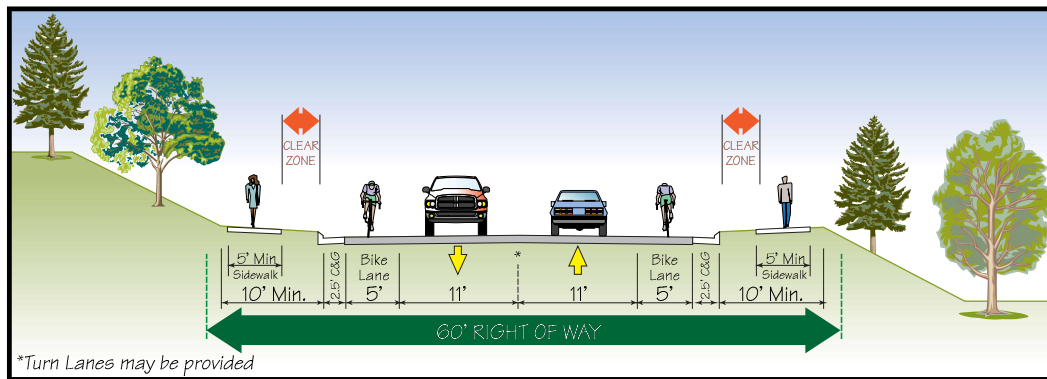
FREEWAY/EXPRESSWAY



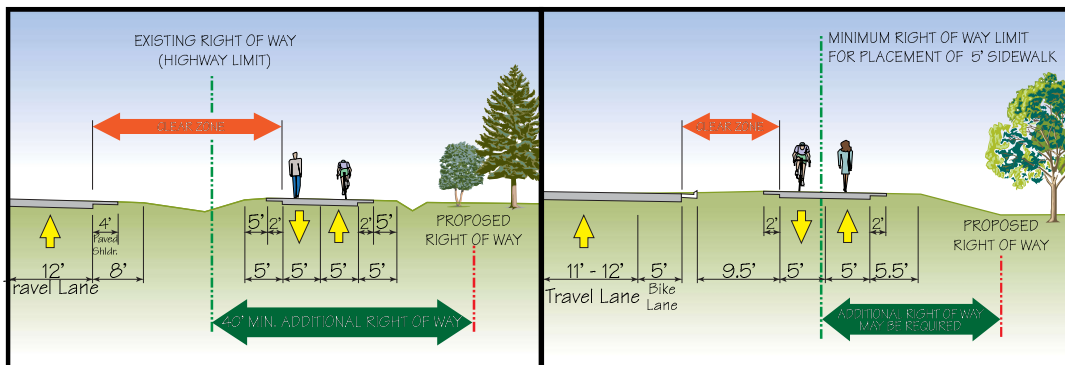
LOCAL STREET WITH SHOULDER



LOCAL STREET WITH CURB AND GUTTER



PEDESTRIAN/BIKE SIDEPATH



roadway network on the west and east sides of US 1. The bridges will also provide linkage for bicycle and pedestrian facilities. The recommended bridges over US 1 are:

- Overpass at the existing Bert Winston Road over US 1. Note that this improvement will require a bridge over the realigned SEHSR as well as a bridge crossing of both US 1 and the US 1A extension from Park Avenue in Youngsville. This project would include local street construction on Bert Winston to reach the required clearance for the overpass (see Figure 5-3A).
- Overpass at the existing Cheatham Street / Pocomoke Road intersection over US 1. This is a key linkage within the anticipated Franklinton development node which will include commercial, retail, and other highway oriented development. This project will require reconstruction on Cheatham Street and Pocomoke Road to reach the required clearance for the overpass (see Figure 5-3B).
- Overpass for a proposed connector from US 1A in northern Franklinton to the proposed Western Service Road. The alignment for this connector is expected to cross US 1 on a new alignment between Cheatham Street and US 1A Main Street. On the east, this connector ties into a proposed new rail grade separation connecting US 1A and Winston Street and in the long term the Proposed East-West connector (see Figure 5-3B).

5.1.4 Recommended Local Street Alternatives

As part of the ultimate Freeway with Local Street enhancements, there are three types of Local Streets proposed. These include frontage/backage service roads parallel to US 1, new east-west connectors over US 1, isolated local road connections, and new local connectors. These categories are discussed below.

5.1.4.1 *Local Service Roads Parallel to US 1*

A key component of the recommended plan is the provision of local service roads constructed parallel to US 1 on both the west and east sides. These provide future access for existing development located on US 1 currently with a future provision for driveway and access connections to the local road. In addition, the roads would serve as a blueprint for providing access to new development.

In general, the local streets are identified as two-lane roadways with potential widening for turn lanes at intersections. For the industrial focused roads in the southwest, a wider section (albeit two lanes) is anticipated due to large trucks. It is anticipated that the sections between NC 56 Bypass and Collins Road will likely be curb and gutter, while segments north and south of Franklinton would be a rural shoulder section.

A key component of the local street plan is the inclusion of bicycle and pedestrian facilities on the local access roads. All local roads on new alignment would be constructed following a Complete Streets philosophy to provide safe and efficient service for all users of the facility, not just cars and trucks. For this reason, the term local street is also utilized in this document.

The recommended local streets running parallel to US 1 include:

West of US 1

- **Western Service Road South:** This street is proposed between Bert Winston Road north to Materials Drive. It then continues north to provide access to Stay Right Concrete. In the long term, an additional extension to Pocomoke Road is proposed. This street will serve primarily industrial traffic including trucks. (See Figure 5-3A.)
- **Western Backage Road:** This local street is proposed to provide a local street west of US 1 between the future NC 56 Bypass, north to Pocomoke Road, and linking to a new intersection with the existing NC 56. In this section, this will create a new link to serve existing and allow future development by providing an alternate to US 1 – the only route that serves this area in the existing network. This is needed if development is to occur west of US 1 as planned by Franklin County and Franklinton. (See Figure 5-3B.)
- **Western Service Road Central:** This local street extends north from the existing NC 56 at a proposed 4-leg intersection with the Western Backage Road. It extends north on the west side of US1 providing alternate access to US 1 for several properties including the American Legion and Griffin Trucks. Over time it is planned to extend north past Franklinton to serve as an alternate access to US 1 for existing developments and to serve as access to potentially large tracts of residential housing. In the long term it is planned to provide a western tie-in to the proposed north Franklin County interchange. (See Figure 5-3C.)

East of US 1

- **US 1A Extension:** On the west side of US 1, an extension of US 1A north from Park Avenue is proposed. It would extend from Park Avenue north to the future Bert Winston extension. It would extend further north to the existing US 1A Main Street in south Franklinton. Note that the complete connection would likely be made only once the NC 56 Bypass was in place closing off the existing US 1 at US 1A South Main Street intersection. (See Figure 5-3A.)

5.1.4.2 *Local Streets Proposed by SEHSR*

Several local street projects included in the Freeway Plan with Local Street enhancements are proposed as part of the SEHSR project. Although these do provide additional local access and are utilized to improve connectivity, the primary purpose of the SEHSR roadway project is to mitigate impacts to the local street network caused by the closure of nine at-grade crossings located in Franklinton and Franklin County. The roadways to be provided as part of the SEHSR are detailed in Table 5-1. It is assumed that these projects will likely in place by 2020 (2025 at the latest).

Of these SEHSR local street projects, the following three projects are critical elements of the Ultimate US 1 Freeway with Local Streets plan:

- Realignment of Bert Winston Road Extension (see Figure 5-3A).
- Green Road (NC 56) improvement, particularly intersection improvements at the NC 56/US 1A intersection (see Figure 5-3B).
- Connector from Montgomery Street to US 1A (see Figure 5-3C).

5.1.4.3 *NC 56 Bypass*

The most significant project planned for the study area is the NC 56 Bypass. Envisioned as an Expressway as part of the 2035 CTP, this project would provide a four-lane divided high speed route roughly one mile south of the existing NC 56 interchange.

A key recommendation affecting the NC 56 Bypass is that the proposed facility be downgraded from an Expressway as designated in the 2035 CTP to a Boulevard. The reason is that a connection at the junction of NC 56 Bypass with US 1A Main Street is critical to serving the proposed land use within Franklinton. The projected volumes are also consistent with a Boulevard section.

The second recommendation is that the US 1 at NC 56 Bypass interchange would be a partial cloverleaf with loops in the southwest and southeast quadrants. The local street network serving Franklinton is proposed to connect directly into the ramp intersections (see Figure 5-3B).

The third finding that could be incorporated as part of a future construction schedule is that the southeast section of the Bypass from NC 56 east of Franklinton to US 1 carries higher volumes than the southwest section. Therefore, the southeast section should be the higher priority section. Nevertheless, a complete NC 56 Bypass will ultimately be required to serve east-west vehicular and freight through movements on NC 56 through Franklinton.

Table 5-1. Local Streets Planned by SEHSR & Key Issues

SEHSR Project	Improvement Type	Includes	Purpose	Key Issues
Existing Bert Winston and Northbrook Road realignment	Relocate local roads	<ul style="list-style-type: none"> Railroad bridge Closure of at-grade RR crossing New alignment for Northbrook Rd Revised alignment for Bert Winston Improved intersection at US 1 	<p>Realign railroad tracks to improve RR speeds</p> <p>Replace</p>	<p>Bert Winston RR overpass cannot be designed to allow both an interim at-grade and ultimate grade separated at US 1. To cost effectively construct, consider construction of Bert Winston Extension as part of SEHSR.</p>
Cedar Creek Road realignment and railroad bridge	Relocate local road & construct RR bridge	<ul style="list-style-type: none"> Railroad bridge Closure of at-grade RR crossing Revised alignment for Cedar Creek Improved intersection at US 1A 	<p>Provide RR grade separation.</p>	<p>Construct Cedar Creek horizontal alignment to avoid cemetery west of US 1A to allow future extension.</p>
Hawkins Road extension	New local connector	<ul style="list-style-type: none"> Local roadway 	<p>Provide connectivity between Green Rd and Cedar Creek Road east of the RR tracks</p>	<p>None</p>
NC 56 Green Street Improvement	Railroad underpass	<ul style="list-style-type: none"> Local roadway railroad underpass Intersection improvements 	<p>Closing of Mason Street will increase volume.</p>	<p>Intersection improvements at US 1A/ NC 56 should be considered including adding right turn bay on US 1A northbound. Modify lane assignments and improve signal phasing.</p>
Tanyard Street improvements	New local connector	<ul style="list-style-type: none"> Local roadway 	<p>Provide connectivity between Green Rd and Mason St east of the RR tracks</p>	<p>Consider RR overpass on extended Tanyard St to US 1A as an alternate to the Mason St closure. Franklinton town officials and general public strongly support this project.</p>
Local connector from US 1A to Winston St	New local connector & RR underpass	<ul style="list-style-type: none"> Connection from US 1A to Winston St Railroad underpass 	<p>Provide replacement of multiple closed RR crossings</p>	<p>Allow for 3-lane section to provide turn lanes at US 1A and Winston St. Future East-West Connector will use this section of road.</p>
Montgomery Road connector to US 1	New local connector	<ul style="list-style-type: none"> Local roadway RR bridge New intersection at US 1 (superstreet type) 	<p>Replace closed RR crossings at Eric Medlin Rd & Winston St</p>	<p>Construct RR bridge to allow interim at-grade and future overpass with US 1. Consider separate horizontal alignments for future MOT plan.</p>

5.1.4.4 *Local Streets Serving Eastern Franklinton*

Three local street projects were identified to provide improved connectivity between US 1 and eastern portions of Franklinton as described in Section 4.4.2.6. The three projects are illustrated in Figures 4-14 and 4-15. The street projects include:

- Northeast Connector (See Figure 4-15)
- East-West Connector (See Figure 4-15)
- Southeast Connector (See Figure 4-14)

5.1.5 **Bicycle & Pedestrian Facilities**

Long-term recommendations would include greenways, multi-use paths, and side-paths. This is in addition to sidewalks, bicycle lanes, sharrows, and paved shoulders included on the proposed local street network. Future multi-use paths and side-paths within the study area include:

High Priority

- All local streets will be planned and constructed applying Complete Streets philosophy including accommodations for bicycle and pedestrian modes.
- All bridges crossing US 1 will have bicycle and pedestrian features to facilitate safe movements across US 1 for all users.
- A Multi-use Greenway (north-south) along the SEHSR that may be incorporated into the East Coast Greenway. It is divided into two sections: south and north of Franklinton.
- An east-west greenway utilizing an abandoned CSX railroad from downtown Franklinton heading to Louisburg (north of NC 56). This has been identified as a rails-to-trails project.
- A side-path on Cedar Creek Road from the Bert Winston intersection to the west end of the grade-separated crossing over the SEHSR.



Lower Priority

- A side-path on Long Mill Road from the Phase I study improvements to Pocomoke Road.
- A side-path on Bert Winston Road from Long Mill Road to Cedar Creek Road.

- A side-path on Pocomoke Road from Long Mill Road to the east end of the grade-separated crossing over US 1.
- A north-south greenway connector from Cedar Creek Road north to NC 56. The project includes greenway connections to Peach Street and Carver road.

These proposed improvements are shown in Figure 5-5A through Figure 5-5C for the South, Central, and North sections, respectively.

5.1.6 Transit

Multiple potential opportunities for transit were identified as documented in the Section 4.6 analysis. At this stage the recommendation for each of these possible transit provisions is to study their potential in more detail as both a local area and regional service. All recommendations would be subject to more rigorous demand testing and cost analysis before specific routes or alternatives could be provided.

The current 2035 CTP includes Express Bus on US 1 with the northern-most stop in Franklinton. This transit connection is recommended for consideration. The Express bus would be oriented primarily along US 1 with primary destinations at Youngsville, Wake Forest, Triangle Town Center and Raleigh, and would be provided when development density and ridership estimates necessitate it. This express bus service would start as an hourly service, operating only during the morning and afternoon commute times.

In the near term, it is recommended that a park and ride be identified and established for carpools. The lot could transition to serve as an initial Park-and-Ride location for future express bus. This approach would require a shared use agreement for the Food Lion shopping plaza parking lot (up to 25 spaces). In the long term, the Park-and-Ride/Multimodal Hub could locate at the northwest quadrant of the proposed NC 56 Bypass interchange with US 1. This future park-and-ride lot/multi-modal hub should accommodate approximately 100 parking spaces.



A circulator bus system serving Franklinton, Louisburg, and Youngsville was examined, but is not recommended as part of this study. Although a circulator system may have long term benefits, more detailed studies will be required to verify if the circulator would be viable.

The SEHSR is improving the railroad line through Franklinton. There are no plans for a high speed rail station within Franklinton. Interest was expressed, however, for the provision of a depot station in Franklinton for access to future commuter rail. In order to examine this option and identify if funds could be available, a cost-benefit study would be required. To pursue this option, a cost-benefit analysis would need to be completed as part of a more detailed study. Note that Franklinton likely would not be able to justify commuter rail, but a depot station may be valuable as part of a regional commuter rail line in the corridor.

5.2 Interim Improvements

The short-term improvements would incorporate all modes of transportation (roadway, bicyclist, pedestrian, and transit if necessary) and would consider proposed improvements that can easily be redeveloped to accommodate the future build condition. The goals of the short-term improvements are as follows:

- Provide lower-cost improvements to US 1 that improve safety and increase capacity.
- Provide interim multi-modal transportation solutions for US 1 and existing local street network
- Provide necessary transportation connectivity to encourage short-term developments that are part of the future land use vision/opportunities
- Serve as a template in preserving future roadway improvement corridors, leading to the future transportation vision for US 1 and steering development that would be consistent with future land use opportunities
- Be flexible enough to design future transportation improvements without having to abandon newly built roads, require unplanned additional right-of-way, or demolish built roads and/or bridges because they are not compatible with future improvements

5.2.1 US 1 - Recommended Superstreet Alternative for Interim

As discussed in Chapter 4, a Superstreet is a facility that maximizes through capacity on a roadway by restricting access and left turns. Implemented as a continuous system, superstreet treatments can improve traffic operations over the short term and provide a longer term benefit by extending the life of a roadway section and delaying the need for ultimate improvements. As concluded in Chapter 4, the Superstreet is a viable alternative for the interim alternative.

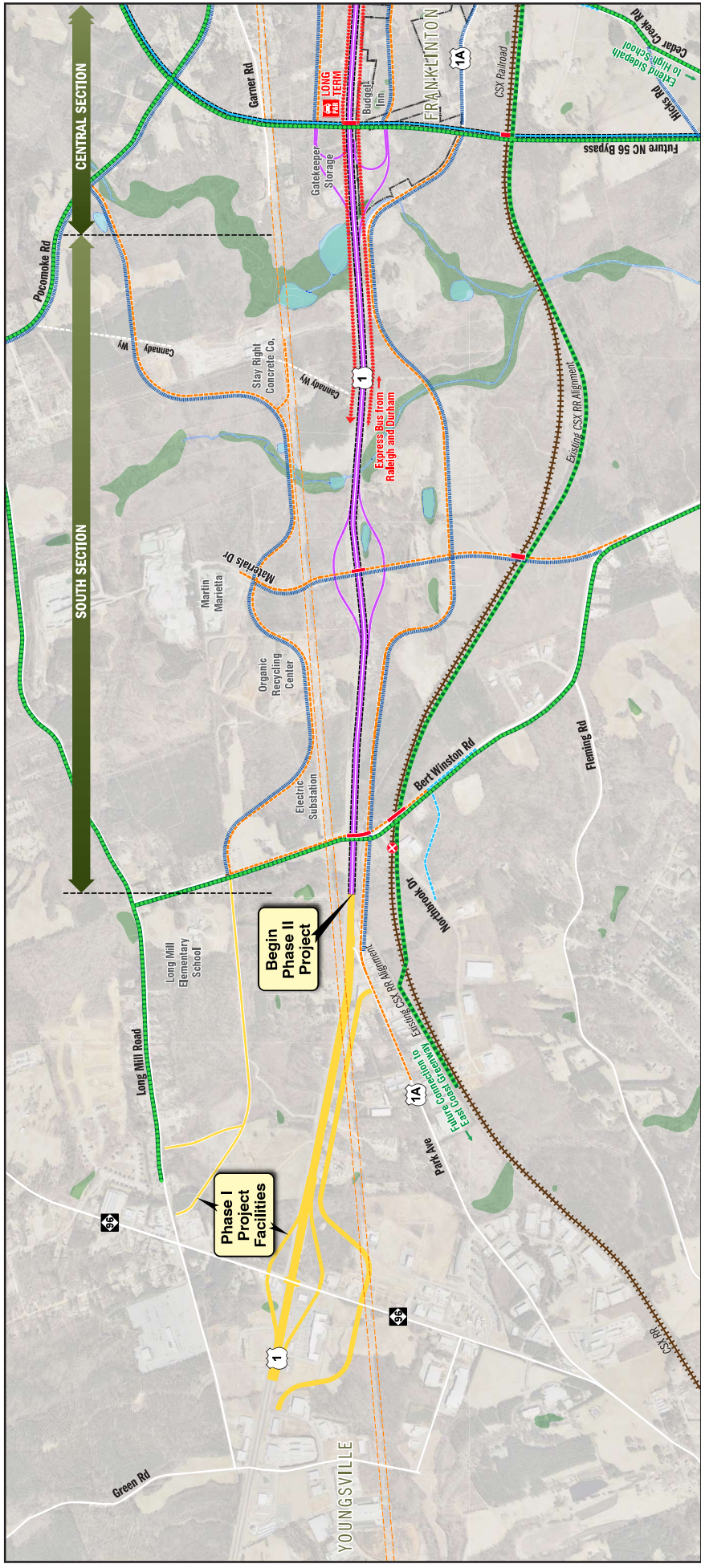
From a capacity perspective, the analysis discussed in Chapter 4 confirmed that south of NC 56, a superstreet on US 1 would have adequate capacity through 2040 to approximately 2050. North of NC 56, the US 1 superstreet would have adequate capacity beyond 2050 and longer



North Corridor Study Phase II



0 400 800 1,600 ft
Scale in feet



LEGEND

Municipal Boundary	Proposed Boulevard (CTP)	Recommended Sidewalk	Environment
US 1 Corridor	Preferred Alternative (Local Street)	Existing Sidewalk	Surface Waters
US 1 and Interchanges (Freeway)	Proposed Local Street (CTP or SEHSR)	Overpass	Wetlands
Phase I Proposed Ramp Improvement (Phase I)	SEHSR Pedestrian Crossings	Railroad	Utilities
	Recommended Greenway	Future SEHSR / CSX Rail	Electric Transmission Line Easement
	Recommended Sidewalk	Proposed Closing of At-Grade Rail Crossing	
	Proposed Closing of At-Grade Rail Crossing		

On-Road Bike Recommendations

- Signed Bike Route
- Bike Lane / Paved Shoulder
- Sharrows

Transit

- Express Bus from Raleigh/Durham
- Potential Park & Ride

Other Roadways and Streets

- Proposed Boulevard (CTP)
- Preferred Alternative (Local Street)
- Proposed Local Street (CTP or SEHSR)
- SEHSR Pedestrian Crossings
- Recommended Greenway
- Recommended Sidewalk

Environment

- Surface Waters
- Wetlands
- Utilities
- Electric Transmission Line Easement

PROJECT STUDY AREA

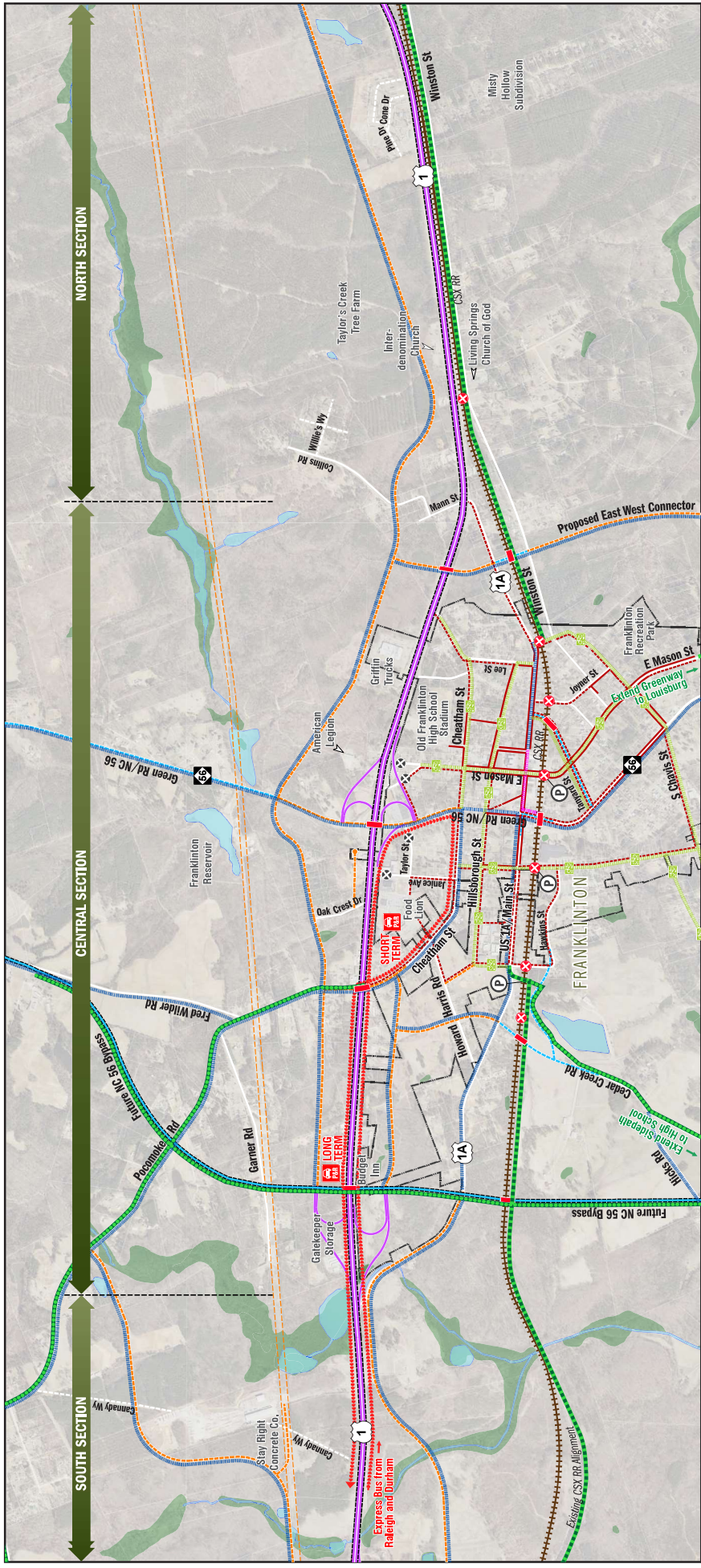
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North Corridor Study Phase II



0 400 800 1,600 ft
Scale in feet



LEGEND

Municipal Boundary	Proposed Boulevard (CTP)	Recommended Sidewalk	Environment
US 1 Corridor	Preferred Alternative (Local Street)	Existing Sidewalk	Surface Waters
US 1 and Interchanges (Freeway)	Proposed Local Street (CTP or SEHSR)	Overpass	Wetlands
Phase I Proposed Ramp Improvement (Phase I)	SEHSR Pedestrian Crossings	Proposed Roadway Closures	Utilities
	Recommended Greenway	Railroad	Electric transmission Line Easement
	Recommended Sidewalk	Future SEHSR / CSX Rail	
	Proposed Closing of At-Grade Rail Crossing	Proposed Closing of At-Grade Rail Crossing	

On-Road Bike Recommendations

Signed Bike Route	Bike Lane / Paved Shoulder
Sharrows	

Transit

Express Bus from Raleigh/Durham	Potential Park & Ride
---------------------------------	-----------------------

Other Roadways and Streets

Proposed Alternative (Local Street)	Proposed Roadway Closures
SEHSR Pedestrian Crossings	Future SEHSR / CSX Rail
Recommended Greenway	Proposed Closing of At-Grade Rail Crossing
Recommended Sidewalk	

Environment

Surface Waters	Wetlands
Utilities	Electric transmission Line Easement

PROJECT STUDY AREA

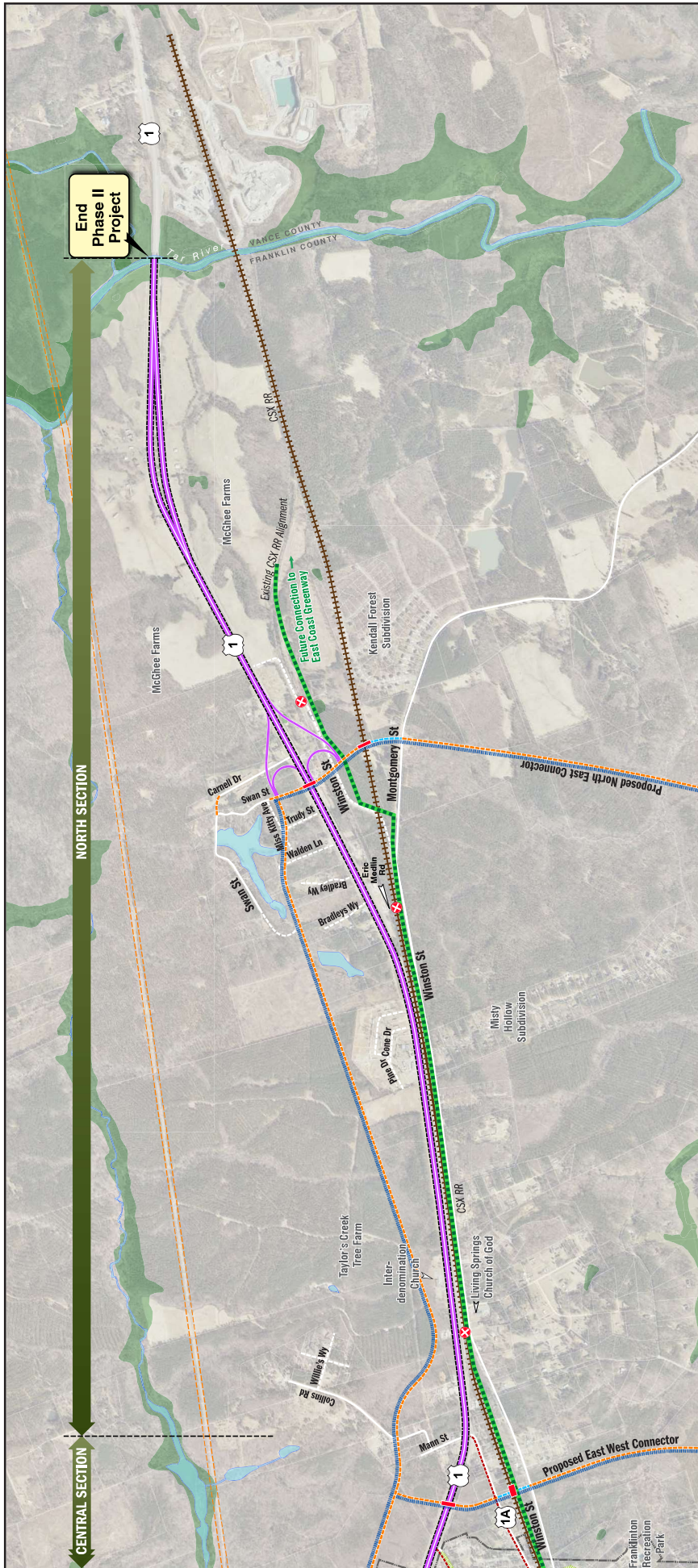
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North Corridor Study Phase II

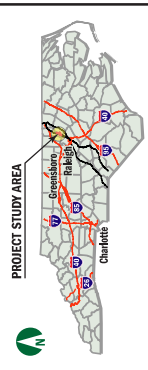


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Scale in feet



LEGEND

Municipal Boundary	Other Roadways and Streets Proposed Boulevard (CTP)	Environment Surface Waters	On-Road Bike Recommendations Signed Bike Route
US 1 Corridor	Preferred Alternative (Local Street)	Wetlands	Bike Lane / Paved Shoulder
US 1 and Interchanges (Freeway)	Proposed Local Street (CTP or SEHSR)	Utilities	Sharrow
Phase I Proposed Ramp Improvement (Phase I)	SEHSR Pedestrian Crossings	Electric Transmission Line Easement	Transit Express Bus from Raleigh/Dunham
	Recommended Greenway		Potential Park & Ride
	Recommended Sidewalk		
	Existing Sidewalk		
	Overpass		
	Railroad Future SEHSR / CSX Rail		
	Proposed Closing of At-Grade Rail Crossing		



US 1 Phase II Study - Franklin County

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US 1 Bicycle / Pedestrian / Transit Plan in North Section

Figure 5-5C
Sheet 3 of 3

Back of Figure 5-5C (11x17 figure)

north of Franklinton. North of NC 56, and, in particular, north of Franklinton, a superstreet could provide adequate capacity for an extended period past 2040. Although it was identified that the Superstreet does not provide the ultimate solution for the corridor, it does provide an economical and efficient alternative to reduce congestion and delays on US 1 for more than 20 years for a relatively inexpensive investment as compared with a freeway. In addition, the superstreet would not preclude future conversion to a freeway section.

The proposed Superstreet Alternative utilizes the existing four-lane divided expressway typical section (as shown in Figure 5-4) with intersection improvements throughout the project limits including the intersections shown in Table 5-1. An interim Superstreet Plan is shown in Figure 5-6A, Figure 5-6B, and Figure 5-6C for the south, central, and north sections, respectively. It illustrates locations for dual leftovers, single leftovers, and signalized superstreet intersections. The Superstreet Plan figures also include details illustrating the intersection layout and traffic operations at each of these intersection types.

The improvement of intersections to a superstreet would, on a case-by-case basis, allow for the inclusion of pedestrian crossings and refuges at intersections, as well as consideration of pedestrian countdown signal heads and phasing to improve safety for pedestrians crossing US 1. This would be a transitional treatment limited to those intersections with planned overpasses included in the ultimate freeway plan.

As part of the Superstreet Plan, some local streets are anticipated to be constructed as part of future development with a plan to construct local streets over time. In many cases these local streets are independent of the needs of the Superstreet, but are illustrated to demonstrate the incremental construction of the local street network. More details are provided in the phasing plans.

In addition, the recommended plan does not recommend a superstreet conversion for the entire section of US 1 as part of a single project. Instead a phasing plan has been identified which incrementally improves US 1 to a superstreet while also encouraging the construction of local street sections. Through this approach, it is intended to minimize delays on US 1 while still providing a long range plan to ultimately provide a freeway.

The proposed phasing plan and related project costs are summarized in Section 5.3 and Section 5.4, respectively.

5.2.2 Local Street Network

Ideally, the local street network will be improved as part of the Superstreet Alternative and when the SEHSR improvements have been implemented. The SEHSR alignment would close

local streets within the project limits, but will also provide grade-separated crossings over the SEHSR that would connect to the local street network. Local street connectivity should be encouraged while the Superstreet Alternative is in place to minimize access impacts when an upgrade to a freeway occurs.

The local street connectors associated with the Superstreet Alternative and their implementation timeframes are listed below in Table 5-2 and illustrated in Figure 5-6A through Figure 5-6C. In addition, a more detailed phasing plan is illustrated in Section 5.3. Of the local street projects planned through the interim phases, the realignment of Bert Winston Road, the improvements to the US 1A at NC 56 intersection (as part of the NC 56 Green Road widening), and the Connector between Montgomery Street and US 1 are critical elements to the phasing in the Interim Superstreet and Ultimate Freeway improvements.

Table 5-2. Local Street Connectors and Implementation Timeframes

Street/Location	Implementation Timeframe	
	Phase I (2015-2020)	Phase II (2021-2030)
Materials Drive Extension	X	
Approximately 1,000 feet west of Pocomoke Road to Pocomoke Road		X
Pocomoke Road Improvements West of US 1		X
Pocomoke Road to Oak Crest Drive		X
Miss Kitty Avenue Realignment from Bradleys Way to Carnell Drive	X	
Realignment of Northbrook Drive (SEHSR)	X	
Realignment of Bert Winston Road and Bridge (SEHSR)	X	
Cheatham Street Improvements East of US 1		X
Cedar Creek Realignment to US 1A and Bridge (SEHSR)	X	
Howard Harris Road connector to Hillsborough Street	X	
Hawkins Street Connector to Cedar Creek Road (SEHSR)	X	
Tanyard Street Improvements from Green Street to Mason Street (SEHSR)	X	
Green Road/NC 56 widening and improvements (SEHSR)	X	
Connector from US 1A to Winston Street (SEHSR)	X	
Connector from Montgomery Street to US 1 with RR Bridge	X	

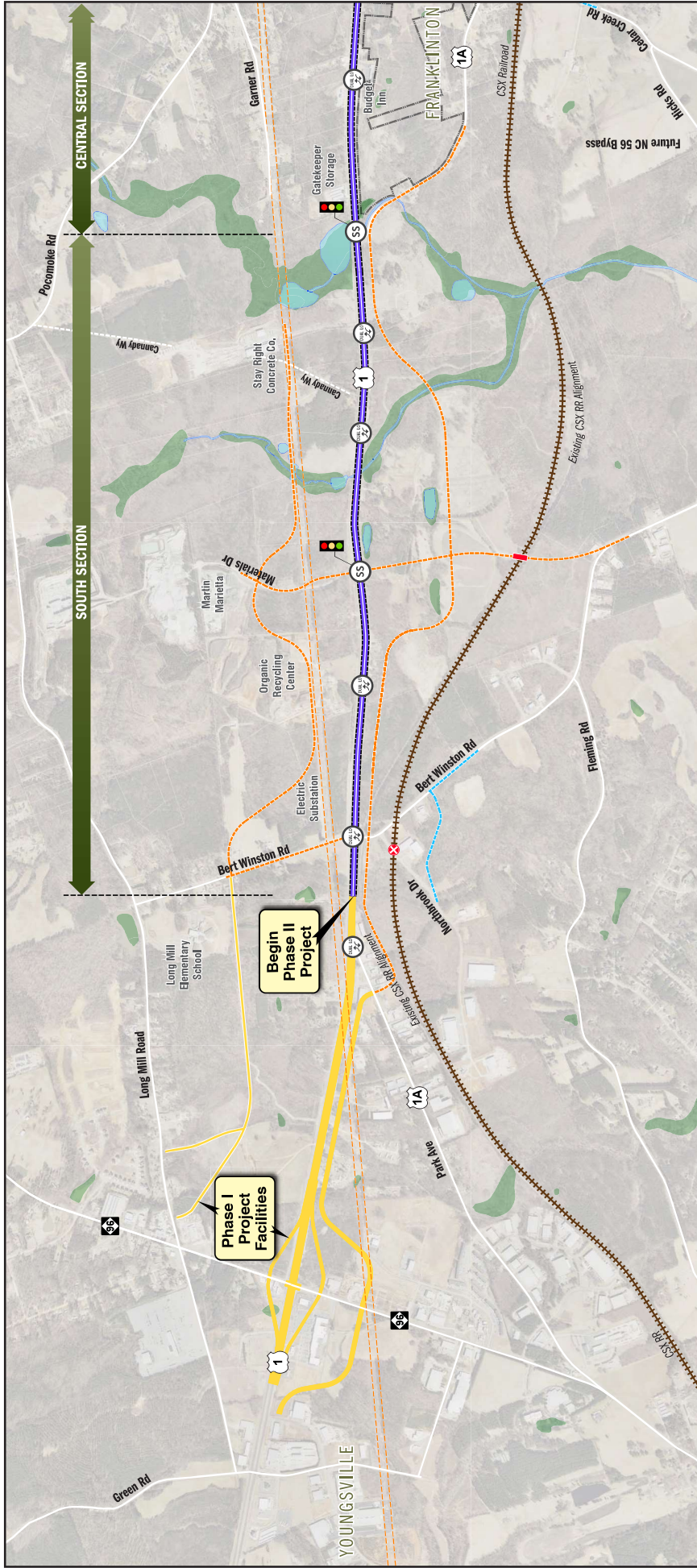
* Indicates that this connector at this phase consist of only a part of the project for the code shown.



North Corridor Study Phase II



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Scale in feet



LEGEND

Municipal Boundary	Phase I Proposed Ramp Improvement (Phase I)	Future SEHSR / CSX Rail	Environment Surface Waters
US 1 Corridor	Preferred Alternative (Local Street)	Proposed Closing of At-Grade Rail Crossing	Wetlands
US 1 Section (Superstreet)	Proposed Local Street (CTP or SEHSR)	Left Over	Utilities Electric Transmission Line Easement
	Traffic Signal	Dual Left Over	
	Overpass	Super Street	
		SEHR Pedestrian Crossings	
		Close Median Openings	

PROJECT STUDY AREA

US 1 Phase II Study - Franklin County

US 1 Interim Design - Superstreet in South Section

Figure 5-6A
Sheet 1 of 3

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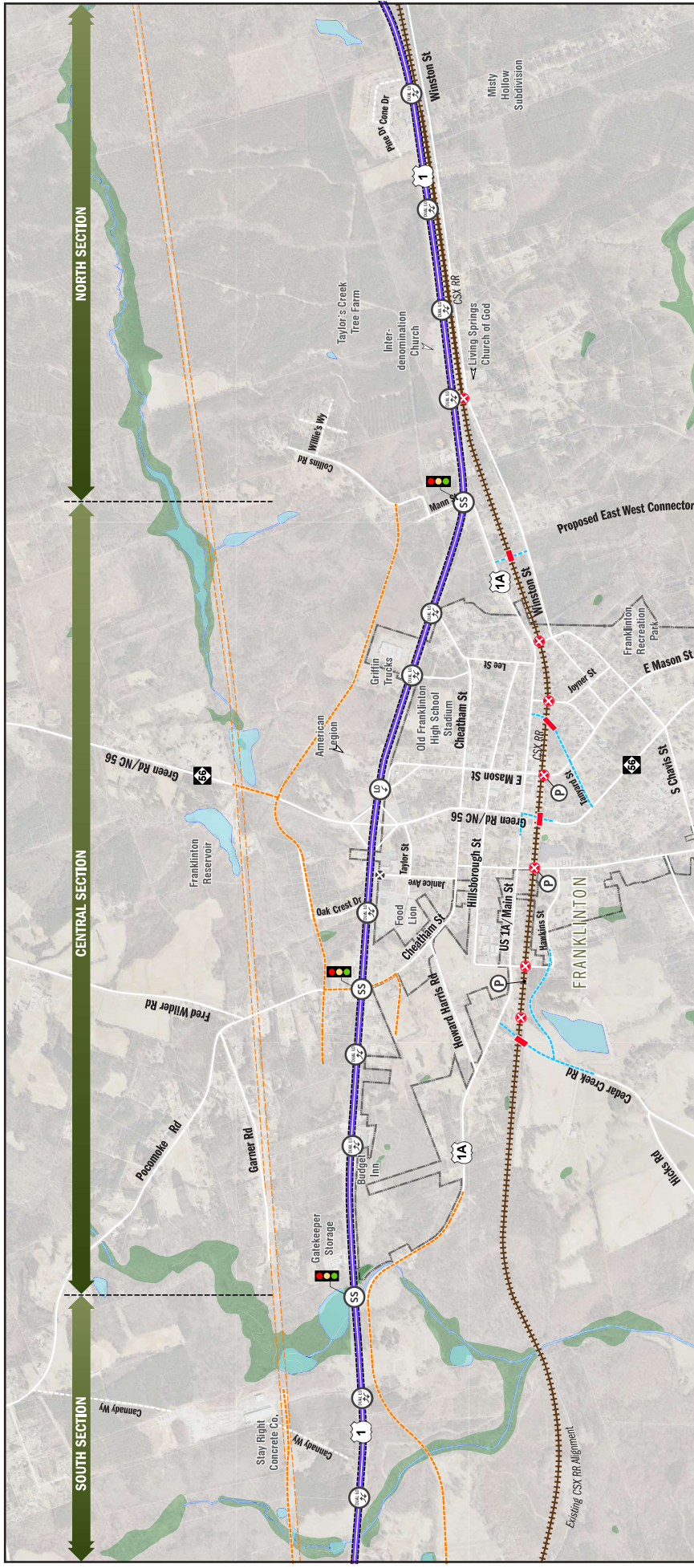
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North Corridor Study Phase II



0 400 800 1,600 ft
Scale in feet



LEGEND

Municipal Boundary	US 1 Corridor	US 1 Section (Superstreet)	Phase I Proposed Ramp Improvement (Phase I)	Preferred Alternative (Local Street)	Proposed Local Street (CTP or SEHSR)	Traffic Signal	Overpass	Proposed Roadway Closure	Left Over	Dual Left Over	Super Street	SEHR Pedestrian Crossings	Future SEHSR / CSX Rail	Proposed Closing of At-Grade Rail Crossing	Environment Surface Waters Wetlands	Utilities Electric Transmission Line Easement	Railroad	PROJECT STUDY AREA
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US 1 Phase II Study - Franklin County

**PARSONS
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US 1 Interim Design - Superstreet in Central Section

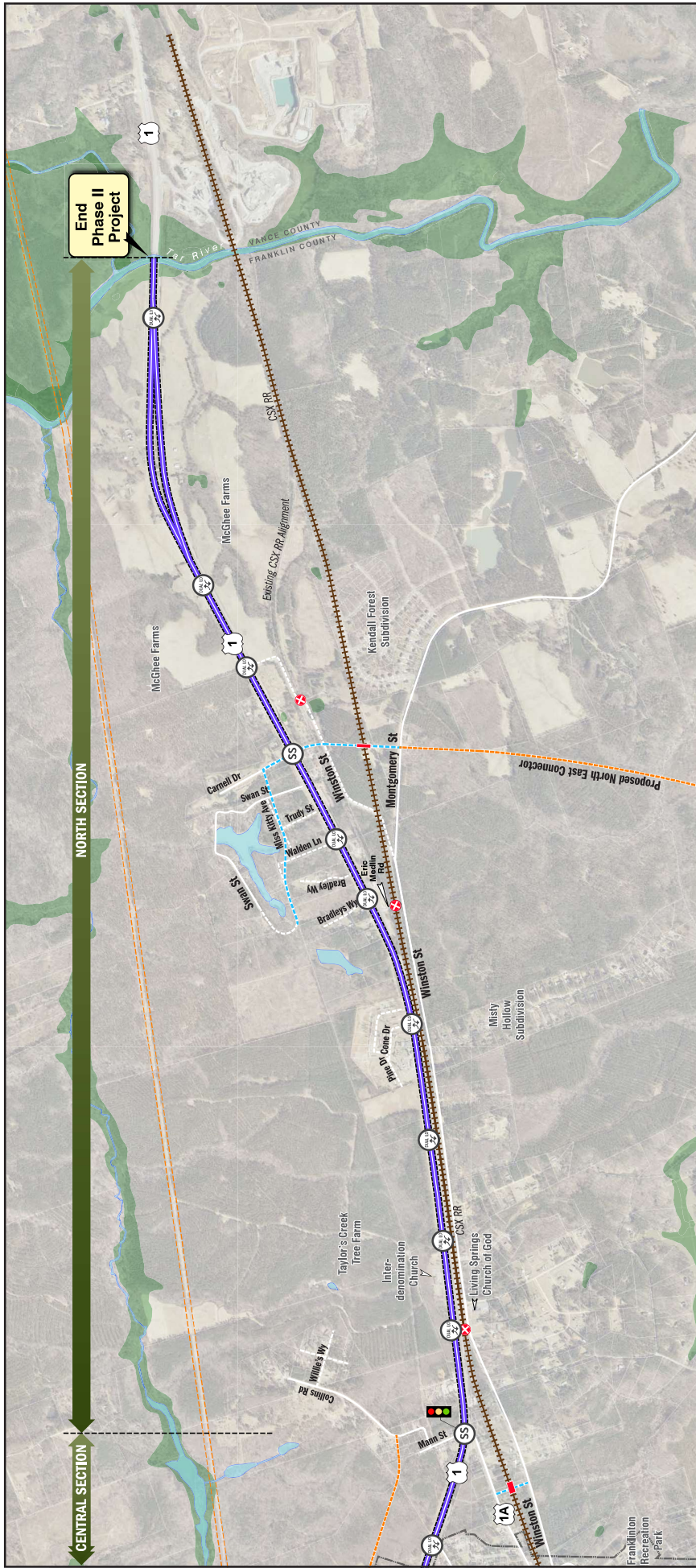
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North Corridor Study Phase II

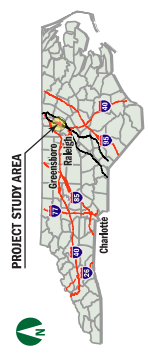


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Scale in feet



LEGEND

- Municipal Boundary
- US 1 Corridor
- US 1 Section (Superstreet)
- Other Roadways and Streets
 - Phase I Proposed Ramp Improvement (Phase I)
 - Preferred Alternative (Local Street)
 - Proposed Local Street (CTP or SEHSR)
 - Traffic Signal
 - Overpass
- Railroad
 - Future SEHSR / CSX Rail
 - Proposed Closing of At-Grade Rail Crossing
- Environment
 - Surface Waters
 - Wetlands
 - Utilities
 - Electric Transmission Line Easement
- Left Over
- Dual Left Over
- Super Street
- SEHR Pedestrian Crossings
- Close Median Openings



Back of Figure 5-6C (11x17 figure)

5.2.3 Bicycle and Pedestrian

The public clearly indicated a desire for separated facilities, connectivity to important land uses, roadway crossing improvements, accommodations for bridges, and greenways. In response to the public's desires, the project Study Team focused on potential short-term improvements that could be implemented to provide solutions to most of the public's concerns. The Study Team focused on the safety of pedestrians utilizing the future roadway network in the US 1 corridor.

The first step proposed is the improvement of pedestrian facilities in downtown Franklinton. In order to achieve this, the limited existing sidewalks would need to be improved and pedestrian facilities would need to be implemented to provide connectivity between important land uses and neighborhoods.

The next step proposed is the enhancement of interim improvements. Interim transportation improvements would involve the conversion of Bert Winston Road, Pocomoke Road/Cheatham Street, US 1A, and minor intersections to Superstreet intersections. Consistent with the Complete Streets Guidelines, the Study Team proposes the incorporation of pedestrian crossings at intersections and the consideration of pedestrian countdown signal heads and pedestrian refuges into designs. As streets and roadways are constructed, any improvements should provide improvements as identified in Figure 5-5A through Figure 5-5C. This incremental improvement approach will be the key to future implementation of bicycle and pedestrian improvements.

Continuing through the interim improvement phase, the Complete Streets Guidelines will be factored into proposed rural street connections. Recommended improvements include sidewalk enhancements on proposed local roadway connectors, sidewalk enhancements on existing roads (with no existing sidewalks), and connectivity to (improved) existing sidewalks in downtown Franklinton. On-road bicycle recommendations include signed bicycle routes, bicycle lanes, and sharrows. These proposed improvements are shown in the bicycle and pedestrian plans in Figure 5-5A through Figure 5-5C.



Finally, the SEHSR rail-with-trail greenway and rail-to-trail greenway connection to Louisburg should be constructed. In response to a strong desire for off-road, separated paths, these greenways would provide key east-west and north-south connectivity for bicyclists and pedestrians. The SEHSR rail-with-trail should enter Downtown Franklinton along Main Street with crossing and streetscape improvements provided.

5.2.4 Transit

The goals of providing future transit services in the US 1 Phase II corridor study area for the interim improvements can be summarized as follows:

- Provide transit mobility for US 1 corridor commuters
- Connect the Town of Franklinton with regional destinations to the south
- Identify short-term park & ride locations in the study area to support transit services and transit-oriented developments

Unfortunately the current demographics would not support interim service such as an Express Bus service. It is recommended, however, that consideration be given to providing a temporary Park-and-Ride lot to encourage carpooling or vanpooling. This interim treatment would require setting up a shared use agreement for up to 25 spaces in the Food Lion shopping plaza parking lot.

It is also recommended that the Kerr Area Rural Transportation System (KARTS) continue to provide paratransit and on-demand service in Franklin County.

The Local Circulator Bus System and Commuter Rail Station discussed in Section 5.1.6 are not identified as interim improvements. More detailed studies could occur during this period to examine the feasibility as well as examining potential costs and benefits.

5.2.5 Southeast High Speed Rail

The SEHSR project is considered part of the interim scenario since it is anticipated to be complete between 2020 through 2025. The primary purpose of the SEHSR is to mitigate the closure of nine rail crossings in Franklinton and Franklin County. In order to mitigate for the closures, the SEHSR has proposed some local roadway projects and bridge separated crossings of the railroad tracks. These seven projects are described in Table 5-3. Identified in the table are also coordination issues to be resolved between the SEHSR and US 1 Corridor Study on specific projects. It is expected that these issues will be addressed at a later design stage for the SEHSR, and likely not included in the SEHSR Environmental Impact Statement (EIS) documents.

As part of the SEHSR project there would also be the provision of some pedestrian improvements. Similar to the local street projects, the primary purpose of the pedestrian improvements is to provide a replacement for current access that is allowed at the location of at-grade crossings. Three pedestrian crossing of the railroad are proposed:

- Pedestrian crossing near existing Cedar Creek Road

Table 5-3. Southeast High Speed Rail Roadway Projects

SEHSR Project	Includes	Issues with US 1 Study
Existing Bert Winston and Northbrook Road realignment	<ul style="list-style-type: none"> Railroad bridge Closure of at-grade RR crossing New alignment for Northbrook Rd Revised alignment for Bert Winston Improved intersection at US 1 	Bert Winston RR overpass cannot be designed to allow both at-grade & grade separated crossing of US 1. Therefore, proposing that SEHSR build Bert Winston Rd Extension instead. Provide superstreet intersection improvements on US 1.
Cedar Creek Road realignment and railroad bridge	<ul style="list-style-type: none"> Railroad bridge Closure of at-grade RR crossing Revised alignment for Cedar Creek Improved intersection at US 1A 	Construct Cedar Creek horizontal alignment to avoid cemetery on west side of US 1A to allow future extension.
Hawkins Road extension	<ul style="list-style-type: none"> Local roadway 	None.
NC 56 Green Road Improvement	<ul style="list-style-type: none"> Local roadway railroad underpass Intersection improvements 	Intersection improvement required at US 1A at NC 56 traffic signal.
Tanyard Street improvements	<ul style="list-style-type: none"> Local roadway 	Town strongly desires extension of Tanyard Road to US 1A north of Mason Street with new RR overpass.
Local connector from US 1A to Winston St	<ul style="list-style-type: none"> Connection from US 1A to Winston St Railroad underpass 	Allow for 3-lane connector to provide turn lanes at both US 1A and Winston Street. Future East-West Connector will use this section. In addition, need pedestrian and bicycle provisions to connect East Coast Greenway under railroad.
Montgomery Road connector to US 1 and railroad bridge	<ul style="list-style-type: none"> Local roadway RR bridge New intersection at US 1 (superstreet type) 	Construct RR bridge to allow initial at-grade and ultimate grade separation at US 1. Provide superstreet intersection improvements at US 1.

- Pedestrian crossing near College Street
- Pedestrian crossing near Mason Street

5.3 Phasing Plan for Implementation

A detailed phasing plan was developed for implementation of the proposed US 1 improvements and associated projects on the local street network. This plan was developed

examining a series of congestion thresholds design to keep all network facilities operating at LOS D or better.

In developing this approach, it was assumed that the availability of funding would be adequate to make improvements based on the congestion thresholds, but not adequate to simply construct the entire project in a single phase. Note, however, that the availability of funds, source of funds, and/or changes in anticipated traffic growth patterns could accelerate specific projects before or after other projects identified in the phasing.

For this analysis, all projects in the study area were examined and scheduled. This includes projects proposed by the SEHSR that may not directly impact US 1, as well as regional projects such as the NC 56 Bypass that will impact US 1, but are intended to address a separate deficiency in the network.

Detailed phasing was examined for the US 1 Corridor Study looking from 2015 to beyond 2050. In this 35-year period, five phases separated by 10 years each were identified for the study. This includes projects required by 2020, 2030, 2040, 2050, and beyond 2050. The original scope of this study had been examining through 2040, but given the lower volumes of traffic than other sections of US 1 to the south, it was necessary to take a longer term view. In addition, the phasing includes an incremental provision of a superstreet which offset the need for freeway type improvements by approximately 10 years.

The Phasing Plan is shown in a series of colored maps in Figure 5-7A through Figure 5-7E. More detailed phasing maps divided separately into the south, central, and north sections are available in Appendix C. All projects from a specific phase are shown the same color. The color codes are:

- Yellow represents projects proposed between 2015 and 2020 (See Figure 5-7A)
- Orange represents projects proposed between 2021 and 2030 (See Figure 5-7B)
- Blue represents projects proposed between 2031 and 2040 (See Figure 5-7C)
- Green represents projects proposed between 2041 and 2050 (See Figure 5-7D)
- Pink represents projects proposed beyond 2050 (See Figure 5-7E)

These colors are carried through each of later phases remaining the original color to show the predecessor projects. The only exception is that US 1 sections are upgraded to a superstreet in



North Corridor Study Phase II

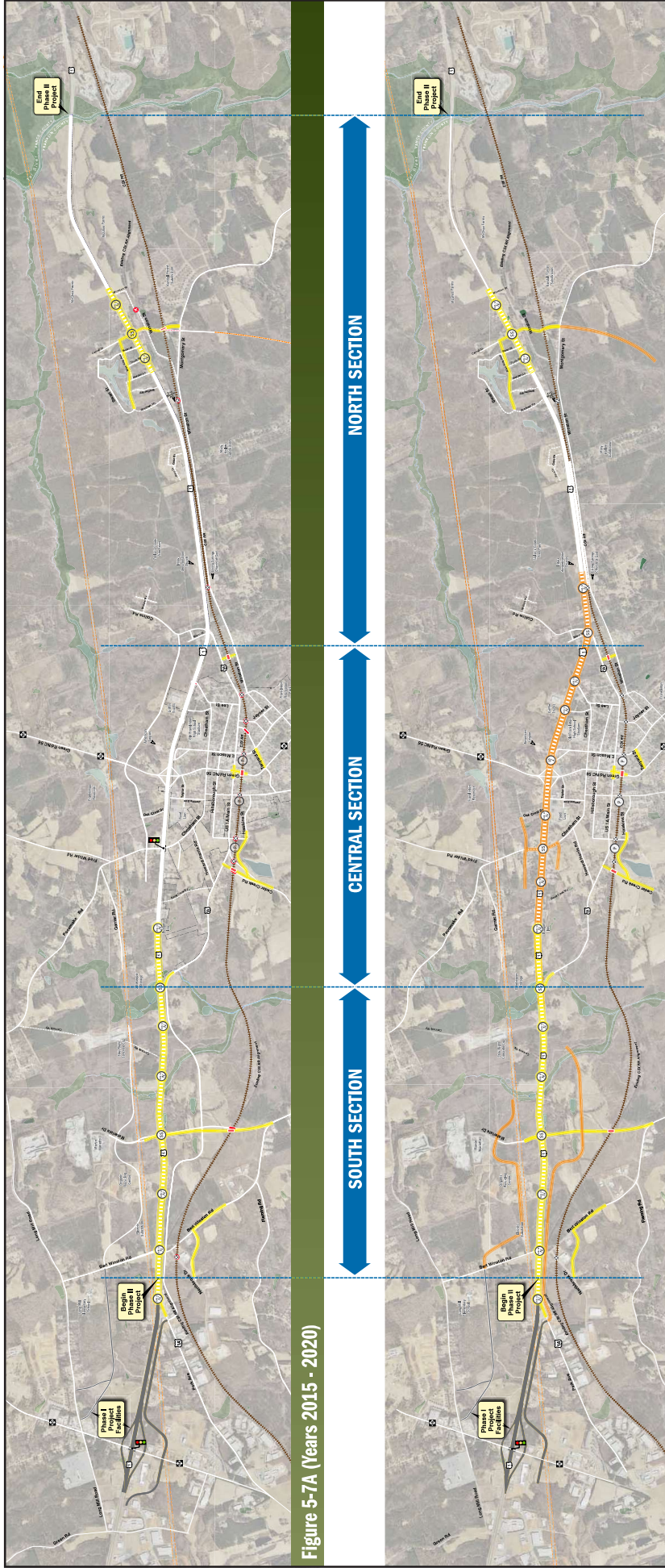
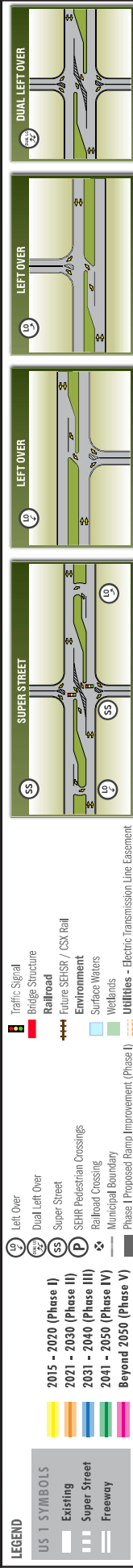


Figure 5-7A (Years 2015 - 2020)

Figure 5-7B (Years 2021 - 2030)



US 1 Phase II Study - Franklin County

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US 1 - Years 2015 - 2020 and Years 2021 - 2030

Figures 5-7A & 5-7B

Sheet 1 of 3

Back of Figure 5-7A and B (11x17 figure)



North Corridor Study Phase II

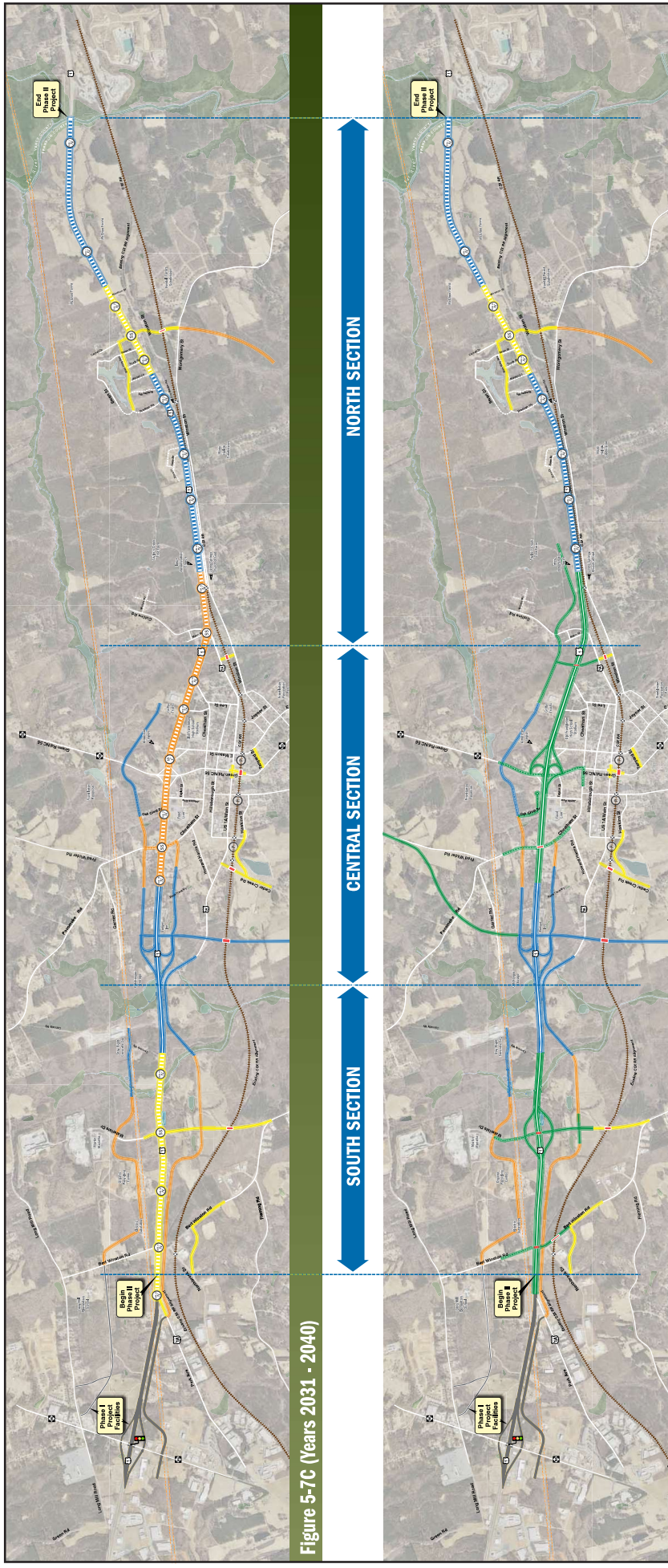


Figure 5-7C (Years 2031 - 2040)

Figure 5-7D (Years 2041 - 2050)

LEGEND

2015 - 2020 (Phase I)	Traffic Signal
2021 - 2030 (Phase II)	Bridge Structure
2031 - 2040 (Phase III)	Railroad
2041 - 2050 (Phase IV)	Future SEHRP / CSX Rail
Beyond 2050 (Phase V)	Environment
Existing	Surface Waters
Super Street	Wetlands
Freeway	Utilities - Electric Transmission Line Easement
Left Over	Dual Left Over
Super Street	Left Over
SEHRP Pedestrian Crossings	Super Street
Railroad Crossing	Left Over
Municipal Boundary	Super Street
Phase I Proposed Ramp Improvement (Phase I)	Left Over
Phase I Proposed Ramp Improvement (Phase I)	Dual Left Over

Back of Figure 5-7C and D (11 x 17 figure)



North Corridor Study Phase II

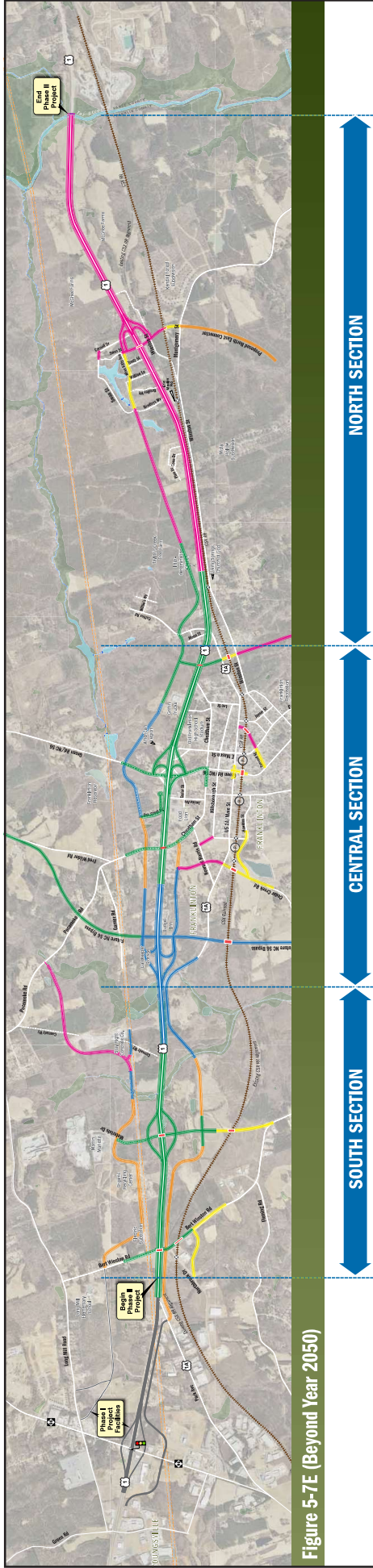
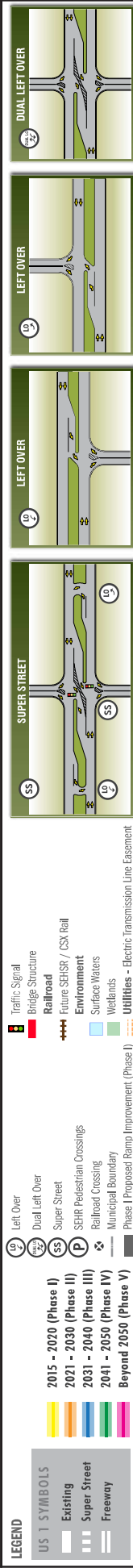


Figure 5-7E (Beyond Year 2050)



US 1 Phase II Study - Franklin County

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US 1 - Beyond Year 2050

Figures 5-7E
Sheet 3 of 3

Back of Figure 5-7E (11x17 figure)

an early phase and then the same section is upgraded to a freeway as part of a later phase, the section color is shown based on the latest project completed.

In addition to the colored phasing plans, Table 5-4 through Table 5-9 break down the projects included within each phase including a planning level estimate of project costs. Detailed information on the cost assumptions is included in Appendix C.

Also note that recommended phasing plan is to be utilized as a tool or blueprint for identifying future needs in the US 1 corridor. It is anticipated that the actual sequence of implementation will likely vary in the future. Decisions on the construction of specific projects will be subject to many considerations including (but not limited to):

- Availability of funding as well as requirements for different funding sources
- Timing, size, type, and approval conditions of future developments
- Changing traffic patterns and volumes
- Priorities of local and NCDOT officials
- Timing of related projects such as the South East High Speed Rail

Nevertheless, the phasing plan provides a valuable implementation strategy that can provide guidance to local officials, engineers, planners, and decision-makers as the improvements to US 1 and the local street network are constructed.

5.3.1 Phase 1 – 2015-2020

The initial phase has four specific areas that include improvements. A key component of this phase is an assumption that the SEHSR construction would occur during this phase. The Phase 1 projects are shown in yellow in the Figure 5-7A Phasing diagram. The total cost of projects identified in this phase is \$42.5 million. The majority of this expense is part of the SEHSR projects. The critical projects in Phase 1 are described in Table 5-4.

The most significant Phase 1 issue is accelerating the construction of the Bert Winston Extension as part of the SEHSR construction to replace the Bert Winston Road overpass shown in the SEHSR preliminary designs. This sequencing is proposed, because engineering analysis indicates that the railroad bridge crossing on Bert Winston cannot be designed to provide short-term at grade access to US 1 as well as future long-term grade separation. As a result, the railroad bridge on Bert Winston would need demolished and replaced at a future date. Instead of crossing at the existing intersection, traffic would follow the new Bert Winston, turn onto US 1 for a short distance, and then access the western side of Bert Winston.

Table 5-4. Phase 1 Projects (2015-2020)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
SOUTH SECTION: US 1A Park Avenue to US 1A South Main Street					
US 1 Superstreet: Park Avenue to US 1A South Main St	\$5.7 Million	<ul style="list-style-type: none"> Minimal. Leftovers will require bulbouts. Long term grade issues at Bert Winston make 4 leg at grade costly. RR bridge would need rebuilt in future. 	<ul style="list-style-type: none"> Bert Winston Ext at Materials will need SS signal. Existing Bert Winston converted to tee and signal removed. US 1A S. Main Street will need signal by 2020. 	Bert Winston Rd cannot be closed until Bert Winston Ext. complete.	Will need to determine responsibility with SEHSR.
Bert Winston Extension/ Materials Drive	\$7.7 Million	Instead of Bert Winston intersection, recommend SEHSR construct Bert Winston Extension	<ul style="list-style-type: none"> Bert Winston Extension at Materials Dr will need SS signal. Existing Bert Winston converted to tee and signal removed. 	Bert Winston Rd cannot be closed until Bert Winston Ext. complete.	Determine if SEHSR will fund instead of Bert Winston connection.
SEHSR local street projects in South: Existing Bert Winston Rd & Northbrook Dr	\$2.4 Million	Recommended to hold off on Bert Winston RR bridge & construct Bert Winston Extension	Realignment of RR requires access to Northbrook.	Bert Winston Rd cannot be closed until Bert Winston Ext. complete.	Determine if SEHSR will fund Bert Winston extension instead of RR bridge.
Oak Park Blvd Connection	\$4.2 Million	Tying to existing roundabout on the western side of project.	<ul style="list-style-type: none"> Roadway will require context sensitive design to reduce speeds in the residential neighborhood. Roundabout capacity analysis will be required to determine if existing roundabout will have adequate capacity. Not a replacement for NC 56 Bypass. 	Ideally would be opened in short term to provide relief when SEHSR construction underway.	If not accelerated, developer funding may be possible.

Table 5-4. Phase 1 Projects (2015-2020) (Concluded)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
SEHSR local street projects in Central: 1. Cedar Creek Rd 2. Hawkins Street 3. Tanyard St 4. NC 56 Green Road underpass 5. US 1A Main St connector to Winston St in north Franklinton	\$17.4 Million	<ul style="list-style-type: none"> Extension of Tanyard over RR deemed feasible for construction. Historic impact issues would need addressed. Included in Phase 5. US 1A to Winston St connector underpass should be constructed to allow future 3 lanes due to overlapping left turns & future extensions. 	<ul style="list-style-type: none"> During construction of Green Street underpass, alternative truck route is needed to NC 56. Intersection of US 1A at NC 56 needs improved due to increased traffic. Consider widening NB approach to 2 lanes, restriping intersection, and revising signal phasing. Closing of Mason St would ideally be mitigated with extension of Tanyard St over RR 	<p>Local street crossovers cannot be closed until new grade separated crossings in place</p> <p>During construction, detours or phasing of RR crossovers will be needed.</p>	<p>These projects should be funded by SEHSR.</p> <p>SEHSR has indicated likely not able to fund Tanyard Extension.</p> <p>For this reason it has been excluded in this phase, but strong preference of locals is to include at this stage.</p>
NORTH SECTION: US 1A North Main Street to Franklin/Vance County Line					
US 1 Superstreet at connector intersection with adjacent dual leftovers	\$1.9 Million	Recommend at-grade intersection ties in at Carnell Drive will allow overpass to be constructed in future at Swan St without detour	Superstreet configuration recommended as part of intersection reconstruction. No signal required in this phase or anticipated for at least 20 years.	Superstreet should be implemented at same time as SEHSR connector from US 1 to Montgomery St	SEHSR funding likely available since part of new intersection
SEHSR local street projects in North Connector from Montgomery Street to US 1A	\$5.6 Million	RR bridge vertical alignment should be designed to tie-in at-grade with US 1 in 2020. In future, the same RR bridge will need to tie in with grade separation. Similarly, RR bridge alignment should allow at-grade intersection at Carnell Dr & long term overpass at Swan St	Superstreet configuration recommended at US 1 tie-in as part of intersection reconstruction. No signal required in this phase or anticipated for at least 20 years.	<ul style="list-style-type: none"> Ideally done at same time as US 1 Superstreet. Do not close Eric Medlin RR crossing until this project is completed. 	Identified as SEHSR project
Improve & connect Miss Kitty Avenue	\$2.3 Million	Road needs improved to function in long term as service road to future northern interchange.	Ideally traffic from area diverted to superstreet intersection.	Not required at this stage, but if not provided ultimate interchange and local street connection would be challenging.	Unlikely to be funded by developers since residences in place. SEHSR participation not likely.

Table 5-5. Phase 2 Projects (2021 -2030)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
SOUTH SECTION: US 1A Park Avenue to US 1A South Main Street					
Western Service Road (South) – Local Street	\$10.0 Million	--	<ul style="list-style-type: none"> Roadway will have high truck percentage and industrial focus. Need to accommodate bikes/peds that use Bert Winston Road. Completion of this street will provide route for Bert Winston traffic without taking US 1. This movement includes school buses, 	Construction will be driven by industrial development. Delays would have limited impact on US 1 corridor. Not required until freeway provided.	Encourage developer driven financing since primary purpose of road is access.
US 1A Extension (South) – Local Street	\$11.7 Million	Cannot be connected until SEHSR realigns track at Bert Winston. Wetlands/ stream crossing will be required to connect to US 1A.	<ul style="list-style-type: none"> Need to accommodate bikes/peds that will to link Youngsville and Franklinton. Completion of this street will provide route for US 1A Park Avenue traffic without taking US 1. Alignment and lack of spacing make connection with Bert Winston intersection at US 1 potentially unsafe. 	Construction will be driven by industrial development on either side of Bert Winston Extension. Will serve local trips from Youngsville and Franklinton.	Encourage developer driven financing since primary purpose of road is access. Some public funding may be required for section linking Park Avenue
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
US 1 Superstreet: US 1A South Main St to US 1A North Main St	\$6.0 Million	Minimal. Leftovers will require bulbouts.	<ul style="list-style-type: none"> Cheatham/ Pocomoke will need SS signal. As west side of US 1 develops may be necessary to include pedestrian phase for Cheatham/Pocomoke signal. US 1A North Main St will likely need SS signal. Janice Avenue crossover to be closed. 	Cheatham Street may require conversion prior to intersection south of NC 96.	Standard CTP process needed for funding.
Western Backage Road	\$2.1 Million	Right of way will need to be coordinated with development plans.	Bike/ped will need to be included in section. As west side of US 1 develops may be necessary to include pedestrian phase for Cheatham/Pocomoke signal.	Construction will be driven by retail development.	Encourage developer driven financing since primary purpose of road is access.
Eastern Backage Road	\$2.0 Million	Right of way will need to be coordinated with development plans.	Bike/ped will need to be included in section.	Construction will be driven by retail development.	Encourage developer driven financing since primary purpose of road is access.

Table 5-5. Phase 2 Projects (2021 -2030) (Concluded)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
NORTH SECTION: US 1A North Main Street to Franklin/Vance County Line					
Western Service Road North	\$1.5 Million		Access to residential area would now be provided via Superstreet intersection at Cheatham Street	Access to residential area must be provided to prior to shutting off access at US 1 with freeway.	Developer funding could potentially occur, but public funding may be required to complete before Freeway conversion.
Northeast Connector	\$13.8 Million	Detailed study required to identify preferred alignment.	Will provide long term benefit by providing alternate route for local trips instead of traveling on NC 56 to US 1.	<ul style="list-style-type: none"> Construction will be driven by residential development. Potentially diverts up to 2,000 vpd from NC 56 in downtown. This may delay need for NC 56 Bypass. 	Encourage developer driven financing since road opens area to areas of planned residential. Likely requires public funding for improving existing road segment.

Table 5-6. Phase 3 Projects (2031 -2040)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
SOUTH SECTION: US 1A Park Avenue to US 1A South Main Street					
Western Service Road (South) – Local Street	\$2.4 Million	Extending north to Stay Right Concrete Company requires crossing wetlands/stream.	<ul style="list-style-type: none"> Roadway will have high truck percentage and industrial focus. Need to accommodate bikes/peds that use Bert Winston Road. 	<p>Construction will be driven by industrial development. Delays would have limited impact on US 1 corridor. North connection to Stay Right required to close access.</p> <ul style="list-style-type: none"> Construction will be driven by industrial development on either side of Bert Winston Extension. NC 56 Bypass will warrant completion of connection. 	<p>Encourage developer driven financing since primary purpose of road is access. Extension to Stay Right may require public funding to close US 1 access.</p>
US 1A Extension (South) – Local Street	\$5.2 Million	Wetlands/ stream crossing will be required to connect to US 1A.	<ul style="list-style-type: none"> Need to accommodate bikes/peds that will link Youngsville and Franklinton. Completion of this street will provide route for US 1A Park Avenue traffic without taking US 1. Alignment and lack of spacing make connection with Bert Winston intersection at US 1 potentially unsafe. 		<p>Encourage developer driven financing since primary purpose of road is access. Some public funding may be required to complete final link to NC 56 Bypass.</p>
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
NC 56 Bypass	\$40.2 Million	Major project requiring detailed environmental studies.	<ul style="list-style-type: none"> NC 56 required to divert traffic from downtown Franklinton. Southeast connection of NC 56 Bypass is required. Southwest connection held off to the next phase. Intersection connection needed at US 1A and NC 56 Bypass. Recommend changing NC 56 Bypass from Expressway to Boulevard in CTP. Interchange required with US 1. Interchange will require closing Superstreet access at least one-quarter mile north and south on US 1. Local streets to Central section need connected with interchange. 	<p>Interchange will require connections of local streets in Central section and closure of accesses to US 1 near new interchange.</p>	<p>Standard CTP process needed for funding.</p>

Table 5-6. Phase 3 Projects (2031 -2040) (Concluded)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
US 1 Freeway conversion	\$22.6 Million	Several areas do not meet a 60 MPH design speed. (See Table 2-4) for specific locations and recommendations for vertical curve/grade deficiencies.	Close access points and median breaks. This will require extension of local street in South and Central.	Access closure. Local street extensions and interchange need to be coordinated.	Standard CTP process needed for funding.
Western Backage Road	\$2.4 Million	<ul style="list-style-type: none"> • Connection to NC.56 with intersection must avoid Franklinton Reservoir critical watershed. • Extend south to NC.56 Bypass interchange. 	Bike/ped will need to be included in section.	Construction may be driven by retail development, but interchange will require local street connections.	Encourage developer driven financing since primary purpose of road is access, but may be included in NC.56 Bypass project.
Western Service Road (North)	\$5.9 Million	Intersection of NC.56 will require extensive earthwork.	Access to local residential, American Legion, and Griffin Trucks required.	Construction will be driven by access needs in northwestern section of study area.	Encourage developer driven financing since primary purpose of road is access.
Eastern Backage Road	\$3.7 Million	Extend south to NC.56 Bypass interchange.	Bike/ped will need to be included in section.	Construction may be driven by retail development, but interchange will require local street connections.	Encourage developer driven financing since primary purpose of road is access, but may be included in NC.56 Bypass project.
NORTH SECTION: US 1A North Main Street to Franklin/Vance County Line					
US 1 Superstreet: US 1A North Main St to Vance County line	\$3.6 Million	Minimal. Leftovers will require bulbouts.	<ul style="list-style-type: none"> • Phase 1 Superstreet intersection at SEHSR connection from Montgomery St to US 1 may require signal. • Superstreet will improve safety and minimize capacity issues. 	If local streets extended further than anticipated, may be possible to eliminate some dual leftovers.	Standard CTP process needed for funding.

Table 5-7. Phase 4 Projects (2041 -2050)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
SOUTH SECTION: US 1A Park Avenue to US 1A South Main Street					
Bert Winston Extension interchange	\$13.8 Million	Wetland area within interchange footprint will need mitigation.	<ul style="list-style-type: none"> Interchange structure needs to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes. 	Conversion to freeway will require close coordination of access closures, interchange construction, and freeway upgrade.	Standard CTP process needed for funding.
Upgrade US 1 to Freeway	\$6.3 Million	Several areas do not meet a 60 MPH design speed. See Table 2-4 for specific locations and recommendations for vertical curve/grade deficiencies. There are two areas that have a pronounced split in profile between the NB and SB lanes which may need to be addressed.	Increase in US 1 traffic forecast to require upgrade to freeway. Without freeway, 6-lane Superstreet required south of NC 56 Bypass.	Conversion to freeway will require close coordination of access closures, interchange construction, and freeway upgrade.	Standard CTP process needed for funding.
Bert Winston Overpass	\$12.5 Million	<ul style="list-style-type: none"> Project will include bridge crossing railroad and long span bridge crossing US 1 freeway and US 1A Extension. At-grade not possible with Bert Winston at US 1A Extension 	<ul style="list-style-type: none"> Overpass structures need to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes. 	Although included as part of US 1 freeway upgrade, this project could be delayed or not constructed if costs considered too high.	High cost of Bert Winston Overpass project may not warrant this connection.

Table 5-7. Phase 4 Projects (2041 -2050) (Continued)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
Existing NC 56 interchange	\$21.1 Million	<ul style="list-style-type: none"> Existing interchange does not meet current standards for geometric design or traffic operations. Expanded interchange will have substantial impacts, particularly in the NE quadrant. Requires local street improvements on NC 56 and to Oak Crest Lane. 	<ul style="list-style-type: none"> Interchange structure needs to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes. US 1 traffic volumes at this interchange are less than Bert Winston extension allowing it to occur later. 	<ul style="list-style-type: none"> Interchange replacement should be timed to coincide with need to replace existing bridge over US 1. Conversion to freeway will require close coordination of access closures, interchange construction, and freeway upgrade. 	Standard CTP process needed for funding.
Cheatham Street/Pocomoke Road Overpass	\$4.6 Million	Grade separation will require raising profile of Cheatham Street and Pocomoke Road.	<ul style="list-style-type: none"> Overpass structures need to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes. 	This crossover needs to be maintained without closure.	Standard CTP process needed for funding.
East-West Connector Overpass & Local Street	\$5.0 Million	Overpass will require 9% grade to cross over US 1 and tie back to existing.	<ul style="list-style-type: none"> Overpass structures need to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes (not likely). 	This connection can be provided as part of separate project to US 1 Freeway upgrade.	Standard CTP process needed for funding.
Oak Crest	\$1.6 Million	Will require improvements to existing Oak Crest in existing residential area.	Access to southwest quadrant of NC 56 interchange will require cul-de-sac.	Cul-de-sac will need to be in place prior to closing off local access for freeway	Possibly developer funded in early stages although freeway conversion may require CTP finding if not completed earlier.

Table 5-7. Phase 4 Projects (2041 -2050) (Concluded)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
NC 56 Bypass	\$32.9 Million	<ul style="list-style-type: none"> Major project requiring detailed environmental studies. 	<ul style="list-style-type: none"> Completion of southwest portion will maximize diversion of trips from NC 56. Boulevard treatment recommended. 	Can be completed separate from US 1 Freeway related efforts.	Standard CTP process needed for funding.
Western Service Road North	\$9.1 Million	<ul style="list-style-type: none"> Extension to north planned to follow back of right of way. Impacts anticipated near Mann St & Collins Rd. 	<ul style="list-style-type: none"> Bicyclists and pedestrians need to be provided for in section. 	Construction likely driven by residential development near Taylor's Creek Tree Farm.	Encourage developer driven financing since primary purpose of road is access.

Table 5-8. Phase 5 Projects (Beyond 2050)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
SOUTH SECTION: US 1A Park Avenue to US 1A South Main Street					
Western Service Road South	\$6.2 Million	<ul style="list-style-type: none"> Extension to Pocomoke will provide local connection. Alignments east of Stay Right Concrete are not feasible due to costs, grades, and wetlands. 	Bicyclists and pedestrians need to be provided for in section.	Can be completed independent of most projects.	Encourage developer driven financing since primary purpose of road is access.

Table 5-8. Phase 5 Projects (Beyond 2050) (Continued)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
CENTRAL SECTION: US 1A South Main Street to US 1A North Main Street					
Local Streets:					
1. Cedar Creek Road Extension	\$2.1 Million	<ul style="list-style-type: none"> Cedar Creek Extension needs to be planned to avoid Cemetery on US 1A. 	<ul style="list-style-type: none"> Hillsborough St. Connector could be a bicycle - pedestrian connector only if desired. 	These projects can be completed independently.	Standard CTP process needed for funding.
2. Hillsborough St to Howard Harris Connector	\$0.8 Million	<ul style="list-style-type: none"> RR overpass at Tanyard requires 12 percent grade, but feasible from construction standpoint. 	<ul style="list-style-type: none"> Cedar Creek Extension improves connection of residential to retail while avoiding NC 56. Tanyard Street RR overpass would provide mitigation for closure of Mason St railroad crossing. 		
3. RR overpass at Tanyard St Extension	\$5.0 Million				
East-West Connector	\$7.7 Million	Alignment needs to avoid Franklinton Park.	<ul style="list-style-type: none"> East-West connector provides long term alternate to Green St to access US 1A. Provides basis for grid network as Franklinton expands. 	This connection can be provided as separate project.	Developer funding may be an option as part of new residential. Standard CTP process likely needed to complete.

Table 5-8. Phase 5 Projects (Beyond 2050) (Concluded)

Project	Cost (2012 dollars)	Construction Issues	Traffic Issues	Timing Issues	Funding Issues
NORTH SECTION: US 1A North Main Street to Franklin/Vance County Line					
North Franklin County interchange	\$17.4 Million	<ul style="list-style-type: none"> Need to provide access to local streets and residences including McGhee Farms. Interchange footprint must avoid McGhee Farms property. Railroad bridge will be saved, but grade separation at US 1 will require change in horizontal and vertical alignment west of railroad bridge. Utilize at-grade connection during construction for maintenance of traffic plan. 	<ul style="list-style-type: none"> Interchange structure needs to include bicycle and pedestrian facilities for crossing over US 1. Overpass should allow for future widening to six lanes (although not likely). 	Conversion to freeway will require close coordination of access closures, interchange construction, freeway upgrade, and extension of Western Service Road – North.	Standard CTP process needed for funding.
Upgrade US 1 north of Franklinton to Freeway	\$6.3 Million	Several areas do not meet a 60 MPH design speed. See Table 2-4 for specific locations and recommendations for vertical curve/grade deficiencies.	Project will primarily be supported based on system linkage and future route continuity, not capacity.	Conversion to freeway will require close coordination of access closures, interchange construction, and freeway upgrade.	Standard CTP process needed for funding.
Western Service Road North	\$7.9 Million	Extension to north planned to follow back of right of way.	<ul style="list-style-type: none"> Bicyclists and pedestrians need to be provided for in section. Extension needs to be in place for Freeway on US 1. 	Construction likely driven by residential development near Taylor's Creek Tree Farm.	Encourage developer driven financing since primary purpose of road is access, but CTP process may be needed for final connection.

Table 5-9. Bicycle and Pedestrian Project Phasing

Project Name	Cost (2012 dollars)	Project Description	Potential Issues	Proposed Phase	Funding Issues
High Priority – Phase 1, 2, or 3					
Local Streets	Included in Local Streets Funding	All new alignment local streets will include bicycle and pedestrian accommodations.	Additional width and right-of-way likely required for each project. This is already included in estimate, however.	Varies by Roadway Phasing Plans	Ideally, local streets would be constructed with developer participation.
Bridge crossings over US 1	Included in either Local Streets or Freeway funding	All bridge crossings of US 1 will include bicycle and pedestrian accommodations.	Additional bridge width required which increases costs.	Varies by Roadway Phasing Plans	Standard CTP process needed for funding.
Infill of Downtown Streets with Bicycle & Pedestrian Improvements	\$4.0 Million Assume \$100,000 per year (\$1 million per 10 year phase)	Combination of sidewalks, paved shoulder, sharrows and other bicycle and pedestrian projects.	Right of way and narrow roadways are primary challenge.	Continuous funding in Phases 2-5.	Requires serious commitment for continuous upgrade of existing local streets.
Pedestrian Crossings of SEHSR tracks in downtown Franklinton	SEHSR	<ul style="list-style-type: none"> 3 Pedestrian Crossings of the SEHSR tracks in Downtown Franklinton: <ul style="list-style-type: none"> Hawkins St, College St, & Mason St 	<ul style="list-style-type: none"> Handicapped access is required. Bicyclists will need to walk. Tie into existing sidewalk/streets on US 1A Main Street in downtown. 	Phase 1 (2015-2020)	Funded by SEHSR.
Sidewalk & bicycle provision on College St & Chavis St	\$0.4 Million	Provide sidewalk from Food Lion, east along College, and north on Chavis to NC 56 (1.4 miles)	<ul style="list-style-type: none"> Sidewalk right of way issues will need to be studied in detail. Alternative may be provision of easements for sidewalks. 	Phase 2 (2021-2030)	Standard CTP process needed for funding.

Note: The projects shown above are exclusively composed of either exclusive Greenway projects or sidepaths being added to existing roadways. It is assumed that bicycle and pedestrian improvements related to local street projects are phased and estimated as part of the roadway project.

Table 5-9. Bicycle and Pedestrian Project Phasing (Continued)

Project Name	Cost (2012 dollars)	Project Description	Potential Issues	Proposed Phase	Funding Issues
High Priority — Phase 1, 2, or 3					
East Coast Greenway (South of Franklinton)	South \$2.5 Million	A Multi-use Greenway (north-south) along the SEHSR that may be incorporated into the East Coast Greenway (4.0 miles). It is divided into two sections: south and north of Franklinton.	Project will need to tie in with pedestrian and bicycle facilities in downtown Franklinton using existing sidewalk/streets on US 1A Main Street. Additional studies needed to determine options for crossing Tar River SEHSR DEIS includes planning study of the Greenway	South Ph. 2 (2021-2030)	No SEHSR funding available for construction. Standard CTP process needed for funding. NCDOT funding required to cross Tar River.
East Coast Greenway (North of Franklinton)	North \$1.6 Million	3 Pedestrian Crossings of the SEHSR tracks in Downtown Franklinton A Multi-use Greenway (north-south) along the SEHSR that may be incorporated into the East Coast Greenway. It is divided into two sections: south and north of Franklinton.	Project will need to tie in with pedestrian and bicycle facilities in downtown Franklinton using existing sidewalk/streets on US 1A Main Street. Additional studies needed to determine options for crossing Tar River SEHSR DEIS includes planning study of the Greenway	North Ph. 3 (2031-2040)	No SEHSR funding available for construction. Standard CTP process needed for funding. NCDOT funding required to cross Tar River.
Franklinton to Louisburg Rails to Trails Greenway - US 1A to Lane Store Rd	\$0.7 Million	Sidepath on Mason St from US 1A to abandoned railroad (1.1 miles) Greenway from sidepath to Lane Store Rd (0.5 miles)	Alternate routes available to get between US 1A & abandoned railroad Coordination required with East Coast Greenway & connections	Ph. 2 (2021-2030)	Standard CTP process needed for funding. NCDOT funding may be available since a regional rails to trails project.

Table 5-9. Bicycle and Pedestrian Project Phasing (Concluded)

Project Name	Cost (2012 dollars)	Project Description	Potential Issues	Proposed Phase	Funding Issues
HIGH PRIORITY — Phase 1, 2, or 3					
Franklin to Louisburg Rails to Trails Greenway - Lane Store Rd to Louisburg	\$2.4 Million	Greenway from side path to Lane Store Rd (5.8 miles)	Improve safety related to pedestrians and bicyclists currently using NC 56	Ph. 3 (2031-2040)	Standard CTP process needed for funding. NCDOT funding may be available since a regional rails to trail project.
Sidepath on Hicks Road and Cedar Creek	\$1.0 million	Connect US 1A south of downtown to Franklin High School (2.1 miles)	Provides safe route for students walking/ bicycling to school.	Ph. 2 (2021-2030)	Standard CTP process needed for funding.
LOWER PRIORITY — Phase 4 or 5					
Sidepaths on Long Mill Road	\$1.1 Million	Long Mill Road between NC 96 and Pocomoke Rd (2.8 miles)-	<ul style="list-style-type: none"> Ideally could be timed to overlap with upgrade or maintenance project Will serve Long Mill Elementary School. 	Undetermined, but likely Phase 4 (2041-2050).	Standard CTP process needed for funding.
Sidepaths on Pocomoke Road	\$0.8 Million	Pocomoke Road from US 1 to Long Mill Rd (2.0 miles)-	Ideally could be timed to overlap with upgrade or maintenance project	Undetermined, but likely Phase 4 (2041 - 2050).	Standard CTP process needed for funding.
North-South Greenway in eastern Franklinton	\$2.8 Million	Connects NC 56 south to Cedar Creek Rd & Franklinton High School (4.7 miles)	Would provide connectors to Peach St and Carver Street	Undetermined, but likely Phase 5 (beyond 2050).	Standard CTP process needed for funding.
Sidepath on Bert Winston Road	\$1.5 Million	Connect Bert Winston between Franklinton High School to US 1 to Long Mill Rd & Elementary School (3.8 miles)	<ul style="list-style-type: none"> Provides safe route for students walking/ bicycling to school. Construction issues on Bert Winston Rd prevent crossing grade separate crossing at US 1 until Phase 4. 	Ph. 4 (2041-2050)	Standard CTP process needed for funding.

Note: The projects shown above are exclusively composed of either exclusive Greenway projects or sidepaths being added to existing roadways. It is assumed that bicycle and pedestrian improvements related to local street projects are phased and estimated as part of the roadway project.

The other issue involves the construction of the Superstreet on US 1. It is recommended to be included as part of the SEHSR construction since intersection improvements and tie-ins are required. Upgrading to a Superstreet now would save the future investment. At the same time, it is recognized that some of the Superstreet improvements (such as at US 1A South Main Street) are not related to SEHSR so cooperative funding sources may be required.

The other issue to note is the possibility that the SEHSR would not be constructed or would be delayed. The majority of the SEHSR projects are not critical to the local road network since the projects are intended as mitigation to closing at-grade crossings. These local street SEHSR projects, however, do have future implications in terms of connections to other local streets and potential alignment shifts. Regardless of funding, however, it is anticipated that the Superstreet improvements in the South section will be required by 2020 or soon thereafter. In addition, the new Bert Winston Extension will be required although it could be pushed back to at least 2030 if the existing Bert Winston grade crossing remains in place.

5.3.2 Phase 2 – 2021-2030

Phase 2 includes an expansion of the US 1 Superstreet complemented by multiple local streets serving developments and access to isolated parcels. The Phase 2 projects are shown in orange in the Figure 5-7B Phasing diagram. The critical Phase 2 projects are shown in Table 5-5.

The completion of the Superstreet section through Franklinton is key element of this phase. If not provided, the need for a Freeway is accelerated in this section.

Except for the US 1 Superstreet section, the majority of projects in this phase are local streets envisioned as developer driven access roads. These roadway sections should be included as part of development agreements for incorporation into the overall local street plans. The objective is to have extensive portions of this network constructed and funded by developers. At a future date, it may become necessary for public funds to complete some final links, but it is not required that the entire roadway linkage be in place until a later phase.

5.3.3 Phase 3 – 2031-2040

By 2040, the critical project will be the NC 56 Bypass including the placement of an interchange on US 1 just south of Franklinton. In addition, the completion of a US 1 Superstreet is envisioned to US 1 north of Franklinton. The third component are continued extensions of the local street network including connection of the US 1A Extension between Youngsville and Franklinton as well as connection of local streets in the Central section to NC 56 Bypass. The Phase 3 projects are shown in blue in the Figure 5-7C Phasing diagram. The critical projects are shown in Table 5-6.

The construction of the NC 56 Bypass is a key element of Phase 3. If not constructed or delayed, additional access connections will be required. This would include completion of the Northeast Connector as well as possibly improving the Bert Winston Extension to hold higher volumes. The key trigger point for congestion will be the NC 56 at US 1A intersection in downtown Franklinton. With the construction of the NC 56 Bypass interchange, a freeway segment is created on US 1 for at least one-quarter mile on either side of the interchange.

The second key feature is the completion of the US 1 Superstreet to Vance County. While this could be done in an earlier phase for safety, the capacity threshold is not met until Phase 3. Also note that with a Superstreet this section of US 1 will have adequate capacity for an extended period past 2040.

The introduction of the US 1 freeway section, albeit relatively short in this phase, requires the connection of local streets in the Central section and connection of the US 1A Extension in the South section.

5.3.4 Phase 4 - 2041-2050

2050 is ten years beyond the next planned horizon of the 2040 CTP. This phase was identified assuming continued increases in traffic beyond 2040, but will need further verification as part of future CTP updates. Regardless, the key features of Phase 4 identified for the US 1 Corridor Study include the completion of a freeway through the South and Central section with the addition of the Bert Winston Extension interchange and replacement of the existing NC 56 interchange. Three grade separations are also proposed in this phase with local street connections. The Phase 4 projects are shown in green in the Figure 5-7D Phasing diagram. The critical projects are shown in Table 5-7.

As noted, the key projects in Phase 4 are the Bert Winston Road interchange and the upgrade of the existing NC 56 Bypass. In addition, the completion of the southwest section of the NC 56 Bypass will be the last major new roadway link in the area. As a result of these projects, US 1 is a four-lane freeway through the South and Central sections. The North section remains a Superstreet in Phase 4.

5.3.5 Phase 5 - Beyond 2050

This phase is intended to represent all possible long range projects for the area. It is also possible that these projects may be identified as desired in an earlier phase and included in the overall system. The key project is the completion of a four-lane freeway in the North section including a new interchange approximately 2 miles south of the Vance County line. As part of the freeway extension, the Western Service Road North must be completed for access. The

Phase 5 projects are shown in pink in the Figure 5-7E Phasing diagram. The critical Phase 5 projects are shown in Table 5-8.

The key project in Phase 5 is the completion of a freeway section through all of Franklin County. In order to complete the freeway, it is necessary to build one interchange and complete the Western Service Road North. Other local street projects have independent utility, serve various purposes, and are not required as part of a freeway upgrade.

5.3.6 Bicycle & Pedestrian Projects

A key element in the project phasing is the incremental provision of the Complete Streets concept to serve bicyclists and pedestrians in addition to the vehicular traffic. The phasing of these projects is not based on congestion thresholds, but instead it is more a systematic amount of improvements to improve safety and provide new links between major demand locations.

In order to prioritize bicycle and pedestrian projects, the list of high priority and lower priority projects from Section 5.1.5. Using this as a base, a review of approximate costs, phasing, and identification of issues were implemented. The result of this process is summarized in Table 5-9.

5.4 Funding & Cost Estimates

Cost estimates were prepared for each phase of roadway projects assuming each project identified was completed within each phase. As noted in the project identification tables, in some cases it can be expected that projects may be delayed, particularly projects that will be incrementally constructed as part of development plans. Nevertheless, Table 5-10 gives a breakdown of costs for different types of facilities. The cost estimates shown include construction costs, engineering and planning costs, and a planning-level estimate of right-of-way costs. Note that Bicycle/ Pedestrian and Transit modes are examined separately.

5.4.1 Cost Estimates by Type of Facility

The overall total cost of the projects was identified as approximately \$354.2 Million. If the NC 56 Bypass project is excluded (including the US 1/ NC 56 Bypass interchange), the overall cost of the identified projects is \$258.5 Million. Note that all costs provided in this report are estimated for 2012 costs.

Based on a review of Table 5-10, the following items were noted as to spending on specific types of facilities:

- Local streets and roadways account for 29.5 percent of costs with costs extended throughout all five phases. Note that this excludes local roads serving a more regional focus.

Table 5-10. Cost Estimates broken down by Phase and Type of Facility
(shown in millions of dollars)

Type of Facility	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL	Percent by Facility Type
Local Streets/ Roads	\$27.7	\$27.3	\$19.6	\$9.3	\$22.1	\$106.0	29.5%
US-1 Superstreet	\$7.6	\$6.0	\$3.6	\$0.0	\$0.0	\$17.2	4.8%
US-1 Freeway Conversion	\$0.0	\$0.0	\$3.4	\$64.6	\$23.6	\$91.6	25.5%
NC 56 Bypass	\$0.0	\$0.0	\$59.5	\$32.9	\$0.0	\$92.4	25.7%
Regional Roads - Local	\$11.9	\$13.8	\$0.0	\$0.0	\$7.7	\$33.4	9.3%
Bicycle/ Pedestrians	\$0.0	\$5.6	\$5.0	\$4.4	\$3.8	\$18.8	5.2%
TOTAL	\$47.2	\$52.7	\$91.1	\$111.2	\$57.2	\$359.4	100.0%
Percent of Total Costs by Phase	13.1%	14.7%	25.3%	30.9%	15.9%	100.0%	

Note: All costs are based on year 2012 cost estimates.

- The Superstreet conversion itself is estimated at \$17.2 million and accounts for only 4.8 percent of total costs.
- The Freeway conversion cost is estimated at \$91.6 million excluding \$21.1 million for the NC 56 Bypass interchange. This accounts for 25.5 percent of total costs.
- The most significant project in the area is the NC 56 Bypass project. It is estimated to be \$92.4 million or 25.7 percent of costs including \$21.1 million for the NC 56 Bypass interchange.
- Three local regional roads are included – the Southeast Connector, the Northeast Connector, and the East-West Connector. These projects total \$33.4 million.
- Bicycle and pedestrian facilities account for 5.2 percent of total costs with an estimated cost of \$18.8 million. Funding generally ranges from \$4 million to \$6 million every 10 years. This does not include any portion of the local street projects since the bicycle and pedestrian elements of these projects are included in the local street costs.
- Phase 3 (2031-2040) and Phase 4 (2041-2050) are the periods with the highest percentage of project spending. During these periods it is anticipated that the NC 56 Bypass is built

and three interchanges are constructed on US 1 (NC 56 Bypass, Bert Winston Extension, and NC 56).

5.4.2 Funding Sources & Options

The Phase II study envisioned using multiple funding sources to implement the corridor improvements. In the first phase, a critical funding source is the Southeast High Speed Rail (SEHSR) program commitments to the local roadway network. In addition, for the new local street sections, particularly those parallel to US 1, partnerships with private developers to build and construct access roads has been identified as a potential funding source. Finally, public funding has been anticipated for the multi-modal projects recommended in the Phase II study. These potential funding options are described next.

5.4.2.1 NC Capital Area MPO

The Capital Area MPO (CAMPO) receives transportation planning funding from Federal, State and Local agencies. Because of CAMPO's regional planning role, eighty percent of the funding comes from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The remaining twenty percent is provided by local jurisdictions who are members of the MPO.

- The two principal FWHA funds used by CAMPO are the Section 104(f) – Metropolitan Planning (PL) funds and Surface Transportation Program-Direct Attributable (STP-DA) funds. In addition, CAMPO manages the following funding programs:
- FTA Funds for Section 5303 and 5307 planning funds received by the MPO's transit operators;
- Congestion Mitigation Air Quality (CMAQ) funds; and
- State transportation improvement funds from NCDOT.

Overall, CAMPO will take the lead in identifying appropriate funding sources for a majority of the recommended improvement projects along the US 1 corridor. Some projects are likely to be undertaken through the local government capital improvement program (CIP) funding. The local road network may be constructed as an incidental portion of major improvements to US 1, or could be constructed using local or developer-provided funds. CAMPO's STP-DA funds are available for use by member governments for bicycle, pedestrian, transit, and some roadway projects. These funds are administered competitively through the MPO's Locally Administered Projects Program (LAPP).

5.4.2.2 *Southeast High Speed Rail*

The SEHSR program is expected to provide funding for implementation of several projects in the US 1 corridor plan. These funds are a combination of state and federal funding authorized under the High Speed Rail program. Ultimately, this will be funded as part of a combined Virginia- North Carolina joint program.

5.4.2.3 *Private Developer*

The Traffic Impact Analysis (TIA) ordinance of local governments along the US 1 corridor should be utilized in identifying opportunities for developer funded improvements. Future development proposals in the Phase II study area will need to be evaluated against the US 1 corridor plan to look for opportunities to advance any intersection modifications; frontage, backage and collector street construction; and bicycle and pedestrian facility improvements near proposed development sites.

In addition, the US 1 Council of Planning should look for opportunities for negotiated contributions from larger developers toward any larger project such as the Franklinton Multimodal center/Park-and-Ride lot. It is likely that a majority of pedestrian improvements such as sidewalks will be constructed by private developers as development occurs in the study area.

5.4.2.4 *NCDOT Initiative*

A majority of the US 1 highway projects will be funded through the NCDOT's funds, a majority of which comes from the Highway Trust Fund. The projects will be prioritized as part of the NCDOT's TIP funding process. A few projects can be funded through competitive grant programs like the state transportation enhancement program, which requires a local match. The multimodal (sidewalks, multiuse paths, and pedestrian facilities) projects may be eligible for these funding grants, which would need to be included in the TIP.

5.4.2.5 *Other Sources*

Local governments can apply for many grants for transportation projects. However, in order to qualify for federal grants, projects will need to include in the CAMPO's LRTP and MTIP. Other grant opportunities include: 1) HUD Community Development Block Grant (CDBG) funding for infrastructure, 2) Sustainable Communities grants from HUD, EPA and USDOT including TIGER grants, and 3) the Powell Bill from NCDOT primarily intended for maintenance type projects.

Smaller non-governmental grant opportunities are available for alternate modes projects such as bicycle and pedestrian projects (e.g., Robert Wood Johnson Foundation grants, Centers for Disease Control active living grants). Note that under specific circumstances, NCDOT's Complete Streets philosophy can be applied to maintenance projects with proper planning and

coordination. This assumes that the improvements can be done without additional right-of-way, and are limited to less expensive improvements such as alternative striping patterns or shoulder widening.

5.4.3 Cost Estimates by Potential Funding Sources

In order to quantify estimated costs required as part of the long term CTP development process, a breakdown of the potential funding mechanisms has been identified in Table 5-11. Note that the Public Funding has been split into four project types recognizing that different revenue sources may be required for each project types.

Table 5-11. Cost Estimates broken down by Phase and Potential Funding Sources (shown in millions of dollars)

Potential Funding Sources	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL	Percent by Funding Source
South East High Speed Rail	\$38.5	\$0.0	\$0.0	\$0.0	\$0.0	\$38.5	10.7%
Private Development	\$0.0	\$38.7	\$19.6	\$9.0	\$10.1	\$77.4	21.5%
Public - US-1 Superstreet	\$2.2	\$6.0	\$3.6	\$0.0	\$0.0	\$11.8	3.3%
Public - US-1 Freeway Conversion	\$0.0	\$0.0	\$3.4	\$40.1	\$23.6	\$67.1	18.7%
Public – Local Streets required for US 1 Access with Freeway	\$2.3	\$2.4	\$0.0	\$24.8	\$10.8	\$40.3	11.2%
Public - Regional Roads – Local	\$4.2	\$0.0	\$0.0	\$0.0	\$8.9	\$13.1	3.6%
Public - NC 56 Bypass	\$0.0	\$0.0	\$59.5	\$32.9	\$0.0	\$92.4	25.7%
Public - Bicycle & Pedestrian	\$0.0	\$5.6	\$5.0	\$4.4	\$3.8	\$18.8	5.2%
TOTAL	\$47.2	\$52.7	\$91.1	\$111.2	\$57.2	\$359.4	100.0%
Percent of Total Costs by Phase	13.1%	14.7%	25.3%	30.9%	15.9%	100.0%	

Note: All costs are based on year 2012 cost estimates.

Based on a review of Table 5-11, the following items were noted regarding potential sources of funding:

- The SEHSR has been identified as potentially providing up to \$38.5 million for grade separations on roadways, local street connections, and some superstreet intersections on US 1. Railroad realignment and track reconstruction is not included in this estimate. It

is assumed that the majority of these funds would be constructed in Phase 1 (2015-2020). Overall, this level of funding would contribute approximately 10.7 percent.

- Private development is being viewed as potential funding for sections of the local street network providing access and connectivity to new development. The estimated maximum input would be \$77.4 million or 21.5 percent of overall costs. Although the largest portion is identified in Phase 2 (2021-2030), the exact timing for these projects may progress slower (or faster) depending upon economic growth. It is also anticipated that public funding may be required for the construction of final linkage driven either by environmental issues and costs (such as connecting two streets on either side of a wetlands or the improvement of an existing road). Nevertheless, there is strong potential for some substantial contributions from private sources.
- Projects identified as likely requiring public funding include US 1 improvements, the NC 56 Bypass, some local streets, and bicycle/pedestrian projects. These have been broken into project types to reflect alternative funding programs that may be available. Overall, public funding is estimated to be \$243.5 million or 67.7 percent of the total costs identified for the corridor improvements. Note that this does not include public funding that is classified as SEHSR funding.
- Public Funds for the Superstreet conversion would be \$11.8 million reflecting 3.3 percent of total costs. Note that this assumes that the SEHSR is contributing \$5.4 million due to the intersection revisions at Bert Winston and Bert Winston extension as well as in northern Franklin County at the connection to Montgomery Street.
- Public funds for the Freeway conversion cost is estimated at \$67.1 million. This assumes that the \$21.1 million for the NC 56 Bypass interchange is part of the NC 56 Bypass cost (since NC 56 would likely be constructed sooner). This accounts for 25.7 percent of total costs.
- The most significant project in the area is the NC 56 Bypass project. It is estimated to be \$92.4 million or 25.7 percent of costs including \$21.1 million for the NC 56 Bypass interchange.
- Three local regional roads are included – the Southeast Connector, the Northeast Connector, and the East-West Connector. These projects total \$33.4 million. It is assumed that roughly 50 percent of the Northeast Connector and East-West Connector may be funded by private sources. The Southeast Connector may include supplemental funding from the SEHSR related to the Bert Winston Extension.

- Bicycle and pedestrian facilities account for 5.2 percent of the total costs which amounts to \$18.8 million.
- Phase 3 (2031-2040) and Phase 4 (2041-2050) are the periods with the highest percentage of project spending. During these periods it is anticipated that the NC 56 Bypass is built and three interchanges are constructed on US 1 (NC 56 Bypass, Bert Winston Extension, and NC 56).
- In Phase 5, a Tanyard Street connection is included to provide a replacement for the Mason Street railroad crossing that is proposed for closing as part of the SEHSR. Although this is shown in Phase 5, the strong desire of the community would be that this would be included in Phase 1 as part of the SEHSR rail improvements. At the same time, it is understood that there may be federal restriction as to whether funding would be available for this project. The exact timing for this \$5.2 million project still needs to be determined as part of the SEHSR project process.