FEASIBILITY STUDY

Thomasville
Railroad / Highway Grade Separation
SR 2051 (Unity Street) over Norfolk Southern Railroad
Davidson County
U-3335

Prepared by
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Date

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I. General Description

This feasibility study describes a proposed railroad/highway grade separation in Thomasville, Davidson County. It is proposed to raise the grade of SR 2051 (Unity St.) to carry the roadway over the Norfolk Southern Railway. The roadway and the railroad currently intersect at grade. The project location is shown on Figure 1 and a design sketch of the proposed improvements is shown as Figure 2. It is also proposed to close the at-grade railroad crossings at College Street and Turner Street, as shown on Figure 3. The new structure will have a total deck width of 45 feet (13.7 m), including a 5-foot (1.5-m) wide sidewalk. The bridge will be approximately 140 feet (43.2 m) in length. The cross-section for both approaches to the new structure will be a three-lane curb and gutter section, 40 feet (12.3 m) wide from face-to-face of curbs with berms 8 feet (2.4 m) wide. No residential or commercial relocatees are anticipated due to this project. The total cost of the project including construction and right-of-way is estimated to be $ 1,490,000.

This study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including costs, and identify potential problems that may require consideration in the planning and design phases.

II. Need for Project

The purpose of this project is to provide improved east-west access for western Thomasville. Unity Street is designated in the High Point Urban Area Thoroughfare Plan as a major thoroughfare. The North Carolina Functional Classification lists Unity Street as a minor arterial.

This project was requested by the High Point TAC and is supported by the Public Transportation and Rail Division of the North Carolina Department of Transportation. The railroad at this location is part of the Raleigh-to-Charlotte corridor that has been designated as a high-speed corridor by the Public Transportation and Rail Division.

Development on Unity Street in the immediate project area is of mixed use, with two commercial properties located close to the existing crossing. Carlisle Plastics is located to the east of the railway on the south side of Unity Street. Fox Apparel is located on the south side of Unity Street on the west side of the tracks. There is one multi-family residence and several single family residences that are also located west of the railway along both sides of the street. There is no development on the north side of Unity Street in the immediate vicinity of the project.

Unity Street is a three-lane, two-way facility that is 36 feet (11.4 m) wide from face-to-face of the existing curbs. The three-lane section provides one travel lane in each direction of travel, and a two-way, center turn lane. The existing right-of-way on Unity Street is 50 feet (15.4 m) wide. There are negative grades on both Unity Street approaches to the railroad.

Currently there are approximately 22 trains per day passing the Unity Street crossing at an average speed of 35 mph. The crossing is currently protected with gates, flashing beacons and bells. There are two tracks at this location. The exposure index for this crossing is estimated to be approximately 217,800. A value of 30,000 or greater is considered a warrant for a grade separation structure.

The 1994 Average Daily Traffic (ADT) on Unity Street is estimated to be 4770 vehicles per day (vpd). For the design year (2015), the estimated traffic volume on Unity Street is 9900 vpd. Truck traffic is estimated to be 15% of daily traffic.

The Level Of Service (LOS) on Unity Street, based on 1994 traffic volumes, and not including delays due to trains, is estimated to be level C. In the 2015 design year, and with the proposed grade separation, the LOS is estimated to be level D, and approaching level E. An alternative structure width was studied which will provide a LOS of A through the design year. This structure is discussed further on page 3.

III. Recommendations

It is recommended to close the at-grade railroad/highway grade crossing on Unity Street and construct a railroad/highway grade separation, raising the grade of Unity Street to carry the roadway over the Norfolk Southern Railway. It is also recommended to close the at-grade crossings at Turner Street and College Street in accordance with the Thomasville Crossing Elimination Program (see Figure 3 for locations).

The west approach to the grade separation will begin at a point on Unity Street approximately 450 feet (138.9 m) west of the railroad. The eastern approach will begin at a point on Unity Street approximately 550 feet (169.7 m) east of the railroad. The structure will have a total deck width of 45 feet (13.7 m), including a 5-foot (1.5-m) wide sidewalk. The bridge will be approximately 140 feet (43.2 m) in length. The cross-section for both approaches to the new structure will be a three-lane curb and gutter section, 40 feet (12.3 m) wide from face-to-face of curbs with berms 8 feet (2.4 m) wide.

No residences or business are expected to be relocated due to the project. The project will eliminate the existing driveway into Carlisle Plastics closest to the existing crossing. The driveway into Fox Apparel will also be relocated. All other driveways will be accommodated by the project.

The total cost is as follows:

Construction	$ 1,150,000
Right-of-way	$ 340,000
Total Cost	$ 1,490,000

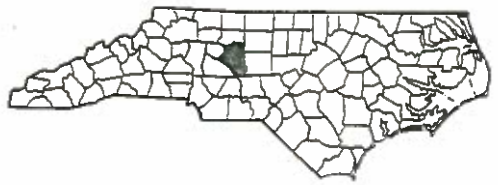
IV. Other Comments

An alternative structure width of 57 feet (17.4 m) was studied and costed. This width can ultimately provide two travel lanes in each direction, and a 5-foot (1.5-m) wide sidewalk on one side. This would allow, in or near the design year, for Unity Street to be widened to a 5-lane section, without widening the structure. This structure is estimated to cost approximately $120,000 more than the proposed structure, and will result in a total project cost of $1,610,000.

An environmental screening was not conducted for this study.

No special accommodation for bicycles is recommended on this project.

It is recommended that the City of Thomasville, through the project municipal agreement, be responsible for closing the at-grade crossings at Unity Street, College Street and Turner Street / Liberty Drive.



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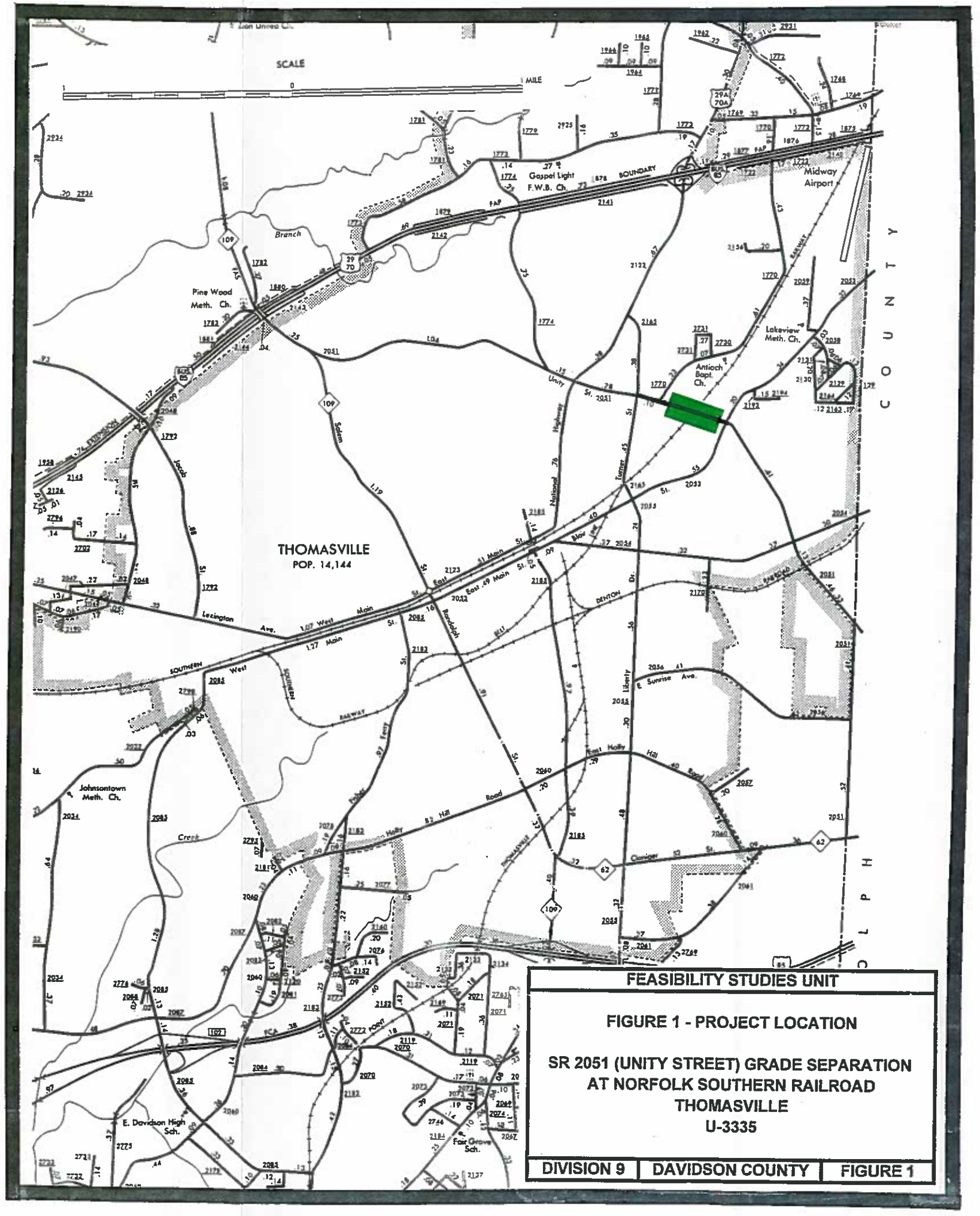
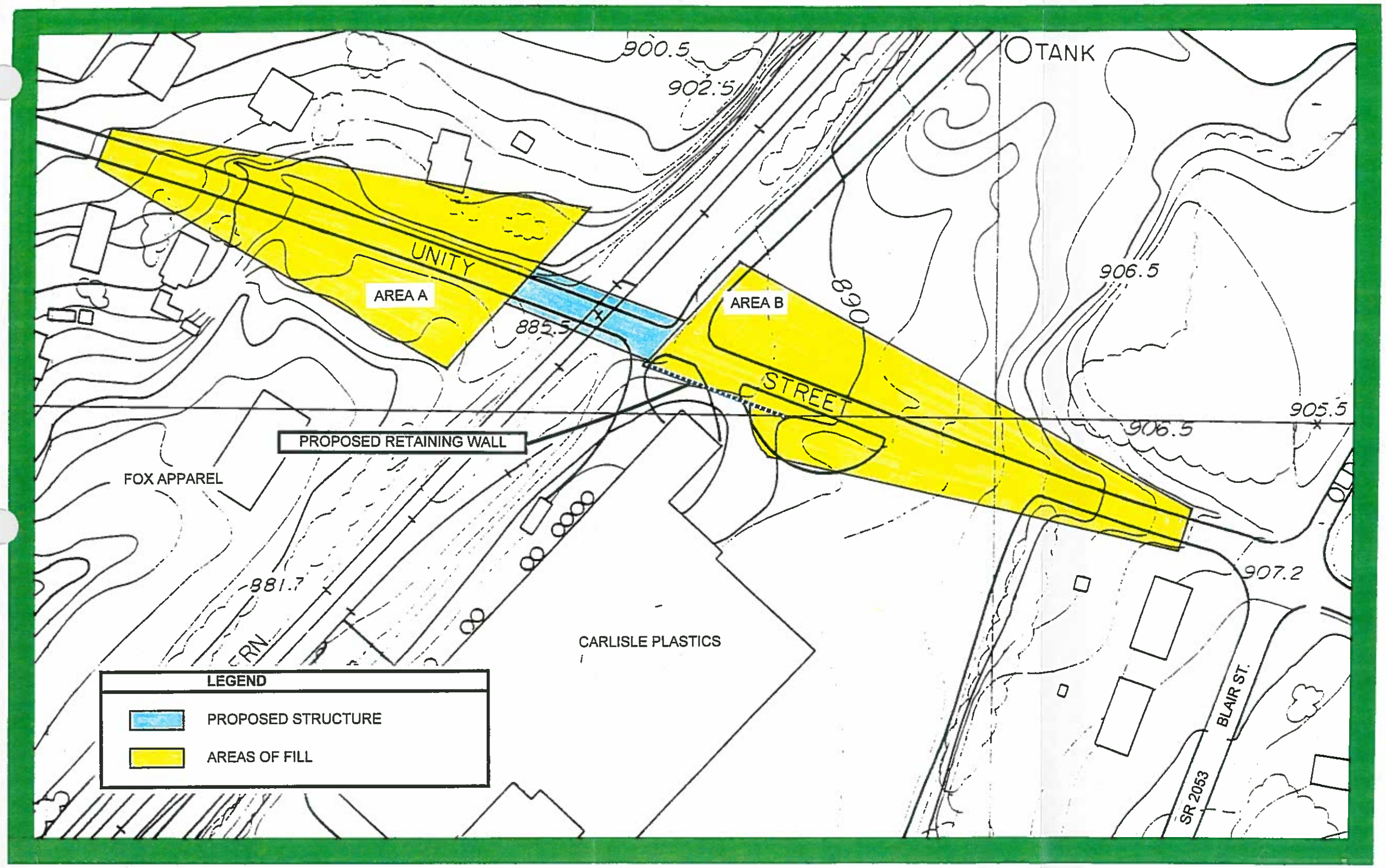


FEASIBILITY STUDIES UNIT

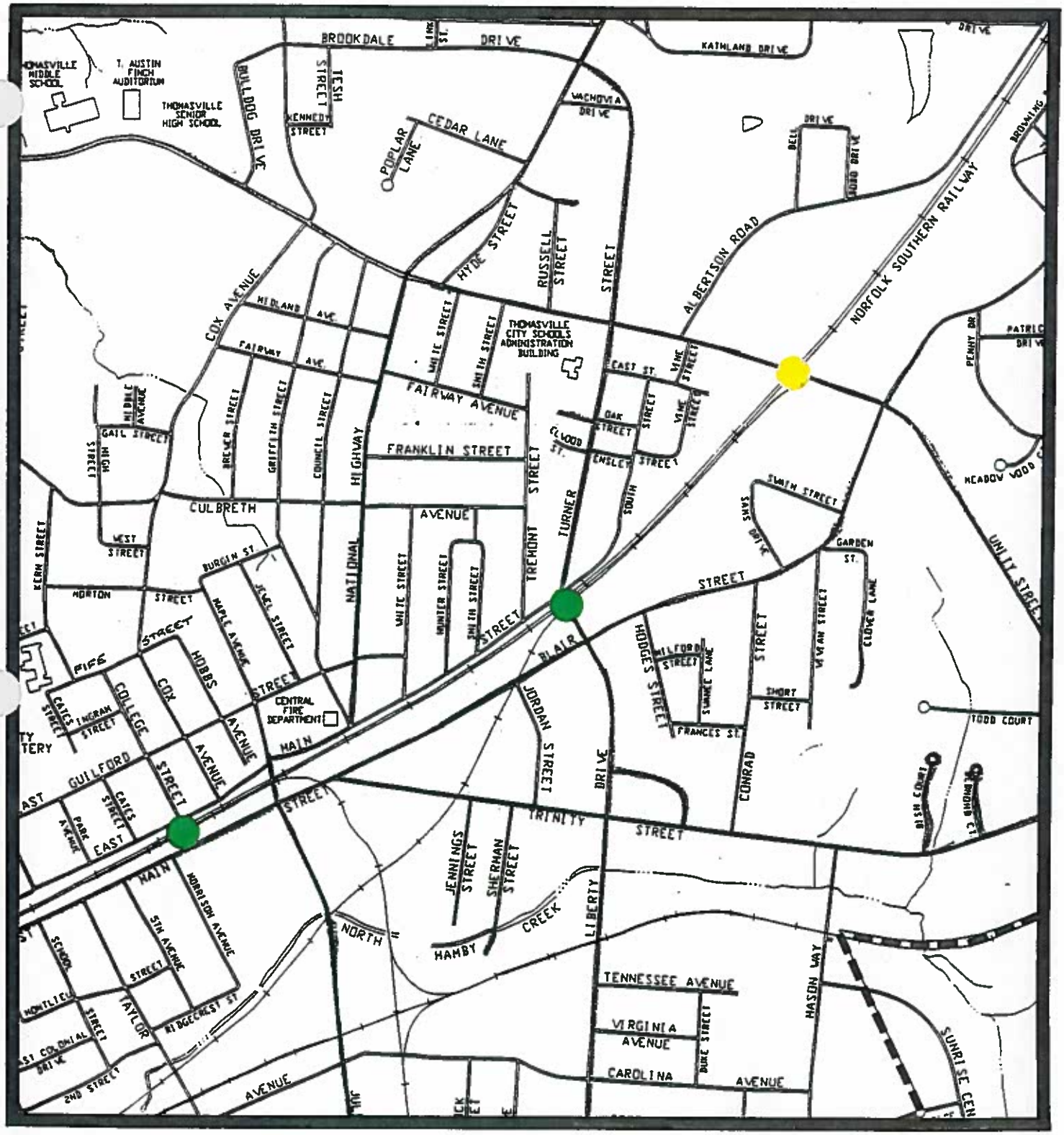
FIGURE 1 - PROJECT LOCATION

SR 2051 (UNITY STREET) GRADE SEPARATION AT NORFOLK SOUTHERN RAILROAD THOMASVILLE U-3335

DIVISION 9	DAVIDSON COUNTY	FIGURE 1



FEASIBILITY STUDIES UNIT		
FIGURE 2 - DESIGN SKETCH SR 2051 (UNITY STREET) GRADE SEPARATION AT NORFOLK SOUTHERN RAILROAD DAVIDSON COUNTY U-3335		
DIVISION 9	1" = 100'	FIGURE 2



LEGEND

- Proposed Grade Crossing Removal
- Proposed Grade Crossing Removal & Grade Separation

FEASIBILITY STUDIES UNIT

FIGURE 3

LOCATION OF PROPOSED AT-GRADE RAILROAD CROSSING REMOVALS DAVIDSON COUNTY U-3335

DIVISION 9	1" = 1000'	FIGURE 3