

# **Holcomb Bridge Road Railroad Crossing Intersection Improvement**

## **Traffic Study**

### **Existing Conditions, Findings, Alternatives and Recommendations**

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**Prepared For:  
City of Norcross, Georgia**

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## **1.0 Introduction**

### **1.1 Purpose of this report**

The purpose of this report is to document the findings of a traffic engineering study of the Holcomb Bridge Road railroad crossing. The study identifies the traffic and safety problems of the at-grade railroad crossing and provides options for its relocation and/or reconstruction. See Figure 1: Project Location Map.

### **1.2 Overview of the report**

This report is separated into five primary chapters: Existing Conditions, Public Involvement, Description of Traffic Control Alternatives, Results of the Public Survey and Conclusions. The Existing Conditions chapter (2) presents information on traffic counts, pedestrian traffic and crash statistics. The existing conditions section presents traffic and pedestrian patterns in the Central Business District (CBD). Crash statistics were obtained from Georgia Department of Transportation and are discussed in detailed. The last section of the Existing Conditions chapter identifies the traffic problems relating to the reported information contained in the previous sections.

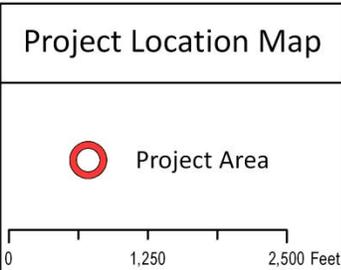
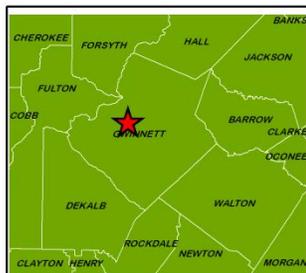
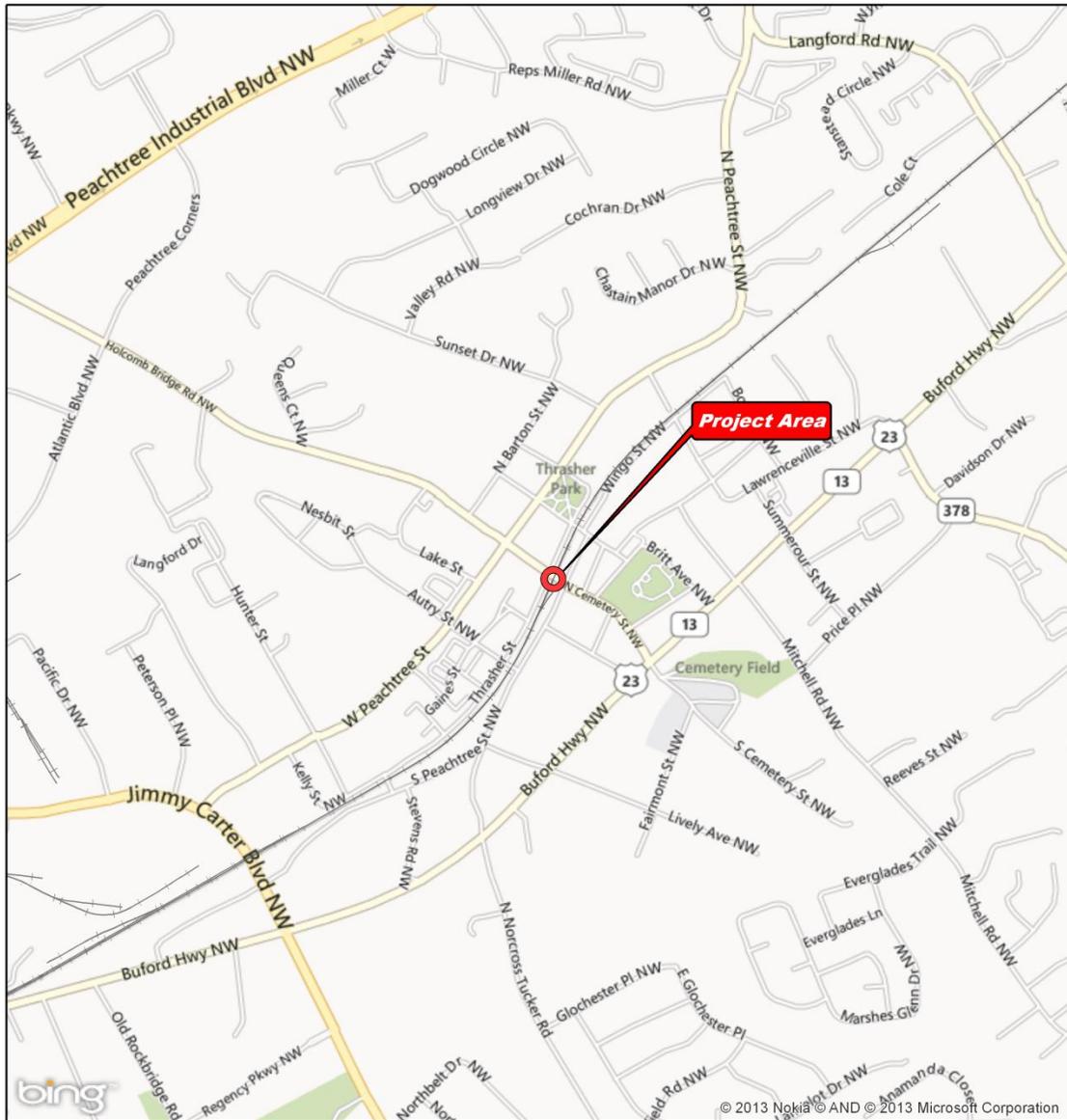
Chapter 3 of the report describes the public involvement process used in determining the most supported solution to the traffic problems identified.

Chapter 4 of the report describes the traffic control alternatives that were considered.

Chapter 5 provides the results of the public survey taken to determine how much public support is there for different alternatives.

The last chapter (Chapter 6) of the report contains the conclusions and summarizes the key traffic findings and the proposed preferred alternative.

Figure 1: Project Location Map



Holcomb Bridge Road  
 Railroad Intersection  
 Improvement  
 Norcross, GA



## **2.0 Existing Conditions**

### **2.1 Background Information**

This project evolved from two previous studies conducted by the Atlanta Regional Commission (ARC). The ARC's Livable Centers Initiative (LCI) study completed in August 2012 and the 2013 Norcross Town Center LCI Supplemental Study identified three possible options to improving the railroad crossings in Norcross. ARC has also funded this supplemental study with the main emphasis on the improvement of the Holcomb Bridge Road railroad crossing.

### **2.2 Traffic Counts**

Bi-directional daily traffic volumes and intersection turning movements were collected in September 2013 in the CBD of Norcross. Truck classification counts were also collected to determine the truck percentages in the CBD area. Currently, trucks are prohibited in the City and in particular, prohibited from the use of the Holcomb Bridge Road railroad crossing. The truck percentage on Holcomb Bridge Road was measured as being 4% with 3% single-unit trucks and 1% heavy trucks. The percent trucks on roadways in the study area are contained in Appendix A.

Figure 2 displays the daily two-way traffic volumes in the CBD. Figure 3 displays the AM and PM peak hour traffic patterns that were identified from the intersection turning movements. All of the traffic counts are contained in Appendix A.

### **2.3 Pedestrian Traffic**

The pedestrian traffic was counted at all of the CBD intersections. Figure 4 displays the major pedestrian travel patterns that were identified from the pedestrian counts taken.

### **2.4 Crash Data**

The most recent available crash data was obtained from the GDOT for the intersection of Holcomb Bridge Road at Thrasher Street. The intersection of Holcomb Bridge Road at Thrasher Street had four crashes in 2012. These four crashes are shown in a collision diagram in Appendix A. Three of the angle collisions were between a northbound vehicle on Thrasher Street and an eastbound vehicle on Holcomb Bridge Road. The fourth collision was a sideswipe of a parked vehicle on southbound Thrasher Street.

One factor that could be contributing to the angle collisions at the intersection of Holcomb Bridge Road at Thrasher Street is the restricted sight distance for vehicles looking left on northbound Thrasher Street created by the elevated railroad crossing. Northbound vehicles on Thrasher Street that are focused on the limited visual gaps in traffic traveling over the railroad track, fail to yield to the vehicles on Holcomb Bridge Road eastbound.

Another factor that could contribute to the angle collisions is the traffic control. Three-way stop controlled intersections can create confusion relating to which vehicle has the right-of-way.

Figure 2: Daily Traffic Volumes

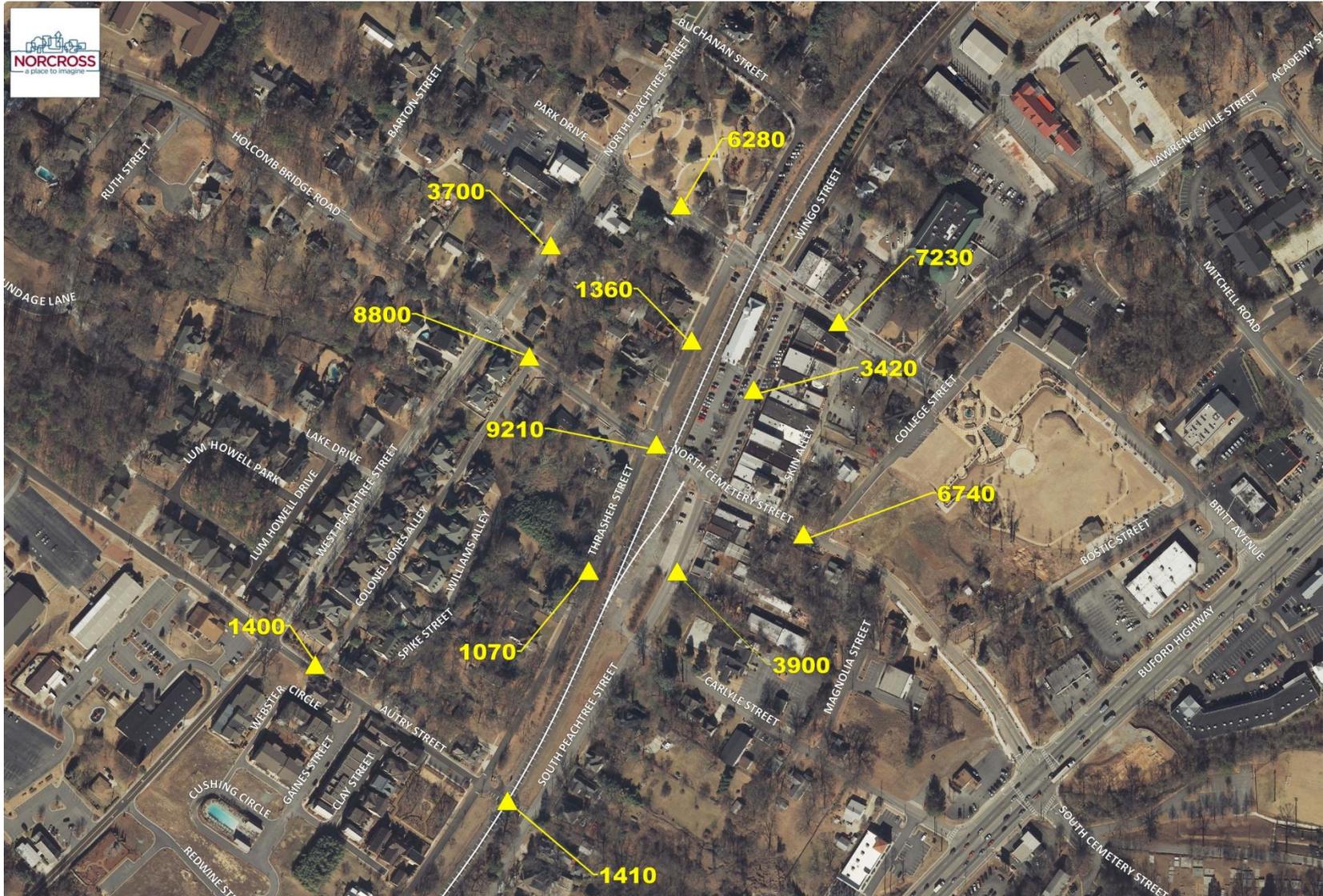


Figure 3: AM and PM Peak Hour Traffic Patterns

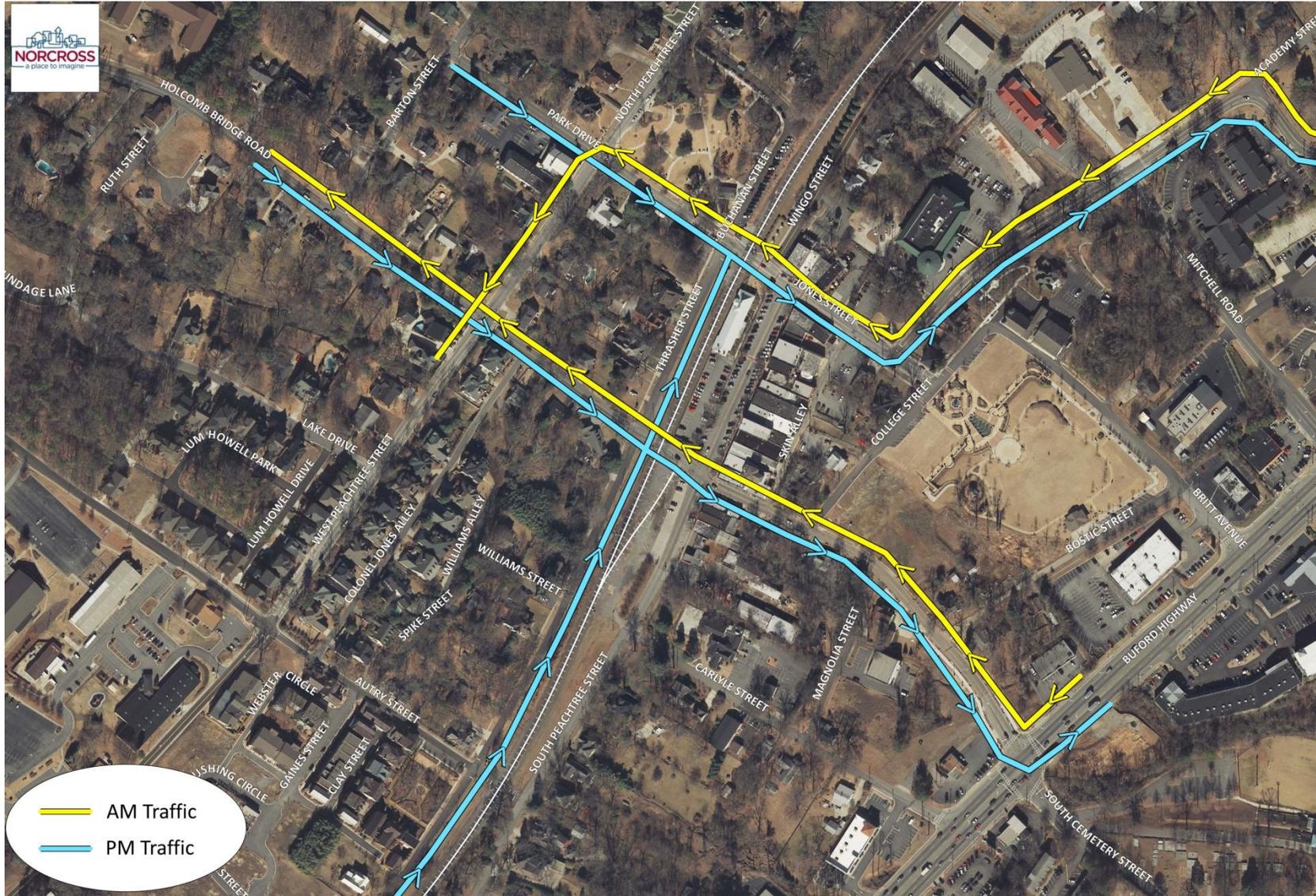


Figure 4: Major Pedestrian Travel Patterns



There were no vehicular-train crashes in 2012; however on November 26, 2013, a large truck was hung on the railroad track at the Holcomb Bridge Road crossing. Notification to Norfolk-Southern was made but it was not in time to stop a train from colliding with the truck. A train derailment occurred and the crash resulted in a considerable amount of property damage to the train, vehicles and surrounding property. The City of Norcross police have reported several incidents where heavy trucks that are prohibited from using the crossing, attempt to cross and are hung on the track because of the vertical grade.

## **2.5 Identification of Traffic Problems and Objectives**

Observations, discussions with stakeholders and the City resulted in the identification of traffic and safety problems.

1. The steep grade at the railroad crossing causes trucks to become hung up on the railroad tracks potentially resulting in train-truck crashes.
2. The railroad crossing grade creates a restricted sight distance for vehicles on Thrasher Street, which is a contributing factor to angle collisions on Holcomb Bridge Road.
3. The railroad crossing grade creates a restricted sight distance for pedestrians trying to cross Holcomb Bridge Road.
4. The railroad crossing surface makes it difficult for pedestrians with strollers or wheelchairs to cross the track.
5. There are no pedestrian sidewalks along Holcomb Bridge Road connecting Thrasher Street to South Peachtree Street.
6. Traffic flow is slowed by the vertical grade and surface of the railroad crossing track.
7. The scenic view of the CBD is obstructed from eastbound approaching traffic on Holcomb Bridge Road by the steep grade of the railroad crossing.

## **3.0 Public Involvement**

The Holcomb Bridge Road railroad crossing is an integral part of the CBD of Norcross. Changes to this crossing can impact businesses and residences of Norcross. Therefore, public involvement is an important part of this study.

An outline of the public involvement process was established during the kick-off meeting held on August 29, 2013 at the City of Norcross (see minutes of the meeting in Appendix B). A stakeholders group of nine civic and business leaders was established from the list below.

1. Norfolk-Southern Representative
2. Downtown Development Authority
3. Merchants of Downtown
4. Councilman representative
5. City of Norcross
6. Homebuilders Representative
7. Norcross Police
8. RockTenn
9. Bike & Pedestrian Interest

The first of two stakeholder meetings was held on September 26, 2013 (see minutes of meeting in Appendix B). The stakeholders discussed the objectives of the study, as shown below:

- Pedestrian safety
- Holcomb Bridge Road as gateway to downtown
- Improve traffic flow
- Solution should not be a bypass to downtown; it is not good for the economy of CBD
- Solution cannot incorporate a 4-way stop to keep the railroad crossing clear of vehicles at all times.
- Reduce traffic congestion
- Bike and pedestrian accommodations

The stakeholders were presented with the three LCI options and three other alternatives that varied from relocation of the railroad crossing to reconstruction of the existing crossing. The stakeholders decided that only two alternatives would be viable alternatives: the no-build alternative and the “build” alternative that would include the raising of the road elevation on Holcomb Bridge Road west of the railroad crossing and both approaches of Thrasher Street.

The stakeholders decided that different types of traffic control could be proposed to the public that would each include the build alternative to determine if the public would support a change in traffic operations at the intersection of Holcomb Bridge Road at Thrasher Street. These alternatives are described in detail in the next chapter.

A public meeting was held on October 29, 2013 (see minutes of the meeting in Appendix B). A public survey of the alternatives was administered at the public meeting and placed on the Norcross website until November 12, 2014. The survey was used to gauge support for the build or no-build alternatives and to determine if there is public support for a change in traffic control. The results of the survey are summarized in Chapter 5.

A second stakeholders meeting was held on November 20, 2013 (see minutes of the meeting in Appendix B). The results of the public survey and additional information concerning the property impacts of the build alternative were presented at the meeting. Project cost estimates of the preferred alternative were also provided.

## **4.0 Description of Alternatives**

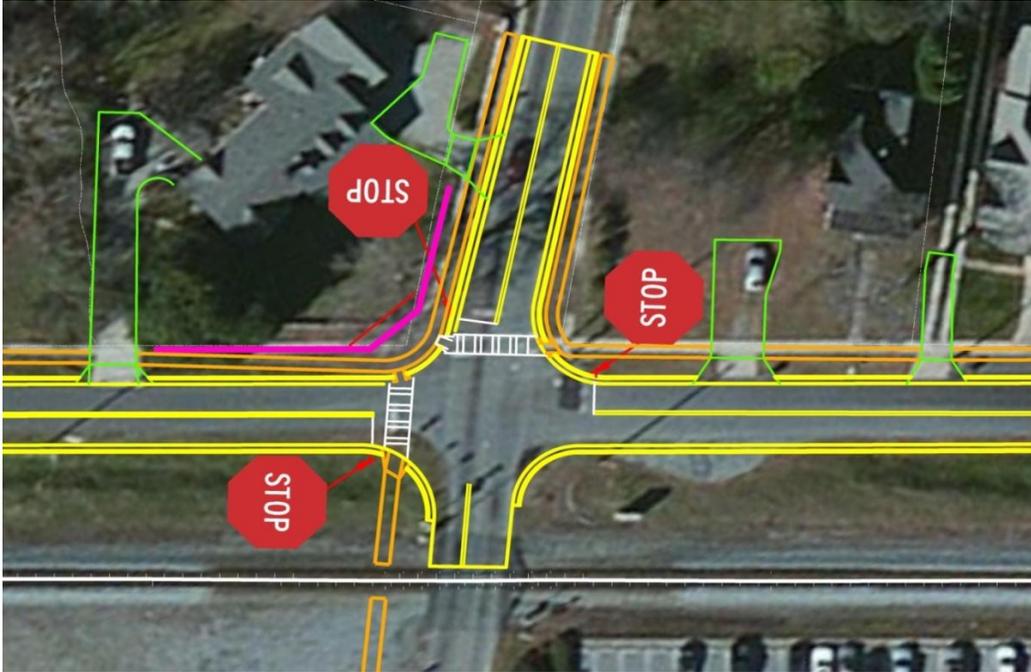
### **4.1 Alternatives Considered**

One build alternative was considered to address the identified traffic problems at the Holcomb Bridge Road railroad crossing. This alternative would raise the elevation of Holcomb Bridge Road and Thrasher Street to match the elevation of the railroad crossing. The alternative would also include construction of a sidewalk along Holcomb Bridge Road from Thrasher Street to South Peachtree Street. This build alternative was compared to the no-build alternative. Six traffic control alternatives were considered with the build alternative as graphically shown in the following section.

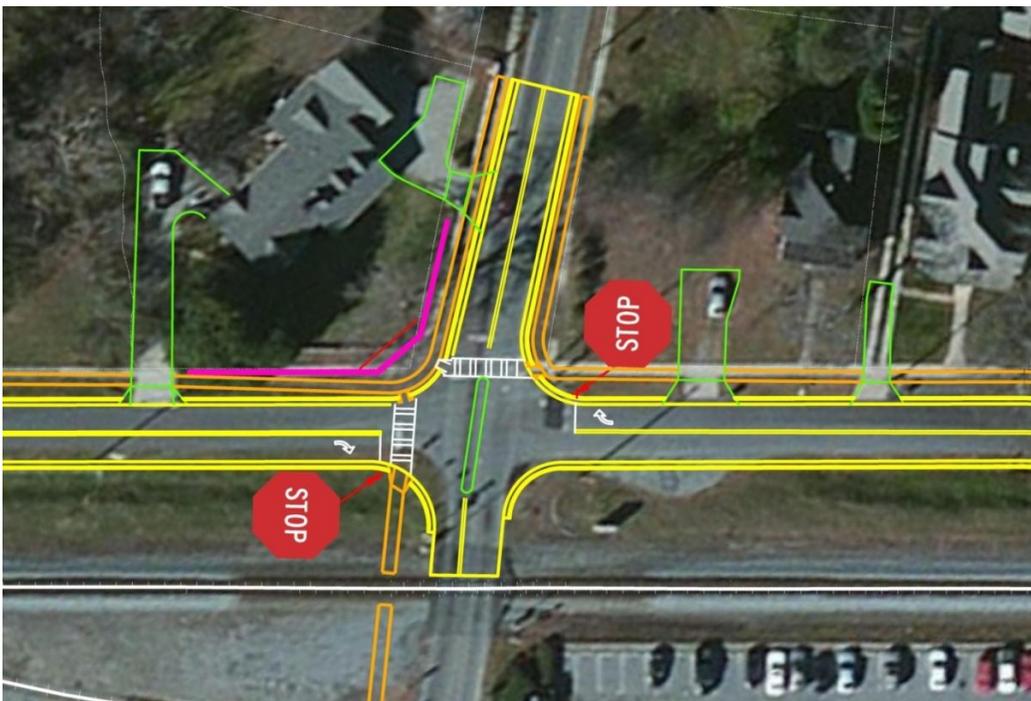
## 4.2 Traffic Control Alternatives

Alternatives to Traffic Control Changes at Holcomb Bridge Road and Thrasher Street with the Build Alternative.

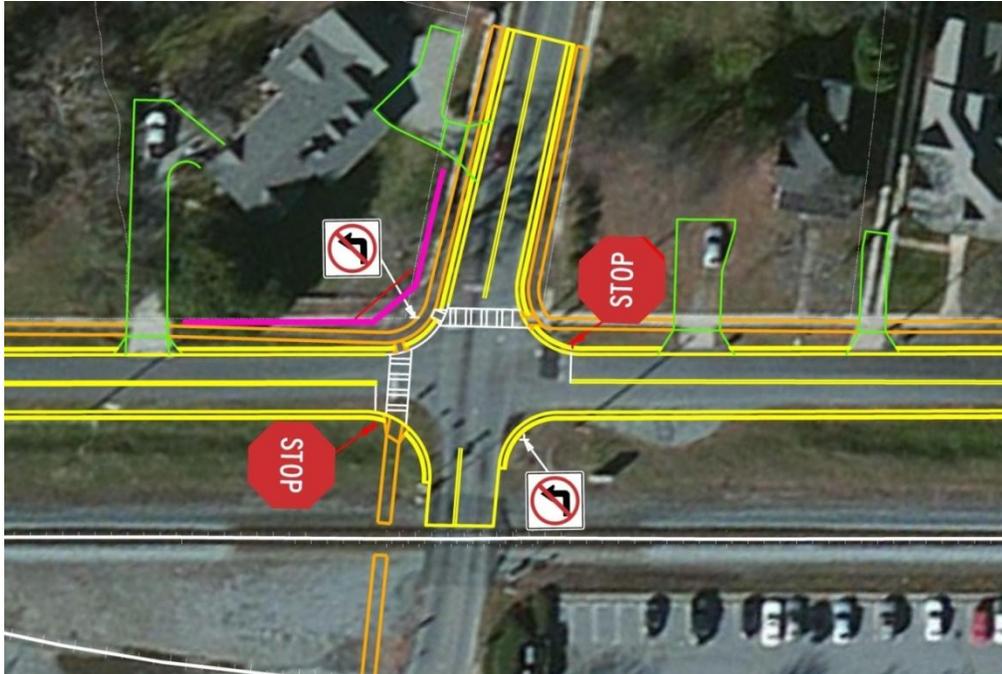
1. No changes – Existing 3-way Stop Control



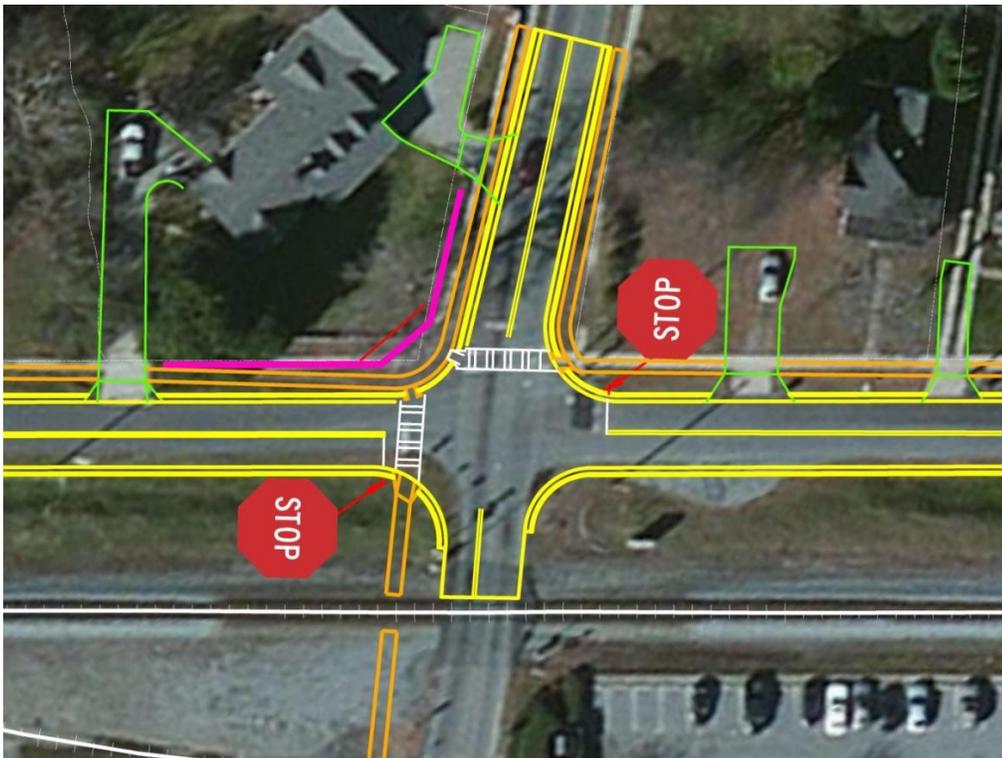
2. Place 4-foot median on Holcomb Bridge Road and convert Thrasher Street on both sides of Holcomb Bridge Road to right-out and right-in only.



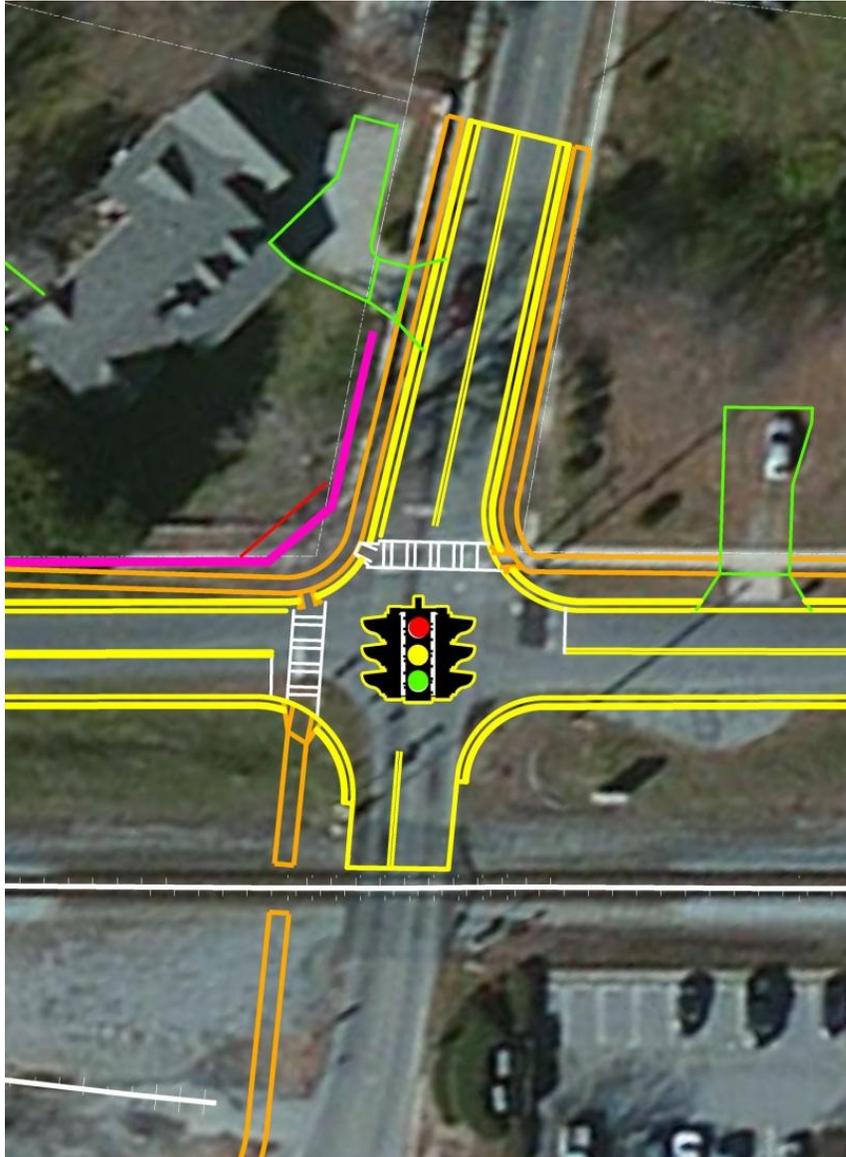
3. Prohibit left-turns from Holcomb Bridge Road westbound onto Thrasher Street through posting of no left-turn signs.



4. Make intersection a two-way stop condition. Remove eastbound Holcomb Bridge Road Stop Sign.

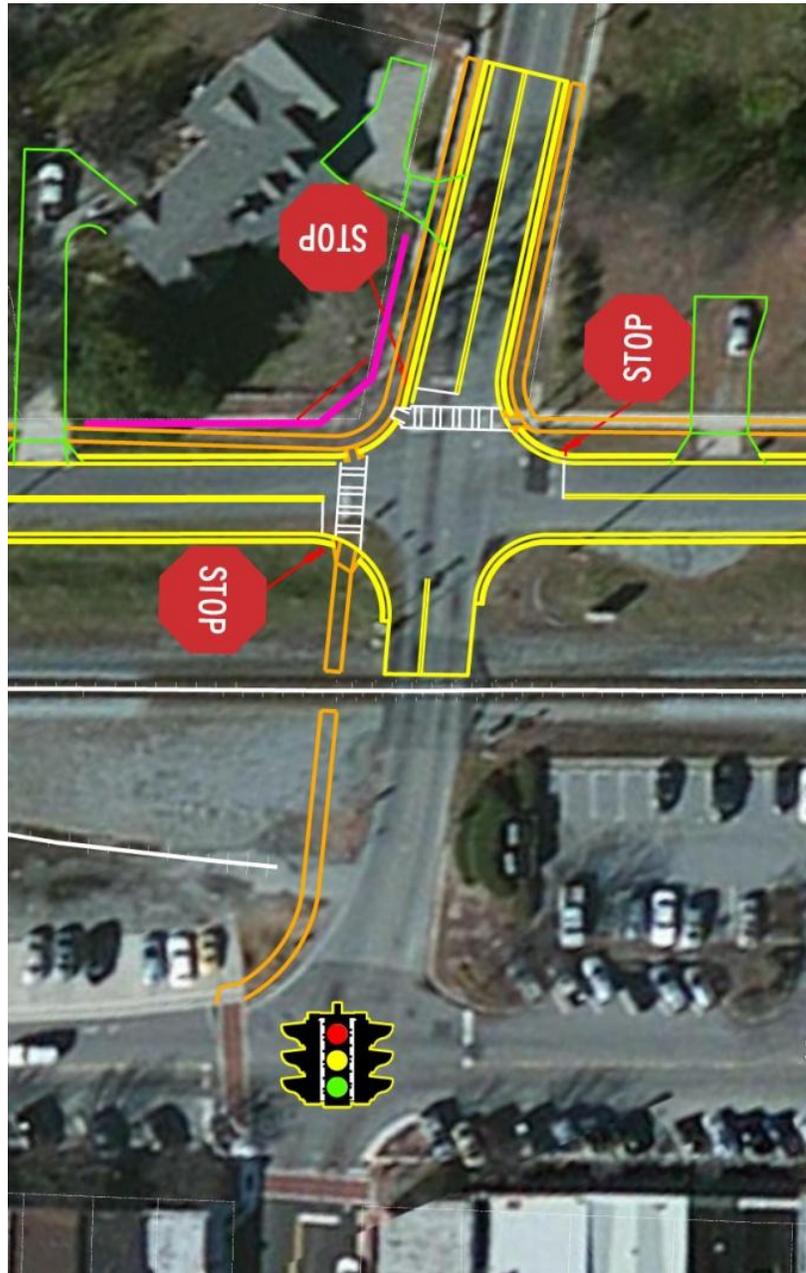


5. Signalize intersection of Holcomb Bridge Road at Thrasher Street. Set timing for 4-way stop dwell. The signal would operate similar to a 4-way stop but would improve traffic flow and would be preempted by passing trains so that no vehicles would get trapped on the railroad tracks.



Alternatives to Traffic Control Changes at Holcomb Bridge Road at South Peachtree Street with Build Alternative

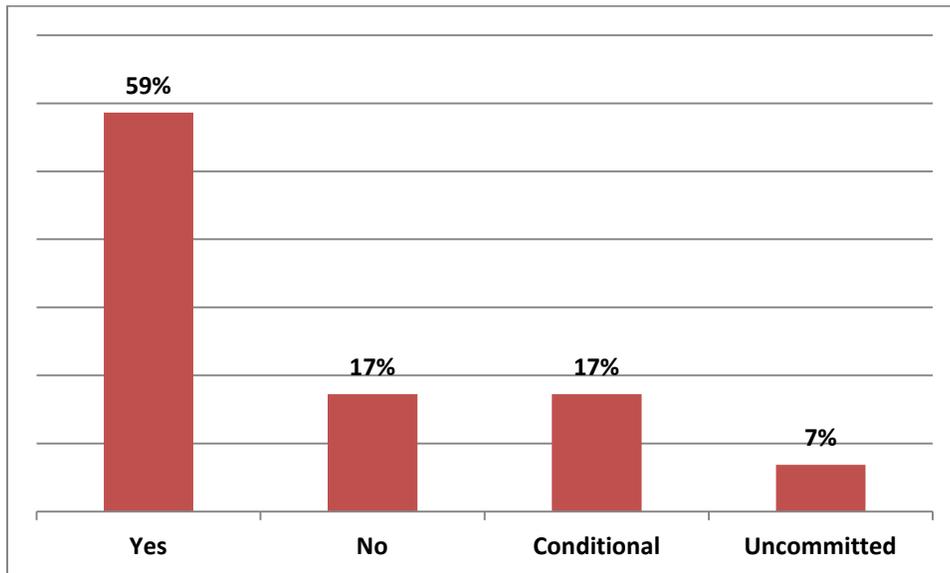
6. Signalize intersection of Holcomb Bridge Road at South Peachtree Street. Set timing for 4-way stop dwell. The signal would operate similar to a 4-way stop but would improve traffic flow and would be preempted by passing trains so that no vehicles would get trapped on the railroad tracks.



## 5.0 Summary of Public Survey

The public survey results indicated that 59% of the public is supportive of the build alternative to raise the grade of Holcomb Bridge Road and Thrasher Street. Figure 5 below charts the results of the survey. (See Appendix B for the complete results.)

**Figure 5: Are you in support of the Build Alternative?**



The survey allowed respondents to explain their level of support. Seventeen percent (17%) responded “No” with explanations that the project would adversely affect the residential property owners at the intersection, the project would be too drastic a change and that oversized vehicles would be able to use the crossing. The conditional respondents (17%) were also concerned with property owner impacts, oversized trucks using the crossing and would support it if it would not harm the charm of the area from an aesthetic point of view. Uncommitted respondents were not sure of the impact to the area and property owners.

With regard to the traffic control alternatives, the only alternative that was supported by over half of the survey respondents (52%) was Alternative 1 that would maintain the existing 3-way stop control. Some respondents commented that if the existing 3-way stop control delays traffic too much after the improvement is made, then the City should consider a traffic signal at Holcomb Bridge Road at Thrasher Street and/or South Peachtree Street (Alternatives 5 and 6).

## 6.0 Conclusions

Based upon the public support, the preferred alternative is to raise the elevation of Holcomb Bridge Road and Thrasher Street to match the railroad crossing and provide sidewalks along Holcomb Bridge Road from Thrasher Street to South Peachtree Street.

Because of the public concern for the property impacts of the project, the proposed concept was adjusted away from the home at the southwest corner of the intersection so as to reduce the impacts and eliminate the originally proposed retaining wall in front of the home (see Figure 6).

It should be noted that the concept for the preferred alternative was drawn using GIS data from Gwinnett County. Only actual survey can identify conclusively the impacts of the project on the property owners. Also, features such as trees located on the property landscape would have to be survey-located and evaluated by an arborist to determine the future viability of a tree and solutions to protect the survival of a tree during and after construction.

Cost estimates of the preferred alternative were determined to be approximately \$500,000. See Appendix C for a detailed cost estimate. The estimate includes right-of-way, utility relocation and construction costs of the project. The cost estimate does not include replacement of the railroad gates and bells. If the railroad equipment needs to be replaced it could cost an additional \$350,000.

Additionally, because railroad coordination is an expensive and time-consuming process, it is recommended that the City submit all sidewalk and railroad surface improvements that are needed at the other railroad crossing in the City. A cost estimate and description of these additional improvements are contained in Appendix C. The recommended improvements at other crossings are estimated to cost \$38,000.

Figure 6: The Preferred Alternative



Before and after photos of the implementation of the project from the view perspective of the home on the southwest corner are shown in Figures 7 and 8.

**Figure 7: Before Photo**



**Figure 8: After Photo**

