

FEASIBILITY STUDY

Intersection Realignment
SR 1148 (Eno Mountain Road) and SR 1192 (Mayo Street)
at SR 1006 (Orange Grove Road)
Orange County
U-3436



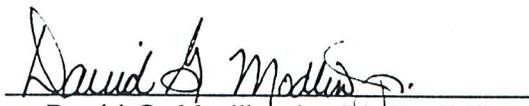
Prepared by the
Program Development Branch
Division of Highways
N. C. Department of Transportation



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Date

Hillsborough
Intersection Realignment
SR 1148 (Eno Mountain Road) and SR 1192 (Mayo Street)
at SR 1006 (Orange Grove Road)
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I. General Description

This feasibility study describes realigning SR 1148 (Eno Mountain Road) and SR 1192 (Mayo Street) at SR 1006 (Orange Grove Road). The project location is shown on Figure 1. The recommended cross-section on SR 1148 and SR 1192 is a two-lane curb and gutter section, 32 feet (9.8 m) wide from face-to-face of curbs with 8-foot (2.4-m) berms, on 60 feet (18.3 m) of right-of-way with no access control. It is also recommended to realign SR 1006 in the vicinity of the project (see Figure 2). The recommended cross-section on SR 1006 is a two-lane curb and gutter section, 28 feet (8.5 m) wide from face-to-face with 8-foot (2.4-m) berms, on 60 feet (18.3 m) of right-of-way with no access control. No residential or business relocations are anticipated as a result of this project. The total cost of the project, including construction and right-of-way, is estimated to be \$1,600,000.

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 to identify potential problems that may require consideration in the planning and design phases.

II. Need for Project

The purpose of this project is to improve safety conditions by eliminating the dog-leg intersection between SR 1148 and SR 1192. This project is supported by the Town of Hillsborough.

SR 1148, SR 1192 and SR 1006 are classified as major thoroughfares in the Hillsborough Thoroughfare Plan. SR 1006 is designated as a major rural collector in the North Carolina Statewide Functional Classification System.

There are several single-family residences in the immediate vicinity of the project along SR 1006 (see Figure 2). SR 1006 is currently 21 feet (6.4 m) wide on 60 feet (18.3 m) of right-of-way. SR 1148 intersects SR 1006 approximately 540 feet (164.6 m) east of SR 1192, creating a dog-leg intersection. SR 1148 is

No residential or business relocations are anticipated as a result of this project. The total cost of the recommended improvements is as follows:

Construction.....	\$ 1,000,000
Right-of-way.....	\$ 600,000
<hr/>	
Total Cost	\$ 1,600,000

IV. Other Comments

An environmental screening was not conducted for this study. However, no impacts to historic properties or wetlands are anticipated.

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

This project is listed in the Incidental Bicycle Needs Section of the 1996-2002 TIP as needing bicycle safety accommodation and sidewalks. The cost of bicycle related improvements is approximately \$140,000 and is included in the above estimate. As per the Department of Transportation's Pedestrian Policy, local participation is required in the cost of constructing sidewalks as part of a locally adopted municipal sidewalk plan. The cost of constructing sidewalks along SR 1148 and SR 1192 within the project limits is \$50,000. This cost is not included in the above estimate.

currently a two-lane, two-way roadway with a pavement width of 22 feet (6.7 m) and soil shoulders on 80 feet (24.4 m) of right-of-way. SR 1192 is currently 24 feet (3.7-m) wide with 3-foot (0.9-m) wide paved shoulders. There are also sight distance problems associated with the horizontal and vertical curvature along SR 1006.

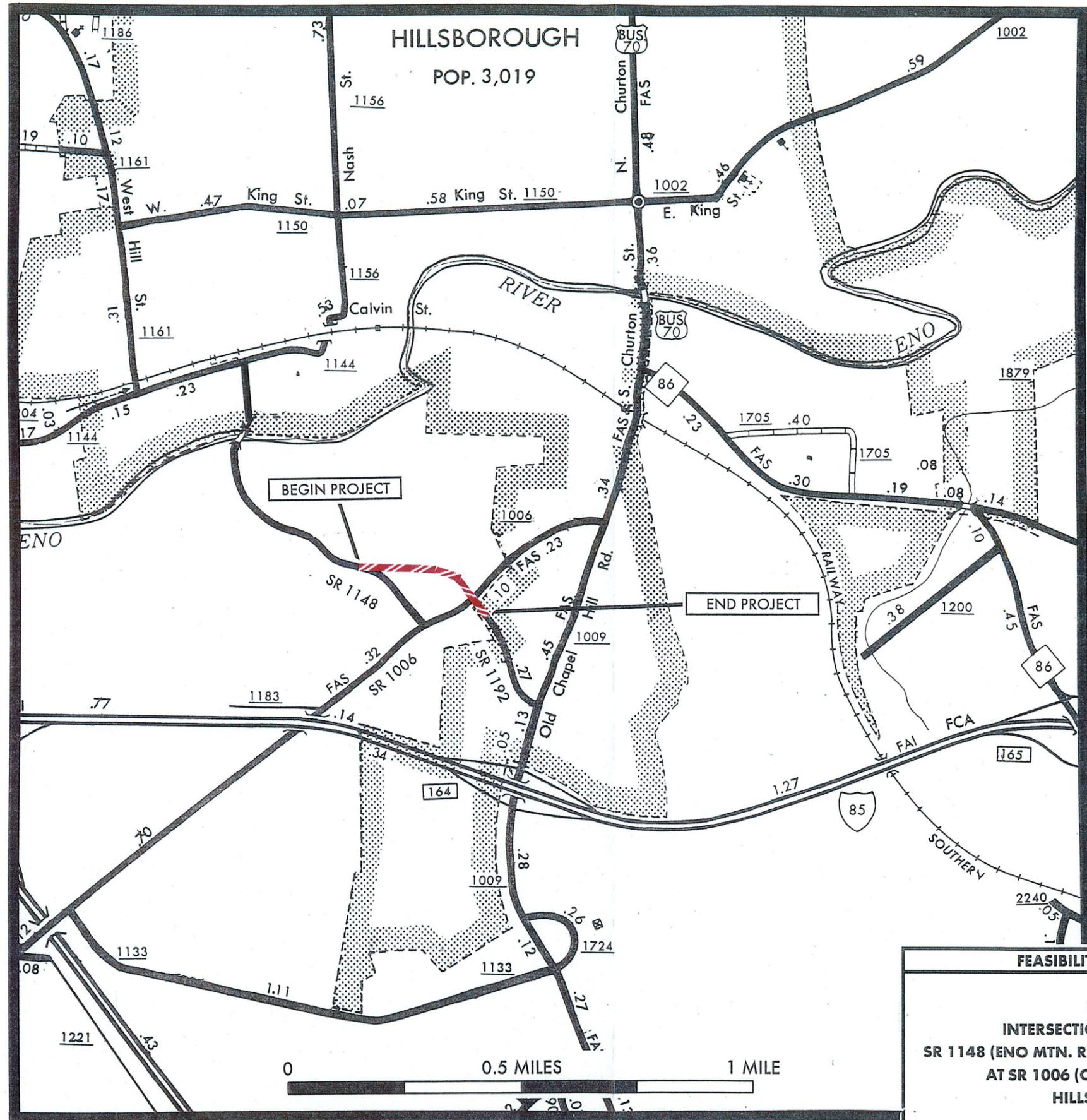
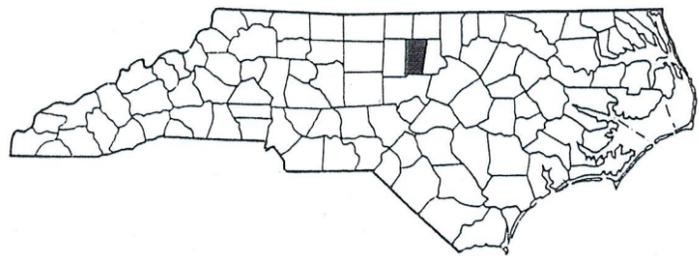
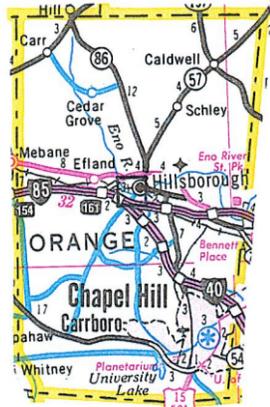
The Average Daily Traffic (ADT) for the project area is illustrated in Figure 3. Currently the existing intersections are operating at Level of Service (LOS) B. If no improvements are made, it is projected that these intersections will operate at LOS E in the design year 2020. If these intersections are realigned, the new intersection will operate at LOS A in the current year and at LOS D in the design year 2020. If this new intersection is signalized, it will operate at LOS B in the current year and in the design year 2020.

During the three-year period from May 1992 to April 1995, there were 23 accidents reported within the project area. As a result of these accidents, 15 injuries were reported, with no fatalities. The accident rate within the project area is 970.46 accidents per 100 million vehicle miles (acc/100mvm). This compares with the 1994 statewide rate of 340.50 acc/100mvm for urban secondary routes.

III. Recommendations

It is recommended to realign SR 1148 (Eno Mountain Rd.) to intersect with SR 1192 (Mayo St.) at SR 1006 (Orange Grove Road). The project location is shown on Figure 1. The recommended cross-section on SR 1148 and SR 1192 is a two-lane curb and gutter section, 32 feet (9.8 m) wide from face-to-face of curbs with 8-foot (2.4-m) berms, on 60 feet (18.3 m) of right-of-way with no access control. It is also recommended to realign SR 1006 in the vicinity of the project (see Figure 2). The recommended cross-section on SR 1006 is a two-lane curb and gutter section, 28 feet (8.5 m) wide from face-to-face with 8-foot (2.4-m) berms, on 60 feet (18.3 m) of right-of-way with no access control.

It is recommended to signalize the proposed intersection of SR 1148, SR 1192 and SR 1006. This new signal, in conjunction with improvements along SR 1006, will improve the sight distance and the safety of the proposed intersection. Additional turn lanes are also recommended (see Figure 4).



FEASIBILITY STUDIES UNIT

U-3436
INTERSECTION REALIGNMENT
SR 1148 (ENO MTN. RD.) AND SR 1192 (MAYO ST.)
AT SR 1006 (ORANGE GROVE RD.)
HILLSBOROUGH

DIVISION 7 | ORANGE COUNTY | FIGURE 1



BEGIN PROJECT

SR 1148

PROPOSED RELOCATION OF ROADWAY

PROPOSED ELIMINATION OF PAVEMENT

END PROJECT

SR 1192

SR 1006

LEGEND

-  PROPOSED 32' CURB & GUTTER SECTION
-  PROPOSED 28' CURB & GUTTER SECTION

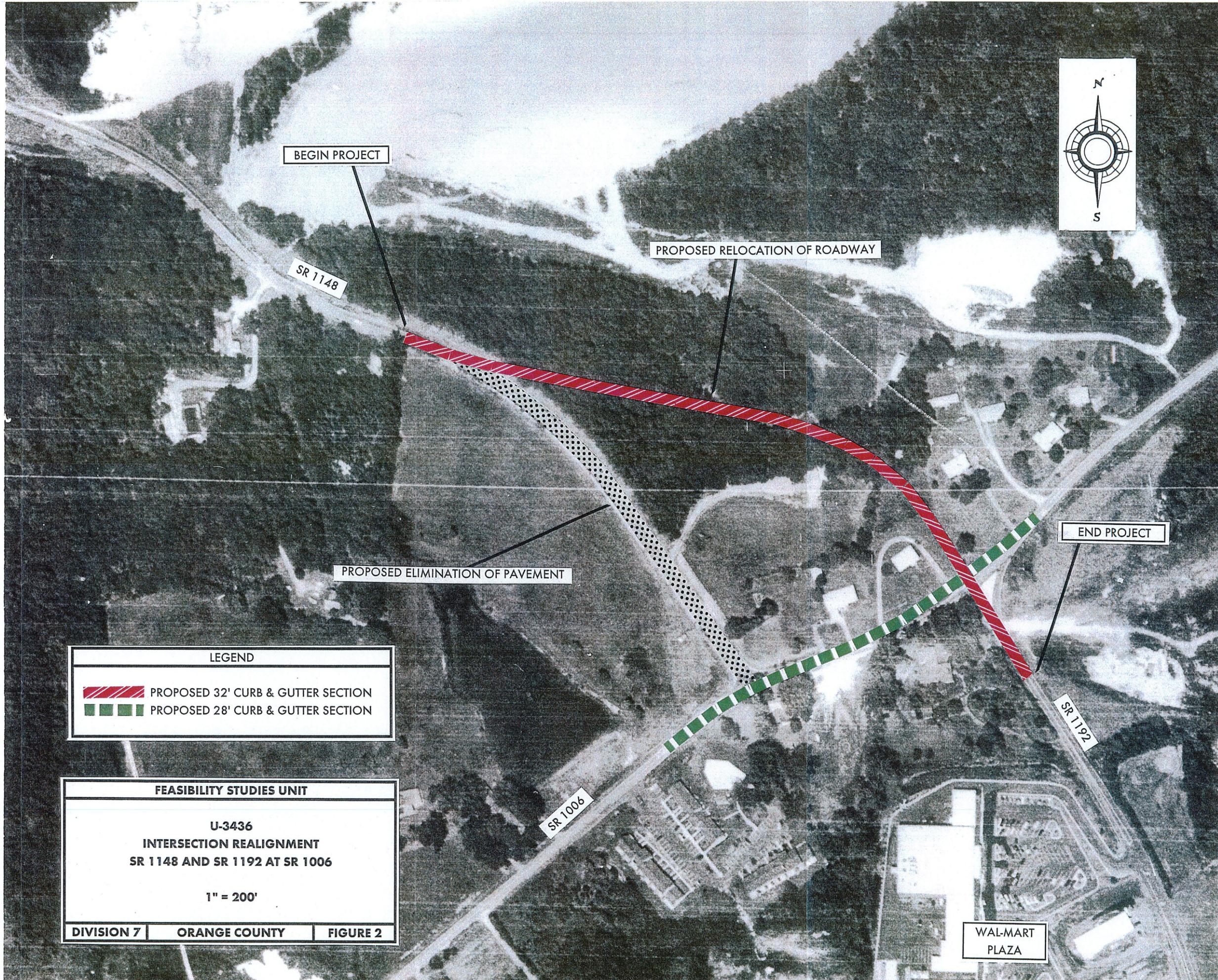
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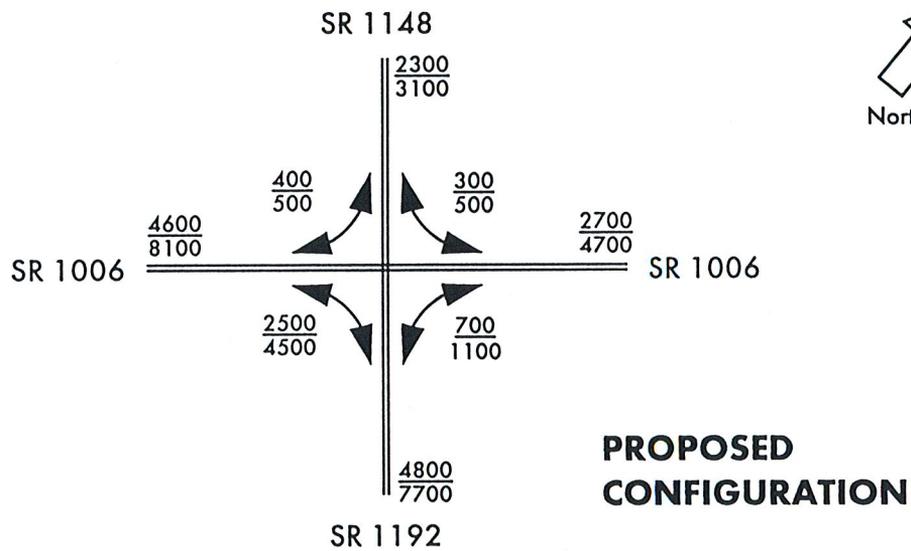
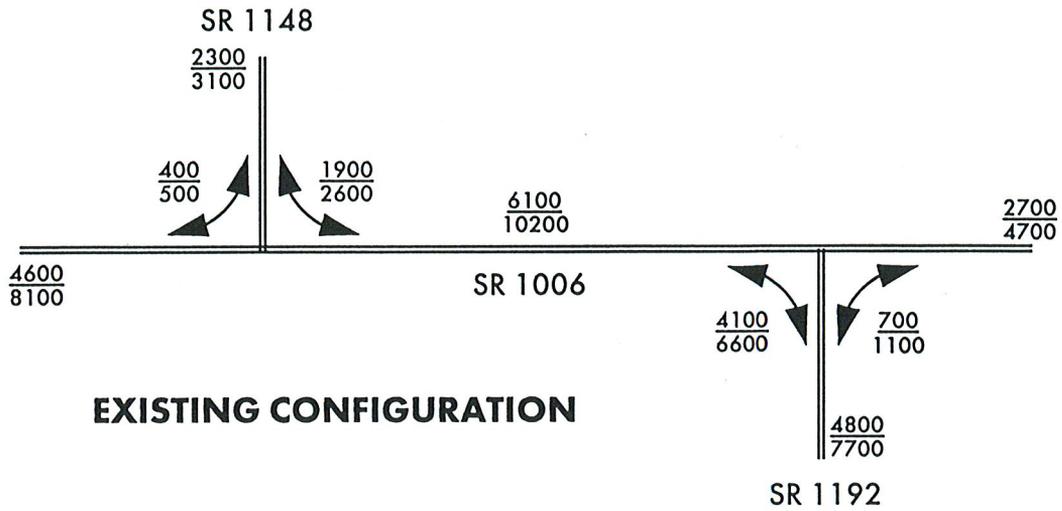
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INTERSECTION REALIGNMENT
SR 1148 AND SR 1192 AT SR 1006

1" = 200'

DIVISION 7 | ORANGE COUNTY | FIGURE 2

WAL-MART
PLAZA

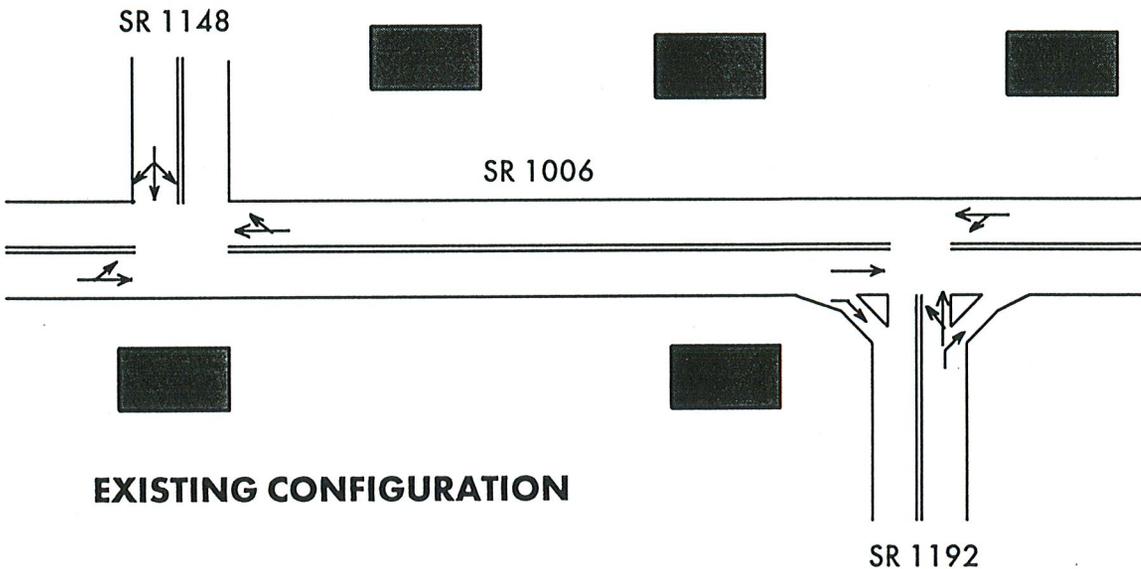




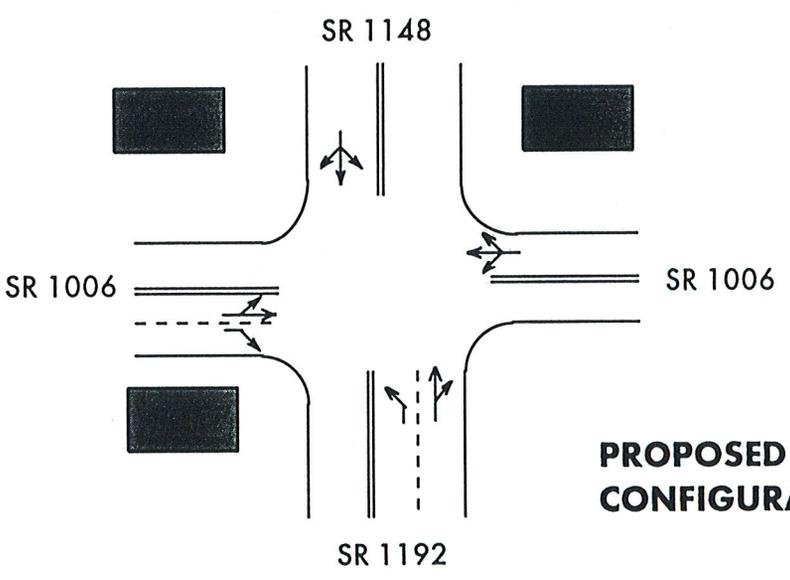
$\frac{1993 \text{ ADT's}}{2020 \text{ ADT's}}$

U-3436
 SR 1148 (Eno Mountain Rd.) and SR 1192 (Mayo St.)
 at SR 1006 (Orange Grove Rd.)
 Traffic Patterns

FIGURE 3



EXISTING CONFIGURATION



PROPOSED CONFIGURATION



NO SCALE

U-3436
 SR 1148 (Eno Mountain Rd.) and SR 1192 (Mayo St.)
 at SR 1006 (Orange Grove Rd.)
 Existing and Proposed Configurations

FIGURE 4