

FAUQUIER COUNTY, VIRGINIA

ROUTE 28 SAFETY AUDIT AND VILLAGE CONTEXT STUDY

February 2013
Revised, April 2013

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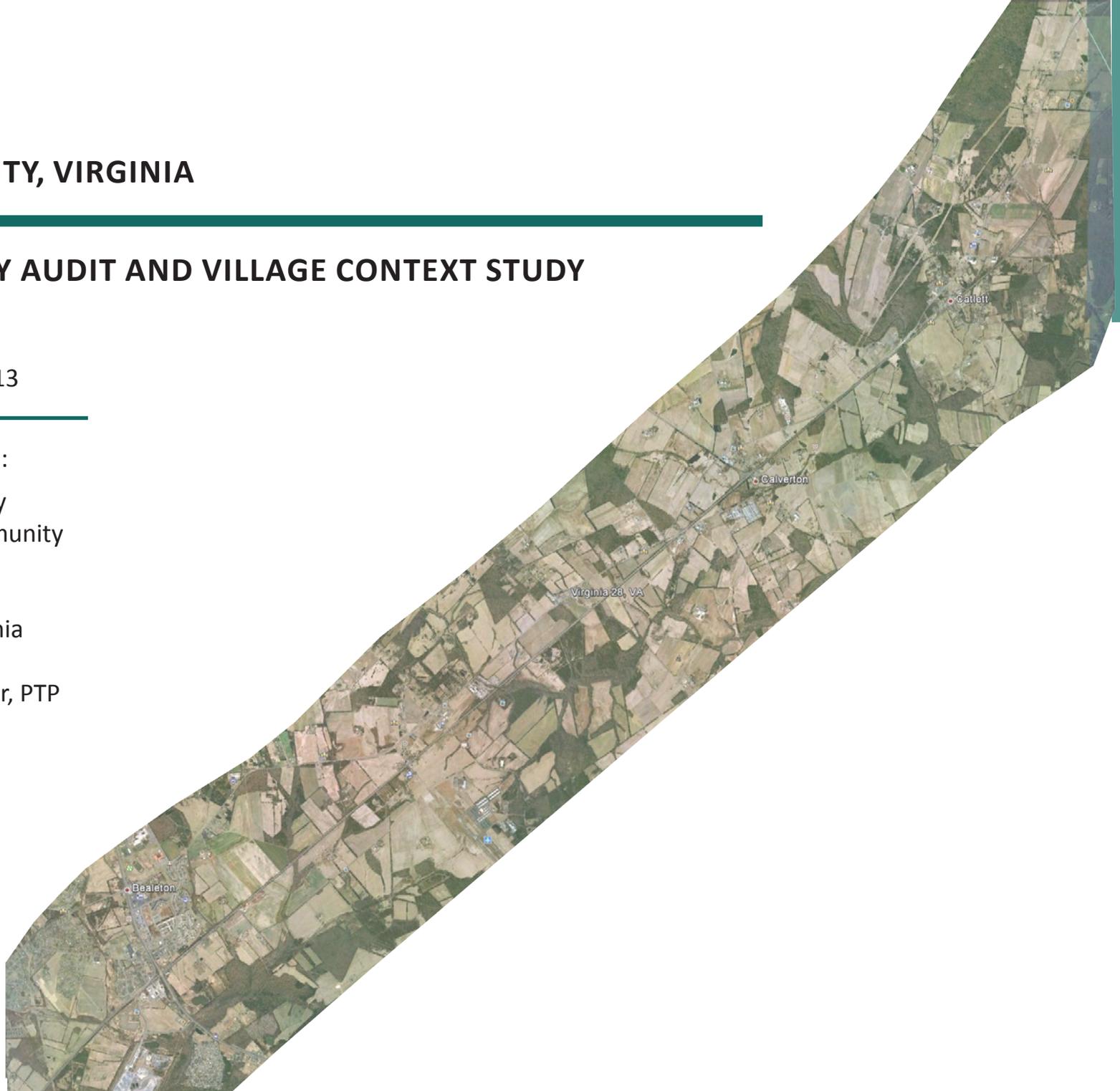


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I. Overview and Purpose

The Catlett Road (Route 28) corridor is a two lane rural minor arterial roadway traversing southern Fauquier County between US Route 29 and the Prince William County line. Catlett Road serves a significant amount of commuter traffic in the morning and evening peak hours of the day resulting in pronounced spikes in traffic levels during those peak hours.

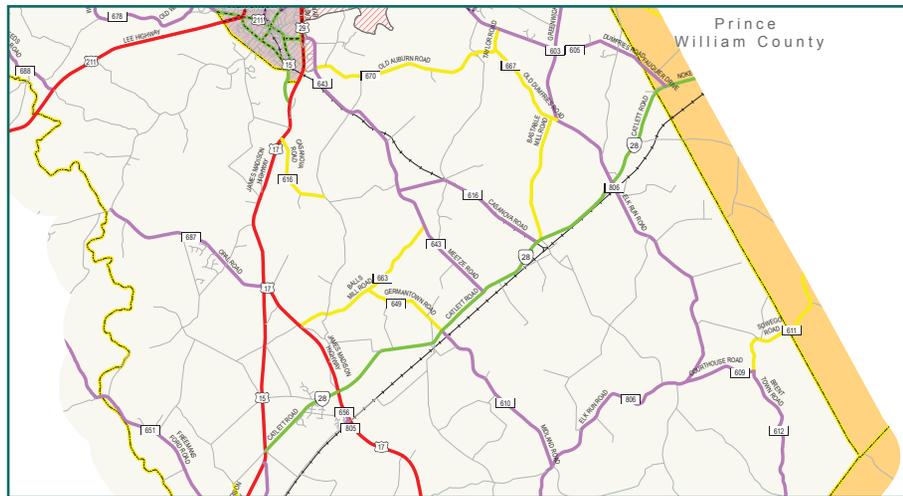


Figure 1 VDOT 2005 Highway Functional Classification Map

| Route 28 | A 2001 AADT | B 2002 AADT | C 2003 AADT | D 2004 AADT | E 2005 AADT | F 2006 AADT | G 2007 AADT | H 2008 AADT | I 2009 AADT | J 2010 AADT | K 2011 AADT | A - K % Change |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|
| U.S. 29 to U.S. 17 | 6,000 | 6,200 | 6,400 | 8,800 | 9,000 | 9,000 | 8,100 | 8,400 | 7,900 | 8,700 | 8,700 | 45% |
| U.S. 17 North of Bealeton to Rt. 610 | 9,600 | 9,900 | 10,000 | 13,000 | 13,000 | 14,000 | 11,000 | 11,000 | 11,000 | 12,000 | 12,000 | 25% |
| Midland Road (Rt. 610) to Rt. 616 | 9,900 | 10,000 | 11,000 | 13,000 | 14,000 | 14,000 | 12,000 | 12,000 | 11,000 | 13,000 | 13,000 | 31% |
| Casanova Road (Rt. 616) to Rt. 806 | 8,600 | 8,900 | 9,300 | 13,000 | 13,000 | 13,000 | 11,000 | 11,000 | 11,000 | 12,000 | 12,000 | 40% |
| Elk Run Road (Rt. 806) to the Prince William County Line | 11,000 | 11,000 | 11,000 | 13,000 | 13,000 | 14,000 | 14,000 | 14,000 | 13,000 | 14,000 | 14,000 | 27% |

Table 1 VDOT 2011 Annual Average Daily Traffic Volume Estimates by Section of Route -- Route 28

Year 2011 average weekday traffic counts, per the VDOT count program, range from 8,700 vehicles per day (VPD) south of Bealeton between U.S. 29 and U.S. 17 to 14,000 VPD near the Prince William County line. Trucks comprise approximately 5% of the overall traffic volumes. Historically, traffic volumes are increasing at a rate of 2.5%-4.5% per year.

Along this corridor are located multiple communities. Bealeton on the west, which is divided by the Route 17 and Catlett Road intersection, is planned as a town-scaled Service District. This community has high volumes of traffic traveling to and from I-95, I-66, U.S. 15-29 and other points in Northern Virginia. Midland, Calverton and Catlett extend further eastward to the Prince William County line, each have small resident populations and are planned as village-scaled service districts with limited public services. Midland is located primarily east of the Germantown Road/Rt. 28 intersection. This community was originally subdivided in a grid form and was known as the Virginia Midland Railroad Village in the 1870's. The railroad still plays a significant role in this corridor and also has crossings in Calverton and Catlett.

Road improvements along Route 28 in the future are expected to focus on safety improvements needed to deal with growing traffic volumes and safety conflicts. However, these design improvements need to be context sensitive in their relationship to agricultural community activities, the village scale of the communities through which this road passes, and the Calverton and Catlett historic districts that are on both the National Register and Virginia Landmarks Register.

The purpose of this study is to document existing conditions along the corridor relative to safety, traffic volumes and traffic operations. It is intended that this document be reviewed and updated periodically, perhaps every two to three years, such that ongoing safety concerns can be monitored. The County Department of Community Development and the County Sheriff's Office are included as the primary review and management agencies, with input and coordination with VDOT – Culpeper District. A summary of recommended projects is included as a section within the document. Fauquier County may choose to use this section to help with project implementation when grant or other funding opportunities arise in the future. The projects list should continue to be updated into the future as a tool to help the county keep track of project opportunities and needs within the corridor.

Also included in this study is an information section on village road context design and gateways, which could be of use as the village areas continue to develop and/or traffic volumes through the villages continue to increase. Gateways serve as a design tool that helps to communicate to drivers that they are entering a village area and that there is a need to be aware of vehicles or pedestrians entering or crossing the roadway that may have not been present when passing through the rural farmlands on either side of the village area.

II. Methodology

Various sources of information were brought together for this study. These include:

- Virginia Department of Transportation (VDOT) "STARS" Study (Strategically Targeted Affordable Roadway Solutions) is a safety and congestion program that partners state, planning district and local transportation planners, traffic engineers, safety engineers and operations staff to identify "hot spots" along roadways where safety and congestion problems overlap and are suitable for short term operational improvements.
- Countywide Modeling Data Collection Effort 2012;
- Mintbrook Traffic Impact Study Prepared by Gorove/Slade;
- Village of Catlett Transportation Impact Analysis prepared by Wells + Associates, Inc.;
- Crash Data as received from VDOT for the past three years – period between January 3rd, 2007 and December 27th, 2009;
- Observations from the County Sherriff's Department;
- Field observations by professional engineers specializing in traffic engineering.
- Segment crash rate data for years 2008 - 2010 as provided by VDOT

The overall methodology for this study included assembling the information noted above and then illustrating this information on aerial base mapping. The corridor was segmented into plan view sheets for this purpose. In some instances multiple sheets are provided for a particular segment such that the full summary of crashes, VDOT study recommendations, and other information could be summarized.

The recommendations were then summarized at the end of the document into one overall table. This table includes general strategies for implementation. That same section includes a summary of funding tools and strategies that can be considered in the future when opportunities arise.

III. Analysis and Recommendations

The analysis for this effort included summarizing crash rate data by road link segment, and mapping crash data on the aerial imagery. Crash rate data from 2008 to 2010 was utilized for the segment comparison. Note that this data is compared to statewide averages to give the reader a feel for how each segment compares to other similar roads throughout Virginia. Crash data for the periods from January 3rd, 2007 to December 27th, 2009 was used for the mapping exercise. Additional information is provided on the following plan view graphics that includes summaries of prior VDOT recommendations and field recommendations made during field reviews. Also, for the Catlett village area additional graphics have been provided that were developed during the review of a proposed residential and retail development in the fall of 2010.

Throughout the document there are text boxes with blue borders that indicate either observations made from recent field reviews, or pertinent information provided from prior planning studies.

The intersection turning movement counts (TMCs) represent the volumes of traffic for each movement at an intersection during a peak hour of the day. TMCs are shown throughout this document as collected from various traffic study sources including prior traffic impact studies and the County’s travel demand model project.

Throughout the document road names are used versus using route numbers. For convenience, the table below provides a cross reference summary of road names versus route numbers.

| Road Name | Route Number |
|--------------------------|-----------------|
| Catlett Road | Route 28 |
| James Madison Highway | Route 15/29 |
| Lucky Hill Road | Route 655 |
| Whipkey Drive | Route 1128 |
| Southcoate Village Drive | N/A |
| Edgewood Drive | Route 1120 |
| Schoolhouse Road | Route 661 |
| Oak Shade Road | Route 661 |
| Marsh Road | Route 17 |
| Independence Avenue | N/A |
| Messick Road | County Road 650 |
| Midland Road | County Road 610 |
| Old Carolina Road | County Road 649 |
| Germantown Road (North) | County Road 649 |

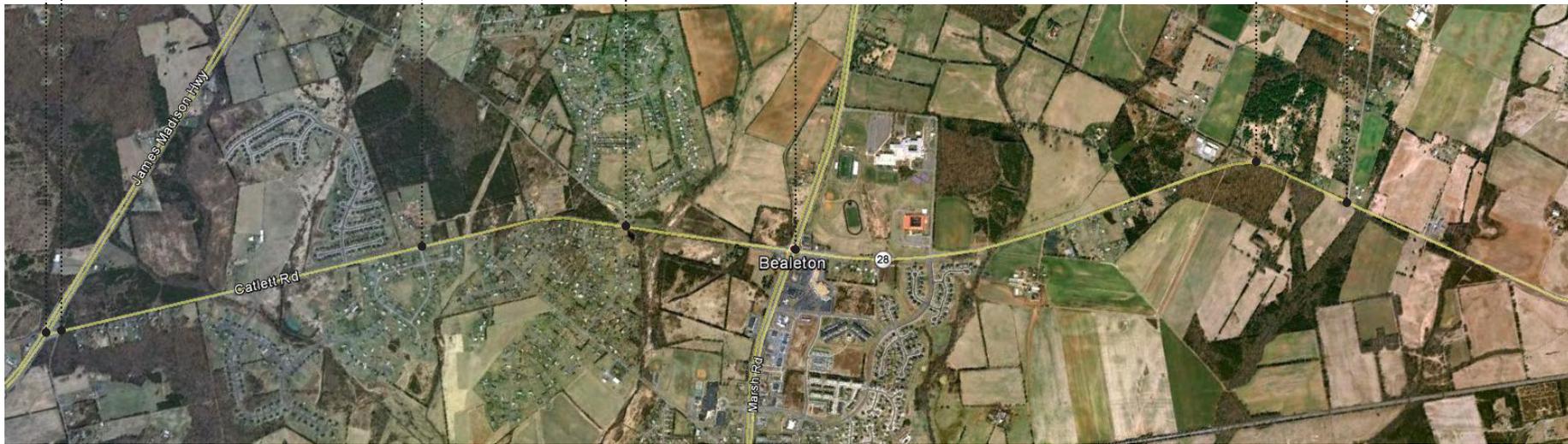
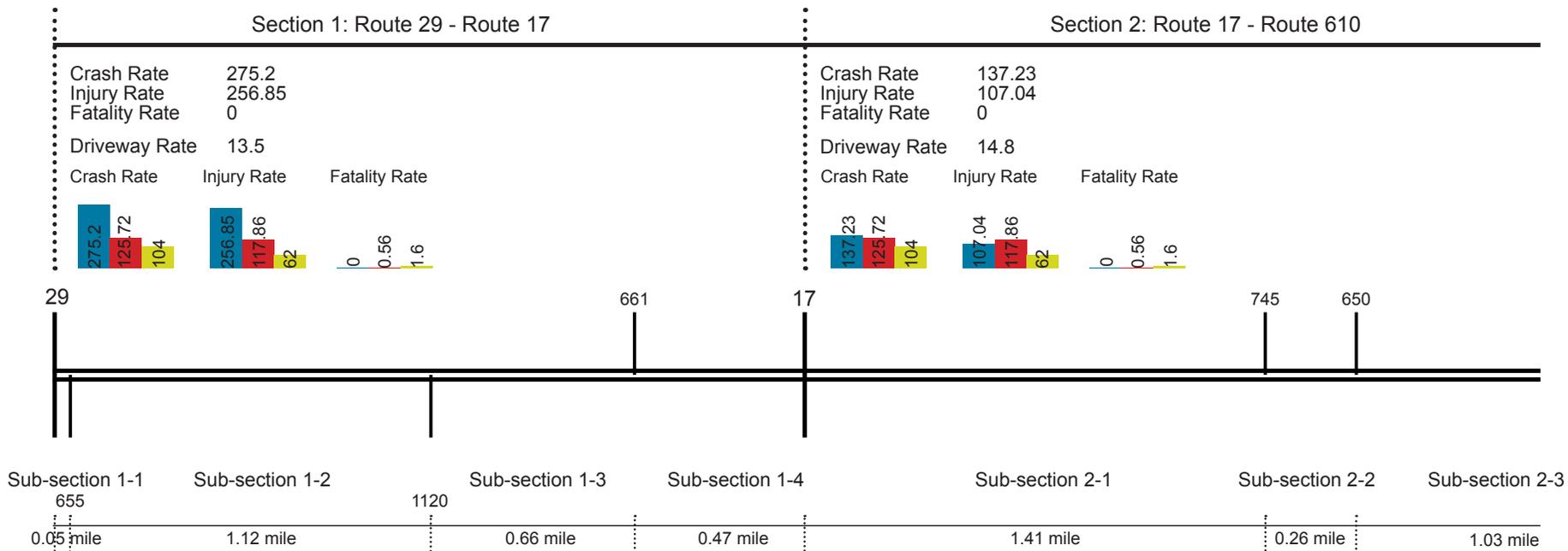
| Road Name | Route Number |
|-------------------------|-----------------|
| Germantown Road (South) | County Road 610 |
| Meetze Road | County Road 643 |
| Eustace Road | County Road 643 |
| Old Calverton Road | County Road 642 |
| Casanova Road | County Road 616 |
| Bristersburg Road | County Road 616 |
| Bastable Mill Road | County Road 603 |
| Old Calett Road | County Road 818 |
| Old Dumfries Road | County Road 667 |
| Elk Run Road | County Road 806 |
| Catlett School Road | County Road 665 |
| Gaskins Lane | County Road 796 |
| Dumfries Road | County Road 606 |
| Old Nokesville Road | County Road 843 |

III. Analysis and Recommendations

Crash, injury, and fatality rates were summarized from crash rate data from 2008 to 2010 provided by VDOT. **Figure 2** in the following pages illustrate the rates in segments along the study corridor and lead to following findings:

1. The average crash rate along Route 28 from Route 29 to Prince William County Line is approximately 20% higher than the average rate in similar statewide primary routes. The average injury rate is about 90% higher than the average injury rate in similar statewide primary routes. The average fatality rate is approximately 35% of the average fatality rate in similar statewide primary routes, thus is lower than the statewide average.
2. In the seven analysis sections (segments) of Route 28 from Route 29 to Prince William County Line, there are three sections (from Route 29 to Route 17, from Route 17 to Route 610, and from Route 610 to 649) maintaining higher crash and injury rates than the average rates along Route 28. The highest crash rate occurs at the section from Route 29 to Route 17, with about 120% higher crash rate and injury rate than the average crash rate and injury rate along Route 28.
3. Specifically in even smaller sub-sections, **Table 2** provides a summary of crash rates in detail. From the table, it is important to notice four hot spots where crashes happened much more frequently than other places. They are the sub-sections from Route 29 to Route 655, from Route 1120 to Route 661, from Route 661 to Route 17, and from Route 745 to Route 650.
4. By comparing the crash rates and roadway densities along Route 28, there is little correlation that can be identified between crash rates and frequency of driveways by segment. However, it is important to note that there are over 200 direct connection driveways, many of which are from farm access road and residential driveways and this contributes to deteriorated safety conditions.

Figure 2 Crash, Injury, and Fatality Rates Summary (1 of 3, see following pages)



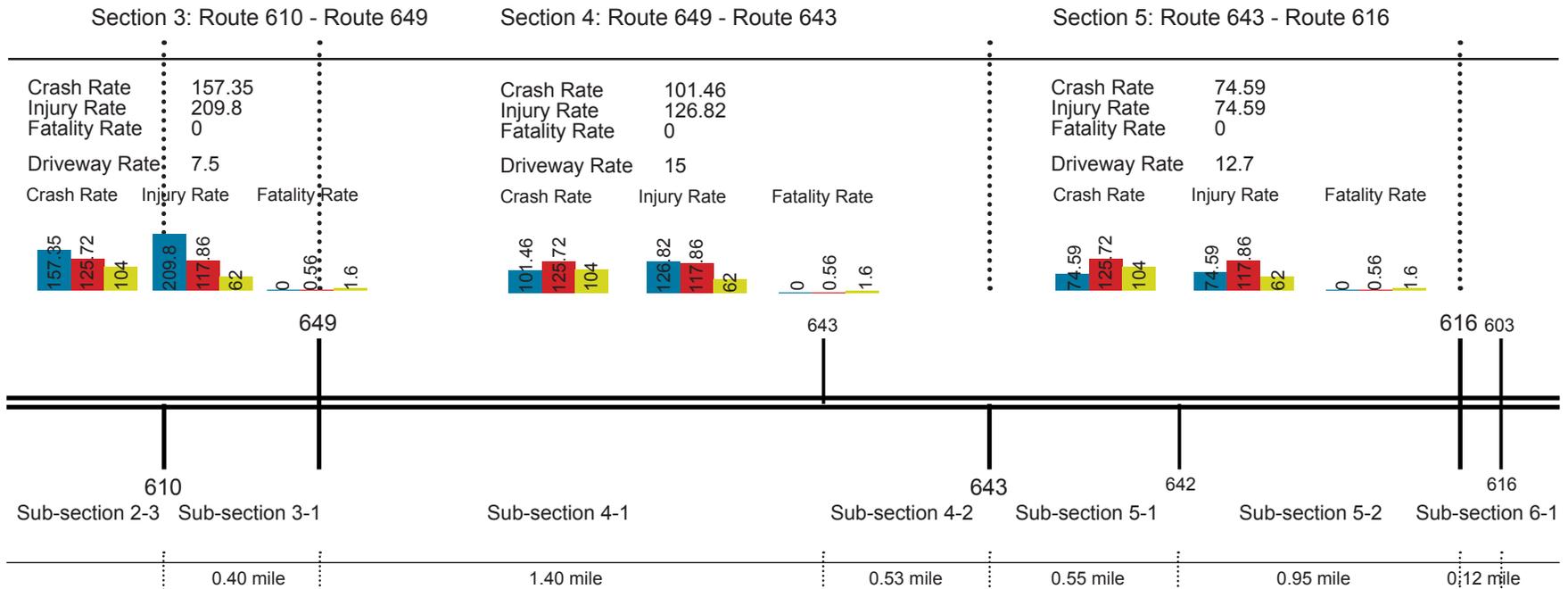
Crash, Injury, Fatality Rate: Per 100 Million VMT
At Rt. 29 - PWCL: Crash Rate 125.72; Injury Rate 117.86; Fatality Rate 0.56;
Statewide Primary Route Average - Crash Rate 104; Injury Rate 62; Fatality Rate 1.6.
 - VDOT, Year 2008 - 2010

Driveway Rate: Driveways/Access Points per Mile
 - Provided by the County

Table 2 summarizes the crash rate in sub-sections.

LEGEND ■ Rate for Sections ■ Rate from Rt.29 to PWCL ■ Rate for Statewide Primary Route

Figure 2 Crash, Injury, and Fatality Rates Summary (2 of 3)



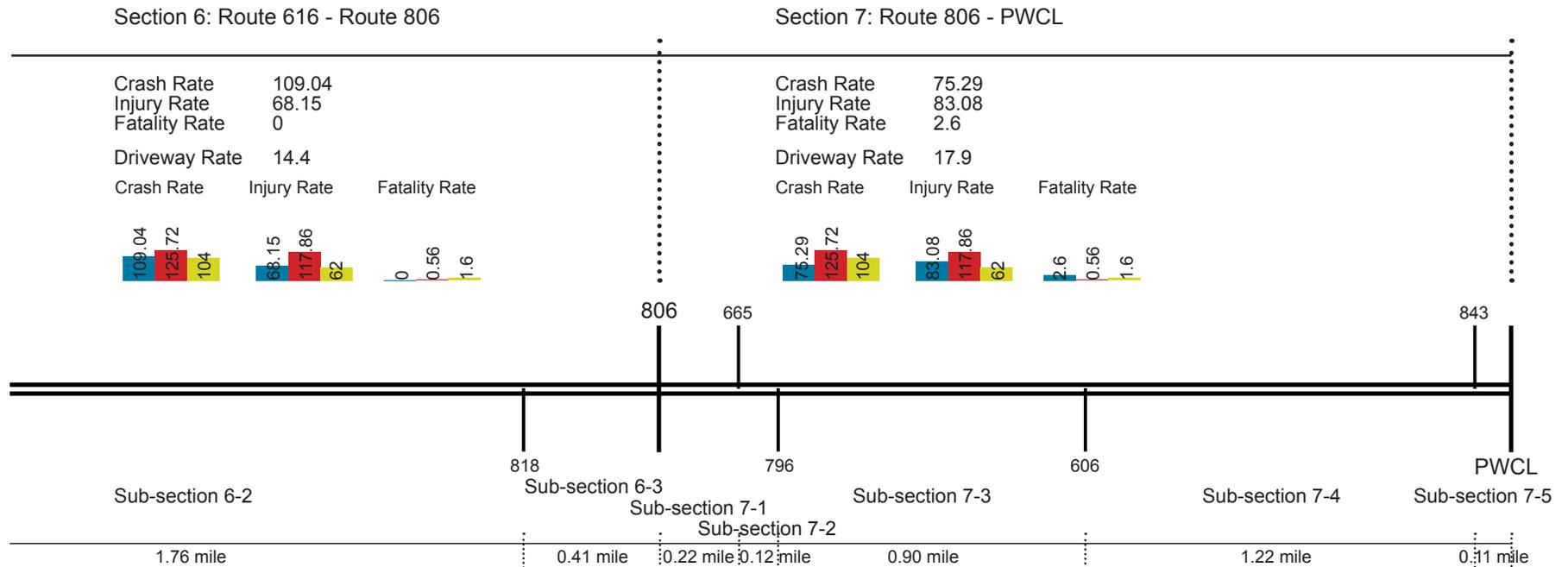
Crash, Injury, Fatality Rate: Per 100 Million VMT
At Rt. 29 - PWCL: Crash Rate 125.72; Injury Rate 117.86; Fatality Rate 0.56;
Statewide Primary Route Average - Crash Rate 104; Injury Rate 62; Fatality Rate 1.6.
 - VDOT, Year 2008 - 2010

Driveway Rate: Driveways/Access Points per Mile
 - Provided by the County

Table 2 summarizes the crash rate in sub-sections.

LEGEND Rate for Sections Rate from Rt.29 to PWCL Rate for Statewide Primary Route

Figure 2 Crash, Injury, and Fatality Rates Summary (3 of 3)



Crash, Injury, Fatality Rate: Per 100 Million VMT
At Rt. 29 - PWCL: Crash Rate 125.72; Injury Rate 117.86; Fatality Rate 0.56;
Statewide Primary Route Average - Crash Rate 104; Injury Rate 62; Fatality Rate 1.6.
 - VDOT, Year 2008 - 2010

Driveway Rate: Driveways/Access Points per Mile
 - Provided by the County

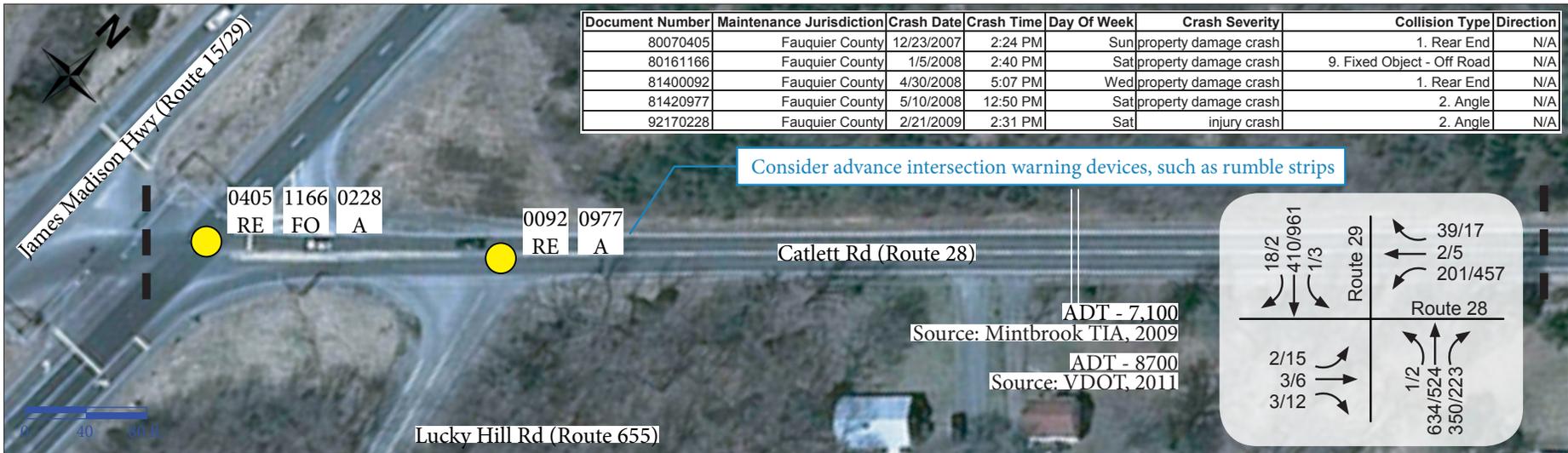
Table 2 summarizes the crash rate in sub-sections.

LEGEND Rate for Sections Rate from Rt.29 to PWCL Rate for Statewide Primary Route

Table 2 Crash Rate Summary

| Section | Section 1: Rt.29 - Rt.17 | | | | Section 2: Rt.17 - Rt.610 | | | Section 3: Rt.610 - Rt.649 |
|---------------|----------------------------|------------------|----------------------------|---------------------------|---------------------------|-----------------|-----------------|----------------------------|
| Sub-section # | 1-1 | 1-2 | 1-3 | 1-4 | 2-1 | 2-2 | 2-3 | 3-1 |
| Sub Section | Rt.29 - Rt.655 | Rt.655 - Rt.1120 | Rt.1120 - Rt.661 | Rt.661 - Rt.17 | Rt.17 - Rt.745 | Rt.745 - Rt.650 | Rt.650 - Rt.610 | Rt.610 - Rt.649 |
| a | 4 | 13 | 14 | 14 | 31 | 9 | 7 | 7 |
| l | 0.05 | 1.12 | 0.66 | 0.47 | 1.41 | 0.26 | 1.03 | 0.4 |
| adt | 8700 | 8700 | 8700 | 8700 | 12000 | 12000 | 12000 | 13000 |
| # of years = | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| rate = | 839.762767 | 121.84058 | 222.66437 | 312.677626 | 167.3197534 | 263.4351949 | 51.72082576 | 122.9364243 |
| | | | | | | | | |
| Section | Section 4: Rt.649 - Rt.643 | | Section 5: Rt.643 - Rt.616 | | | | | |
| Sub-section # | 4-1 | 4-2 | 5-1 | 5-2 | | | | |
| Sub Section | Rt.649 - Rt.643N | Rt.643N - Rt.643 | Rt.643 - Rt.642 | Rt.642 - Rt.616 | | | | |
| a | 21 | 3 | 9 | 8 | | | | |
| l | 1.4 | 0.53 | 0.55 | 0.95 | | | | |
| adt | 13000 | 13000 | 13000 | 13000 | | | | |
| # of years = | 3 | 3 | 3 | 3 | | | | |
| rate = | 105.374078 | 39.76380301 | 114.9535396 | 59.15737711 | | | | |
| | | | | | | | | |
| Section | Section 6: Rt.616 - Rt.806 | | | Section 7: Rt. 806 - PWCL | | | | |
| Sub-section # | 6-1 | 6-2 | 6-3 | 7-1 | 7-2 | 7-3 | 7-4 | 7-5 |
| Sub Section | Rt.616 - Rt.603 | Rt.603 - Rt.818 | Rt.818 - Rt.806 | Rt.806 - Rt.665 | Rt.665 - Rt.796 | Rt.796 - Rt.606 | Rt.606 - Rt.843 | Rt.843 - PWCL |
| a | 2 | 21 | 5 | 5 | 2 | 12 | 13 | 0 |
| l | 0.12 | 1.76 | 0.41 | 0.22 | 0.12 | 0.9 | 1.22 | 0.11 |
| adt | 12000 | 12000 | 12000 | 14000 | 14000 | 14000 | 14000 | 14000 |
| # of years = | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| rate = | 126.8391679 | 90.80531341 | 92.80914727 | 148.2535729 | 108.7192868 | 86.97542944 | 69.50905222 | 0 |

III. Analysis and Recommendations



| | | | | |
|---|--|--|--|---------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: Rt. 29 to 0.12 mile northeast of Lucky Hill Rd Bottom: 0.12 mile northeast to 0.29 mile northeast of Lucky Hill Rd</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 1/49</p> |
|---|--|--|--|---------------------------|

III. Analysis and Recommendations



EPR
637 Berkmar Circle
Charlottesville, VA 22901

Top: 0.29 mile to 0.46 mile northeast of Lucky Hill Rd
Bottom: 0.46 mile northeast of Lucky Hill Rd to Route 1128

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
2/49

III. Analysis and Recommendations



EPR
637 Berkmar Circle
Charlottesville, VA 22901

Top: Route 1128 to 0.1 mile southwest of Southcoate Village Dr
Bottom: 0.1 mile southwest of Southcoate Village Dr to 0.1 mile northeast of Southcoate Village Dr

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
3/49

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Date | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|------------|-------------|-----------------------|----------------------------|-----------|
| 91410048 | Fauquier County | 10/31/2008 | 1:10 PM | Fri | property damage crash | 1. Rear End | N/A |
| 91420820 | Fauquier County | 11/4/2008 | 12:39 PM | Tue | injury crash | 9. Fixed Object - Off Road | N/A |
| 91670297 | Fauquier County | 12/12/2008 | 4:10 PM | Fri | property damage crash | 1. Rear End | N/A |
| 92190373 | Fauquier County | 3/7/2009 | 2:04 PM | Sat | property damage crash | 1. Rear End | N/A |

0048 0820 0297 0373
RE FO RE RE

EPR
637 Berkmar Circle
Charlottesville, VA 22901

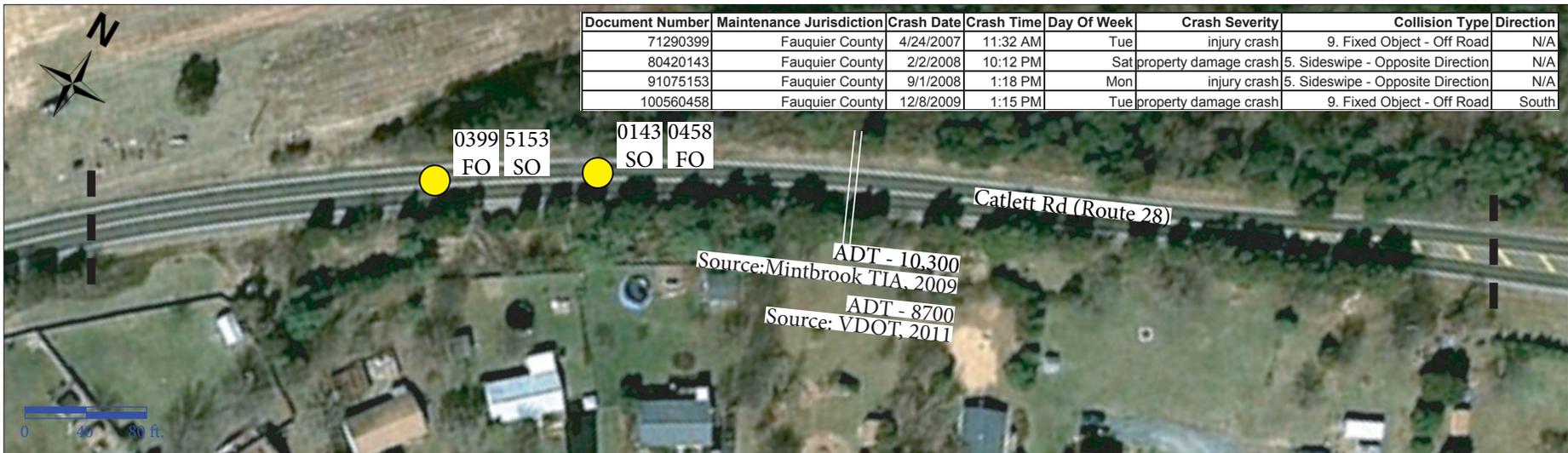
Top: 0.1 mile northeast of Southcoate Village Dr to Route 1120
Bottom: Route 1120 to 0.05 mile northeast of Rt 661 (Schoolhouse Rd)

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
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III. Analysis and Recommendations



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637 Berkmar Circle
Charlottesville, VA 22901

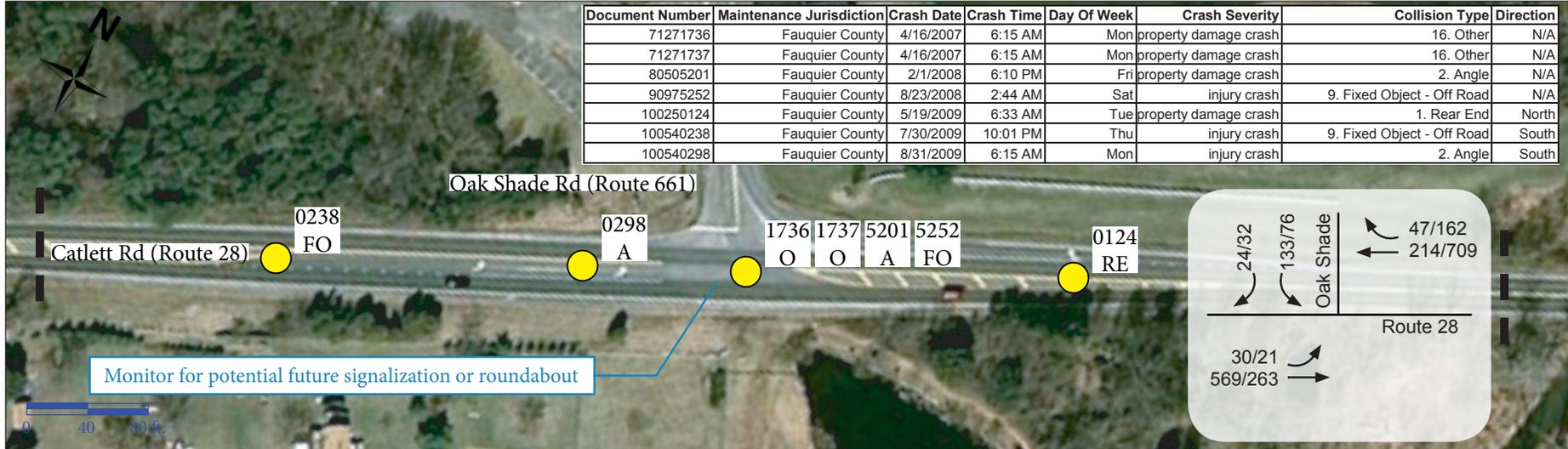
Top: 0.05 mile to 0.22 mile northeast of Rt 661 (Schoolhouse Rd)
Bottom: 0.22 mile to 0.40 mile northeast of Rt 661 (Schoolhouse Rd)

- Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
- FO** Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
- RE** Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
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III. Analysis and Recommendations



637 Berkmar Circle
Charlottesville, VA 22901

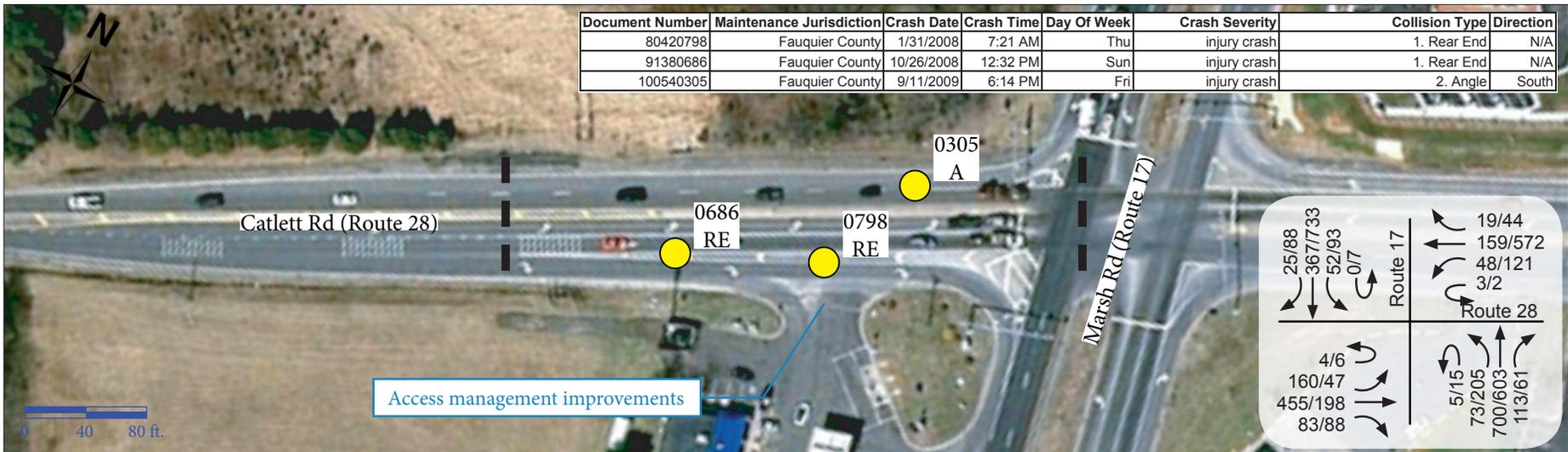
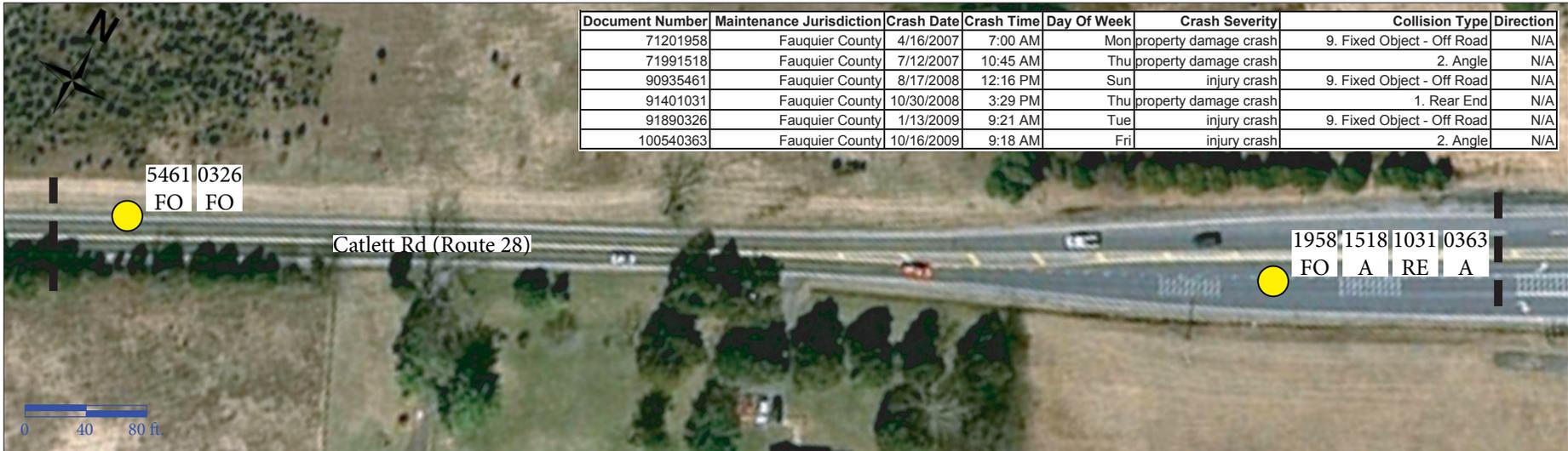
Top: 0.40 mile northeast of Rt 661 (Schoolhouse Rd) to 0.10 mile northeast of Rt 661 (Oak Shade Rd)
Bottom: 0.10 mile to 0.27 mile northeast of Rt 661 (Oak Shade Rd)

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
6/49

III. Analysis and Recommendations



EPR
637 Berkmar Circle
Charlottesville, VA 22901

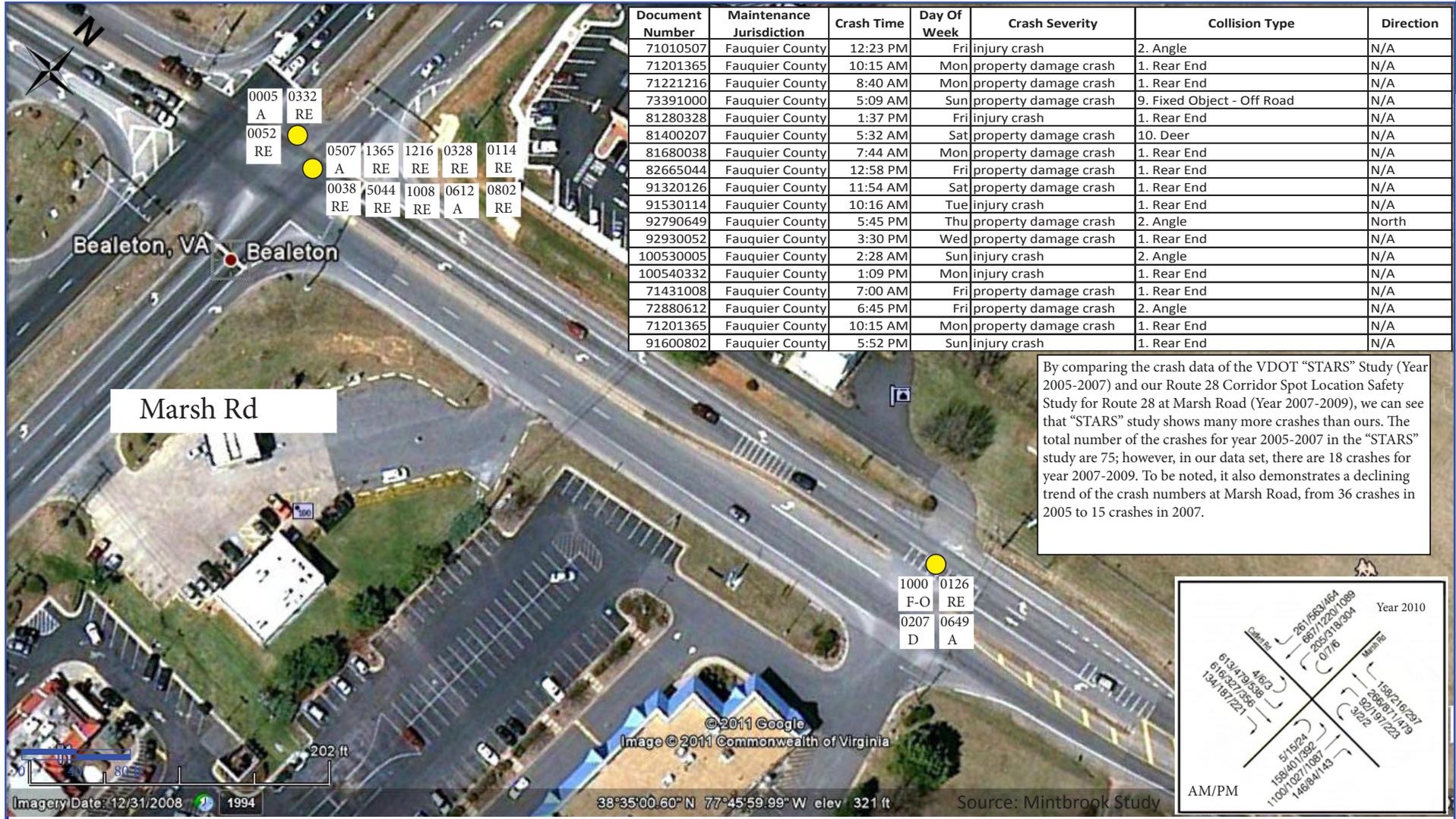
Top: 0.27 mile northeast of Rt 661 (Oak Shade Rd) to 0.07 mile southwest of Rt 17
Bottom: 0.07 mile southwest of Rt 17 to Rt 17

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

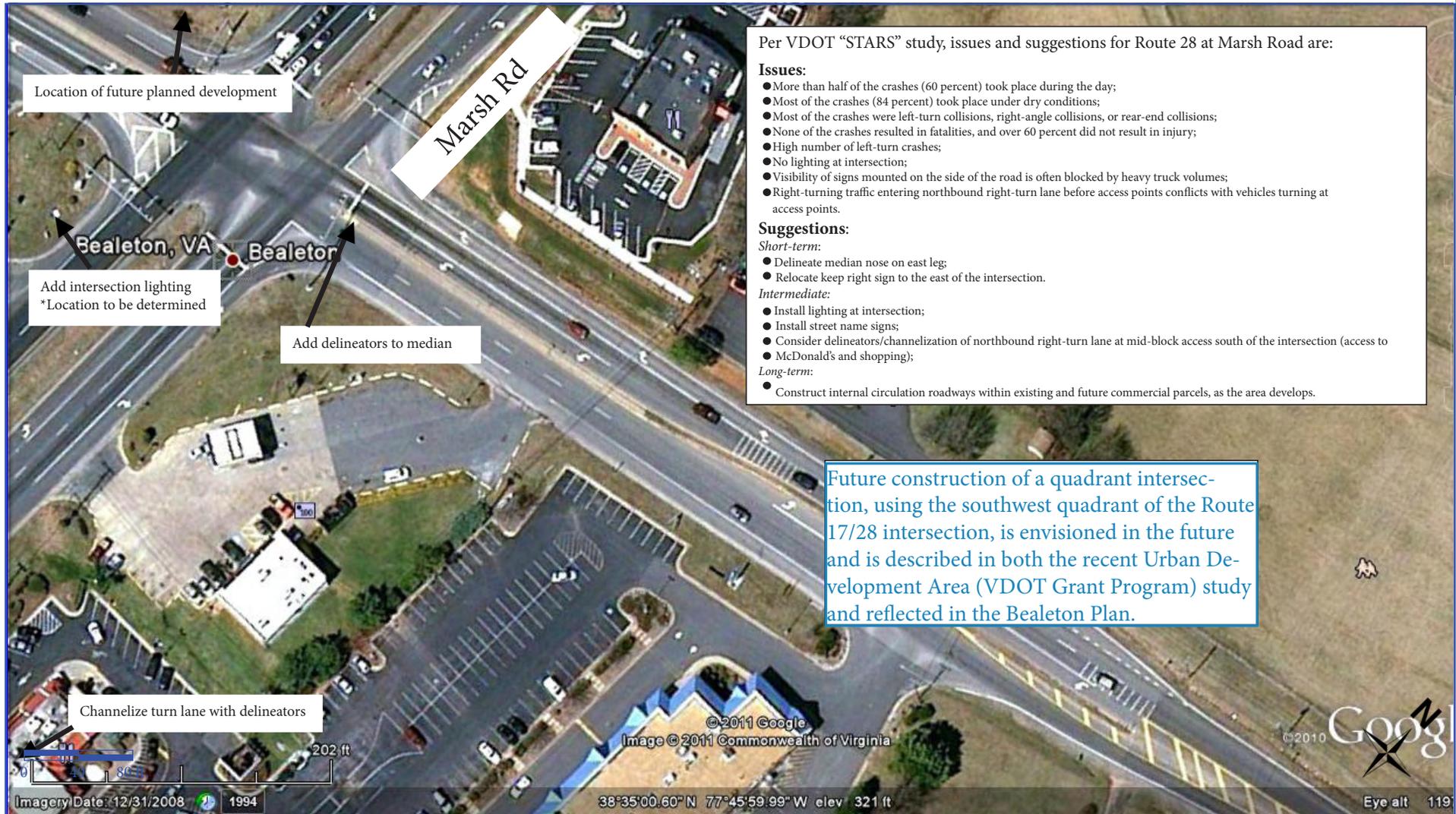
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7/49

III. Analysis and Recommendations



| | | | | |
|---|---------------------------------------|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | Rt 17 to 0.12 mile northeast of Rt 17 | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road</p> <p>FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal</p> <p>RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 8A/49</p> |
| | <p>Source: Mintbrook Study</p> | | | |

III. Analysis and Recommendations



Per VDOT “STARS” study, issues and suggestions for Route 28 at Marsh Road are:

Issues:

- More than half of the crashes (60 percent) took place during the day;
- Most of the crashes (84 percent) took place under dry conditions;
- Most of the crashes were left-turn collisions, right-angle collisions, or rear-end collisions;
- None of the crashes resulted in fatalities, and over 60 percent did not result in injury;
- High number of left-turn crashes;
- No lighting at intersection;
- Visibility of signs mounted on the side of the road is often blocked by heavy truck volumes;
- Right-turning traffic entering northbound right-turn lane before access points conflicts with vehicles turning at access points.

Suggestions:

Short-term:

- Delineate median nose on east leg;
- Relocate keep right sign to the east of the intersection.

Intermediate:

- Install lighting at intersection;
- Install street name signs;
- Consider delineators/channelization of northbound right-turn lane at mid-block access south of the intersection (access to McDonald’s and shopping);

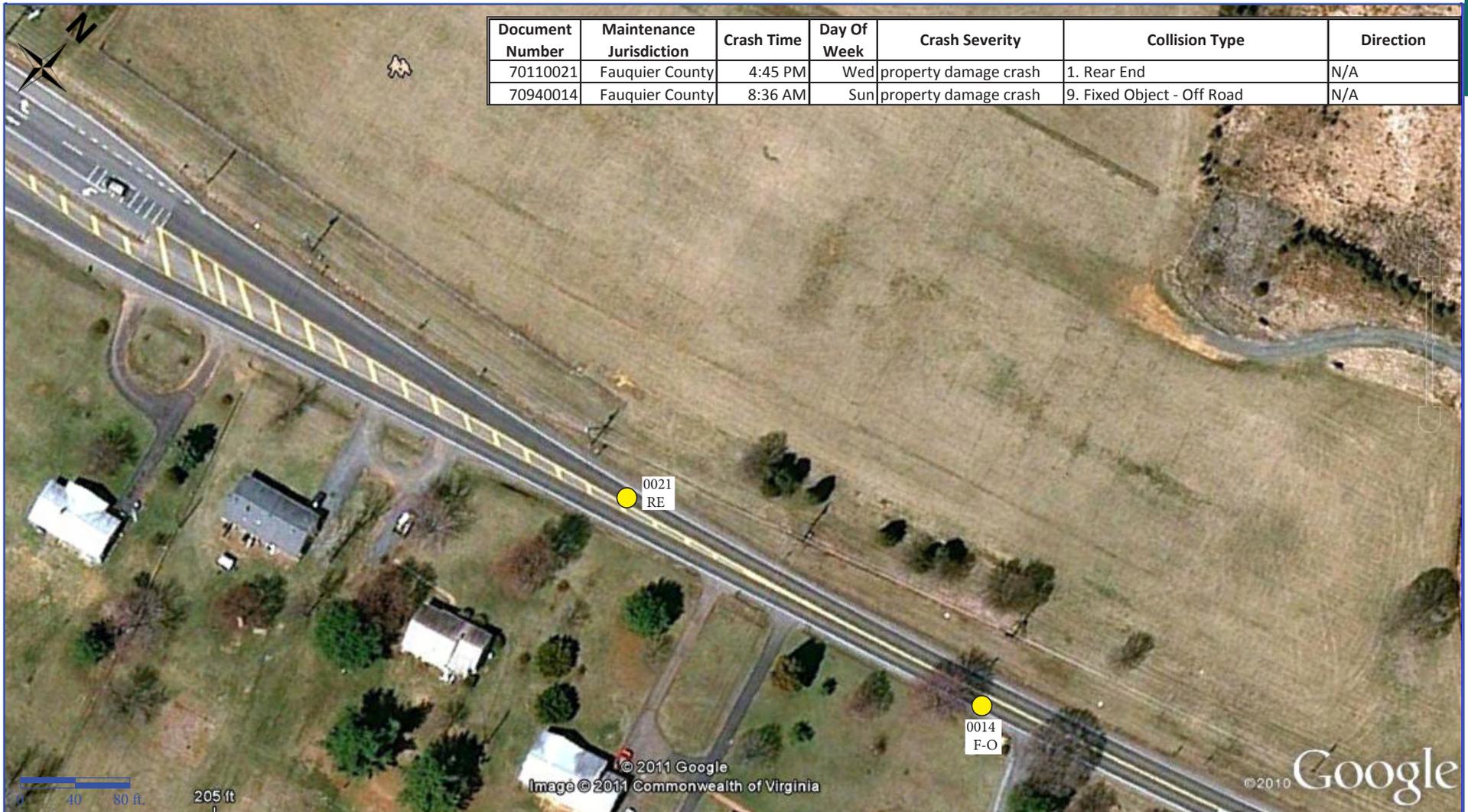
Long-term:

- Construct internal circulation roadways within existing and future commercial parcels, as the area develops.

Future construction of a quadrant intersection, using the southwest quadrant of the Route 17/28 intersection, is envisioned in the future and is described in both the recent Urban Development Area (VDOT Grant Program) study and reflected in the Bealeton Plan.

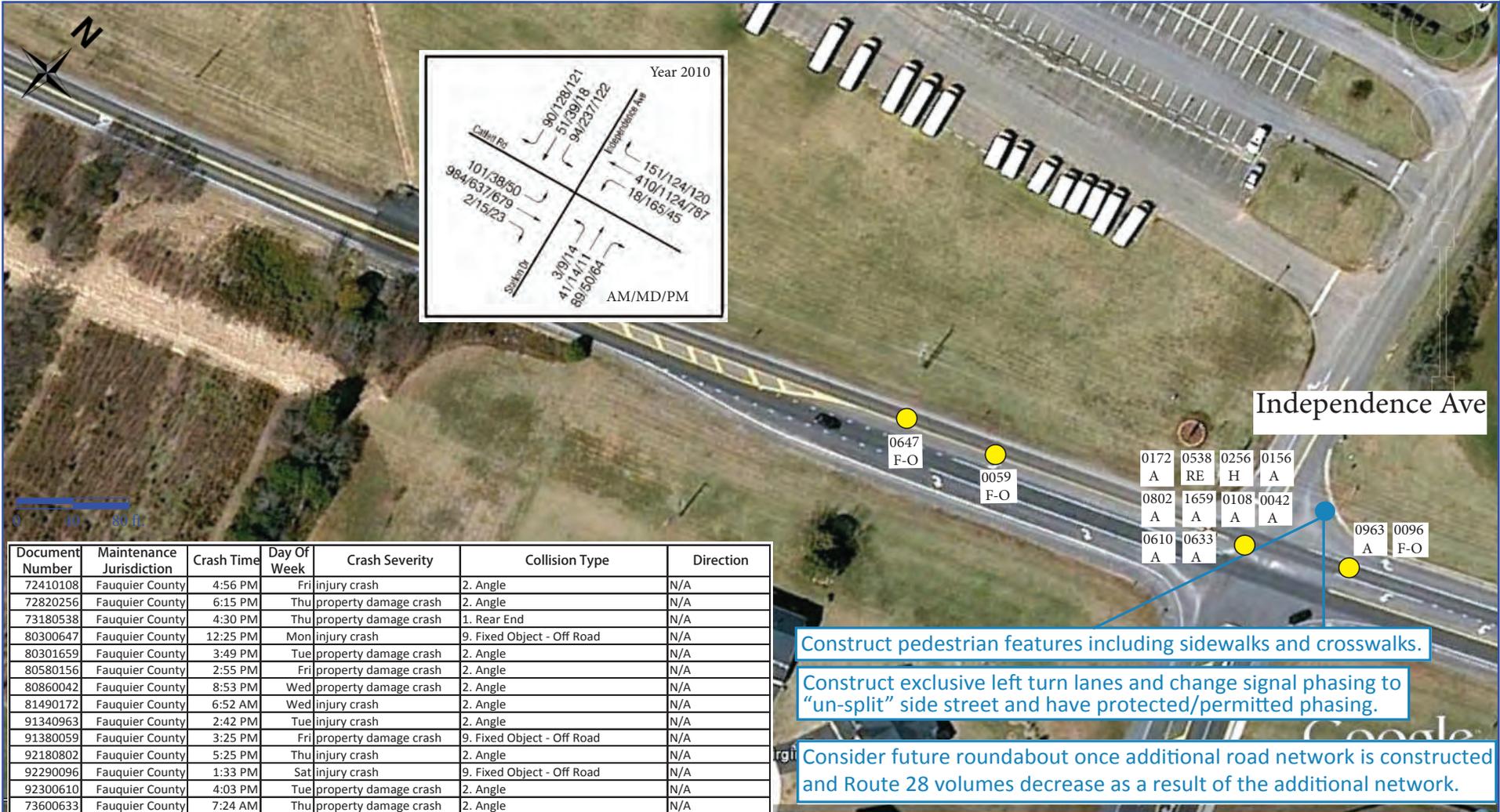
| | | | | |
|---|--|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Rt 17 to 0.12 mile northeast of Rt 17</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 8B/49</p> |
|---|--|--|--|----------------------------|

III. Analysis and Recommendations



| | | | | |
|---|--|--|--|---------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>0.12 mile to 0.25 mile northeast of Rt 17</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 9/49</p> |
|---|--|--|--|---------------------------|

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------------------|-----------|
| 72410108 | Fauquier County | 4:56 PM | Fri | injury crash | 2. Angle | N/A |
| 72820256 | Fauquier County | 6:15 PM | Thu | property damage crash | 2. Angle | N/A |
| 73180538 | Fauquier County | 4:30 PM | Thu | property damage crash | 1. Rear End | N/A |
| 80300647 | Fauquier County | 12:25 PM | Mon | injury crash | 9. Fixed Object - Off Road | N/A |
| 80301659 | Fauquier County | 3:49 PM | Tue | property damage crash | 2. Angle | N/A |
| 80580156 | Fauquier County | 2:55 PM | Fri | property damage crash | 2. Angle | N/A |
| 80860042 | Fauquier County | 8:53 PM | Wed | property damage crash | 2. Angle | N/A |
| 81490172 | Fauquier County | 6:52 AM | Wed | injury crash | 2. Angle | N/A |
| 91340963 | Fauquier County | 2:42 PM | Tue | injury crash | 2. Angle | N/A |
| 91380059 | Fauquier County | 3:25 PM | Fri | property damage crash | 9. Fixed Object - Off Road | N/A |
| 92180802 | Fauquier County | 5:25 PM | Thu | injury crash | 2. Angle | N/A |
| 92290096 | Fauquier County | 1:33 PM | Sat | injury crash | 9. Fixed Object - Off Road | N/A |
| 92300610 | Fauquier County | 4:03 PM | Tue | property damage crash | 2. Angle | N/A |
| 73600633 | Fauquier County | 7:24 AM | Thu | property damage crash | 2. Angle | N/A |

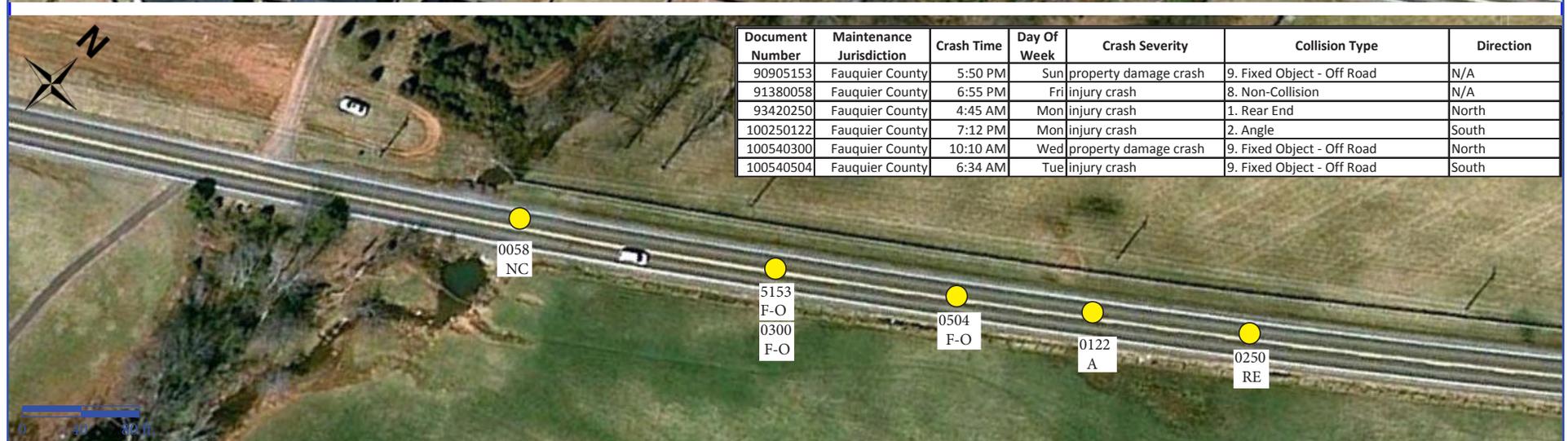
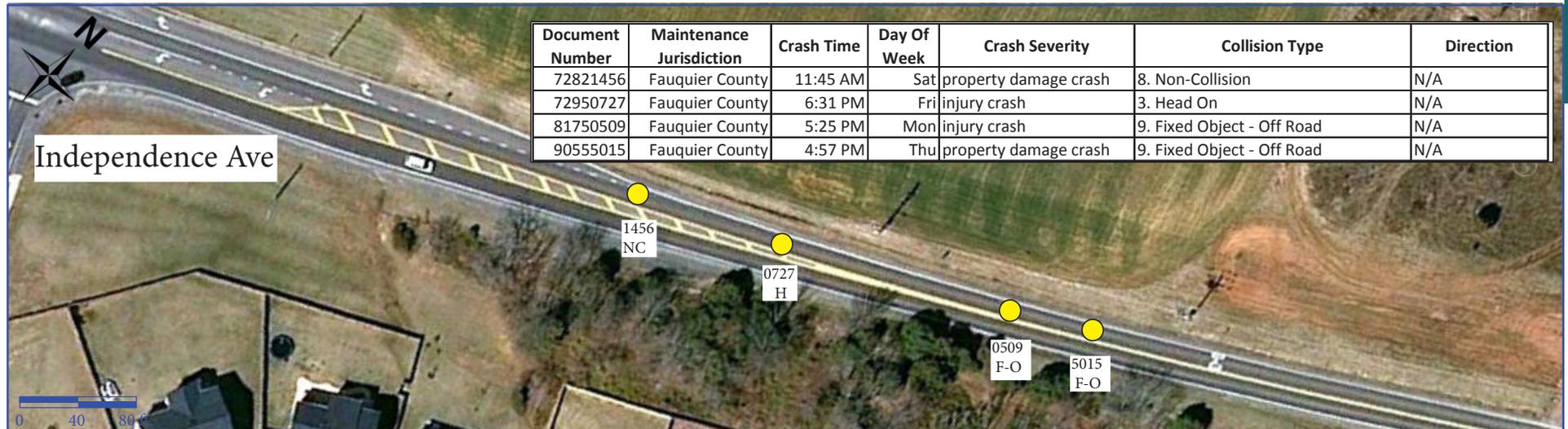
Construct pedestrian features including sidewalks and crosswalks.

Construct exclusive left turn lanes and change signal phasing to "un-split" side street and have protected/permitted phasing.

Consider future roundabout once additional road network is constructed and Route 28 volumes decrease as a result of the additional network.

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| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>0.15 mile southwest of Independence Ave to Independence Ave</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 10/49</p> |
| | | <p>FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal</p> | <p>RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | |

III. Analysis and Recommendations



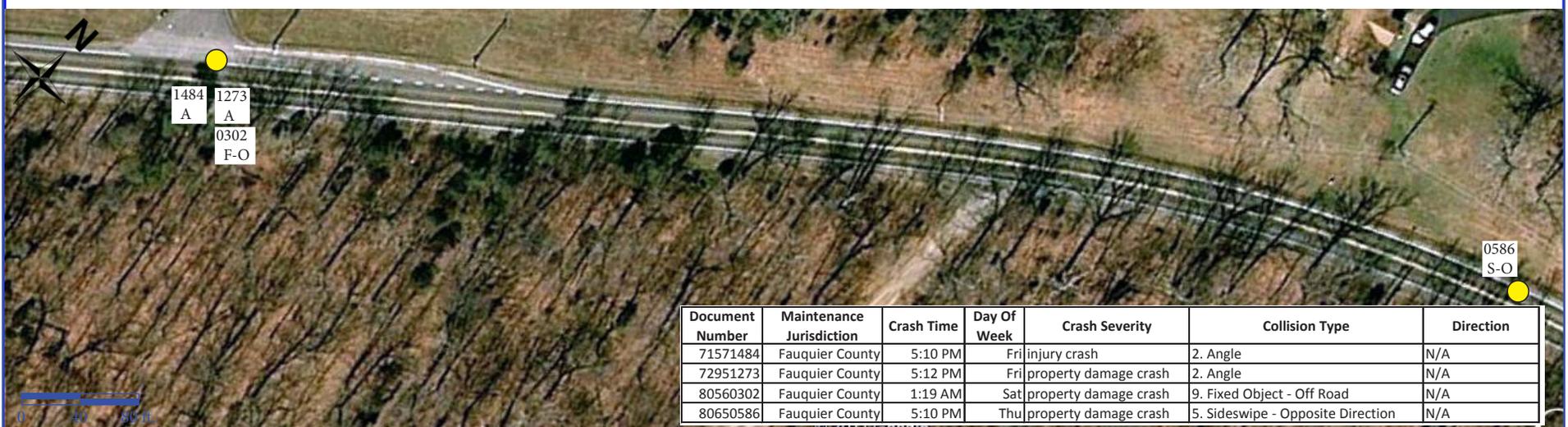
| | | | | |
|---|--|--|--|-----------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: Independence Ave to 0.12 mile northeast of Independence Ave Bottom: 0.12 mile to 0.27 mile northeast of Independence Ave</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | Sheet No. |
| | | | | 11/49 |

III. Analysis and Recommendations



| | | | | |
|---|--|--|--|------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.27 mile northeast of Independence Ave to 0.10 mile southwest of Prarie View Ln Bottom: 0.10 mile southwest of Prarie View Ln to Great Marsh Pl</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No.</p> |
| | | | | <p>12/49</p> |

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|-----------------------------------|-----------|
| 71571484 | Fauquier County | 5:10 PM | Fri | injury crash | 2. Angle | N/A |
| 72951273 | Fauquier County | 5:12 PM | Fri | property damage crash | 2. Angle | N/A |
| 80560302 | Fauquier County | 1:19 AM | Sat | property damage crash | 9. Fixed Object - Off Road | N/A |
| 80650586 | Fauquier County | 5:10 PM | Thu | property damage crash | 5. Sideswipe - Opposite Direction | N/A |

637 Berkmar Circle
Charlottesville, VA 22901

Top: Great Marsh Pl to 0.20 mile northeast of Great Marsh Pl
Bottom: 0.20 mile to 0.35 mile northeast of Great Marsh Pl

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

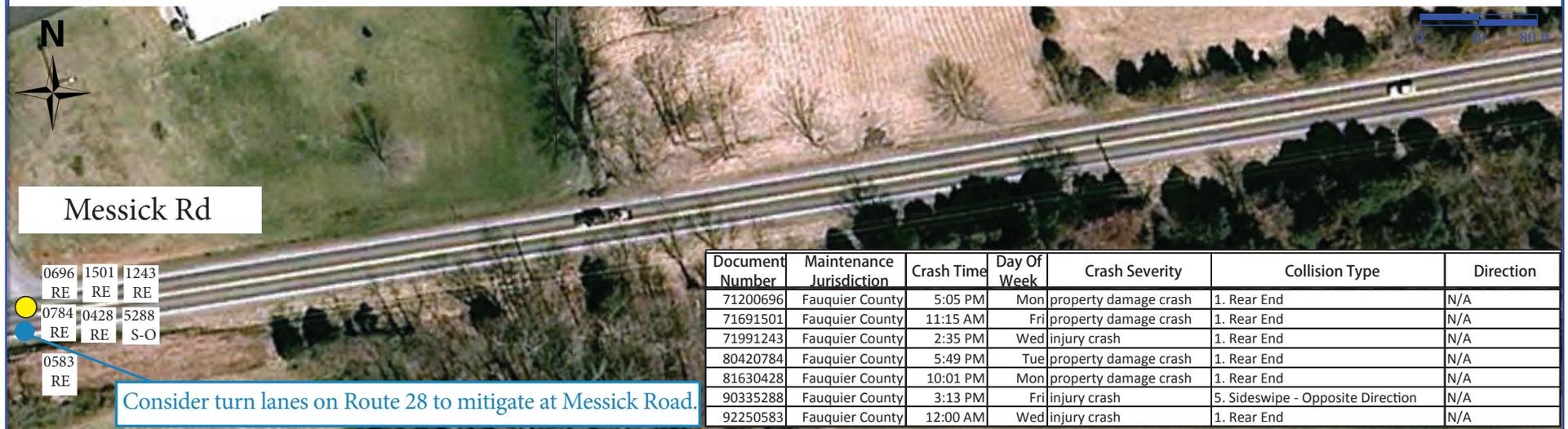
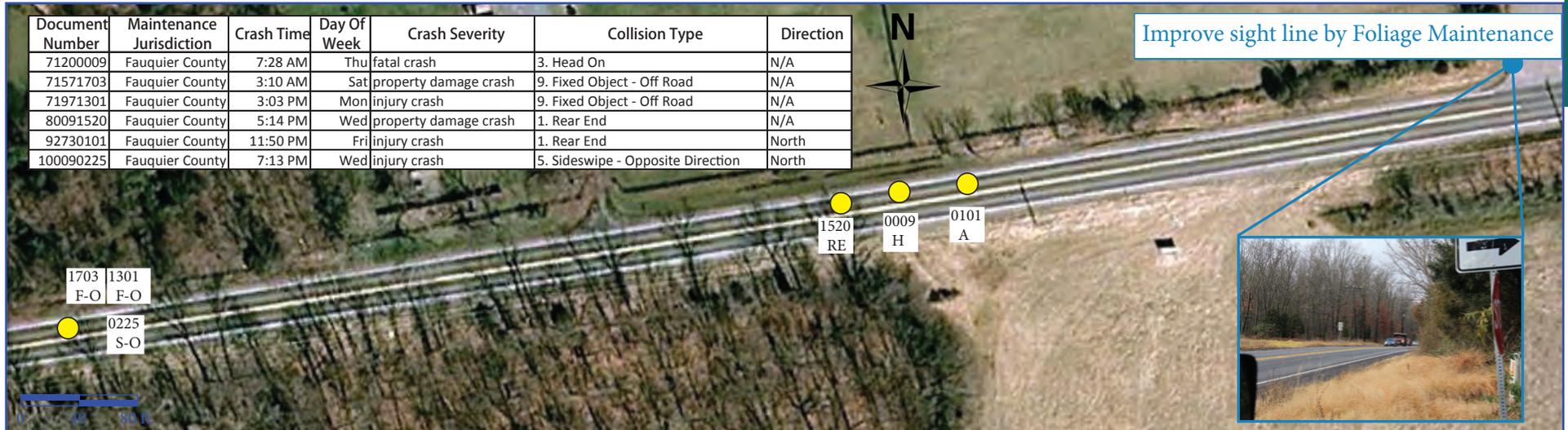
Sheet No.
13/49

III. Analysis and Recommendations



| | | | | | | | | | | | | | | | | | | | |
|--|--|---|------------|---------------------------|---------------|--------|---------------------------|----------------------------|-----------|------------------|---------|-----------------|-------------|-----------------------------------|-------------------------------|--|--|--|--------------------|
|  637 Berkmar Circle Charlottesville, VA 22901 | 0.35 mile northeast of Great Marsh Pl to 0.05 mile northeast of Liberty Rd | <table border="0"> <tr> <td>● Location</td> <td>A Angle</td> <td>B Backed Into</td> <td>D Deer</td> <td>FI Fixed Object - In Road</td> </tr> <tr> <td>FO Fixed Object - Off Road</td> <td>H Head On</td> <td>NC Non-Collision</td> <td>O Other</td> <td>OA Other Animal</td> </tr> <tr> <td>RE Rear End</td> <td>SO Sideswipe - Opposite direction</td> <td>SS Sideswipe - Same direction</td> <td></td> <td></td> </tr> </table> | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 14/49 |
| ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | | | | | | | | | | | | | | | |
| FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | | | | | | | | | | | | | | |
| RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | | | | | | | | | | | | | | | |

III. Analysis and Recommendations



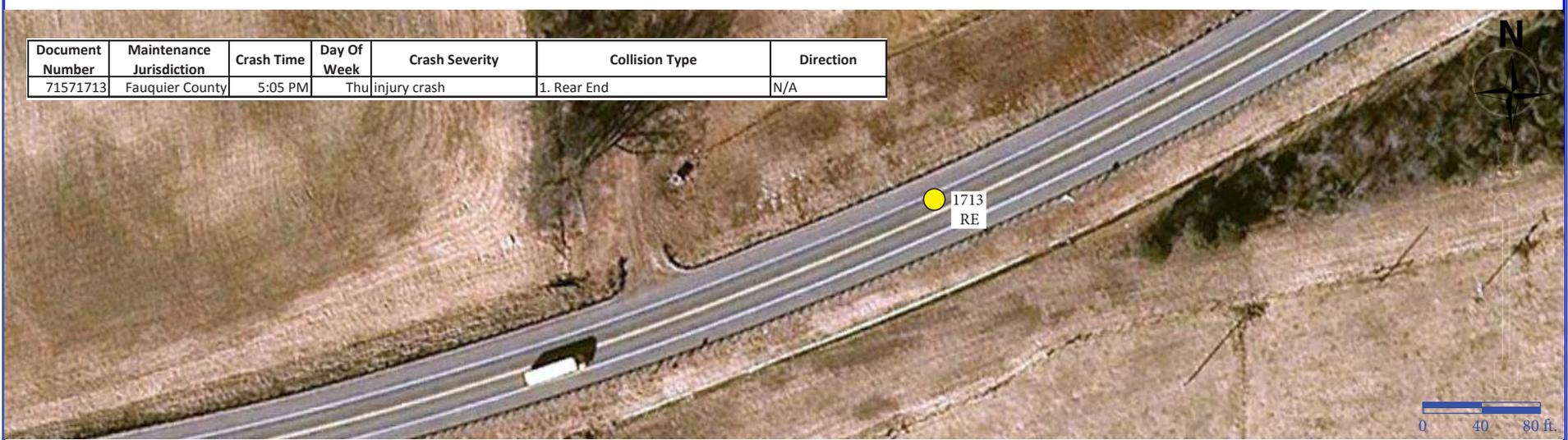
| | | | | |
|---|--|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.05 mile northeast of Liberty Rd to Rt 650</p> <p>Bottom: Rt 650 to 0.15 mile northeast of Rt 650</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road</p> <p>FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal</p> <p>RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 15/49</p> |
|---|--|--|--|----------------------------|

III. Analysis and Recommendations



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|--|---|--|--|----------------------------|
| <p>EPR 637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.15 mile to 0.30 mile northeast of Rt 650 Bottom: 0.30 mile to 0.45 mile northeast of Rt 650</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 16/49</p> |
|--|---|--|--|----------------------------|

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|----------------|-----------|
| 71571713 | Fauquier County | 5:05 PM | Thu | injury crash | 1. Rear End | N/A |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

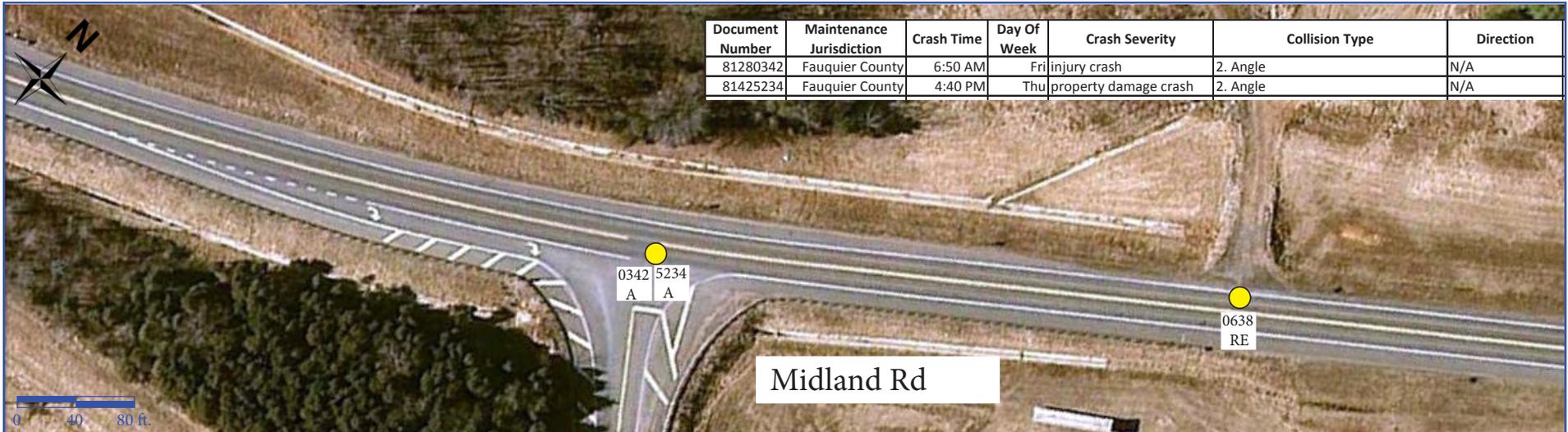
Top: 0.45 mile to 0.60 mile northeast of Rt 650
Bottom: 0.60 mile to 0.66 mile northeast of Rt 650

● Location
 A Angle
 B Backed Into
 D Deer
 FI Fixed Object - In Road
 FO Fixed Object - Off Road
 H Head On
 NC Non-Collision
 O Other
 OA Other Animal
 RE Rear End
 SO Sideswipe - Opposite direction
 SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
17/49

III. Analysis and Recommendations



EPR
637 Berkmar Circle
Charlottesville, VA 22901

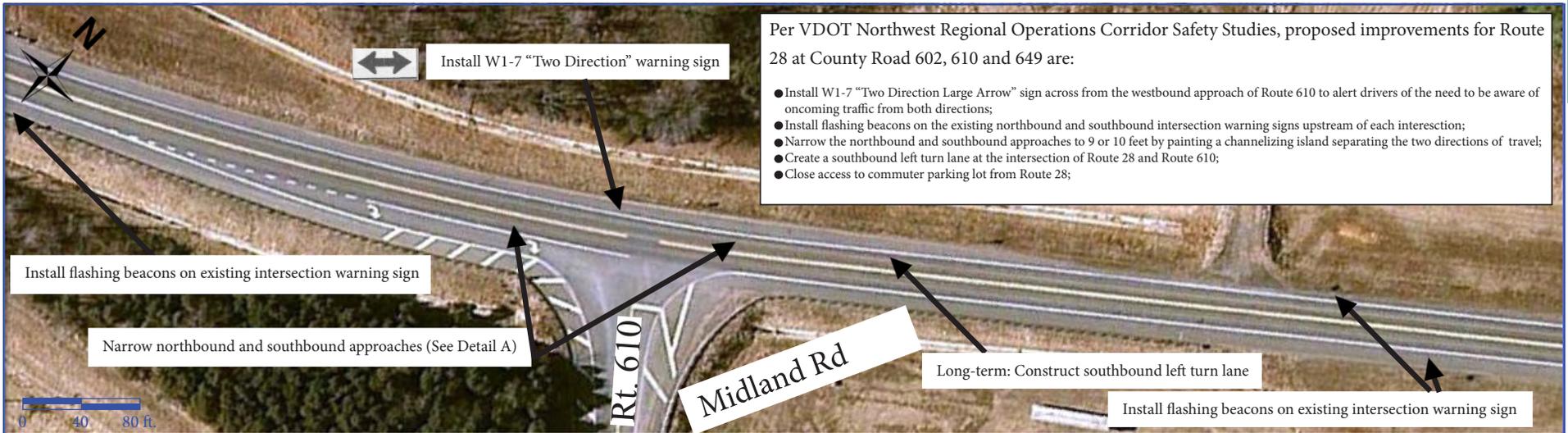
Top: 0.05 mile southwest of Rt 610 to 0.10 mile northeast of Rt 610
Bottom: 0.05 mile southwest of Rt 649 (Old Carolina Rd) to 0.10 mile northeast of Rt 649 (Old Carolina Rd)

● Location A Angle B Backed Into D Deer FI Fixed Object - In Road
FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

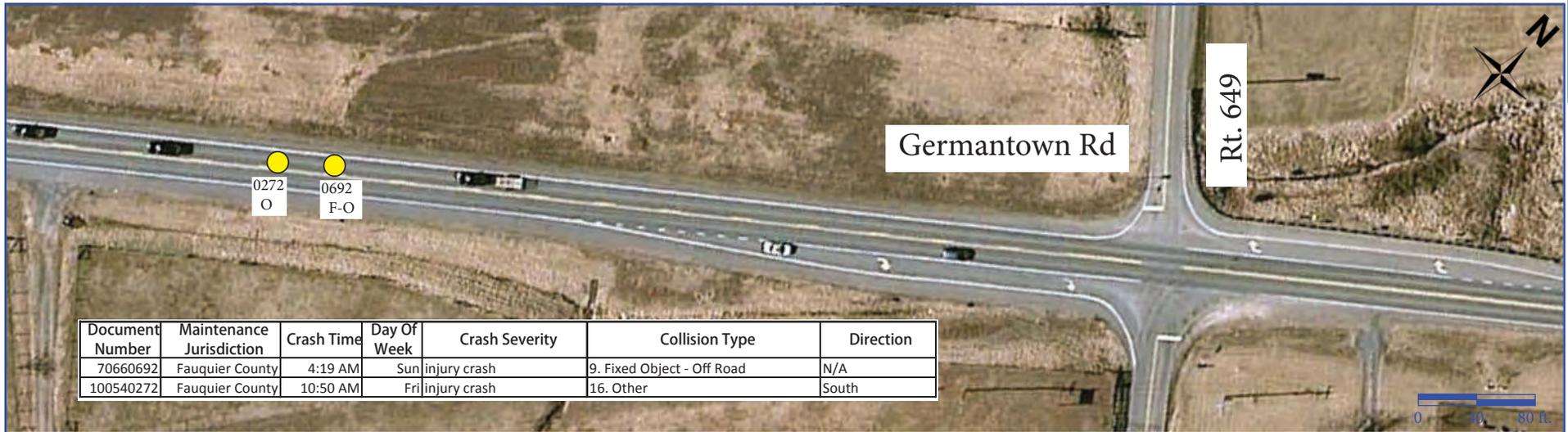
Sheet No.
18A/49

III. Analysis and Recommendations

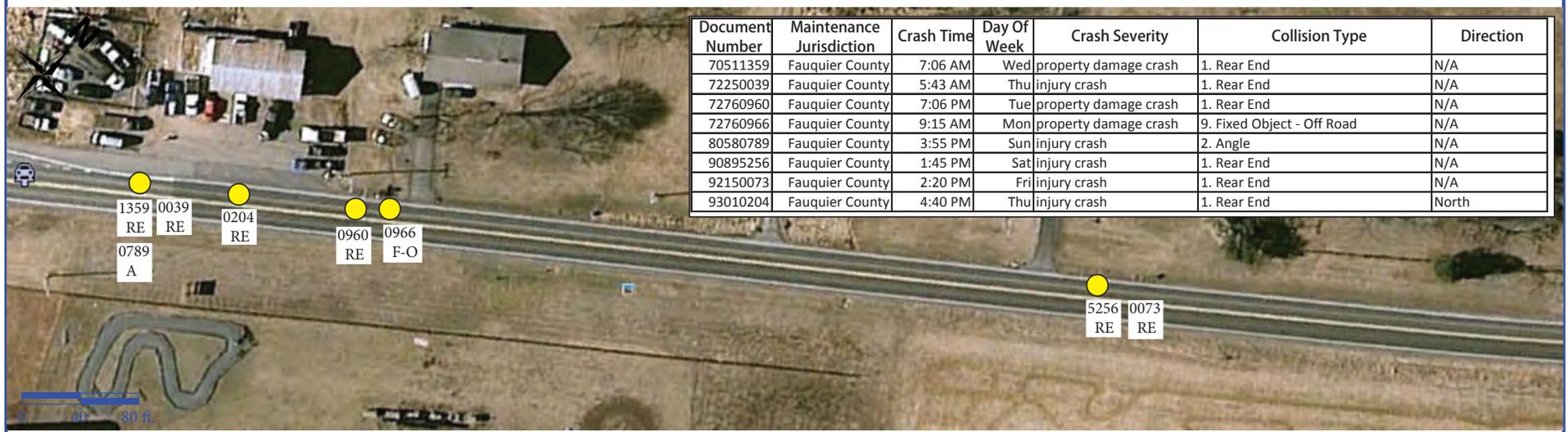


| | | | | |
|---|---|--|--|-----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.05 mile southwest of Rt 610 to 0.10 mile northeast of Rt 610 Bottom: 0.05 mile southwest of Rt 649 (Old Carolina Rd) to 0.10 mile northeast of Rt 649 (Old Carolina Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 18B/49</p> |
| | <p>III. Analysis and Recommendations</p> | | | |

III. Analysis and Recommendations



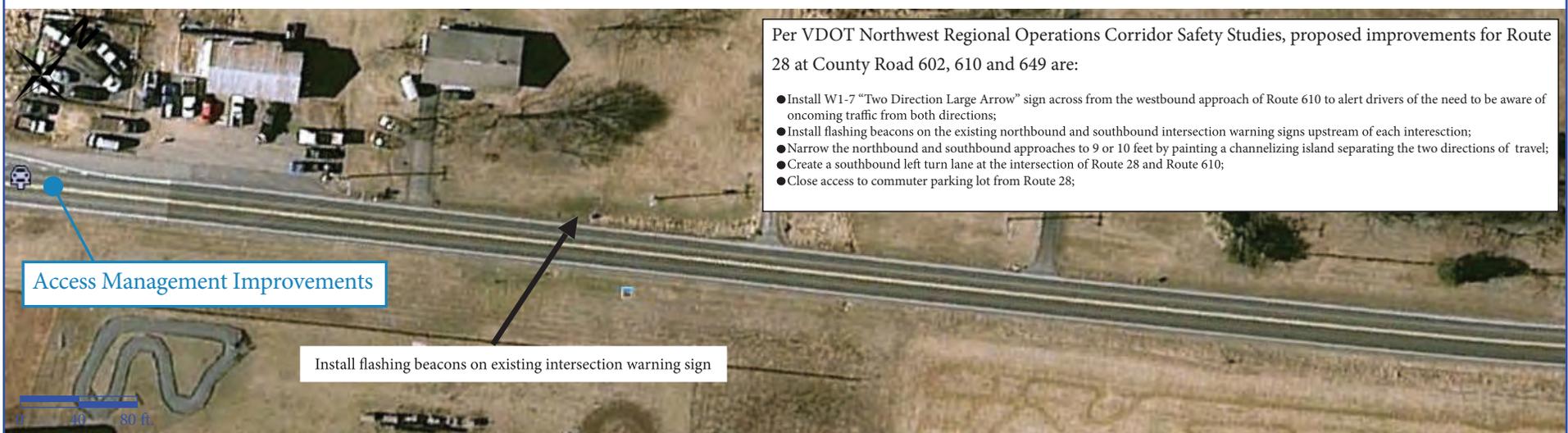
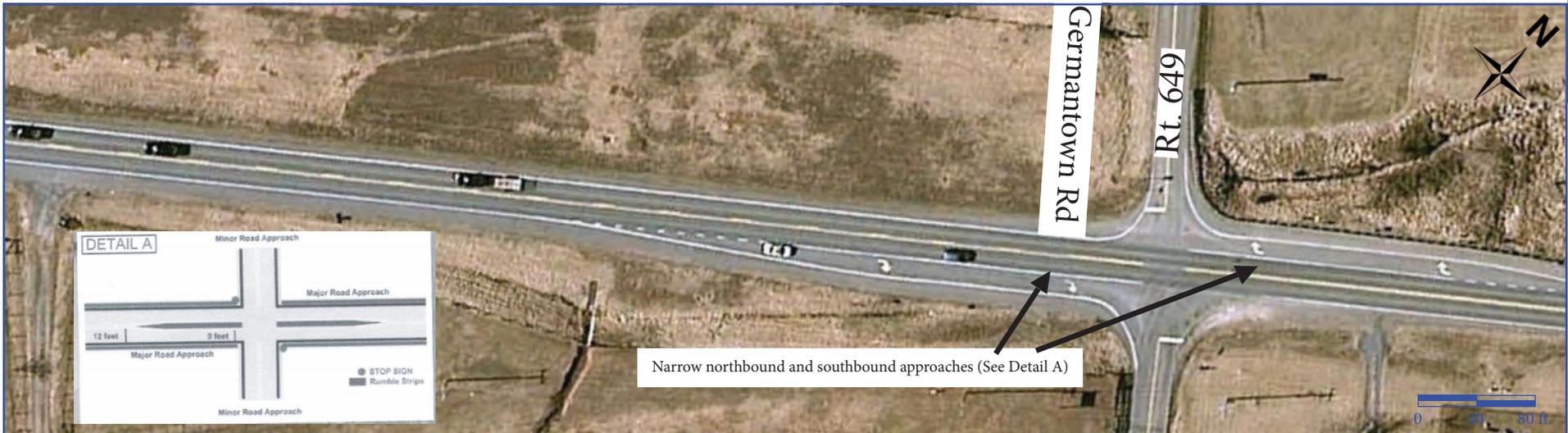
| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|----------------------------|-----------|
| 70660692 | Fauquier County | 4:19 AM | Sun | injury crash | 9. Fixed Object - Off Road | N/A |
| 100540272 | Fauquier County | 10:50 AM | Fri | injury crash | 16. Other | South |



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------------------|-----------|
| 70511359 | Fauquier County | 7:06 AM | Wed | property damage crash | 1. Rear End | N/A |
| 72250039 | Fauquier County | 5:43 AM | Thu | injury crash | 1. Rear End | N/A |
| 72760960 | Fauquier County | 7:06 PM | Tue | property damage crash | 1. Rear End | N/A |
| 72760966 | Fauquier County | 9:15 AM | Mon | property damage crash | 9. Fixed Object - Off Road | N/A |
| 80580789 | Fauquier County | 3:55 PM | Sun | injury crash | 2. Angle | N/A |
| 90895256 | Fauquier County | 1:45 PM | Sat | injury crash | 1. Rear End | N/A |
| 92150073 | Fauquier County | 2:20 PM | Fri | injury crash | 1. Rear End | N/A |
| 93010204 | Fauquier County | 4:40 PM | Thu | injury crash | 1. Rear End | North |

| | | | | |
|---|---|--|--|------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile northeast of Rt 649 (Old Carolina Rd) to 0.05 mile northeast of Rt 649 (Germantown Rd) Bottom: 0.05 mile to 0.20 mile northeast of Rt 649 (Germantown Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No.</p> |
| | | | | <p>19A/49</p> |

III. Analysis and Recommendations

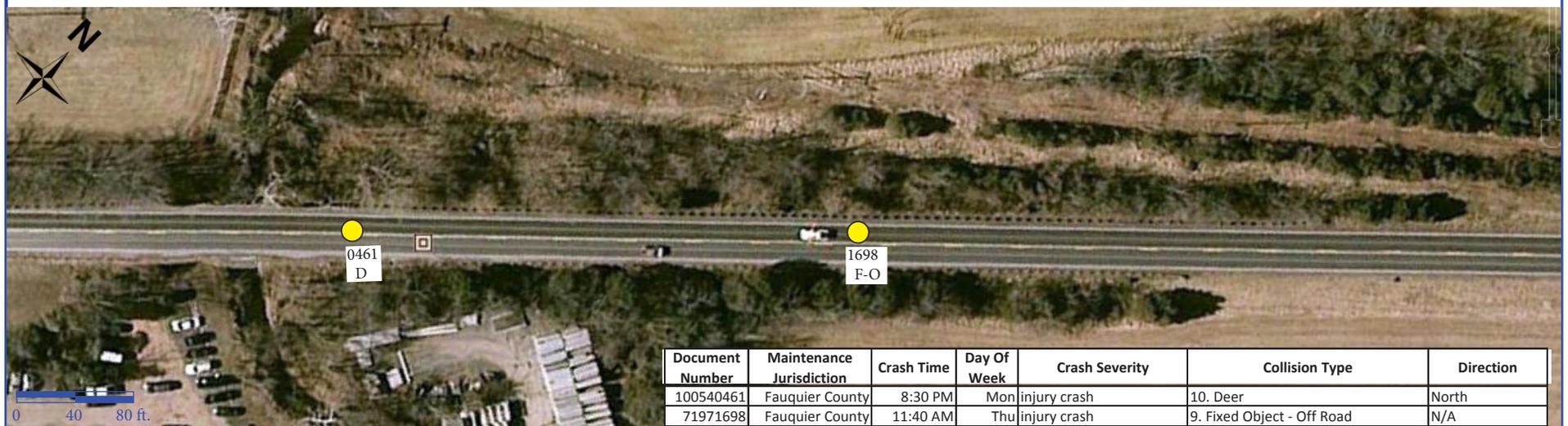


Per VDOT Northwest Regional Operations Corridor Safety Studies, proposed improvements for Route 28 at County Road 602, 610 and 649 are:

- Install W1-7 "Two Direction Large Arrow" sign across from the westbound approach of Route 610 to alert drivers of the need to be aware of oncoming traffic from both directions;
- Install flashing beacons on the existing northbound and southbound intersection warning signs upstream of each intersection;
- Narrow the northbound and southbound approaches to 9 or 10 feet by painting a channelizing island separating the two directions of travel;
- Create a southbound left turn lane at the intersection of Route 28 and Route 610;
- Close access to commuter parking lot from Route 28;

| | | | | |
|---|---|--|--|-----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile northeast of Rt 649 (Old Carolina Rd) to 0.05 mile northeast of Rt 649 (Germantown Rd) Bottom: 0.05 mile to 0.20 mile northeast of Rt 649 (Germantown Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 19B/49</p> |
|---|---|--|--|-----------------------------|

III. Analysis and Recommendations



| | | | | |
|---|---|--|---|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile southwest of Smith Midland Ln to 0.05 mile northeast of Smith Midland Ln Bottom: 0.05 mile to 0.20 mile northeast of Smith Midland Ln</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study</p> | <p>Sheet No. 20/49</p> |
| | | | <p>Route 29 to County Line Fauquier, Virginia</p> | |

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------------------|-----------|
| 72880445 | Fauquier County | 7:08 PM | Sun | property damage crash | 9. Fixed Object - Off Road | N/A |
| 80301680 | Fauquier County | 11:27 AM | Sun | property damage crash | 1. Rear End | N/A |
| 81085157 | Fauquier County | 4:10 PM | Wed | injury crash | 1. Rear End | N/A |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

Top: 0.20 mile to 0.35 mile northeast of Smith Midland Ln
Bottom: 0.35 mile to 0.50 mile northeast of Smith Midland Ln

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

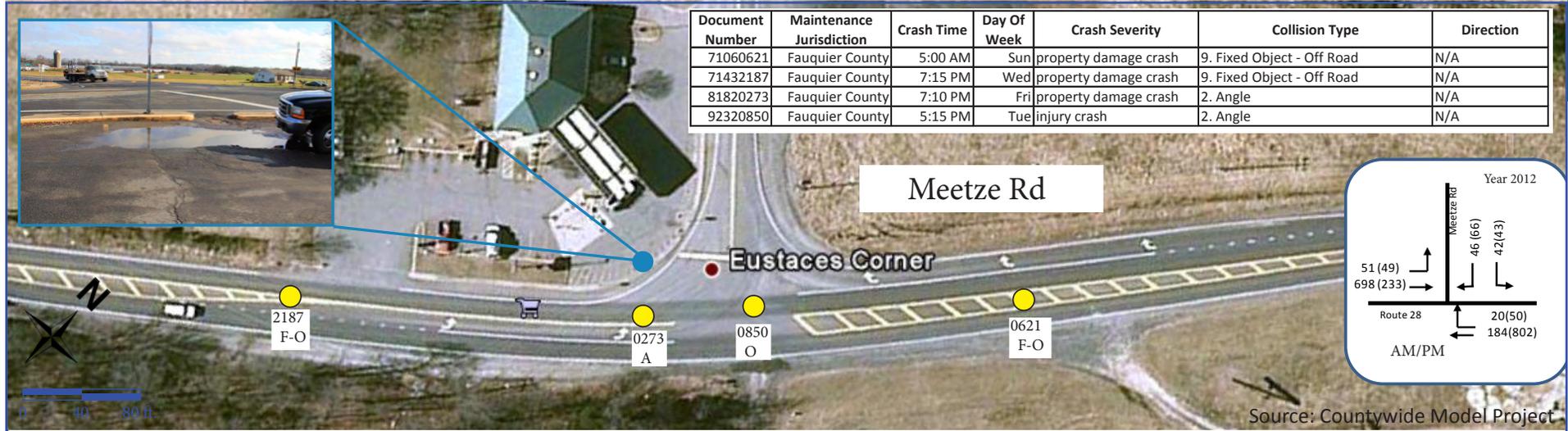
Sheet No.
21/49

III. Analysis and Recommendations



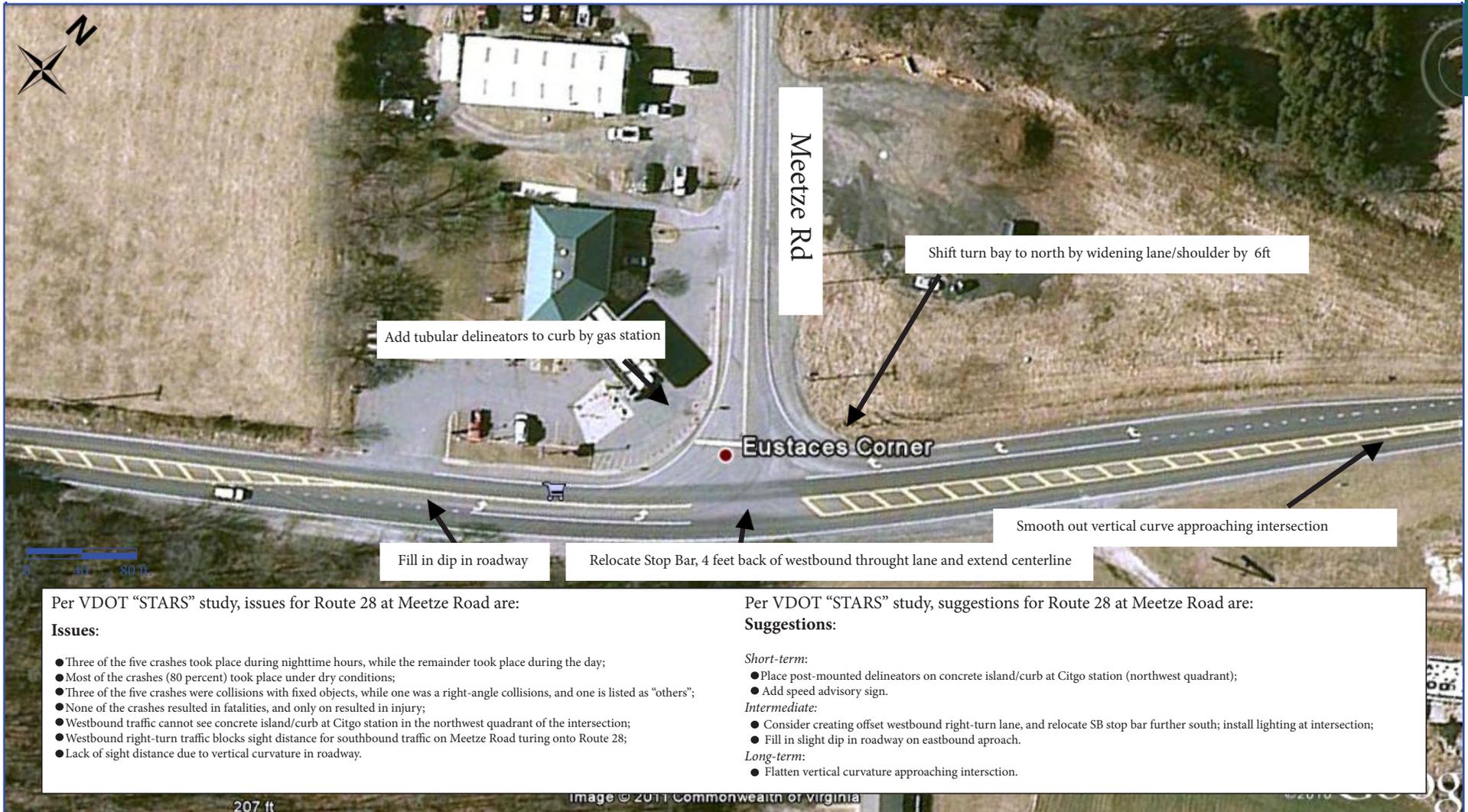
| | | | | |
|---|---|--|---|-----------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.50 mile to 0.65 mile northeast of Smith Midland Ln Bottom: 0.65 mile to 0.80 mile northeast of Smith Midland Ln</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | Route 28 Corridor Spot Location | Sheet No. |
| | | | Route 29 to County Line Fauquier, Virginia | 22/49 |

III. Analysis and Recommendations



| | | | | |
|---|---|---|--|---------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | Top: 0.08 mile southwest of Rt 643 (Meetze Rd) to 0.07 mile northeast of Rt 643 (Meetze Rd) Bottom: 0.07 mile to 0.25 mile northeast of Rt 643 (Meetze Rd) | ● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 23A/49 |
|---|---|---|--|---------------------|

III. Analysis and Recommendations



Per VDOT "STARS" study, issues for Route 28 at Meetze Road are:

Issues:

- Three of the five crashes took place during nighttime hours, while the remainder took place during the day;
- Most of the crashes (80 percent) took place under dry conditions;
- Three of the five crashes were collisions with fixed objects, while one was a right-angle collisions, and one is listed as "others";
- None of the crashes resulted in fatalities, and only one resulted in injury;
- Westbound traffic cannot see concrete island/curb at Citgo station in the northwest quadrant of the intersection;
- Westbound right-turn traffic blocks sight distance for southbound traffic on Meetze Road turning onto Route 28;
- Lack of sight distance due to vertical curvature in roadway.

Per VDOT "STARS" study, suggestions for Route 28 at Meetze Road are:

Suggestions:

Short-term:

- Place post-mounted delineators on concrete island/curb at Citgo station (northwest quadrant);
- Add speed advisory sign.

Intermediate:

- Consider creating offset westbound right-turn lane, and relocate SB stop bar further south; install lighting at intersection;
- Fill in slight dip in roadway on eastbound approach.

Long-term:

- Flatten vertical curvature approaching intersection.

EPR
637 Berkmar Circle
Charlottesville, VA 22901

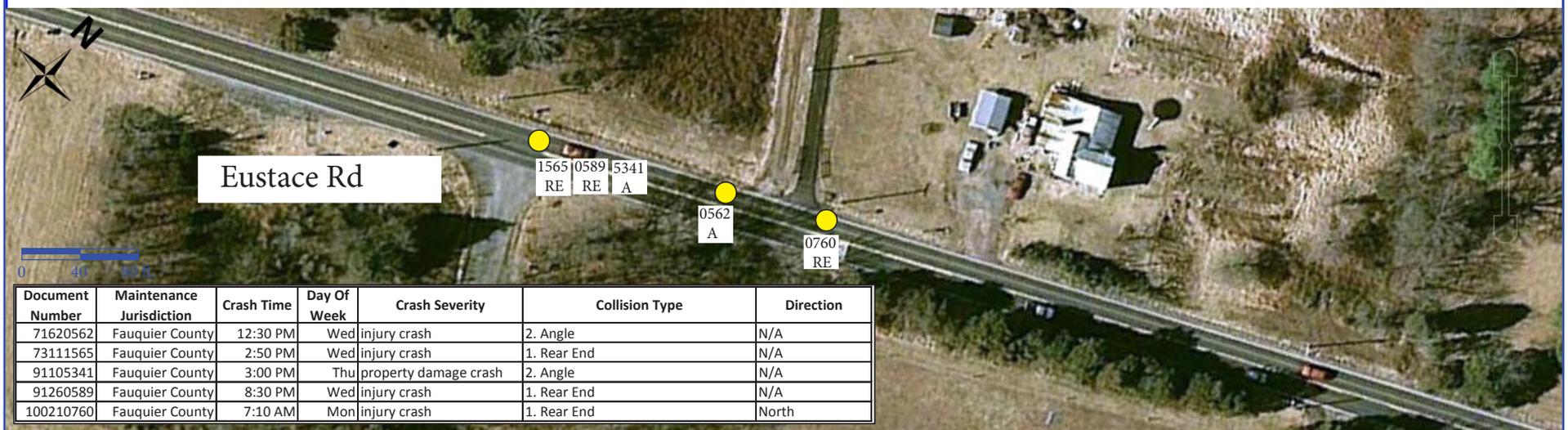
Top: 0.08 mile southwest of Rt 643 (Meetze Rd) to 0.07 mile northeast of Rt 643 (Meetze Rd)
Bottom: 0.07 mile to 0.25 mile northeast of Rt 643 (Meetze Rd)

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

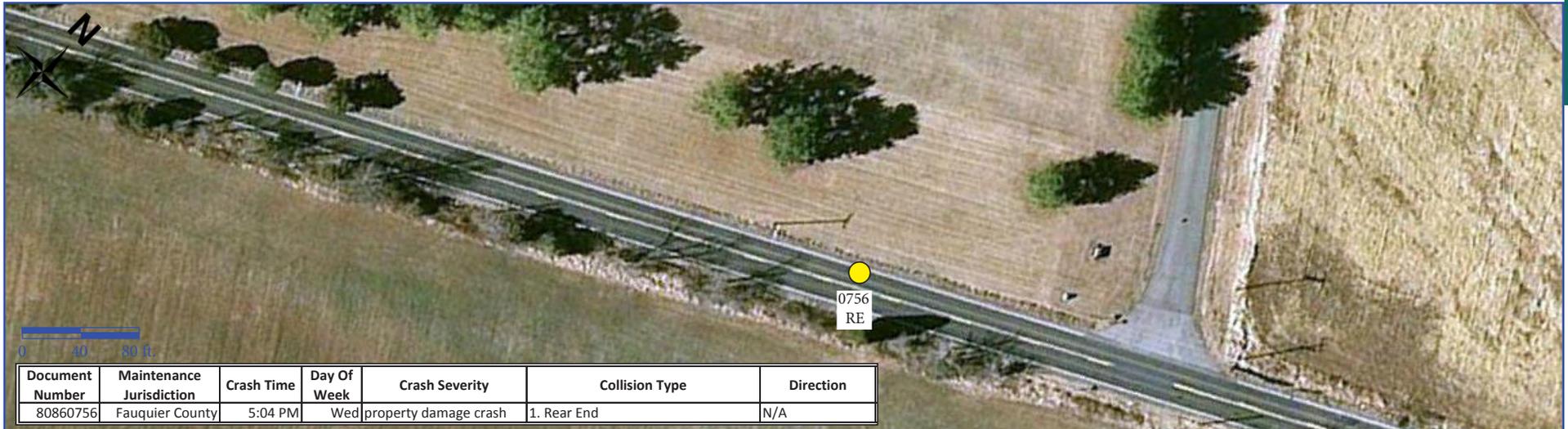
Sheet No.
23B/49

III. Analysis and Recommendations



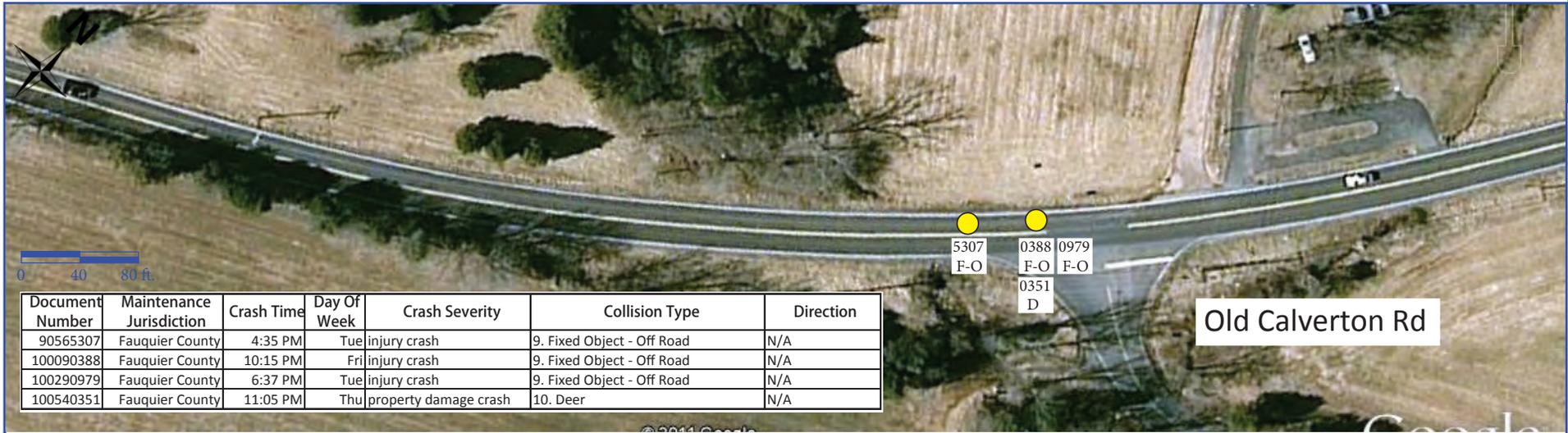
| | | | | |
|---|---|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.27 mile to 0.37 mile northeast of Rt 643 (Meetze Rd) Bottom: 0.05 mile southwest of Rt 643 (Eustace Rd) to 0.10 mile northeast of Rt 643 (Eustace Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 24/49</p> |
|---|---|--|--|----------------------------|

III. Analysis and Recommendations



| | | | | |
|---|---|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile to 0.40 mile northeast of Rt 643 (Eustace Rd) Bottom: 0.40 mile to 0.50 mile northeast of Rt 643 (Eustace Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 25/49</p> |
|---|---|--|--|----------------------------|

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------------------|-----------|
| 90565307 | Fauquier County | 4:35 PM | Tue | injury crash | 9. Fixed Object - Off Road | N/A |
| 100090388 | Fauquier County | 10:15 PM | Fri | injury crash | 9. Fixed Object - Off Road | N/A |
| 100290979 | Fauquier County | 6:37 PM | Tue | injury crash | 9. Fixed Object - Off Road | N/A |
| 100540351 | Fauquier County | 11:05 PM | Thu | property damage crash | 10. Deer | N/A |

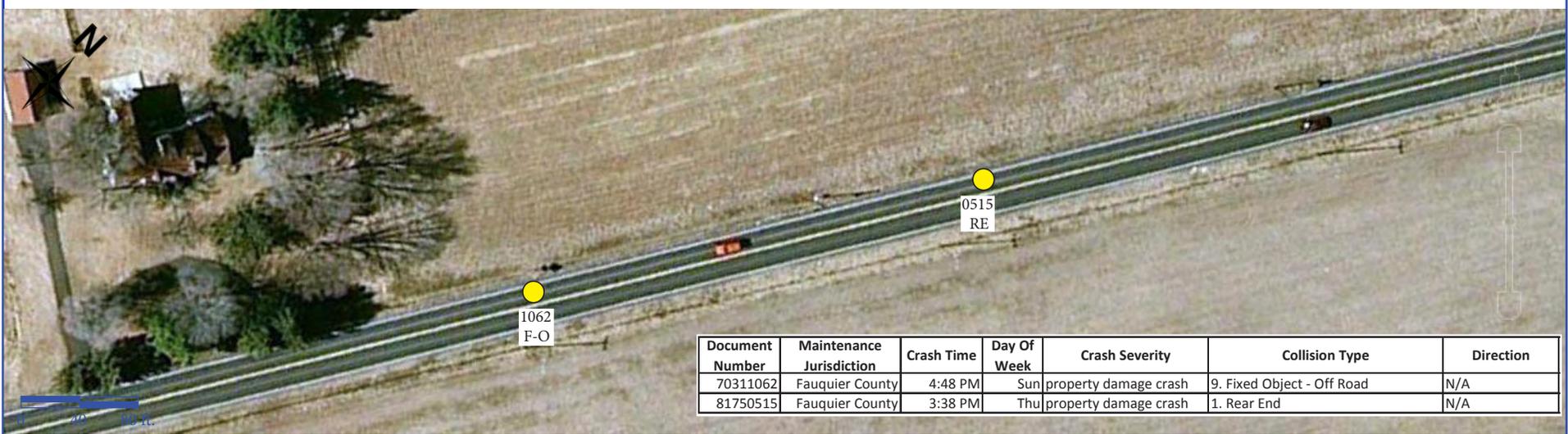
Old Calverton Rd



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|----------------|-----------|
| 100200570 | Fauquier County | 8:29 AM | Fri | injury crash | 1. Rear End | South |

| | | | | |
|---|---|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile southwest of Rt 642 to 0.05 mile northeast of Rt 642 Bottom: 0.05 mile to 0.20 mile northeast of Rt 642</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 26/49</p> |
|---|---|--|--|----------------------------|

III. Analysis and Recommendations



EPR
637 Berkmar Circle
Charlottesville, VA 22901

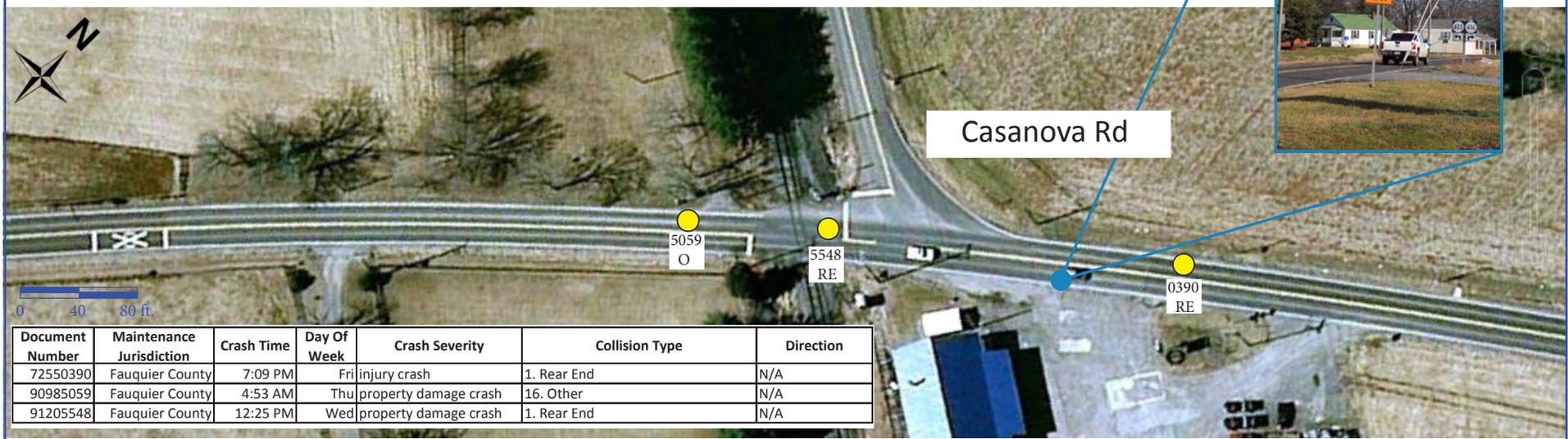
Top: 0.20 mile to 0.35 mile northeast of Rt 642
Bottom: 0.35 mile to 0.50 mile northeast of Rt 642

- Location A Angle B Backed Into D Deer FI Fixed Object - In Road
- FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
- RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
27/49

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------|-----------|
| 72550390 | Fauquier County | 7:09 PM | Fri | injury crash | 1. Rear End | N/A |
| 90985059 | Fauquier County | 4:53 AM | Thu | property damage crash | 16. Other | N/A |
| 91205548 | Fauquier County | 12:25 PM | Wed | property damage crash | 1. Rear End | N/A |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

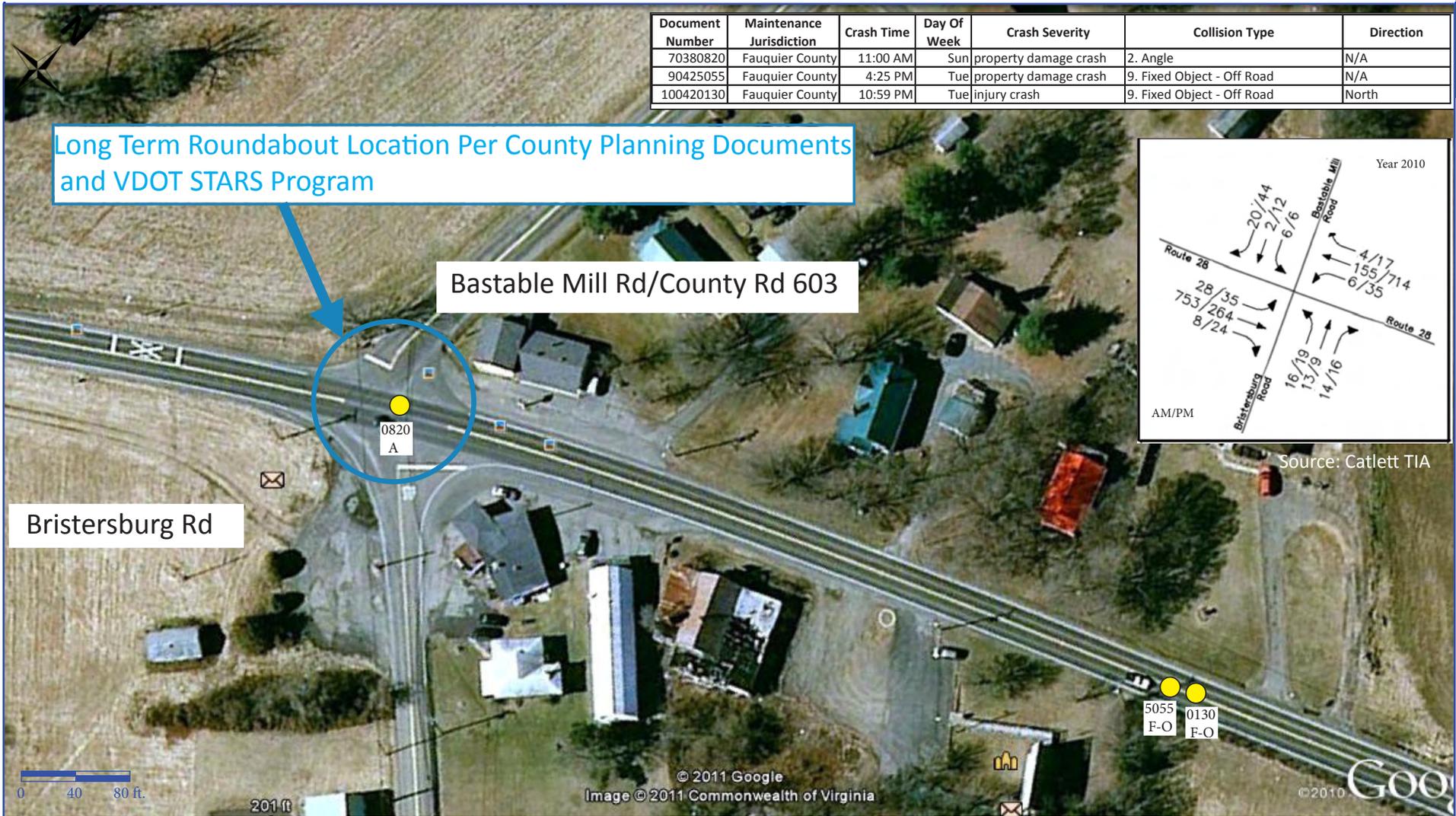
Top: 0.50 mile to 0.65 mile northeast of Rt 642
Bottom: 0.65 mile to 0.80 mile northeast of Rt 642

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
28/49

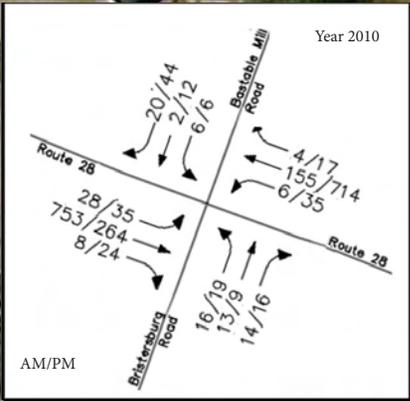
III. Analysis and Recommendations



Long Term Roundabout Location Per County Planning Documents and VDOT STARS Program

Bastable Mill Rd/County Rd 603

Bristersburg Rd



Source: Catlett TIA

EPR
637 Berkmar Circle
Charlottesville, VA 22901

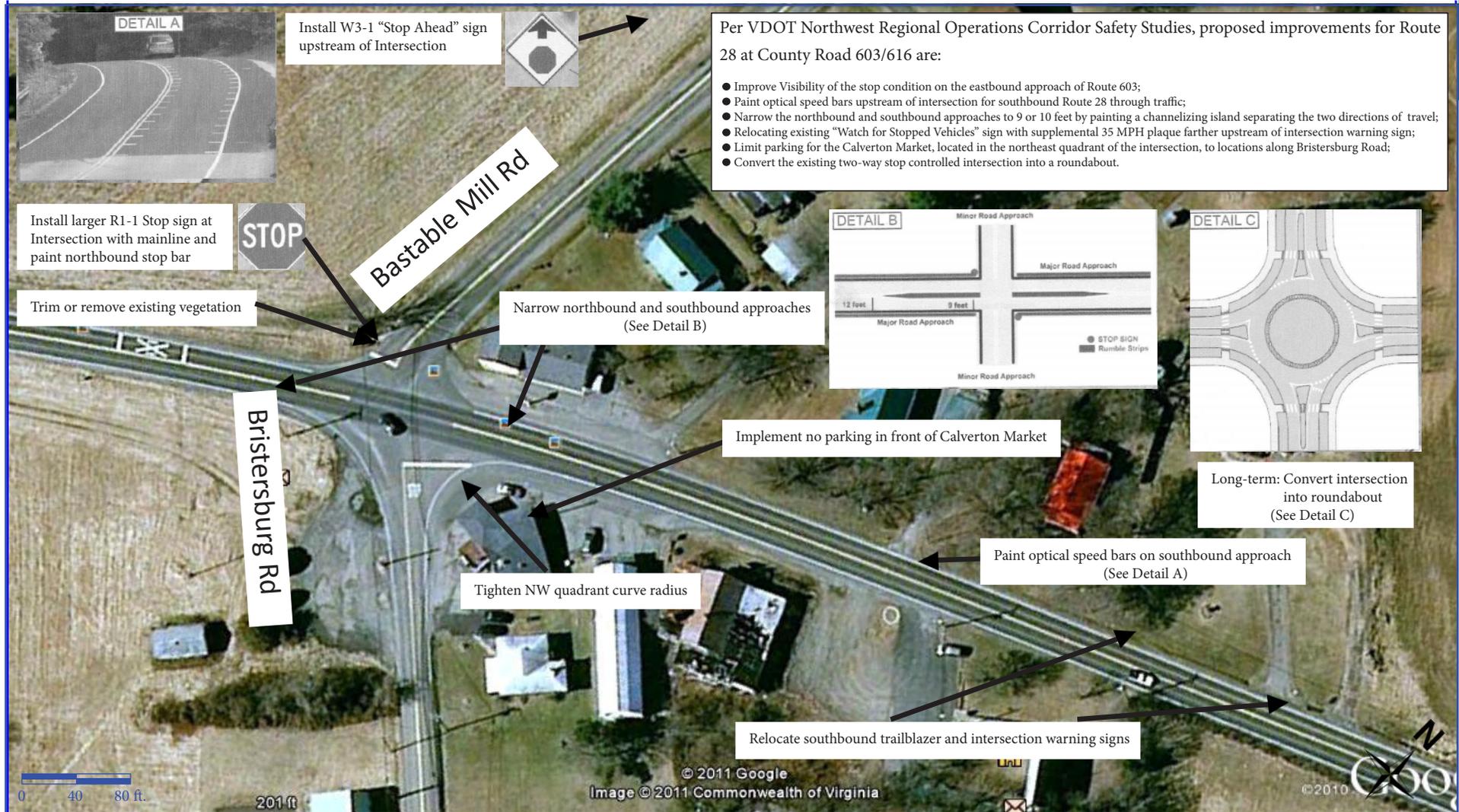
0.06 mile southwest of Route 616 (Bristersburg Rd) to 0.09 mile northeast of Route 616 (Bristersburg Rd)

● Location A Angle B Backed Into D Deer FI Fixed Object - In Road
FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
29A/49

III. Analysis and Recommendations



Per VDOT Northwest Regional Operations Corridor Safety Studies, proposed improvements for Route 28 at County Road 603/616 are:

- Improve Visibility of the stop condition on the eastbound approach of Route 603;
- Paint optical speed bars upstream of intersection for southbound Route 28 through traffic;
- Narrow the northbound and southbound approaches to 9 or 10 feet by painting a channelizing island separating the two directions of travel;
- Relocating existing "Watch for Stopped Vehicles" sign with supplemental 35 MPH plaque farther upstream of intersection warning sign;
- Limit parking for the Calverton Market, located in the northeast quadrant of the intersection, to locations along Bristersburg Road;
- Convert the existing two-way stop controlled intersection into a roundabout.

EPR
637 Berkmar Circle
Charlottesville, VA 22901

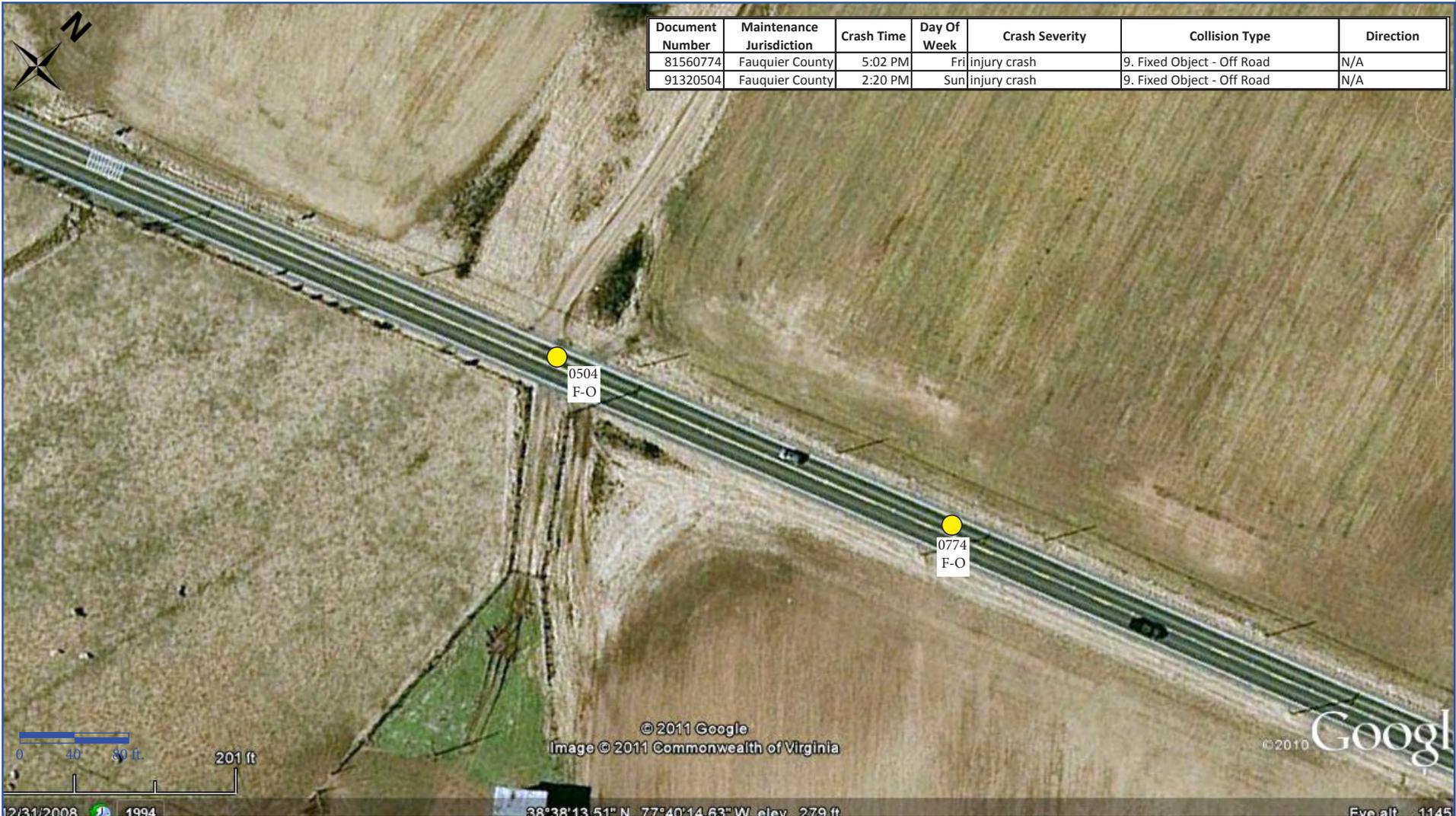
0.06 mile southwest of Route 616 (Bristersburg Rd) to 0.09 mile northeast of Route 616 (Bristersburg Rd)

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

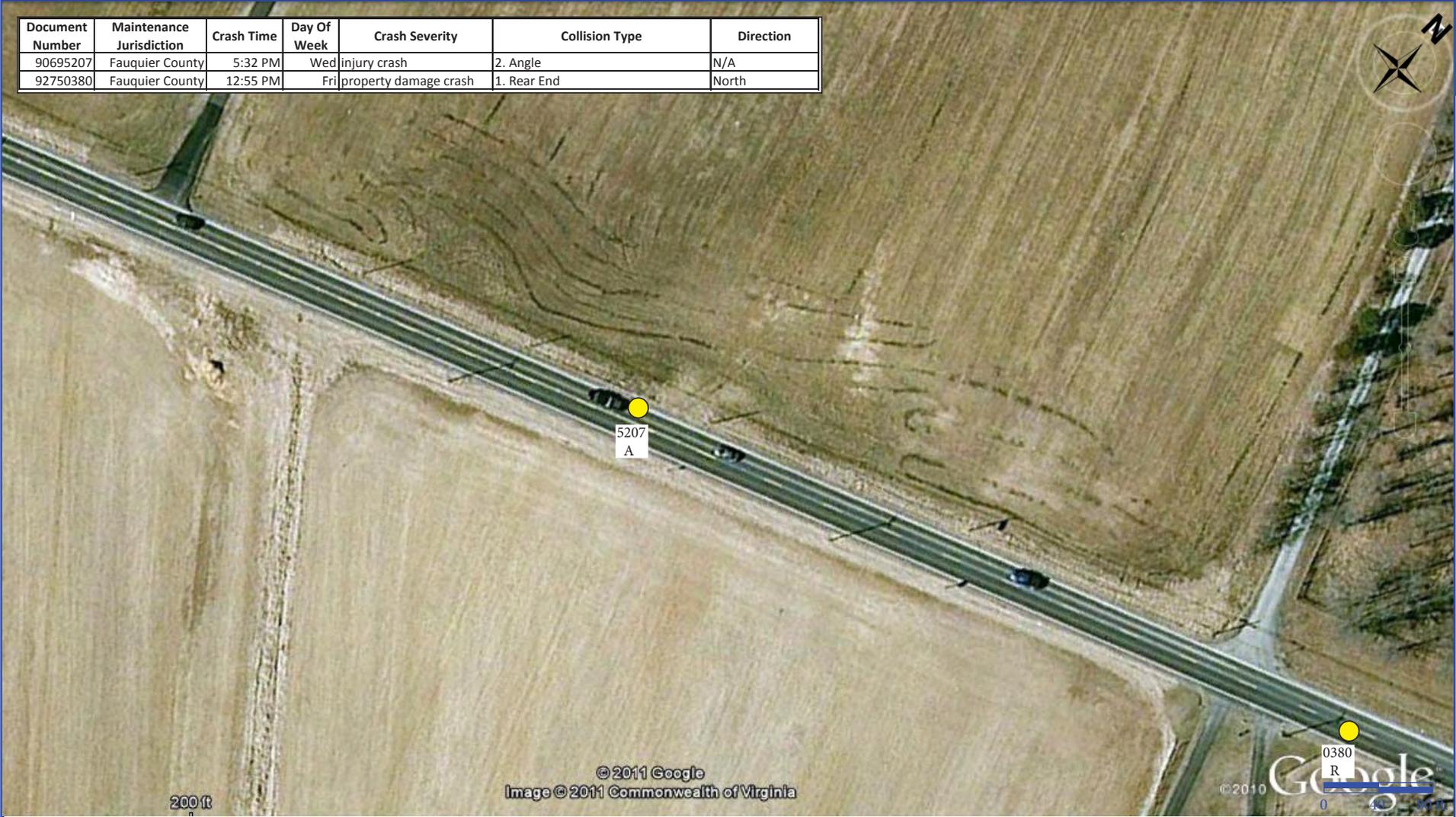
Sheet No.
29B/49

III. Analysis and Recommendations



| | | | | | | | | | | | | | | | | | | | |
|--|---|---|------------|---------------------------|---------------|--------|---------------------------|----------------------------|-----------|------------------|---------|-----------------|-------------|-----------------------------------|-------------------------------|--|--|--|--------------------|
|  637 Berkmar Circle Charlottesville, VA 22901 | 0.09 mile to 0.25 mile northeast of Route 616 (Bristersburg Rd) | <table border="0"> <tr> <td>● Location</td> <td>A Angle</td> <td>B Backed Into</td> <td>D Deer</td> <td>FI Fixed Object - In Road</td> </tr> <tr> <td>FO Fixed Object - Off Road</td> <td>H Head On</td> <td>NC Non-Collision</td> <td>O Other</td> <td>OA Other Animal</td> </tr> <tr> <td>RE Rear End</td> <td>SO Sideswipe - Opposite direction</td> <td>SS Sideswipe - Same direction</td> <td></td> <td></td> </tr> </table> | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 30/49 |
| ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | | | | | | | | | | | | | | | |
| FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | | | | | | | | | | | | | | |
| RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | | | | | | | | | | | | | | | |

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------|-----------|
| 90695207 | Fauquier County | 5:32 PM | Wed | injury crash | 2. Angle | N/A |
| 92750380 | Fauquier County | 12:55 PM | Fri | property damage crash | 1. Rear End | North |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

0.25 mile to 0.40 mile northeast of Route 616 (Bristersburg Rd)

● Location
 A Angle
 B Backed Into
 D Deer
 FI Fixed Object - In Road
 FO Fixed Object - Off Road
 H Head On
 NC Non-Collision
 O Other
 OA Other Animal
 RE Rear End
 SO Sideswipe - Opposite direction
 SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
31/49

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|----------------------------|-----------|
| 72040669 | Fauquier County | 3:30 PM | Sat | property damage crash | 9. Fixed Object - Off Road | N/A |
| 100540311 | Fauquier County | 12:25 PM | Tue | property damage crash | 1. Rear End | North |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

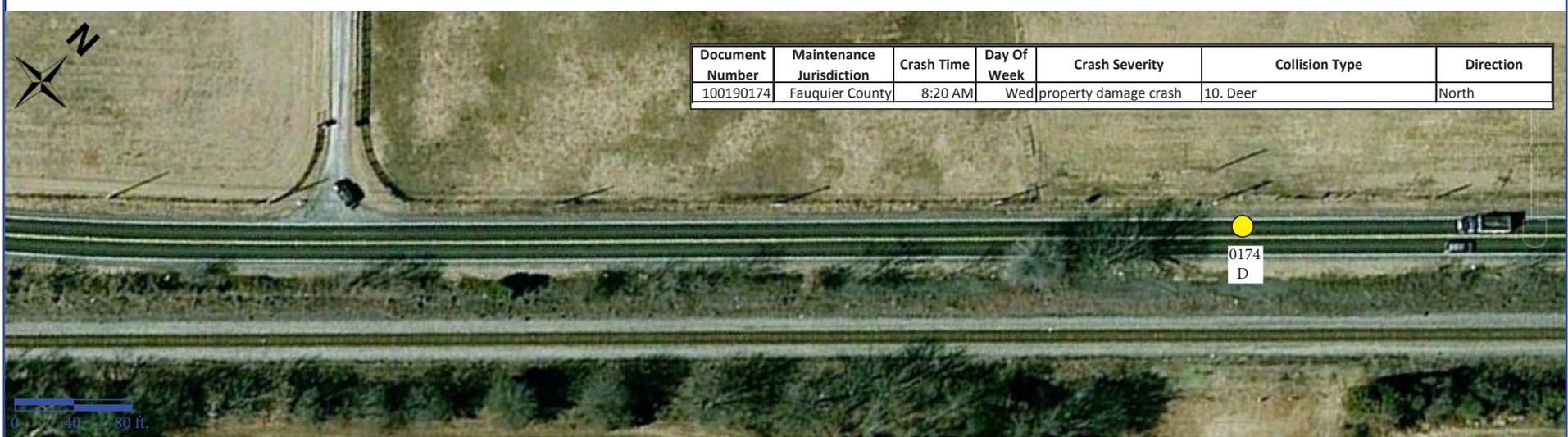
0.40 mile to 0.55 mile northeast of Route 616 (Bristersburg Rd)

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

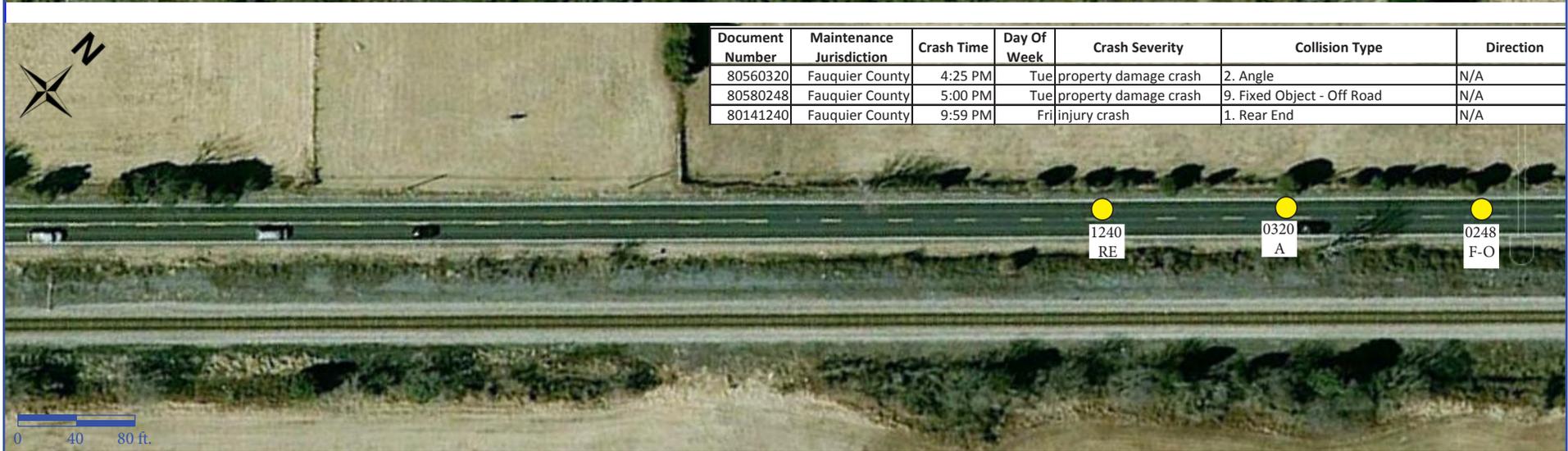
Sheet No.
32/49

III. Analysis and Recommendations



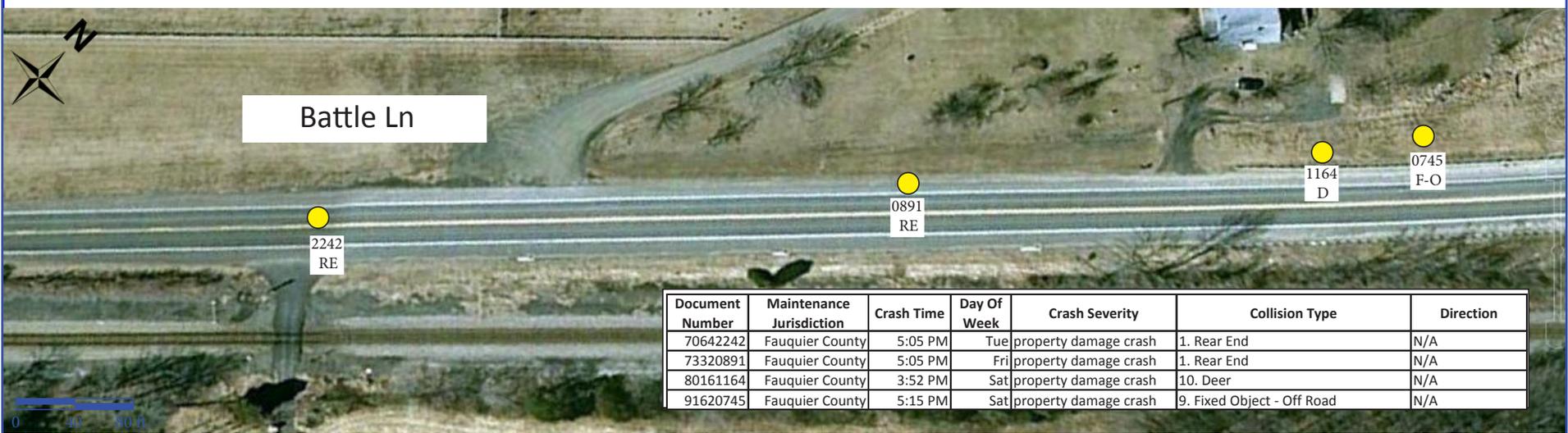
| | | | | |
|--|---|---|--|--------------------|
|  637 Berkmar Circle Charlottesville, VA 22901 | Top: 0.55 mile to 0.70 mile northeast of Route 616 (Bristersburg Rd) Bottom: 0.70 mile to 0.85 mile northeast of Route 616 (Bristersburg Rd) | ● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 33/49 |
|--|---|---|--|--------------------|

III. Analysis and Recommendations



| | | | | |
|---|---|--|--|------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.85 mile to 1.00 mile northeast of Route 616 (Bristersburg Rd) Bottom: 1.00 mile to 1.15 mile northeast of Route 616 (Bristersburg Rd)</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No.</p> |
| | | | | <p>34/49</p> |

III. Analysis and Recommendations



637 Berkmar Circle
Charlottesville, VA 22901

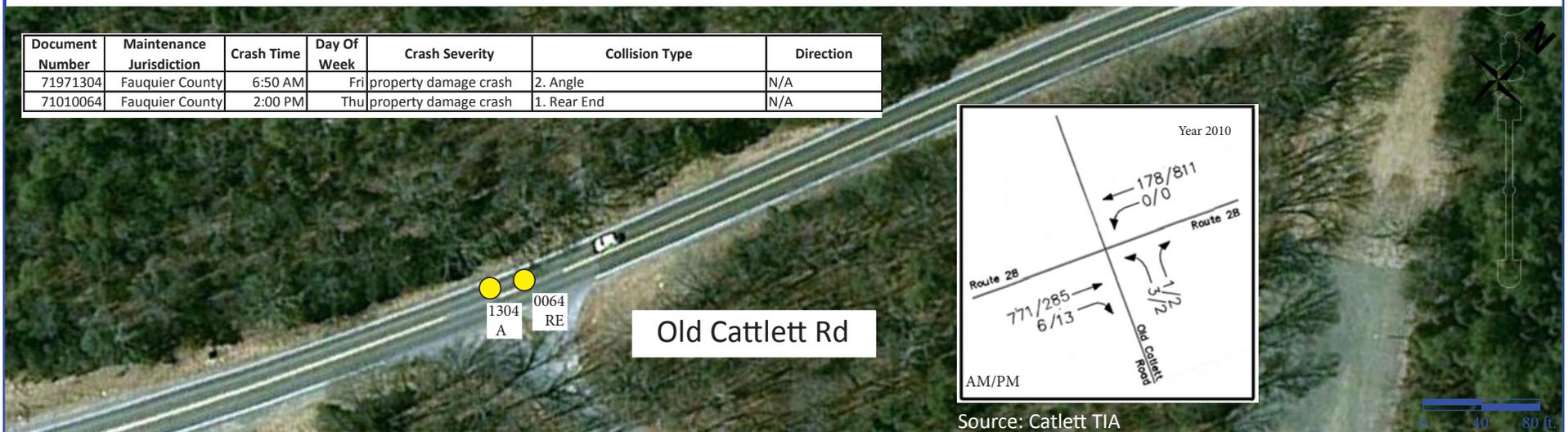
Top: 1.15 mile to 1.30 mile northeast of Route 616 (Bristersburg Rd)
Bottom: 0.06 mile southwest of Battle Ln to 0.09 mile northeast of Battle Ln

● Location A Angle B Backed Into D Deer FI Fixed Object - In Road
FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

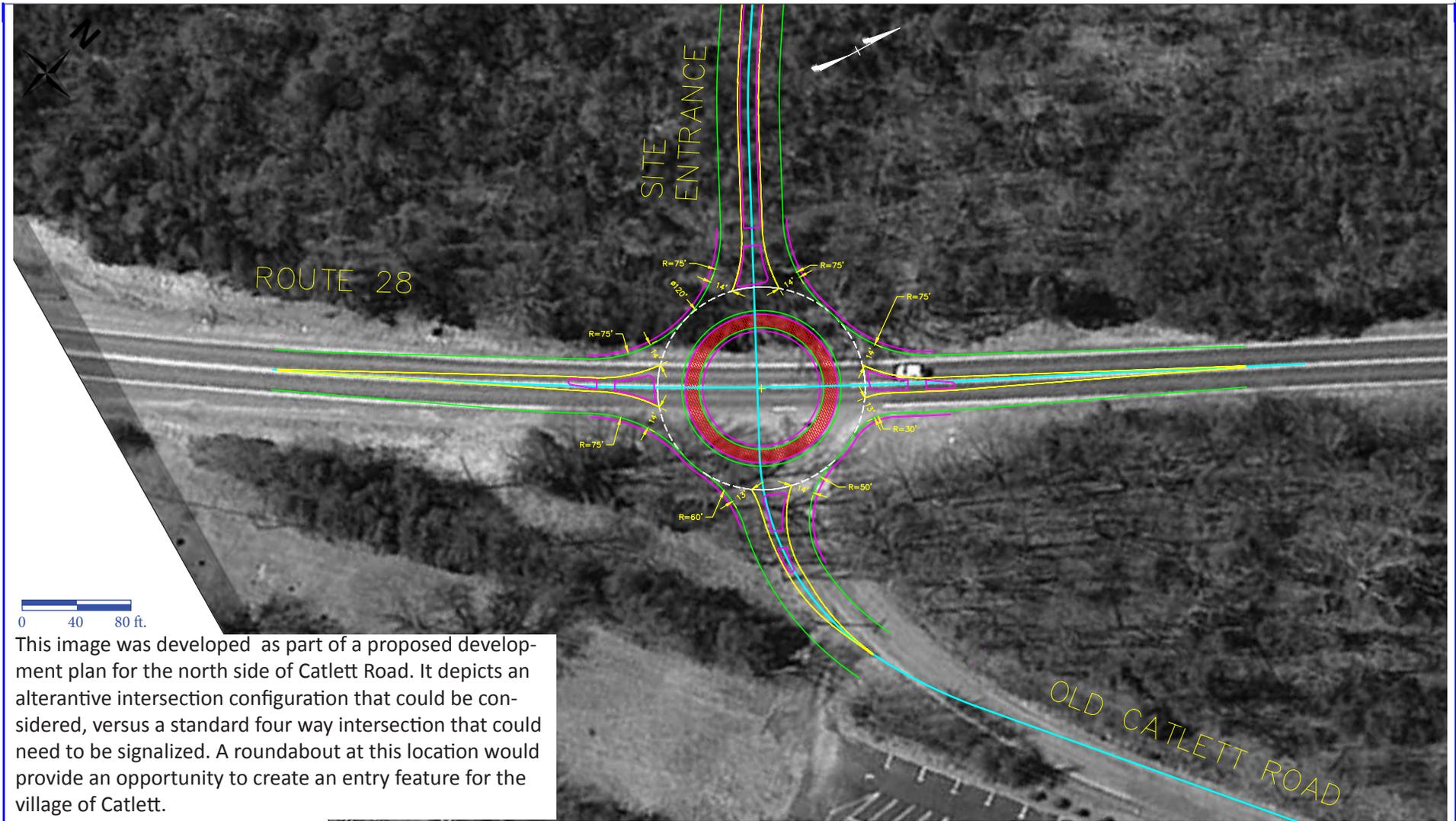
Sheet No.
35/49

III. Analysis and Recommendations



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|---|---|--|---|--|---------------------------------------|--|--------------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.10 mile to 0.25 mile northeast of Battle Ln</p> <p>Bottom: 0.06 mile southwest of Rt 818 to 0.09 mile northeast of Rt 818</p> | <p>● Location</p> <p>FO Fixed Object - Off Road</p> <p>RE Rear End</p> | <p>A Angle</p> <p>B Backed Into</p> <p>D Deer</p> <p>FI Fixed Object - In Road</p> <p>NC Non-Collision</p> <p>SO Sideswipe - Opposite direction</p> | <p>B Backed Into</p> <p>D Deer</p> <p>FI Fixed Object - In Road</p> <p>NC Non-Collision</p> <p>SS Sideswipe - Same direction</p> | <p>O Other</p> <p>OA Other Animal</p> | <p>Route 28 Corridor Spot Location Safety Study</p> <p>Route 29 to County Line</p> <p>Fauquier, Virginia</p> | <p>Sheet No.</p> <p>36A/49</p> |
|---|---|--|---|--|---------------------------------------|--|--------------------------------|

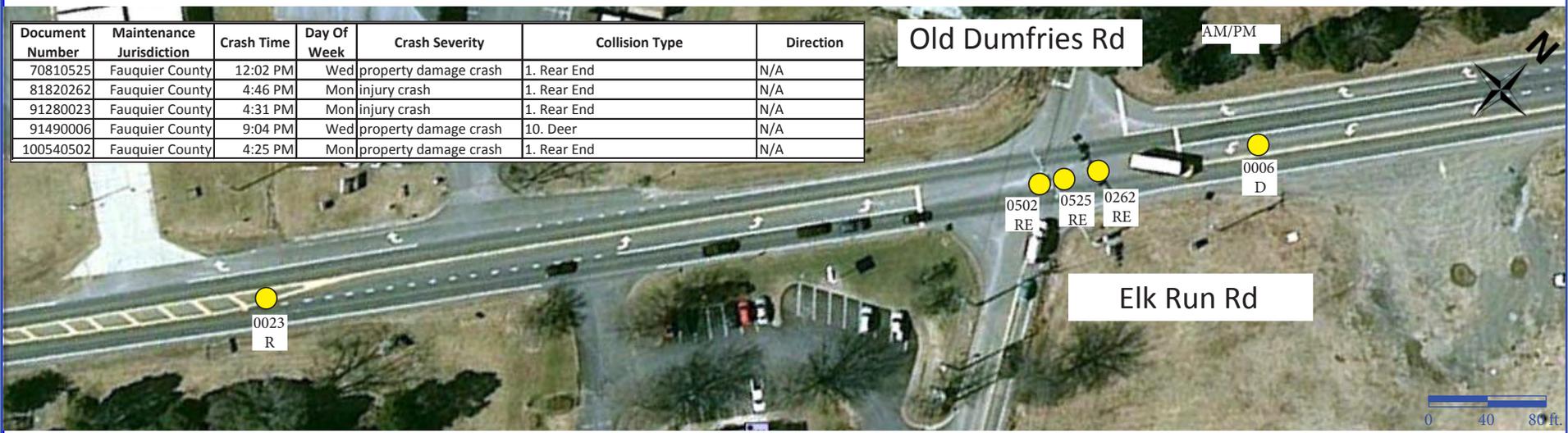
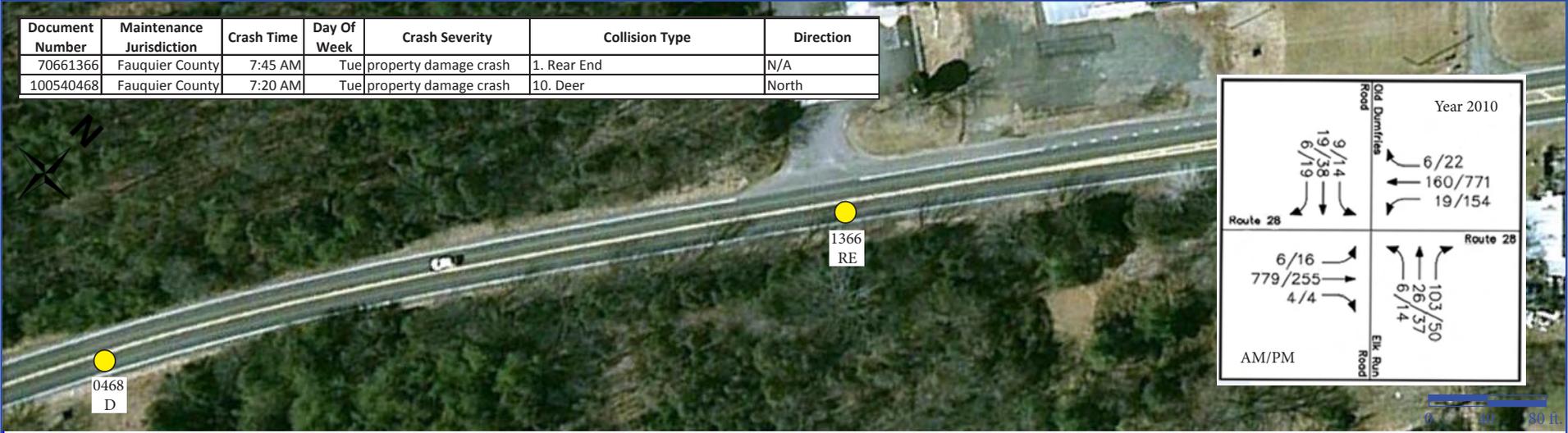
III. Analysis and Recommendations



This image was developed as part of a proposed development plan for the north side of Catlett Road. It depicts an alternative intersection configuration that could be considered, versus a standard four way intersection that could need to be signalized. A roundabout at this location would provide an opportunity to create an entry feature for the village of Catlett.

| | | | | | | | | | | | | | | | | | | |
|--|---|-------------------------------|---------|---------------------------|--------|---------------------------|----------------------------|-----------|------------------|---------|-----------------|-------------|-----------------------------------|-------------------------------|--|--|--|---------------------|
|  637 Berkmar Circle Charlottesville, VA 22901 | <table border="0"> <tr> <td>● Location</td> <td>A Angle</td> <td>B Backed Into</td> <td>D Deer</td> <td>FI Fixed Object - In Road</td> </tr> <tr> <td>FO Fixed Object - Off Road</td> <td>H Head On</td> <td>NC Non-Collision</td> <td>O Other</td> <td>OA Other Animal</td> </tr> <tr> <td>RE Rear End</td> <td>SO Sideswipe - Opposite direction</td> <td>SS Sideswipe - Same direction</td> <td></td> <td></td> </tr> </table> | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 36B/49 |
| ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | | | | | | | | | | | | | | |
| FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | | | | | | | | | | | | | |
| RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | | | | | | | | | | | | | | |

III. Analysis and Recommendations



637 Berkmar Circle
Charlottesville, VA 22901

Top: 0.12 mile to 0.30 mile northeast of Rt 818
Bottom: 0.10 mile southwest of Rt 806 to 0.05 mile northeast of Rt 806

- Location A Angle B Backed Into D Deer FI Fixed Object - In Road
- FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
- RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
37A/49

III. Analysis and Recommendations



The intersection configuration shown on this page was developed as part of a prior development application for the southwest quadrant of the service district. The intersection, under this scenario, is modified as shown to provide greater travel capacity, while keeping an overall two lane section for Catlett Road. On the south side, Elk Run would have a channelized right turn lane that would provide for a shorter crossing distance for pedestrians who could use the island as a pedestrian refuge.

EPR
637 Berkmar Circle
Charlottesville, VA 22901

● Location A Angle B Backed Into D Deer FI Fixed Object - In Road
 FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
 RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

| | |
|--|---------------------|
| Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 37B/49 |
|--|---------------------|

III. Analysis and Recommendations



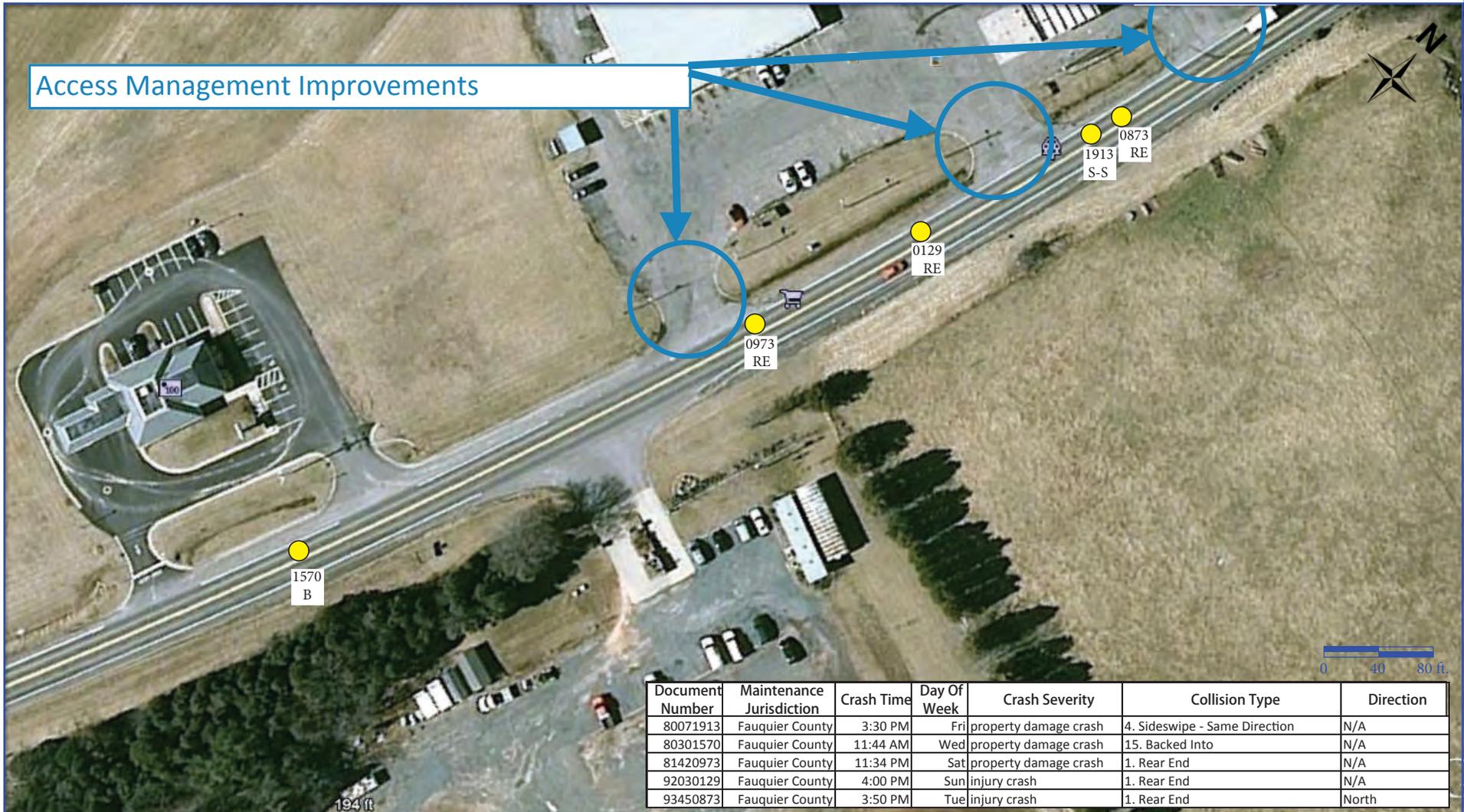
| | | | | |
|---|---|--|--|------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.05 mile northeast of Rt 806 to Rt 665 Bottom: Rt 665 to 0.17 mile northeast of Rt 665</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No.</p> |
| | | | | <p>38A/49</p> |

III. Analysis and Recommendations



| | | | |
|---|--|---|--------------------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 38B/49</p> |
|---|--|---|--------------------------------------|

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|-----------------------|-------------------------------|-----------|
| 80071913 | Fauquier County | 3:30 PM | Fri | property damage crash | 4. Sideswipe - Same Direction | N/A |
| 80301570 | Fauquier County | 11:44 AM | Wed | property damage crash | 15. Backed Into | N/A |
| 81420973 | Fauquier County | 11:34 PM | Sat | property damage crash | 1. Rear End | N/A |
| 92030129 | Fauquier County | 4:00 PM | Sun | injury crash | 1. Rear End | N/A |
| 93450873 | Fauquier County | 3:50 PM | Tue | injury crash | 1. Rear End | North |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

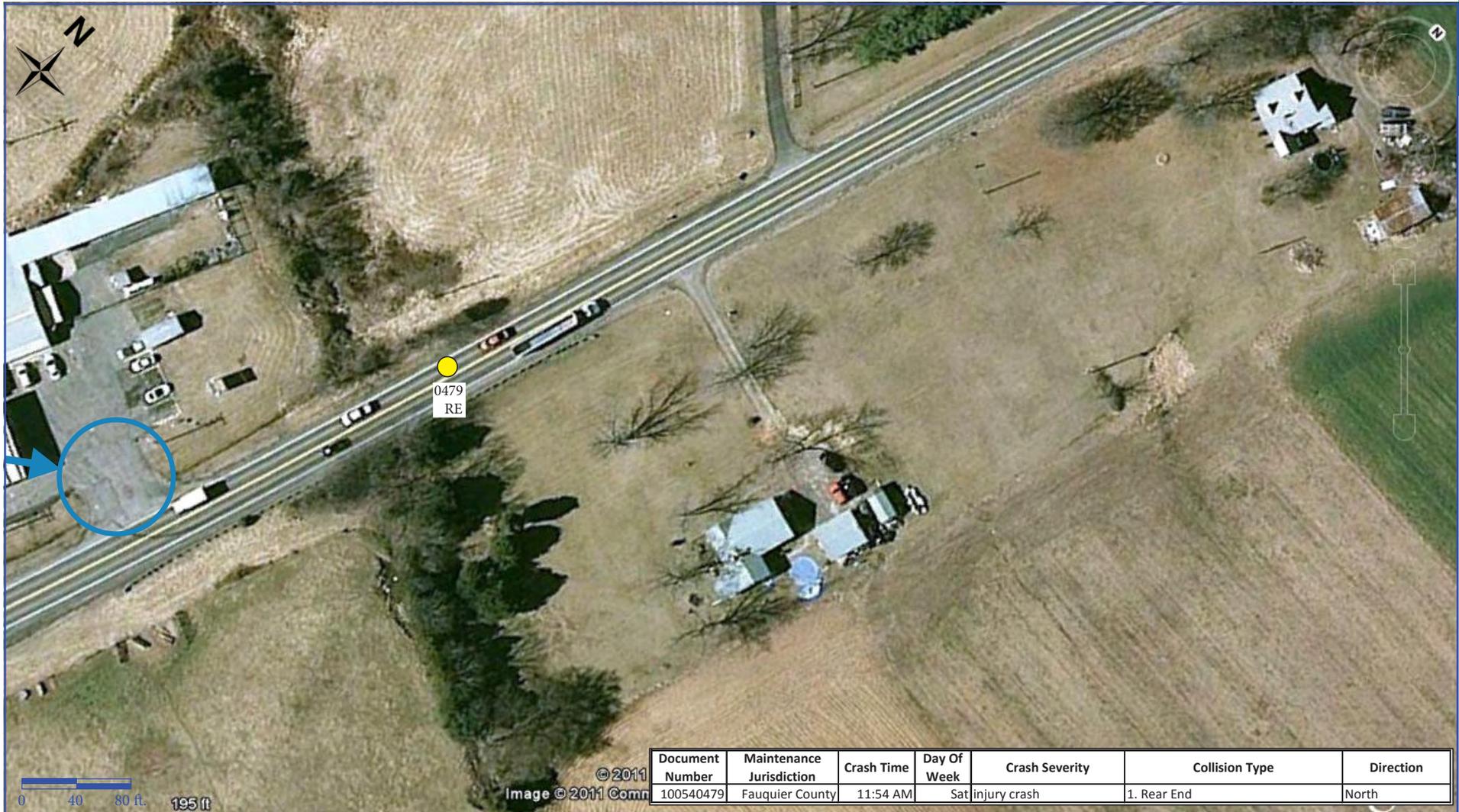
0.07 mile to 0.20 mile northeast of Rt 665

● Location **A** Angle **B** Backed Into **D** Deer **FI** Fixed Object - In Road
FO Fixed Object - Off Road **H** Head On **NC** Non-Collision **O** Other **OA** Other Animal
RE Rear End **SO** Sideswipe - Opposite direction **SS** Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
39/49

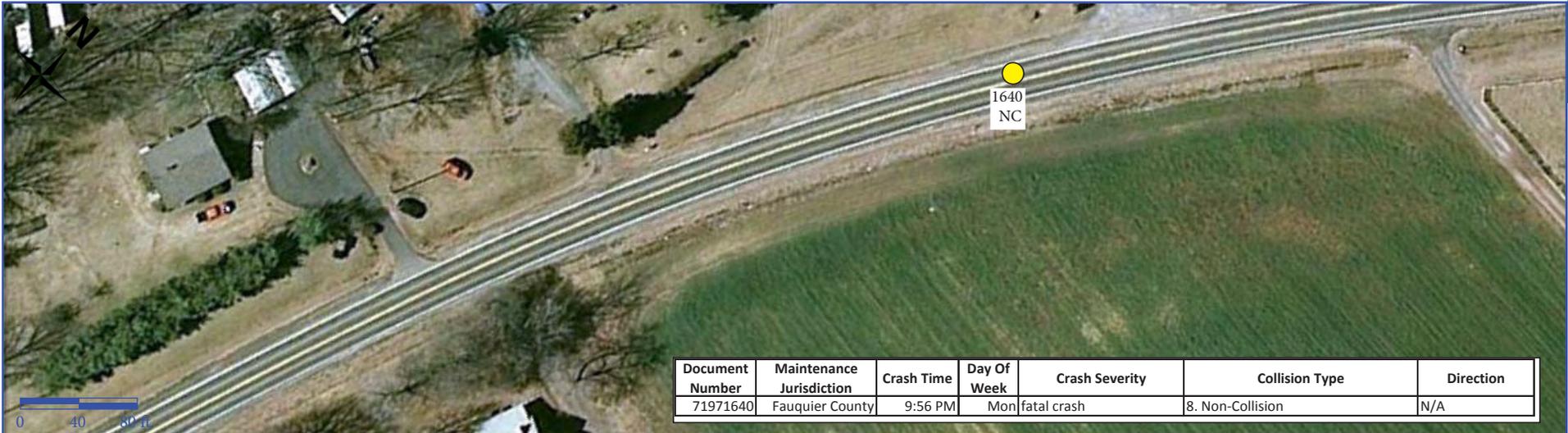
III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|----------------|-----------|
| 100540479 | Fauquier County | 11:54 AM | Sat | injury crash | 1. Rear End | North |

| | | | | |
|---|--|--|--|--------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | 0.20 mile to 0.37 mile northeast of Rt 665 | ● Location A Angle B Backed Into D Deer FI Fixed Object - In Road | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 40/49 |
| | | FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction | | |

III. Analysis and Recommendations

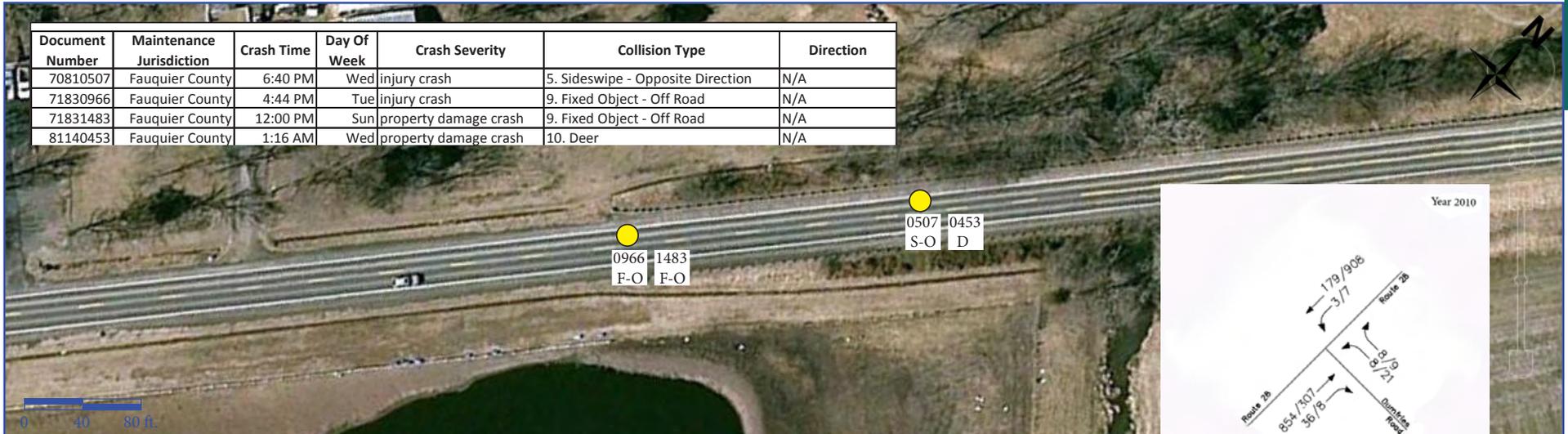


| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|------------------|-----------|
| 71971640 | Fauquier County | 9:56 PM | Mon | fatal crash | 8. Non-Collision | N/A |



| | | | | |
|---|--|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.37 mile to 0.50 mile northeast of Rt 665 Bottom: 0.50 to 0.65 mile northeast of Rt 665</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 41/49</p> |
| | <p>III. Analysis and Recommendations</p> | | | |

III. Analysis and Recommendations



637 Berkmar Circle
Charlottesville, VA 22901

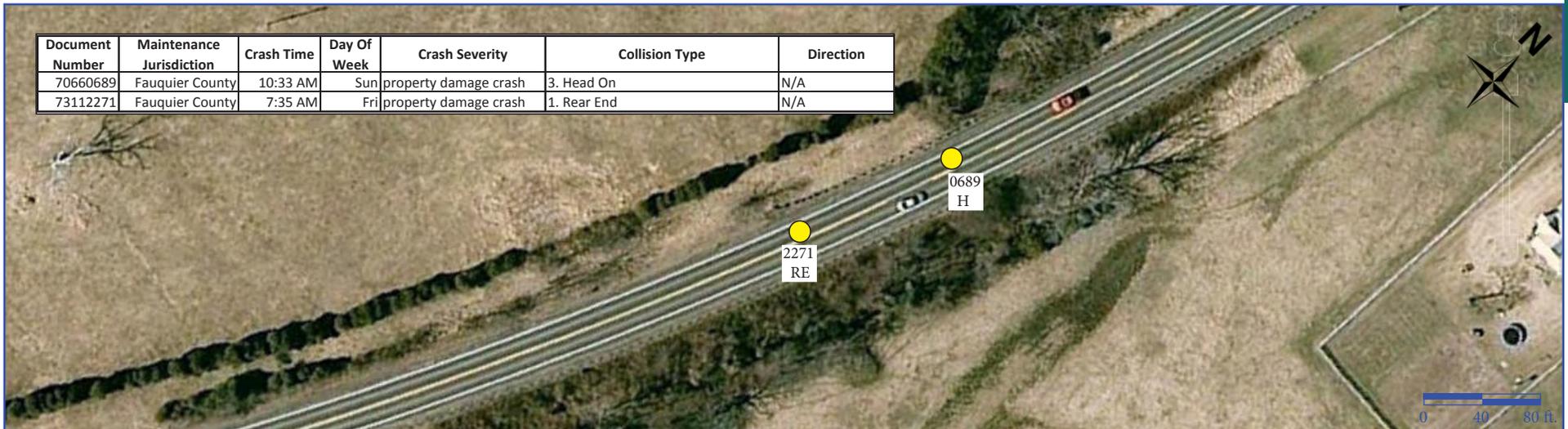
Top: 0.65 mile to 0.80 mile northeast of Rt 665
Bottom: 0.80 mile northeast of Rt 665 to 0.05 mile northeast of Rt 606

● Location A Angle B Backed Into D Deer FI Fixed Object - In Road
FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal
RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

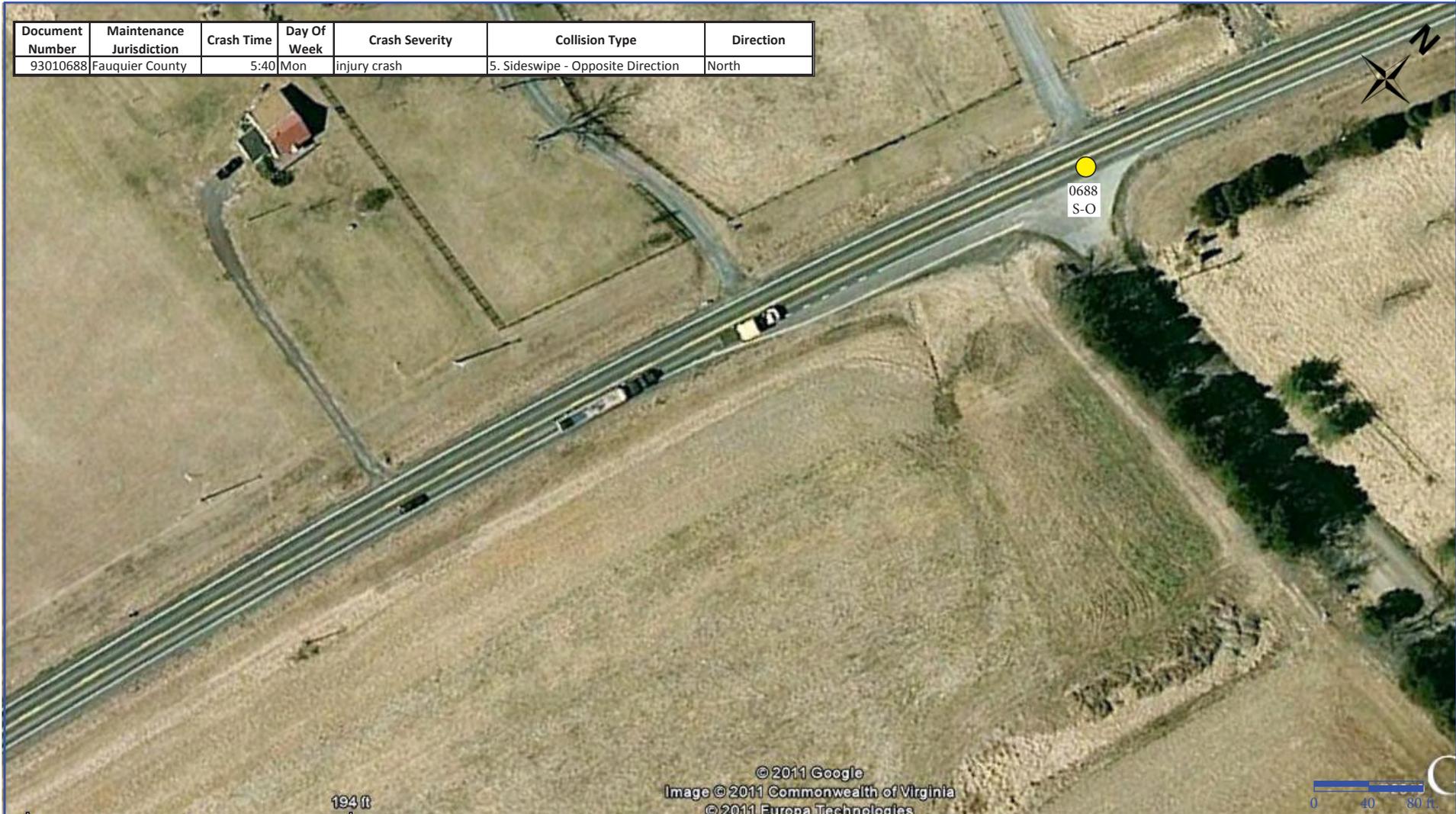
Sheet No.
42/49

III. Analysis and Recommendations



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|---|--|--|--|----------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>Top: 0.05 mile to 0.20 mile northeast of Rt 606</p> <p>Bottom: 0.20 mile to 0.30 mile northeast of Rt 606</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road</p> <p>FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal</p> <p>RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 43/49</p> |
|---|--|--|--|----------------------------|

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|-----------------------------------|-----------|
| 93010688 | Fauquier County | 5:40 | Mon | injury crash | S. Sideswipe - Opposite Direction | North |

EPR
637 Berkmar Circle
Charlottesville, VA 22901

0.30 mile to 0.45 mile northeast of Rt 606

● Location
 A Angle
 B Backed Into
 D Deer
 FI Fixed Object - In Road
 FO Fixed Object - Off Road
 H Head On
 NC Non-Collision
 O Other
 OA Other Animal
 RE Rear End
 SO Sideswipe - Opposite direction
 SS Sideswipe - Same direction

Route 28 Corridor Spot Location
Safety Study
Route 29 to County Line
Fauquier, Virginia

Sheet No.
44/49

III. Analysis and Recommendations



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|---|--|----------------------------|-----------|------------------|---------|---------------------------|--|--------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | 0.45 mile to 0.62 mile northeast of Rt 606 | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 45/49 |
| | | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | |

III. Analysis and Recommendations



| | | | | | | | | |
|---|---|----------------------------|-----------------------------------|-------------------------------|---------|---------------------------|--|--------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | 0.62 mile to 080 mile northeast of Rt 606 | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 46/49 |
| | | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | |
| | | RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | | |

III. Analysis and Recommendations



| Document Number | Maintenance Jurisdiction | Crash Time | Day Of Week | Crash Severity | Collision Type | Direction |
|-----------------|--------------------------|------------|-------------|----------------|-------------------------------|-----------|
| 70310389 | Fauquier County | 8:15 | Tue | injury crash | 4. Sideswipe - Same Direction | N/A |

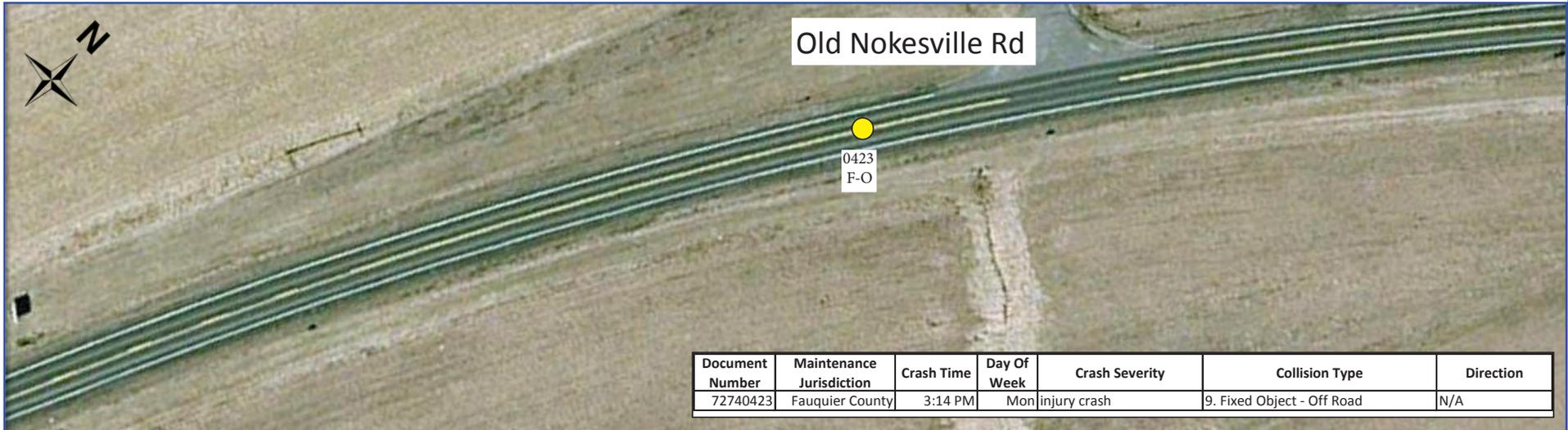
| | | | | |
|---|---|--|---|-------------------------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | <p>0.80 mile to 0.95 mile northeast of Rt 606</p> | <p>● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction</p> | <p>Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia</p> | <p>Sheet No. 47/49</p> |
|---|---|--|---|-------------------------------------|

III. Analysis and Recommendations



| | | | | |
|---|--|---|---|--------------------|
| <p>637 Berkmar Circle Charlottesville, VA 22901</p> | 0.95 mile to 1.10 mile northeast of Rt 606 | ● Location A Angle B Backed Into D Deer FI Fixed Object - In Road FO Fixed Object - Off Road H Head On NC Non-Collision O Other OA Other Animal RE Rear End SO Sideswipe - Opposite direction SS Sideswipe - Same direction | Route 28 Corridor Spot Location | Sheet No. 48/49 |
| | | | Safety Study Route 29 to County Line Fauquier, Virginia | |

III. Analysis and Recommendations



| | | | | | | | | | | | | | | | | | | | |
|---|--|---|------------|---------------------------|---------------|--------|---------------------------|----------------------------|-----------|------------------|---------|-----------------|-------------|-----------------------------------|-------------------------------|--|--|--|--------------------|
| 637 Berkmar Circle Charlottesville, VA 22901 | Top: 1.10 mile northeast of Rt 606 to 0.05 mile northeast of Rt 843 Bottom: 0.05 mile northeast of Rt 843 to Prince William County Line | <table style="width: 100%; border: none;"> <tr> <td style="border: none;">● Location</td> <td style="border: none;">A Angle</td> <td style="border: none;">B Backed Into</td> <td style="border: none;">D Deer</td> <td style="border: none;">FI Fixed Object - In Road</td> </tr> <tr> <td style="border: none;">FO Fixed Object - Off Road</td> <td style="border: none;">H Head On</td> <td style="border: none;">NC Non-Collision</td> <td style="border: none;">O Other</td> <td style="border: none;">OA Other Animal</td> </tr> <tr> <td style="border: none;">RE Rear End</td> <td style="border: none;">SO Sideswipe - Opposite direction</td> <td style="border: none;">SS Sideswipe - Same direction</td> <td colspan="2" style="border: none;"></td> </tr> </table> | ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | Route 28 Corridor Spot Location Safety Study Route 29 to County Line Fauquier, Virginia | Sheet No. 49/49 |
| ● Location | A Angle | B Backed Into | D Deer | FI Fixed Object - In Road | | | | | | | | | | | | | | | |
| FO Fixed Object - Off Road | H Head On | NC Non-Collision | O Other | OA Other Animal | | | | | | | | | | | | | | | |
| RE Rear End | SO Sideswipe - Opposite direction | SS Sideswipe - Same direction | | | | | | | | | | | | | | | | | |

IV. Village Context Sensitive Recommendations

As part of the overall discussion about safety and recommended improvements roadway improvements along the corridor, this section provides a summary of recommendations for typical roadway sections and related features, within the rural villages along the corridor. These include, Catlett, Calverton, and Midland. The Bealeton Service District is not included in the discussion since very detailed discussions of these matters for Route 28 are included in the County's recent service district plan update.

Village Context (Catlett)

Catlett – The County's Service District Plan reflects that Catlett is envisioned to be a "place" that will have "... tree line streets" that is "...pedestrian friendly, with commercial development that reinforces the mix of uses and pleasant pedestrian environment". As part of this mix of uses, it is stipulated that convenient linkages will be provided by hiking and biking trails.

Furthermore, "Implementation Strategies" include creating "walkable streets using sidewalks and bike paths." Also, integration of a "bike path design for any future Route 28 and village street improvements with walking tours related to these historic properties, the Civil War and business community." Finally, another of the strategies is to "Actively work with the Virginia Department of Transportation to assure that future Route 28 improvements planned through time do not negatively impact community historic resources and the village character of Catlett.

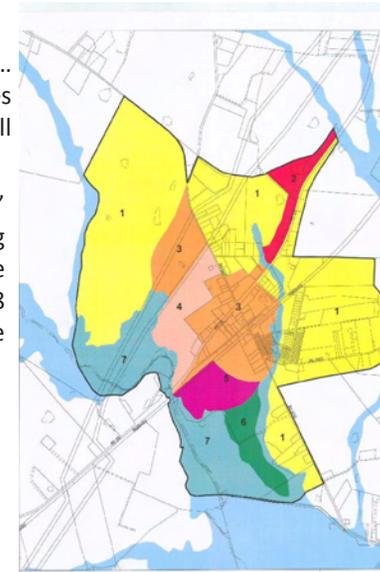
Rural Village Context (Calverton and Midland)

Calverton – the County's service district plan reflects that in the Village of Calverton, "Trails (bike/horse/walking) will link elements within Calverton, as well as to Catlett and Midland." Furthermore, "Transportation will be by way of a two-lane Route 28, with traffic lights at dangerous intersections." The overall vision is for a "small rural village, centered within an agricultural community consisting of single family dwellings, agricultural support businesses, and other businesses that depend on the local community as a primary revenue stream. Public facilities will focus on the need of the community; there will be no high density development.

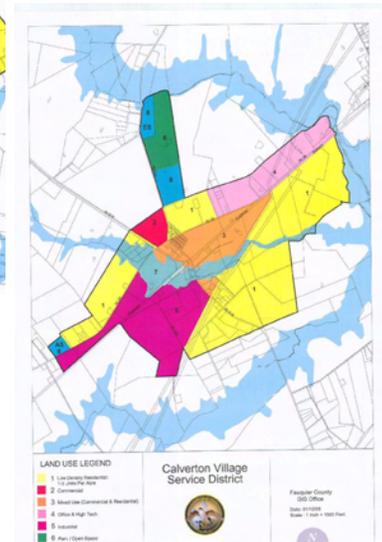
Implementation strategies include integrating pedestrian and bike-path design for any future Route 28 and village street improvements in order to facilitate tours of the village featuring its historic past, the Civil War, and future park amenities". Also, actively working with VDOT "to assure that future Route 28 improvements do not negatively impact community historic resources, or community character" is suggested.

Midland – the County's service district plan reflects a vision for an "industrial capital" for the County with industrial uses occurring south of Route 28, business uses occurring in the core of the village, and residential development occurring north of Route 28. A new limited access route is envisioned to run from Bealeton to Midland on an alignment that would be south of Route 28. This new road would help to provide access to the industrial uses. For the overall street grid, a walkable environment is envisioned and there is a discussion about a potential VRE station in Midland. Entrances to the villages will be defined by a gateway consisting of open space elements, utilizing the flood plain along both Marsh Run Creek and Licking Run Creek on each end of the Village along Route 28.

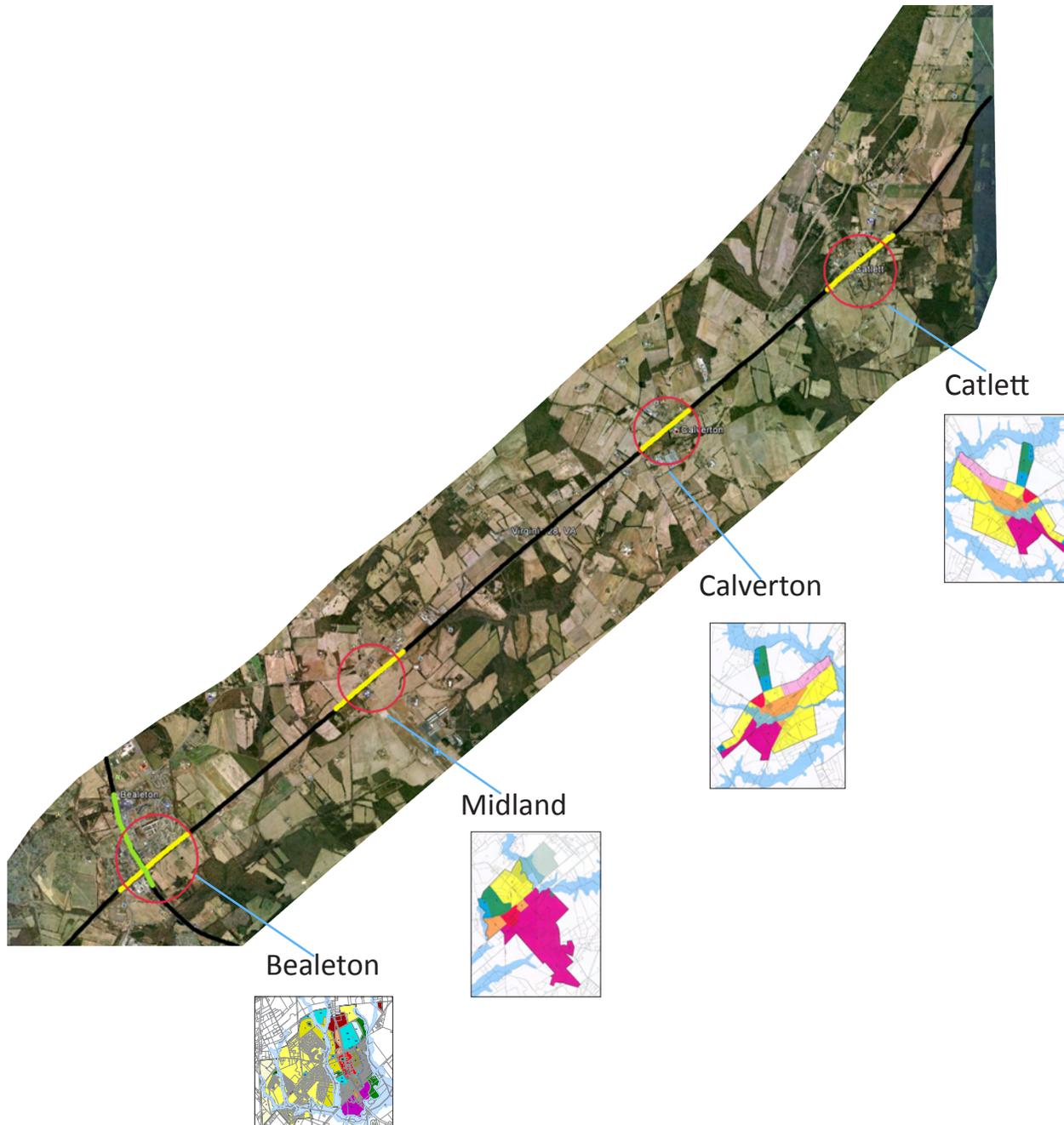
Implementation strategies include integration of a "bike path design for any future Route 28 and village street improvements". Furthermore, it will be important to actively work with VDOT "to ensure that the design of future improvements to Route 28 will permit that portion of the road that goes through the heart of Midland to ultimately function as a true "main street" for the village, with a boulevard design that is comfortable for pedestrians as well as motor vehicles".



Catlett Village Service District



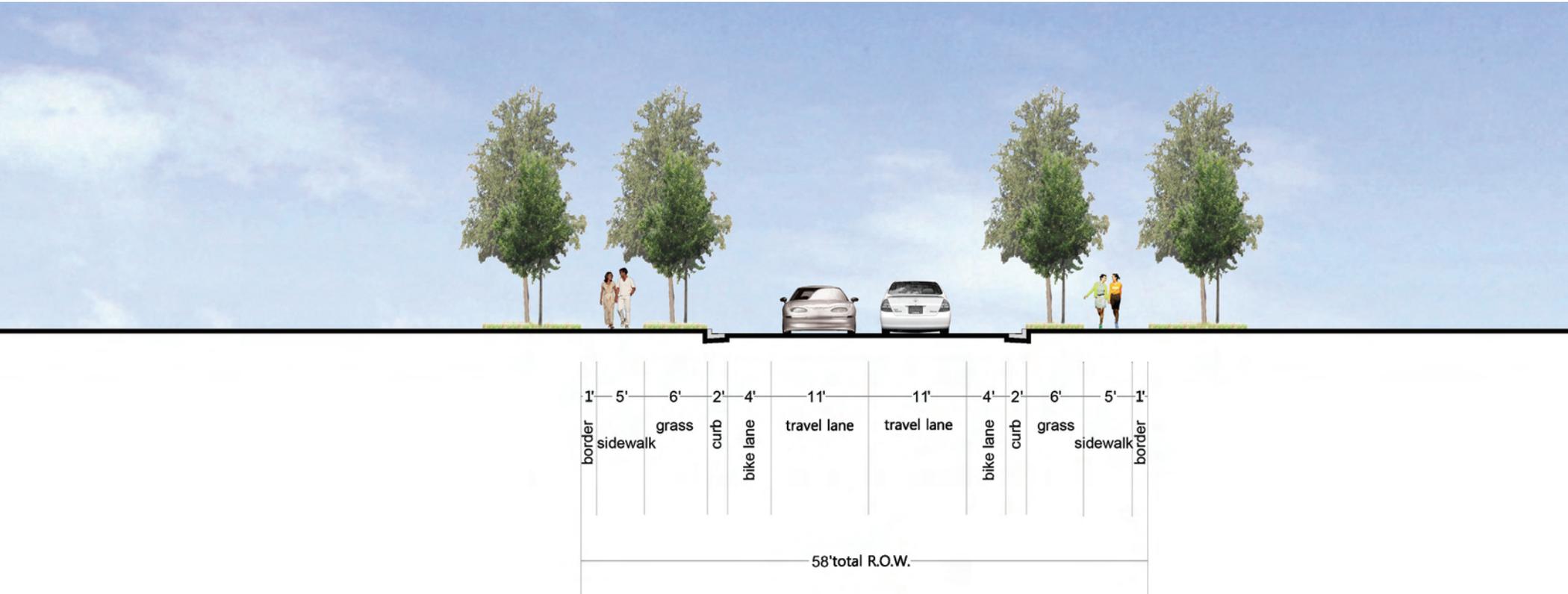
IV. Village Context Sensitive Recommendations



The following provides recommendations for future typical sections for Route 28 within each of these three village service districts. Each of the typical sections is for a village setting that provides the ability to comfortably and safely walk or bike along the corridor. It is suggested that as development occurs in the three village service districts, opportunities should be identified for securing the necessary right-of-way (if not already present) to construct the improvements described for each of the typical sections. Also, as the roadside “environment” begins to evolve further towards a village context, it will be necessary to coordinate with VDOT to petition a change in the posted speed limits such that the limits would be lowered to 35 mph, which would significantly improve safety for bikes and pedestrians, as well as for the increase in vehicles entering or exiting Route 28 from the sidestreets.

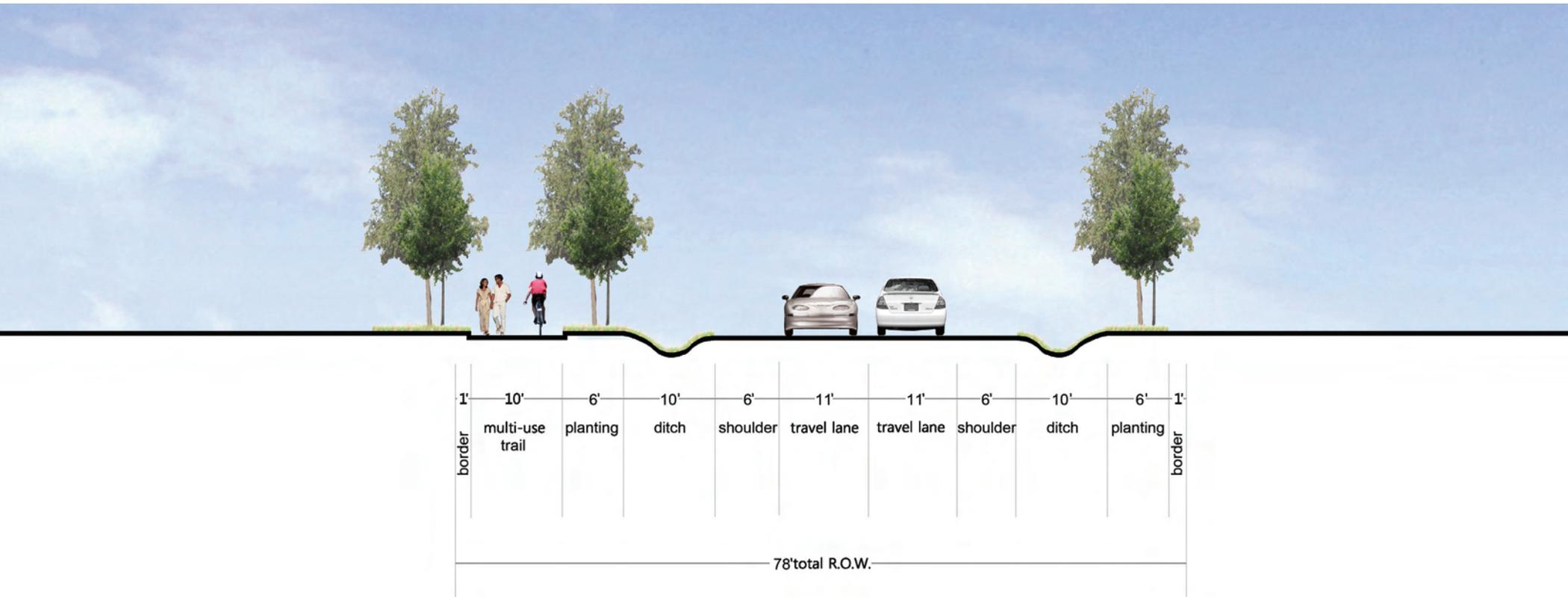
Village Context

IV. Village Context Sensitive Recommendations



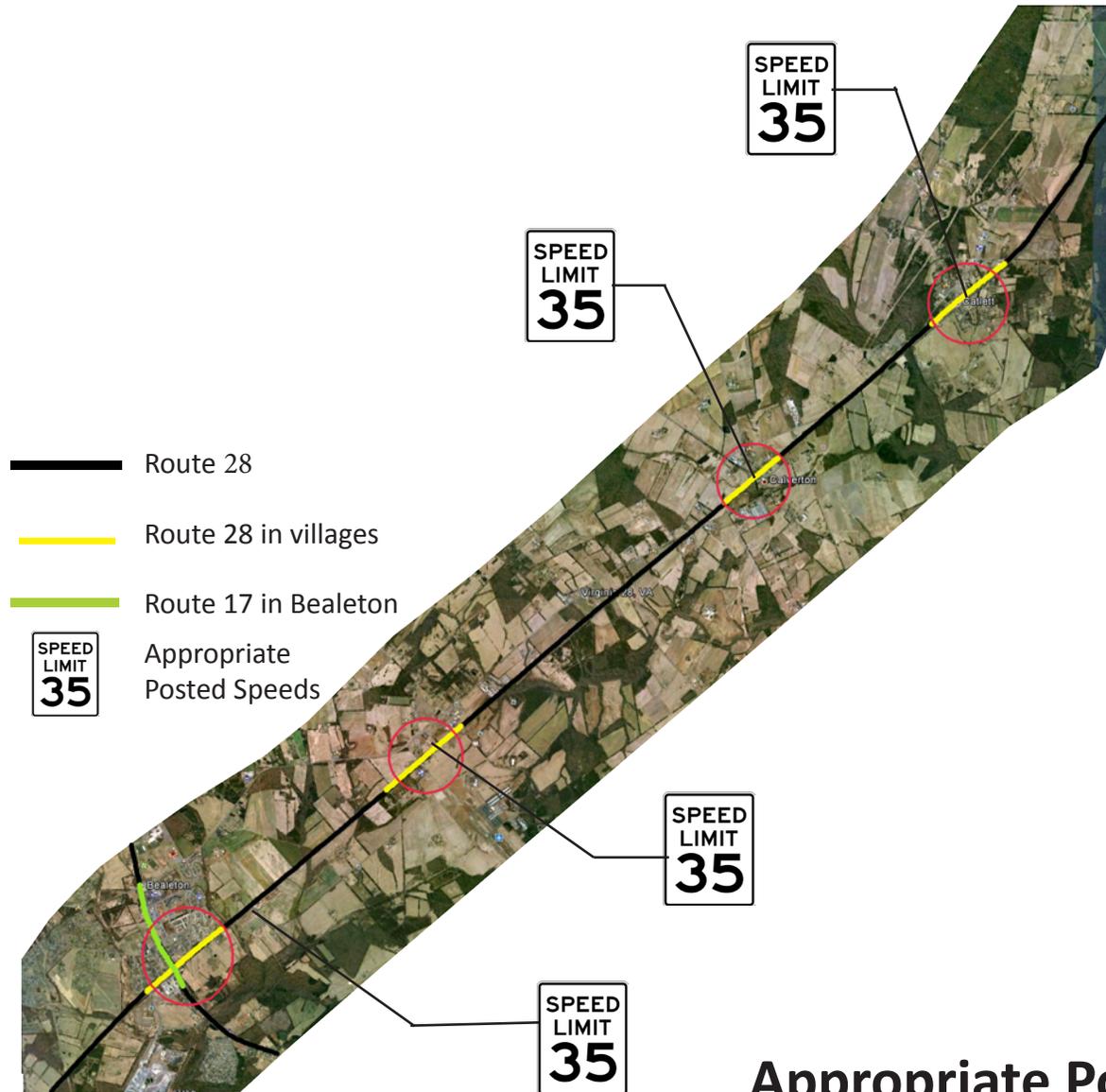
Appropriate Typical Section_Catlett

IV. Village Context Sensitive Recommendations



Appropriate Typical Section_Calverton & Midland

IV. Village Context Sensitive Recommendations



Posted speed limits are governed by several factors, including the physical design of the road itself, environmental factors (i.e. physical setting/context, presence of pedestrians, frequency of intersections, etc..). At present, the Route 28 corridor is generally posted at 45 mph, though it was found in the field review that vehicles often traveled upwards of 55 on the longer straight sections. As the village areas continue to develop and the roadside conditions change such that there are more pedestrians and vehicles entering from adjacent uses, consideration should be given to lowering the speed limits to 35 mph.

Special note for Bealeton – in discussions with the County Sheriff’s office there was discussion about excessive speeds for southbound traffic along Route 17 north of the service district. This may become more of an issue in the future as Bealeton continues to develop. While the Route 17 corridor was not considered to be in the study area, it is advisable that the County perform speed and safety studies along Route 17 in the future in an effort to monitor and develop recommendations for mitigating the safety and access concerns relative to actual travel speeds, especially considering the heavy truck traffic along the corridor.

The graphic on this page shows the recommended future speed limit postings for the village areas, once the speed reductions are warranted.

Appropriate Posted Speeds For Villages

V. Implementation Strategies

This section provides a toolbox of strategies that could be utilized for implementation of the project recommendations. The strategies generally entail various VDOT or grant funding opportunities, and also developer proffers as applicable.

| Six-Year Improvement Program (SYIP) | |
|--|---|
| Purpose | This program is overseen by Commonwealth Transportation Board's (CTB) for allocating funding for rail, public transportation, commuter assistance, bicycle, pedestrian, interstate and primary highway transportation projects over the next six years |
| Funding | <ul style="list-style-type: none"> • Allocations are applied to projects in the SYIP based on the type of funding |
| Eligible Projects | <ul style="list-style-type: none"> • Local governments work with citizens and Virginia's transportation agencies to develop a plan that anticipates land use changes and travel patterns more than two decades into the future |
| Eligible Applicants | <ul style="list-style-type: none"> • Local Governments, Metropolitan Planning Organizations (MPO) |
| Evaluation Criteria | <ul style="list-style-type: none"> • Statewide and regional plans that identify transportation needs and projects required to serve future travel demands over a 20- to 25-year period • An analysis of projected traffic volumes and population, as well as business and residential growth • An evaluation of the priorities for implementation of the transportation plan • Citizen and community participation meetings to receive input on the transportation priorities • Residents' input on transportation priorities at the SYIP public hearings is important in determining which projects to add to the program |
| Contact | Virginia Department of Transportation (VDOT): http://www.virginiadot.org/projects/syp-faq.asp |

Table 3

| Highway Safety Improvements Program (HSIP) | |
|---|---|
| Purpose | This program is structured and funded to make significant progress in reducing highway fatalities and injuries on all public roadways and streets |
| Funding | <ul style="list-style-type: none"> • Up to 90% of a project can be financed with VDOT funds. A local match of 10%, from other public or private sources, is required • If the final project cost is higher than what was originally submitted, the project manager will be responsible for identifying sources for funding over those estimates |
| Eligible Projects | <ul style="list-style-type: none"> • Projects involve the identification of high-crash spots or corridor segments, an analysis of crash trends and existing conditions, and the prioritization and scheduling of improvement projects |
| Eligible Applicants | <ul style="list-style-type: none"> • Local Governments, railroad companies, and VDOT Districts and Regional staff |
| Evaluation Criteria | <ul style="list-style-type: none"> • Evaluated on a statewide basis rather than on a local or district basis • Locations or corridors where a known "substantive safety" problem exists as indicated by location-specific data on severe crashes, and where it is determined that the specific project action can with confidence produce a measurable and significant reduction in the number and/or consequences of severe crashes • To achieve the maximum benefit, the focus of the program is on cost effective use of the funds allocated for safety improvements • Priority will be given to projects having higher total number of deaths and serious injuries affected |
| Contact | Virginia Department of Transportation (VDOT): HSIPProgram@VirginiaDOT.org |

Table 4

V. Implementation Strategies

| Safe Routes to Schools Program (SRTS) | |
|---------------------------------------|--|
| Purpose | This program provides funding for engineering, education, enforcement and encouragement projects that are aimed at making it safer and more appealing for children to walk and bicycle to school |
| Funding | <ul style="list-style-type: none"> All the cost of the program can be financed with Federal funds (This is a reimbursable program) |
| Eligible Projects | <ul style="list-style-type: none"> Engineering projects such as traffic calming, sidewalk installation, intersection Improvements, warning signage and crosswalks markings, among others education programs such as pedestrian and bicycle safety classes, bike rodeos, and motorist education programs Encouragement programs such as Walking School Buses, Bike Trains, Walk to School Day, and other incentives to encourage children and their parents to walk and bicycle to school |
| Eligible Applicants | <ul style="list-style-type: none"> Any local government, state agency, or non-profit may apply to the program |
| Evaluation Criteria | <ul style="list-style-type: none"> Reduce fatalities and injuries, as well as reduce risk associated with walking and bicycling to school Affect the behavior shift of students and motorist The number of new partnerships created as a result of the program, and the number of students and/or schools reached through the program Measurements of student health, air quality, congestion, and other metrics, and improvements to the built environment that benefit the ability to walk and bicycle to and from schools |
| Contact | Local Program Coordinator:Robert Williams Virginia Department of Transportation (VDOT): http://www.saferoutesinfo.org/program-tools/find-state-contacts/virginia |

Table 5

| Transportation Enhancement Program | |
|------------------------------------|--|
| Purpose | This program is an initiative to focus on enhancing the travel experience and fostering the quality of life in American communities |
| Funding | <ul style="list-style-type: none"> Up to 80% of a project can be financed with federal funds. A local match of at least 20%, from other public or private sources, is required Local matches may be in-kind contributions including tangible property professional services and volunteer labor (This is a reimbursable program) |
| Eligible Projects | <ul style="list-style-type: none"> Pedestrian and bicycle facilities such as sidewalks, bike lanes and shared use paths Pedestrian and bicycle safety and educational activities such as classroom projects, safety handouts and directional signage for trails Preservation of abandoned railway corridors such as the development of a rails-to-trails facility |
| Eligible Applicants | <ul style="list-style-type: none"> Any local government, state agency, group or individual may apply to the program. All projects need to be formally endorsed by a local jurisdiction or public agency |
| Evaluation Criteria | <ul style="list-style-type: none"> Number of federal enhancement categories Inclusion in a state, regional, or local plan Public/private venture-cooperation (multijurisdictional) Total cost and matching funds in excess of minimum Demonstrable need, community improvement Community support and public accessibility Compatibility with adjacent land use Environmental and ecological benefits Historical criteria met, significant aesthetic value to be achieved and visibility from a public right of way Economic impact and effect on tourism |
| Contact | VDOT district offices – www.VirginiaDOT.org |

Table 6

V. Implementation Strategies

| Fauquier County Proffer Policy | |
|---------------------------------------|--|
| Purpose | Developer contributions, known as proffers, provide one source of funding for capital facilities. Proffers are typically cash amounts, dedicated land, and/or in-kind services that are voluntarily granted to the County to partially offset future capital facility costs associated with specific land developments |
| Funding | <ul style="list-style-type: none"> The cost of the program can be financed with Developer contributions |
| Eligible Projects | <ul style="list-style-type: none"> Rezoning requests that permit residential and/or commercial uses in accordance with this policy Also accept cash, land, conservation easements or in-kind improvements in accordance with county and state law. Staff will provide a recommendation for a maximum proffer based upon this policy |
| Eligible Applicants | <ul style="list-style-type: none"> Any land developers seeking a rezoning |
| Evaluation Criteria | <ul style="list-style-type: none"> There are five “components” involved in calculating what a new dwelling unit will cost the County in terms of providing public facilities. The components are as follows: a. Demand generators; b. Service level; c. Gross cost (replacement) of public facilities; d. Credit; e. Net cost There must be a relationship between the rezoning itself and the need for a public facility Fauquier County will continue to consider any unique circumstances about a proposed development |
| Contact | Fauquier County Board of Supervisors, Policy Details can be found at: http://www.fauquiercounty.gov/documents/departments/commdev/pdf/ProfferPolicy.pdf |

Table 7

| VDOT Road Maintenance |
|---|
| The VDOT Road Maintenance category of funding covers a wide variety of maintenance and operations activities. Road maintenance funds comprise the majority of VDOTs scheduled funding (versus new construction). Road maintenance funding addresses needs having to do with pavement management, signals, pavement markings, signs, stripes, guardrail, and ITS (intelligent transportation system) assets that are considered to be of critical safety and operational importance. Maintenance funding also addresses operations “services,” comprising ordinary and preventive maintenance work, such as cleaning ditches, washing bridge decks, patching pot-holes, debris removal, snow and ice removal, emergency response, incident management, mowing, and equipment management. |

VI. Summary of Recommendations

Table 8

| Location | Description | Implementation Strategies |
|--|---|---|
| Route 28 at Lucky Hill Road (Route 655) | Advance intersection warning devices (rumble strips) | VDOT Road Maintenance Highway Safety Improvements Program (HSIP) |
| Route 28 at Schoolhouse Road (Route 661) | Construct turn lanes on Route 28 | Highway Safety Improvements Program (HSIP) |
| Route 28 at Oak Shade Road (Route 661) | Signal warrants, intersection beacon sign | VDOT Road Maintenance Highway Safety Improvements Program (HSIP) |
| 0.01 mile before the intersection of Route 28 and Route 17 | Access management improvements | Fauquier County Proffer Policy |
| Route 28 at Independence Avenue | Add pedestrian features including sidewalks and crosswalks Construct additional sidestreet lanes Consider future roundabout | Six-year Improvement Program (SYIP) Safe Routes to Schools Program (SRTS) Highway Safety Improvements Program (HSIP) Fauquier County Proffer Policy |
| 0.01 miles before the intersection of Liberty Rd and Route 28 | In order to mitigate sight distance, concerns, place a warning sign of "Intersecton Ahead" | VDOT Road Maintenance |
| Route 28 at Messick Road | In need of maintaining sight interrupted by foliage, turn lanes Consider turn lanes on Route 28 | VDOT Road Maintenance Highway Safety Improvements Program (HSIP) |
| Route 28 at Germantown Road | Intersection and turn lane modifications, flashing beacon sign (STARS) Access management improvements | Six-year Improvement Program (SYIP) Highway Safety Improvements Program (HSIP) Fauquier County Proffer Policy |
| Route 28 at Midland Road and Old Carolina Road | STARS improvements - lane narrowing, access changes, turn lanes, flashing beacon signs | Six-year Improvement Program (SYIP) Highway Safety Improvements Program (HSIP) |
| Route 28 at Meetze Road | Drainage improvements, STARS improvements - turn lane modifications, lighting, improve vertical alignment | VDOT Road Maintenance Six-year Improvement Program (SYIP) |
| Route 28 at Bastable Mill Road | Speeding issues for school traffic; Recommended potential location for roundabout or signal sidestreet realignment | Highway Safety Improvements Program (HSIP) Six-year Improvement Program (SYIP) Fauquier County Proffer Policy |
| Route 28 at Old Cattlett Road | Recommended potential location for roundabout | Highway Safety Improvements Program (HSIP) Six-year Improvement Program (SYIP) |
| Route 28 at Old Dumfries Road | Recommended intersection change (See Page 52) | Highway Safety Improvements Program (HSIP) Six-year Improvement Program (SYIP) Fauquier County Proffer Policy |
| Route 28 at Catlett School Road | Recommended intersection modifications (See Page 54) | Fauquier County Proffer Policy |
| 0.07 mile northeast of Catlett School Road to 0.22 mile northeast of Catlett School Road | Access management improvements | Fauquier County Proffer Policy |
| Route 28 Typical Section Improvements in Village Areas | Catlett, Calverton, Midland | Six-year Improvement Program (SYIP) Highway Safety Improvements Program (HSIP) Transportation Enhancement Program (TEP) Fauquier County Proffer Policy |
| Corridor-wide | Shoulder enhancement projects (Add shoulder for safety and bike access) | Highway Safety Improvements Program (HSIP) Six-year Improvement Program (SYIP) |
| Corridor-wide | Maintain intersection sight lines | VDOT Road Maintenance |
| Corridor-wide | Consider w1-7 signs at additional locations | VDOT Road Maintenance |
| Route 28 at Dumfries Road | Pave shoulders to create right turn taper | VDOT Repaving Schedule |
| Villages | Plan, design, and build gateway treatments | Fauquier County Proffer Policy County Funding Local Sponsorship |
| Corridor-wide | Passing lane restrictions - study and implementation | Six-year Improvement Program (SYIP) Highway Safety Improvements Program (HSIP) |

VII. Appendix

A. Entry Treatment Study

The following provides information relative to entry treatments and design features. This is provided as a reference for more detailed planning and design that may occur along the Route 28 corridor in the future.

To define the purpose of this study clearly, the entry treatment is the method a village or a town uses to emphasize its entrance. The treatments are in various styles, but after searching through examples, most of the entry treatments could be summarized within following four categories:

1. Entry sign
2. Entry gate
3. Landscape
4. Other road features



Entry Sign

An entry sign is the simplest way to define the entrance of a village or a town with the lowest costs; however, it is actually the clearest one to communicate information. The basic type of an entry sign includes just the information about the village or the town, but when budget permits, some more complicated ones could be added to this basic style to "advertise" more. Since it is the most convenient way to "say something" to people coming by, most of time it will be used individually, or combined with others to make the entrance of a village or a town.

Generally, the information stated in an entry sign will include the welcome words, the name, and established year of the village/town, places of interest around, other information (population, elevation, etc), or some specific advertisements.



entry sign: welcome + name



entry sign + advertisement



entry sign: name + information



decorated entry sign: welcome + name



Entry Gate

Among the examples found in recent research, the entry gate is not a treatment that was frequently used, but it is a way looks more serious and beautiful than entry sign. Using this approach, higher cost will be required, since a larger and more complicated structure should be built. But to the contrary, the space on the gate for advertising information is not larger than the entry sign – the only space provided for advertising is the arch on the top.



entry gate: decorated



entry gate: simple

Landscape

Sometimes, different landscaping will be used at the entrance to define its importance, with different trees, flowers, grass, or landscape constructions. It can emphasize the difference and the importance of the place, but it is difficult to express words. Therefore, in examples, landscape is often used together with an entry sign as a combination to define the entrance.



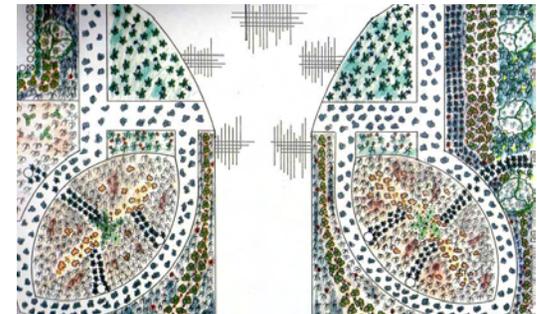
entrance tree



entrance flowers



landscape construction



entrance landscape draft

Other Context Sensitive Road Treatments

There are other methods that are useful in communicating a change of context along a roadway to the approaching motorists. These treatments serve to slow down traffic while enhancing the pedestrian environment. A recent project for Route 50 through Upperville and adjacent village areas has utilized a number of these treatments and has proven to be successful for slowing down traffic while enhancing the village environment. A brief description of some of these treatments is provided as follows:



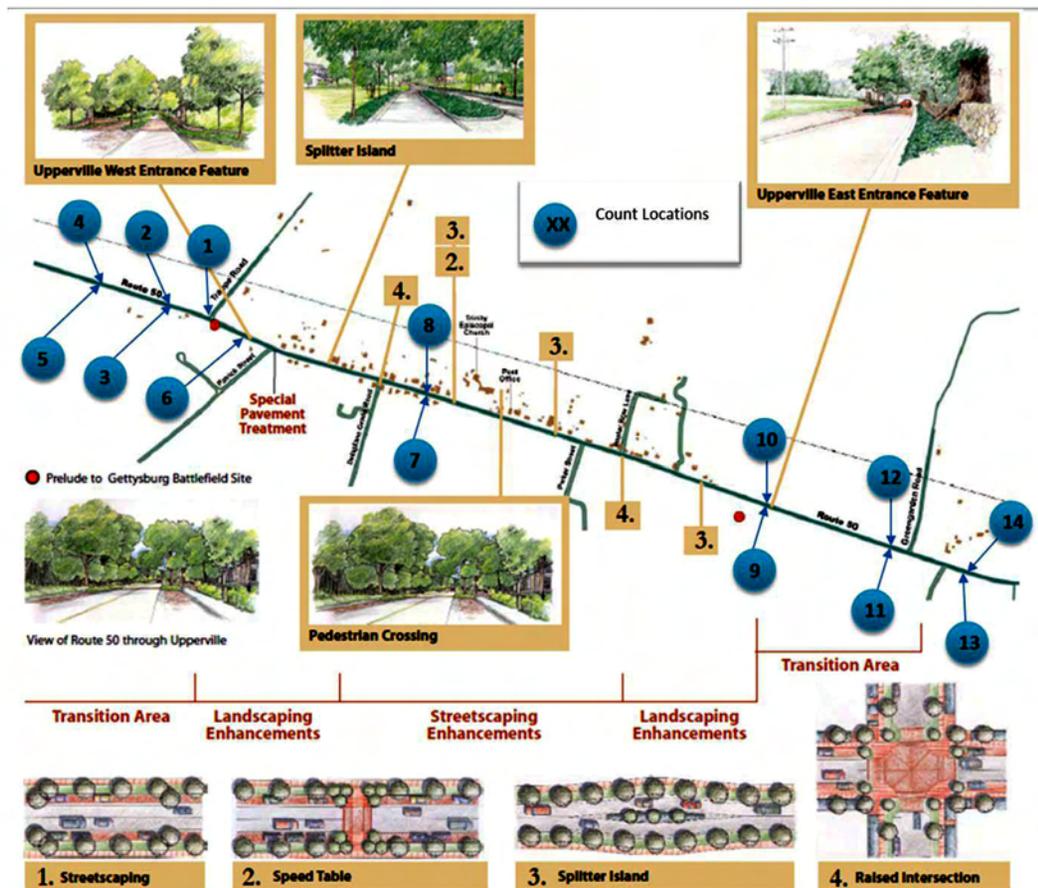
Center Islands are used to change the road typical section to one that feels tighter and results in slowing down motorists. Also, the center island can serve as a pedestrian refuge which enhances pedestrian safety. These examples are from the Route 50 project

Pavement textures- textured pavement creates a visual queue to drivers that they are entering into a pedestrian environment, such as a village.



Other Context Sensitive Road Treatments

The image below is from the Route 50 traffic calming project. This illustrates how a system of treatments, such as entry treatments, splitter islands, and textured pavements (among others), can work together to transform the roadway and match the overall context of a village area. In this illustration, various vertical treatments such as the raised intersection, are also included. The vertical features result in vehicles needing to slow to 25 mph or less. The numbered circles in the graphic indicate where traffic speed data was recorded in a followup study after the improvements were completed. There were significant changes in the speeds noted through the before and after data collection effort. The change in speeds are directly attributable to the roadway modifications.



The following provide an example of how to approach planning for an entry treatment. Entry treatments are always context sensitive, hence the discussion of community heritage.

Catlett's Characteristics

Key Words:

"Rural village with farms; rural center; around railroad; John Catlett; site of Union troop camps during Civil War; late 19th & early-to-mid 20th centuries buildings"

Catlett is a small rural village, surrounded by many large farms, which lies in the southeastern part of Fauquier County, near the Prince William County line.

The village of Catlett grew up around the Orange and Alexandria Railroad that was laid through the region in 1852. Best described as a rural economic and social center, Catlett offered a post office, school, several stores and churches, as well as numerous dwellings.

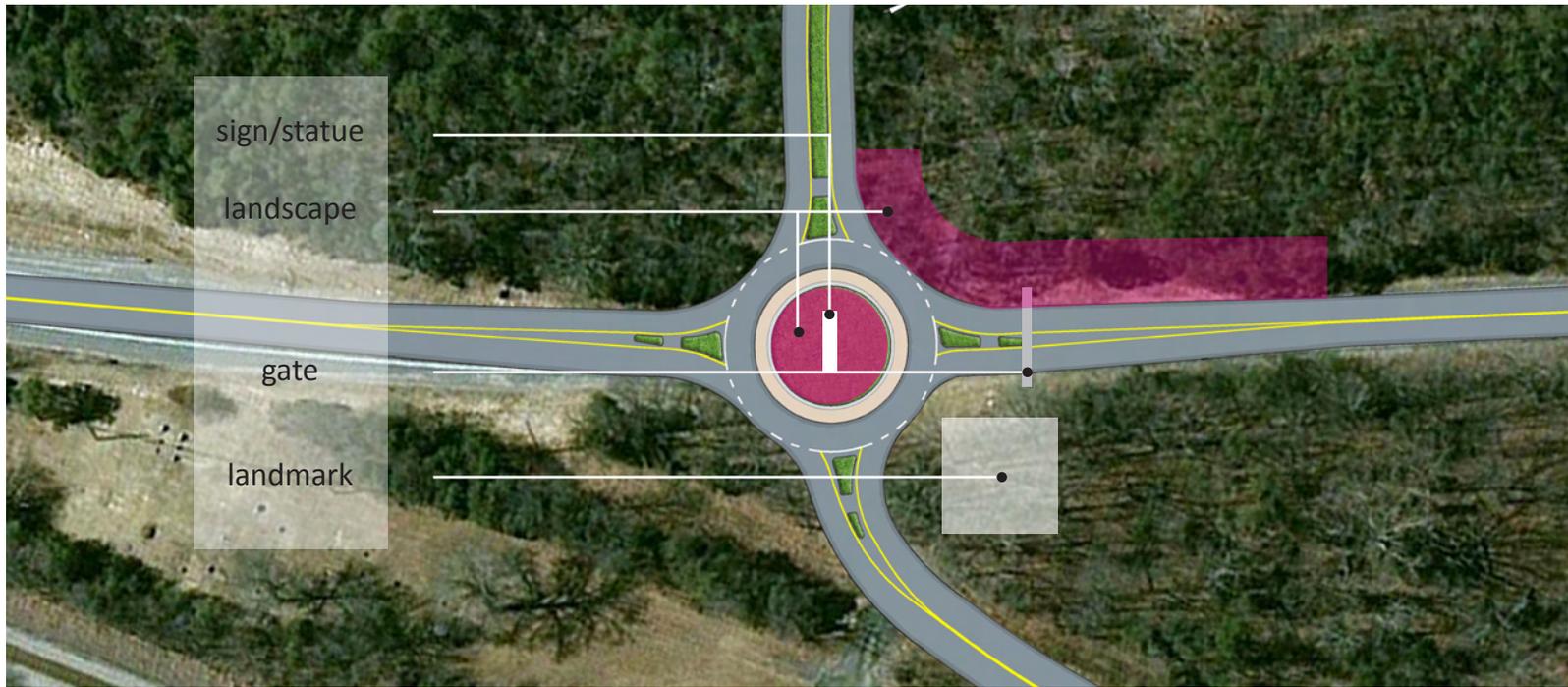
After the arrival of the railroad, Catlett was a busy mail, telegraph, and transportation center that developed a commercial significance that extended well into the latter part of the 20th century. The land on which the community is located was originally in the vicinity of a 1715 land grant to John Catlett, and the village was eventually named for him.

During the Civil War, the area was the site of Union troop camps

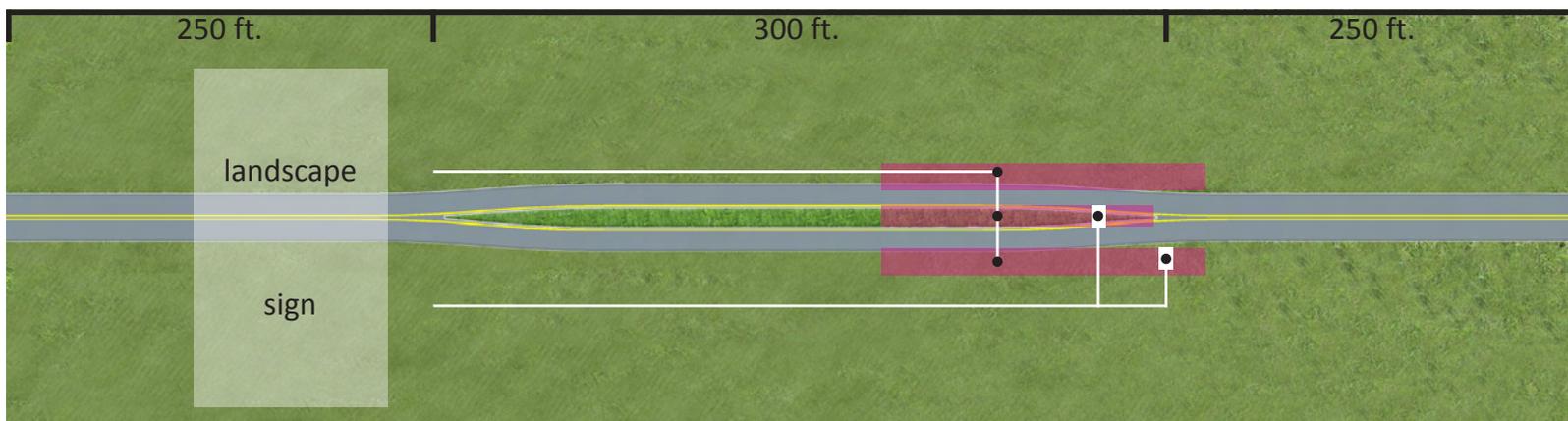
during the first and second battles of Manassas, as well as the other significant Civil War activity in 1862 and 1863. Its strategic location along the railroad made its buildings particularly vulnerable to destruction. Although the train station is no longer standing, the Catlett Historic District is very much intact and contains a collection of buildings that represent the town during the late 19th and early-to-mid 20th centuries.

None of the rail-related buildings that stood in Catlett during the Civil War survive, although several commercial buildings from the late 19th and early 20th centuries still stand, confirming Catlett's continued role as a commercial center well into the 20th century. The surviving buildings in the district reflect the community as it appeared during the early 20th century. An exception is a small group of high-style Italianate houses constructed in the last decades of the 19th century that are located on Old Catlett Road and were constructed by one builder.

Representative Potential Treatment Options



entrance 1



entrance 2