

Roads & Road Safety Issues in Fearrington Village

FHA Health, Safety, & Security (HSS) Committee
Road Safety Committee

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COMMUNITY REPORT: ROAD INFORMATION & ROAD SAFETY

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Introduction

Concerns about speed and stop signs in the village are endemic, and both concerns are more difficult to "fix" than first meets the eye. Except for the most egregious traffic hazards, almost all our efforts have to fall in the category of **deterrence** rather than **enforcement** strategies. In essence, most of the reactions to traffic violations we all spot in the village will have to fall in the deterrence category.

More on all that a bit later. First, let's consider "the elephant in the room," or, in this case, "the elephant that is suspended over the 15/501 highway" at the main village entrance. We all realize that this traffic signal is a cause of considerable confusion and high levels of risk; therefore, let's examine what we know about the operation of the traffic signal on 15/501 at Village Way and how drivers exiting and entering Village Way interact with, and should interact with, that signal.

The Traffic Signal at 15/501, Village Way, & Morris Road

What's with the **flashing YELLOW arrow** left turn signal that southbound 15/501 drivers encounter when turning left to enter Village Way? That yellow flashing arrow is almost

always operating. So, where is that **rare solid GREEN arrow** that hardly anyone ever sees, and what's that **solid RED arrow** all about anyway?

Note that **this traffic signal operates according to national standards set by the U.S. Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD)**

Brief Background: Tired of waiting to make a left turn at a busy intersection? A growing number of states have decided there's a better way to make those left turns while also keeping traffic moving, increasing safety, and reducing gasoline consumption.



The use of flashing yellow left turn arrows is a relatively new national standard. Only three states are not using the flashing yellow arrows at all. In 2008, Maryland had planned to require that all new signals have flashing yellow arrows. But their new state MUTCD prohibits the flashing yellow arrow in favor of the flashing red arrow that Maryland has used for years.

The other states are Pennsylvania and West Virginia. Hawaii has now adopted the flashing yellow arrow, and completed its first installation in 2014.

The Science and the Logic / Traffic Engineering: Consider that traffic flows along roads and highways much as water flows in rivers and streams, i.e., according to basic principles of fluid mechanics, and movement is smoothest when traffic is engineered to encounter fewest interruptions in the flow. Interruptions cause backups, and backups waste fuel, cause more pollution, increase driver frustrations, and really snarls things up. The new national goal in traffic management is to keep vehicles moving safely in all directions with a minimum of stopping and standing time. The development of sophisticated computerized traffic control signal panels and elaborate road sensors made this goal possible.



From a traffic standpoint, the flashing yellow arrow has a lot to offer. Nationally, drivers overwhelmingly understand what it means — **essentially, wait for a safe gap in conflicting flow before turning left.** This flexibility reduces left-turn lines and ultimately reduces congestion and frustration. Since the installation of the flashing yellow left turn signals, national accident statistics show a dramatic drop in left turn accidents at traffic signals.

In our particular signal installation, when the yellow arrow is flashing, opposing straight-ahead northbound 15/501 traffic has two circular GREEN lights at the same time. When the left turn arrow is a solid GREEN, the opposing straight-ahead northbound 15/501 traffic has solid circular RED lights. Whenever the southbound flashing YELLOW changes to become a

steady RED ARROW, the opposing oncoming traffic has two circular GREEN lights. No one should attempt a left turn into the village on a RED arrow, even if there is a gap in oncoming traffic.

When do we ever get a green left turn arrow? Although the southbound 15/501 left turn signal at Village Way almost always displays a flashing YELLOW arrow, that traffic signal will sometimes provide for a protective solid GREEN arrow. This solid GREEN arrow cycle happens under two specific traffic conditions. (1) if the traffic detectors embedded in the roadway on northbound 15/501 recognize that a left turning motorist has not turned during a flashing YELLOW arrow after 120 seconds (two minutes), and (2) each time the two side streets (Village Way and Morris Road) have finished a protective GREEN light cycle allowing them to empty onto, or across over, 15/501 while at the same time a motorist has been waiting for more than 15 seconds on southbound 15/501 to turn left onto Village Way. In this second case, the southbound left turn flashing YELLOW arrow will turn to a solid GREEN arrow to allow for a protective left turn into the village, at the end of the cycle that allows the two side streets (Village Way and Morris Road) to empty. This is why few people ever see a solid GREEN arrow for this specific left turn.

Issues We Discussed With NCDOT Related to the Signal Light at 15/501, Village Way, and Morris Road

- Southbound 15/501 vehicles turning left on flashing yellow arrow to enter FV interacting with two lanes of fast-moving northbound 15/501 vehicles, where timing judgment is complicated by effects of an optical illusion making speed of oncoming vehicles difficult to judge;
- Traffic exiting Village Way on a 5% grade and turning left (southbound) onto 15/501 (on green arrow) encountering right turning (northbound) vehicles exiting on a 3% grade from Morris Road (often referred to as "firehouse road"), which is slightly offset facing Village Way.
- The right turn from Village Way onto northbound 15/501, where timing judgment is complicated by effects of an often perceived optical illusion re: the northbound highway, making speed and lane placement of oncoming vehicles difficult to judge.

NCDOT considers this intersection to be one of the safest on this section of 15/501 and believes there are no accident trends that stand out as being problematic or indicative of any unsafe conditions. To address the issue of traffic turning left from Village Way meeting in the intersection with traffic turning right from Morris Road, they may consider re-painting dotted lane turning markers on the roadway to point out suitable pathways for turning vehicles to make safer turns. For an added dimension of safety, I would like to request that they add a "Left Turn YIELD on Flashing Yellow" sign to the suspension cable holding the 15/501 southbound left traffic signal at Village Way.

Five Years of Accident History at the 15/501 Traffic Signal: January 01, 2010 to January 01, 2015 (10 Accidents)

1. Within the last five years between January 01, 2010 and January 01, 2015, there were **four (4) accidents** involving US 15/501 **southbound motorists turning left onto Village Way** in front of northbound 15/501 motorists. [**On January 28, 2015**, there was one more accident in this category, for a **total of five such accidents** between 01/01/10 and 01/28/15].
2. There was **one (1) accident** that involved a **westbound motorist from Village Way who turned left onto 15/501 south and was struck by a southbound 15/501 motorist** who did not stop at the signal.
3. There was **one (1) accident** in which a **westbound Village Way motorist made a right turn on red and was struck by a northbound 15/501 motorist**.
4. The remaining **four (4) accidents** were **simply rear ends at the signal**.

Five Years of Accident History at the Intersection of Weathersfield and 15/501 — No Traffic Signal: January 01, 2010 to January 01, 2015 (5 Accidents)

1. Within the last five years between January 01, 2010 and January 01, 2015, there was one **(1) accident** involving a southbound 15/501 motorist **turning left onto Weathersfield who failed to yield to northbound 15/501 traffic** (1/10/10).
2. The other four (4) accidents involved motorists failing to yield while **attempting to turn LEFT from Weathersfield** and were **struck by oncoming northbound 15/501 motorists** (3/9/10; 9/10/13; 12/3/13 and 5/23/14.)

Action Agenda for Safety Issues at the Village Way Traffic Signal & the Weathersfield 15/501 Intersection

The Road Safety Committee will work on ways to educate and advise residents about the functioning nature of the traffic signal at 15/501—Village Way—Morris Road and the risks related to the frequently-perceived optical illusions in viewing fast-approaching northbound 15/501 traffic as well as the risks involved, especially in making LEFT turns from Weathersfield onto 15/501 southbound.

About Roads and Streets in Fearington



50 (61%) of the 82 roads and streets in the village were constructed to state standards (prevailing at the time of transition) and have been (or are expected to be) accepted by North Carolina Department of Transportation (NCDOT) as official state secondary roads in NCDOT District 2.. Each of these 56 roads and streets has been (or will be in the future) assigned a specific four digit number in NCDOT District 8, which can be researched and documented using the NCDOT on-line [Secondary Roads Database LookUp](#). [Note, however, that there are some omissions in this database.]

The remaining 32 streets (39%) of roads and streets in the village were turned over (or soon will be) to one the village service groups upon transition from Fitch Creation's development and construction stage to their respective HOA statues. Some service groups have no responsibility for road maintenance, some have responsibilities for some of their streets, and some have responsibility for all of their streets. *See the table on page 11 for the classification of village roads and streets.*

Speed & Stop Signs: Village Deterrence & Enforcement Issues



All traffic policies, signage, road stripping, road maintenance, etc. on village state roads are controlled by state law and/or NCDOT policies and procedures. NCDOT has established a village-wide speed limit of 25 MPH. We cannot set our own speed limits or post traffic-related signs on the side of the roads within the state setbacks without NCDOT approval; therefore, if we want to re-locate the placement of posts for our speed monitors on roads where they are currently used (see the table below listing the current approved locations) or place them on roads where we haven't used them before, we will work with NCDOT to identify new suitable locations.



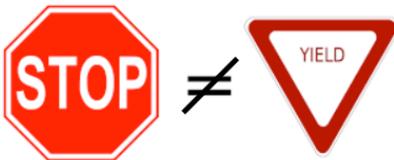
Our two speed monitors continue to have some positive value; however, we need to carefully develop a better strategic deployment pattern, especially by considering adding additional (new) locations and, after board approval, to work with NCDOT for advice and support. We also work with the Chatham County Sheriff's Department to arrange for the placement of their mobile trailer-mounted speed monitor at selective sites in the village and with NCDOT so they can place speed monitoring cables to effectively document the ideal locations for new speed monitor mounting posts.

Speed Monitor Locations Currently Approved by NCDOT (on January 25, 2007)

1	SR 1812	Weathersfield	Eastbound	454 feet west of SR 1814 (West Camden)
2	SR 1812	Weathersfield	Westbound	63 feet east of SR 1814 (West Camden)
3	SR 1718	Villageway	Eastbound	117 feet east of SR 1776 (Windstone)
4	SR 1718	Villageway	Westbound	255 Feet east of SR 1776 (Windstone)
5	SR 1785	Beechmast	Northbound	76 feet north of SR 1792 (Graystone)
6	SR 1785	Beechmast	Southbound	68 feet north of SR 1789 (Quail Run)
7	SR 1817	Millcroft	Eastbound	0.20 mile west of SR 1835 (Langdon Place)
8	SR 1817	Millcroft	Westbound	0.20 mile west of SR 1835 (Langdon Place)

A new deployment pattern for monitors will also help to raise community consciousness that speed is a real concern. People can become so accustomed to monitors being only at the same locations that they just "blow" past them without even perceiving them. In this instance, familiarity truly breeds contempt. **The camera on our monitor** helps to identify whether high speed vehicles are personal vehicles, delivery vehicles, service vehicles, construction vehicles, school busses, etc. and associates the actual speed, date, and time with the photo.

If our improved deterrence measures to calm speeding in specific high speeding zones prove to be inadequate and we can provide documentation of continuing hazardous speeding that endangers other vehicles and pedestrians, we will request the Chatham County Sheriff's Department to set up unannounced enforcement radar monitoring in such high risk locations.



Residents also frequently complain about drivers ignoring ("blowing through") posted STOP signs inside the village, or gliding through them in some sort of all-too casual "rolling stop," as if they were YIELD signs instead. There have been incidences of near misses at some intersections and forced evasive actions to avoid collisions.

The likelihood of a Sheriff's Deputy randomly witnessing a citable stop sign violation while patrolling on rounds inside the village is practically nil, and even more so for the State Highway Patrol. If our own deterrence efforts are not successful and a traffic study can document patterns of continuously serious problems at specific stop signs, we can request that an officer be designated to monitor specific intersections for random short periods of time.



Pedestrians & Bicycles

Pedestrians and bicycles sometimes share the shoulders of our relatively narrow roads and streets. Whenever possible, walkers should use the extensive network of paths and trails in the village ([see this map](#)) rather than

walk along or on the roads; however, since the trails and paths are designed for nature walks in woods, green spaces, and close to streams and ponds, and many village streets have no sidewalk for pedestrians, walkers headed to other destinations often have to walk along the sides of roads and streets for at least a portion of their walk.

Drivers need to realize that pedestrians along the road often have no other walking option to get to their intended destination and sometimes need to walk along a road to reach an entrance to a trail or path.

North Carolina Pedestrian Law

According to North Carolina law, ([see here for more detail](#)) “when a sidewalk is available, pedestrians must use the sidewalk instead of walking on the roadway, which is defined as the part of the highway that is paved, graveled, or otherwise improved for vehicle travel.” ... “When sidewalks are not provided, pedestrians walking along or on the highway should, when practicable, walk on the extreme left of the roadway or shoulder facing traffic. **Pedestrians walking on the shoulder of the road must yield the right-of-way to traffic.**”

Walking Along Village Roads and Streets:

- Always walk on the sidewalk if one is provided. If there is no sidewalk and you have to walk in the road, WALK FACING TRAFFIC, so you can see oncoming cars and so that drivers can more easily see you. Walkers MUST step to the side when an oncoming car approaches and drivers MUST slow down and move over a bit when it is safe to do so to give walkers a safety break.
- Dress to be seen. Brightly colored clothing makes it easier for drivers to see you during the daytime. At night, wear clothing with material that reflects the light from headlights of cars coming towards you. Carry a lighted flashlight.
- Be especially careful when walking on village roads with many curves and small hills (such as Spindewood), which blind motorists to your presence until they are right upon you.



Crossing Village Roads:

- According to North Carolina law, when not using a marked or unmarked crosswalk at an intersection, pedestrians must yield the right-of-way to vehicles when crossing the roadway.
- Cross only at corners or marked crosswalks. If there are none, always stop and look left, then right, then left again, before you step into the roadway.
- Keep looking for cars while you are crossing.
- Never cross between parked cars.
- Encourage your children and grandchildren to follow the safety tips for safe street crossing.

Safe Biking:

- Under North Carolina law, bicycles are considered vehicles and should be treated by drivers just like other vehicles.
- Under North Carolina law, bicyclists must yield the right-of-way and avoid colliding with pedestrians who are walking on a roadway, sidewalk, walkway, or in a crosswalk. Bicyclists should exercise caution when exiting a driveway or alley to watch for and yield to pedestrians. Pedestrians have the right-of-way while in a marked or unmarked crosswalk at an intersection that does not have a traffic signal.
- To be more visible, cyclists should wear fluorescent green, yellow or orange, even on village roads and streets.
- Always ride your bicycle with the flow of traffic, generally on the right side of the road.
- If you must ride your bicycle at night, wear reflective clothing and have front and rear lights on.
- Wear an approved helmet. Make sure that children wear their helmets.
- Always wear shoes when riding a bicycle.
- Bad road surfaces and potholes can cause accidents. Watch out for them.

Other Traffic Calming Options

3-Way / 4-Way Stops and Speed Tables / Speed Humps

Some residents have suggested using all-way (3-way or 4-way) stop signs at suitable locations to slow traffic on some village streets (such as along Creekwood); however, NCDOT does not allow unwarranted all-way stops to be used as a traffic calming technique.

In addition to the speed monitors and their appropriate placement, some residents have suggested speed bumps or speed tables. While we had believed that speed tables or speed humps would not be allowed on state roads inside the village (which used to be true), in 2009, the NC legislature passed the first law that does now allow such an option in residential subdivisions that have state roads.

H.B. 182 (2009): PASSED INTO LAW July 2009 Allow Speed Tables/Residential Subdivisions

§ 136-102.8. Subdivision streets; traffic calming devices. The Department [NCDOT] shall not prohibit the installation or utilization of traffic tables or traffic calming devices erected on State-maintained subdivision streets adopted by the Department, pursuant to G.S. 136-102.6, so long as the installation and utilization is within the subdivision and the traffic tables or traffic calming devices are paid for and maintained by a homeowner's association.

Backgrounder — Speed Table and Speed Hump Descriptions

Speed tables are longer than speed humps and flat-topped, typically with a height of 3–3.5 inches and a length of 22 feet in the direction of travel with 6-8 foot ramps on each end and a 10 foot flat section in

the middle and are either parabolic or linear. **Speed humps** are usually less than four inches high but 10 to 12 feet from front to back.

Vehicle operating speeds for streets with **speed tables** range from 25–45 mph, depending on the spacing. The elevated platform design of the speed tables ensures that speeding cars slow down while safe drivers can continue driving at typical residential speed limits. Some are concerned about how they may affect emergency vehicles; however, measured delays are generally less than 3 seconds of delay per hump for fire trucks and other EMS vehicles.

Easier to Desire Than to Accomplish

While such an option may be appealing to some, it is not universally popular with residents. It is also an **expensive** option and requires a significant number of steps to accomplish, including:

1. Submitting a traffic study containing field data to indicate magnitude of problem; for example, a speed study and a record of speeding complaints, sight distance evaluation, traffic and/or pedestrian volumes, and specific projected plans
2. Identifying all member property owners and submitting written verification that **at least 70% of residents on the road/street support installation**
3. Contacting local fire, EMS, law enforcement, and school system and providing written verification no objections or concerns
4. Hiring a contractor to install devices per approved plans
5. Posting a performance and indemnity bond as required
6. Providing NCDOT with a maintenance plan and up-to-date HOA/neighborhood contact information
7. Performing all routine and emergency maintenance on the devices (failure to maintain devices can result in removal at our expense)

Action Agenda for Road & Street Safety in the Village

As described above on pages 5 and 6, the Health, Safety, & Security Committee will develop improved measures for deterring speeding on village roads and for reducing dangerous stop sign violations in the village.

The committee will work with residents to develop periodic road safety programs designed to raise and maintain awareness of vehicle and pedestrian safety matters on our streets and roads.

We will also develop a schedule for prominently publishing periodic traffic reports including reminders about the uniform village speed limit, selective speed monitor data, and the risks at key village stop signs. These periodic reports will be featured in some monthly FHA Newsletters and posted on the FHA web site. We will also include such information at public meetings of the FHA board.

Snow & Ice On Our Village State Roads

Understanding NCDOT and Clearing Our 56 State-Owned Streets and Roads

All roads in North Carolina are maintained by either municipalities or the state; the 100 North Carolina counties do not maintain roads, and there is no such thing as a "county road" within the state. As a result, North Carolina, with over 80,000 miles of state-maintained roads, has the largest state-maintained highway network in the United States. Statewide (as of 2014) NCDOT's array of snow and ice clearing equipment includes more than 1,822 trucks equipped with plows and spreaders, 567 front-end loaders and backhoes, and 393 motor graders (one of which worked on our roads and streets after our last snow/ice storm). The department also outfits pick-up trucks with snowplows to clear less-traveled roads.

NCDOT is organized into 14 Highway Divisions. We are located in, and serviced by, NCDOT Division 08, which is responsible for maintaining **909 miles of hard-paved roads**. Under state guidelines, the road crews with plowing equipment have up to 72 hours after the snow event ends to plow the secondary state roads, which are the majority of streets and roads in Fearington Village. **During the two February 2015 ice and snow storms, NCDOT began to plow our state roads a day-and-a-half to two days following the end of the storms. Considering the enormous area they must cover in District 8, their attention to our roads was quick and was very appreciated.** We need to remember that no two snow and/or ice storms are the same and that each presents the crews with new blends of challenges, all of which affect when they can complete the job of clearing the roads of ice and snow.

The department gives first priority to clearing interstates and four-lane divided primary routes (so-called "bare pavement" roads) which are essential to the movement of intrastate and regional traffic. After those roads are clear, priority moves to clearing lower-volume primary roads, high-volume secondary roads, lower-volume secondary roads, and then **subdivision streets** (the service category for our 56 state-owned roads). NCDOT does not work in any subdivision in the County after night fall.

Resource Table of Roads and Streets in Fearington

See the next page (p. 11) for a table of all roads and streets in Fearington Village. This table is included as a resource for those who need, or want, to know which roadways in the village are the responsibility of the state and which are the responsibility of specific service groups. This information can be helpful when residents contact the FHA and/or a service group about issues related to roads and streets.

50 State Owned & Maintained Village Roads & Streets (61%)

Ashton, Barnsley, Beechmast, Benchmark, Bladen, Bradford Place, Brookfield, Burwell, Claymoor, Clover Thatch, Creekwood, East Camden, Findley, Fox Ridge, Graycliff, Greystone, Hatfield, Hedgerow, Hollyhock, Lassiter Lane, Macon, Matchwood, Meadow Run, Millcroft Road, North Langdon, Quail Run, Rushing, Shadowbrook, Shagbark, South Langdon, Spindlewood, Stone Edge, Stone Ledge, Stoneview (lots 601-607), Summerwood, Swim & Croquet, Tinderwood, Trestle Leaf (except for the steep graveled lower end), Trundle Ridge, Turtle Run, Village Way, Weatherbend, Weathersfield, West Camden, Whitehurst, Windlestraw, Windstone, Wintersage, Woodbury, and Woodham.

32 Streets Owned & Maintained by Village Service Groups: (39%)

BURKE PLACE 1 street Lots 4301 - 4312. [MAP](#)

COUNTRYHOUSE SERVICE GROUP V, INC. [MAP](#)

10 Streets: **Lots 301-453; 455-487; 489-503:** Baneberry Close, Brampton Close, Crossvine Close, Linden Close, Lynfield Close, Sycamore Close, Weymouth Close, Whisperwood Close, Winterceast East, Wintercrest West

CAMDEN PARK, INC. [MAP](#)

6 Streets: **Lots 1101-1227; 1001-1086:** Caldwell, Caswell, East Madison, McDowell, West Madison, Yancey

*Camden Park, Inc. is also responsible for maintaining the following Rows, which are **private ways and are not counted as being public streets in this report**: Anson Row, N.Avery Row, Middle Avery Row, S. Avery Row, Caswell Sidewalk, N. Gaston Row, Middle Gaston Row, S. Gaston Row, N. Pender Row, Middle Pender Row, S. Pender Row, Scotland Row, N. Surrey Row, Middle Surrey Row, S. Surrey Row, and Yadkin Row.*

BUSH CREEK TOWNHOMES, INC. Langdon Place: Lots 1300-1351 [MAP](#)

HENDERSON PLACE Lots 4200 - 4259 [MAP](#)

MILLCREEK CIRCLE Lots 4313-4341 [MAP](#)

MILLCROFT HOMEOWNERS ASSOCIATION [MAP](#)

5 Streets: **Lots 4051-4082:** Duplin, Harnett, Lenoir, Sampson, Woodleigh

RICHMOND CLOSE 2 Streets: Richmond (**Lots 4401 - 4414**) & Tyrell (**Lots 4500-4505**). [MAP](#)

RUTHERFORD CLOSE Lots 5501-5312 [MAP](#)

THE KNOLLS Lots 4100-4127 [MAP](#)

Total Village Streets and Roads = 82