

WATERFORD TRAFFIC REDUCTION COUNTERPROPOSAL

Executive Summary

Johnson, Mirmiran and Thompson's (JMT) May 2018 "Village of Waterford Cut-Through Traffic Study" clearly identified a commuter cut-through problem in Waterford that qualifies the village for the Virginia Department of Transportation's (VDOT) Residential Cut-Through Program. Unfortunately, the study's proposed solutions do not account for Waterford's National Historic Landmark status and would not reduce traffic for the village as a whole. The study simply recommends shifting traffic from one historic, residential street to another.

Waterford presents a unique problem: because it is a National Historic Landmark, its streets cannot be significantly altered or modernized without risking the village's Landmark status. Hillsboro's roundabouts and Middleburg's central traffic lights can't be implemented here. But something must be done in the near term to reduce traffic volumes village wide and improve safety for residents and visitors.

The Waterford Citizens' Association (WCA) is proposing a phased approach, based on VDOT's no cut-through concept, which seeks to reduce traffic by a measurable amount. The first phase of the plan dovetails with the 287/9 roundabout construction. It would rely on restriction signs and metering lights during defined peak-traffic periods in an effort to influence navigation applications and increase safety.

The cost for the phase one of our plan would be considerably less than any of the consultants' proposed bricks and mortar solutions. And because our plan is structured in phases, it avoids any unnecessary expenditures. If any one phase is successful in achieving traffic volume goals, the following phases need not be implemented.

The Problem

Waterford has seen a **320 percent increase in traffic volume since 2003**, when the Loudoun County study, "Bury the Wires and Tame the Traffic," cited daily volumes as high as 1500 vehicles per day. JMT's study quoted current numbers as high as 6,300 vehicles per day in some areas.

Loudoun's growth has certainly contributed to the increase but, according to the county's 2017 Estimate Series, growth has averaged 4.4 percent each year since 2003 — not enough to account for the current commuter volume. Instead, road realignments and new technology are the actors now funneling large numbers of commuters through Waterford.

Traffic volume began to increase when VDOT paved Milltown Road (683). Since then, the advent of navigation applications like Waze and VDOT's subsequent realignment of Milltown Road at East Broad Way in Lovettsville (eliminating the right-hand turn and making it a straightaway) have served to actively encourage commuters to drive through the village.

The constant stream of vehicles during peak rush hours makes it difficult to safely walk our narrow streets. A member of every village household is typically a pedestrian at least once a day, six days a week, since mail isn't delivered to village homes and must be picked up at the post office. Even residents who drive to the post office are usually forced to park and walk across a four-way intersection. Waterford scores a 5 on the National Highway Transportation Safety Administration's (NHTSA) Walkability Checklist, which NHTSA says is a "disaster for walking" safely.

The presence of Waterford Elementary School in the village increases risks for children and adults. A 2016 Safe Kids Worldwide study found that the smaller and less densely populated the locale of the school, the greater the odds that drivers dropping off and picking up students are driving distracted (using cell phones and other technological devices).

Unfortunately, Waterford's 20 mph speed limits aren't enough to keep residents and visitors safe. NHTSA studies have found that five percent of pedestrians hit by a vehicle at 20 mph are killed. The fatality number increases to 45 percent when hit by a vehicle going just 30 mph. Four of the eight Waterford streets on which speed data was gathered for JMT's study saw an 85th percentile speed of 30 mph or greater, with one as high as 42 mph despite the posted 20 mph speed limit.

In addition to being a safety hazard, funneling traffic through the Landmark runs counter to state and county preservation goals. The goals of Virginia's "Comprehensive Historic Preservation Plan 2016-2021," in which VDOT is listed as a stakeholder, include incorporating historic places and their preservation effectively into planning and policy and building strong and sustainable state assets in support of Virginia's tourism industry. Loudoun County's 2018 Envision Loudoun plan says the county will "protect the Waterford National Historic Landmark ... and will seek opportunities to enhance protections of this area through traffic calming measures and other efforts to encourage through traffic to use alternate routes."

Waterford, the only National Landmark of its kind, is certainly worth protecting. The annual Waterford Fair attracts 10,000-15,000 people, but it isn't the village's only draw. Waterford attracts visitors with weddings hosted in its historic buildings throughout the year, a heritage crafts school, an annual 5k race, a Halloween-night festival, two days of Fourth-of-July festivities, two seasonal farmers' markets and two vibrant churches. The Corner Store will reopen in September and our community has plans to add an African-American history walking tour to the tours already provided by the Foundation.

The village also appears on a number of cycling trail routes, including the Taylorstown/ Stumptown Loop, the Waterford Cruise and the Waterford Double Cross. In fact, cycling tour companies have started bringing vanloads of cyclists to the village on weekends.

How to Achieve Safe Traffic Volumes — Our Proposal

Waterford's families expect to share the burden of Loudoun County's commuter traffic, but current levels cannot be sustained long term. The WCA believes a significant reduction in traffic volume is attainable through implementation of the solutions recommended below.

While we are hopeful that the planned 287/9 roundabout will reduce traffic, we ask that the county and VDOT begin implementing phase one as soon as possible rather than waiting until construction is complete. If not, traffic volume during the construction period will overwhelm the village and cause preventable accidents and even injuries.

Phase One

In phase one, no thru traffic signs and metering traffic signals would be placed at village entrance points outside the historic district. Traffic calming measures would be implemented on High and Water Streets, which were identified by the study as qualifying for them. No thru traffic signs would apply to peak hours only (as determined by JMT's study), which would be listed on the signs as 7-9 am and 4-6 pm. Metering lights would only be illuminated during those hours.

JMT's recommendations include no thru traffic signs on Second, Factory, Janney and Patrick Streets with periodic enforcement. Such placement merely shifts traffic volumes from these local streets to Water Street, which is also classified as a local road. It does nothing to help lower Main Street, which is the location of more than 30 residences, some just a few feet from the roadway, and such historical assets as the John Wesley Church and the Mill, which is just 23 inches from the road.

The WCA recommends moving the signs to the intersections of Milltown and Old Wheatland Road, Clarkes Gap and Factory, High Street and Janney, High Street and Patrick, High Street and Main, and Loyalty and Water Street. The signs would not apply to Clarkes Gap and High Street within the village as they are classified as major collectors.

Periodic enforcement by Loudoun County Sheriff's deputies would be ideal if not easy, as it would require them to follow a vehicle through the village to determine it has not stopped and is indeed "thru traffic." It is possible that enforcement as infrequently as one hour each month would be enough of a deterrent to reduce traffic volumes.

Even with no enforcement, no thru traffic signs would stop navigation applications like Waze from sending commuters through the village. According to the Wazeopedia on Waze's website, public roads with street signs that mark them as closed to thru traffic are considered private by Waze and the application does not route traffic through these areas.

“For better or worse Waze, like most folks, ‘can’t fight city hall,’” the site says, “and must respect these signs.”

There are a number of media reports of this strategy working for localities, where others did not. For example, Slate Magazine reports that Los Altos Hills in California first asked Waze to remove three of its roads from the app’s recommended routes. Waze declined the request, as is its policy. Then the city erected no thru traffic signs on three roads and Waze complied, promising not to direct users to drive on those streets. In a statement, Waze said when “changes are made to the status of local roads, our local editors identify and validate it and can then update the map to reflect it.”

In conjunction with no thru traffic signs, the WCA recommends using technology known as metering traffic lights (Figure 1) — lights controlled by sensors that will hold cars in a queue for a short period of time, typically 20-40 seconds, before letting them proceed onto the roadway.

These are widely used in the U.S., and even appear locally on access ramps for I-66. In Waterford, they would accomplish a number of objectives. They would increase safety by providing gaps between cars during peak rush hours so that pedestrians could safely cross streets and locals could safely pull their cars onto roadways. By causing a short time delay for drivers in the queue, they could reduce the appeal of cutting through the village. They also provide a clear gateway to the historic district, as recommended in the county’s 2003 study and in the Envision Loudoun plan, that would serve to discourage speeding and stop-sign running.

Metering lights are also used to help traffic move more efficiently where capacity is a problem. The lights improve roadway performance by shifting the wait to commuters about to enter the district. In Waterford, the gaps between cars would allow for vehicles driving “upstream,” against the flow of rush hour traffic, to make it through the village without having to pull over or cause oncoming traffic to pull over, as is currently the case.

The lights could be located at intersections where drivers have alternate routes available if they prefer not to wait (Appendix A). A light could be placed at Clarkes Gap Road (662) and Hurley Road (703) for example, which would give cars the option of taking 703 and Old Waterford Road (698) to the other side of the village. On the northwest side of the village, a light could be placed at the intersection of Milltown (681) and Old Wheatland Road (698), giving motorists the choice of waiting or turning on 698. A light at Old Waterford (698) and Loyalty (665) would also serve to stop traffic for school buses, cars and children entering the school property.

Metering lights could be used to reduce the number cars that are in the village simultaneously to a number that allows for a safe distance between cars. And light timing can be adjusted in real time if needed.

Speed tables or similar calming measures placed on High and Water Streets, perhaps with brick or cobblestone crosswalks, would enable residents to cross the streets safely and

provide enough of a gap between vehicles that residents could safely enter the roadway in their own vehicles.

Phase Two (optional)

If phase one is not successful in reducing traffic volumes by a pre-determined amount agreed to by all stakeholders, traffic calming measures, as outlined in the 2003 study, could be implemented throughout the village as an inconvenience and therefore deterrent to cut-through traffic. It is our hope that this extra expense won't be necessary after phase one is implemented.

Phase Three (as needed)

If phases one and two are not successful in reducing Waterford's traffic volume, a bypass should be considered. This is an appealing, if expensive, option. The challenge is where to put the roadway.

The Waterford Foundation's Phillips Farm has been mentioned as one option (bypass alternative 4A in JMT's study, valued at \$8M in planning costs). The Foundation opposes this option and, in a recent public statement, said it isn't feasible based on existing easements and grant conditions. There is, however, private property adjacent to Phillips Farm that could be considered.

Meanwhile, there are alternate routes that could be relied upon to help share the traffic load. While not four-lane highways, these roads could provide some relief to the village by accepting a portion of the cut-through traffic (see alternate routes listed below). Presumably, the minor improvements required would be considerably less expensive than construction of a bypass.

Burden Sharing During 287/9 Construction

Temporarily increased volume during construction of the 287/9 roundabout is expected, but Waterford's roadways cannot support 100 percent of the rerouted vehicles. It would be helpful to understand what VDOT's modeling tells us about how much volume will increase in Waterford during the project. Based on those numbers, alternate routes should be identified before construction begins, and communicated to motorists through signs and a public education campaign.

Alternate routes that should be considered include:

1. Lovettsville Road (672) to 669 to Taylorstown Road (668);
2. Milltown Road (681) to Old Wheatland Road (698); and
3. Milltown Road (681) to Featherbed Lane (673) if bridge work is complete.

None of these routes spare the village's High Street (major collector) from increased traffic flow, but metered lights should help ensure safety is maintained there.

Phase one solutions should be implemented in conjunction with alternate route signage and education, in order to maintain safety village wide.

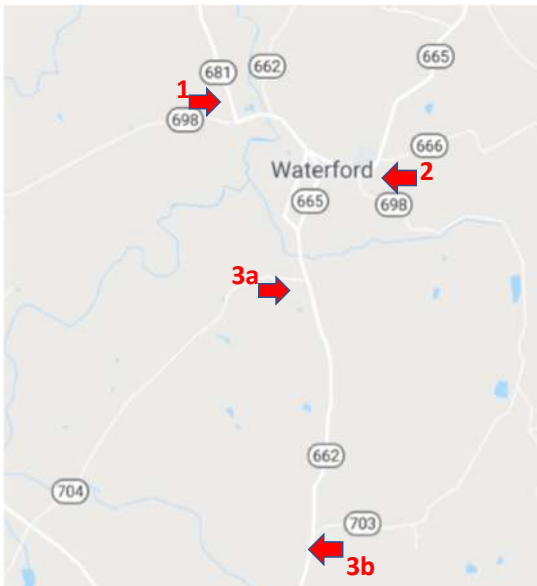
Thank You

Thank you once again for recognizing the need for traffic volume reduction in the village of Waterford and for working with the WCA and local residents to find acceptable solutions that increase safety throughout the village. We look forward to working together to implement these village-wide solutions in the near future.

Figure 1: Metering Traffic Light



Limiting commuter traffic through Waterford Metering traffic lights



Goal: Allow a pre-determined maximum number of vehicles moving through the village at any one time during morning and afternoon rush hour

Traffic lights and cameras installed at three main entrance/exit points of village:

1. **Milltown Rd** at First St and Old Wheatland (Rte 698 West of village)
2. **Loyalty Rd** at Old Waterford (Rte 698 East of village)
3. **Clarks Gap Rd** at (a) Hamilton Station (Rte 704) or (b) Hurley (Rte 703)

Signs at starting points of main roads (Milltown Rd in Lovettsville; Loyalty Rd in Taylorstown; Clarks Gap Rd at Route 9) alert commuters of the traffic lights

Vehicle-through-village maximum alterable depending on circumstances (e.g., 287-9 roundabout construction), and allows for gradual reduction in traffic

Would affect Waze, Google and other applications

Builds on approach of commuter no-through and no-turn restrictions of VA Residential Cut-Through Program

Example: Arlington on-ramps to Rte 66