# Waterloo Street

## Existing Conditions and Observations

The Waterloo corridor is the most direct route from Old Town to Broadview Avenue and points further west, including Fauquier High School and the Warrenton Aquatic and Recreation Facility (WARF). East of Broadview Avenue, Waterloo Street has one travel lane in each direction, on-street parking on the north side of the street, and a sidewalk on only one side of the road.

West of Broadview Avenue, Waterloo Road has one travel lane in each direction, and on-street parking and a sidewalk on the south side of the street until the intersection with Piedmont Street. West of the intersection with Piedmont Street, on-street parking is permitted on both sides of the street and there is a sidewalk on both sides of the road.

The intersections along Waterloo Street create the biggest barriers to walking along the corridor. Minor intersections near Warrenton Middle School are challenging for pedestrians because parked cars block the view of oncoming traffic, and the intersections lack ADA compliant curb ramps and high visibility crosswalk markings. Restricting parking within 20 feet of the intersection, posting advance pedestrian crossing signs and adding high visibility crosswalks would improve the pedestrian experience at these intersections.

The intersection of Chestnut Street with Waterloo provided a good example of common issues along the corridor. The slightly offset layout of the intersection – South Chestnut has a median divider that means traffic coming from South Chestnut Street onto Waterloo is not lined up opposite North Chestnut – creates enough ambiguity among both motorists and pedestrians (especially school students) that motor vehicle traffic tends to dominate proceedings even though there is a marked crosswalk on Waterloo. Drivers are watching for other cars as they turn out of S Chestnut, and may not see or have enough time to react to pedestrians crossing Waterloo in the crosswalk.

These issues are exacerbated by the fact drivers are often picking up speed as they come down the hill on Waterloo Street. Walkability audit participants shared

Waterloo Street heading west; sidewalk on one side only.

Main entrance to the Middle School on Waterloo with uncontrolled crossings.

Potential reconfiguration of the main school access with a raised intersection, example from Cambridge, MA

Chestnut and Waterloo Streets

several stories of cars being hit in that intersection and even shared pictures of recent crashes. This intersection is a key link between the neighborhoods on Winchester Street and Waterloo Street, and serves as a popular walking route for students and residents accessing the schools and businesses on Waterloo Street. This walking pattern will increase if the County chooses to relocate the Warrenton Branch Library to this intersection.

In general, participants noted that even with the presence of a police officer and a speed trailer on Waterloo the day of the audit, traffic was still traveling quite fast for a busy two-lane road with limited right-of-way and a lot of local foot as well as motor vehicle traffic. Traffic calming measures, such as alternating parking to create chicanes, would reduce vehicle speeds and provide more of a buffer between the travel lanes and sidewalk.

The large Broadview Avenue intersection has free-flowing right turn lanes on all four corners and long delays for pedestrians waiting to cross with the traffic signals. The intersection is a significant barrier to the High School, WARF, medical facilities, and other nearby destinations for people traveling by foot and bicycle. For pedestrians walking the length of the Waterloo corridor, they must cross both Waterloo and Broadview at this intersection to stay on the sidewalk. Participants noted a wide variety of crossing locations and methods as people navigated this intersection as efficiently and conveniently as possible – often outside the "official" crosswalks, signs, signals and markings.

## Major Takeaway

During the walk audit, the study team spent time observing the free-flow right turn lane on the northwest corner of the Broadview/Waterloo intersection. As it is currently designed, there are two locations for pedestrians to cross the right turn lane, one at each end of the slip lane.

While this configuration provides pedestrians with direct routes to the sidewalks in both directions, audit participants were struck by the fact that almost every driver turned their head to check for merging traffic as they reached the second crossing point (closest to Frost Road). Thus, at the critical moment when they should be checking to see if there are pedestrians approaching the crosswalk, their heads are turned in the opposite direction.

When there is oncoming traffic, drivers keep their heads turned over their left shoulders until they see a gap, and often proceed through the intersection without looking directly ahead or back to the right. If drivers do not see any oncoming traffic, they will accelerate through the crosswalk. A better design would have a single marked crosswalk located closer to the midpoint of the turn lane, well before the point where most drivers turn their heads to look back over their shoulders while maintaining the principle that pedestrians will cross at the shortest point. This would have not have been obvious without observing driver behavior as part of the walking audit.

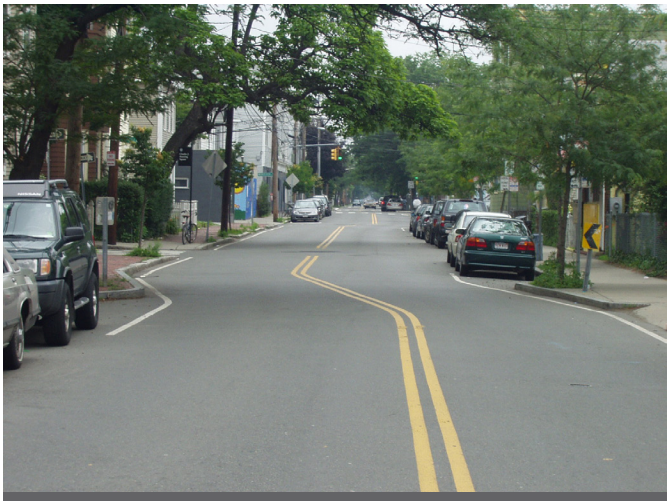

Broadview and Waterloo Intersection. At this crossing point, driver's heads are turned away from the crossing to look for merging traffic.

# Short-Term Recommendations

Temporary bulb-outs at an intersection in Alexandria, VA

This section of new sidewalk on a major road in Jacksonville, FL maintains a level surface for the sidewalk and a more steeply sloping driveway apron for motor vehicle access.

1. Install bulb-outs (C.6.) on Waterloo Road at N. Chestnut Street to daylight the intersection for pedestrians and provide pedestrians a visible place to wait to cross the Waterloo Road. Consider adding bulb-outs to S. Chestnut Street at Waterloo Road to reduce crossing distance for pedestrians.
2. Switch parking lane from the north to south side of Waterloo Road from N. Chestnut to Garrett Street (except for the section in front of the middle school). This would provide a buffer to the sidewalk and create a modest chicane along the length of Waterloo Road to help reduce vehicle speeds.
3. Replace parking lane with new sidewalk (A.5.) between the existing marked crosswalks at the school entrance and Frazier Road; install Rectangular Rapid Flashing Beacon (RRFB) or Hawk Signal at one of the two crossings.



Creating a traffic calming chicane by switching parking to alternate sides.


This Rectangular Rapid Flashing Beacon installation is at a school crossing on a busy neighborhood street in Seattle.