



## TOWN OF CARRBORO

NORTH CAROLINA

### MEMORANDUM

**DELIVERED VIA:** ☐ HAND ☐ MAIL ☐ FAX ☒ EMAIL

**DATE:** March 24, 2017

**TO:** David Andrews, Town Manager  
Mayor and Board of Aldermen

**FROM:** Tina Moon, Planning Administrator/Transportation Planner

**RE:** Prioritization of Pedestrian Improvements

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#### Background

In the fall of 2014, Terri Buckner addressed the Board of Aldermen on two occasions (September 16<sup>th</sup> and October 7<sup>th</sup>) to discuss pedestrian safety. At the October 7<sup>th</sup> meeting, Buckner requested that the Board to appoint a short-term taskforce to research pedestrian safety in the downtown. The Board referred the matter to the Transportation Advisory Board (TAB). In April 2015, the TAB held a pedestrian safety forum at the Open Streets event to gather public input on issues affecting pedestrian safety in Carrboro. Almost one hundred comments were received and members of the TAB consolidated the comments and sorted them into geographic areas and safety topics and presented their findings to the Board of Aldermen in January 2016.

After further discussion, the TAB decided that the Town should first pursue 'low-hanging fruit', which included striping new crosswalks and improving existing intersections. The TAB wanted to focus efforts along the N. Greensboro St. corridor between James St. and Estes Dr., and W. Main St. between Hillsborough Rd. and Weaver St. Staff and the group identified several other locations for attention that were not along these two corridors. Since most of these locations are on state-maintained roads, Town staff took Division Engineer Chuck Edwards on a tour of the 'trouble spots' and discussed potential improvements. The locations and suggested improvements are shown in the following pages.

The following description of potential infrastructure improvement projects includes approximate cost estimates, where known, to give the Board a general sense of the cost of different types of projects compared to one another. This information is provided to assist with identifying and potentially prioritizing projects, only. Preliminary costs estimates would be prepared and brought back to the Board at future meetings, for additional consideration, once projects were identified and more specific designs developed.

## West Main Street and Hillsborough Road

Staff often hears concerns from residents about cars not yielding at the crosswalk across W. Main. The Carrboro Police Department frequently conducts pedestrian safety enforcement operations at this crosswalk in response to these concerns. The crosswalks at this intersection are heavily travelled by children and parents going to and from Carrboro Elementary school. The crosswalk at W. Main is one of the gateways into downtown Carrboro. While the speed limit on W. Main St. decreases from 35mph to 25mph at Davie Road, almost 1/3 of a mile from the crosswalk, some drivers are still decelerating to the slower speed when they enter the school zone. In addition, the location of the crosswalk across Hillsborough Rd. at Shelton St. has limited visibility for vehicles turning right onto Hillsborough from W. Main, especially when cars are stacked at the stop sign.



Suggested Actions	Considerations	Possible Costs
Install additional signage <ul style="list-style-type: none"> <li>• Pedestrian sign on the N side of the crosswalk</li> <li>• Yellow reflectors on the pedestrian sign post</li> <li>• Advanced crosswalk warning signs further west on W. Main</li> </ul>	Lots of signs already along roadway	PW can make signs for at a nominal cost
Restripe crosswalk across Hillsborough at Shelton to run parallel to W. Main to increase visibility of pedestrians	Would need to do curb cut and ADA ramp on NE corner. Public input in past opted for crosswalk where it is	Curb cut, ramp, paint, scrape crosswalk
Install Rectangular Rapid Flash Beacon (RRFB) at W. Main crosswalk	This recommendation is included in the SRTS Action Plan	~\$8,000

## W. Main and Poplar Ave.

This intersection is skewed and makes crossing distances quite long. There is currently no sidewalk on the SW corner and part of the NE corner, though there are ADA ramps. Moreover,

there are no painted crosswalks at this intersection. The design of the intersection—with less-than 90-degree angles for two of the corners allows cars to speed while turning, thereby increasing the danger to pedestrians crossing. This intersection features prominently in the Safe Routes to School Action Plan (SRTS).



Suggested Actions	Considerations	Possible Costs
Stripe crosswalk across W. Main	Will be long and at an odd angle	\$200
Stripe crosswalks across Poplar	Long crossings	\$400
Install curb extensions on SW and NE corners to decrease turning radii, speed, and crossing distance	Recommended to be implemented as a pilot project with bollards or delineators (such as the Oak Ave. pedestrian refuge island at N. Greensboro St). If successful a permanent concrete installation could follow.	<ul style="list-style-type: none"> <li>Pilot project with bollards</li> <li>Actual curb extension-\$2,000-\$20,000</li> </ul>
Install pedestrian median to shorten crossing distance	This type of project would be eligible for Orange County Transit funds.	\$15,000-\$30,000 per 100 ft

### W. Main St and Ashe St.

There is currently not a crosswalk across W. Main St. between Hillsborough and W. Weaver. There are existing curb cuts on both sides of Ashe St., and Chapel Hill Transit bus stops on both



sides of W. Main. There is a good amount of pedestrian traffic at this intersection due to the bus stops, Town Hall business, and the Farmers Market.



Suggested Actions	Considerations	Possible Costs
Stripe crosswalk across W. Main	Will require curb cut on south side of W. Main	\$1,700 (\$1,500 for ramp, \$200 for crosswalk)

### W. Main/W. Weaver/Laurel Ave. Intersection

This can be a difficult intersection to navigate, both on foot and in a vehicle. It is a lopsided five-point intersection with pedestrian signals only on the north side. There are between 4,200 and 4,500 daily vehicles through this intersection, and it is heavily traveled by pedestrians and bicycles as well. In addition, water tends to pool in the corners after heavy rain events to the extent that cars to splash pedestrians standing on the sidewalk waiting to cross.



**W. Main/W. Weaver/Laurel Ave. Intersection (continued)**

<b>Suggested Actions</b>	<b>Considerations</b>	<b>Possible Costs</b>
Install curb extension at SE corner to replace painted triangle. This will provide better crossing conditions for pedestrians, reduce turning radius (speed) for cars and help with drainage		Pilot curb extension – ~\$15,000  Real curb extension – more than \$20,000
Install pedestrian signals and switch to ‘soft recall’ (automatically turn to walk without pushing button)	Will have to work with NCDOT and Chapel Hill to integrate with existing signals. No existing pole on SE corner	~\$1,500 per signal
Install ‘right turn yield to pedestrians’ on W. Weaver approaching Elm St.		PW make sign
Consider installing a colorful crosswalk		\$600 per crossing

**E. Weaver St./E. Main St./Roberson St. Intersection**

This intersection in the heart of downtown is very busy with all modes of travel. There are sidewalks on all sides, and crosswalks across three of the legs. Residents have complained about dangerous crossing conditions at the entrance to the Carr Mill parking lot, and about being unable to safely cross Main and Weaver to the brick median (where Spotted Dog is). There are multiple bus stops in the vicinity, and countless attractions for cars, bicycles and pedestrians.





**E. Weaver St./E. Main St./Roberson St. Intersection (continued)**

<b>Suggested Actions</b>	<b>Considerations</b>	<b>Possible Costs</b>
Re-paint existing crosswalks		\$400
Stripe crosswalk across driveway into Carr Mill parking lot, paint stop bar, and install ped signal	Will have to work with NCDOT and Chapel Hill to integrate with existing signals	\$3,200 (\$200 for crosswalk, \$1,500 per signal)
Switch to 'soft recall' (automatically turn to walk without pushing button) and rotate ped signal signs/buttons or provide a 'scramble' (ped only) phase to the signal cycle	“ “	No cost
Realign the crosswalk across E. Weaver and stripe a new one across E. Main (both to Spotted Dog median) and install ped signals	<ul style="list-style-type: none"> <li>• Will need to move stop bar on E. Weaver St. back (west) a few feet to allow for adjustment</li> <li>• Will need to move stop bar on E. Main way back (west) to keep cars from driving through new crosswalk and could be confusing for drivers</li> </ul>	\$3,000-\$5000

**Jones Ferry and Laurel Ave.**

Town staff has received multiple requests for a crosswalk at this location. Many people park on Laurel Ave. and cross here to access the farmers market, and the only other crosswalks on Jones Ferry Road are at W. Main St (>500ft away) and Davie Rd. (~.4 miles).



<b>Suggested Actions</b>	<b>Considerations</b>	<b>Possible Costs</b>
Stripe crosswalk across Jones Ferry Rd.	<ul style="list-style-type: none"> <li>• The only sidewalk currently in this location is on the south side of Jones Ferry Rd.</li> <li>• Sight distance for cars travelling in both directions may be limited</li> <li>• May want to discuss with NCDOT lowering speed limit in this location so close to downtown</li> </ul>	\$200

### **North Greensboro Crosswalks**

North Greensboro St. between McDougale Middle School and Estes Dr. was one of the primary ‘hot spots’ for pedestrian safety comments at the April 2015 Forum. There are no crosswalks between James St. and Estes Drive, a distance of 1.25 miles. There are 15 Chapel Hill Transit bus stops along this stretch, and two parks; moreover, this section of North Greensboro St. is heavily traveled by pedestrians throughout the day and night. Most of the locations in the table below already have curb cuts and ADA ramps in place. A study of potential crossing locations in this corridor was recommended in the SRTS Action Plan. Colorful crosswalks offer another option for increased visibility.

<b>Suggested Actions</b>	<b>Considerations</b>	<b>Possible Costs</b>
Stripe crosswalk at N. Greensboro and Williams (west side)	Move bus stop on north side to west of Williams St.? May be part of Estes/N. Greensboro roundabout project	\$200
Stripe crosswalk at N. Greensboro and Pine St. (west side)	Needs curb cuts and ramps	\$3,200 (curb cuts and crosswalk)
Stripe crosswalk at N. Greensboro and Bolin Forest (east side)	Move bus stop on north side to west of Bolin Forest?	\$200
Stripe crosswalk at N. Greensboro and Hillsborough Rd. (east side)	Need curb cuts and ramps	\$3,200 (curb cuts and crosswalk)

**N. Greensboro and Williams St.**



**N. Greensboro and Pine St.**



**N. Greensboro and Bolin Forest**





### N. Greensboro and Hillsborough Rd.



### Hillsborough Road and High/Cheek

There are no crosswalks on Hillsborough Rd. There is a CHCCS bus stop on Hillsborough just south of High St., and CHT bus stops on both sides of High St. just west of Hillsborough. There is sidewalk only on the east side of Hillsborough Rd., so anyone walking on the sidewalk that wants to access the High St. bus stops must cross at this location.



Suggested Actions	Considerations	Possible Costs
Install a crosswalk at Hillsborough Rd. and High/Cheek	Curb cuts will also be needed	\$3,200

### Rapid Rectangular Flashing Beacons (RRFBs)

Staff has received inquiries for the installation of rapid rectangular flashing beacons at a number of locations throughout town.

Units cost approximately \$10,000 to \$15,000 for two solar units, one on either side of the street. Each unit has a flashing beacon on both side. Costs are higher for additional units placed a median.



Homestead Road



N. Greensboro at Shelton St. (SRTS Action Plan)





## NC Highway 54

The stretch of NC Highway 54 between Jones Ferry Road and Smith Level Road has been the subject of concern for pedestrian safety for many years. There are several Chapel Hill Transit bus stops along this corridor, and most have high ridership, in part due to the many multi-family housing complexes in the immediate vicinity. Bus riders must cross four lanes of high-speed traffic to reach the bus stops, as there is no safe place to cross the highway for almost a mile. School busses also stop in this area, and it is not uncommon to see children running across the highway. A group of students from UNC's Fall 2016 Bicycle and Pedestrian Planning class conducted a study of equity in relation to transportation facilities in Carrboro. The number one recommendation coming from this study was to install a [High-Intensity Activated Crosswalk Beacon \(HAWK\)](#) at either Abbey Lane or Westbrook Drive and Highway 54. This would allow pedestrians to activate a traffic signal to stop traffic in order to cross the highway safely.

The estimated cost for a HAWK signal is \$150,000. Staff have submitted this project for possible funding through the Orange County Transit Plan.

