

oberlinroad

streetscape plan

adopted january 6, 2015



Oberlin Road



Planning & Development



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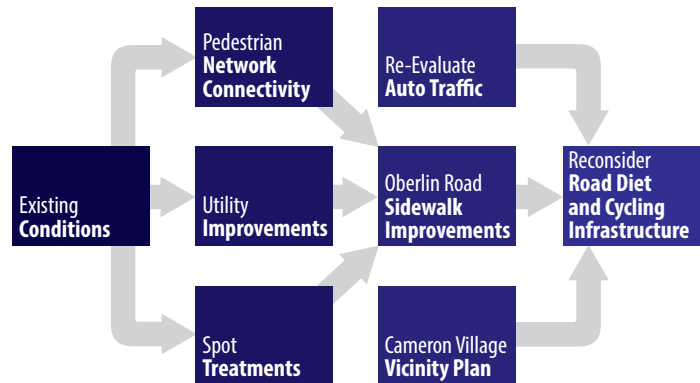
EXECUTIVE SUMMARY

Oberlin Road is undergoing an evolution influenced by redevelopment activity that is supported by strong demand for business and residential space in the Cameron Village area. The construction of mixed use buildings and their associated streetscape improvements will help to redefine the character and use of the street. These changes raise the question of how to more fully integrate multimodal transportation uses within the corridor. Extending streetscape improvements along Oberlin Road and connecting to the surrounding community are important to creating a continuous character and to reinforce a reliable network of travel options within the area.

Plan Framework

This plan is a mid-term set of actions and projects to improve the function and character of Oberlin Road in pursuit of the goal of becoming the main street of the Cameron Village area. This plan recommends outlines three sets of foundational improvements that support and enable a major overhaul of the Oberlin Road system. These improvements are point treatments that enhance the pedestrian environment, improved connectivity of the pedestrian network by building critical segments of neighborhood sidewalks near Oberlin Road, and improvements to the utility infrastructure on Oberlin Road. Together, these investments will help improve the pedestrian environment and move Raleigh

towards universal design. Due to the uncertainty regarding the traffic impacts of current development activity, many alternatives evaluated over the last year in the development of the plan are not included in the recommendations and will require subsequent monitoring and analysis.



Due to the uncertainty regarding the traffic impacts of current development activity, many alternatives evaluated over the last year in the development of the plan are not included in the recommendations and will require subsequent monitoring and analysis.

Bike infrastructure and a road diet are not a part of included in these recommendations at this time. Instead, the final step in implementing this plan is to reevaluate those and similar alternatives as part of the forthcoming Cameron Village Vicinity Area Plan.

Once adopted, this streetscape plan will guide improvements as set forth in article 8.5 of the Unified Development Ordinance and section 6.17.2 of the Street Design Manual. This plan will replace any and all streetscape plans previously for adopted for the study area. It also serves as a scoping document for the development of a capital project to make public investments in pursuit of the plans goals.

Spot Treatments

A number of discrete treatments can be implemented that improve the pedestrian environment in the study area. These include more and better crosswalks and pedestrian traffic signals. There are two non-signalized intersections that need additional traffic calming treatments. These intersections are at each end of the study area, at Bedford Avenue and Park Drive. In addition, there are near-term opportunities to improve access control and reduce curb cuts in one area of the corridor. All of these treatments help provide a foundation on which major streetscape improvements rest by improving the pedestrian environment.

Pedestrian Network Connectivity

Many areas within the City of Raleigh have incomplete sidewalks. In the vicinity of Oberlin Road, sidewalks are generally missing north of Everett Avenue, making it difficult and dangerous to walk to Oberlin Road, especially for citizens with mobility or vision impairments. This plan will immediately complete several short segments of sidewalks closest to the study area. These new connections help provide a foundation on which major streetscape improvements rest by increasing the comfort and ease with which pedestrians' access the study area.

Utility Improvements

The accumulation of overhead utilities along Oberlin Road has become unorganized and unsightly over time. An effort to clean up this situation would greatly improve the appearance of the street and provide the opportunity to plant larger specimen street trees. The plan recommends pursuing two alternatives. The first is participation in a program to bury all utility lines, mostly at the expense of the electric utility. This program requires very specific conditions to be met for eligibility, including a high level of electrical demand in the adjacent properties. If these conditions cannot be met, the second alternative is to bury communication lines, secondary electrical lines, and all crossing lines, leaving electrical transmission and distribution lines. The result would be a complete lack of overhead wires on the west side Oberlin Road. On the east side of the street, overhead electrical lines would remain, though the clear distance to wires would be increased, reducing visual clutter and impacts to street trees. Improved utilities help provide a foundation on which major streetscape improvements rest by increasing the flexibility of possible street trees and improving aesthetics.

Streetscape Design

Building on the spot treatments, connecting sidewalks, and utility improvements, wider improved sidewalks can be constructed along Oberlin Road. These sidewalks provide a quality and barrier-free pedestrian environment to support a mixed use, pedestrian-oriented main street character for Oberlin Road (Figure 1). This streetscape consists of furniture and landscaping elements appropriate for an important business and residential district, such as pedestrian scale lighting, trees between the sidewalk and the curb, and space for active uses.

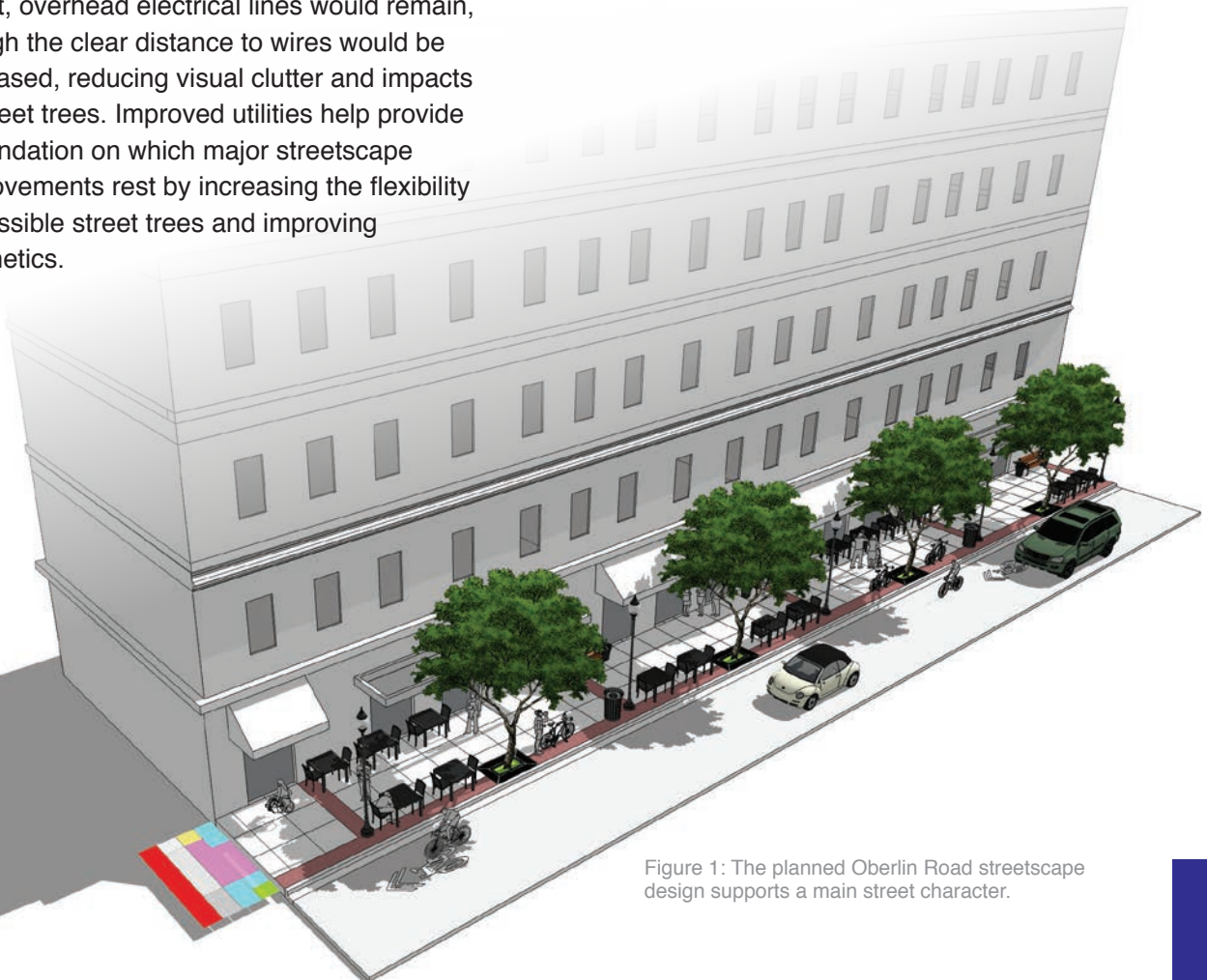


Figure 1: The planned Oberlin Road streetscape design supports a main street character.



INTRODUCTION

Purpose and Scope

Oberlin Road is undergoing an evolution influenced by redevelopment activity that is supported by strong demand for business and residential space in the Cameron Village area. People want to shop, dine, and live in close proximity to Cameron Village and enjoy the many benefits that this developing urban environment offers. The construction of mixed use buildings and their associated streetscape improvements will help to redefine the character and use of the street. There is also a growing awareness of how many barriers exist to safe travel for those with mobility and sensory impairments.

This plan looks carefully at Oberlin Road, from Bedford Avenue to Park Drive (Figure 2), considering how to more fully integrate multimodal transportation within the corridor. It considers changes within the existing footprint of the street—between the curbs, as well as improvements to the sidewalk behind the curbs. In addition, connections to the surrounding communities are important to creating a continuous character and to reinforce a reliable network of travel options within the area. Investments in other elements of the streetscape, such as improved utility infrastructure, pedestrian-scale street lights, trees, bike racks, trash receptacles are proposed.

Oberlin Road is at the top of the Streetscape Capital Program priority list, which was last amended on February 19, 2013. This plan is expected to result in capital projects to implement its recommendations.

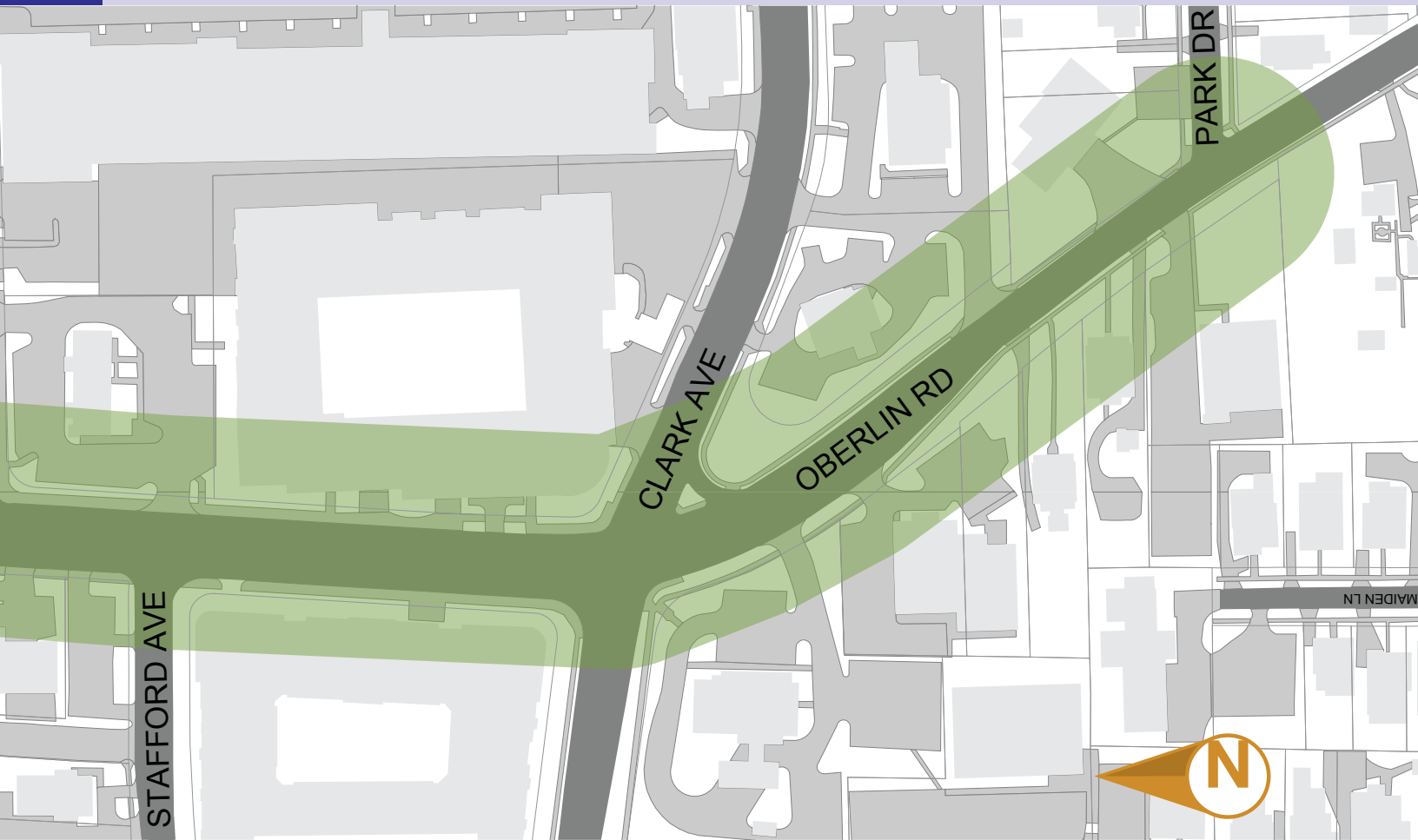


Figure 2: The study area of this plan is Oberlin Road, from Bedford Avenue to Park Drive.



Goal Statement

The Wade/Oberlin Small Area Plan of the 2030 Comprehensive Plan recognizes this ongoing evolution and identifies Oberlin Road as the “main street” of the area emphasizing the need to more fully integrate pedestrian, bike, auto, and transit uses into a well-landscaped and attractive streetscape that serves people of all abilities.

EXISTING CONDITIONS & BACKGROUND



Figure 3: Early marketing plan for Cameron Village. Image Source: Hutchins, Nan. Cameron Village: A history 1949-1999, p. 5.

NEIGHBORHOOD HISTORY

Following the Civil War, land to the north and west of the study area was subdivided and sold to freed slaves by a small group of white families, including Lewis Peck. At that time, Oberlin Road was known as New Hillsboro Road and the community was first known as “Peck’s Place.” The street was renamed in the early 1870s. Former slave, James E. Harris, was an African American leader in Wake County who had attended Oberlin College in Ohio. By the early 1870s, both the street and the village had taken the name from the college in Ohio, apparently because of Harris’ connection and also because the institution both opposed slavery and opened enrollment to African Americans. The 149 acres primarily consisted of farmland where its new citizens pursued self-sufficiency by erecting schools, businesses and places of worship. Some of the original homes were quaint and of Victorian style. Today, a few can still be found along Oberlin Road, Wade and Clark Avenues.

In the second half of the nineteenth century, much of the land to the east of the study area belonged to the wealthy Cameron family. Cameron Park, the neighborhood to the southeast of the Oberlin/Clark intersection, was developed in the early twentieth century, and is listed in the National Register of Historic Places. In the late 1940s, Cameron Village was developed with a shopping center with an adjoining residential (multi- and single-family) neighborhood. It is considered to be the first suburban shopping center built between Washington and Atlanta; Figure 4 is from early marketing materials for the development. The neighborhood to the west of the study area is known as University Park, portions of which are located in the West Raleigh National Register Historic District. In this area, the state fairgrounds were immediately west of Chamberlin Street until the 1920s.

OBERLIN ROAD HISTORY

Post WWII transportation plans envisioned Oberlin Road as a high-capacity, auto-oriented thoroughfare from Wade Avenue to Western Boulevard, including a connection to I-40 via a planned Pullen Road extension. This plan would have resulted in a six-lane Oberlin Road between Clark and Bedford Avenues; Oberlin Road would have been a four-lane divided road south of Clark Ave. and north of Bedford Ave. The right-of-way was anticipated to eventually grow to over 90 feet.¹ As a result, portions of Oberlin Road, including the study area are much wider than others. Both north and south of the study area, Oberlin Road has two travel lanes, but the general current configuration of the study area is four travel lanes with a center turn lane.

From 1999 to 2001, the pedestrian environment north of North Carolina State University's campus was extensively studied. While most of this attention was focused on Hillsborough Street, the study area was also considered. In 2003, an area plan was prepared that supported reducing Oberlin Road through the current study area to one travel lane in each direction.

Based on the recommendations of the Wade-Oberlin Small Area Plan, the street is now categorized on the Street Map (Map T-1) of the 2030 Comprehensive Plan as a mixed-use, two-lane avenue. Oberlin Road is also a designated local truck route from Wade Avenue to Hillsborough Street. The Hillsborough Streetscape Phase I improvements, with its roundabouts and extension of Pullen Road to Oberlin Road require some reconsideration of the current truck route designation. Truck access is important for many Cameron Village retailers.

Under the previous zoning code, a number of parcels in the study area and near the Cameron Village area have been subject to Pedestrian Business Overlay District, which include the adoption of streetscape plans detailing elements such as street furniture, lighting, and trees. This history has created a framework design character unique to the area.

There are two large development projects currently underway in the study area at the intersection of Oberlin Road and Clark Avenue; both projects are multifamily residential developments with first floor retail. On the northeast corner is The Crescent at Cameron Village (SP-47-10) and on the northwest, is the 401 Oberlin Road development (SP-72-11). Together the developments will bring 537 dwelling units and approximately 35,000 square feet of retail fronting Oberlin Road. Both developments will substantially improve the streetscape along their frontages.

Recent development activity around the study area has prompted the need to reexamine the aesthetic and functional character of the Oberlin Road study area. This is directly in response to Action AP-WO 1 – Wade-Oberlin Streetscape Plan of The 2030 Comprehensive Plan. Other Actions and Policies in the plan are also applicable. They are noted in Appendix I.

¹Official Functional plans adopted by Raleigh City Council in 1969.

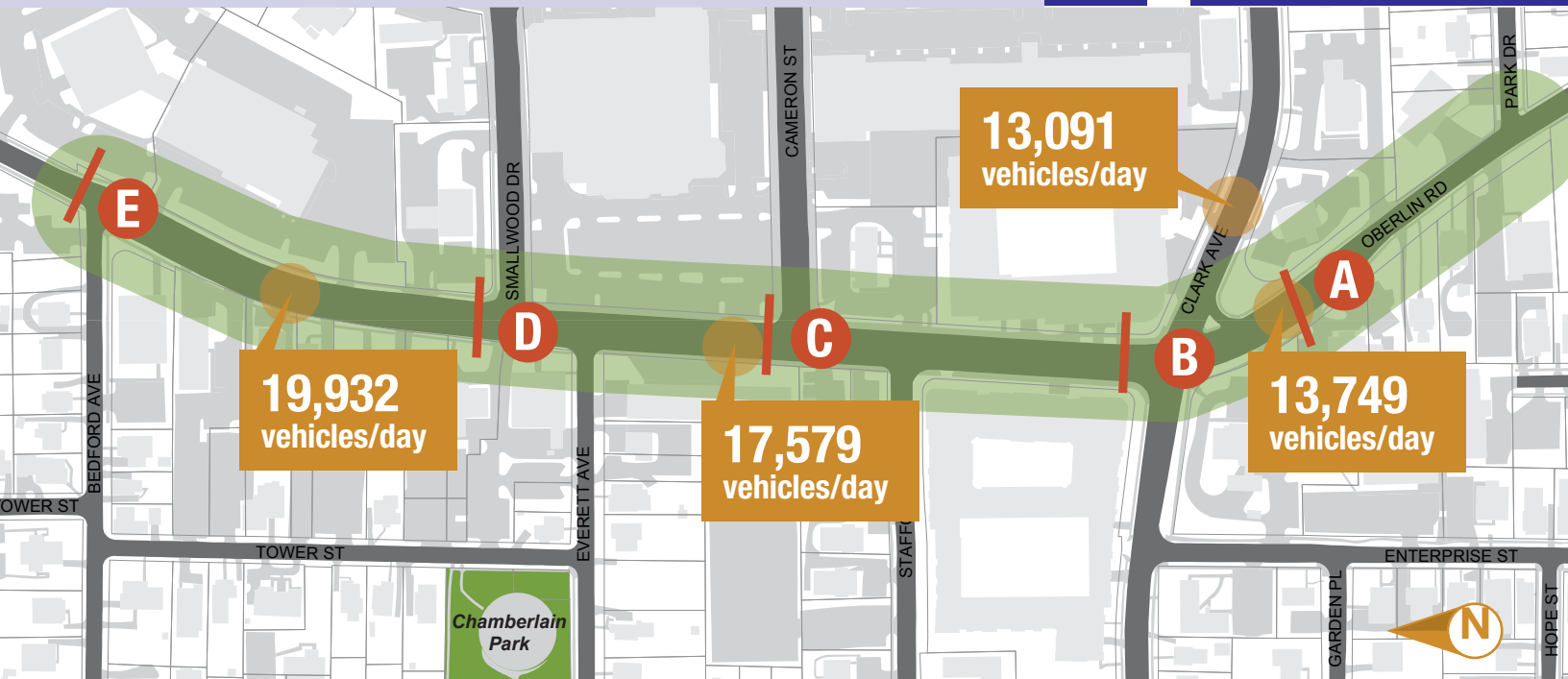


Figure 4a - Traffic volumes, April 2013.

EXISTING CONDITIONS

Physical

Oberlin Road generally follows a slight ridge line that defines the western edge of the Pigeon House Creek watershed. In the study area, its elevation is about 55 feet above the center of downtown Raleigh. The North Carolina State Capitol was sited on a hill top where the watersheds of Rocky Creek, Walnut Creek, and Pigeon House Creek met. Due to the topography, many areas in and around the study area have exceptional views of the downtown skyline.

The existing streetscape within the study area along Oberlin Road is in a deteriorating condition with a street cross-section that is predominantly auto-oriented. The street is generally 56 feet from back of curb to back of curb, within a right-of-way that varies up to 76 feet. Standard curbs are 30 inches wide, including a 24 inch gutter pan that has been paved over in some areas. Figure 4b shows the varying lane and sidewalk conditions that currently exists in the study area.

Walking, biking, and bus transit are available options in the area, but the current street design is not particularly supportive of these modes of travel. In many locations the environment feels unsafe due to traffic speed, limited visibility, and sidewalk conflicts with driveways and parking lots. There are many barriers to safe travel for individuals with disabilities. Shared lane markings for cyclists (sharrows) exist on the outer travel lane of Oberlin within the study area. Gaps in the sidewalk system between residential neighborhoods and the Cameron Village commercial district hinder pedestrian accessibility, safety, and convenience. Average daily traffic counts for the study area are shown in Figure 4a. The existing varied design of the corridor is demonstrated in Figure 4b.

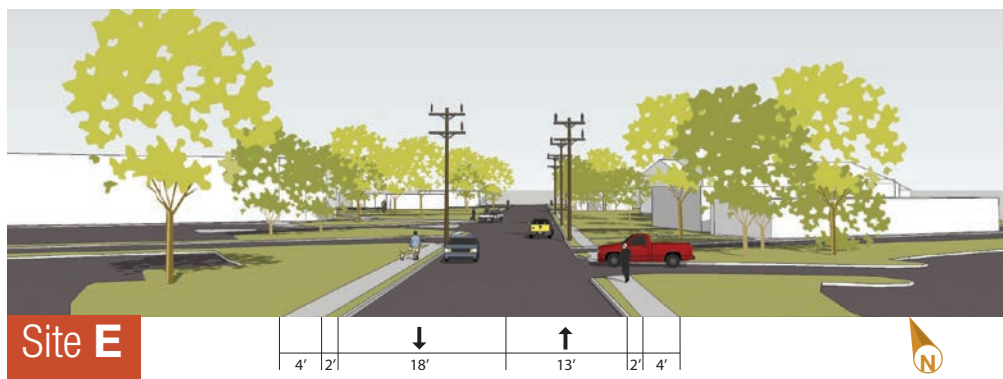
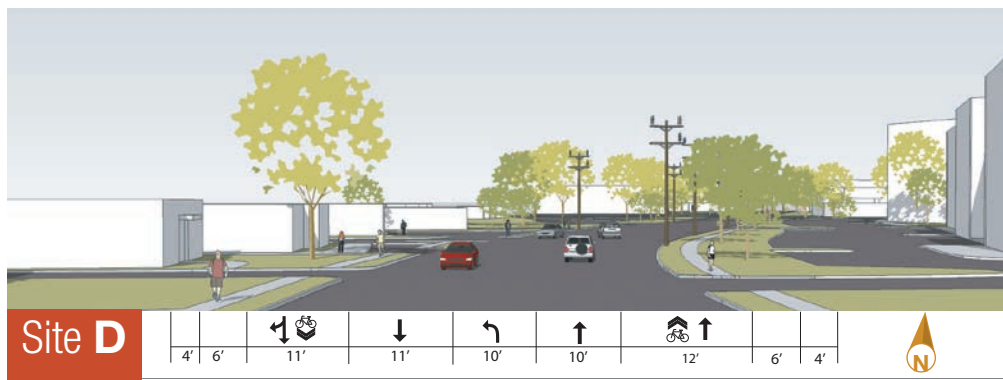
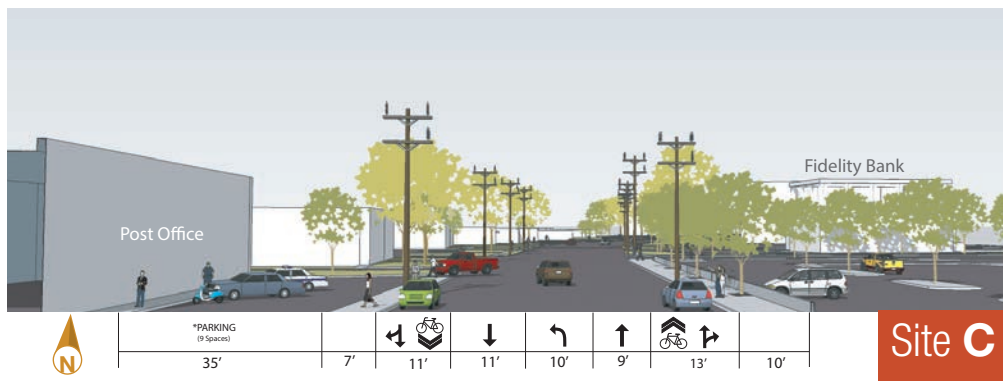


Figure 4b: Existing conditions of the study area in cross section.

Transit

Capital Area Transit serves the study area with two routes, the #12 – Method and the #16 – Oberlin. In the outbound direction each route departs Moore Square Station via divergent alignments and eventually rejoin to share a common routing along Peace Street, Bellwood Drive, and Cameron Street from St. Mary's Street to Oberlin Road. Route #12 then heads south on Oberlin Road, west on Clark Avenue, south on Brooks Avenue and west on Hillsborough Street to Method Road . Route #16 serves Oberlin Road north of Cameron Street and then continues northbound along Glenwood Avenue at Oberlin Road's northern terminus. The inbound alignments for both the #12 and #16 are reverse of their respective outbound alignments. The schedules for both routes were revised in May of 2013 to provide effective 15 minute headways between Cameron Street and downtown during peak periods.

North Carolina State University's WolfLine bus service also serves Cameron Village, passing through the study area. Route #2 – Hillsborough Shuttle stops on eastbound Cameron Street between Oberlin Road and Daniels Street from 10 am until 10 pm. Headways are 21 minutes before 7 pm and 42 minutes thereafter. This route is on Hillsborough Street, Pullen Road, and Oberlin Road to Clark Avenue. It then takes a one-way clockwise loop using Cameron Street, Woodburn Road, and Clark Avenue. This service was added in 2012 at the students' request and there are no plans to change it in the foreseeable future.

Recent and Planned Improvements

The City of Raleigh Public Works Department plans to install high visibility crosswalks at all signalized pedestrian crossings as streets are resurfaced. The Street Division of Public Works estimates that this section of Oberlin Road may be resurfaced around 2019-2021. Pedestrian signals with pushbuttons that actuate audible signals for visually impaired pedestrians are now installed at intersections in the study area. They are planned for other signalized intersections nearby.

Shared lane markings for cyclists on Oberlin Road and bike lanes on Clark Avenue were previously installed in 2012.

STUDY PROCESS

An initial step in this process was to engage the local residents, property owners, and business owners that use and depend upon Oberlin Road for access. The project began with a workshop held on April 23, 2013 to identify community interests and concerns as well as to provide an opportunity to identify preferences in street cross section alternatives. Over 85 participants from the surrounding residential neighborhoods attended. A separate meeting was coordinated through the Cameron Village Merchants Association. Twenty-nine merchants provided input on May 13, 2013.

After the spring meetings, Office of Transportation Planning (OTP) and Urban Design Center (UDC) staff further developed alternatives and analyzed their impacts to the transportation network as a whole. A second public meeting was held on June 13, 2013 to communicate analysis results and to build consensus for this plan. Fifty-one people attended this meeting, including residents and business owners. Survey feedback from this meeting is included in an Appendix to the plan.

ALTERNATIVES & ANALYSIS

STREET DESIGN ALTERNATIVES

Cross Sections

The Average Daily Traffic (ADT) volumes on Oberlin Road and Clark Avenue were identified at the beginning of the project and indicated that they appeared to be within the range that may support a reduction in travel lanes or “road diet,” as recommended in the Wade/Oberlin Small Area Plan (Action AP-WO 2). Refer to Figure 4a for traffic counts. In addition, field observation indicated that due to Oberlin Road having four travel lanes for only a few blocks, most vehicle volumes are carried by the inner travel lanes. In contrast, other recent road diets in the City of Raleigh, such as Poole Road, were cases where there was clearly excess capacity. A reduction in the number of travel lanes would be necessary to create space within the existing street curbs to completely support the goals of integrating pedestrian, bicycle, auto, and transit uses and to improve pedestrian safety on Oberlin Road.

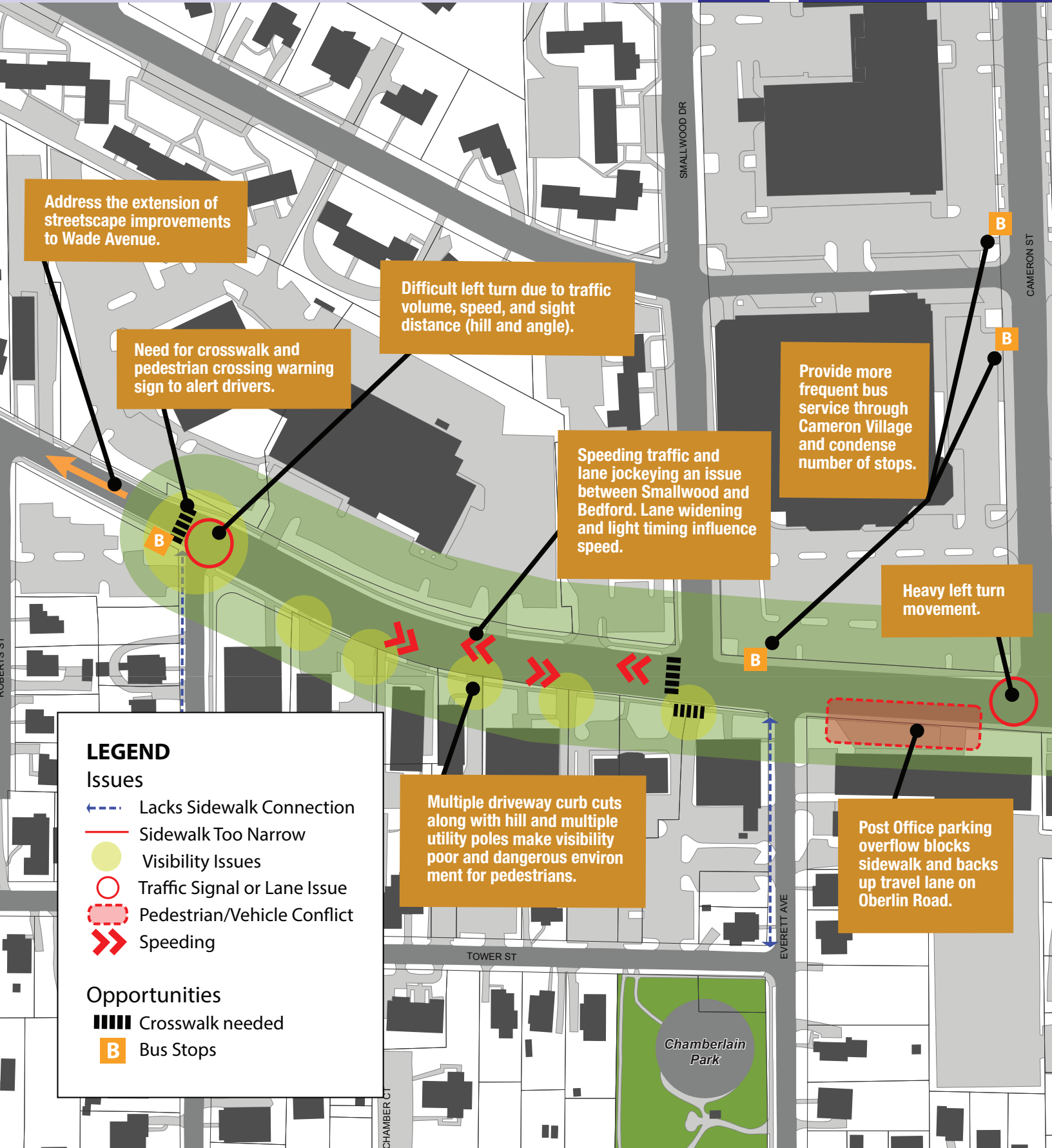
In order to engage stakeholders in a discussion of Oberlin Road opportunities and to identify interests; eight street section options were presented for consideration (1A-5). Following the stakeholder meetings, an additional street cross section (6) was added to address some of the expressed concerns and as a way to add bike lanes on Oberlin Road with minimal travel lane reduction.

All sections include a reduction in lanes to install bike lanes and/or on-street parking within the existing street curbs. Most did not include continuous left turn lanes. Many of the sections include planted medians. Four sections (1A, 1B, 4, and 5) include on-street parking on both sides, while section 3 has on-street parking on one side. Most alternatives include bike lanes and those that do not have wide shared travel lanes (sharrows). The details of these cross sections are included in Appendix III.

Roundabouts

As first proposed in 2001, modern roundabouts of various configurations were considered for intersections of Clark, Cameron, Smallwood, and Bedford with Oberlin Road. The design most closely meeting the needs of the citizens and merchants was for single lane roundabouts with 115 foot inscribed diameters at Clark Avenue and at Smallwood Drive. This configuration is designed to adequately accommodate a tractor-trailer (WB-67) design vehicle and therefore support freight deliveries into Cameron Village. The roundabout at Clark was found to work best with an oblong design. In this configuration, left turns off of Oberlin were made impossible by center medians (section 4), requiring 180-degree movements through a roundabout and a right turn in order to turn left.





Address the extension of streetscape improvements to Wade Avenue.

Need for crosswalk and pedestrian crossing warning sign to alert drivers.

Difficult left turn due to traffic volume, speed, and sight distance (hill and angle).

Speeding traffic and lane jockeying an issue between Smallwood and Bedford. Lane widening and light timing influence speed.

Provide more frequent bus service through Cameron Village and condense number of stops.

Heavy left turn movement.

Post Office parking overflow blocks sidewalk and backs up travel lane on Oberlin Road.

Multiple driveway curb cuts along with hill and multiple utility poles make visibility poor and dangerous environment for pedestrians.

LEGEND

Issues

- Lacks Sidewalk Connection
- Sidewalk Too Narrow
- Visibility Issues
- Traffic Signal or Lane Issue
- Pedestrian/Vehicle Conflict
- Speeding

Opportunities

- Crosswalk needed
- Bus Stops

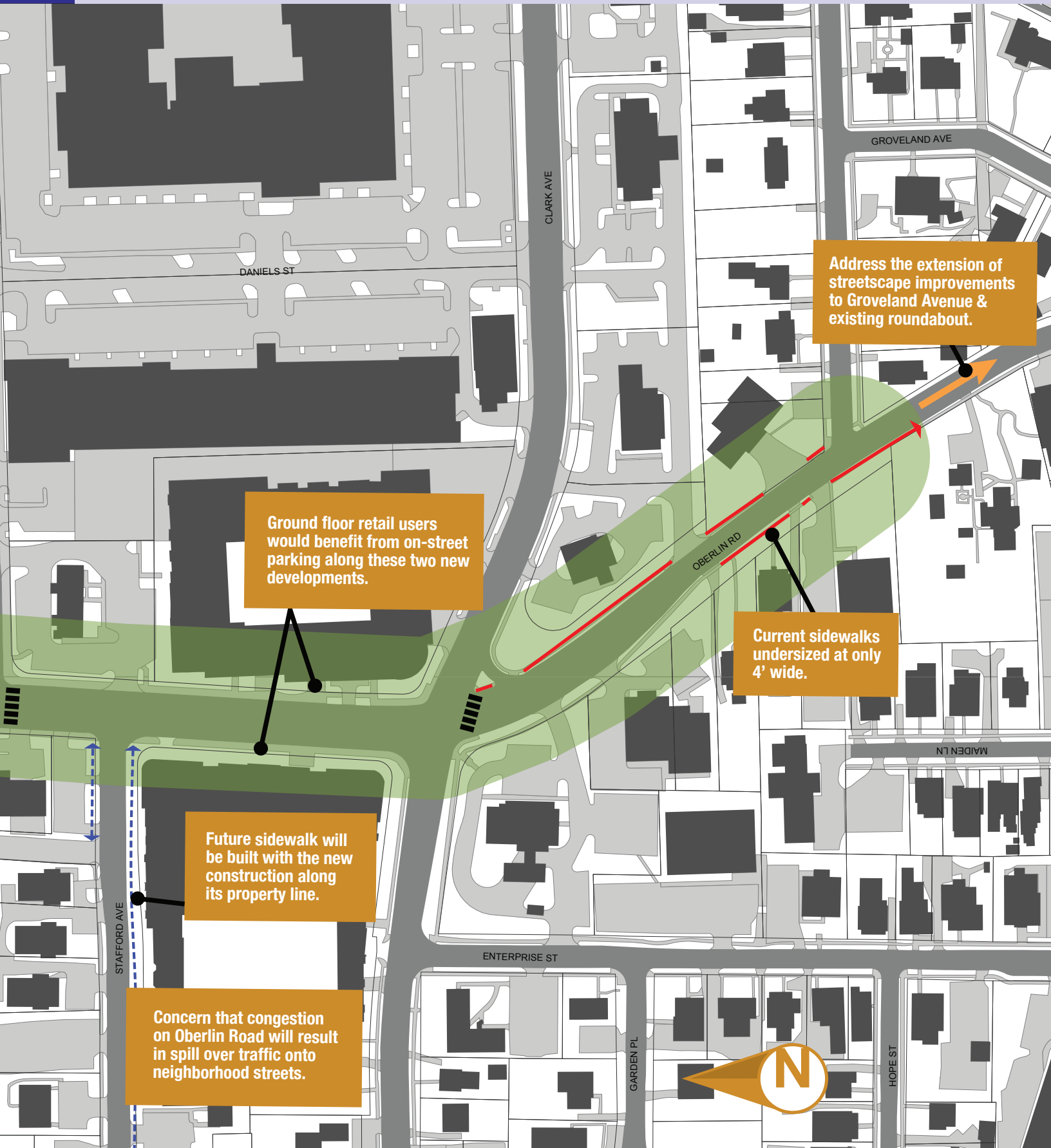


Figure 5: Summary of input from the April workshop.



PUBLIC INPUT

Figure 5 summarizes the comments from the April workshop. Area residents expressed interest in improving the appearance of the corridor, enhancing the pedestrian and cycling environments, and strengthening connections between the residential and commercial areas. They also expressed concern about potential neighborhood impacts from cut-through traffic from future congestion on Oberlin Road that may result from several recently approved mixed-use developments.

Narrow sidewalks, missing crosswalks, missing sidewalks on some side streets, sidewalk cycling, and the number of curb cuts, particularly on the west side of Oberlin, were all noted by participants. There were a number of comments about automobile traffic patterns north of Smallwood Drive, particularly left turns onto Bedford Avenue, speeding, and aggressive lane changes. Bike lanes were well supported by residents, though there is a concern about continuation to the north and south of the study area. Roundabouts are supported by area residents though merchants are concerned about potential impacts to truck access, especially if used in concert with medians. Residents also support transit in and around the study area, requesting more service and better amenities at stops. But the concept of consolidating stops to improve transit operations did not have broad support.

Merchants expressed interest in streetscape appearance enhancements, but voiced strong opposition to any reduction in travel lanes and left turn lanes into the Cameron Village commercial area. They expressed that the majority of their customers come from outside the immediate area and arrive by automobile. Any loss in convenience of vehicular access was viewed as a significant detriment to the business environment. Concern was also expressed about any reduction in access for large delivery trucks since Oberlin Road is the only truck route into the area.

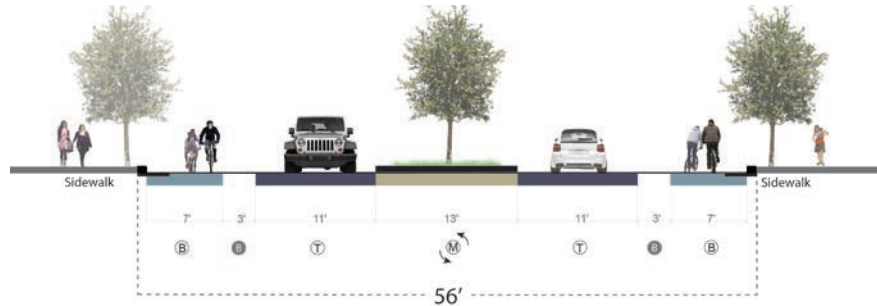
On-street parking was not heavily supported, even though benefits were noted by some. The concern that parallel parking would adversely impact traffic flow and cyclists' safety was expressed. On-street parking in the study area is not perceived to meet the needs of retail customers except for the post office, where on-street parking may be an alternative to the existing driveway/parking lot configuration.

April workshop attendees were asked to give feedback on their preferred street cross sections. Combined, the three Premium Bicycle sections (2A, 2B, and 2C) received 62 percent of the votes. The full voting results are included in Appendix III of cross sections.

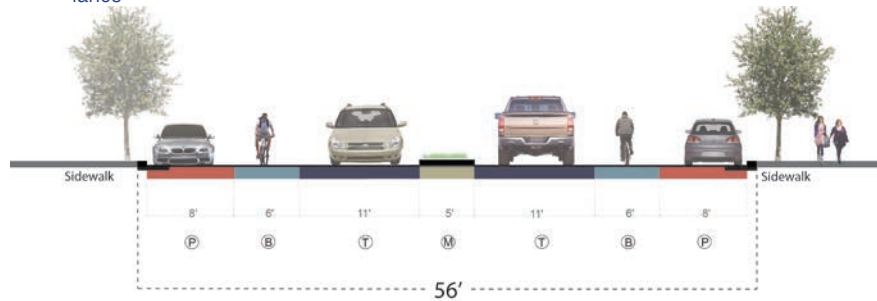
A strong preference for three specific designs was identified via dot voting. In addition, a fourth section was developed after the April meeting to address some of the concerns expressed. This section includes bike lanes with a minimal travel lane reduction. The four sections brought forward for design and traffic analysis are shown in Figure 6.

Figure 6: Four sections brought forward for design and traffic analysis.

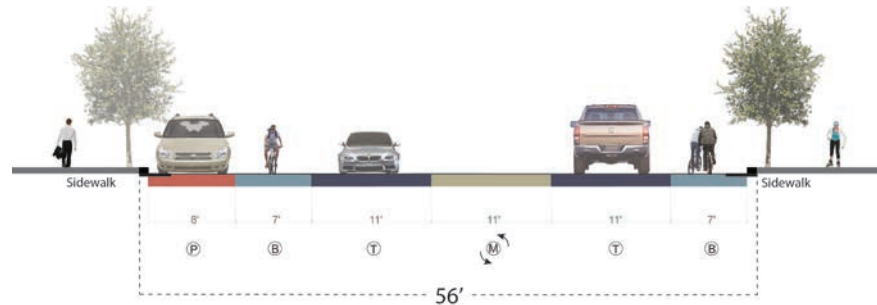
■ 2B - Premium bicycle section with wide median and separated bike lane



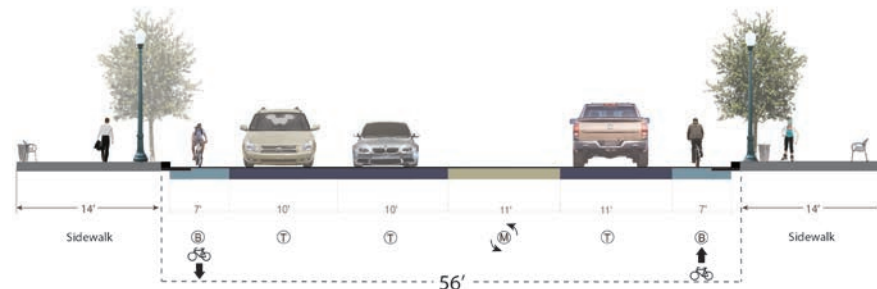
■ 4 - Two roundabouts with median, parking, and bike lanes



■ 3 - One side on-street parking with bike lanes



■ 6 - Four travel lanes, one lane north and two lanes south, center left turn lane, and 7 foot bike lanes on each side.



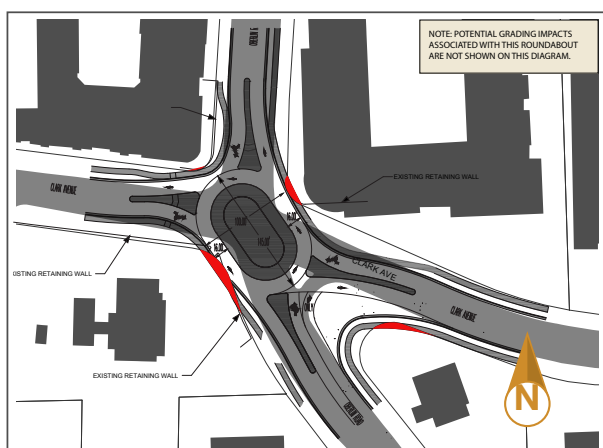


Figure 7: An illustration of the impacts of a potential roundabout at Clark and Oberlin. Additional right-of-way is required is marked in red. These impacts don't include slope easements or proximity damages.

STREET SECTION DESIGN & TRAFFIC ANALYSIS

Roundabout Design Analysis

The Oberlin/Clark roundabout conceptualized in the 2001 Hillsborough Street Feasibility Study was originally designed with two circulating lanes and did not fully account for larger vehicles, which are necessary here. Based on the City's adverse experience with the dual-lane roundabout at Hillsborough/Pullen, it was determined that a single-lane roundabout option would be preferred if feasible from an operations perspective. Adjacent development projects were generally designed to accommodate the roundabout design from 2001. The change in design resulted in an awkward arrangement of medians and travel lanes, driveway and retaining wall conflicts, and significant encroachments onto private property. The lane reduction resulted in significant traffic circulation delays at several legs of the roundabout. Similarly, roundabout layout sketches at Cameron Street and Smallwood Drive resulted in substantial encroachment onto private property and would require the costly purchase of additional right-of-way from commercial property. Compensable items that

would be impacted include dozens of parking spaces, entry signage for Cameron Village, and several retaining walls. For these reasons, roundabouts have been removed from further consideration at this time. Figure 7 shows the minimum physical impacts of a roundabout at Clark Avenue and Oberlin Road. This graphic ignores impacts to to grade changes.

Road Diet Traffic Analysis

As directed by the Wade/Oberlin Small Area Plan (Action AP-WO 2), city staff prepared an analysis of the traffic impacts from the road diet cross sections. This analysis included a projection from the traffic generated by the new development plan in the area using Institute of Transportation Engineering (ITE) trip generation factors. Staff considers these projections to be worst-case scenarios, as residential developments in walkable mixed use areas often have much lower rates of vehicle trip generation. Traffic analysis results were then evaluated with a set of City of Raleigh guidelines used to qualify road diet proposals. The findings indicated that the 3-lane and 4-lane section options did not comply with the minimum guidelines for signalized intersection level of service, intersection delay, and average thru-vehicle travel speed. The large proportion of vehicles turning at the intersections within the study area reduce total traffic throughput. For more details of the traffic analysis, refer to Appendix V.

Compared to the Hillsborough Street road diet and streetscape project, Oberlin Road has fewer parallel alternative routes that can effectively handle traffic if congestion increases. Until the developments are complete and actual traffic impacts can be measured, the analysis does not currently support a road diet. Immediate implementation of the street cross section directed by the Wade/Oberlin Small Area Plan is not advised due to the concerns of residents and merchants regarding traffic flow.

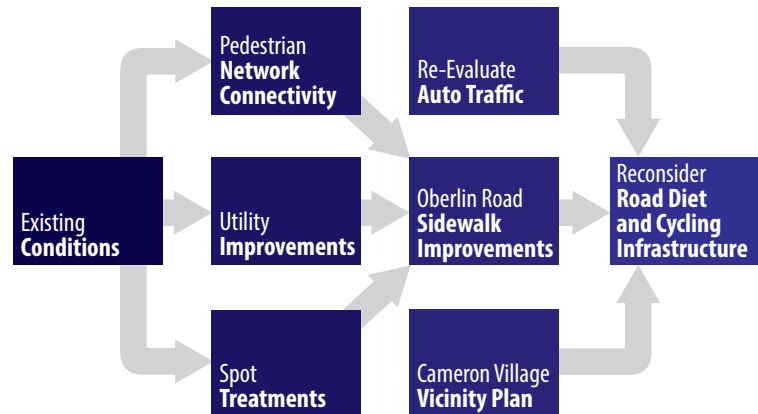
PLAN RECOMMENDATIONS

Once adopted, this streetscape plan will guide improvements as set forth in article 8.5 of the Unified Development Ordinance and section 6.17.2 of the Street Design Manual. This plan will replace any and all streetscape plans previously for adopted for the study area. It also serves as a scoping document for the development of a capital project to make public investments in pursuit of the plans goals.

This plan sets a direction for the next phase of improvement and development in the study area. Three parallel investments will form a foundation on which a successful streetscape can be built. These improvements include spot treatments that enhance the pedestrian environment and a more connected pedestrian network through the construction of critical sidewalk links to the west and north of the study area. These improvement will help bring pedestrians to Oberlin Road and reduce conflicts they experience when in the study area. A third foundational investment is the consolidation or burying of the overhead utilities that prevent full realization of other elements of the streetscape plan. With the utilities buried or consolidated, new street trees, lighting, and furniture can be more effectively installed and additional sidewalk improvements will be possible on Oberlin Road.

As a result of the current findings the road diet options were removed from consideration and the focus of the project shifted to improving the sidewalk streetscape for pedestrian safety and appearance. Experience with mixed use development in the Glenwood South area and transportation research² both indicate that actual vehicular traffic is well below traditional ITE estimates for trip generation. Development adjacent to the study area may have a similar outcome.

Alternatives such as a road diet, roundabouts, and cycling infrastructure may be considered in the future. Completion of new development will then allow actual traffic impacts to known, forming a more accurate input to analysis and evaluation of alternative designs than the projections used in this planning process. In addition, the Cameron Village Vicinity Plan can more broadly consider accessibility and mobility in the study area and the surrounding residential neighborhoods. Both this streetscape plan and the broader vicinity plan will change conditions through infrastructure investments and operational changes in the vicinity.



² National Cooperative Highway Research Program (NCHRP) Report 758. Trip Generation Rates for Transportation Impact Analyses of Infill Developments. 2013.

CUSTOM STANDARD

Oberlin Road from Park Drive to Bedford Avenue shall have a custom street and streetscape standard with a right of way or easement width extending to 14 feet beyond the existing curb in order to accommodate the streetscape design standard set forth herein. The 14-foot sidewalk should include pedestrian-scale lighting, appropriate street furniture for the main street character of the area, and street trees. In the majority of the study area, the total width of the Oberlin Road right-of-way will be 84 feet, given the location of the existing curbs.

SPOT TREATMENTS

A number of spot treatments are warranted to support safe and comfortable pedestrian travel, safe and efficient vehicle flow, and to support streetscape investments. Some focus on vehicle movements and traffic operations, other provide important pedestrian facilities for safety and level of service.

Crosswalks and Pedestrian Signals

The City of Raleigh’s policy is to install high-visibility crosswalk markings at all signalized crosswalks when streets are resurfaced. This planned investment will improve the pedestrian environment of the study area.

MORE FREQUENT LOCATIONS TO CROSS OBERLIN ROAD ARE NEEDED TO ACHIEVE A MAIN STREET CHARACTER.

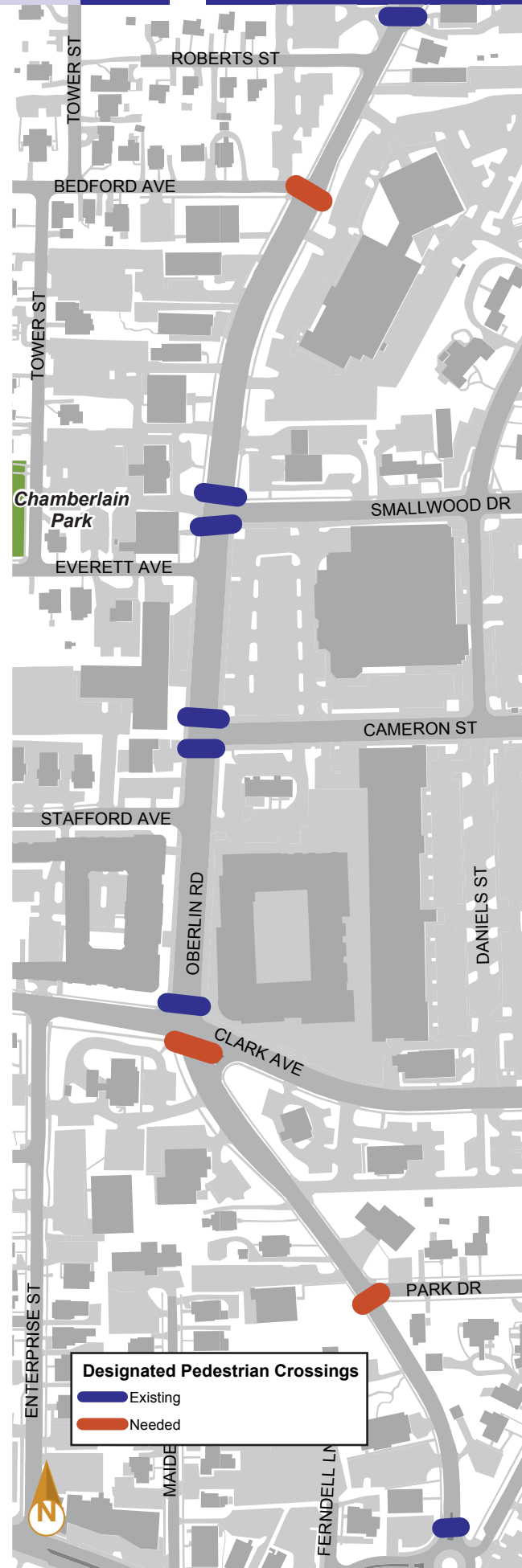


Figure 8: Designated Pedestrian Crossings

There is no crosswalk or pedestrian signal at the southern leg of the intersection of Clark Avenue and Oberlin Road. Pedestrians still cross legally at this location with the east/west vehicle green phase. This crosswalk and signal should be installed to make the entire intersection safe and comfortable for pedestrians. The sidewalk at the southwest corner of the intersection needs significant improvement due to the grades at the location. The southeast corner of the intersection is also a pedestrian safety concern with the free-flow right turn from Oberlin Road to Clark Avenue.

The existing pedestrian signals in the study area are equipped with pushbuttons and count-down signals. The push buttons activate audible guidance for sight-impaired pedestrians, but do not influence signal timing. In conjunction with reviewing the traffic signal operation in this area, the concept of adding leading pedestrian intervals (LPI's) in the study area was considered. An LPI provides a "walk" phase at the signal a few seconds in advance of giving vehicles a green signal. By giving pedestrians a head start into the crosswalk, LPI's are intended to improve pedestrian safety by making pedestrians more visible to motorists who are making turning movements. Few technical warrants for LPI's exist at this time, but their usage in other cities has been most effective where conflicts exist between high volumes of pedestrians and turning vehicles. While not a factor in this area today, the impacts of adjacent development activity and streetscape improvements should increase pedestrian activity and these kinds of conflicts with vehicles. While LPI's are not recommended at this time, they should be reconsidered in the future if these pedestrian volumes increase as anticipated.

At the north and south ends of the study area, there are long distances between designated places to cross Oberlin Road. The distance between crossings at Clark Avenue and the roundabout with Groveland Avenue and Pullen Road is approximately 1,000 feet. The distance between crossing at Smallwood Drive and an unsignalized crosswalk at Oberlin Baptist Church is approximately 975 feet. Creating safe pedestrian crossings at Bedford Avenue and at Park Drive is necessary to reduce these distances and encourage pedestrian travel between the study area and nearby parks, residential neighborhoods, and the Hillsborough Street corridor. Park Drive is a particular need because there is no sidewalk on the east side of Oberlin Road between Park Drive and the roundabout to the south; this sidewalk extension will be very challenging to complete due to buildings near the street. Pedestrians traveling south in this area are forced to cross at Park Drive to remain on a sidewalk. Figure 8 shows the existing and proposed priority crossing locations along Oberlin Road. These locations should be monitored so that crosswalks can be marked when warrants are met.





“ THE INTERSECTIONS OF OBERLIN ROAD WITH BEDFORD AVENUE AND WITH PARK DRIVE WARRANT SPECIAL CONSIDERATION AS HIGH PRIORITY LOCATIONS FOR PEDESTRIAN CROSSING POINTS.

Pedestrian Safety Enhancements at Non-Signalized Intersections

The intersections of Oberlin Road with Bedford Avenue and with Park Drive warrant special consideration as high priority locations for pedestrian crossing points.

In the case of Park Drive (Figure 9), the street is approximately 31 feet wide between the curb faces. On the southern leg of the intersection, a small median refuge will improve pedestrian visibility, allow for two-stage crossings, and potentially constrain vehicles speeds.³ Appropriate signage should also be installed for safety and driver awareness.

³ Median refuge islands should be at least six feet wide if possible to be accessible for sight and mobility impaired pedestrians and cyclists walking a bike. While not considered an accessible crossing, a median refuge of any width is preferable to no refuge.

Bedford Avenue meets Oberlin Road at the point where it transitions from two to five lanes. When driving south on Oberlin Road toward Cameron Village, there is a perception that additional speed is warranted at this point. Compounding the issue is a downward slope at the same location, providing an extra push to motorists to go faster. Vehicles turning left from Bedford Avenue to Oberlin Road have a difficult time seeing north without blocking the crosswalk on the west side of Oberlin Road. Because southbound Oberlin Road traffic is generally uniform, it can be challenging to find a gap in traffic to execute this turn.

For these reasons, the intersection deserves special attention. Pedestrian safety enhancements, such as median refuge islands and curb extensions can encourage appropriate vehicle speeds while making it safer and easier to cross the street. Changing or shifting the transition from five to two lanes slightly will not negatively affect vehicle capacity. In addition, this area is the gateway between Cameron Village at the south and Oberlin Village at the north; appropriate urban design treatments can help to knit the two communities together while reinforcing their separate identities. These investments should be coordinated with anticipated development in the area. In addition, the intersection should be monitored for traffic signal warrants.

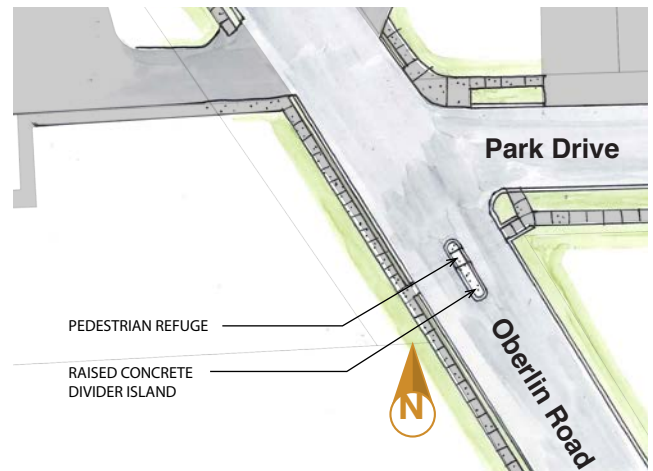


Figure 9: Proposed pedestrian safety enhancements and crossing for Park Drive and Oberlin Road.

Improved Access Control

As development in the study area occurs, curb cuts should be reduced, consolidated, and moved to existing intersections. They are a particular issue between Smallwood Drive and Bedford Avenue on the west side of Oberlin Road, where some stretches have more curb cuts than normal sidewalk. Outside of development activity, the city should entertain partnerships with property owners to consolidate and improve their existing curb cuts.

For example, there is an opportunity to improve access control on the west side of Oberlin Road between Stafford Avenue and Cameron Street (Figure 10). The frontage of the small parking lot on the corner is one of the highest-priority sidewalk segments for pedestrian network connectivity (see following section). In conjunction with sidewalk improvements and future redevelopment activity, the excess curb cuts on Oberlin Road and Stafford Avenue should be consolidated.

The pedestrian environment can also be improved adjacent to the short term parking lot for the Post Office at 505 Oberlin Road by installing a simple raised curb to delineate the edge between the sidewalk and the parking access drive (Figure 11). This will help eliminate encroachment in the sidewalk by post office patrons.

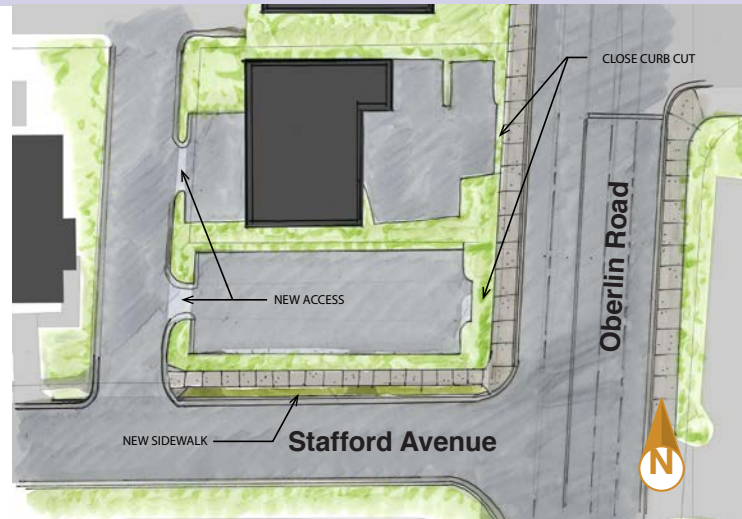
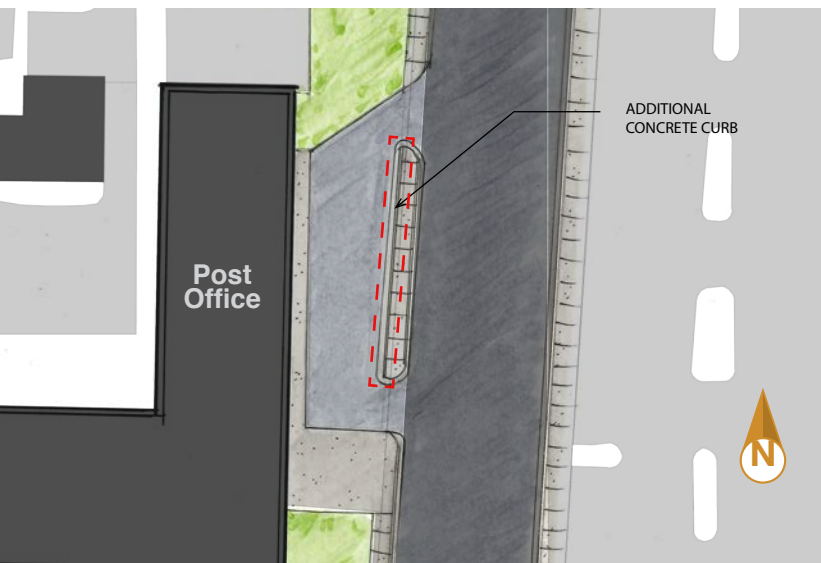


Figure 10: Closing curb cuts on 505 and 503 Oberlin Road will improve pedestrian and vehicle safety and enhance streetscape investments.

Signal Actuation

The traffic signals in and around the study area are operated as a coordinated, pre-timed system. Minimum green times are set by pedestrian crossing requirements. Signals on Oberlin Road at Cameron Street and at Smallwood Drive have partial actuation, modifying signal timing depending on the presence of vehicles in the left-turn lanes. Preliminary simulation analysis indicates that adding partial detection and actuation to the intersection of Oberlin and Clark will likely improve vehicle traffic flow through the intersection. This modification could be done within the existing pre-timed system without replacing the overall system. This intersection constrains vehicle throughput in the study area.



“ ANALYSIS INDICATES THAT ADDING PARTIAL DETECTION AND ACTUATION TO THE INTERSECTION OF OBERLIN AND CLARK WILL LIKELY IMPROVE VEHICLE TRAFFIC FLOW.

Figure 11: A curb is necessary to separate vehicles in the Post Office drive from the public sidewalk.

“ IMPROVED PEDESTRIAN CONNECTIONS TO THE STUDY AREA FROM THE WEST, NORTH, AND SOUTH OF THE STUDY AREA ARE AN IMPORTANT PART OF THE PEDESTRIAN ENVIRONMENT.

PEDESTRIAN NETWORK CONNECTIVITY

Improved pedestrian connections to the study area from the west, north, and south of the study area are an important part of the pedestrian environment on Oberlin Road. Figure 13 describes the sidewalks in this area. Blue lines are existing sidewalks. Orange and red lines are missing sidewalk links. The sidewalk network is virtually complete south of Everett Avenue, providing good connectivity to Hillsborough Street. Few street segments north of Everett Avenue have sidewalks, however. While all missing sidewalks should be constructed, the red lines are the highest-priority links which help keep pedestrians safe near Oberlin Road.



Figure 13: Completing several segments of missing sidewalk that connect to Oberlin Road are a high priority.

OVERHEAD UTILITIES

The accumulation of overhead utilities along Oberlin Road has become unorganized and unsightly over time. An electrical distribution line is located on the east side of Oberlin Road, over various communication lines. Add in service lines across the street and the overheads begin to clutter. An effort to clean up this situation would greatly improve the appearance of the street and provide the opportunity to plant larger specimen street trees.

Due to the high level of electrical demand that will arise from the development currently under construction, there is an opportunity to bury electrical distribution lines from Clark Avenue to Bedford Avenue in conjunction with this streetscape project at Duke Energy Progress' expense as detailed in the Line Extension Plan . To trigger these improvements, 1.5 kW of electrical demand per street foot have to be in place, and there must be a general rehabilitation of the area. New development and the existing grocery store on Oberlin Road will certainly meet

that threshold of power consumption. In order to bury the electrical lines, the city and electrical customers are responsible for the cost of burying service connections. Streetlight service must also be underground. In addition, the city will also want to bury the communications lines of AT&T and Time Warner Cable.

From Clark Avenue to the roundabout at Groveland Avenue and Pullen Road, overhead electrical lines will remain overhead, while lines crossing the street and communication lines will be buried. This alternative will improve the function and aesthetics of the streetscape at a lower level of investment. The transmission line over Clark Avenue is not proposed to be modified.

Both north and south of Clark Avenue, the city will undertake similar levels of investment. At this planning phase of the Oberlin Road Streetscape Project it is difficult to precisely estimate the costs this work. A rough estimate of the city's cost is \$150 per linear foot, leading to a total of \$339,000 (2260').



“ AN EFFORT TO CLEAN UP OVERHEAD UTILITIES WOULD GREATLY IMPROVE THE APPEARANCE OF THE STREET AND PROVIDE THE OPPORTUNITY TO PLANT LARGER SPECIMEN STREET TREES.

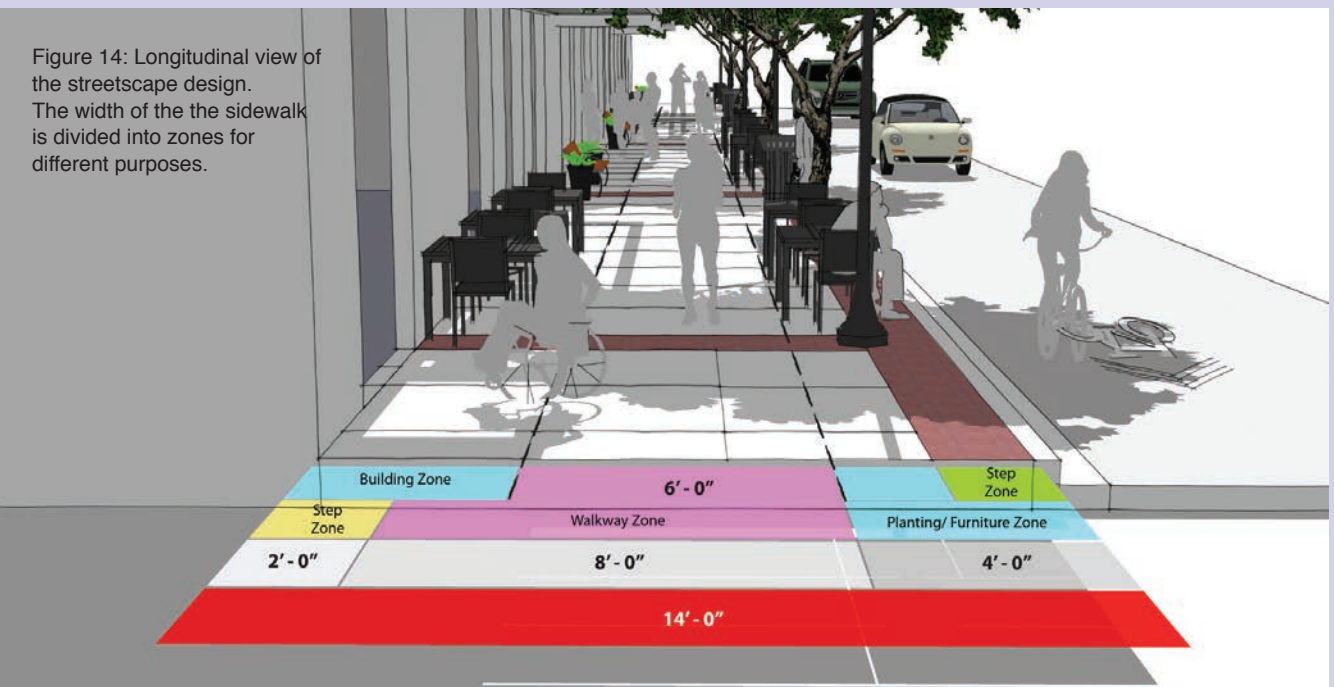


STREETScape DESIGN

Current development activity soon will dramatically improve the streetscape on the 400 block of Oberlin Road. Wider sidewalks, street trees at the curb, decorative lighting, and new furniture elements will greatly improve the pedestrian environment on the 400 block of Oberlin Road. As noted by community members, there is interest in improving not only the visual aesthetic along Oberlin Road, but also improving the safety and convenience of pedestrians along the street.

The arrangement of a walkway zone and a furniture and planing zone provides a degree of

separation between the sidewalk pedestrian area and the street travel lane. It also helps maintain a consistent barrier-free travel zone, which is important to pedestrians with vision or mobility impairments. The addition of litter receptacles and bike racks will provide additional convenience for businesses and visitors. Canopy trees planted on the curb side of the sidewalk calm traffic and buffer pedestrians from vehicles. Improved lighting will make the streets comfortable and inviting at all times. Benches and other amenities help make sidewalks into memorable and functional public places.



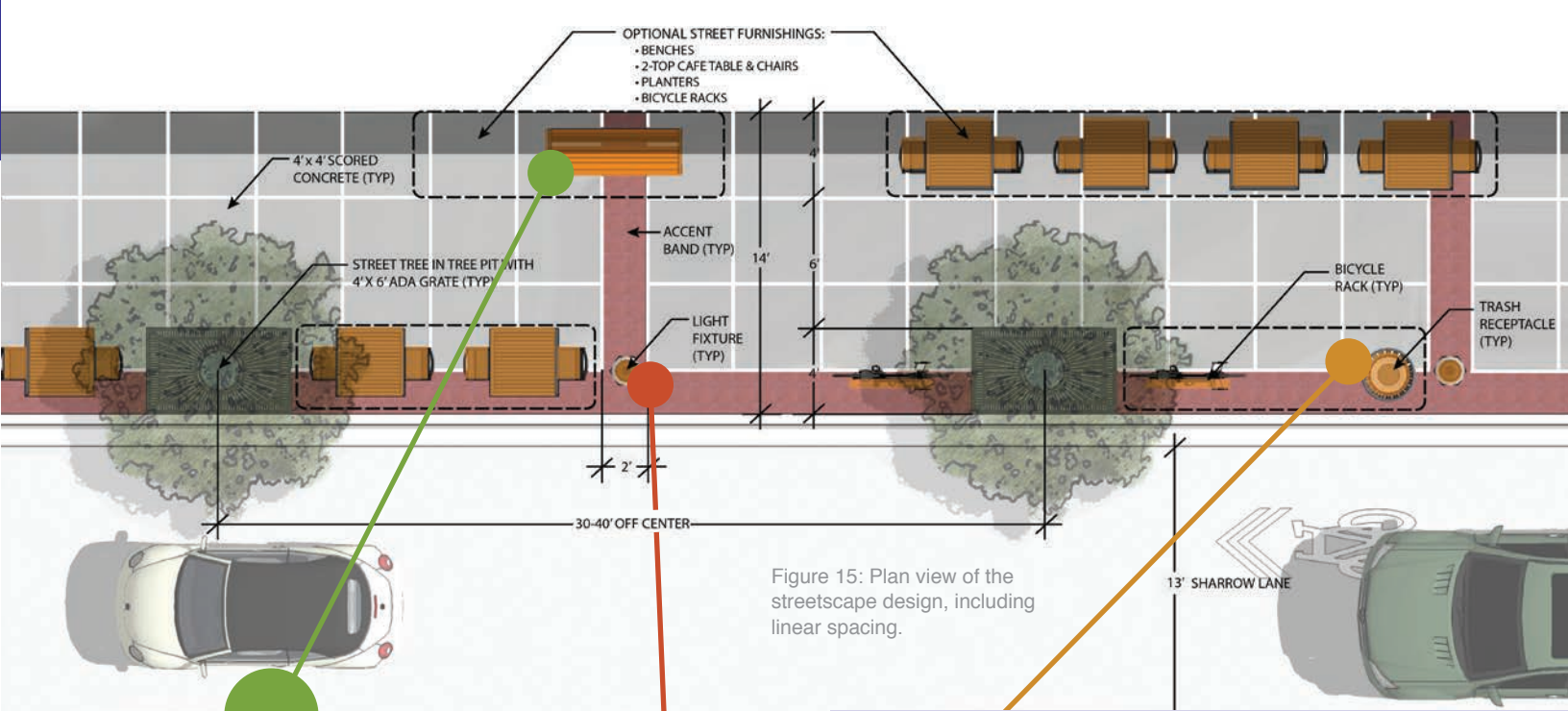
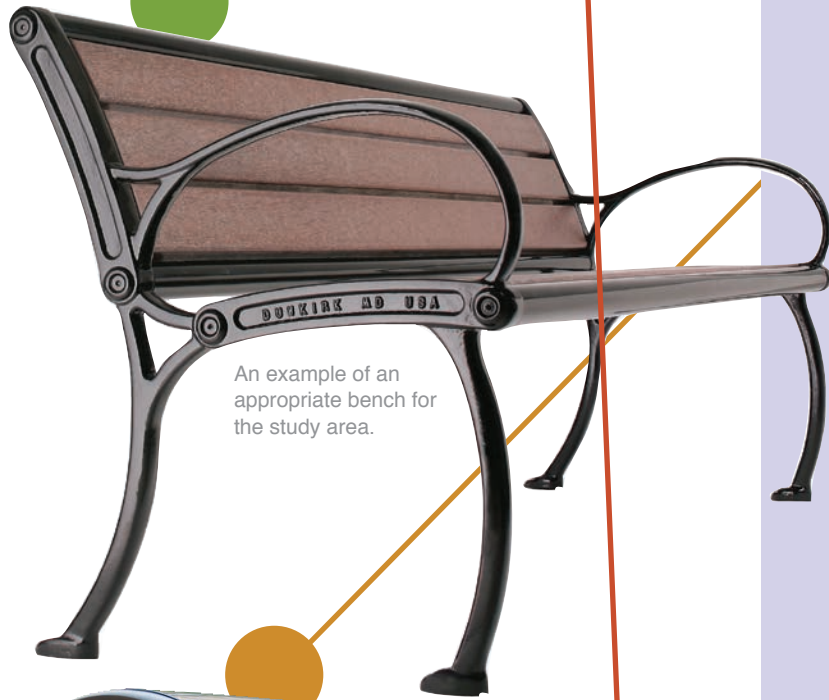


Figure 15: Plan view of the streetscape design, including linear spacing.



An example of an appropriate bench for the study area.



One appropriate example of a trash receptacle for the Oberlin Road streetscape.



Illustrative example of a decorative pedestrian streetlights that are appropriate for this streetscape.

- The recommended sidewalk is 14 feet wide, divided into three primary zones (Figure 14):
 - A four-foot wide frontage zone to provide for stationary activity near building windows and doors,
 - A minimum six-foot wide clear pedestrian through zone to provide for unimpeded accessible travel for all users, and
 - A four-foot wide furniture and planting zone to provide for stationary activity away from buildings and to buffer the sidewalk from the street.
- Sidewalks are generally concrete with brick paving accents, including (Figure 15):
 - A 4' x 4' Capital Grid scoring pattern,
 - A two-foot strip of brick abutting the curb, and
 - Brick-accented corner treatments.
- Street trees in 4'x6' ADA-accessible tree grates on 30-40' centers, adjacent to the curb.
- Streetlights interspersed between each street tree, with 1920's vintage styled fixtures on pedestrian-scaled posts.
- Bike racks in the planting and furniture zone approximately every 60 feet.
- Benches and litter receptacles in the building or planting zone as appropriate.

Street Lighting

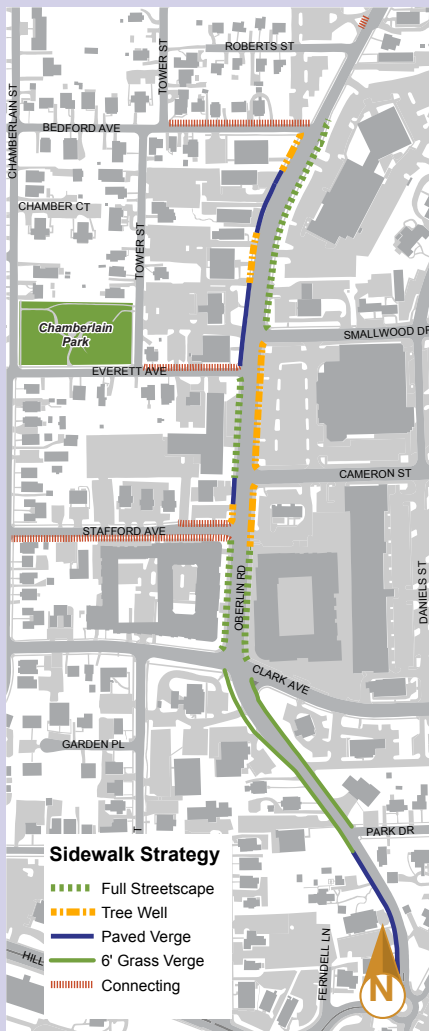
A specialized light standard helps illuminate well used pedestrian areas and provide a distinctive character to specific areas. A variety of styles are available through the City’s contract with Duke Energy Progress. Soon these options will include a pedestrian-scale post top LED fixture, which is recommended for the Oberlin Road streetscape. This fixture would be consistent with the lighting elements of previous Pedestrian Business Overlay District (PBOD) streetscape plans that for the area. The lights will closely match those in the developments currently under construction. The pedestrian-scale lights would generally be installed between each street tree.

Improved Traffic Signal Supports

The traffic signals at Cameron Street and Smallwood Drive are both suspended by wires running between poles. These signals should be mounted on mast arms as part of the streetscape improvements.

Sidewalk Widening

The City of Raleigh Unified Development Ordinance requires a minimum sidewalk zone width of 14-foot. Of this width, the continuous sidewalk must be at least six feet wide. Street trees are placed on the curb side of the sidewalk, either in tree grates, or in a planting strip, depending on the frontage. Existing sidewalks in the study area are as narrow as four feet with a two-foot planting strip. More prevalent is a five feet sidewalk with a three-foot planting strip. Other existing sidewalks are up to ten feet wide, with tree pits taking some of that width. Built elements within the study area, such as parking spaces and retaining walls, make sidewalk widening more difficult and costly. The public streetscape improvement project considers the constraints of these built elements, the existing right of way, as well as the prospects for future redevelopment in the area. Figure 16 shows the location of four different types of streetscapes over the study area:



- Full Streetscape** - Full 14-foot streetscape, including the four-foot building zone, six-foot clear pedestrian through zone, and the four-foot curb/planting/furniture zone.
- Tree Well** - Nine to ten-foot wide sidewalk with street trees in accessible grates adjacent to the curb. This type eliminates the building zone where there is not an existing building.
- Paved verge** within the exiting sidewalk footprint. This designation is chosen for locations where width sufficient for tree wells does not exist. It may be constructed either by paving the existing planted verge with bricks or by reconstructing the entire sidewalk within the constrained space.
- 6' Grass Verge** - Six-foot sidewalk adjacent to six-foot tree planting area. This designation is chosen for locations where there is sufficient width but where a more urban streetscape would not be appropriate. In the study area, it is only utilized south of Clark Avenue.
- Connecting** - Completed sections of missing sidewalks to improve connections to the study area.

Figure 16: Conditions for the widening of sidewalks in the study area.



Sections of streetscape construction will be pulled from the public streetscape improvement project if the redevelopment of properties appears to be imminent. The city does not want to make improvements only to have them demolished shortly thereafter. The cost estimate in this plan anticipates some redevelopment. The construction of sidewalks narrower than ten feet is also a function of this dynamic.

ADDITIONAL RECOMMENDATIONS

Transit

As transit providers revise and improve service in the vicinity of the study area, appropriate passenger amenities and operational streetscape elements should be evaluated to improve transit service. Shelters, seating, information displays, and other furnishings should be an integral part of the streetscape improvements and also facilitate comfortable and efficient transit use. As part of a future road diet, transit-only markings, bus bulb outs, and other elements that impact transit operations within the roadway should be considered to improve service while furthering the other goals of the street. In particular, careful consideration should be given to bus and bicycle interactions on the roadway. Bus bulb outs, for example, can help to calm traffic while also speeding transit service. Future area plans can investigate the best ways to improve transit in the area.

On-Street Parking

There has been interest in on-street parking to serve new retail fronting on Oberlin Road. There is significant parking demand in the area. Parallel parked cars along the street can buffer pedestrians and help improve the sidewalk environment. The concept of allowing off-peak parking in the outside travel lane was raised after the second public meeting and therefore was not analyzed or discussed in detail. As the study area evolves, it is something that should be evaluated to determine if it helps the city reach its goals.



PLAN SUMMARY

In addition to setting policy for development within the study area, this plan proposes a number of public improvements. The following tables summarize the estimated cost of these improvements. It is recommended to divide the work into two stages in order to make small, meaningful improvements more rapidly, and to manage the uncertainty in implementing the more extensive investments. Phase I consists of streetscape improvements south of Clark Avenue, improved pedestrian network connectivity through sidewalks on side streets, and spot treatments for pedestrian safety at three locations. Phase II consists of utility improvements and streetscape improvements north of Clark Avenue.

SUMMARY OF PHASE I CAPITAL COSTS	UNIT COST	UNITS	TOTAL CAPITAL COST
FOUNDATIONAL IMPROVEMENTS			
Spot Treatments – Pedestrian Crossing Signals	\$17,000	1	\$17,000
Spot Treatments – Pedestrian Safety Enhancements at Park Dr.	\$10,000	1	\$10,000
Spot Treatments – Pedestrian Safety Enhancements at Bedford Ave.	\$40,000	1	\$40,000
Sidewalk Connectivity (non-Oberlin Study area) ⁴	\$135 /LF	1135	\$153,100
Streetlights	\$536	40	\$21,440
Street Trees	\$500	35	\$17,500
Benches	\$2,000	3	\$6,000
Solar Litter Receptacles	\$6,150	2	\$12,300
Bike Racks	\$300	4	\$1,200
Temp Construction Easements	\$7 /SF	3100	\$20,460
~8' Sidewalk (Paved Verge)	\$60 /LF	400	\$24,000
~6' Sidewalk (6' Verge)	\$45 /LF	1200	\$54,000
Right-of-Way and Construction Subtotal		\$377,000	
Traffic Control and Erosion Control Costs		\$41,711	
Contingency (15 Percent)		\$62,807	
Phase I Design Expenses		\$144,455	
Phase I Total		\$625,972	
Phase II Design Expenses		\$431,879	
PHASE I + DESIGN OF PHASE II		\$1.06 MILLION	

The engineering design of Phase II will provide more certainty about the right-of-way and construction costs of that phase. The estimate outlined in the Phase II table is subject to extensive refinement, especially for the cost of utility improvements. The design work for both phases is proposed to be coordinated simultaneously under a single contract.

⁴ Estimate includes right-of-way or easements, sidewalk construction, and ~50 feet of decking to preserve existing trees.

SUMMARY OF PHASE II CAPITAL COSTS	UNIT COST	UNITS	TOTAL CAPITAL COST
Utility Improvements ⁵	\$150 /LF	2260	\$339,000
Streetlights	\$536	50	\$26,800
Signal Supports	\$125,000	2	\$250,000
Street Trees	\$500	40	\$20,000
Tree Wells and Accessible Tree Grates	\$6,500	40	\$260,000
Benches	\$2,000	14	\$28,000
Solar Litter Receptacles	\$6,150	8	\$49,200
Bike Racks	\$300	12	\$3,600
Streetscape Right-of-Way or Easement	\$35 /SF	3600	\$126,000
Temp Construction Easements	\$7 /SF	8700	\$57,420
14' Concrete/Brick Sidewalk	\$150 /LF	440	\$66,000
~10' Concrete/Brick Sidewalk	\$110 /LF	900	\$99,000
~8' Sidewalk (Paved Verge)	\$60 /LF	530	\$31,800
Right-of-Way and Construction Subtotal		\$1,356,820	
Traffic Control and Erosion Control Costs		\$145,368	
Contingency (15 Percent)		\$225,328	
PHASE II CONSTRUCTION		\$1.73 MILLION	

The completion of all of the improvements outlined here impacts the city’s operating budget. These impacts are estimated to be over \$52,000 per year, primarily for streetlights and tree maintenance.

SUMMARY OF OPERATING IMPACTS	UNIT COST	UNITS	ANNUAL OPERATING COST
FOUNDATIONAL IMPROVEMENTS			
Point Treatments - Pedestrian Crossing Signals	\$85	1	\$85
Streetlights	\$300	90	\$27,000
Street Trees (Watering and Pruning)	\$235	75	\$17,599
Benches	\$100	17	\$1,700
Litter Receptacles	\$603	10	\$6,032
ANNUAL OPERATING TOTAL		\$52,416	

⁵ Estimate includes burying all communication lines, crossings, and service connections. Duke Energy will be responsible for burying electrical distribution lines north of Clark Avenue.

APPENDIX I: COMPREHENSIVE PLAN CONSISTENCY

The 2030 Comprehensive Plan has many Actions and Policies that direct, frame, and inform this plan. They include:

- Policy AP-WO 1 – Wade-Oberlin Vision
The Wade-Oberlin area should evolve into a livelier pedestrian and transit-oriented mixed-use center.
- Policy AP-WO 7 – Oberlin Road Main Street
Oberlin Road should evolve as the “main street” of the area, with improved pedestrian amenities and streetscaping.
- Policy AP-WO 8 – Oberlin Road Auto-Oriented Retail
Automobile drive-throughs, front-of-lot parking areas, and excessive number of curb cuts associated with retail uses are discouraged throughout the Wade-Oberlin plan area.
- Policy AP-WO 10 – Wade-Oberlin Traffic Calming
Traffic calming measures should be considered with any proposed redevelopment in the Wade-Oberlin study area.
- Action AP-WO 1 – Wade-Oberlin Streetscape Plan
Develop and implement a Comprehensive Streetscape Plan for Daniels Street, Oberlin Road, Smallwood Drive, Clark Street, and any other appropriate streets (per the City’s determination) in the Study Area. The Streetscape Plan should encompass travel lanes, on-street parking, medians, enhanced pedestrian and bicycle access, plantings, lighting, public transit, and additional safety and calming features.
- Action AP-WO 2 – Daniels Street and Oberlin Road Cross-Section Standards
The following street cross-sections should be considered in the streetscape plan:
- Action AP-WO 5 – Daniels Street and Oberlin Road Cross-Section Standards
Consider provision of a bus route loop to include Cameron Village, the State Government Center regional rail stop, and sites downtown including hotels, the convention center, the BTI Center, the downtown regional rail stop at the Wye, and portions of Hillsborough Street. Another possible stop on the loop would be the NCSU regional rail station.

Daniels Street

Within the existing cross-section, provide one vehicular travel lane in each direction, a center median, and parallel parking on the west side. Within the existing right-of-way (ROW) provide a continuous sidewalk (5 foot minimum width) on the east side and an extension of the sidewalk on the west side between Smallwood Drive and Wade Avenue.

Oberlin Road, Between Mayview and Bedford

Within the existing cross-section, provide one vehicular travel lane and a striped bicycle lane in each direction. Within the existing ROW, provide a street tree zone on both sides of the street with trees planted at a regular interval no further than approximately 40 feet apart and new continuous sidewalks (5 foot minimum width). Align the driveway for the Wade-Oberlin (Crosland) Development access road with new roundabout at Mayview Road.

Oberlin Road, Between Bedford and Park

Within the existing cross-section, provide one vehicular travel lane and a striped bicycle lane in each direction with a center turn lane and/or a median. Provide adequate space between the bicycle lanes and curbs for parallel parking, turn lanes, or transit stops. Within the existing ROW on both sides of the street and provide for continuous sidewalks that are a minimum of ten feet in width. Provide a roundabout at the Clark-Oberlin intersection per the Hillsborough Street Reconstruction Plan.

Oberlin Road, Between Park and Groveland

Within the existing cross-section, provide one vehicular travel lane and a striped bicycle lane in each direction. Within the existing ROW, provide a street tree zone on both sides of the street with trees planted at a regular interval no further than approximately 40 feet apart and a new continuous sidewalk (5 foot minimum width).

- Action AP-CP 6 – Oberlin Road Lane Study Area
Within the existing Oberlin Road right-of-way, evaluate the reduction of travel lane widths as required to provide bike lanes and city-standard sidewalks on each side of the street.
- Policy AP-CP 2 – Pedestrian-Orientation in Cameron Park
Encourage pedestrian-orientation along Hillsborough Street, Saint Mary’s Street, Oberlin Road, Clark Avenue and Peace Street. Discourage automobile-oriented uses and drive-throughs.

APPENDIX II: APRIL WORKSHOP COMMENT SUMMARY

VEHICULAR TRAFFIC

- Congestion a main concern and many felt that all two lane options would increase congestion resulting in spill over into residential neighborhoods.
- Volume and speed of traffic makes left turns difficult especially onto Bedford from Oberlin. The hill and utility poles on Oberlin block visibility
- Parking lot at Post Office is a problem; when lot fills the waiting cars block the sidewalk.
- Traffic speed needs to be addressed to create a safer environment, especially between Bedford and Cameron. Don't want to create bottlenecks or gridlock; "slow, but not too slow".
- Delivery trucks are a problem on Oberlin Road. Truck restrictions should be in place and enforced.

ON-STREET PARKING

- On-street parking not strongly supported:
- Fear it will stop traffic to accommodate parallel parking,
- Potential safety issues for cyclists in the bike lane,
- May not be effective since only a small area would accommodate it,
- Customers want to park close to their destination in Cameron Village.
- Need on-street parking for retail uses in new development north of Clark Ave.
- On-street parking can serve as a buffer for pedestrians.
- On-street parking at Wilson's Temple and Wade/Oberlin project is not well utilized.
- The Post Office parking lot could be closed with on-street parking provided.

PEDESTRIAN ENVIRONMENT

- Need additional pedestrian crosswalks:
- Oberlin Road at Van Dyke Avenue, Bedford Avenue, Everett Avenue, and Stafford Avenue
- Intersection of Smallwood with Oberlin is only marked in two directions.
- South side of the Clark Ave intersection with Oberlin Road.
- To many curb cuts on the west side of Oberlin between Everett and Roberts making it an unsafe environment for pedestrians and kids on bicycles
- Sidewalks are too narrow.
- Need better pedestrian/bike connections into adjacent neighborhoods.
- Neck down intersections for pedestrian crossings.
- Problems with bicycles on sidewalks; could improve with better cycling facilities in the street.
- Sidewalk needed along Smallwood to get to the entire north side of Cameron Village Shopping Center, including Rite-Aid, K&W Cafeteria, and shops. The new sidewalk should be located with street trees between it and Smallwood for safety and comfort.

BIKE LANES

- Bicycle lanes would work really well. The cyclists at the table were excited about the idea of the wide bicycle lane with buffer (section 2B) and feel they would be able to bring their kids on bicycles off the sidewalks and onto such a bike lane
- Participants felt that there should be a dedicated lane for bikers because they wanted them to have a safe area to ride.
- Bike lanes on other streets running parallel to Oberlin might be a possibility, since Oberlin is a major corridor. Could bike lanes be located on other parallel streets outside of Oberlin corridor?
- What happens to bike lanes at each end of the project area where only two lanes exist?

ROUNDBABOUTS

- Open to the idea of roundabouts – as long as they don't back up traffic. The locations seem to work best at Clark, Cameron or Bedford.
- Would also make it safer for pedestrians and cyclists. Vehicles slow down and are alert coming into a roundabout.
- Several residents were very enthusiastic about the double roundabout. Comparison to Hillsborough Street and how that is successful.
- Others thought the roundabouts were a good idea but were concerned about traffic backup at the intersection of Clark and Oberlin and the eventual cut through in west residential areas.
- One participant thought the roundabout would be a good way to keep traffic flowing and decrease backup.

MEDIANS AND LANDSCAPING

- Make medians wide enough for trees to create a shaded street environment.
- Design medians to allow for enough space for stacking cars that queue for left turns where there would be such so as to not back up through traffic.
- Even though most participants agreed street trees and planted medians would be great, they still did not like the idea of restricted left turns.
- Provide wider sidewalks and raised median.
- Need tree buffers between pedestrians and cars.
- Relocate or bury overhead utilities.
- Upgrade street lighting.
- Need street trees or something to buffer the sidewalks from passing traffic along the length of Oberlin Road in this area. It would greatly improve pedestrian comfort and safety to have either street trees or street parking on the street side of the sidewalks.

TRANSIT

- users have difficult time turning into Cameron Village from Oberlin due to small curb radius
- Prefer shelters at all bus stops
- The bench at Oberlin/Mayview bus stop is in disrepair
- Need more buses, greater frequency of service.

APPENDIX III: APRIL WORKSHOP CROSS SECTIONS AND DOT VOTING

Street cross sections 1 through 5 were presented at the April workshop where participants expressed their preferences with dot voting. Each participant could award their four dots among the sections as they wished. The numbers of votes earned by each design are noted. Section 6 was added to the analysis after the April meeting in order to address some of the feedback received throughout the process.

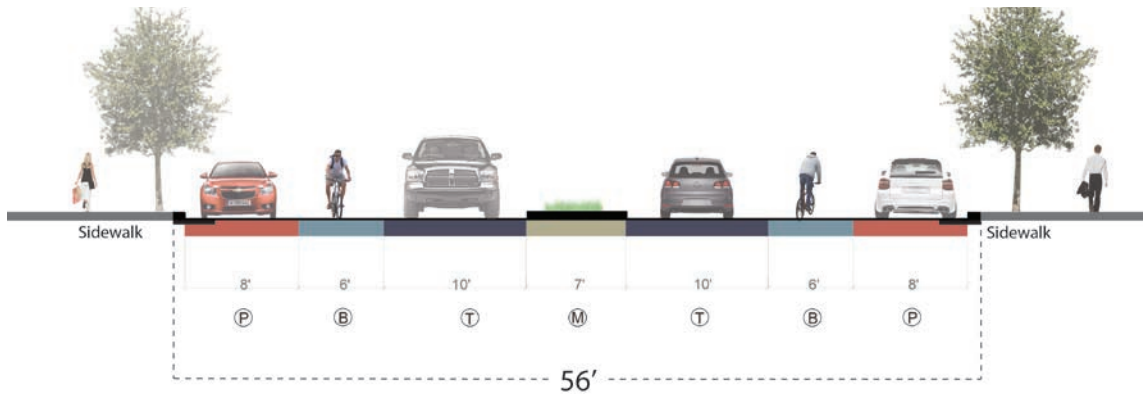
KEY

- (P) =Parking
- (B) =Bicycle
- (B) =Buffer
- (S) =Sharrow
- (T) =Travel Lane
- (M) =Median
- ↻ =Turning Lane

1. 2-lane divided sections with on-street parking and a median: Adapted from comprehensive plan sections. 6 votes total

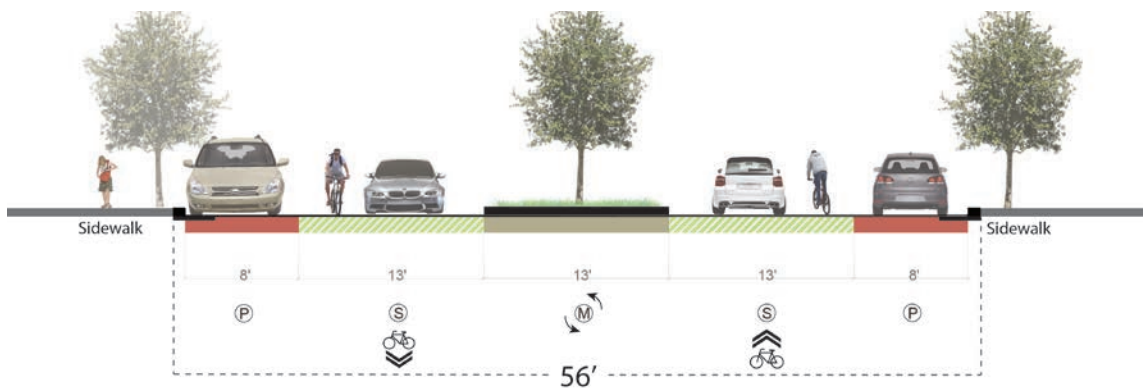
■ A. With bike lane

0 VOTES



■ B. With shared bike/auto travel lane (sharrow)

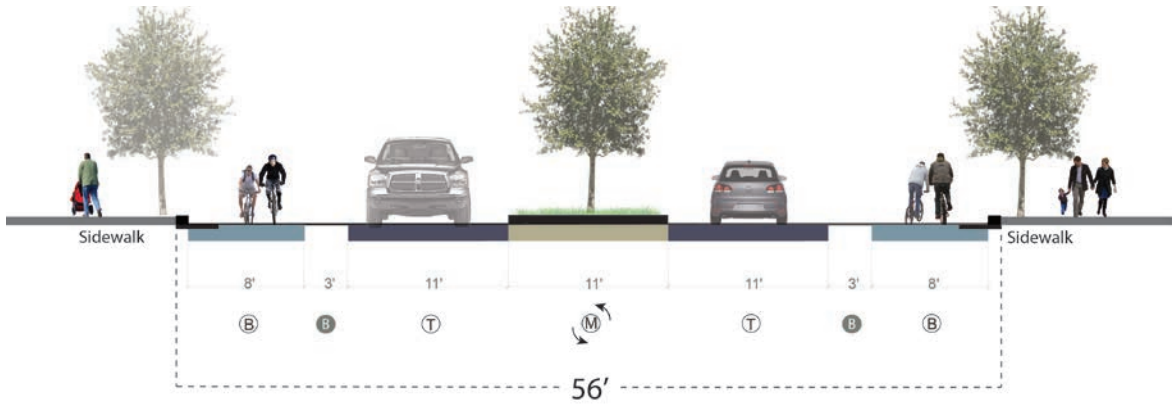
6 VOTES



2. Premium bicycle 82 votes total

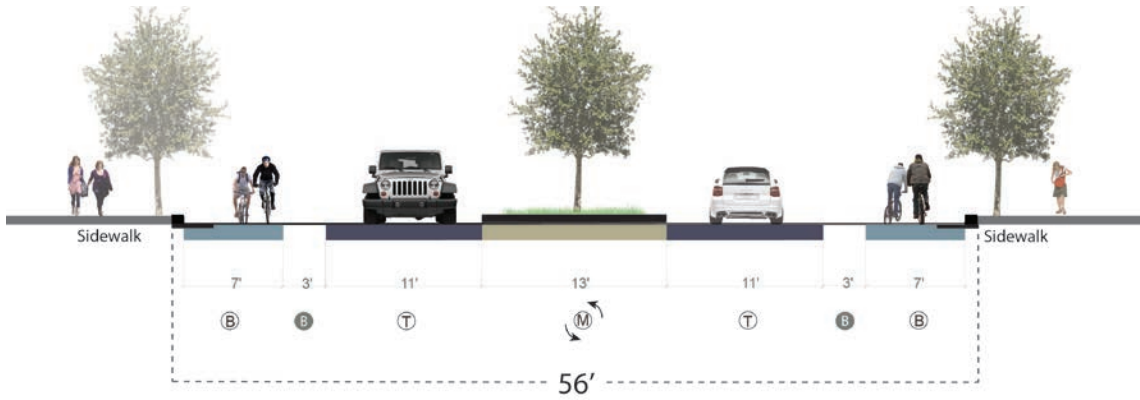
- A. 8-foot separated bike lane with 11-foot median

13 VOTES



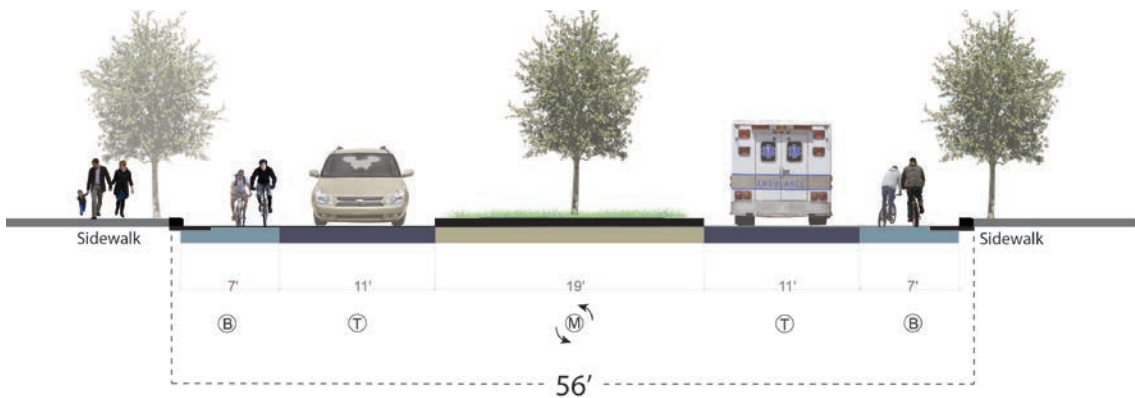
- B. 7-foot separated bike lane with 13-foot median

47 VOTES



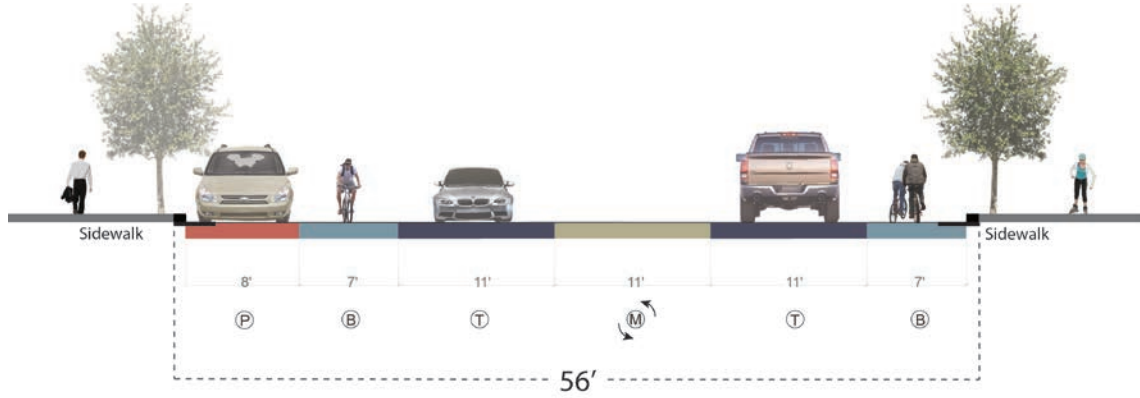
- C. 7-foot bike lane with 19-foot median

22 VOTES



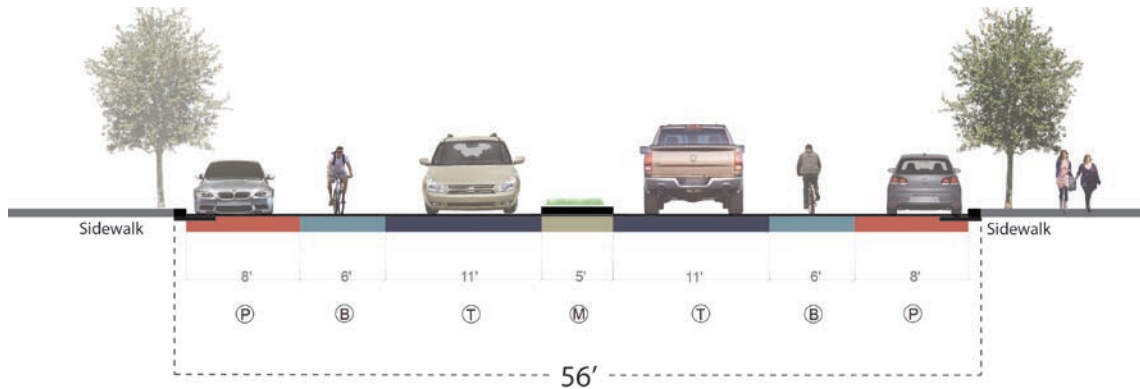
3. One side on-street parking with bike lanes

32 VOTES



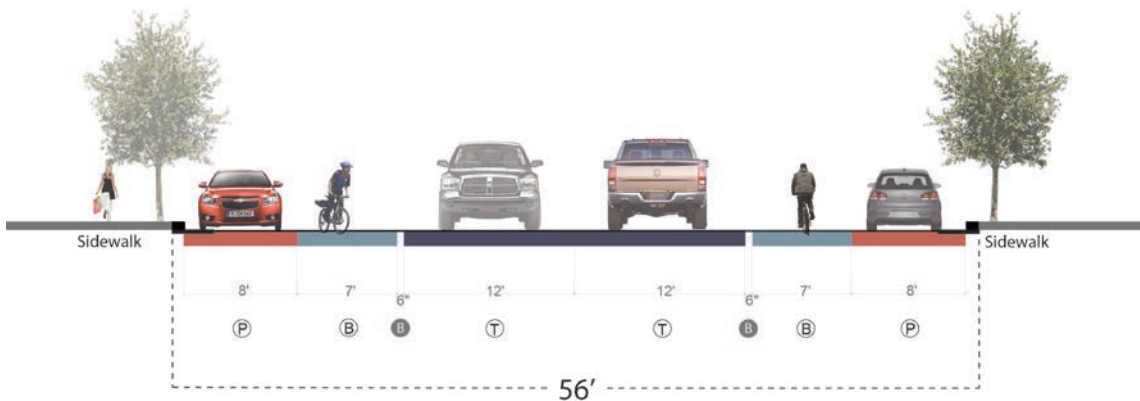
4. Median, on-street parking, and bike lanes: Requires a double roundabout configuration to accommodate turns and calm traffic.

42 VOTES



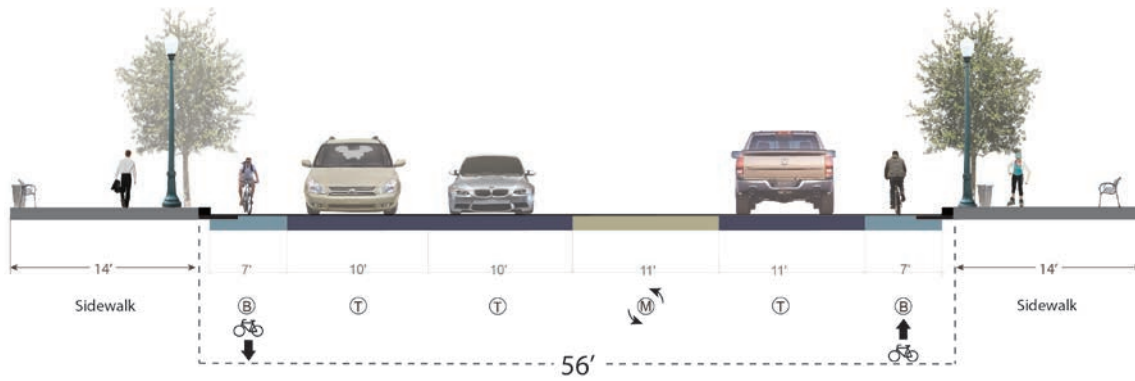
5. On-street parking and bike lanes, without median or turn lane.

3 VOTES



6. Four travel lanes, one lane north and two lanes south, center left turn lane, and 7 foot bike lanes on each side.

Added after the April meeting to address some stakeholder concerns.





APPENDIX IV: TRAFFIC ANALYSIS SUMMARY

Traffic simulation software was used to analyze potential impacts of various road diet alternatives. The simulation predicts average delay for a driver entering a given intersection from a given approach direction. It also estimates the average travel speed of a driver passing through the entire corridor.

The simulation analysis starts with an estimate of future traffic volumes. These volumes are developed with a count of actual traffic, including the number of vehicles making each turning movement through the intersections. Then estimates of new traffic generated by planned developments are added to the network.

Results from two illustrative alternatives are included here. The first is an asymmetrical four-lane section with two southbound, one northbound travel lane, and a center turn lane. The second is a three-lane alternative, with one travel lane in each direction and a center turn lane. Morning and afternoon peaks are described in separate tables. The afternoon peak tends to be the worst case scenario for the study area.

Afternoon Peak

OBERLIN ROAD AT SMALLWOOD DRIVE								
Synchro Approach Delay (sec/veh) and Level of Service: PM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change In Delay
EB	170	F	170	F	0	260	F	+90
WB	29	C	24	C	-5	26	C	-3
NB	23	C	81	F	+58	118	F	+95
SB	53	D	47	D	-6	98	F	+45
Overall	40	D	57	E	+17	94	F	+54

OBERLIN ROAD AT CAMERON STREET								
Synchro Approach Delay (sec/veh) and Level of Service: PM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change in Delay
WB	33	C	38	D	+5	72	E	+39
NB	29	C	101	F	+72	16	B	-13
SB	54	D	38	D	-16	35	D	-19
Overall	40	D	62	E	+22	36	D	-4

OBERLIN ROAD AT CLARK AVENUE								
Synchro Approach Delay (sec/veh) and Level of Service: PM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change In Delay
EB	105	F	100	F	-5	72	E	-33
WB	94	F	67	E	-27	52	D	-42
NB	60	E	180	F	+120	212	F	+152
SB	48	D	62	E	+14	166	F	+118
Overall	72	E	103	F	+31	137	F	+65

SYNCHRO ARTERIAL SPEED (MPH)							
Average Travel Speed from Wade Ave to Clark Ave: PM Peak							
	5-Lane (Existing)	4-Lane			3-Lane		
Direction		MPH	Change	%Change	MPH	Change	%Change
NB	11.8	6.1	-5.7	-48%	6.1	-5.7	-48%
SB	15.1	15.4	+0.3	+2%	8.9	-6.2	-41%

Morning Peak

OBERLIN ROAD AT SMALLWOOD DRIVE								
Synchro Approach Delay (sec/veh) and Level of Service: AM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change In Delay
EB	18	B	18	B	0	31	C	+13
WB	13	B	10	B	-3	21	C	+8
NB	22	C	21	C	-1	14	B	-8
SB	28	C	23	C	-5	26	C	-2
Overall	24	C	20	C	-4	22	C	-2

OBERLIN ROAD AT CAMERON STREET								
Synchro Approach Delay (sec/veh) and Level of Service: AM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change in Delay
WB	15	B	15	B	0	28	C	+13
NB	17	B	20	C	+3	17	B	0
SB	15	B	12	B	-3	17	B	+2
Overall	15	B	15	B	0	18	B	+3

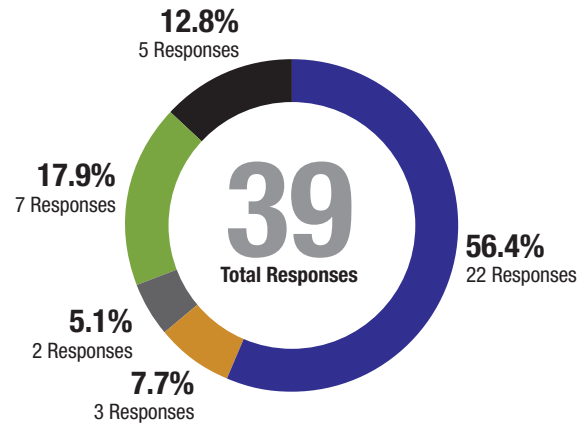
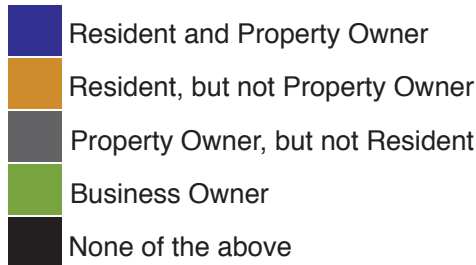
OBERLIN ROAD AT CLARK AVENUE								
Synchro Approach Delay (sec/veh) and Level of Service: AM Peak								
	5-Lane (Existing)		4-Lane			3-Lane		
Approach	Approach Delay	LOS	Approach Delay	LOS	Change in Delay	Approach Delay	LOS	Change In Delay
EB	22	C	20	C	-2	37	D	+15
WB	21	C	24	C	+3	30	C	+9
NB	24	C	27	C	+3	26	C	+2
SB	34	C	33	C	-1	51	D	+17
Overall	28	C	28	C	0	40	D	+12

SYNCHRO ARTERIAL SPEED (MPH)							
Average Travel Speed from Wade Ave to Clark Ave: AM Peak							
	5-Lane (Existing)	4-Lane			3-Lane		
Direction		MPH	Change	%Change	MPH	Change	%Change
NB	14.8	14.4	-0.4	-3%	15.2	+0.4	+3%
SB	14.1	14.7	+0.6	+4%	13.5	-0.6	-4%

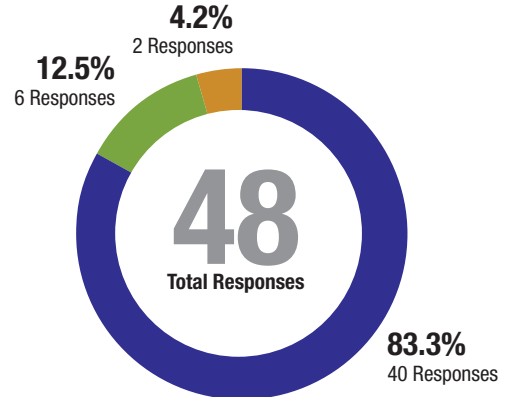
APPENDIX V: JUNE WORKSHOP SURVEY RESPONSES

Active Participants: 49 of 49, Questions: 10

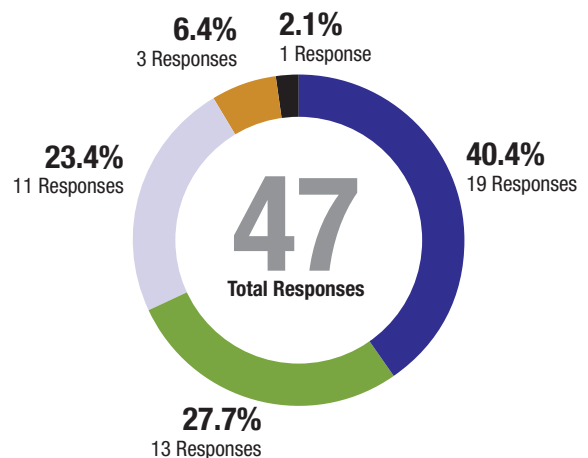
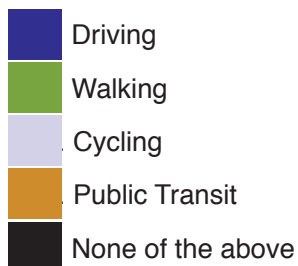
1) Who are you? I am a:



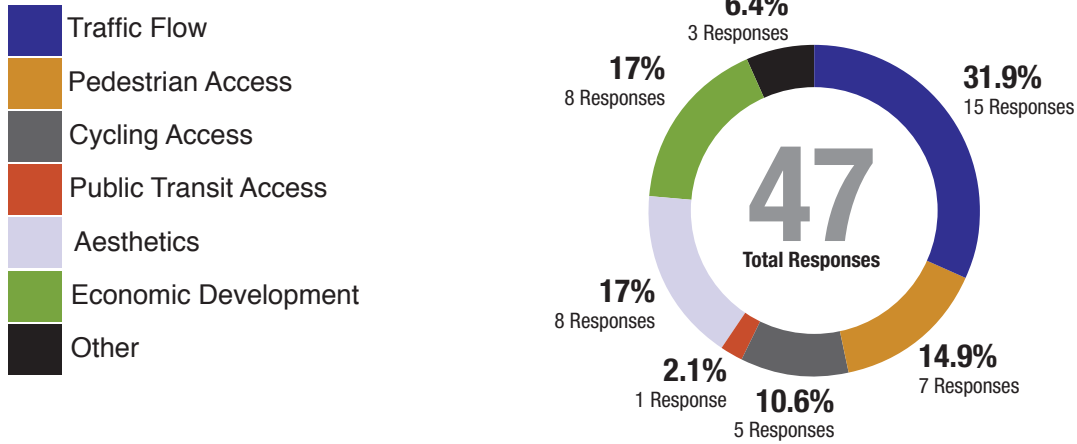
2) What is your primary mode of transportation when you use Oberlin Road?



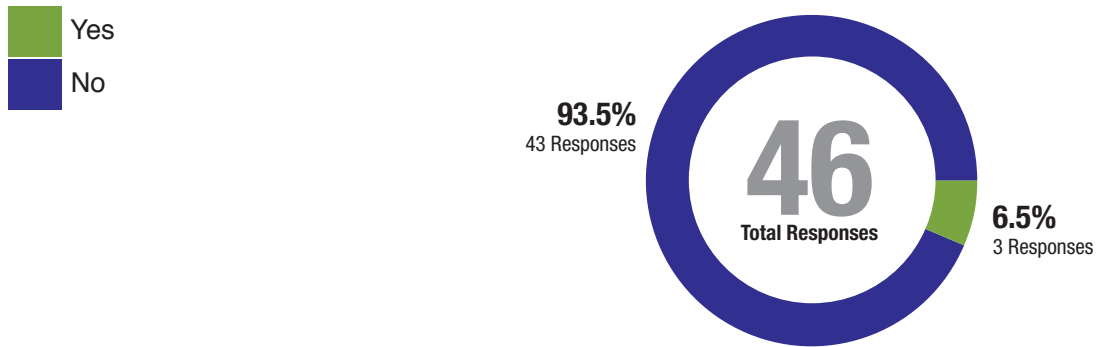
3) Which mode of transportation would you like to use more on Oberlin Road?



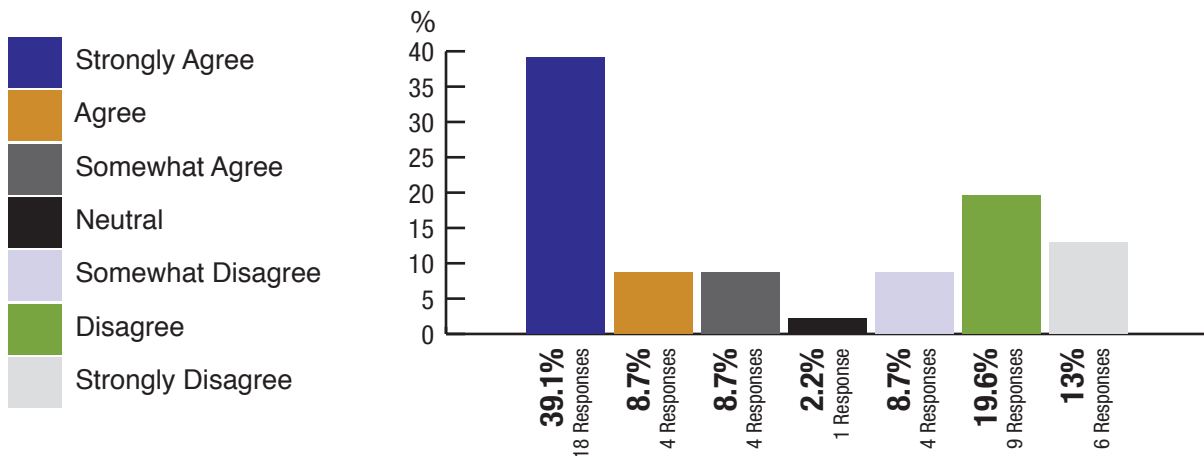
4) What is your highest priority for improvement in this area?



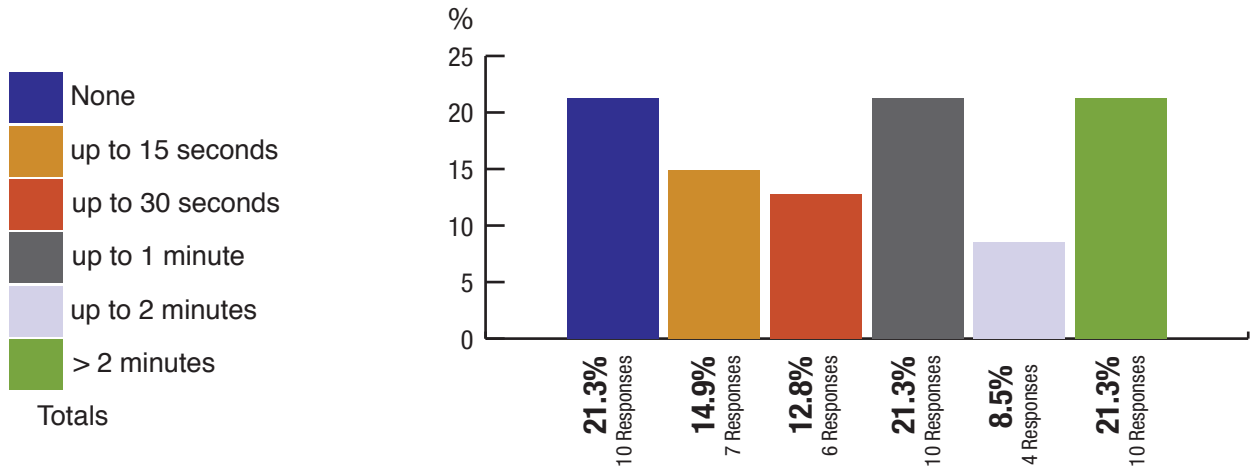
5) Are you mobility impaired? (i.e., visual or physical limitations)



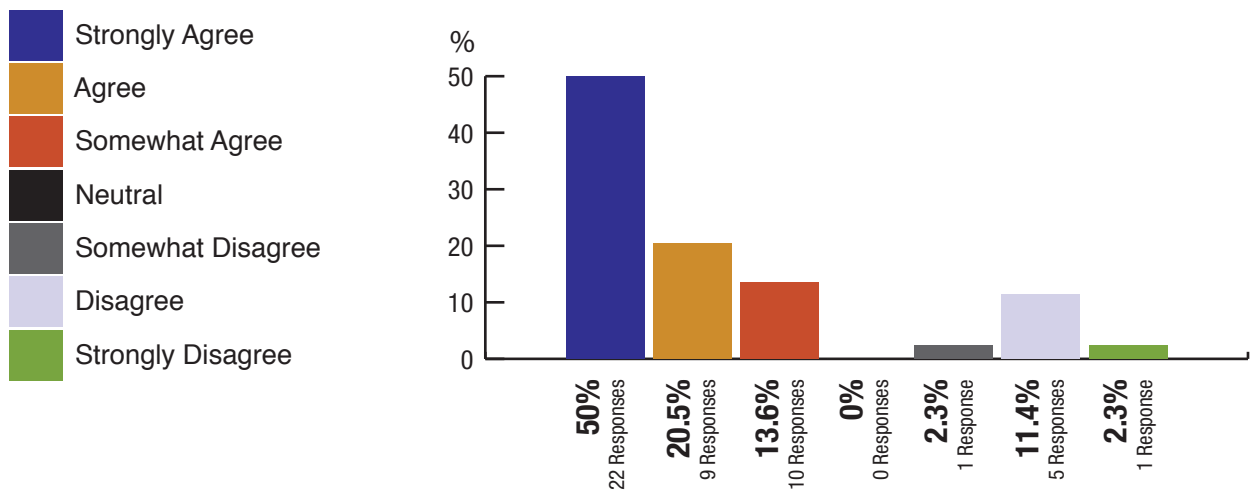
6) Do you agree that maintaining traffic flow should be a priority for this area?



7) How much additional travel time would you be willing to accept to accomplish this?

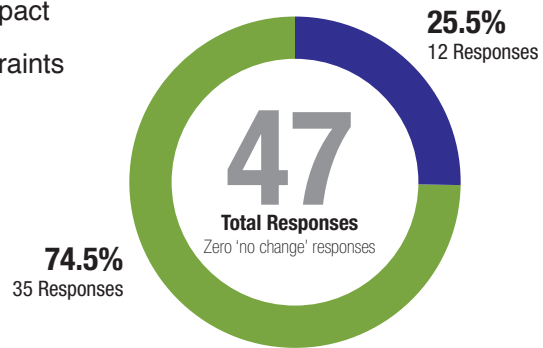


8) Given the cost, should the City pursue this?



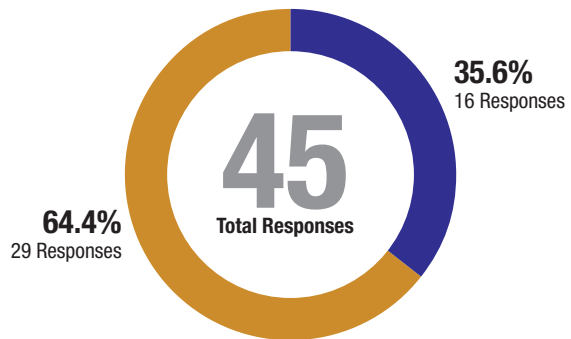
9) Should the City:

- Widen all sidewalks to 14' regardless of impact
- Improve the sidewalks within existing constraints
- Don't change any sidewalks



10) Should the City aim to consolidate all transit stops in Cameron Village into a single high-quality location?

- Yes
- No





Oberlin Road



Planning & Development

