

MARSHALL UNIVERSITY BICYCLE PLAN



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1.0 Executive Summary

The goal of this study is to create an actionable document that can be used by decision makers to execute specific projects (bicycle routes and facilities) that facilitate safer, easier commuting and crossings between Marshall University's (MU) main campus and satellite locations and enhance the attractiveness of campus locations. This plan was funded by KYOVA Interstate Planning Commission suballocated Surface Transportation Block Grant (STGB) funding in cooperation with the Federal Highway Administration (FHWA) and the West Virginia Department of Highways (WVDOT).

Marshall University is a public research university located in the heart of Huntington, WV. Founded in 1837, it has grown to an enrollment of 13,000 students in undergraduate and graduate programs. Including the medical school, pharmacy school, and physical therapy school, the total student enrollment combined with faculty and staff is about 18,000. Given that Huntington's population in 2017 was 47,079, the university population represents a significant percentage of the overall population - about 38%.

According to Marshall University administration, there are about 9,000-10,000 people on the main campus on an average day including students, faculty, and staff. Since about 2,000 students live in on-campus housing, that means about 7,000-8,000 people are traveling to and from campus each day.

According to a student and faculty survey completed as part of this study, currently 77% of respondents said they commute by car or motorcycle, while 21% reported walking or bicycling to campus. However, many people noted that if they felt safer on the streets of Huntington, they would consider cycling as an option. Thirty-eight percent reported they would commute by bicycle if they had safe, secure parking, and when asked what improvements would encourage the respondent to ride a bicycle more often, the responses "More On-Street Bicycle Lanes, More Protected Bicycle Lanes, and More Off-Street Bike Lanes" each received over 60% of votes.

The main concerns identified by stakeholders during the public involvement process were related to safety while riding on roadways, theft of bicycles, and the lack of a connected network of bicycle facilities with clear wayfinding signage, including through the interior of the main campus. Opportunities were identified relative to educational programs for both cyclists and drivers and a website and/or app with a map of bicycle routes.

Due to the city's east-west orientation, a major east-west cycle track running parallel with the avenues would connect nearly all destinations when combined with shorter, bisecting north-south streets. From such a "safe space", connecting north and south onto existing, lesser traveled streets to specific destinations would allow for relatively quick access to destinations off the cycle track.

This study is intended to identify a roadmap for the development of a bicycle pathway network and related infrastructure to connect Marshall University's facilities, as well as nearby service/retail businesses, in Huntington, WV. By promoting connectivity in and around campus by bicycle with dedicated cycle tracks, many other issues identified in the Marshall University 2013 Campus Masterplan and the 2017 City of Huntington Street Flooding Mitigation Plan such as bicycle and pedestrian safety and street flooding can be addressed and improved.

2.0 Existing Conditions Analysis

2.1 Context

Huntington has the potential to be a very bikeable city. Due to its location in the Ohio River valley, the topography of downtown Huntington and Marshall's campus is nearly flat. City streets are typically wide and laid out on a grid. Many West Virginia cities are limited by their topography, but Huntington does not have issues with steep grades, sight lines, or having only one option to travel from one part of town to another. In addition, the temperate climate of Huntington means that bicycles can be ridden throughout the winter most days without special gear, and snow is rarely a hazard.

From a city planning aspect, the existing rights-of-way for the main arteries in Huntington (Hal Greer Boulevard and Third and Fifth Avenues) are wide and demonstrate excess capacity (per Baker's 2013 MU Master Plan, Transportation Study- see section 3.6 Reference Documents), making a reduction of vehicle travel lanes possible. These attributes give Huntington a unique opportunity to integrate cycle tracks into the existing grid street network and create an efficient, safe, and attractive transportation network that serves all modes of transit.

2.2 Campus Connections

In addition to the main campus, Marshall University has grown to have various satellite facilities around Huntington. Marshall University locations beyond the main campus include:

Downtown

Robert C. Byrd Institute for Advanced Manufacturing

Visual Arts Center (VAC)

Dietetics

Fairfield

Forensic Science Center

Erma Ora Byrd Clinical Center

Stephen J. Kopp Hall (School of Pharmacy)

Medical Center/School of Medicine

Douglass Centre

Fairfield Landing (Graduate Student Housing)

Highlawn – Fifth Avenue

Child Development Academy
Baseball Stadium (Future)
Veterans Memorial Soccer Complex
School of Physical Therapy
Chris Cline Athletic Complex
Dot Hicks Field

Highlawn – Third Avenue

Ceramics & Sculpture Warehouse
Joan C. Edwards Stadium

Other destinations that were identified by stakeholders include Kroger, fast food locations on Fifth Avenue, Brown Dog Yoga (located at Heritage Station), St. Mary's Walking Trail, the Paul Ambrose Trail for Health system (PATH), Harris Riverfront Park, Ritter Park, Virginia Point Park in Kenova, and Beech Fork State Park, among others. The locations within 3 miles have been noted on the Campus Connections Map (Figure 1.)

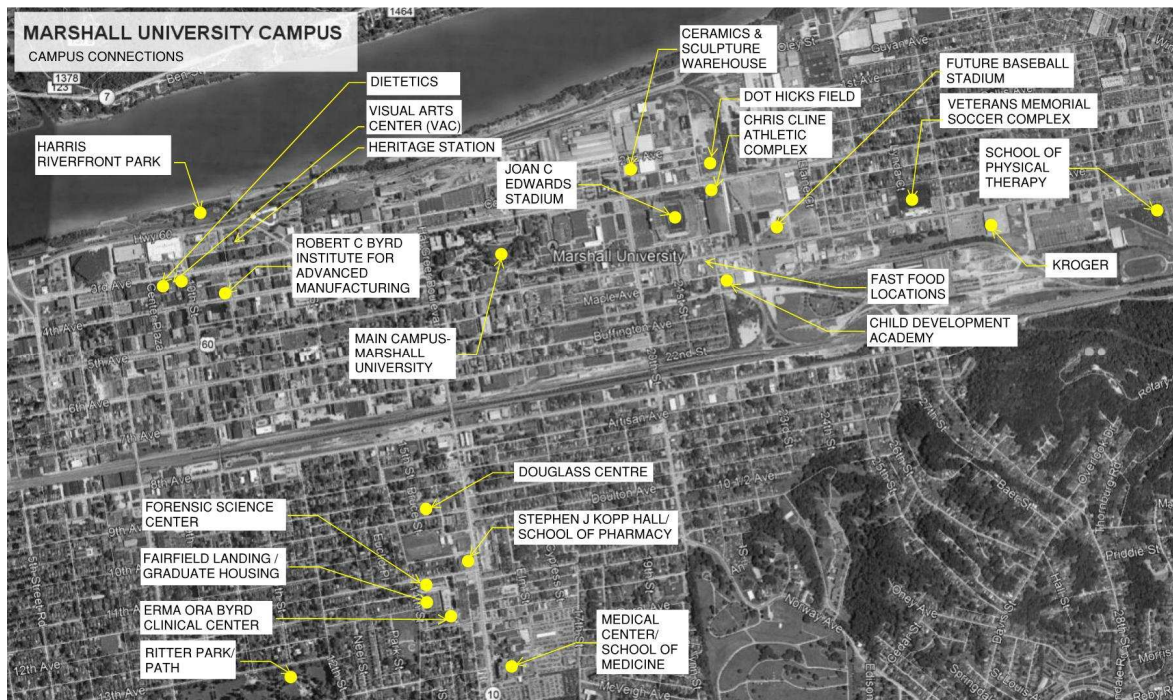


Figure 1. Campus Connections Map

There is a Complete Streets and Corridor Management Plan study currently underway by the WV Division of Highways that includes adapting Hal Greer Boulevard to accommodate bicycles between Cabell Huntington Hospital/ Joan C. Edwards School of Medicine and Marshall's main campus. For the purposes of this study, ETA will defer to the WV DOH study for how to address bicycle facilities on Hal Greer Boulevard itself. This report will focus on recommendations for secondary bicycle routes and facilities for specific buildings on the Fairfield campus.

2.3 Main Campus

While the Marshall University main campus was originally contained within the area bordered by Hal Greer Boulevard and 20th Street to the east and west, and Third and Fifth Avenues to the north and south, it has extended beyond that traditional boundary in recent years. It now extends past 20th Street towards the Joan C. Edwards Stadium and other sports arenas such as the newly announced baseball stadium and Veterans Memorial Soccer Complex. Figure 2 shows that the campus also has grown to include Third and Fifth Avenues, and 20th Street, making them interior campus roadways. Third and Fifth Avenues are also one-way sections of US Route 60 as they pass through campus.



Figure 2. Marshall University Main Campus & Associated Development

Since Fifth and Third Avenues now run through the main campus of Marshall, there is an opportunity to develop a “right-sized”, people-centric space that responds to the change in character of the avenues. Given Marshall’s growing population which now corresponds to 38% of Huntington’s population, as well as the way the campus has expanded throughout time to envelop these streets as part of campus, it is important to balance the needs of pedestrian safety, safe alternate modes of transportation, stormwater and utility infrastructure, and traffic along these routes.

2.4 Bicycle infrastructure

Bicycle Facilities

Currently there is very little dedicated bicycle infrastructure in Huntington or on Marshall’s campus. There are painted bicycle lanes on the “Old Main Corridor” of Fourth Avenue from 8th Street to campus at 16th Street, and there are ‘sharrows’ painted on 10th Street from Ritter Park to Veteran’s Memorial Boulevard, but there are no separate cycle tracks downtown. ‘Sharrows’ are road markings that indicate that a road is intended to be shared by motor vehicles and bicycles. Sharrows are more of an awareness campaign than an actual road designation, such as a bicycle lane, since by law, bicycles are supposed to ride on roads with motor traffic instead of on sidewalks with pedestrians.

Regardless of the traffic laws, on campus, one often sees cyclists using the existing sidewalks rather than riding with the high speed traffic on Third and Fifth Avenues.



Image 1. Fifth Ave Bicycle on Sidewalk

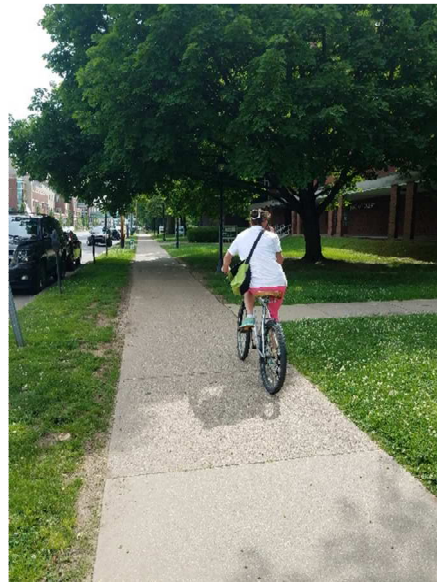


Image 2. Third Ave Bicycle on Sidewalk

Paul Ambrose Trail for Health

“The Cabell-Wayne Paul Ambrose Trail for Health (PATH) is a growing bicycle and pedestrian trail system providing free, healthy recreational and alternative transportation opportunities for the City of Huntington and surrounding areas.” (Per RTI’s PATH Master Plan 2016.)

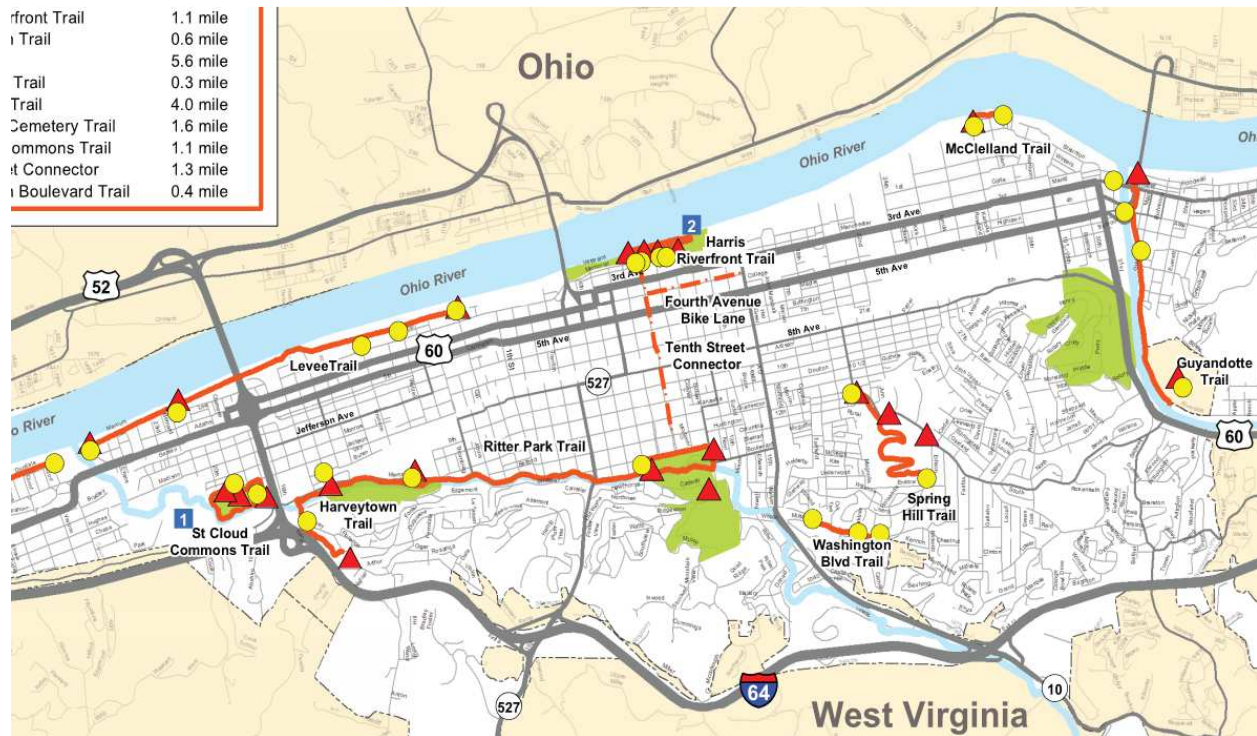


Figure 3. PATH Existing Conditions (Per PATH Master Plan 2016)

One of the destinations noted by respondents of the survey was PATH, and new linkages between the built portions of PATH can only help provide more exercise opportunities for Huntington residents.

Rolling Thunder Bike Share

Marshall University established the Rolling Thunder Bike Share Program in partnership with Gotcha Bike in 2018. The program is an excellent existing resource on campus, with hub locations at the MU Recreation Center, Drinko Library, and Harless Apartments. Another location is planned for Pullman Square across from the Visual Arts Center downtown. The most utilized hub is the MU Recreation Center, with over 4,600 rentals per month.

The evidence from less than a year of the Rolling Thunder program indicates there is enthusiasm for using bicycles as a transportation option. Though the Marshall University program is a small program in comparison to others, it has a very high use rate, with 1,621 active users, and over 9,800 trips measuring 12,977 miles in less than 7 months. The average trip distance is between 1.3-1.5 miles.

SYSTEM STATS - 10/19/18 - 5/8/19

WEEKDAY TRIP AVERAGES:

Trips/day: 53.7
Trip duration: 24:15
Trip distance: 1.3 miles

WEEKEND TRIP AVERAGES:

Trips/day: 71.6
Trip duration: 26:56
Trip distance: 1.5 miles

TOTAL TRIPS	TOTAL DISTANCE	TOTAL HOURS USED	TOTAL RIDERS	AVG. TRIPS/BIKE/DAY
9801	12,977 mi	4056	1487	1.62

Figure 4.

Rolling Thunder Bikeshare Statistics (Courtesy of Gotcha Bike)



Figure 5. Rolling Thunder Bikeshare Heat Map (Courtesy of Gotcha Bikes)

The heat map reinforces the survey data by showing heavy use of Third and Fifth Avenues, including clear paths to Kroger, downtown/ Pullman Square, the Highlawn neighborhood, West End/ Old Central City, and Ritter Park.



Bicycle Racks

According to the Marshall University Sustainability Department, the main campus and some satellite locations do have existing bicycle racks outside many buildings, though most of it is Class 2, or short-term, unprotected bicycle parking.

2.5 Safety

The existing capacity of Third and Fifth Avenues is much wider than needed to accommodate the current volume of traffic (as referenced in Baker's 2013 MU Campus Master Plan, Transportation Study). The current lane capacity exceeds the capacity of I-64 near Huntington. The number of lanes and width of the lanes encourages vehicles to exceed posted speed limits. At campus, both Third and Fifth have four lanes of one-way traffic, and Third Avenue also has parallel parking on both sides for much of its length through campus.

The rights-of-way for these avenues are also very wide. Fifth Avenue has approximately 92 feet of ROW, with approximately 41'-6" of pavement divided into four vehicle lanes. Third Avenue also has a 92 feet ROW with approximately 68'-0" of pavement divided into four vehicle lanes and parking. The width of these avenues proves challenging for pedestrian crossings and the speed of traffic is a deterrent for cyclists. However, this excess capacity and the existing wide rights-of-way also offer an opportunity to devote part of the width of these avenues to other modes of transportation than cars- such as bikes and pedestrians as part of a Complete Streets design.

The speed limit within the city limits of Huntington defaults to 25 miles per hour if not posted, and throughout the Central Business District the speed limit is almost universally posted at 25 miles an hour. However, the speed limit along Fifth Avenue from 12th Street through to 31st Street is 35 mph, with timed traffic signals to allow for free flow traffic moving at 35 mph. Likewise, the speed limit along most of Third Avenue from 28th Street to 13th Street is 35 mph, though the signals are not synchronized along the length.

The color-coded map of speed limits (Figure 6) shows how unique these 35 mph speed limit postings are for downtown Huntington, particularly considering that those sections run directly through the heart of the Marshall University campus.



Figure 6. Current Speed Limits in Central Business District and Main Campus

At Third Avenue, two pedestrian bridges and a mid-block cross walk with pedestrian activated signal have been installed to facilitate safer crossing. Fifth Avenue has no such provisions other than signalized crosswalks, and there have been students hit and horribly injured crossing Fifth Avenue at John Marshall Drive. (Mendez, Josephine. "Marshall Student Struck by Car in Campus Crosswalk." The Herald-Dispatch, 20, October 2016.) In addition to pedestrian accidents, there have been several other major vehicular accidents in the past few years near campus. ("Car Flips in 5th Avenue Crash near Marshall." The Herald-Dispatch, 17, April, 2017.) and ("Huntington Police Respond to Two-car Accident." Wchstv.com, 25 April 2018.)



Image 3. Third Avenue Pedestrian Bridges



Image 4. Third Ave. Mid-Block Pedestrian Crossing

2.6 Street Flooding

While analyzing the area around Marshall University for implementation of new bicycle facilities, other localized issues that could be addressed with a comprehensive design plan are evident. There are several areas along Third Avenue and Fifth Avenue, particularly near the 20th Street intersection, where street flooding routinely occurs during severe rain events.

The railroad track underpasses within the study area (at 20th Street and Hal Greer Boulevard) also flood during severe rain events.

2.7 Transit

The Tri-state Transit Authority (TTA) operates the bus system in Huntington. TTA operates as a flag stop system. Users can flag the bus at any point on the route and ask to be dropped off at any time. Buses pull to the right to onload/offload passengers. TTA offers bicycle racks on the front of many of its buses to facilitate multi-modal transit options and has bike racks at many of its bus stops.

3.0 Information Gathering

To gather information relevant to the project, Edward Tucker Architects (ETA) convened a steering committee, coordinated public input, conducted a survey of students, faculty and staff, reviewed the bicycle share information available from Rolling Thunder, reviewed prior studies and reports based in the project area, and reviewed relevant reference standards and documents. ETA also worked with CDM Smith to analyze existing traffic data relative to the recommendations developed in the study.

3.1 Steering Committee

The project steering committee consisted of the following individuals:

- Frederick Bartolovic, Associate Professor of Art at Marshall University
- Chris Chiles, Executive Director of KYOVA Interstate Planning Commission
- Brandi Jacobs-Jones, Chief of Staff and Vice President of Operations at Marshall University
- Perry Keller, WV Department of Transportation
- Saleem Salameh, Deputy Executive Director / Technical Study Director, KYOVA Interstate Planning Commission
- Breanna Shell, Planning Director, City of Huntington
- Shae Strait, Planner, City of Huntington
- Bethany Wild, Transportation Planner / GIS Specialist, KYOVA Interstate Planning Commission

The steering committee met on December 14, 2019 to establish goals and objectives for the project.

3.2 Public Involvement

Stakeholder meetings were held on April 16, 2019 and May 14, 2019. During these meetings, the team spoke with faculty, staff, and students, as well as representatives from the MU Physical Plant, MU Sustainability Department, MU Recreation Center, and others.

Stakeholders reinforced the need for connections to residential and business portions of Huntington as well as the satellite campus facilities identified by the study. Safety concerns were expressed relative to the high speed limit at campus, as well as the lack of safe and secure bicycle parking at destinations. Items which were identified as specific concerns included uneducated drivers, who thought bicycles should ride on sidewalks rather than on the roads; uneducated cyclists who bicycle on sidewalks because they feel unsafe on the roads, and speed limits and lane sizes that are not conducive to safe bicycling.

Specific suggestions were to have dedicated cycle tracks, as well as more signage/ maps which emphasize the bicycle infrastructure and routes. It also was noted that if people see others commuting by bicycle, they are more likely to consider riding a bicycle themselves.

ETA produced a survey which was distributed to the Marshall University community, including students, faculty, administration, and other people on campus in April and May of 2019. This survey included questions about cycling, safety concerns, destinations, and other information to help develop the recommendations portion of the report. (Reference Appendix 6.1 for detailed survey responses.)

Q20 What concerns do you have about riding a bike in Huntington:

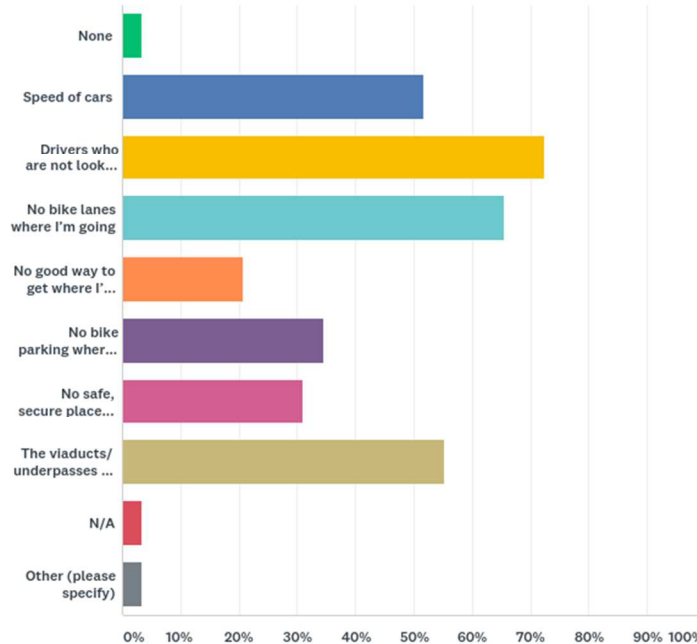


Figure 7. Survey Response Analysis – MU Bicycle Plan Survey 2019

According to the survey, currently many people commute to satellite campus locations by vehicle simply because they do not feel safe riding a bicycle on the roads they have to navigate. Third Avenue (towards the VAC and Ceramics Warehouse) and Fifth Avenue (towards the School of Physical Therapy) are part of Route 60 in this location, and are four lanes of traffic each way, with 35 mph speed limits. Even though the VAC is only 1.2 miles from campus and the School of Physical Therapy is only 1.8 from campus, cycling on these roads is too challenging for most. However, the evidence from the Rolling Thunder Bike Share reports, which indicates the average length of each trip to be between 1.3-1.5 miles, shows these distances should be considered bikeable if safe cycling facilities existed. This length of ride matches with national statistics.

The most popular non-campus satellite locations identified by the survey were Ritter Park (23%) and downtown Huntington (10%), though people also stated there were closer locations they would like to bicycle to that did not feel safe. Within the city, where a large percentage of the trips are less than two miles in length, having safe bicycling facilities can serve to alleviate congestion and parking struggles.

Access to convenient vehicle parking is another challenge that further lengthens trips to the satellite campus locations. Because these distances are short and direct, a visible and safe bikeable route should encourage more people to commute via bicycle. People who do use bicycles to commute the distance (sometimes on sidewalks or through alleys) reported in stakeholder meetings that it is so short a distance that it is actually quicker to bicycle than to walk to a vehicle, drive to the location, park the car, and walk to the building.

In the stakeholder meetings with the Marshall Physical Plant, it was noted that the curb along campus on Third Avenue is in poor condition and has the added problem of a raised landscape which hits doors of parked vehicles. (Image 5) From field studies and discussion with faculty, it is evident this is also a location which experiences frequent flooding. Marshall Physical Plant and MU Police Department indicated that the area is difficult to maintain. They would be open to reconfiguring the road layout and reducing or eliminating the parallel parking along the south side of the street.



Image 5. Third Avenue Landscape Strip at Main Campus

3.3 Further Analysis

ETA analyzed existing conditions around campus by using the Cabell County Assessor GIS online tools and field visits. Using the online GIS tools, ETA was able to better define the Marshall University “Main Campus” which illustrated that both Third Avenue and Fifth Avenues actually run *through* the entire campus rather than around campus. City speed limits in the project area were also reviewed in the field since concerns about the 35 mph speed limits on Third and Fifth Avenue had been raised.

There are some West Virginia Policies which also inform the study. In 2013, the Complete Streets Act was passed (17-4A-1.Complete Streets). The Complete Streets Act authorizes the WV DOH “to create a safe, comprehensive, integrated, and connected network to accommodate all users in a manner that is suitable to the rural, suburban, or urban context.” Specifically, Complete Streets are designed to provide safe access for all modes of transportation- including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. The goal is to make it easy and safe to choose alternative methods of travel and to not prioritize motorized transportation over other options.

The Best Practice of designing Complete Streets protects the safety of all the people who use the streets and emphasizes design that does not prioritize one mode of traffic over another.

3.4 Bike Share Data

ETA reviewed summary data from the Rolling Thunder Bike Share program to determine average length of ride, as well as usage of existing hub locations. Rolling Thunder Bike Share reports indicate the average length of each trip to be between 1.3-1.5 mile, and most rides originated at the Marshall Rec Center, which is closest to the grocery store and fast food locations on the east end of campus.

3.5 Related Planning Projects

2013 Marshall University Campus Master Plan

The 2013 Marshall University Transportation Study, completed by Michael Baker Jr., Inc., which was part of the 2013 Marshall University Campus Master Plan, addresses bicycle infrastructure briefly. It provided recommended cross sections for Third and Fifth Avenue, of which Alternative B (Figure 8) was identified as the preferred option during public meetings.

Specifically, Baker also noted that respondents to the Virtual Town Hall site indicated a preference for separate bicycle facilities rather than riding with traffic on Third and Fifth Avenues, a need for safer pedestrian crossings along Third and Fifth, and a need for adequate bicycle parking. (p18, Baker)

This study also discussed the potential of reducing the existing roadway lanes based on analysis of existing Level of Service results. Level of Service (LOS) is a qualitative measure which analyzes the quality of motor vehicle traffic service on roadways and at intersections based on performance measures such as speed, congestion, and vehicle density. WV DOH's design standard for motorized vehicles is LOS C. Given the existing LOS results for the campus intersections reviewed during this study, all were operating at LOS A or B, which indicates there is excess capacity for vehicles, at the expense of other modes of transportations. Pedestrians must cross wide roads with short signals, and bicyclists must deal with vehicles at higher speeds than is comfortable.

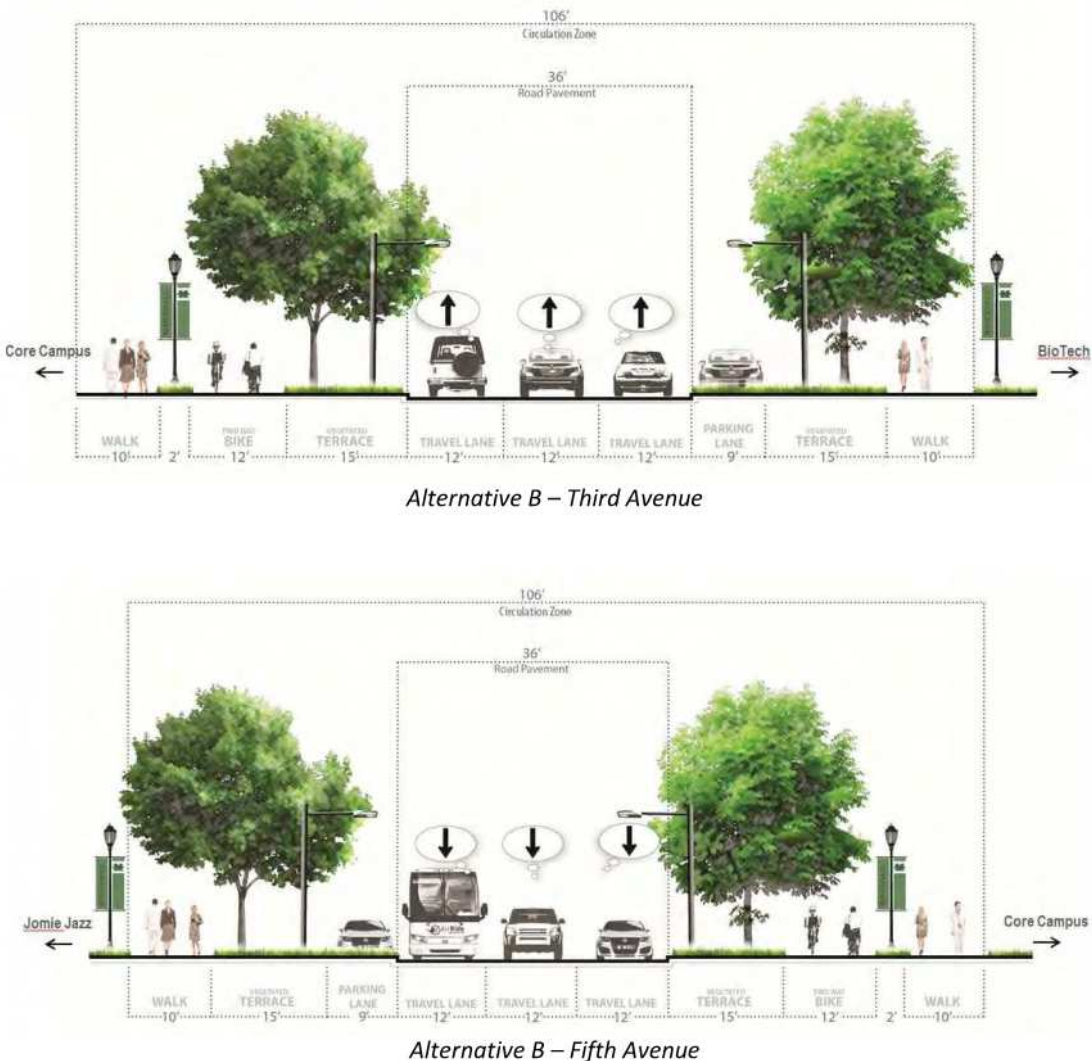


Figure 8. Preferred Alternative for Third and Fifth Avenues from Baker's 2013 MU Master Plan

Huntington Street Flooding Mitigation Plan

While the KYOVA Huntington Street Flooding Mitigation Plan by AECOM mostly focuses on stormwater reduction, bicycle traffic is addressed throughout the report.

AECOM noted they were directed not to explore changing Third and Fifth Avenues to two-way traffic for their study. However, they also saw the potential for using the existing extra capacity of the roadways for bicycle infrastructure.

This study recommends a major road diet for Third and Fifth Avenues to redesign them as Complete Streets, incorporating transportation for motorized and non-motorized modes, as well as a reduction of impervious pavement to allow for stormwater alleviation and pedestrian islands to reduce crossing distances. The AECOM recommendation included three lanes of travel with one lane of parking on Third

Avenue by Marshall's Main Campus, and two lanes of travel on Fifth Avenue by Main Campus, expanding to three lanes as it transitions into the commercial area past 20th Street. Parallel parking is added on Fifth Avenue in their recommendation.

What this study does not take fully into account is the current location of trees and power poles, including the major electrical line down the south side of Fifth Avenue. In addition, the bicycle infrastructure is recommended to be on the roadway, with no physical separation from the travel lanes other than bollards or similar barriers.

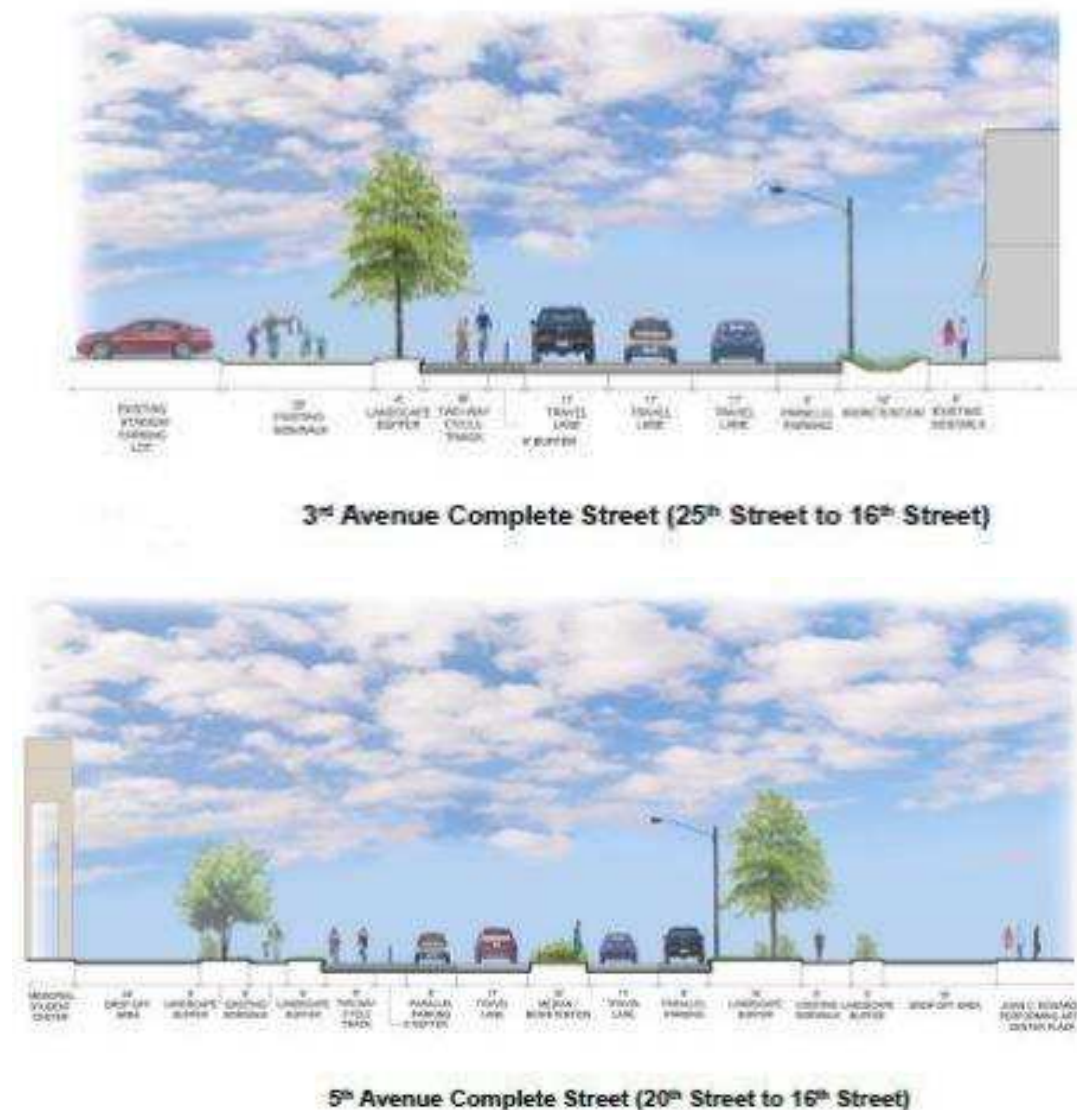


Figure 9. Preferred Alternative for Third and Fifth Avenues from AECOM's 2017 Huntington Street Flooding Mitigation Plan

PATH Masterplan 2016

The Cabell-Wayne Paul Ambrose Trail for Health Master Plan 2016, a multi-modal, non-motorized trail system throughout Huntington, had some interesting results from the Online Survey employed, which indicated people would be more likely to bicycle if more bicycle facilities were provided.

Question 7- Opinion on Improved Facilities

78% of people would use active transportation (walk or bike) if the current system were improved with safe connections. Only 5% said they would not use active transportation.

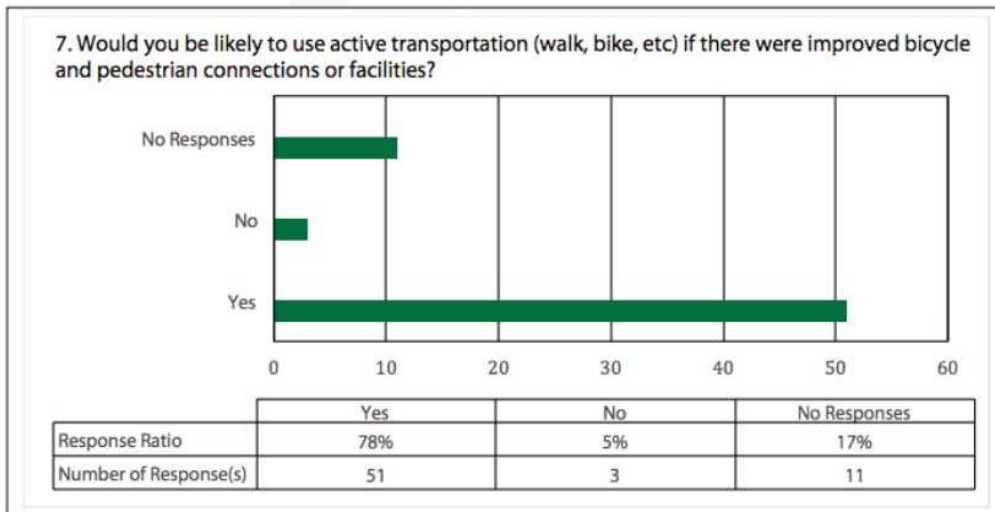
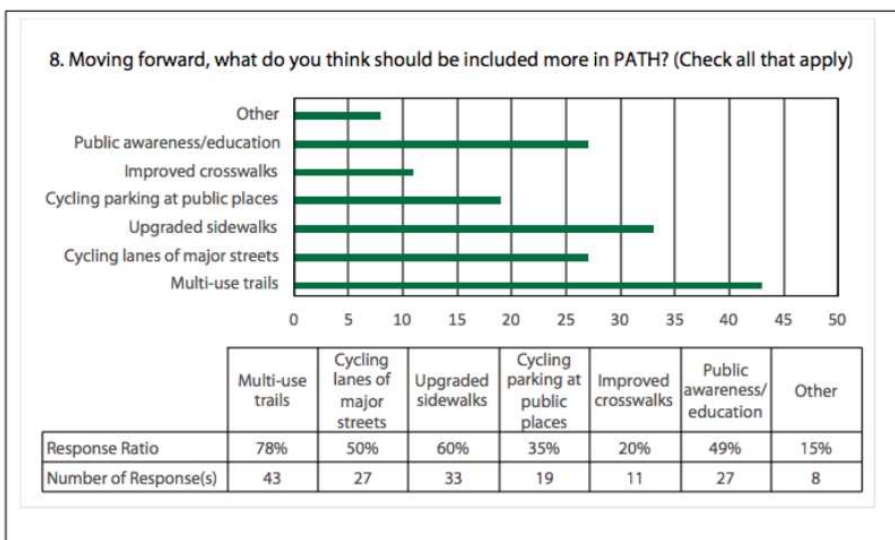


Figure 10. PATH Master Plan Survey Response

Question 8- Opinion on Future Needs

78% of people indicated the future need for multi-use trails, 60% noted the need for upgraded sidewalks, and 20% indicated the need for improved crosswalks. 50% of people want cycling lanes on major streets.



19 Figure

Figure 11. PATH Master Plan Survey Response

3.6 Reference Documents

AASHTO Guide for the Development of Bicycle Facilities 2012

Marshall University Campus Master Plan – Transportation Study by Baker Corp., 2013

City of Huntington Street Flooding Mitigation Plan by AECOM, 2017

Copenhagenize – The Definitive Guide to Global Bicycle Urbanism by Mikael Colville-Andersen, 2018

League of American Bicyclists Benchmarking Report – Bicycling & Walking in the United States, 2018

Marshall’s Rolling Thunder Bike Share Statistics Report Summary, October 19, 2018-May 8, 2019

Lessons from Green Lanes, by the National Institute for Transportation & Communities at Portland State University, 2014

Paul Ambrose Trail for Health Master Plan by Rahall Transportation Institute, 2016

US DOT Bicycle / Pedestrian Safety Assessment – Paul Ambrose Trail for Health PATH, Huntington, 2015

WV DOT DOH Road Safety Audit Report for WV 10 from Cabell Huntington Hospital Entrance to Eighth Avenue, 2014

Hal Greer Boulevard Multimodal Study by Stantec, 2017

KYOVA Huntington Strategic Non-Motorized Connections Study by Kimley Horn, 2017

4.0 Goals and Strategy

4.1 Improve Safety for Cyclists

Create Dedicated Facilities for Cyclists

According to research, separated cycle tracks with buffers increase bicyclists’ comfort and safety, and encourage new riders. When protected bicycle lanes were installed, Alta Planning + Design, one of the top multi-modal transit planning firms in America, found that:

- Ridership increased by 55% in Chicago, on the Kinzie Street protected bike lane
 - Ridership increased by 40% in Washington DC
 - Ridership increased by 28.5% in New York City
 - 86% feel safe or very safe, compared to only 17% in traditional bike lanes
 - 49% consider driver behavior to be safer around protected bike lanes
- (From Alta Planning)

Evidence from other studies points to similar results. “Lessons From Green Lanes”, which was the first comprehensive study reviewing protected bicycle lanes, found that 60% of the respondents agreed with

the statement “I would be more likely to ride a bicycle if motor vehicles and bicycles were physically separated by a barrier.”

In addition, also from an Alta Planning + Design study, protected bicycle lanes have been found to have the added benefit of slowing traffic nearby.

- 75% of motorists exceeded the speed limit before, and only 20% after, in New York City
- Average motorist speed was 34 mph before, and only 27 mph after, in New York City
- 66% of motorists exceeded the speed limit before, only 26% after, in Washington DC
- Average motorist speed was 29 mph before, and only 22 mph after, in Washington DC

Given the safety challenges currently present for both pedestrians and cyclists on Third and Fifth Avenues, it is clear a separate dedicated cycle track would encourage bicycle ridership while slowing traffic.

When designing a cycle track separated from the road traffic, there are many barrier types which may be appropriate for separation. Studies have shown that bicycle lanes need physical protection from motorized traffic for cyclists to feel safe.

Some of the appropriate separations from traffic may include a parallel parking lane, planters, parking stops, a concrete barrier, curb separation, landscaped buffers/ medians, flexible delineators or bollards, solid bollards, a raised protected cycle track, and pedestrian safety islands. Some of these are more effective than others in making cyclists feel safer. Painted bicycle lanes are the least effective in terms of increasing bicyclists' comfort, as is evidenced by the pop-up actions in many cities to better define painted bicycle lanes with everything from solo cups and traffic cones to large plants in boxes.

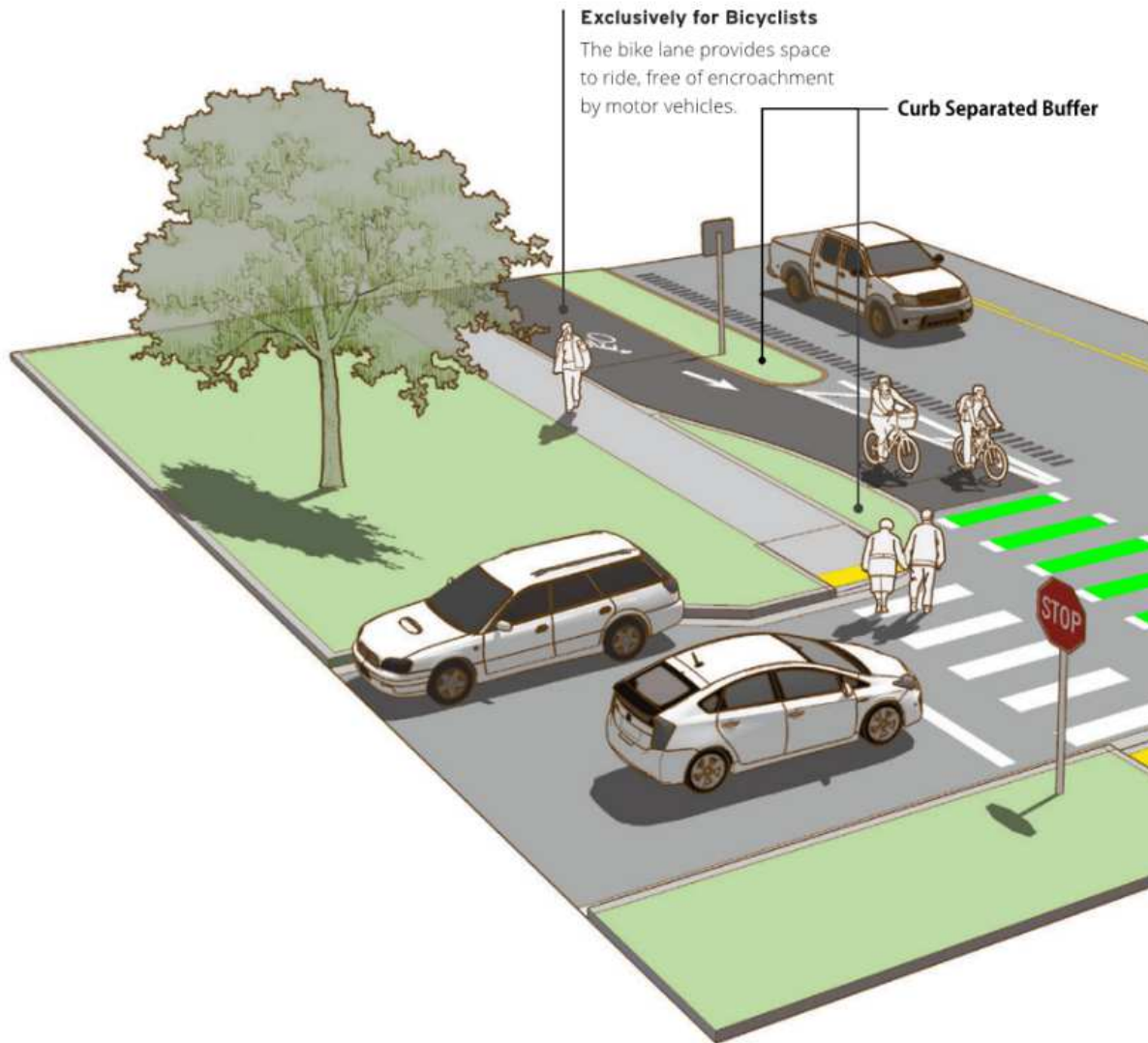


Figure 12. Bicycle Track with Buffer (AASHTO Guide for the Development of Bicycle Facilities 2012)

Bicyclists and pedestrians feel less safe around higher speed traffic. According to Copenhagenize, the more volume and higher speed of traffic, the more separation is needed between bicycle and motorized traffic. As the amount of annual average daily traffic goes up, and as speeds increase, a separate bicycle track, and then a separate bicycle track with a buffer is necessary. There are four basic options for bicycle traffic on roadways, which are shown in Figure 13.

- In a neighborhood setting, with slow traffic, bicycles can ride on the roadway mixed with cars.
- Painted bicycle lanes may be appropriate in a low speed areas.
- Separated bicycle tracks, with some sort of physical separation from the road, whether bollards or a curb, are better on roads with higher speeds and more lanes.

- Bicycle tracks with buffers are best in high volume and high-speed areas, since the cycle track is protected with a buffer from vehicular traffic.

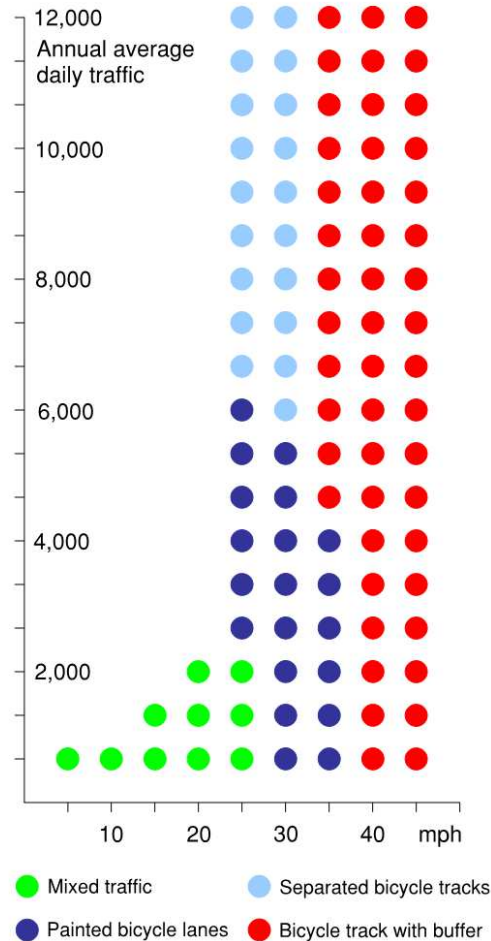


Figure 13. Infrastructure Type Based on Car Traffic Volume & Speed Limit for Cars, Copenhagenize

Right Size Streets & Calm Traffic

At the outset of the MU Bicycle Plan, the Steering Committee determined that there was a consensus to keep Third and Fifth Avenues as one-way traffic. However, the representative from DOH noted that road “diets” which included lane reduction and lane width reduction to 11’ were possible on Third and Fifth Avenues. (This was also confirmed through meetings with WV DOH during the MU Master Plan in 2013.)

Pedestrian studies have shown that in vehicle/ pedestrian accidents where the vehicle was travelling at a speed of 20 mph, there is less than a 3% chance of a fatality, whereas when the car speed increases to 35, the risk of pedestrian fatality increases to 30% (Figure 14). Likewise, injuries sustained in bicycle/

vehicle accidents increase with vehicular speed, so that cyclists are more likely to suffer fatal injuries on roads with higher speed traffic.

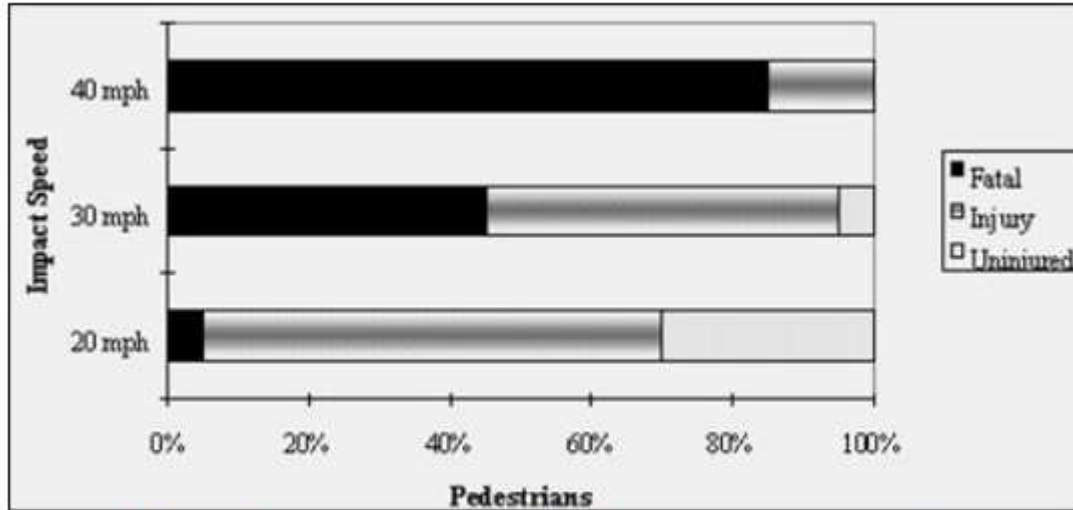


Figure 4: Pedestrian Injury Severity Based on Vehicle Speed.
 (Source: Traffic Advisory Unit, 1993).

Figure 14. Pedestrian Injury Severity Based on Vehicle Speed

CDM Smith performed a multimodal Level of Service (LOS) analysis using available data at Third and Fifth Avenues in the proximity of the Marshall Campus. They employed ARTPLAN software which is consistent with the TRB Highway Capacity Manual (HCM 2010). This software was chosen because it provides level of service results for automobile, bicycle and pedestrian mode simultaneously and uses readily available data. It allows for a “What-If” analysis of all modes by showing the results of changes to key inputs.

For this analysis, traffic volumes were calibrated to 2010 counts and cross referenced to WV DOH Traffic Data. The analysis shows both roadways currently operating at a LOS A for automobile, D for bicycle and B for pedestrians.

Another analysis of 3rd and 5th Avenues was run removing one lane of traffic, reducing the speed limit to 25 mph, and adding a bicycle lane. Roadway volumes and other inputs were kept the same. The LOS results were C for automobile, B for bicycle and B for pedestrians for both roadways. It should be noted that the Pedestrian LOS score improved under these circumstances, but not enough to achieve the LOS A threshold, which is quite difficult to achieve.

The input values chosen for the analysis were conservative to ensure that the results would reflect typical conditions during a typical peak hour on a typical weekday.

In cases where traffic volume data was available for multiple years, there was a decline in traffic volumes from 2010 to the present. A more detailed traffic analysis with new traffic count information would likely reflect these lower volumes and provide an even better automobile LOS.

These results provide additional evidence to support recommendations to reallocate the space of one roadway lane for a physically separated bicycle facility, with minimal impact to roadway traffic.

4.2 Improve Bicycle Parking & Support

Bicycle Parking

There are many physical infrastructure items which can help encourage bicycle commuting. The most obvious of these is safe and secure bicycle parking. No one will choose to commute by bicycle if they must worry about bicycles being stolen or parts of their bicycles being taken or damaged.

Bicycle parking needs vary depending on use. These bicycle parking uses have been defined as Class 1 parking and Class 2 parking. Class 2 is the bicycle parking most familiar to most people. It is located near restaurants, movie theaters, parks, and other destinations, and usually used just for a few hours while the cyclist is utilizing the facilities nearby. It includes bicycle racks exposed to weather.

Class 1 is also called long-term bicycle parking and is necessary in locations where bicycles will be parked for hours at a time. Locations defined as Class 1 parking include office buildings, elementary schools, libraries, etc. These long-term bicycle racks need weather protection. For the purposes of campus, parking racks near living areas such as residence halls should be Class 1, with weather protection. Bicycle racks near classroom buildings could be considered Class 2.

The Sustainability Department has a map showing existing bicycle racks, and there are many on campus, but some of these racks are less than ideal. Many of the existing bicycle racks on campus are the “wheelbender” type as shown in Image 6. These are not desirable for security since only the front wheel can be locked to the rack. Many modern bicycles have quick release wheels, and all a potential thief has to do is to flip a lever to release the front wheel to remove the frame. In addition, this sort of rack does not offer a second point of support for the bicycles, so that if one bicycle is pushed over, the entire rack of bicycles may fall over like dominoes, which bends the front wheel, giving the bicycle rack its derogatory name.



Image 6. “Wheelbender” bicycle racks

More desirable bicycle racks are the Sheffield rack or the U-rack, both of which allow the bicycle frame and wheels to be locked to the rack. They also offer support to the bicycle if someone accidentally knocks against them.



Image 7. U-type bicycle rack- Class 2 parking



Image 8. Sheffield Type Bicycle Rack- Class 1 parking, covered

In addition to the campus bicycle parking, there are bicycle racks at bus transit stops, and some Tri State Transit Authority buses have bicycle racks on the front that may be utilized by riders.



Image 9. Bicycle parking at a TTA bus stop

Tool stations

Unlike cars, bicycles are simple human-powered machines, and therefore are relatively easy to adjust or repair when something goes wrong. However, as any cyclist knows, sometimes you need a specific tool, or just a bit of air in a tire to get you to the local bicycle shop. Having an air pump/ tool station available can also boost bicycle commuting.

It is vital to have basic support tools for bicycle commuters. There are currently tool stations located at Huntington Cycle at 1010 10th Street as well as at Ritter Park and Pullman Square. These locations should be noted on a transportation map so bicycle commuters know where they can go to get air or adjust items on their bicycles.



Image 10. Tool Station

4.3 Improve Wayfinding Signage & Mapping

Wayfinding signage can confirm available bicycle routes to destinations, which can encourage bicycle commuting. Signage does not need to be expensive. It can even utilize existing sign posts, as shown in Image 11 where directional signage to a farmer's market was attached to an existing parking sign.



Image 11. Wayfinding Signage Attached to Existing Sign

Many locations around the United States and elsewhere are adopting wayfinding signage that promotes active transportation. By noting on street signs how far away a potential destination is, such signs can encourage people to bicycle or walk to their destination. This directional signage can relay how close destinations are by utilizing mileage or times, or sometimes both. Some examples appear in Images 12 and 13.



Image 12. Directional Signage



Image 13. Directional Signage

Signs such as these may be particularly encouraging when posted to the satellite campuses such as the Physical Therapy and Visual Arts Center, since each location is less than 2 miles away. Other signs can simply provide confirmation that you are on the correct route. An example of confirmation signage from Thomasville's "Move More" campaign is shown in Image 14.



Image 14. Confirmation Signage

4.4 Support Institutional Goals

Pedestrian Safety

The recommendations made in this study simultaneously address other issues which have been identified in the MU Masterplan and other studies. The same rightsizing of streets and traffic calming strategies needed to incorporate cycling infrastructure will increase pedestrian safety as well, which is needed for pedestrians crossing to access the central portion of campus. Reducing the number of lanes at Third and Fifth Avenues as well as Hal Greer Boulevard and 20th Street will reduce the crossing distance required by pedestrians. Lowering speed limits on Third and Fifth will also help with pedestrian safety. Providing a separate bicycle track will also clearly designate the existing sidewalks to accommodate pedestrians. Currently bicyclists often use the sidewalk as an informal bicycle path.

Stormwater Management

Currently both Third and Fifth Avenues have severe stormwater issues during and after storm events. Reducing pavement along Third and Fifth avenue by reducing the number of lanes and increasing permeable pavers and landscaping has the potential to help with stormwater mitigation. Though the recommendations in this plan do not mirror exactly the ones in AECOM's Street Flooding Mitigation Plan, this version utilizes the same number of paved traffic lanes and the same bicycle lane width, with less parking. This will even allow for more permeable landscaping to help with stormwater mitigation. This is a unique opportunity to concurrently implement the stormwater mitigation strategies in conjunction with providing bicycle infrastructure. A FHWA publication, Incorporating On-Road Bicycle Networks into Resurfacing Projects, details how planning and implementing sewer work while simultaneously creating bicycle lanes can realize cost savings for both projects.



Image 15. Flooding on Fifth Avenue

Promote Campus Identity and Sense of Place

Marshall University's President, Dr. Jerry Gilbert, is rightfully proud of BuzzFeed's designation of Marshall as the most attractive campus in West Virginia as part of their online article "The Most Beautiful College Campus In Every Single State." A new plan for Third and Fifth Avenues that helps connect the campus buildings located on both sides of Third and Fifth between 20th Street and Hal Greer Boulevard could create an entrance to campus and a feeling of cohesiveness without having parts of campus separated by high speed traffic lanes.

As Third and Fifth Avenues are developed, it will be important to be sensitive to the context and vision of the local community and University. There are many options for the location of the cycletrack, or separation from vehicular traffic and the eventual design will need to be sensitive to the campus context as well as local traffic patterns. Rightsizing will improve safety and encourage walking and cycling.

Promote Healthy Lifestyles

A further benefit of providing protected bicycle tracks is the health benefits it will bestow upon the University community as more people choose to cycle or walk. Having a bikeway available for commuting means physical activity can be built into daily living and provide health benefits at no extra cost. The Rolling Thunder System Stats report that over 500,000 calories have been burned, and over 11,000 pounds of carbon has been reduced. There is also the future potential for Marshall University to lower major medical insurance costs for Faculty and Staff if the Public Employees Insurance Agency (PEIA) revisits the incentive programs such as GO365.

Student Recruitment and Retention

Huntington is unique among West Virginia college towns due to the flat topography around campus. This topography allows Huntington to offer an extensive network of flat cycling opportunities that would be unique to Marshall University compared to competing institutions in West Virginia.

5.0 Recommendations and Implementation (Figure 15)

5.1 Design Recommendations for Main Campus (Figure 16)

Speed Limit Reduction

It is evident from the survey results and the anecdotal evidence presented in stakeholders' meetings, the biggest concern with cycling on the streets around campus is safety, particularly related to the speed of vehicles on Fifth and Third Avenues. The raised speed limit is also a safety issue for pedestrians in the study area, and probably contributed to the motor accidents cited earlier in the 2.5 Safety section of the Existing Conditions Analysis. From Figure 4, it is clear how atypical the 35 mph speed limit is for the downtown area, especially since it increases near campus where there are more pedestrians crossing.

Considering the high number of accidents, high volume of pedestrian crossings in the campus area, the standardization of the rest of the downtown district, and the fact Route 60 is 25 mph in other in-town locations, the current speed limit of 35 mph should be reconsidered. While 35 mph may be beneficial for free flow vehicular traffic flow in and out of the downtown area, it creates a serious safety hazard for pedestrians and cyclists within the university campus district. The recommendation is to lower the speed limits from 35 mph to 25 mph on both Third and Fifth Avenues between 10th Street and 31st Street.

Dedicated Bicycle Facilities

The excess capacity of Third and Fifth Avenues and other streets around campus is sufficient to create a safe and separate cycle track apart from the vehicular traffic. Having separate spaces for pedestrians, bicycles, and vehicles on the Third and Fifth Avenue right of ways will allow for the creation of a Complete Street and will better serve all modes of transportation around campus. Given the speeds and number of lanes on Third and Fifth Avenues, as well as the street flooding during storm events, it is recommended to create a raised separate cycle track at the sidewalk level, with a landscaped buffer between the cycle track and the road.

ETA recommends one-way, protected cycle tracks on both Fifth and Third Avenues, in the same direction as traffic, which aligns with AASHTO recommendations. Given the one-way vehicular traffic at Third and Fifth Avenues, the cycle track could be placed on either side of the street. It may make sense to locate the cycle track on the right side, with slower traffic. However, there are other considerations. There are bus routes along both sides of campus, on Third and Fifth, with a flag stop system which picks up anywhere along the route, when they are waved down by commuters. Also, there is heavy industry to the north of Commerce Avenue, which means large trucks come through town, either by Route 60 or under the viaducts, then turn left onto Third Avenue, then take right turns to access industrial sites such as Steel of West Virginia which are toward the river.

The Central Receiving warehouse for Marshall University is located north of Third Avenue near the Ceramics Warehouse, and receives large truck deliveries. These main routes of traffic are shown with red curbcut markings in the diagram (Figure 16) Also visible as a dashed red line is the bus route. In comparison, the curb cuts on the campus side are primarily limited to small parking areas (shown in yellow), and while these areas are used for deliveries, it is not on the same scale as to the north of Third Avenue.



Image 16. Bus stop across from Main Campus

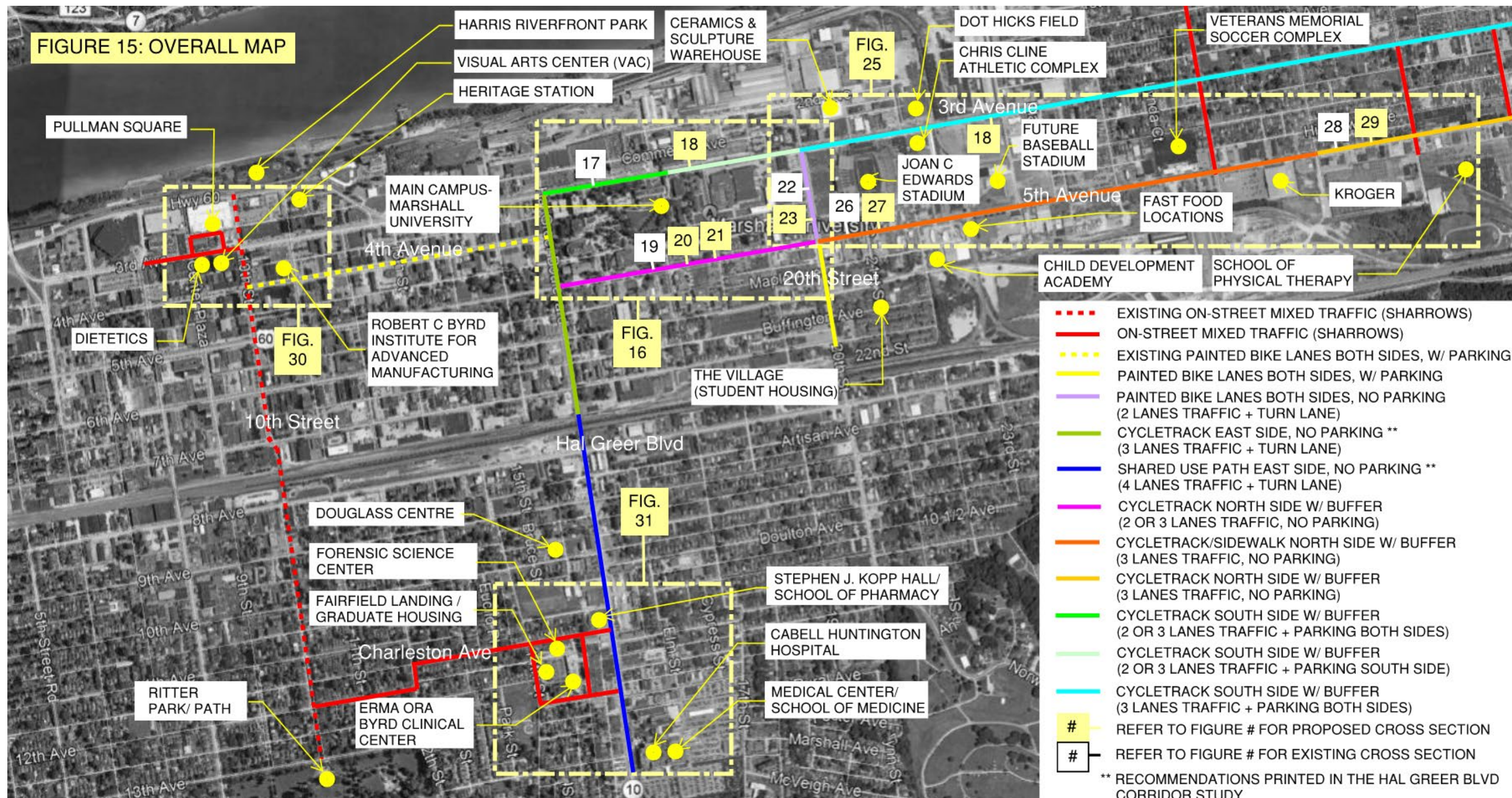


Figure 15. Overall Map of Existing Bicycle Facilities and Proposed Recommendations

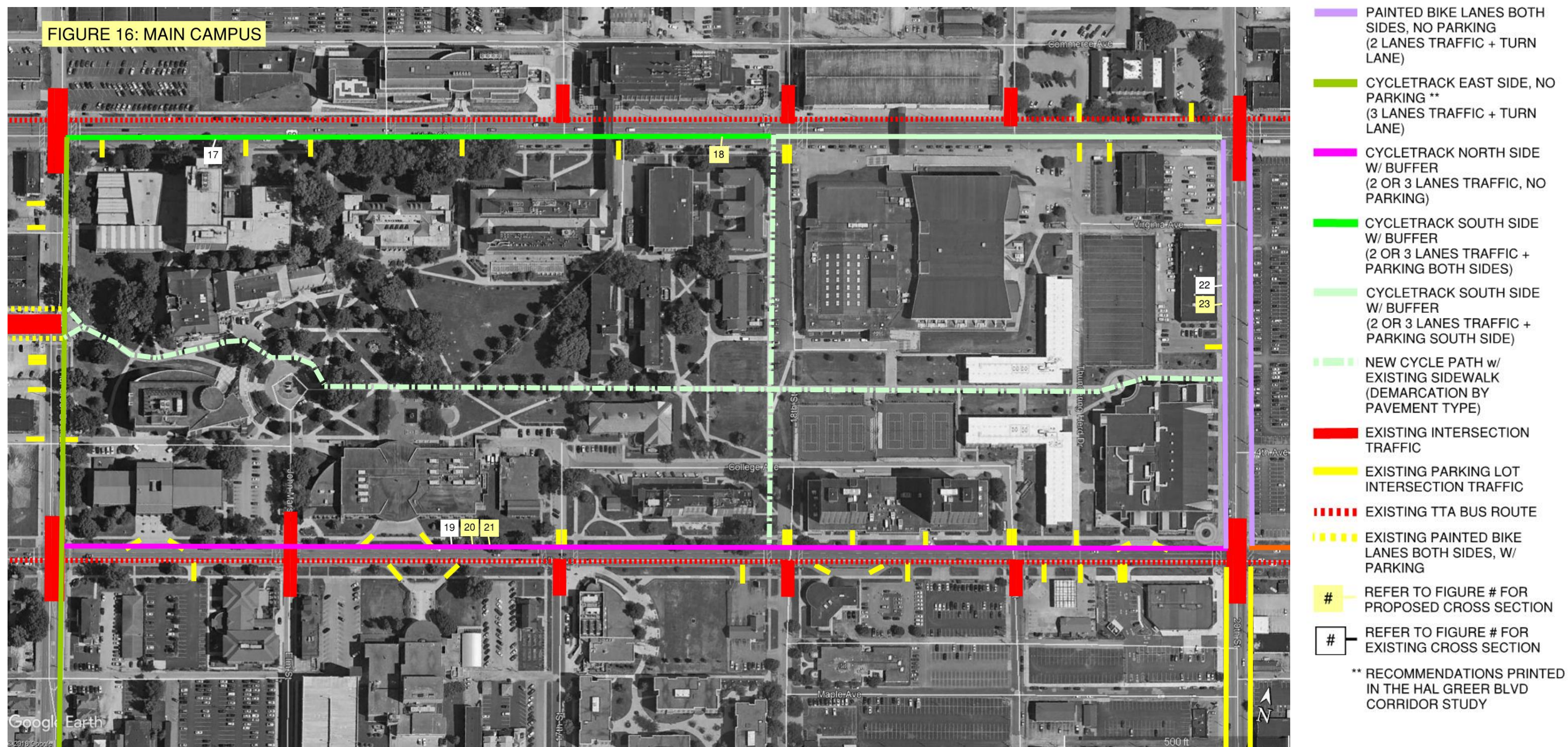


Figure 16. Enlarged Plan of Main Campus with Design Recommendations

AASHTO 2012 notes that bicycle lanes may be more appropriate on the left side of one-way streets to avoid conflict with bus stops, and avoid the “leapfrogging” which can sometimes happen with bicycle and bus traffic. Given these constraints, ETA recommends the bicycle track on the south side of Third Avenue, towards campus.

On Third Avenue, ETA recommends two or three lanes of traffic by campus (as supported by a future traffic study), with a separated cycletrack towards campus, and parallel parking on one or both sides (Figure 18). At crosswalks, the sidewalk should extend out to the edge of the parallel parking lane to make the crossing distance shorter for pedestrians (Figure 12.)

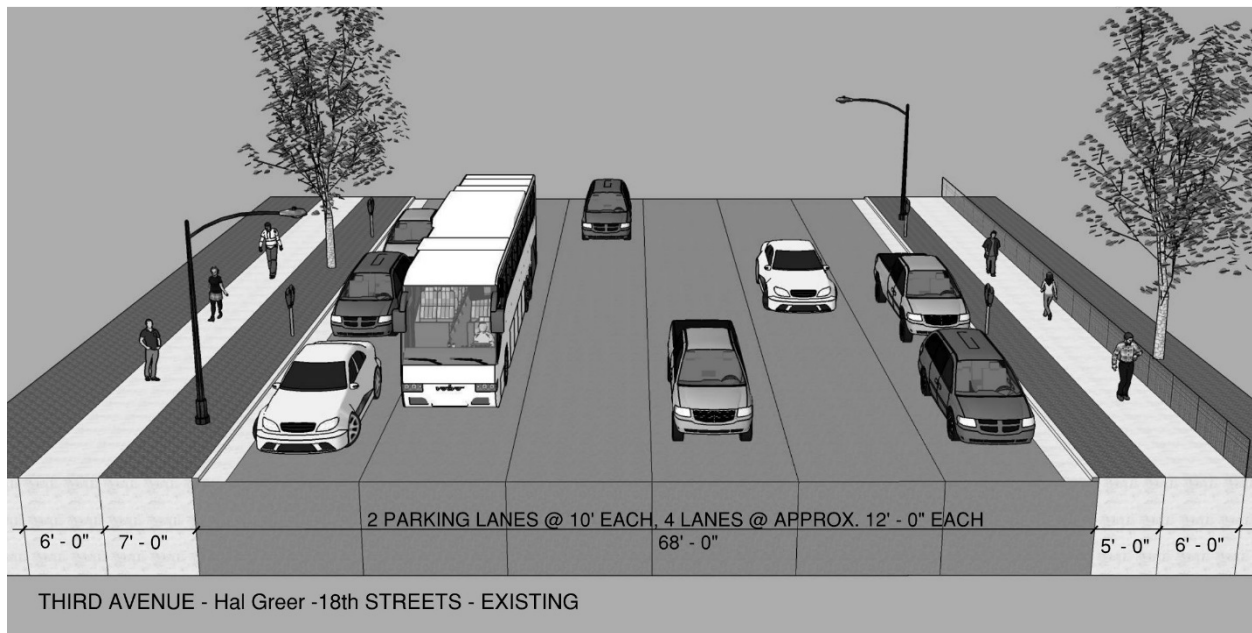


Figure 17. Existing Cross Section at Third Avenue between Hal Greer Blvd and 20th St.

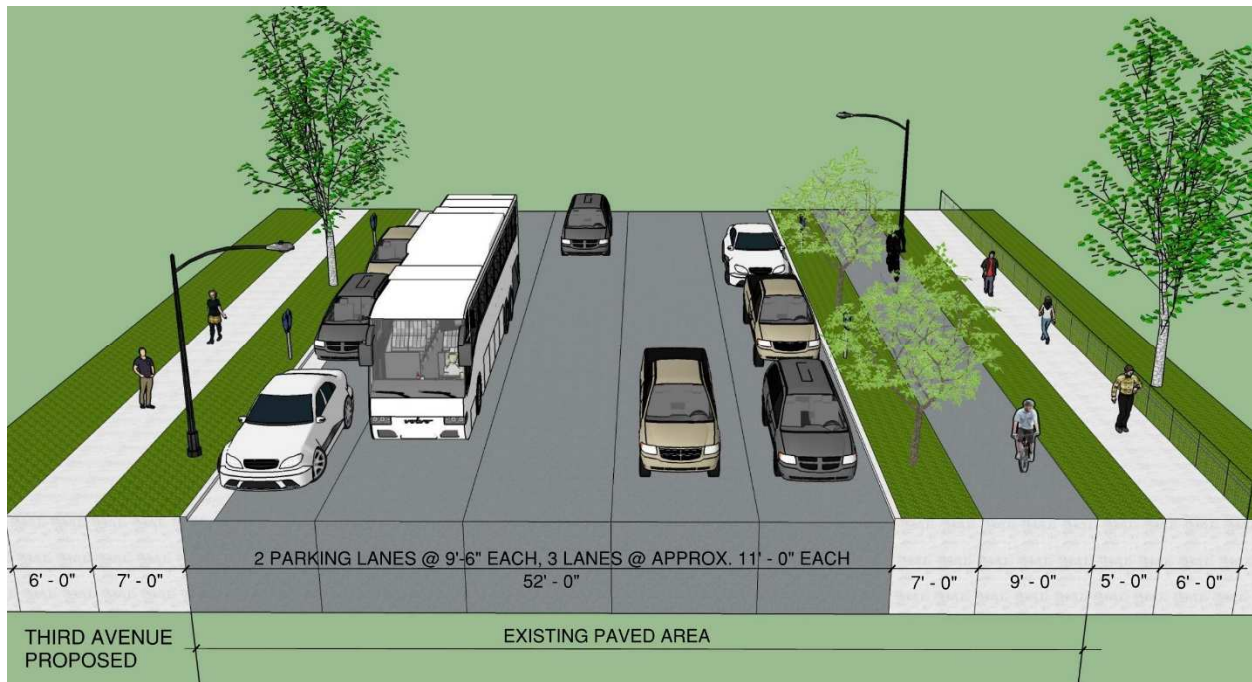


Figure 18. Recommended Cross Section at Third Avenue between Hal Greer and 20th St. (to 31st St.)

Though there is not the heavy industrial traffic at Fifth Avenue compared to Third Avenue, there are more through-roads on the south side and only small parking areas and drop offs in the central portion of campus. There is also a bus route along Fifth Avenue, picking up on the right side of the road. Depending on the results of the future traffic study, ETA recommends two or three lanes of traffic by campus, with the cycle track to the north side of the road, towards the central block of campus. (Figure 16) Some of the drop-off areas located at the buildings may need to be altered to reduce the crossings and breaks in the cycle track.

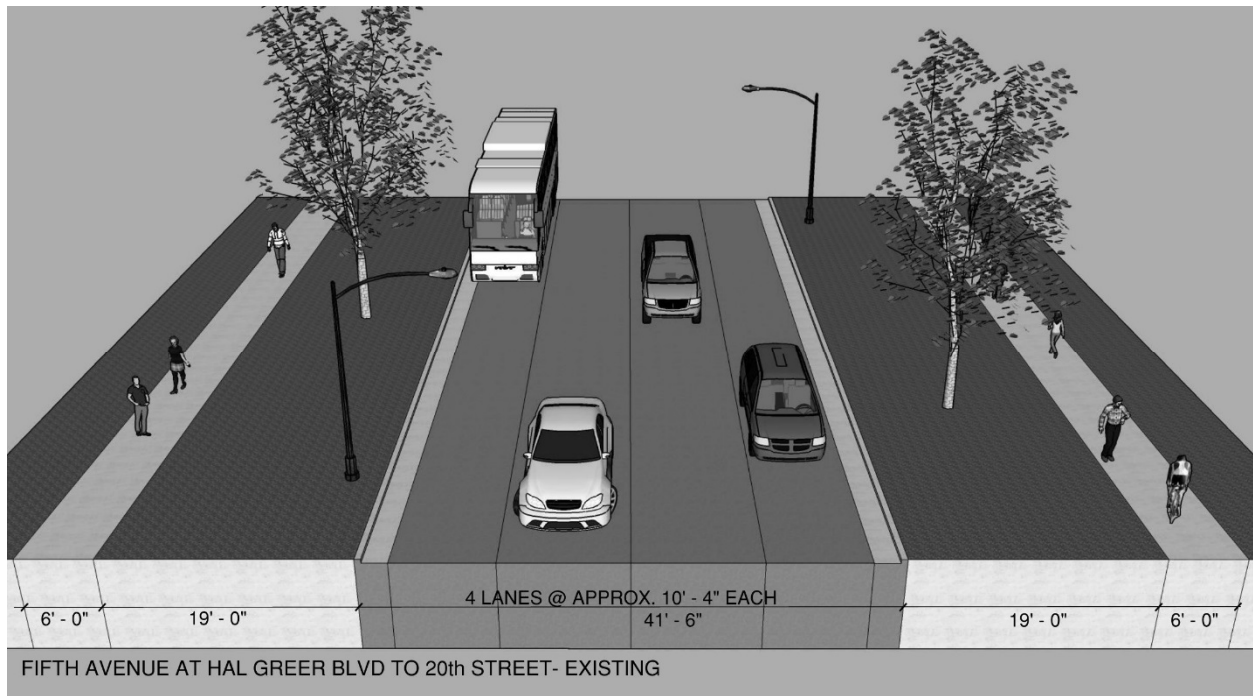


Figure 19. Existing Cross Section at Fifth Avenue between Hal Greer Blvd and 20th St.

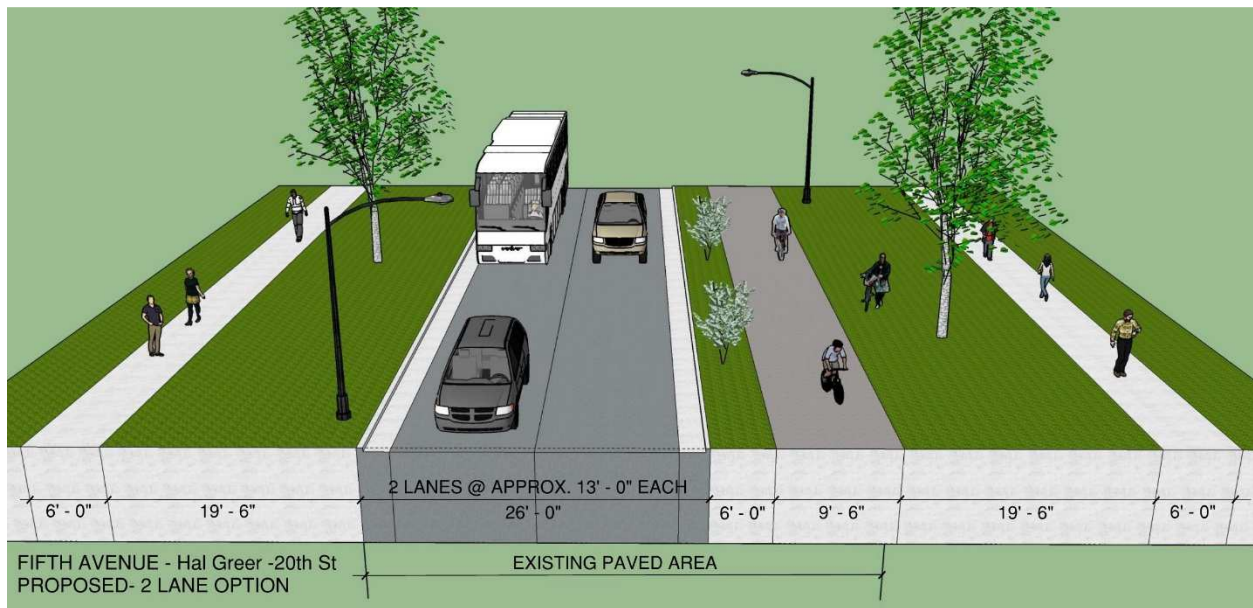


Figure 20. Recommended Cross Section at Fifth Avenue between Hal Greer Blvd & 20th St. (2 lane option)

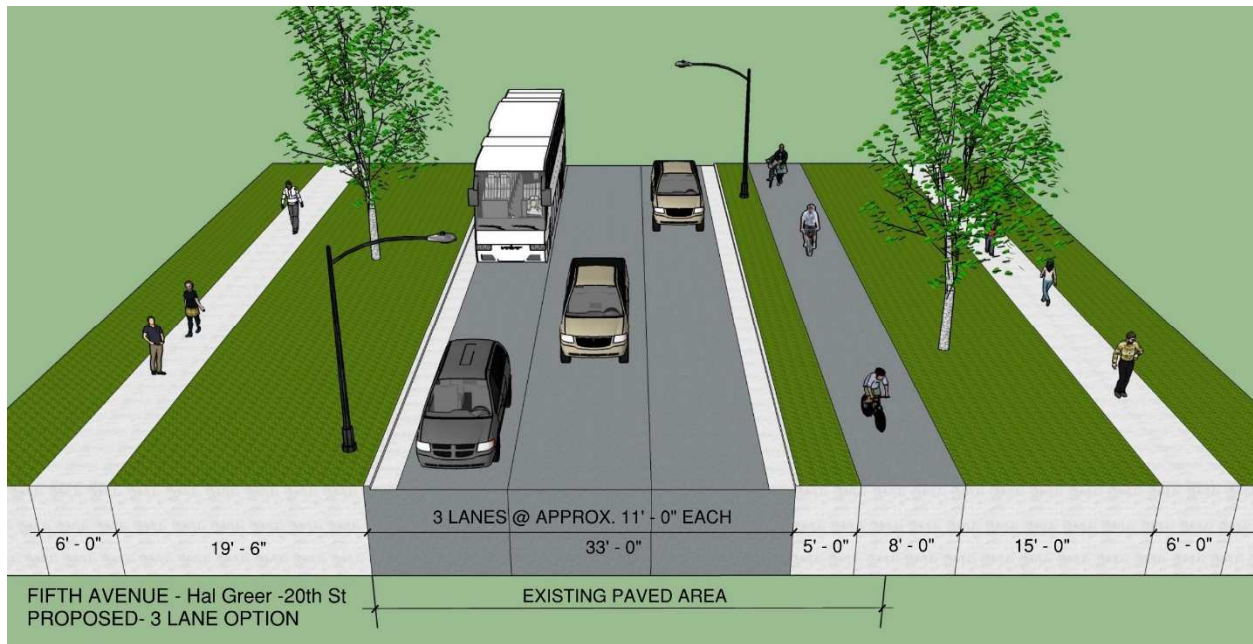


Figure 21. Recommended Right of Way Cross Section at Fifth Avenue between Hal Greer Blvd & 20th St. (3 lane option)

ETA also recommends reducing the five lanes of traffic on 20th Street to one each direction with a middle turn lane, as supported by a future traffic study. It is also recommended to add painted "green lanes" which would be on-street bicycle path with wide painted buffers. These should be signed as bicycle path except on Game Days, when parking by permit could be made allowable. At the section of 20th Street from the underpass to Fifth Avenue, painted bicycle lanes with parking are recommended.

(Figure 24)

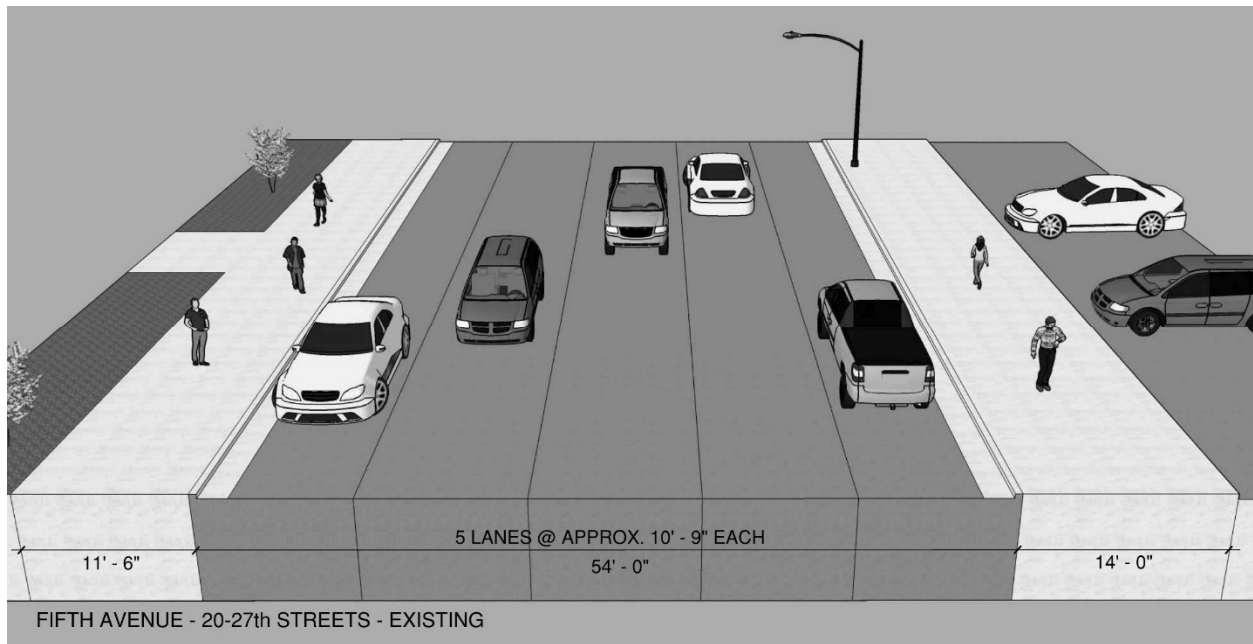


Figure 22. Existing Cross Section at 20th Street between Third and Fifth Avenues

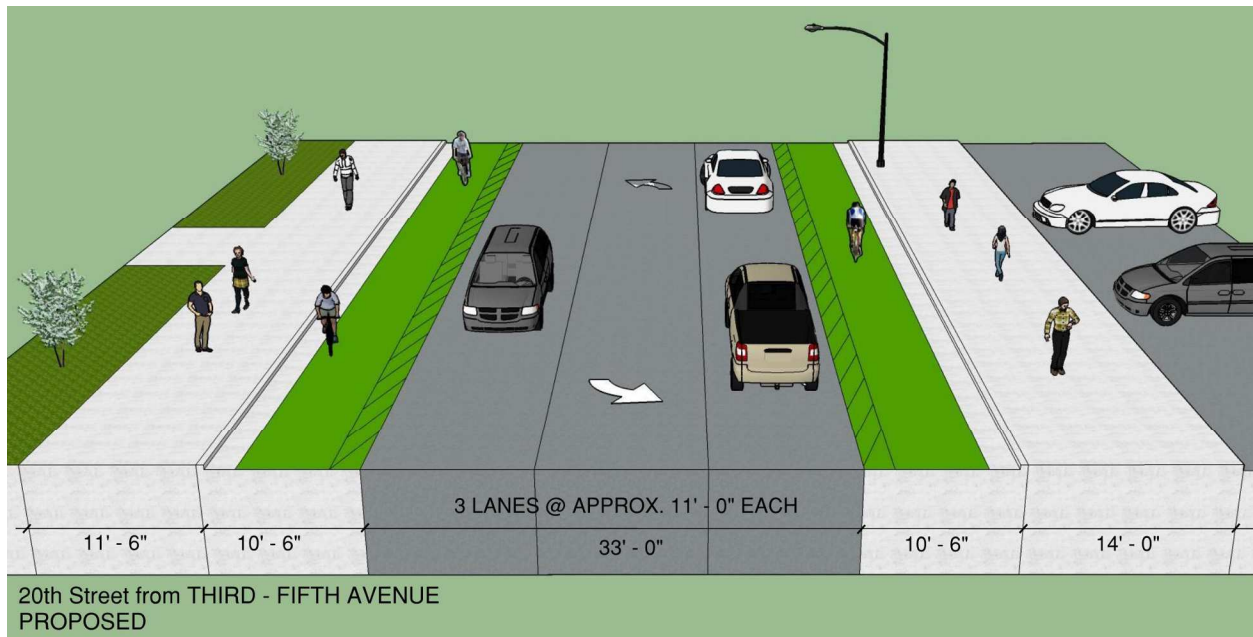


Figure 23. Recommended Cross Section at 20th Street between Third and Fifth Avenues

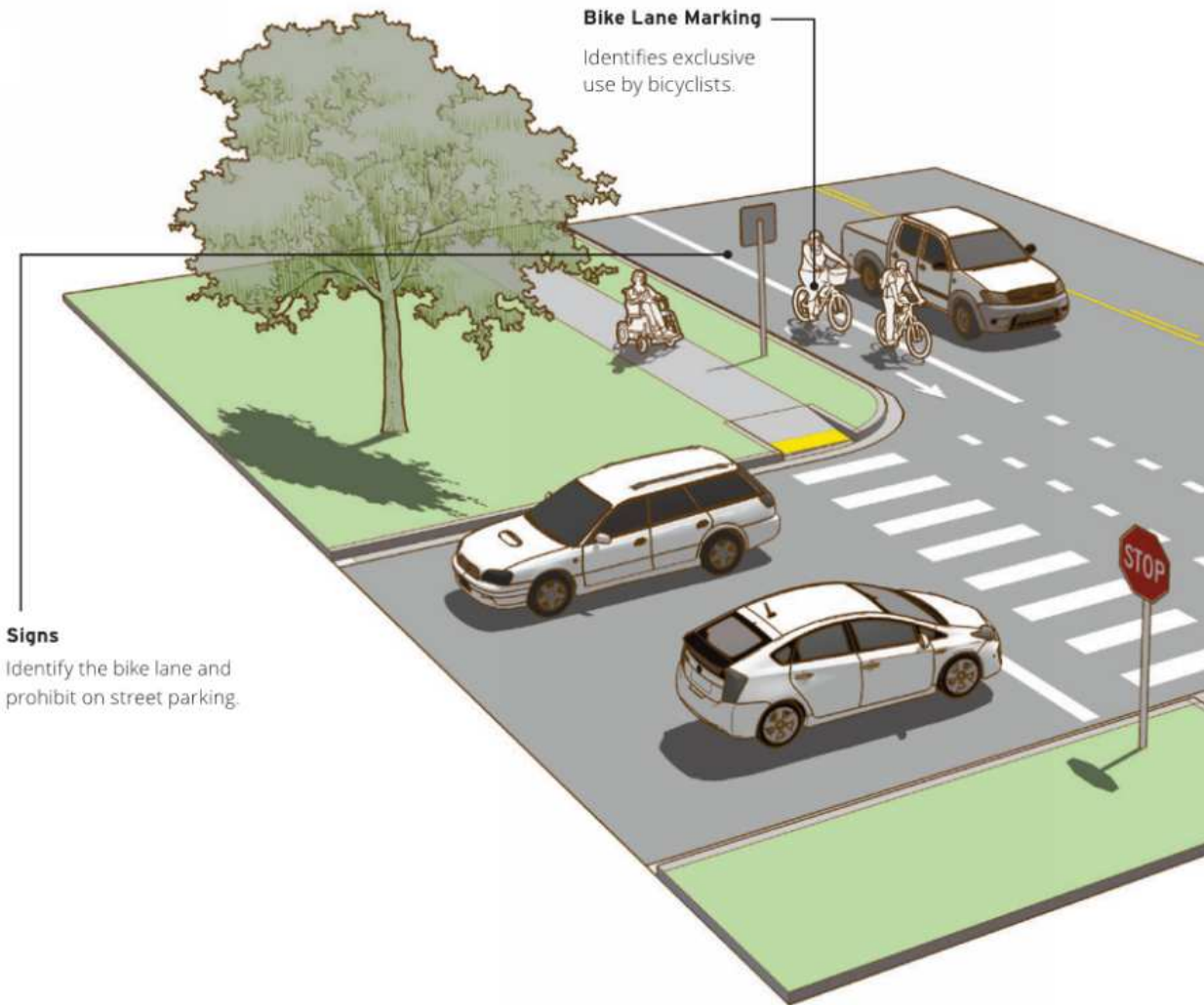


Figure 24. Painted Bicycle Lane (AASHTO Guide for the Development of Bicycle Facilities 2012)

Bicycle Facilities & Support on Campus

Currently bicycles and pedestrians share the existing east-west interior path on campus from Hal Greer Boulevard to 20th Street. Stakeholders discussed the opportunity to expand that path to create a separated area for bicycles through striping or an alternate material such as pervious pavement. Bicycle routes should be clearly signed.

ETA also recommends the development of a cross-central-campus bicycle path at the 18th Street location (currently closed off to form two linear parking lots), as well as on-street painted bicycle lanes at 20th Street between Third and Fifth Avenues. (see Figure 16) The cross-central campus link may just be delineated with paint or sharrows on the existing wide sidewalks, or a differing type of pavement could be used to define separate bicycle lanes throughout campus.

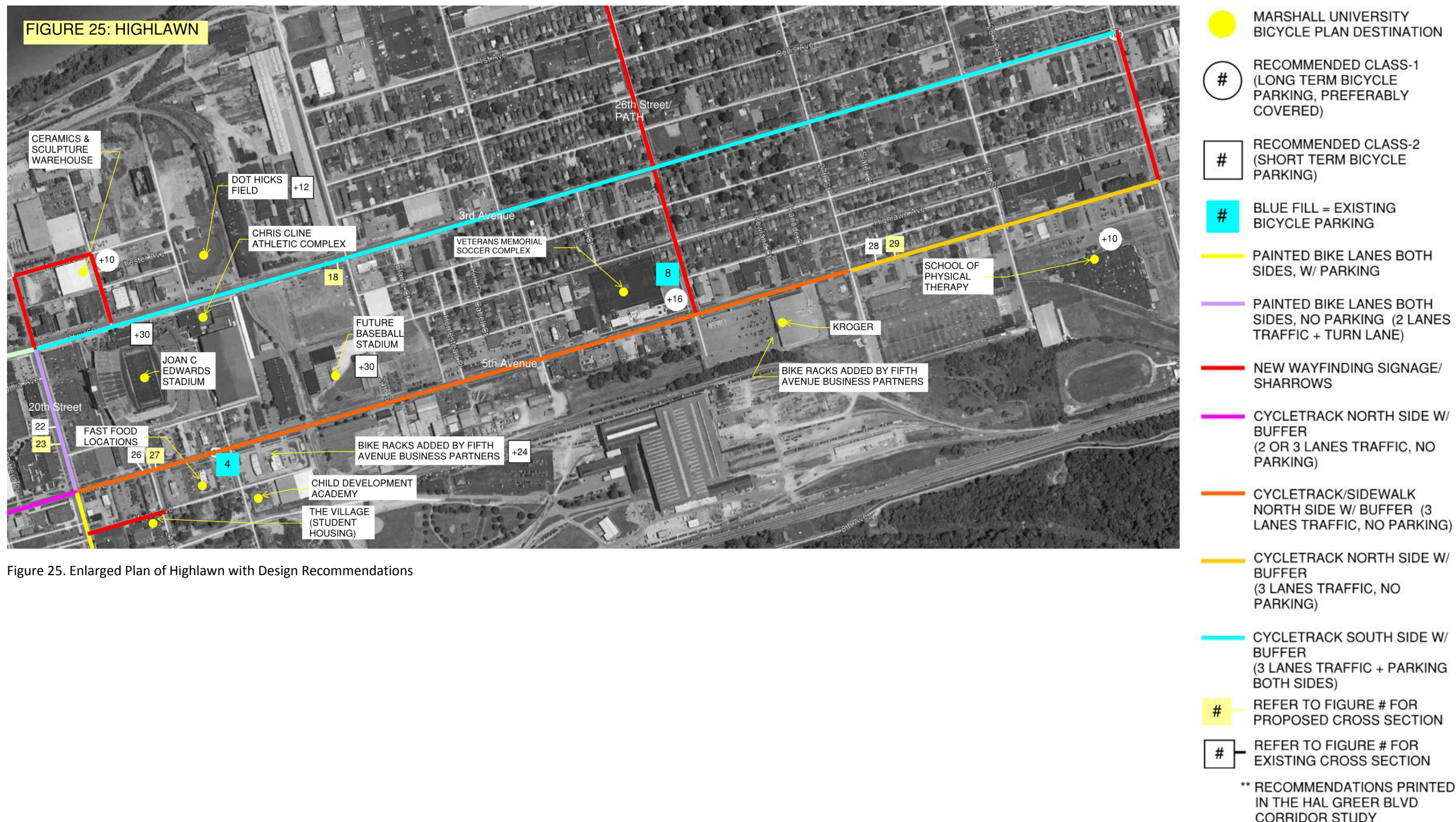


Figure 25. Enlarged Plan of Highlawn with Design Recommendations

More bicycle racks should be located around the Main Campus, focusing on Sheffield and U style bicycle racks that allow the frame of the bicycle to be locked to the rack with the wheel. Bicycle parking at residence halls should be located inside the building or in locations with weather protection. If possible, security cameras should be located nearby to monitor bicycle racks. The recommendation is to replace the “wheelbender” type bicycle racks with U and Sheffield racks throughout campus to provide safe bicycle parking.

Ideally a support tool station would be provided near the residence halls, as well as at least one near the classroom buildings or near the library.

Wayfinding Signage and Bicycle Education

It is recommended to provide standardized wayfinding signage in and around Marshall’s Main Campus to destinations shown on the Recommended Bicycle Facilities Map. Given the average trip distances shown by the Rolling Thunder Data (1.3 miles on weekdays and 1.5 miles on weekends) these destinations are very feasible even for the beginning cyclist, and most of the destinations noted in the survey were within 3 miles. A dedicated cycle track on Fifth and Third Avenues could also utilize wayfinding signage that showed destinations with times/ distances to encourage more people to walk/ bicycle to other nearby locations.

ETA also recommends providing new students with a transportation map of Marshall’s campus and Huntington, showing bicycle racks, water stations, maintenance stands, bus stops, bicycle lanes, sharrows, roads, and dedicated cycletracks. There is already a start to this map with the bicycle parking map the Sustainability Department has prepared.

One recommendation to publicize bicycle use as transportation on Marshall’s campus is to add a statement about biking to both the Campus Tours offered by Office of Admissions - Recruitment and to the general Freshman Orientation/ Week of Welcome. The Rolling Thunder program and website links would be another good place to provide a general map with destinations. Providing a general map showing bicycle lanes and major destinations with distances could encourage students to ride their bicycles or check out Rolling Thunder bicycles, which would eventually help to reduce parking and congestion around campus.

5.2 Design Recommendations for Highlawn (Figure 25)

Speed Limit Reduction

The recommendation to lower the speed limits from 35 mph to 25 mph on both Third and Fifth Avenues extends from 20th Street at campus all the way up to 31st Street. Currently the end of Third Avenue north towards Guyandotte is signed as 30 mph, so the traffic study recommended to determine the number of lanes required can also help determine a reasonable speed limit at the northern end.

Dedicated Bicycle Facilities

The excess capacity of Third and Fifth Avenues throughout this area of study is sufficient to create a safe and separate cycle track apart from the vehicular traffic. Having separate spaces for pedestrians, bicycles, and vehicles on the Third and Fifth Avenue right of ways will allow for the creation of a Complete Street and will better serve all modes of transportation. Given the speeds and number of lanes on Third and Fifth Avenues, as well as the street flooding during storm events, it is recommended to create a raised separate cycle track at the sidewalk level, with a landscaped buffer between the cycle track and the road. With bus routes along both Third and Fifth Avenue, these cycle tracks make more sense to the north of Fifth and the south of Third Avenues, to avoid leapfrogging. While the paved width and right of way of Fifth Avenue reduces between 20th Street and 31st Street, there appears to be enough width to retain a separated cycle track and three lanes of traffic. (see Figures 27 & 29) For the extent of Third Avenue from 20th Street to 31st St, ETA recommends three lanes of traffic, with a separated cycle track on the south side, and parallel parking on one or both sides as recommended by neighborhood residents and businesses. (Similar to Figure 18)

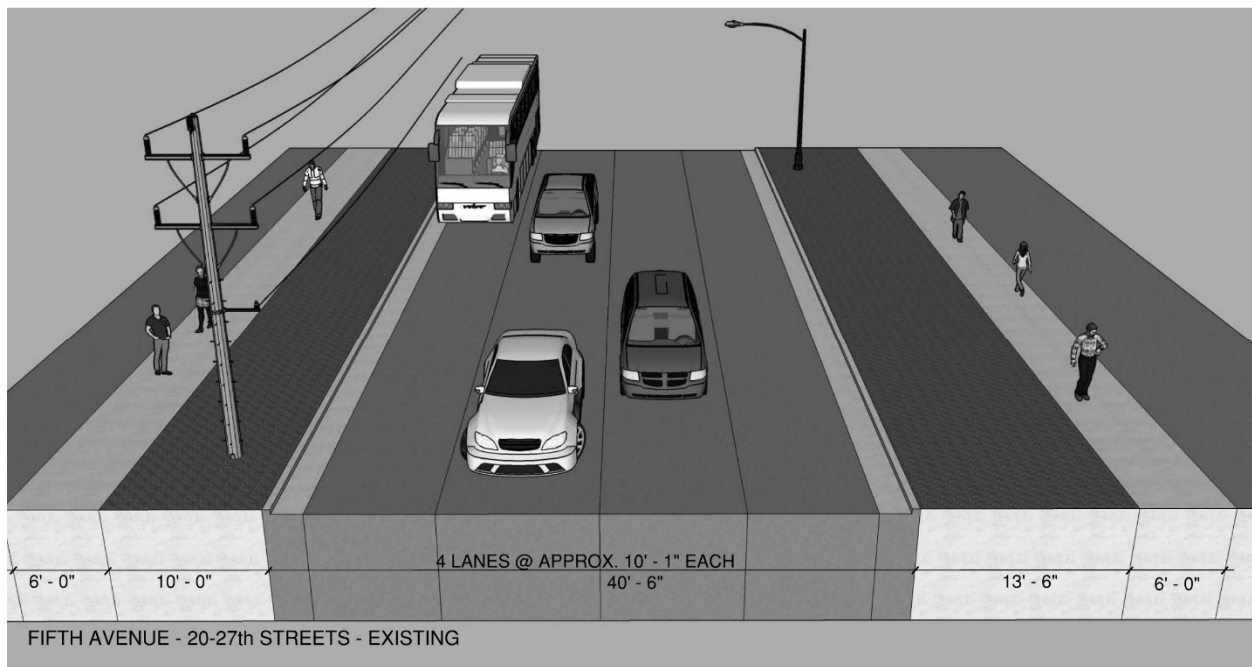


Figure 26. Existing Cross Section at Fifth Avenue between 20th and 27th Streets

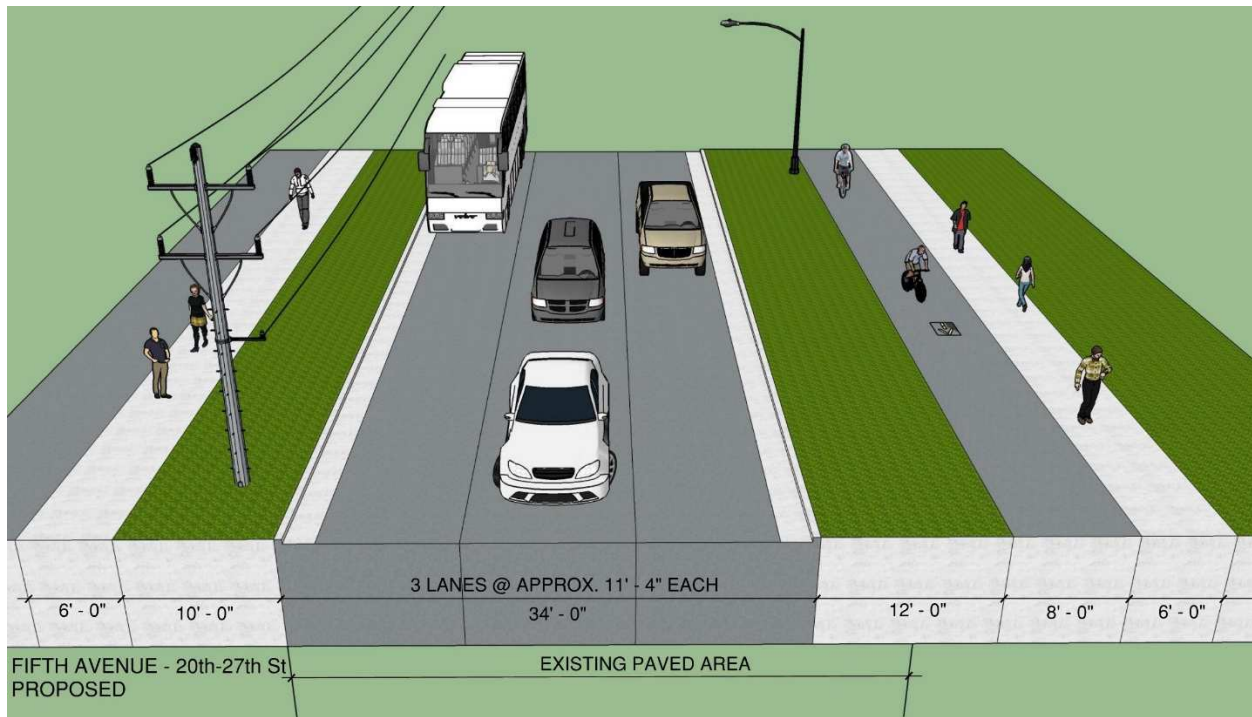


Figure 27. Recommended Cross Section at Fifth Avenue between 20th and 27th Streets

As the cycle track is developed, it may make sense for the City of Huntington and the Sustainability Department at Marshall to meet with Highlawn business partners (especially Kroger and the fast food options on Fifth Avenue) to encourage each business to provide bike parking. Chipotle already has a bike rack located outside their restaurant.

In addition, bicycle parking should be provided at all sporting arenas, and the School of Physical Therapy and Ceramics and Sculpture Warehouse. None of the destinations on Third or Fifth are more than 2 miles away from the main campus, so are very feasible for the beginning cyclist. A dedicated cycle track on Fifth and Third Avenues should also utilize the MU standardized wayfinding signage show destinations with times/ distances to encourage more people to walk/ bicycle to other nearby locations.

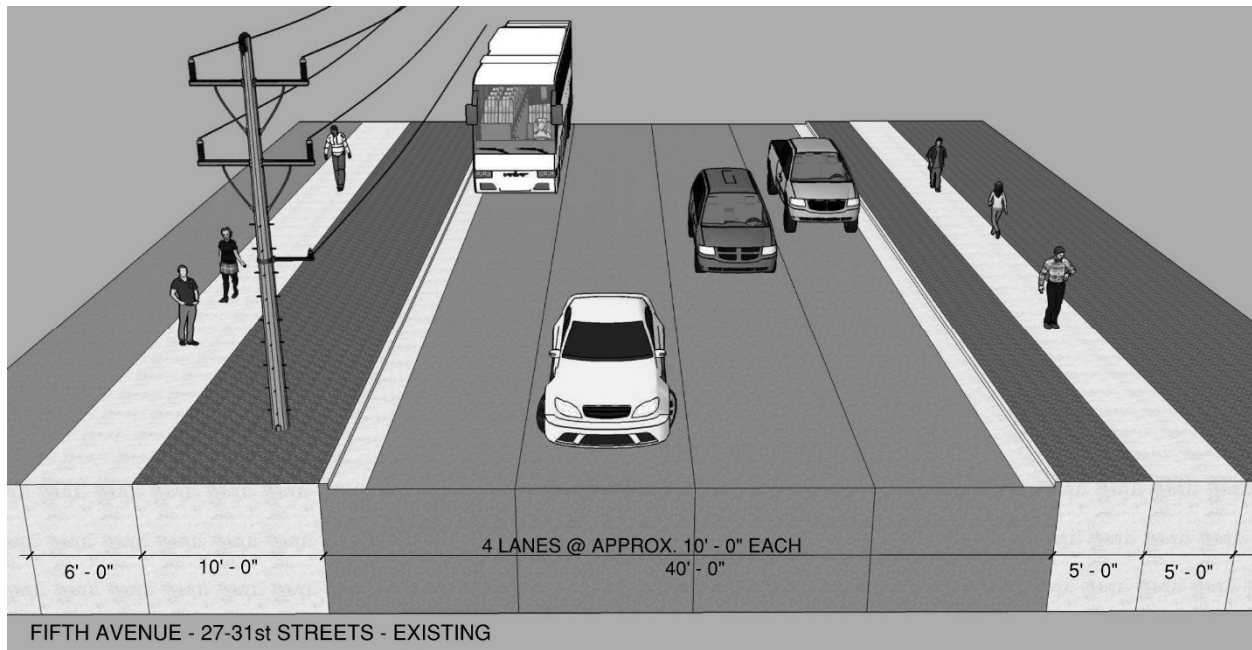


Figure 28. Existing Cross Section at Fifth Avenue between 27th and 31^h Streets

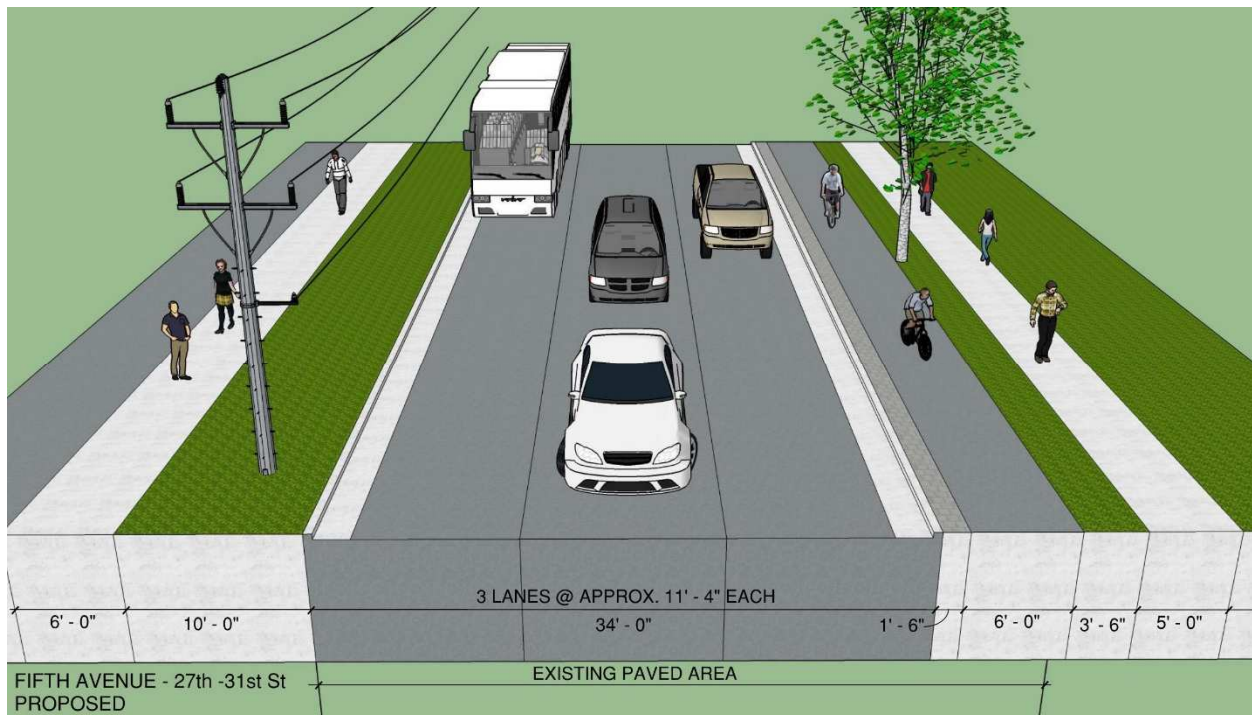


Figure 29. Recommended Cross Section at Fifth Avenue between 27th and 31th Streets

5.3 Design Recommendations for Downtown (Figure 30)

As there are existing painted bicycle lanes and sharrows in the downtown area to connect to Marshall's campus, the primary recommendations for the Downtown campus location are to install consistent wayfinding signage to clearly mark existing bicycle routes and distances, to install additional bicycle parking, and to provide a bicycle share hub at Pullman Square.

There is also currently Class 1 and Class 2 bicycle parking at Pullman Square, however more dedicated bicycle parking could be provided near the satellite locations. At the VAC, which has recently been expanded to include the Brad D. Smith Business Incubator, the sidewalk in front of the building is being redesigned with a mid-block crossing. This allows for the opportunity to install new bicycle racks at the existing sidewalk extension where security cameras can monitor the racks. Students at this location have had their bicycles stolen, and sometimes leave the building late at night, so they would prefer to have bicycle parking immediately accessible to the door, instead of using the bicycle racks across the street at Pullman Square.

In addition, the parking garage under RCBI offers a good opportunity to provide Class 1 parking in the restricted corners of the garage.

5.4 Design Recommendations for Fairfield (Figure 31)

As there is a study currently underway to create bicycle facilities on Hal Greer Boulevard to connect the medical campus and the main campus, the primary recommendation for the Fairfield campus location is to install wayfinding signage to clearly mark preferred bicycle routes on low volume and low speed secondary streets. (see Figure 31 and 32)

Installing additional bicycle parking at all campus buildings is also recommended, with a focus on Class 1 parking at the graduate housing and Erma Ora Byrd Clinical Center at the employee entrance.

The parking garage at Cabell Huntington Hospital/ the School of Medicine also offers an opportunity for Class 1 parking. Ideally parking would be located on the first level, near the handicapped parking.

Marshall University should also work together with the City of Huntington to create a linkage from the Fairfield campus to Ritter Park/ PATH. Charleston Avenue in conjunction with 12th Avenue may be a reasonable neighborhood route. Signage and/or sharrows could help with these connections from the campus to the recreational opportunities of the park and PATH.

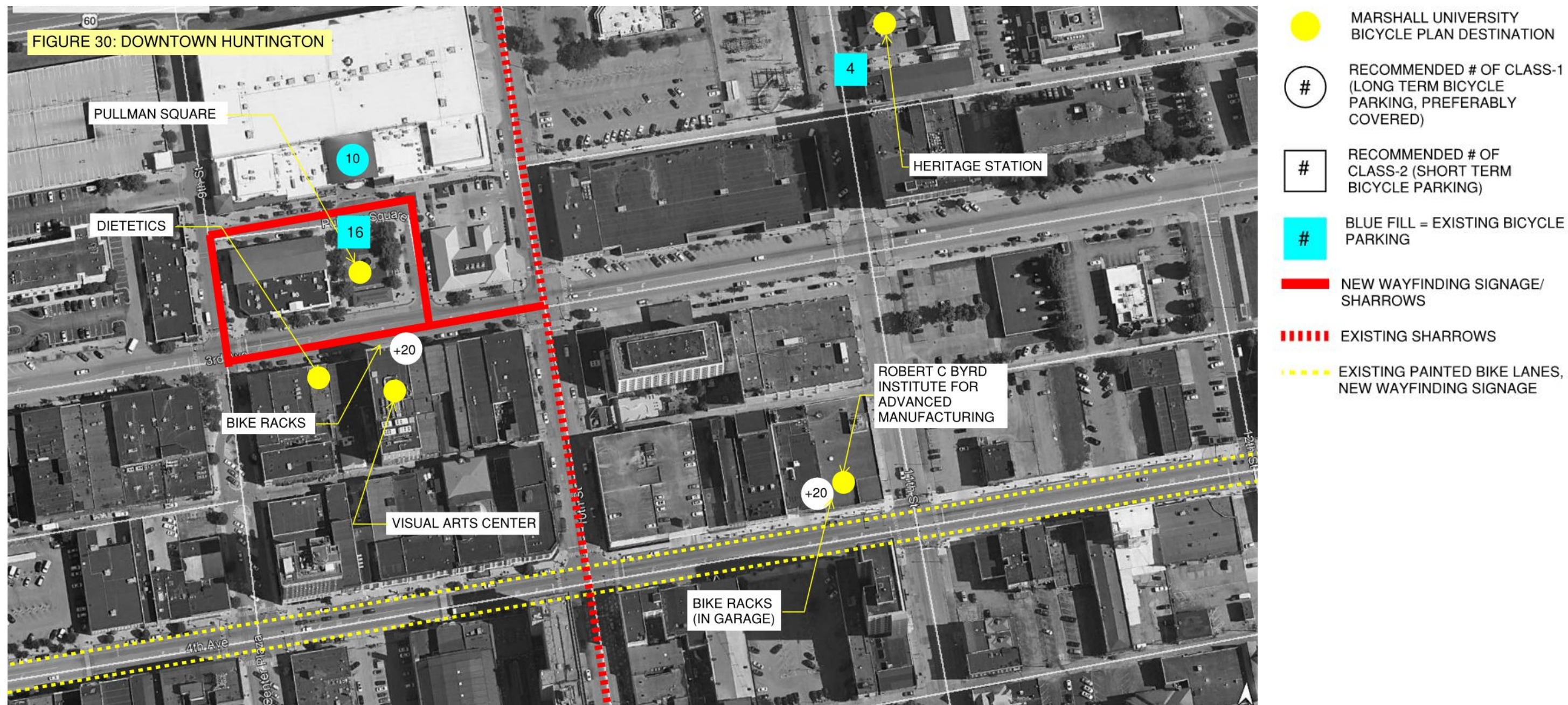


Figure 30. Enlarged Plan of Downtown with Design Recommendations

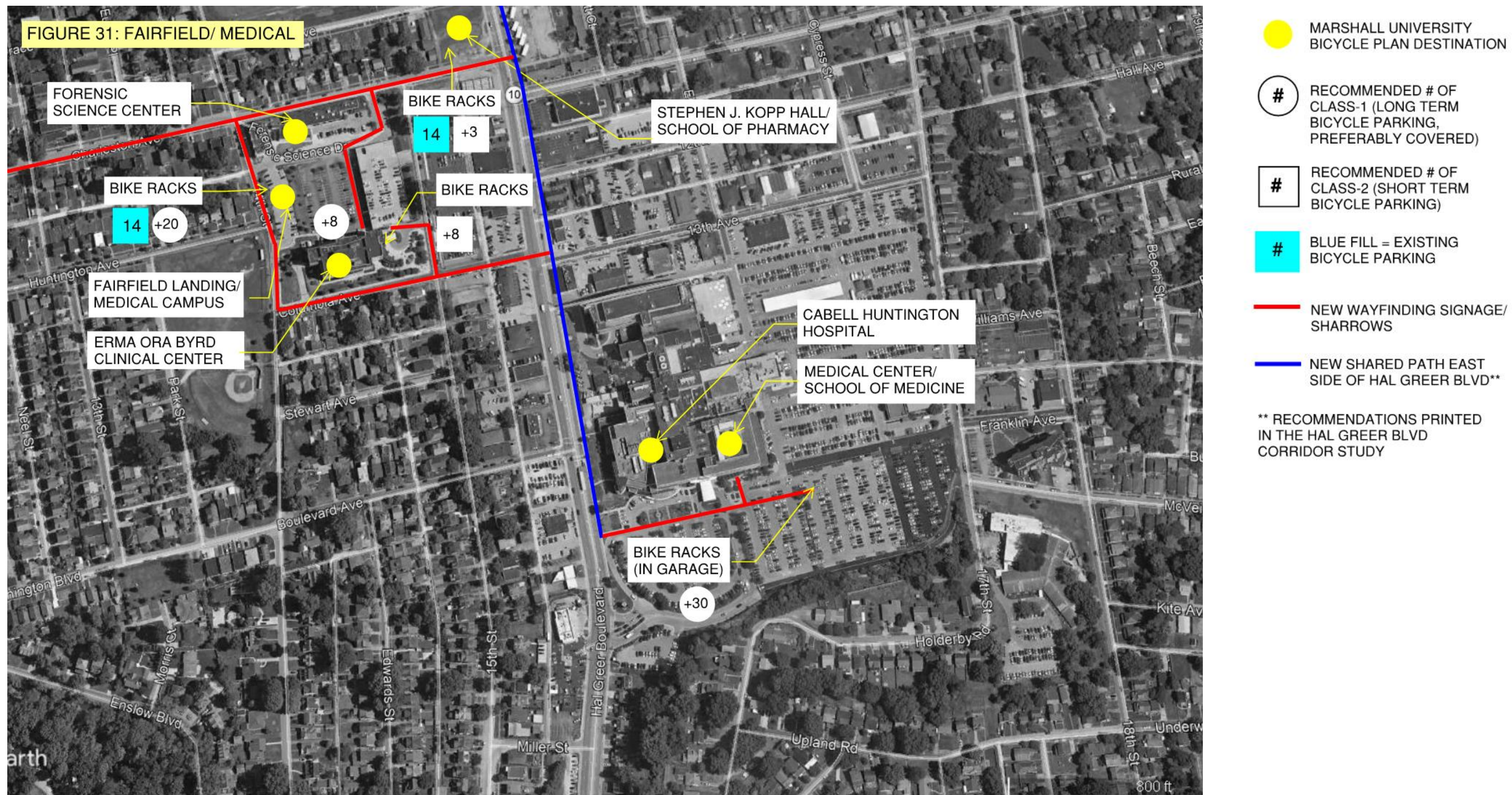


Figure 31. Enlarged Plan of Fairfield with Design Recommendations

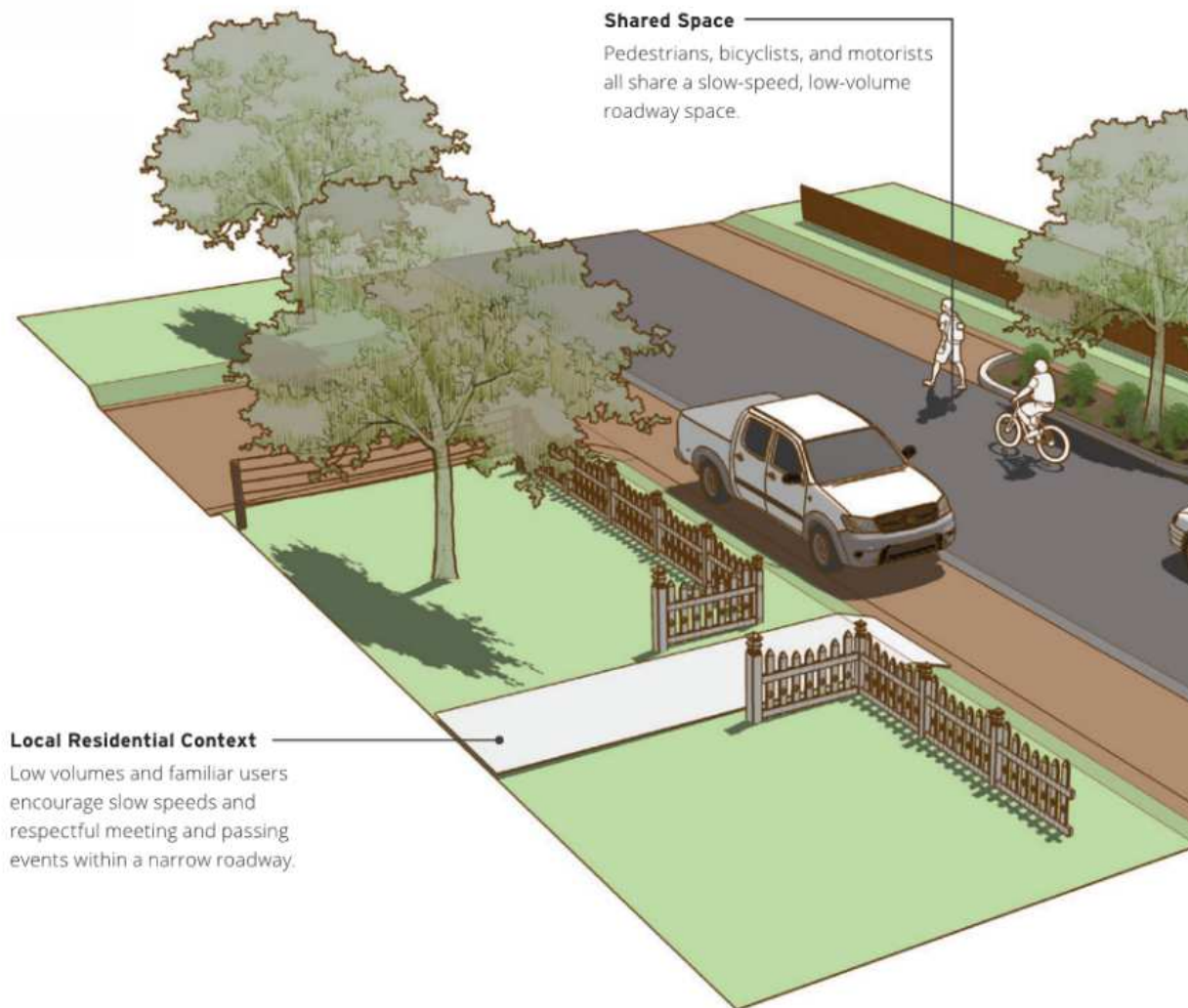


Figure 32. Mixed Traffic (AASHTO Guide for the Development of Bicycle Facilities 2012)

5.5 Next Steps

Recommendations for Further Study

Marshall University will need to work in conjunction with the WV DOH, WV DOT, and KYOVA to determine and undertake the required traffic studies. Marshall University & KYOVA should preview recommendations with the WV DOT/ DOH traffic engineers to determine any further approvals or required studies required. The following are required as a minimum:

1. Identify and analyze existing and preferred truck/freight routes within study area.
2. Perform detailed traffic counts and analysis along Third Avenue between 13th and 31st Street and Fifth Avenue between 10th and 31st Streets.

After the traffic studies results are reviewed, the necessary lane needs and potential for right-sizing Fifth and Third Avenues and 20th Street within the project boundaries can be determined, allowing design to begin on the proposed separated bicycle facilities.

Design/ Implementation

Marshall University will need to work in conjunction with the City of Huntington, the WV DOT/ DOH, and other associated parties on the implementation of the projects recommended in this report, though some of the parking/ support/ education recommendations can be implemented within the Marshall University community without outside input.

Project areas should be identified in conjunction with other ongoing projects, such as the street flooding mitigation plan, to determine possible partnerships for funding sources for the design and construction of these projects. Sequencing of design can also be determined as project areas are defined.

As design gets underway, all new work will need to be coordinated with the City of Huntington, KYOVA, WV DOT/ DOH regarding other planned projects in the area such the Hal Greer Corridor project, PATH, etc.

ETA has prepared the following funding chart which identifies the main project areas laid out in the report and notes costs and partnerships needed.

	Bicycle Facilities	Wayfinding Signage	Additional Bike Parking	Associated Partners
Main Campus Interior	\$\$	\$	\$	MU
Fifth Ave, HGB – 20 th St	\$\$\$	\$	N/A	MU/ COH/ DOH/DOT/KYOVA
Third Ave, HGB-20th	\$\$\$	\$	N/A	MU/ COH/ DOH/DOT/KYOVA
20 th Street, Third-Fifth	\$	\$	N/A	MU/ COH
Fifth Ave, 20 th – 27 th St	\$\$\$	\$	N/A	MU/ COH/ DOH/DOT/KYOVA
Fifth Ave, 27-31 st St	\$\$\$	\$	N/A	MU/ COH/ DOH/DOT/KYOVA
Downtown	N/A	\$	\$	MU/ COH
Highlawn	N/A	\$	\$	MU/ St. Mary's
Fairfield	N/A	\$	\$	MU/ COH
Third Ave, 20 th – 31 st St	\$\$\$	\$	N/A	MU/ COH/ DOH/DOT/KYOVA
20 th Street, Fifth - Seventh	\$	\$	N/A	MU/ COH

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Image 5. Third Avenue Landscape Strip at Main Campus
Image 6. “Wheelbender” bicycle racks
Image 7. U-type bicycle rack- Class 2 parking
Image 8. Sheffield Type Bicycle Rack- Class 1 parking, covered
Image 9. Bicycle parking at a TTA bus stop
Image 10. Tool Station
Image 11. Wayfinding Signage Attached to Existing Sign
Image 12. Directional Signage
Image 13. Directional Signage
Image 14. Confirmation Signage
Image 15. Flooding on Fifth Avenue
Image 16. Bus stop across from Main Campus

6.3 Stakeholder Meeting Records

6.4 Survey Results



Kick-Off Steering Committee Meeting – December 14, 2018
Marshall University Bicycle Plan
KYOVA Interstate Planning Commission

Attendees:	Brandi Jacobs-Jones	MU	Frederick Bartolovic	MU
	Chris Chiles	KYOVA	Bethany Wild	KYOVA
	Ed Tucker	ETA	Bre Shell	City of Huntington
	Phoebe Randolph	ETA	Shea Strait	City of Huntington
	Katharine Lea	ETA		
Call-in:	Perry Keller	DOH	Saleem Salameh	KYOVA
	Martin Guttenplan	CDM Smith		

The purpose of this Kick-Off meeting was to identify pertinent information, stakeholders, studies and requirements for the new Marshall University Bicycle Plan (MUBP) for Huntington, West Virginia.

1. Marshall representatives identified the following key connections and satellite campus locations that should be included in the scope of the plan:
 - a. Highlawn 3rd Avenue - Ceramics and Sculpture Warehouse, Soccer Practice, Stadium
 - b. Highlawn 5th Avenue - Kroger, Physical Therapy campus at St. Mary's Education Center, future baseball stadium
 - c. Fairfield/Hal Greer Boulevard - Medical campus, Cabell Huntington Hospital
 - d. Downtown - Visual Arts Center & RCBI
 - e. Study specific links from each satellite location into and across campus.
2. Stantec is currently completing a Complete Streets and Corridor Management Plan for Hal Greer Boulevard, working with the WV Department of Transportation. The MUBP study should refer to the ideas developed for Hal Greer by Stantec to address bicycle connections between the medical campus and the main campus. Secondary connections between Hal Greer and campus locations should be studied as part of MUBP scope. There are currently no deliverables produced from Stantec, but a charrette is scheduled for the first week of January, with final delivery of their study in October, 2019.
3. Brandi Jacobs-Jones noted there are 9-10K people on campus each day, with 2K in residence halls- so this plan could make a large impact on quality of life for 8000 people reaching campus each day. Dr. Gilbert (MU President) is rightfully proud of Marshall's designation as the "most attractive campus" in the state, and the new plan should build on that. The Rolling Thunder bike share program is a great existing resource on campus, with locations at the Rec Center, Drinko Library and the Harless Apartments. There is also a location in the works at the Downtown Visual Arts Center.
4. Attendees were asked to identify areas of specific safety concern:
 - a. 20th Street north of 3rd Avenue
 - b. 5th Avenue at campus – very dangerous for pedestrians to cross
 - c. John Marshall Drive & Fifth Avenue intersection
 - d. 20th Street between Third and Fifth Avenues (dangerous to cross.) Bethany Wild indicated that this is included in a safety study currently underway.



Kick-Off Steering Committee Meeting
Marshall University Bicycle Plan
December 14, 2018

5. Discussion of Third and Fifth Avenues:
 - a. Bre Shell mentioned that the City had proposed a project to redesign of a two block section of Third Avenue between 22nd and 24th Streets.
 - b. Phoebe Randolph asked if there is a consensus around the preference to keep the one-way traffic on Third and Fifth Avenues. All indicated that there was, but redesigning to incorporate traffic calming, road diet, bike/pedestrian facilities, stormwater management, etc.
 - c. Brandi Jacobs-Jones indicates that there are suggestions for Third and Fifth Avenues in the Marshall University Campus Master Plan.
 - d. Perry Keller expressed concern with two-way protected bike lanes on one-way streets, particularly related to intersections.
 - e. Martin Guttenplan stated that signals would have to be coordinated to 30mph or less if avenues remain one-way to help safety.
 - f. Perry Keller stated lane reduction and lane width reduction to 11' are possible on both avenues.
 - g. Multi-user bike facilities may be safer for cyclists and cheaper to construct, but there are maintenance implications for the MU Physical Plant.
 - h. Phoebe Randolph mentioned the potential to shift freight traffic to Eighth Avenue and relieve pressure on Third and Fifth Avenues. This was designed and partially implemented by WV DOT several years ago but was not able to be completed past 28th Street due to residential concerns that are no longer applicable due to the changed nature of the neighborhood. Brandi mentioned AEP has been completing work in this area for a relocated transmission line as well. **Chris Chiles indicated that he would follow up with WV DOT about the potential to complete this project.**
6. Bre Shell suggested that there may be opportunities to incorporate tactical urbanism strategies to test certain ideas.
7. Wayfinding signage is a critical element for successful implementation.
8. Attendees were asked to identify any other stakeholders to engage during the planning process:
 - a. Educational efforts and events such as freshman orientation, group rides, etc. can be utilized to educate students, faculty and staff about safety, bike routes, bike parking, the ride share program, etc.
 - b. MU Physical Plant should be consulted regarding maintenance of any proposed facilities on campus property.
 - c. WV DOT traffic engineering staff needs to provide their buy-in for any solutions proposed. Cindy Cramer and Matt Skiles are the contacts there, Perry will facilitate discussions.
 - d. Local District II representatives should be involved as well. Rob Pennington (head of maintenance. cyclist), Bryan Webb, Robert Manzell.
9. Attendees were asked to identify their goals for the MUBP:
 - a. An actionable document that can be used by decision makers to execute specific projects (bike routes and facilities) that facilitate safer, easier commuting and crossings and enhance the attractiveness of campus.
 - b. A study that leads directly to a construction project.





Kick-Off Steering Committee Meeting
Marshall University Bicycle Plan
December 14, 2018

Next Steps:

1. Stakeholder meetings with each satellite campus group, ride share users, and MU Physical Plant, Sustainability Department, Rec Center, MUPD.
2. Develop and send digital survey to students.

Follow Up:

KYOVA:

Send Huntington stormwater study/recommendations.
Send existing traffic data for study area.
Send safety study of 20th Street when available.

MU:

Provide bike share information (where bikes are going, used) and GPS data.
Provide campus master plan.
Sustainability Department to provide inventory of current on-campus bike parking.

City of Huntington:

Provide updates and deliverables for Stantec's Hal Greer project as they become available.

The above record represents the writer's best understanding of issues discussed and actions required. Please contact this office immediately if additions or corrections are needed.

Respectfully Submitted:

EDWARD TUCKER ARCHITECTS, INC.

A handwritten signature in black ink that reads "phoebe p. randolph".

Phoebe Patton Randolph, AIA

E-mail Distribution: Attendees

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**Stakeholders Meeting – April 16, 2019
Marshall University Bicycle Plan
KYOVA Interstate Planning Commission**

Attendees:	Brandi Jacobs-Jones	MU (partial)	Frederick Bartolovic	MU
	Bethany Wild	KYOVA	Ed Tucker	ETA
	Phoebe Randolph	ETA	Shea Strait	City of Huntington
	Katharine Lea	ETA	Daniel Dean	MU
	Danny Kaufman	MU		

The purpose of this stakeholders meeting was to allow stakeholders to voice comments and concerns about bicycling on and around Marshall University campus.

1. Stakeholders reinforced the need for connections to the “rest of” Huntington, besides main campus.
2. Concerns are:
 - a. Bike parking (inside vs outside)
 - b. Showers/ lockers would make it easier to bike in
 - c. Bike safety (theft) downtown – bikes have been stolen
 - d. Safety while riding (inattentive drivers, car speeds)
3. Presented study images of 2 way bike paths on 3rd and/or 5th Avenues with discussion.
 - a. Not much concern about 2 way vs 1 way as long as they are separate and signals are appropriate.
 - b. 2-way cycle tracks were thought to be more useful.
 - c. Participants agreed speeds should be reduced on 3rd and 5th Avenues at Main Campus, if not the whole way down.
4. Attendees were asked to identify areas of specific safety concern:
 - a. Education of drivers – bikes can legally be on road
 - b. Education of other cyclists- no riding on sidewalks
 - c. Education of pedestrians- everyone is in their “lane”
 - d. Discussion of use of alleys for bikes to get bikes off “high speed” streets
 - e. Discussion of use of Commerce Ave to get up from Ceramics area to VAC
5. Discussion of how to encourage biking:
 - a. Noted that visibility helps- if people see other people riding/ commuting to work, they are more likely to do it
 - b. Bike lanes/ cycle tracks not on streets feel safer, especially if riding with kids, and then kids become confident bikers too.
 - c. Connection of bike lanes/ cycle tracks to residential neighborhoods so you “can get there from here”.
 - d. Signage/ maps give people “permission” to bike more
 - e. If the bike lanes go beautiful places, (such as campus) people enjoy to ride.
6. Further Discussion:
 - a. An interior bike path on campus might help encourage connections to satellite campuses



Stakeholders Meeting

Marshall University Bicycle Plan

April 16, 2019

- b. An interior bike path might increase visibility/ peer pressure to ride
- c. Which side of avenues is best for bike lanes- interior to campus would allow for circulation across campus, but if you have interior bike path, outside would allow for connections to satellites/ neighborhoods.
- d. Mid-block crossing study at VAC by Burgess and Niple- may allow for parking/ bike racks out front. (Shae Strait to provide)
- e. Policy changes may be useful- Idaho stop, etc.
- f. Wayfinding signage is a critical element for successful implementation (connecting MU/ PATH/ etc.
- g. CSX crossings could be outlined with paint markings even if main cycle track is sidewalk level instead of road level.

Next Steps:

- 1. Stakeholder meeting with MU Physical Plant, Sustainability Department, Rec Center, MUPD.
- 2. Survey to students, staff, and faculty.

Follow Up:

City of Huntington:

Provide updates and deliverables for Stantec's Hal Greer project as they become available.

Provide updates on mid-block crossing layout at VAC.

The above record represents the writer's best understanding of issues discussed and actions required. Please contact this office immediately if additions or corrections are needed.

Respectfully Submitted:

EDWARD TUCKER ARCHITECTS, INC.

Katharine A Lea, AIA

E-mail Distribution: Attendees





Stakeholders Meeting – May 14, 2019
Marshall University Bicycle Plan
KYOVA Interstate Planning Commission

Attendees:	Brandi Jacobs-Jones	MU	Frederick Bartolovic	MU
	Ed Tucker	ETA	Phoebe Randolph	ETA
	Cindi Churtney	MU Rec	Amy Parsons White	MU Sustainability
	Jim Terry	MUPD	Travis Bailey	MU Physical Plant

1. Phoebe reviewed the overall plan goals and opportunities that have been identified to date. Key issues identified relative to Third and Fifth Avenues include:
 - a. Jim Terry indicated that he has been involved with discussions to reduce the speed limit on Third and Fifth Avenues for 25 years and has not been successful.
 - b. The truck routes are not clearly signed and it's not clear if Eighth Avenue between 20th Street and 31st Street is a designated truck route. Construction was not completed in the final leg of this route.
 - c. Traffic counts should be performed in Sept-Oct-Nov to reflect accurate volume.
 - d. Bike facilities should be on the campus side of Third and Fifth Avenues. ETA is researching types/styles of barriers. The group preferred monument-style decorative barriers vs bollards or landscaped strips.
 - e. The north side of 3rd Avenue is problematic for Physical Plant. The grass strip between the sidewalk and the curb is difficult to maintain and gets muddy. Parking could be eliminated along this stretch per MUPD.
2. 20th Street presents a problem from a pedestrian safety standpoint as well as a lack of bicycle facilities. Need to confirm if this is a state route. Steel trucks need 2 lanes to turn along this route. There is a potential for "no parking on game days" signage to allow for on-street parking at other times.
3. The interior of campus does not have a designated bike path, but there is a continuous shared path through the campus in the east/west direction.
 - a. A separated path could be constructed utilizing a paver system (permeable) and clearly marked with signage. Typically students find it is faster to walk than ride bikes to locations on the main campus.
 - b. There is a utility access road between 19th and 20th Streets that could be used as a north/south connection vs. 20th Street.
4. Bike racks were discussed. Additional racks are needed at the Student Center. Amy indicated that they are looking at expanding the bike share program to include a hub (10 bikes) at the Fairfield campus. TTA is considering sponsoring a hub at Pullman Square.

Next Steps:

1. Draft report completed by May 31.
2. Meet with Steering Committee to review and discuss draft report.
3. Meet with DOH Traffic Engineers and District 2 to discuss report/recommendations.
4. Review recommendations w/ TTA.
5. Final Report completed by June 30.



Stakeholders Meeting
Marshall University Bicycle Plan
May 14, 2019

The above record represents the writer's best understanding of issues discussed and actions required. Please contact this office immediately if additions or corrections are needed.

Respectfully Submitted:

EDWARD TUCKER ARCHITECTS, INC.

Phoebe Patton Randolph, AIA, LEED AP BD+C

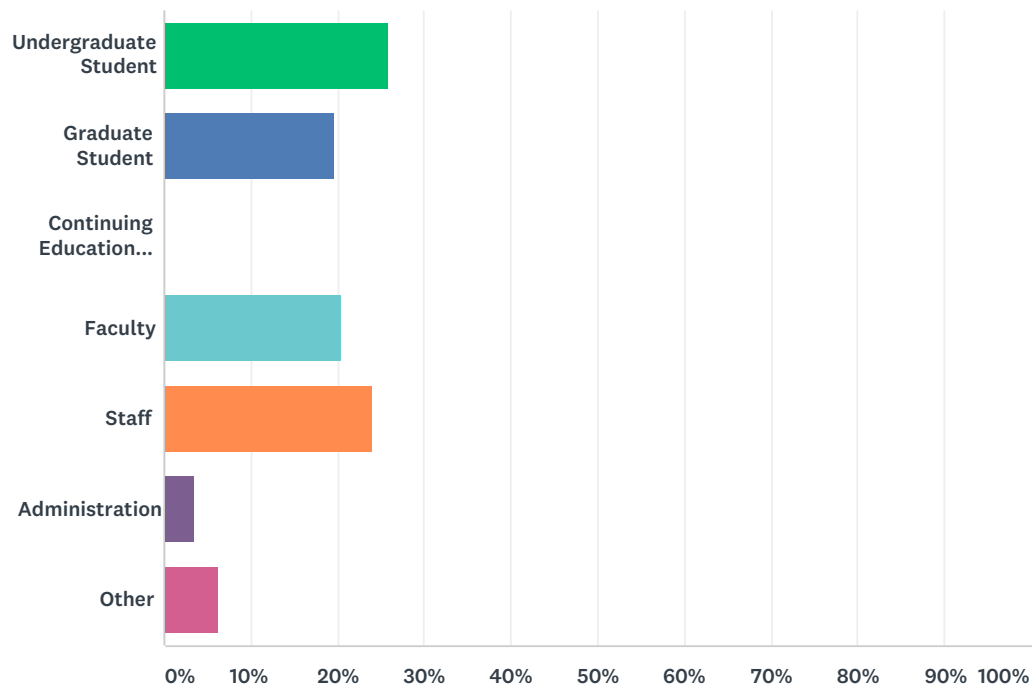
E-mail Distribution:

Attendees
Bethany Wild, KYOVA
Saleem Salameh, KYOVA
Chris Chiles, KYOVA
Perry Keller, WV DOT
Bre Shell, City of Huntington
Shae Strait, City of Huntington
Katharine Lea, Edward Tucker Architects
Martin Guttenplan, CDM Smith
Nathan Hicks, CDM Smith



Q1 Of the categories listed below, which best defines you?

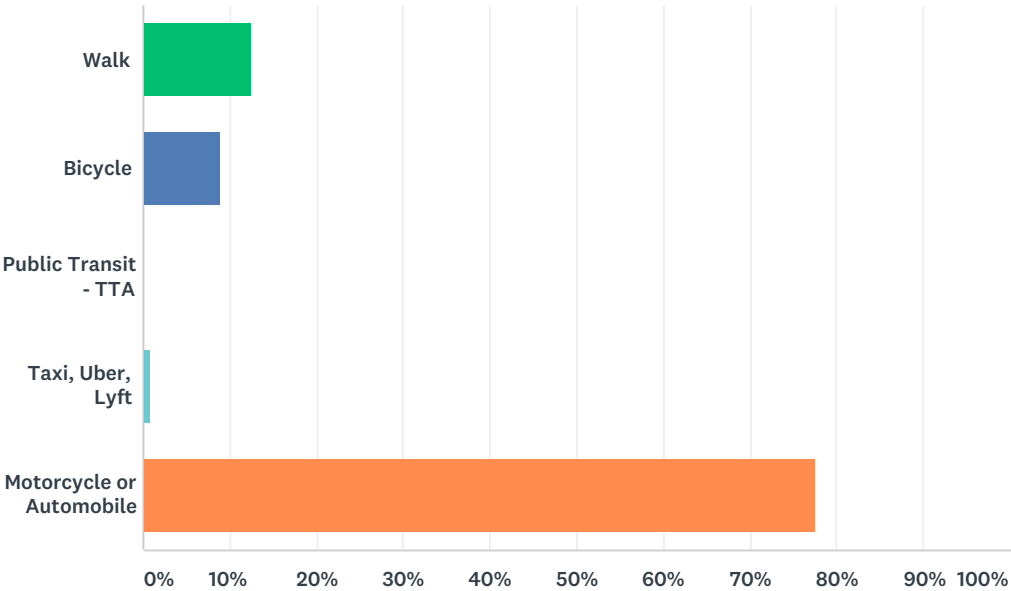
Answered: 112 Skipped: 0



ANSWER CHOICES	RESPONSES	
Undergraduate Student	25.89%	29
Graduate Student	19.64%	22
Continuing Education Student	0.00%	0
Faculty	20.54%	23
Staff	24.11%	27
Administration	3.57%	4
Other	6.25%	7
TOTAL		112

Q2 How do you most often travel to and from Marshall University?

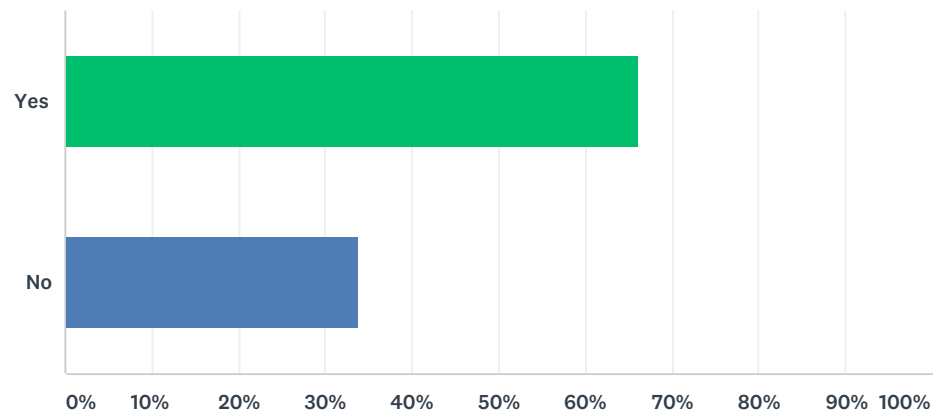
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ANSWER CHOICES		RESPONSES	
Walk		12.50%	14
Bicycle		8.93%	10
Public Transit - TTA		0.00%	0
Taxi, Uber, Lyft		0.89%	1
Motorcycle or Automobile		77.68%	87
TOTAL			112

Q3 Do you currently own a bicycle?

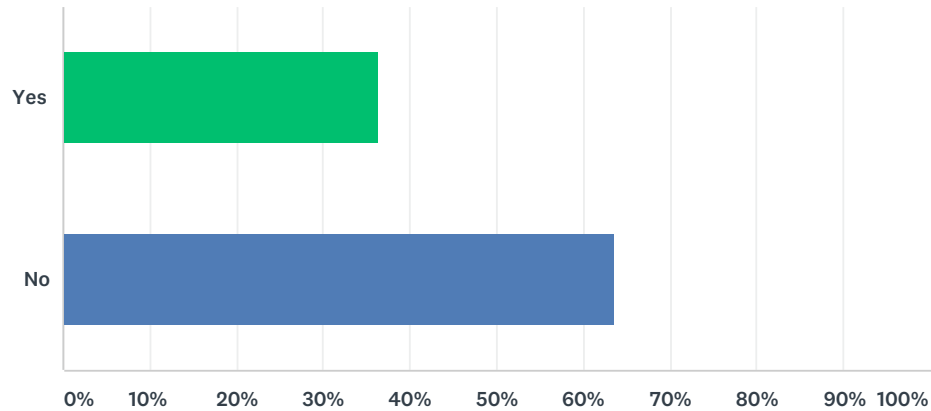
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ANSWER CHOICES		RESPONSES	
Yes		66.07%	74
No		33.93%	38
TOTAL			112

Q4 If you own a bicycle, is it stored/parked so that you could ride it in Huntington?

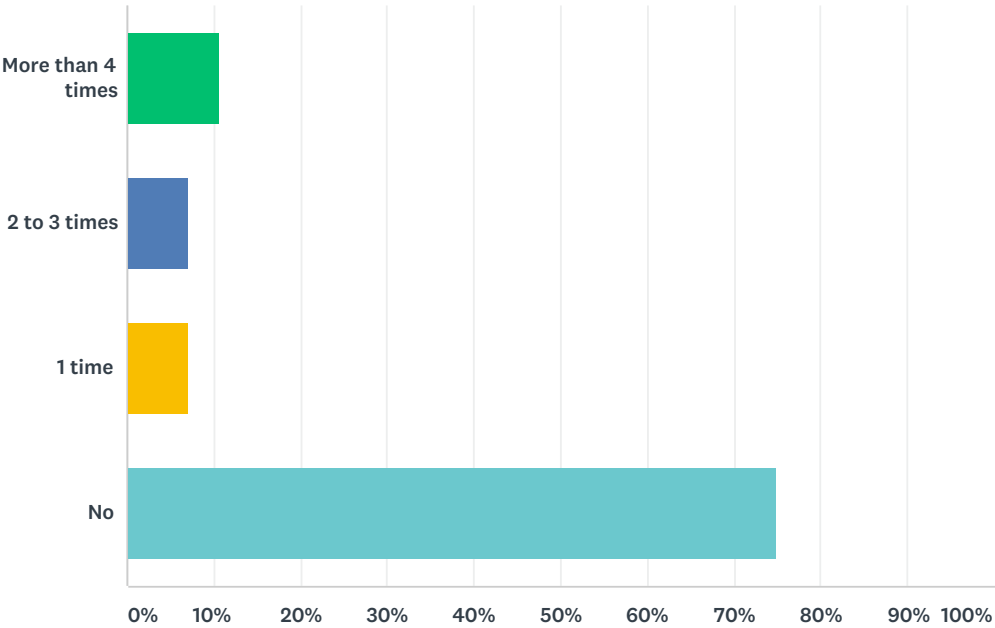
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ANSWER CHOICES	RESPONSES	
Yes	36.45%	39
No	63.55%	68
TOTAL		107

Q5 Have you ever used the Rolling Thunder bikeshare program?

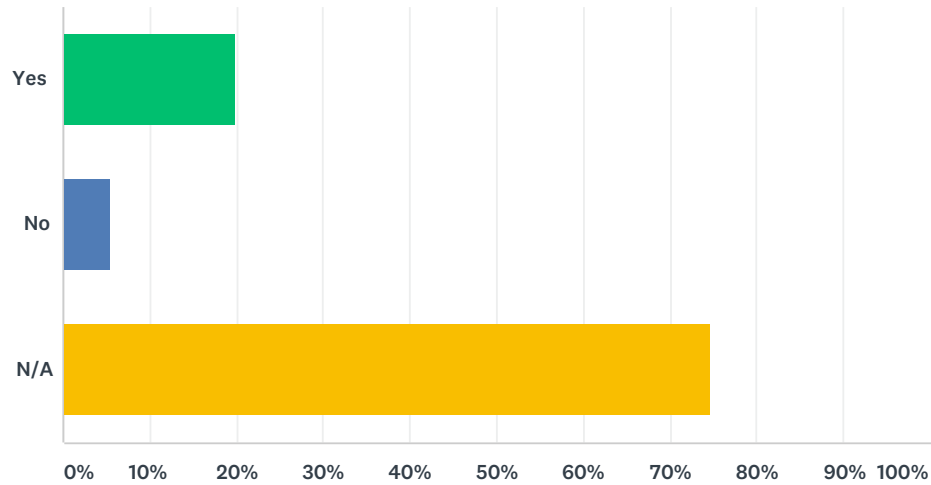
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ANSWER CHOICES		RESPONSES	
More than 4 times		10.71%	12
2 to 3 times		7.14%	8
1 time		7.14%	8
No		75.00%	84
TOTAL			112

Q6 If yes, are there typically enough bicycles available when you want to use the bikeshare program?

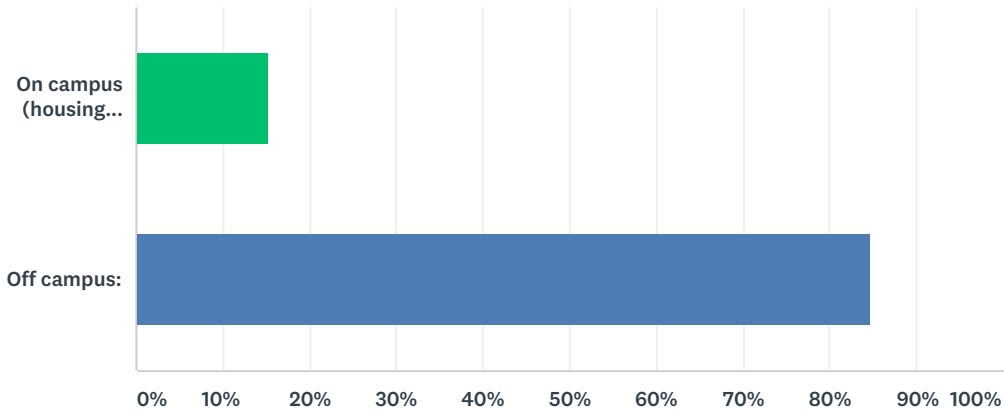
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ANSWER CHOICES		RESPONSES	
Yes		19.82%	22
No		5.41%	6
N/A		74.77%	83
TOTAL			111

Q7 Where do you live?

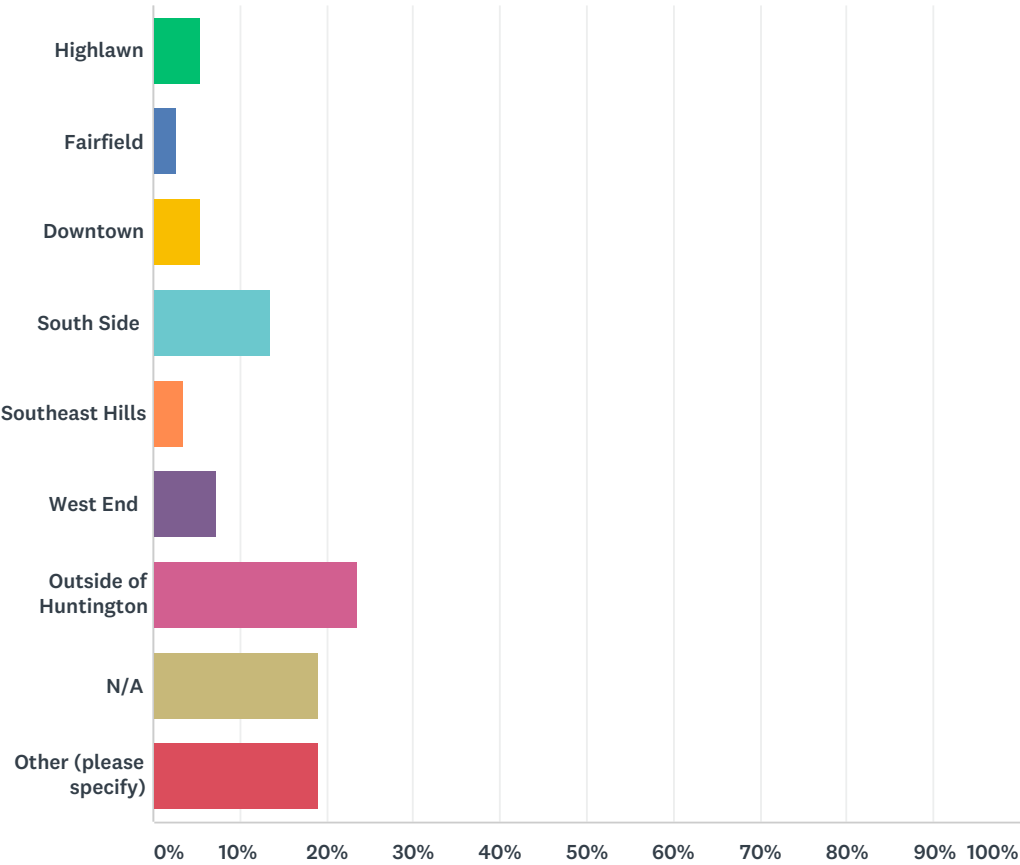
Answered: 112 Skipped: 0



ANSWER CHOICES		RESPONSES	
On campus (housing provided by Marshall University)		15.18%	17
Off campus:		84.82%	95
TOTAL			112

Q8 If you live off campus, in which neighborhood do you live?

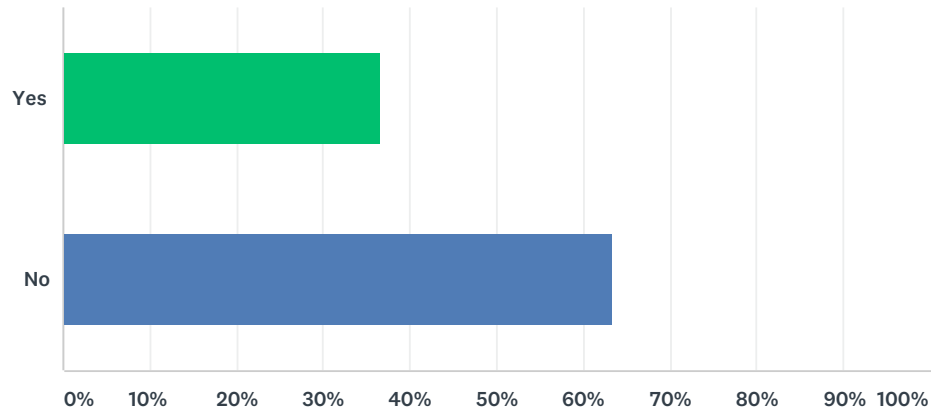
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ANSWER CHOICES	RESPONSES	
Highlawn	5.45%	6
Fairfield	2.73%	3
Downtown	5.45%	6
South Side	13.64%	15
Southeast Hills	3.64%	4
West End	7.27%	8
Outside of Huntington	23.64%	26
N/A	19.09%	21
Other (please specify)	19.09%	21
TOTAL		110

Q9 Do you ever commute to class or elsewhere by bicycle?

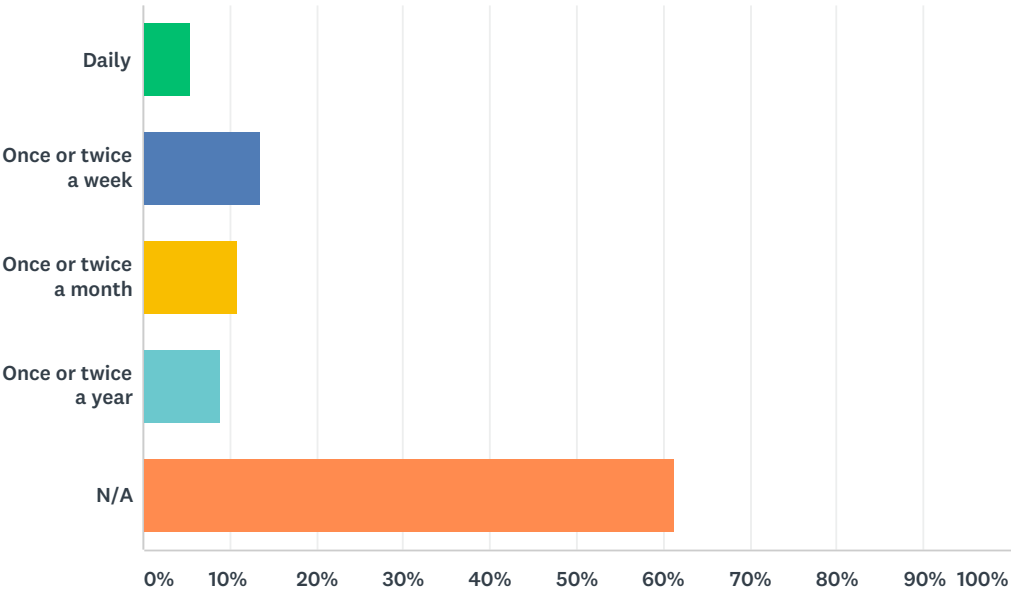
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ANSWER CHOICES		RESPONSES	
Yes		36.61%	41
No		63.39%	71
TOTAL			112

Q10 If yes, how often?

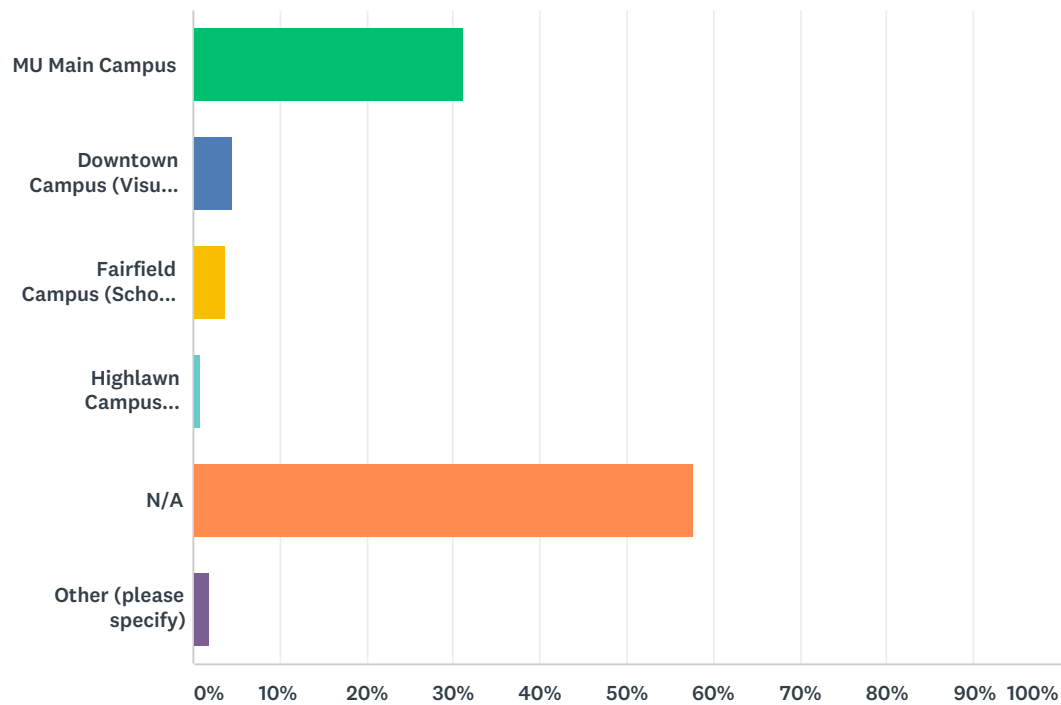
Answered: 111 Skipped: 1



ANSWER CHOICES	RESPONSES	
Daily	5.41%	6
Once or twice a week	13.51%	15
Once or twice a month	10.81%	12
Once or twice a year	9.01%	10
N/A	61.26%	68
TOTAL		111

Q11 If yes to a campus location, to which campus(s) do you commute?

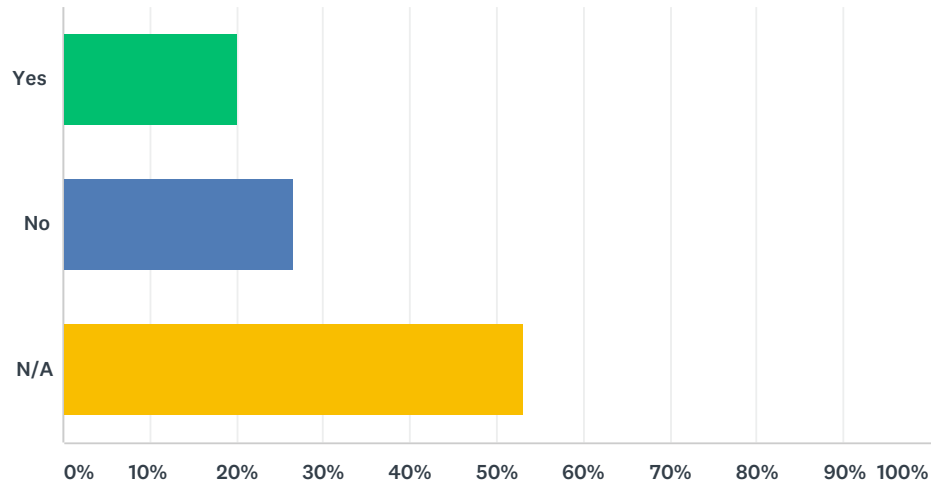
Answered: 109 Skipped: 3



ANSWER CHOICES	RESPONSES	
MU Main Campus	31.19%	34
Downtown Campus (Visual Arts Center, RCBI, Dietetics)	4.59%	5
Fairfield Campus (School of Medicine, School of Pharmacy, Forensic Science, etc.)	3.67%	4
Highlawn Campus (Stadium, Art Warehouse, Soccer Practice Facility)	0.92%	1
N/A	57.80%	63
Other (please specify)	1.83%	2
TOTAL		109

Q12 Is there adequate bike parking in the location(s) where you commute?

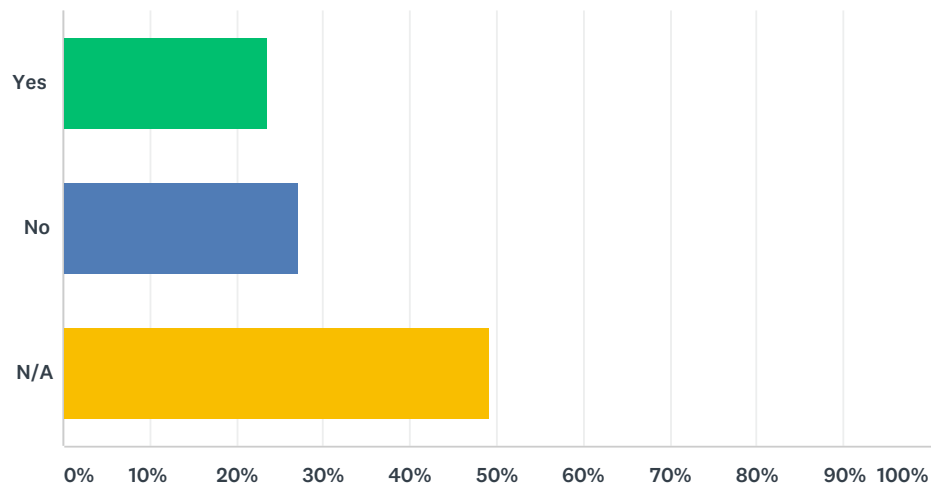
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ANSWER CHOICES		RESPONSES	
Yes		20.18%	22
No		26.61%	29
N/A		53.21%	58
TOTAL			109

Q13 Do you have safe, secure bike parking where you commute?

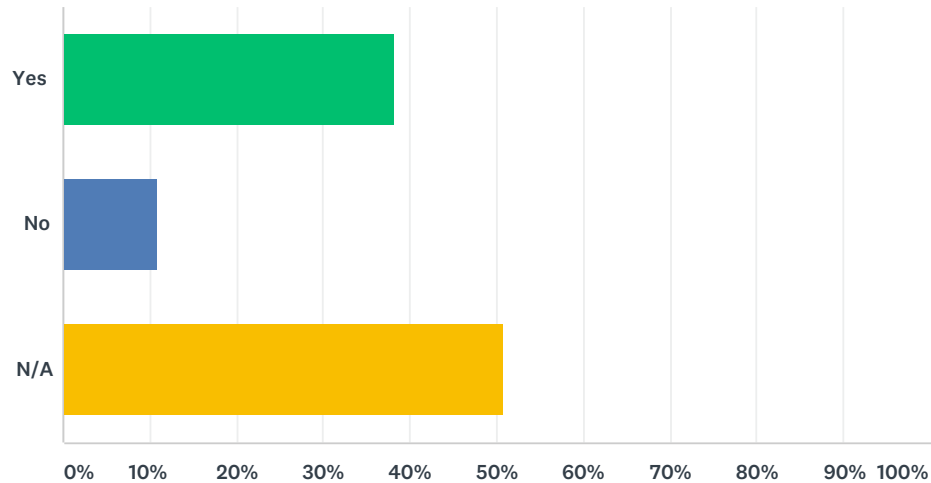
Answered: 110 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	23.64%	26
No	27.27%	30
N/A	49.09%	54
TOTAL		110

Q14 If no, would you commute by bike if you had safe, secure bike parking?

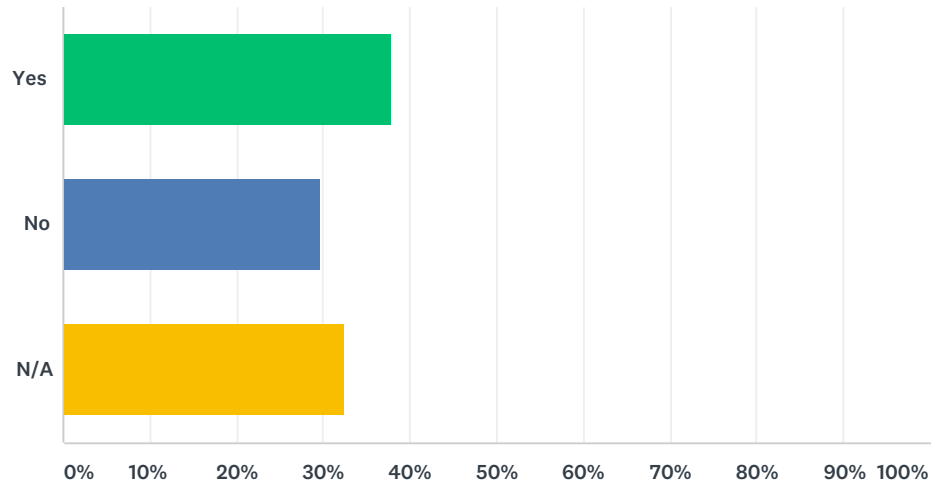
Answered: 110 Skipped: 2



ANSWER CHOICES		RESPONSES	
Yes		38.18%	42
No		10.91%	12
N/A		50.91%	56
TOTAL			110

Q15 Do you have specific safety concerns about the location(s) where you commute?

Answered: 111 Skipped: 1



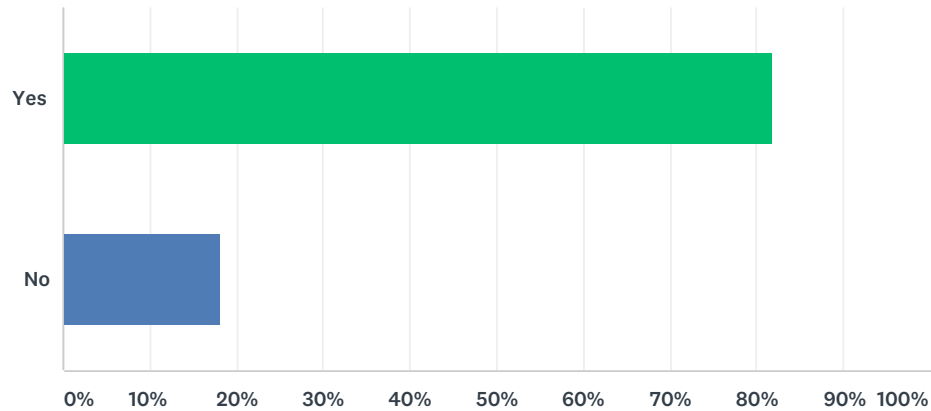
ANSWER CHOICES		RESPONSES	
Yes		37.84%	42
No		29.73%	33
N/A		32.43%	36
TOTAL			111

Q16 If yes, please elaborate

Answered: 55 Skipped: 57

Q17 Do you ever ride a bike for exercise / recreation?

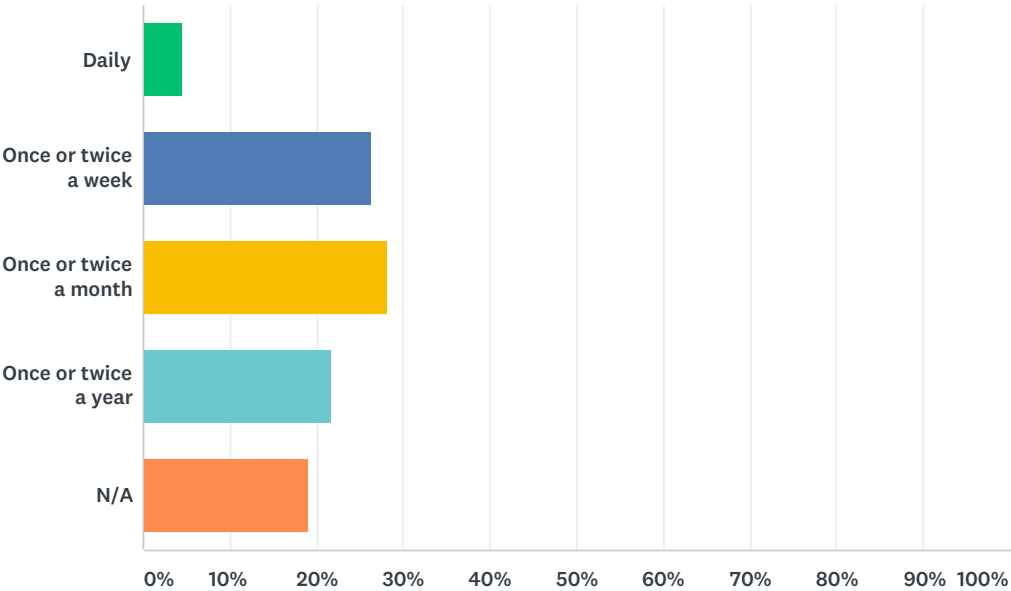
Answered: 110 Skipped: 2



ANSWER CHOICES		RESPONSES	
Yes		81.82%	90
No		18.18%	20
TOTAL			110

Q18 If yes, how often?

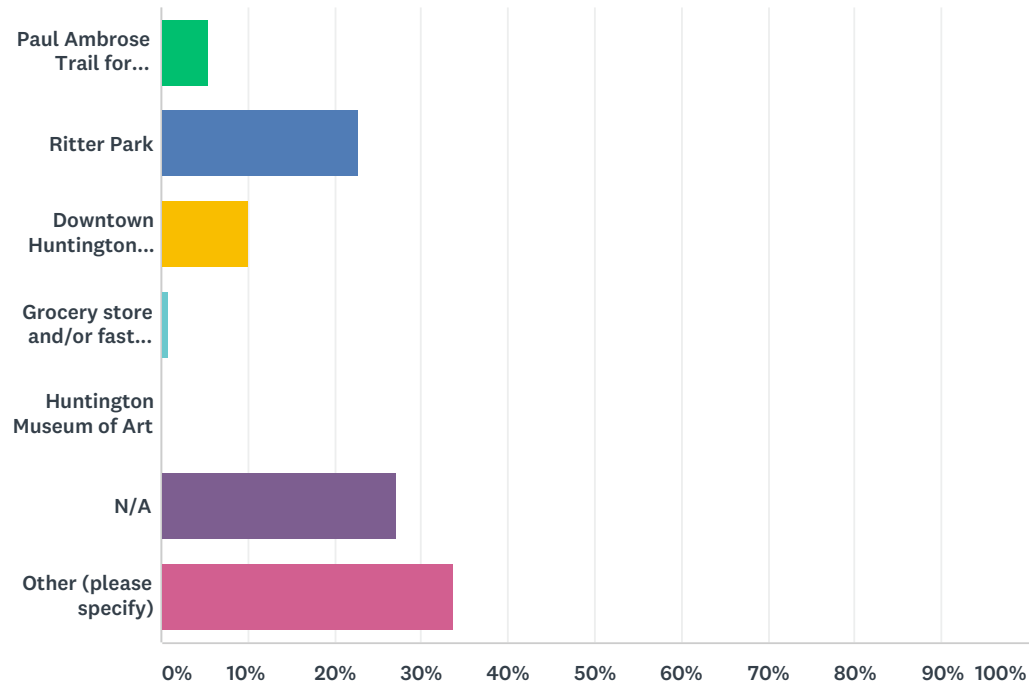
Answered: 110 Skipped: 2



ANSWER CHOICES		RESPONSES	
Daily		4.55%	5
Once or twice a week		26.36%	29
Once or twice a month		28.18%	31
Once or twice a year		21.82%	24
N/A		19.09%	21
TOTAL			110

Q19 If yes, to which locations do you ride?

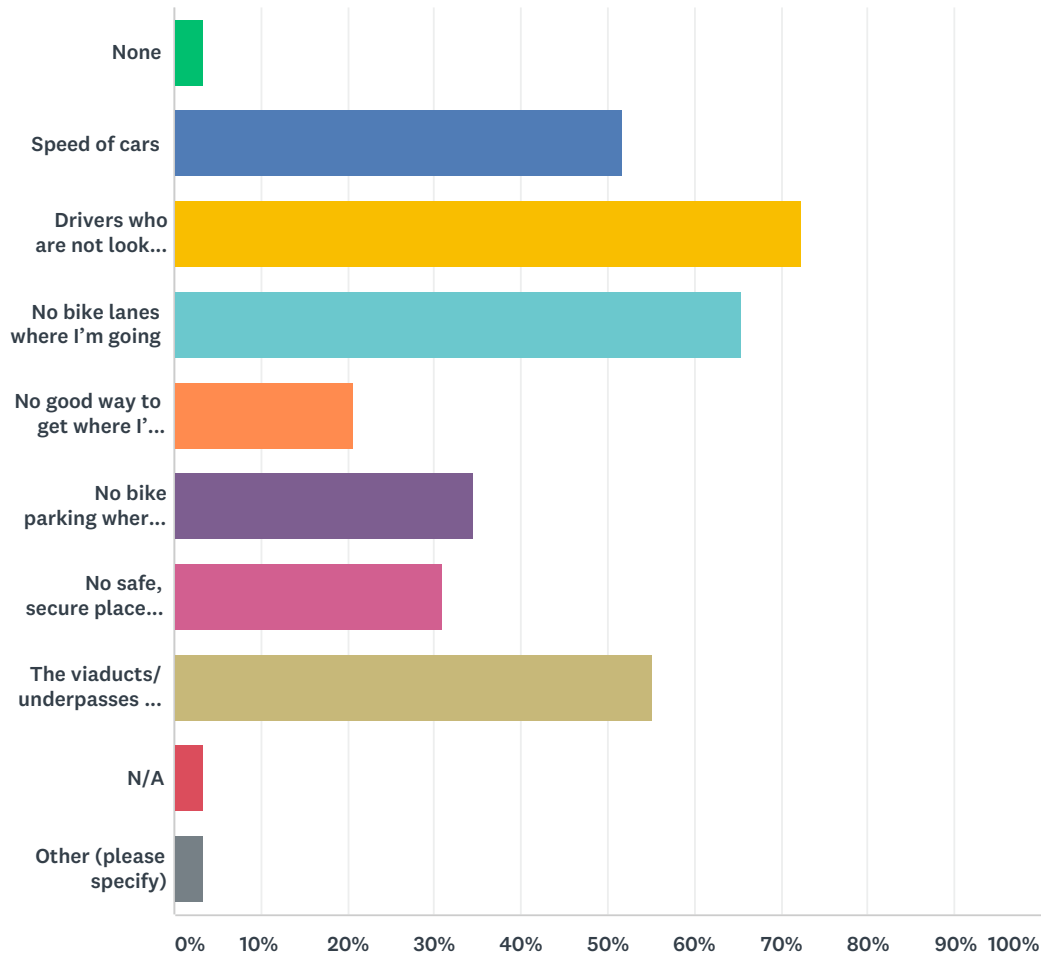
Answered: 110 Skipped: 2



ANSWER CHOICES	RESPONSES	
Paul Ambrose Trail for Health	5.45%	6
Ritter Park	22.73%	25
Downtown Huntington (restaurants, bars, shopping, movies, Harris Riverfront Park)	10.00%	11
Grocery store and/or fast food locations on Fifth Avenue	0.91%	1
Huntington Museum of Art	0.00%	0
N/A	27.27%	30
Other (please specify)	33.64%	37
TOTAL		110

Q20 What concerns do you have about riding a bike in Huntington:

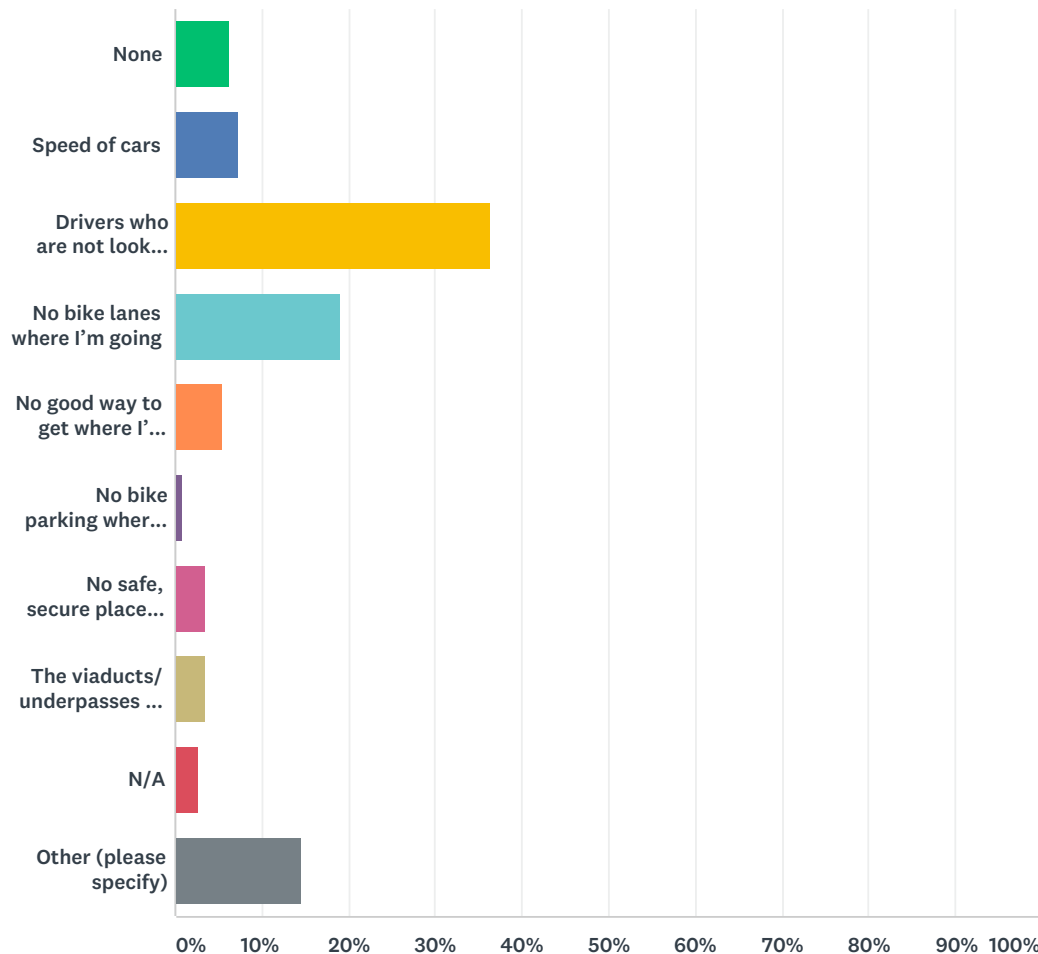
Answered: 29 Skipped: 83



ANSWER CHOICES	RESPONSES	
None	3.45%	1
Speed of cars	51.72%	15
Drivers who are not looking out for bikes	72.41%	21
No bike lanes where I'm going	65.52%	19
No good way to get where I'm going on a bike	20.69%	6
No bike parking where I'm going	34.48%	10
No safe, secure place to store my bike where I'm going	31.03%	9
The viaducts/ underpasses at the railroad	55.17%	16
N/A	3.45%	1
Other (please specify)	3.45%	1
Total Respondents: 29		

Q21 What is the MOST important concern you have about riding a bike in Huntington?

Answered: 110 Skipped: 2

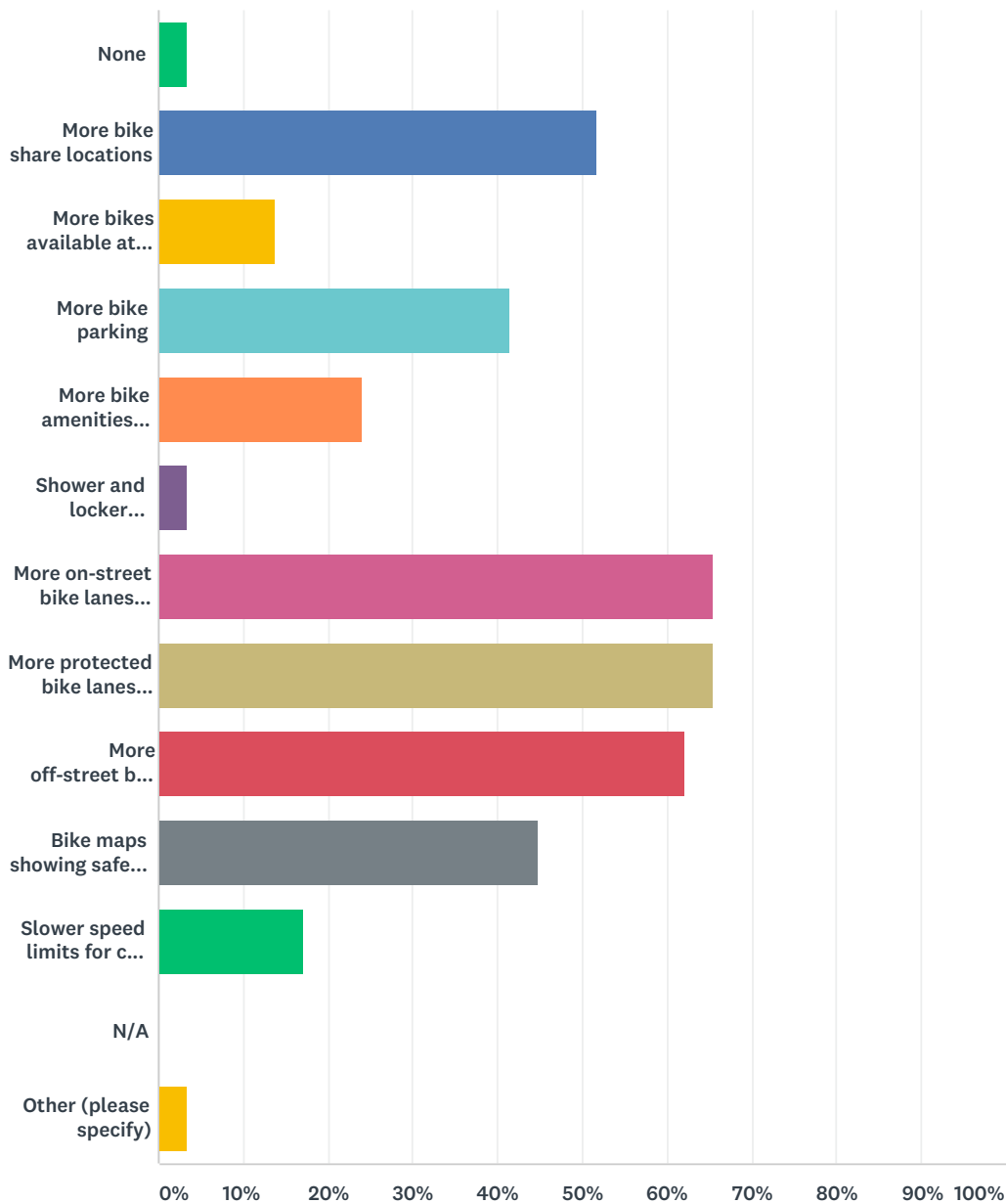


ANSWER CHOICES	RESPONSES	
None	6.36%	7
Speed of cars	7.27%	8
Drivers who are not looking out for bikes	36.36%	40
No bike lanes where I'm going	19.09%	21
No good way to get where I'm going on a bike	5.45%	6
No bike parking where I'm going	0.91%	1
No safe, secure place to store my bike where I'm going	3.64%	4
The viaducts/ underpasses at the railroad	3.64%	4
N/A	2.73%	3
Other (please specify)	14.55%	16

TOTAL	110
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Q22 What improvements would encourage you to ride a bike more often?

Answered: 29 Skipped: 83

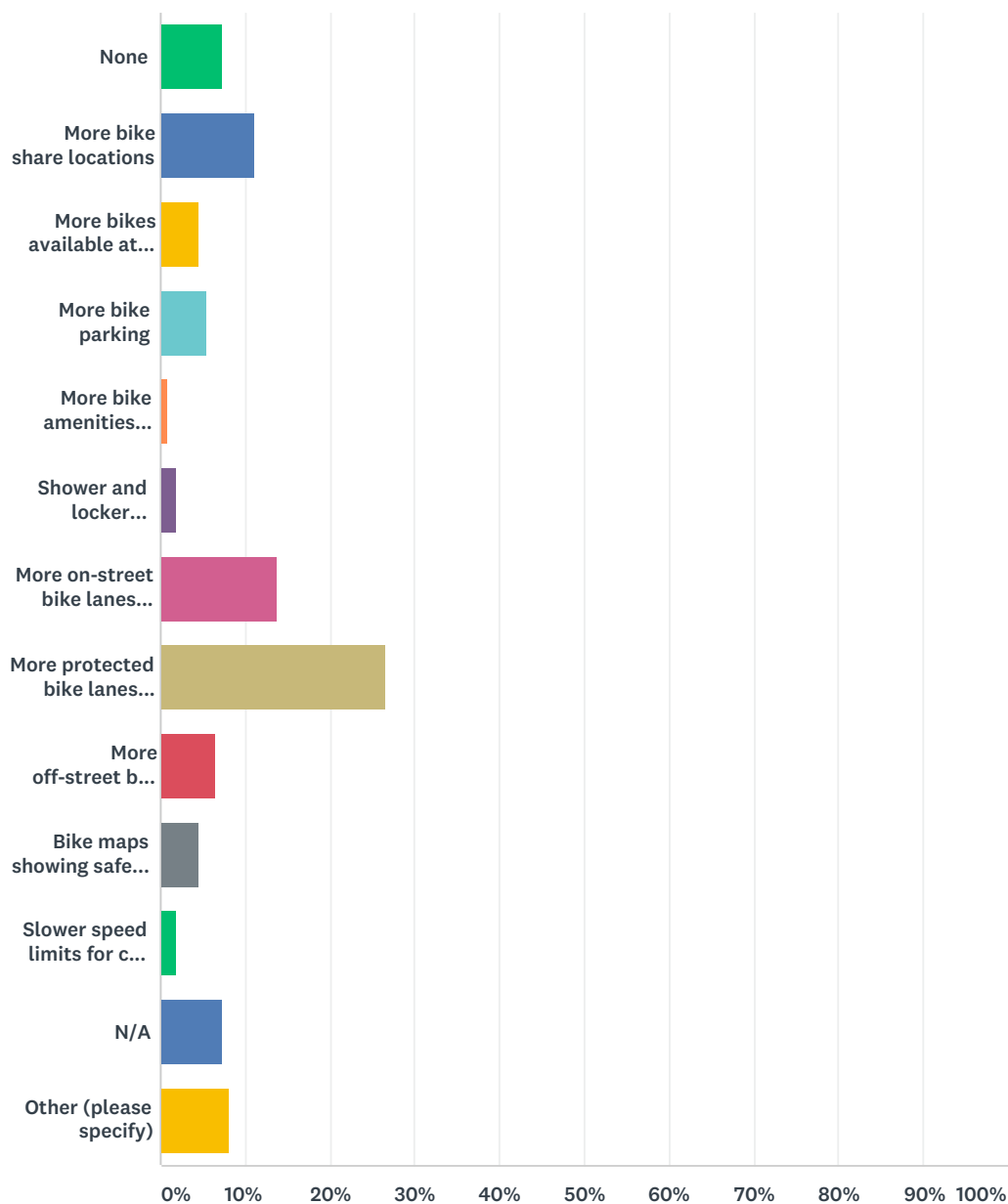


ANSWER CHOICES	RESPONSES	
None	3.45%	1
More bike share locations	51.72%	15
More bikes available at bike share locations	13.79%	4
More bike parking	41.38%	12
More bike amenities (lockers, bike tool stations)	24.14%	7
Shower and locker facilities at campus locations	3.45%	1

More on-street bike lanes (i.e. 4th Avenue between campus and downtown)	65.52%	19
More protected bike lanes (curb or other physical separation from autos)	65.52%	19
More off-street bike lanes (i.e. Ritter Park to Harveytown Park trail)	62.07%	18
Bike maps showing safest routes to various places around town	44.83%	13
Slower speed limits for cars on roads with bike lanes	17.24%	5
N/A	0.00%	0
Other (please specify)	3.45%	1
Total Respondents: 29		

Q23 What improvement would MOST encourage you to ride a bike more often?

Answered: 109 Skipped: 3

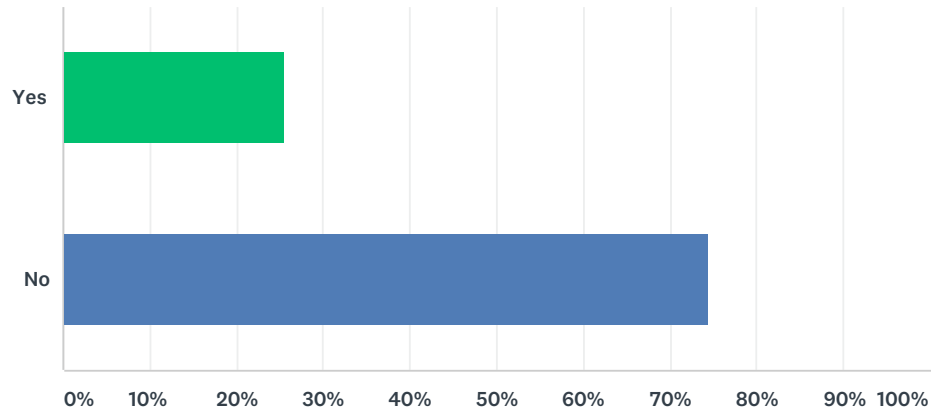


ANSWER CHOICES	RESPONSES	
None	7.34%	8
More bike share locations	11.01%	12
More bikes available at bike share locations	4.59%	5
More bike parking	5.50%	6
More bike amenities (lockers, bike tool stations)	0.92%	1

Shower and locker facilities at campus locations	1.83%	2
More on-street bike lanes (i.e. 4th Avenue between campus and downtown)	13.76%	15
More protected bike lanes (curb or other physical separation from autos)	26.61%	29
More off-street bike lanes (i.e. Ritter Park to Harveytown Park trail)	6.42%	7
Bike maps showing safest routes to various places around town	4.59%	5
Slower speed limits for cars on roads with bike lanes	1.83%	2
N/A	7.34%	8
Other (please specify)	8.26%	9
TOTAL		109

Q24 Do you ever use an app (i.e. Strava, Map My Ride, Garmin) when biking?

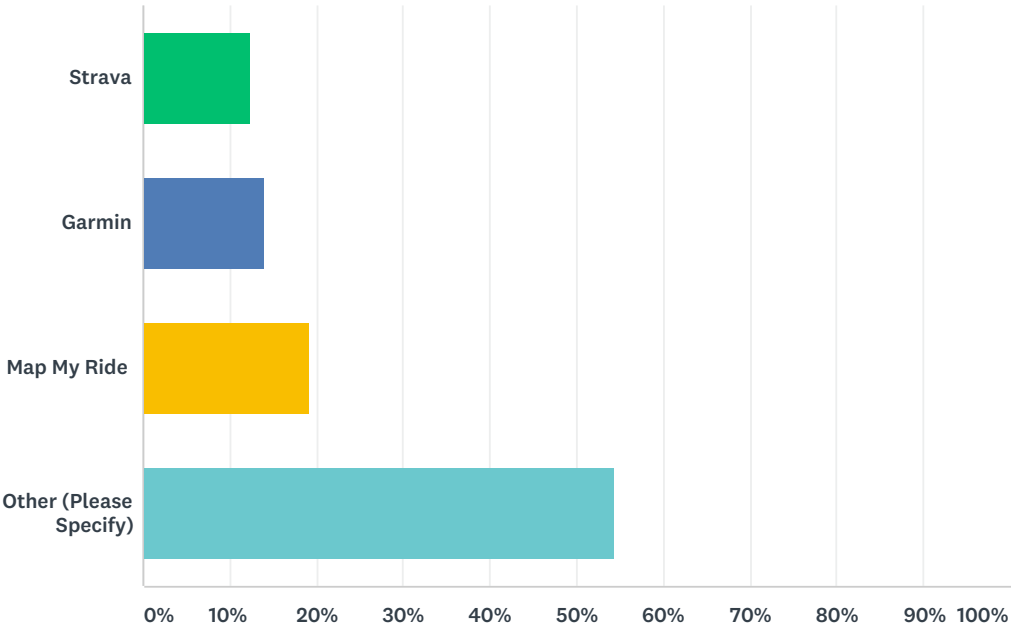
Answered: 110 Skipped: 2



ANSWER CHOICES		RESPONSES	
Yes		25.45%	28
No		74.55%	82
TOTAL			110

Q25 If so, which app do you use?

Answered: 57 Skipped: 55



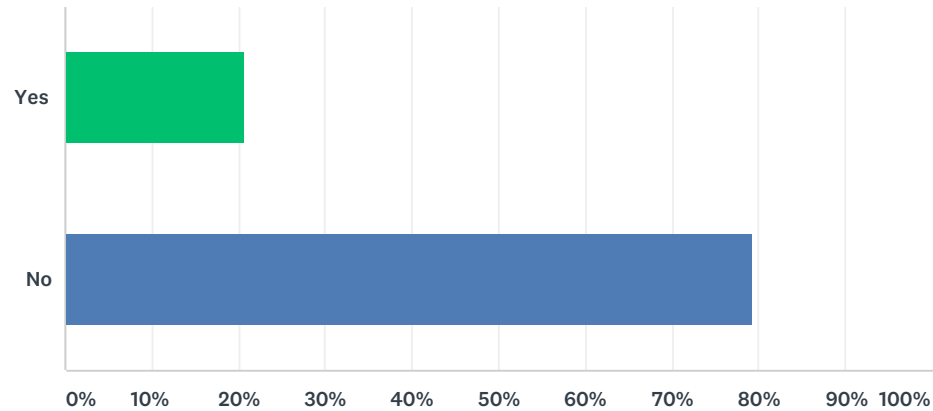
ANSWER CHOICES	RESPONSES	
Strava	12.28%	7
Garmin	14.04%	8
Map My Ride	19.30%	11
Other (Please Specify)	54.39%	31
TOTAL		57

Q26 Do you have other information that you would like to share to inform the MU Bicycle Plan?

Answered: 46 Skipped: 66

Q27 Would you like to be invited to an on-campus meetings regarding the MU Bicycle Plan?

Answered: 101 Skipped: 11



ANSWER CHOICES	RESPONSES	
Yes	20.79%	21
No	79.21%	80
TOTAL		101

Q28 If yes, please provide your email address

Answered: 30 Skipped: 82