



Valencia College West Campus Technical Memorandum

April 27, 2023



CITY OF
ORLANDO

SOUTHWEST BIKE AND PEDESTRIAN STUDY

Valencia College West Campus Technical Memorandum

CONTENTS

1.0	Introduction	1
2.0	Previous Plans & Studies	3
2.1	Valencia College Circulation Plan	3
2.2	2020 City of Orlando Bike Plan Update	3
2.3	Vision Zero	3
3.0	Existing Area Characteristics	7
3.1	Bike and Pedestrian Crashes	7
3.2	Existing Transit Service	7
3.3	Pedestrian Level of Service	9
3.4	Valencia College Students Mode of Transportation	11
4.0	West Campus Outreach Activities	12
4.1	Kickoff Meeting	12
4.2	West Campus Walking Audit and Workshop	12
5.0	Proposed Improvements	14
5.1	Introduction	14
5.2	Improvement Areas	14
5.2.1	Area 1	14
5.2.2	Area 2	15
5.2.3	Area 3	16
5.2.4	Area 4	19
5.2.5	Area 5	20
5.2.6	Area 6	21
5.2.7	Scoring and Ranking of Potential Treatments	21
6.0	Recommendations	24
	Appendix	26



Valencia College West Campus Technical Memorandum

FIGURES

Figure 1 Southwest Bike and Pedestrian Study Area	2
Figure 2 Valencia College - West Campus Circulation Plan	4
Figure 3 Orlando Bike Plan Proposed Separated Bikeway Network	5
Figure 4 High Injury Network	6
Figure 5 Bike and Pedestrian Crashes (2012-2017) Heat Map	8
Figure 6 West Campus Existing Transit Service	7
Figure 7 Pedestrian Level of Service Map	10
Figure 8 Valencia College Mode of Transportation Survey Response	11
Figure 9 Walking Audit Route	12
Figure 10 Valencia College - West Campus Potential Improvements	14
Figure 11 Area 1 Potential Improvements	15
Figure 12 Area 2 Potential Improvements	16
Figure 13 Area 3 Potential Improvements	17
Figure 14 Multi-Use Trail and Valencia College Drive Crossing Treatment Examples	18
Figure 15 Walmart Plaza Connection to Multi-Use Trail Option 1 (Preferred)	18
Figure 16 Walmart Plaza Connection to Multi-Use Trail Option 2	18
Figure 17 Walmart Plaza Location for Additional Sidewalk	19
Figure 18 Area 4 Potential Improvements	20
Figure 19 Area 5 Potential Improvements	21
Figure 20 Walking Audit Survey Response for Evaluation Criteria Development	22
Figure 21 Recommended Improvements for Valencia College - West Campus	25

TABLES

Table 1 Workshop Recommendations	13
Table 2 Potential Improvements Rank and Score	23



Valencia College West Campus Technical Memorandum

1.0 Introduction

The purpose of the Southwest Orlando Bike and Pedestrian Study is to identify and develop recommendations and concepts to improve conditions and the environment for people currently or desiring to walk or ride a bike safely and connect to key destinations in southwest Orlando within the city limits but generally bounded by SR 408, John Young Parkway, Sand Lake Road and Hiwassee Road (see **Figure 1**). This study will build on recent planning efforts such as the Orlando Bike Plan and Vision Zero Action Plan, as well as the recently completed pedestrian and bicycle infrastructure projects. The study area has a strong economic base containing Universal Studios and the International Drive Tourist District, which rely heavily on service and entertainment workers. The area also contains Valencia College West Campus and industrial parks that use different aspects of the city's transportation network. The transportation network within the study area is served by large arterial roadways with limited transit service and an insufficient amount of bicycle and pedestrian infrastructure.

This study will address the challenges identified for bicyclists and pedestrians to establish a more comfortable environment for all modes along heavily traveled streets, as well as providing enhanced street crossing opportunities. The overall study will combine five separate, but interrelated tasks to analyze and recommend improvements that will connect people in this area of the city to jobs, schools, and entertainment uses. The five tasks are related to the following:

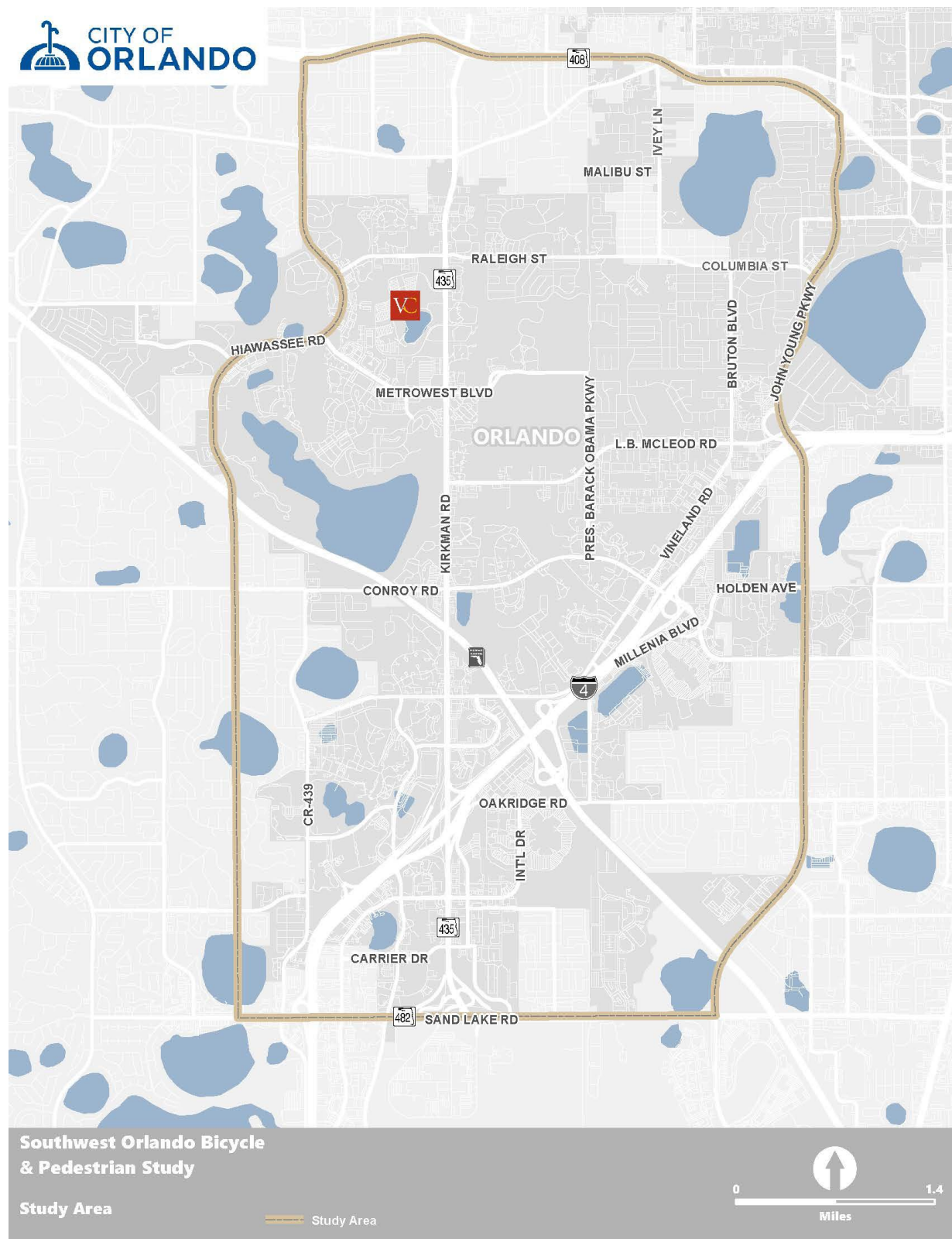
1. Arterial roadway crash analysis / Safety analysis
2. Valencia College West Campus bicycle and pedestrian study
3. Pedestrian and bicycle overpass locations feasibility analysis
4. Off-street trail concepts and connectivity study
5. Pedestrian walking conditions analysis / recommendations

Valencia College West Campus is one of the larger campuses in Central Florida encompassing a total of 180 acres which includes school buildings, a trail network, pedestrian circulation system, and five roadway connections to the surrounding transportation network. The college is mainly a commuter school but there is a growing need to better address internal and external safety and connectivity with the transportation network for pedestrians and bicyclists. This technical memorandum summarizes the Valencia College West Campus Bicycle and Pedestrian Study. This element of the project involves identifying improvements to enhance connectivity and safety for access to and within the Valencia College West Campus for students, faculty, staff, and visitors that choose to walk, bike, or take transit. The study builds upon previous campus planning work, including the West Campus Circulation Plan, and recent and current infrastructure improvements.



Valencia College West Campus Technical Memorandum

Figure 1 | Southwest Bike and Pedestrian Study Area



Valencia College West Campus Technical Memorandum

2.0 Previous Plans & Studies

2.1 Valencia College Circulation Plan

The Valencia College – West Campus Circulation Plan highlights proposed improvements to enhance the pedestrian/bicycle network within campus. **Figure 2** shows the Circulation Plan as well recently completed improvements such as the roundabout at Valencia College Drive and Metrocenter Boulevard, the newly paved campus multi-use trail connecting to Kirkman Road at Metropolis Way, new sidewalk on Valencia College Drive, and the new path along Kirkman Road.

2.2 2020 City of Orlando Bike Plan Update

The 2020 City of Orlando Bike Plan Update is the city’s strategic guide for improving its bicycling environment. The vision statement for the city’s bikeway network was developed around five themes: comfort, connectivity, equity, safety, and culture. The updated plan identifies a visionary bikeway network of more than 850 miles of low-stress bikeways with a mix of facility types such as low-cost and easy-to-implement bicycle boulevards, street retrofits for separated bike lanes, and new sections of shared-use path. The visionary bikeway network will serve as the foundation for advancing new shared use path concepts within the southwest Orlando area.

Figure 3 shows the network of existing trails and proposed separated bikeways from the Bike Plan’s visionary bikeway network. Separated bikeways may be shared use paths or exclusive and physically separated bike lanes. Key future connections in the vicinity of Valencia College West Campus include separated bikeways along Raleigh Street and Metrocenter Boulevard. Design has been completed for a 12-foot shared-use path along the north side of Raleigh Street from Kirkman Road to Lescot Lane with construction moving forward in the near term.

2.3 Vision Zero

The City of Orlando adopted a resolution in December 2017 with a goal to eliminate traffic fatalities and serious injuries by the year 2040. The Vision Zero Action Plan published in 2021 provides a structure and necessary strategies for city government, residents, visitors, and businesses to work together to reach this goal. The plan follows the fundamental premises that:

- Everyone has the right to move safely in their communities
- System designers and policy makers share responsibility to ensure safe systems of travel
- Traffic deaths are preventable
- A data-based approach will promote equitable, safe transportation

The plan also identifies a High Injury Network (HIN) with corridors and intersections where serious or fatal crashes occur most often.

A map of the HIN specifically related to bicycle and pedestrian crashes is presented in **Figure 4**. No areas of the West Campus are included in the HIN, but there are nearby locations along the major roadways used to access campus, including segments of Kirkman Road from Raleigh Street to Westgate Drive and from Conroy Road to LB McLeod Road, as well as the intersection of Kirkman Road at Conroy Road, and Hiawasse Road at Lake Debra Drive.



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Figure 2 | Valencia College - West Campus Circulation Plan

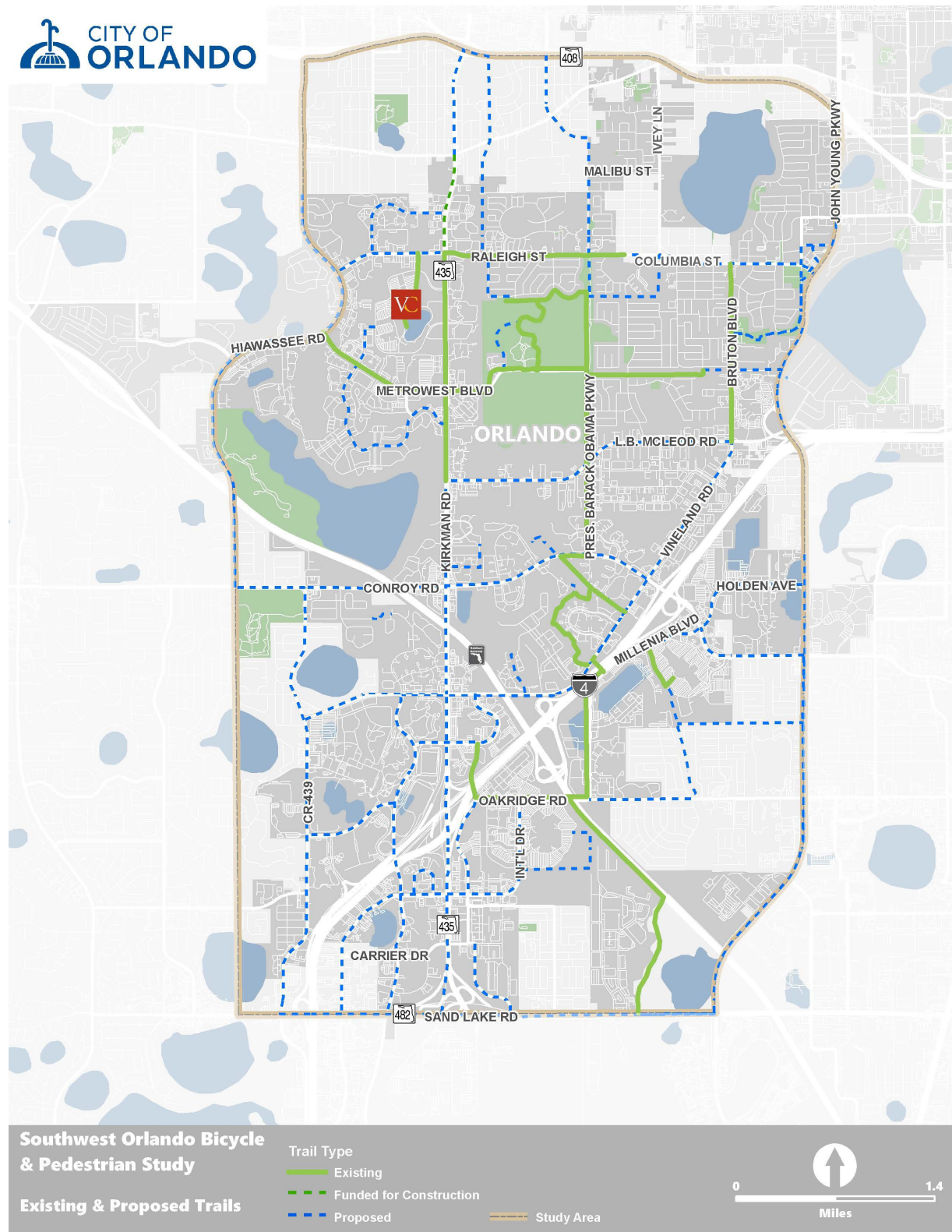


Completed Improvements



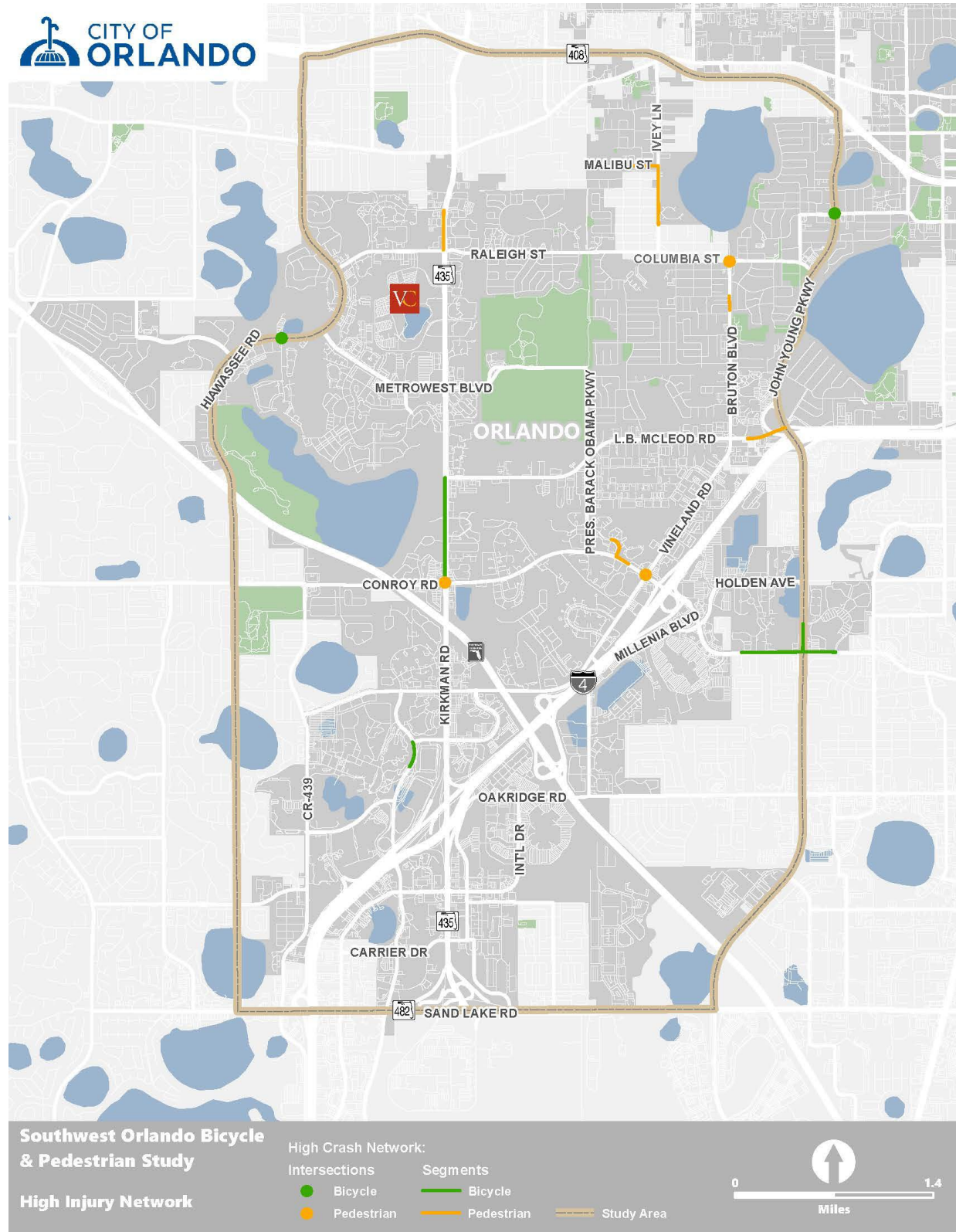
Valencia College West Campus Technical Memorandum

Figure 3 | Orlando Bike Plan Proposed Separated Bikeway Network



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Figure 4 | High Injury Network



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3.0 Existing Area Characteristics

3.1 Bike and Pedestrian Crashes

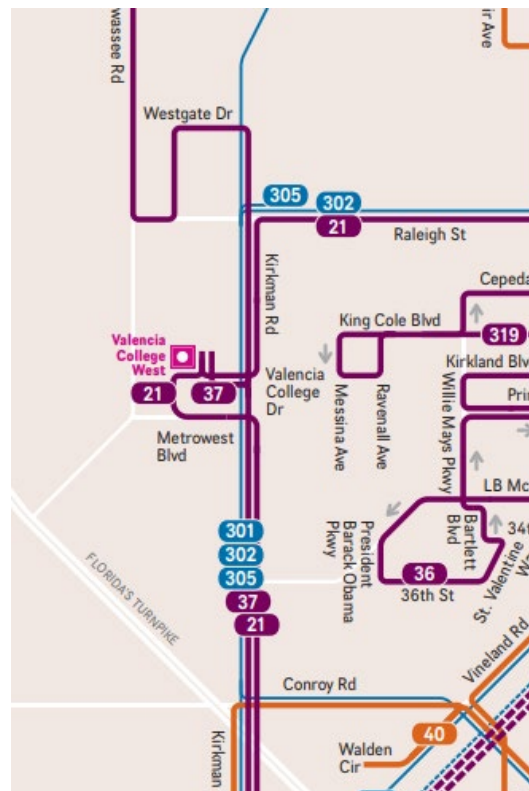
Figure 5 presents a heat map of bicycle and pedestrian crashes within the project study area based on the data from the Vision Zero Action Plan, encompassing crashes from 2012 through 2017. As shown, there is a high concentration of crashes surrounding the campus, especially on Kirkman Road. Some areas of interest around the campus include the intersection of Kirkman Road and Metrowest Boulevard, as well as the area just north of that intersection; the intersection of Kirkman Road and South Valencia College Drive (a main campus access point); and at the intersection of Kirkman Road and Raleigh Street, as well as the area just north of that intersection.

3.2 Existing Transit Service

Currently there are five LYNX routes that service stops on and around the West Campus area, as shown and described in Figure 6. Two LYNX routes provide direct service to the on-campus LYNX stop, LINK 21 and LINK 37. LYNX ridership data from 2020 indicates that an average of 130 people use these two routes to the on-campus stop each weekday. Routes that service the stop south of Raleigh Street include the two listed above as well as LINKS 301, 302, and 305, which also provide connections to the Disney area. The stop south of Raleigh Street has an average weekday ridership of 106 individuals. The LYNX stop at the Walmart Plaza south of campus sees an average weekday ridership of 155 individuals. This stop is serviced by LINKS 37, 301, 302, and 305.

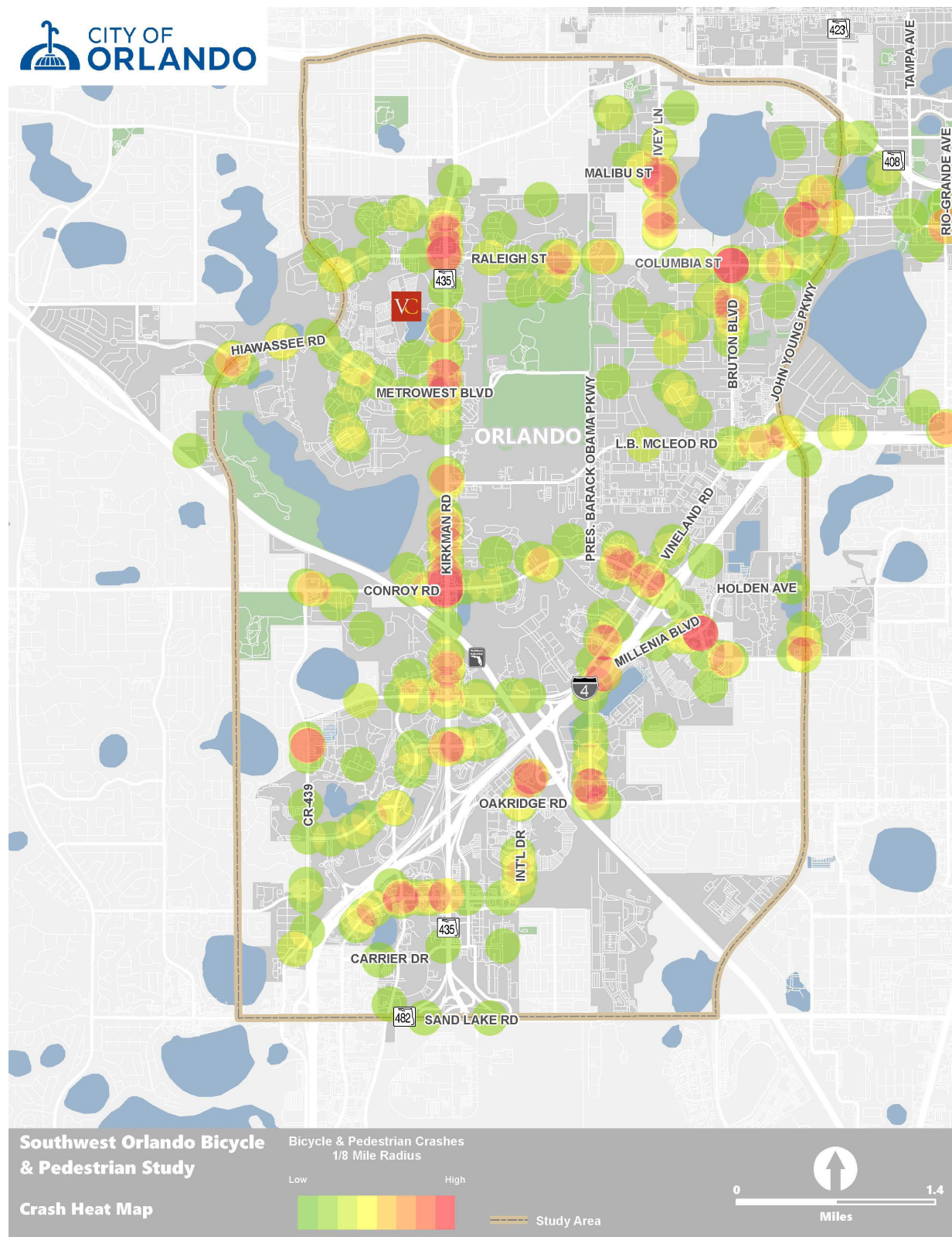
Figure 5 | West Campus Existing Transit Service

LYNX Route	Route Description
LINK 21	LYNX Central Station to Sand Lake Commons
LINK 37	Florida Mall to Silver Star Road and Hiwassee Road
LINK 301	Silver Star Road and Hiwassee Road to Animal Kingdom
LINK 302	Rosemont to Polynesian Resort
LINK 305	Kirkman Road and Raleigh Street to Disney's All-Star Resort



Valencia College West Campus Technical Memorandum

Figure 6 | Bike and Pedestrian Crashes (2012-2017) Heat Map



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3.3 Pedestrian Level of Service

Pedestrian Level of Service (PLOS) was used to provide a snapshot of existing walking conditions provided by major roadways within the project study area. This analysis tool provides an objective measure of pedestrians' perceived safety and comfort while walking along a roadway. It was originally developed for the Florida Department of Transportation (FDOT) using real-time pedestrian observations of a wide variety of roadway walking conditions. Since its inception, it has been used by myriad agencies and communities throughout Florida and the United States and has long been adopted into both the FDOT *Quality/Level of Service Handbook* and the Transportation Research Board's *Highway Capacity Manual*.

The evaluation of walking conditions is based on a variety of roadway traffic and geometric characteristics, focusing on the degree of separation between roadway traffic and the walking environment. Specifically, the analysis is based on the following inputs:

- Traffic volume (Annual Average Daily Traffic)
- Traffic speed (posted speed limit)
- Outside travel lane width (feet)
- Paved shoulder or bike lane presence/width (feet)
- Occupied on-street parking (%)
- Sidewalk presence/width (feet)
- Buffer width between edge of pavement and sidewalk (feet)
- Presence/separation of trees within buffer (feet)

An areawide PLOS analysis was completed for arterial and collector roadways within the southwest Orlando study area. The results indicate a distance-weighted average PLOS score of 3.47 translating to a grade of C for the study network, which compares favorably to other Florida metropolitan areas. Walking conditions in southwest Orlando are aided by the presence of a robust sidewalk network, with sidewalks provided on 87 percent of the arterial and collector system. However, there are still a high number of segments with poor PLOS scores due to a combination of heavy traffic volumes, high speeds, and close proximity of the sidewalk to vehicular traffic. The number of locations with poor scores indicates significant opportunities for improvement. With traffic volumes unlikely to decline, the greatest opportunity to improve walking conditions will be through filling remaining sidewalk gaps and providing additional separation from traffic through wider sidewalks and buffer areas.

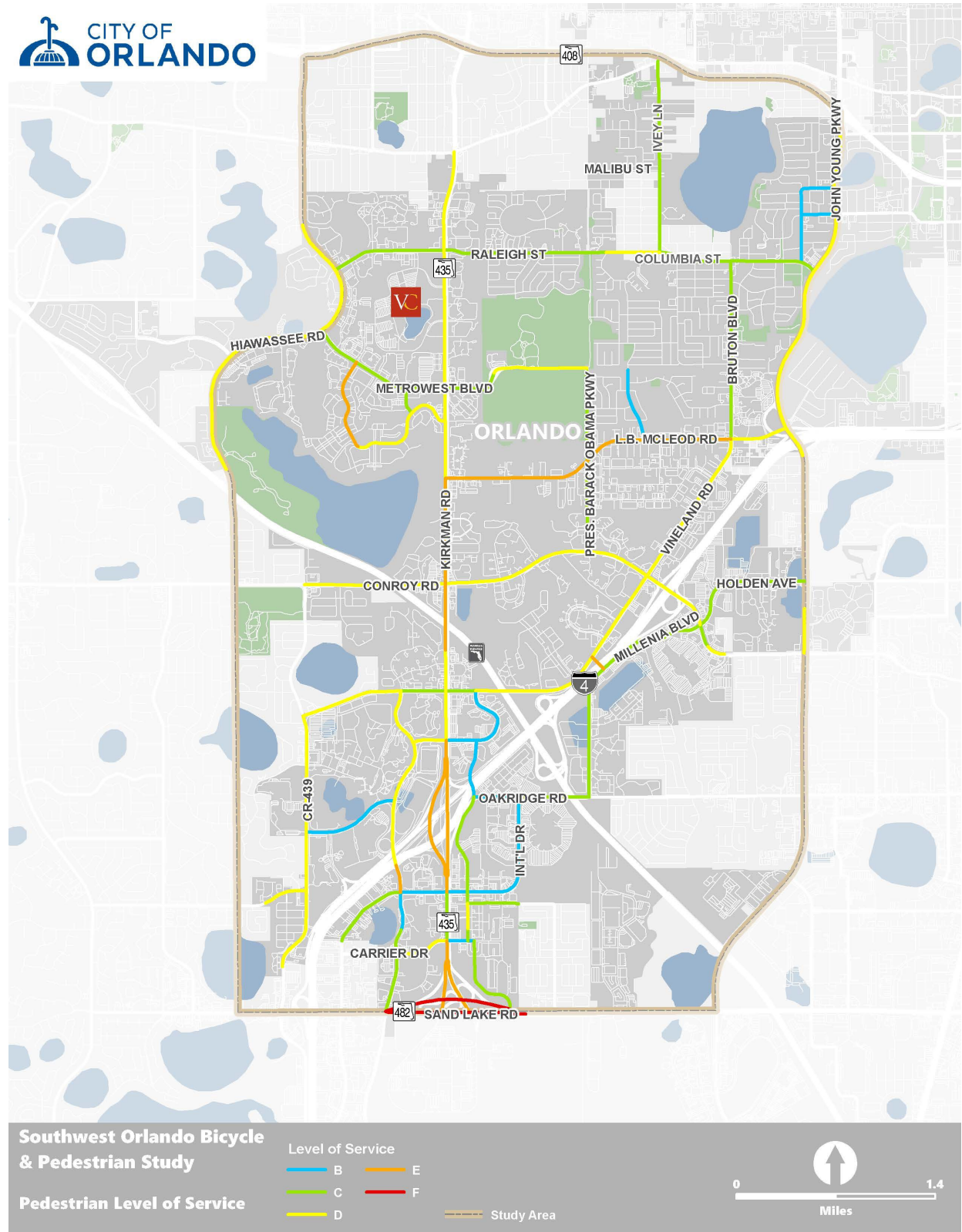
The PLOS analysis results are shown on **Figure 7**. There were no pedestrian facilities that were ranked with a Level of Service "A" within the study area and a majority of the pedestrian infrastructure is operating under Level of Service "C" and "D." In limited cases where the pedestrian level of service grade is different for each side of the street, shows the lower result.

Around the West Campus, PLOS ranges from "C" to "F." Raleigh Street and Metrowest Boulevard are the highest rated at "C;" Hiwassee Road is rated "D;" and Kirkman Road is rated "F."



Valencia College West Campus Technical Memorandum

Figure 7 | Pedestrian Level of Service Map

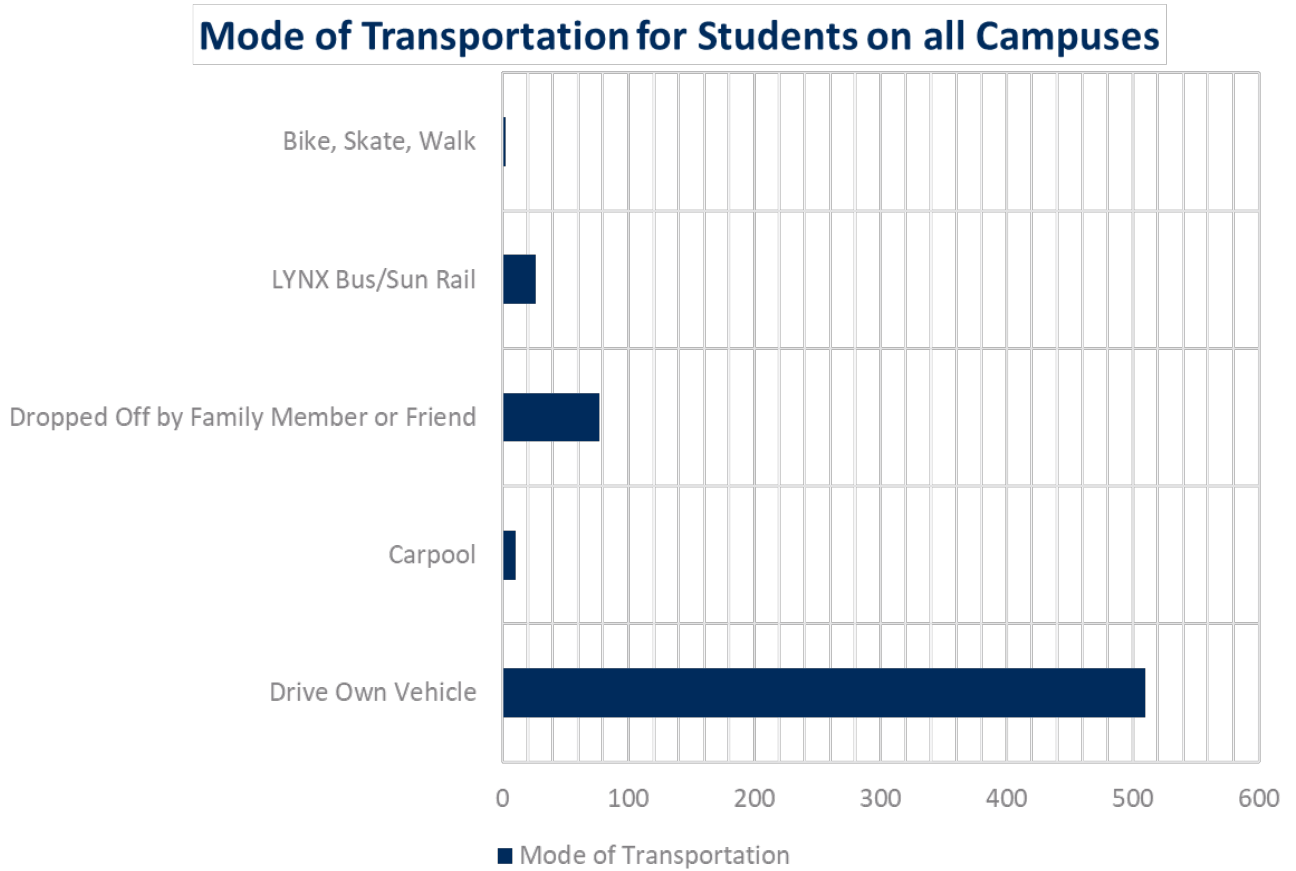


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3.4 Valencia College Students Mode of Transportation

Valencia College distributed a student transportation survey across all eight campuses and received 636 responses. Of those, 39 responses were from students at the West Campus. One of the questions asked what mode of transportation students used to get to and from campus. The results can be seen in **Figure 8** and show that a large majority of the student respondents drive a private vehicle to and from campus, while only a small portion of students either bike, skate, or walk to campus.

Figure 8 | Valencia College Mode of Transportation Survey Response



Valencia College West Campus Technical Memorandum

4.0 West Campus Outreach Activities

4.1 Kickoff Meeting

On August 19, 2021, the Southwest Orlando Bike and Pedestrian Study had a virtual kickoff meeting for the Valencia College – West Campus Study via the Zoom platform. The purpose of this meeting was to discuss the scope of the project, the project approach, and next steps for the Valencia College Bike and Pedestrian Study Task.

4.2 West Campus Walking Audit and Workshop

The purpose of the walking audit/workshop was to assess the conditions for the bike and pedestrian environment within the Valencia College West Campus and main access points to the campus area. Participants also discussed potential improvements that would result in a safer and better-connected campus for walkers and bikers. On Wednesday, November 10, 2021, a total of 14 attendees participated in different portions of the walking audit/workshop, including representatives from the City of Orlando and Valencia College faculty, students, security, and leadership to ensure well-rounded feedback and input on potential solutions. The walking audit targeted one of the busiest days for student activity for the Valencia College West Campus; however, general student and campus activity, including vehicular and pedestrian/bicyclist traffic, were considerably less busy compared to pre-pandemic conditions. The walking audit route included five key locations around campus and the pathways and connections between them, as shown in **Figure 9**. A full summary of the walking audit and workshop is included in the Appendix.

The recommendations from the participants, shown in **Table 1**, were grouped into three categories: lighting and signage, road and path, and bus stop.

Figure 9 | Walking Audit Route



Valencia College West Campus Technical Memorandum

Table 1 | Workshop Recommendations

Workshop Recommendations	
Lighting and Signage	<ul style="list-style-type: none"> • Improve/update lighting and wayfinding signage along shared use paths and trails • Implement advanced pedestrian crossing warning signs for the existing multi-use trail and Valencia College Drive (South) crossing to give drivers more time to stop for pedestrians • Update campus maps and wayfinding signs around campus • Add informational items to signs such as distance around lake, walking and biking times along the trails, etc. • Install updated and consistent/standardized pedestrian crossing signs
Road and Path	<ul style="list-style-type: none"> • Fix cracked and raised sidewalks or broken utility covers • Install speed control treatments along Valencia College Drive (South) for vehicles turning into campus from Kirkman Road • Add median refuge and pedestrian-actuated flashing beacons at new multi-use trail crossing at Valencia College Drive (South) • Trim low hanging vegetation along the campus pathways • Add path connections between new multi-use trail and Walmart Plaza • Consider a more direct and safer route between campus and the Valencia College Headquarters building located west of campus on Park Center Drive • Implement safe, lit, pedestrian entrance along existing unpaved pathway, through trees across from Kirkman Road, aligning with the Verona at Valencia Park Apartment Complex • Add bike lanes or shared use path to Valencia College Drive (South) west of Kirkman Road • Install a shared use path along Metrocenter Boulevard between Metrowest Boulevard and campus • Add median refuge islands with pedestrian buttons to existing signals on Kirkman Road adjacent to campus • Install ground-level locators along trails to improve safety and aid in location of individuals in emergencies • Consider bike and pedestrian connections to Hiwassee Road and Turkey Lake Road • Implement charging facilities for e-bikes and e-scooters
Bus Stop	<ul style="list-style-type: none"> • Provide pedestrian access to/from off-campus LYNX stop on Kirkman Road, south of Raleigh Street • Improve on-campus LYNX stop turnaround to prevent buses encroaching into sidewalk to complete U-turn • Add bike racks at the on-campus LYNX stop • Improve accessibility for on-campus LYNX stop from parking lot on south side of campus bus stop • Add pedestrian crossing at LYNX stops on Metrocenter Boulevard • Install “PawPass” signs and improve awareness of Valencia partnership with LYNX that allows for students/faculty to ride LYNX buses for “free”



Valencia College West Campus Technical Memorandum

5.0 Proposed Improvements

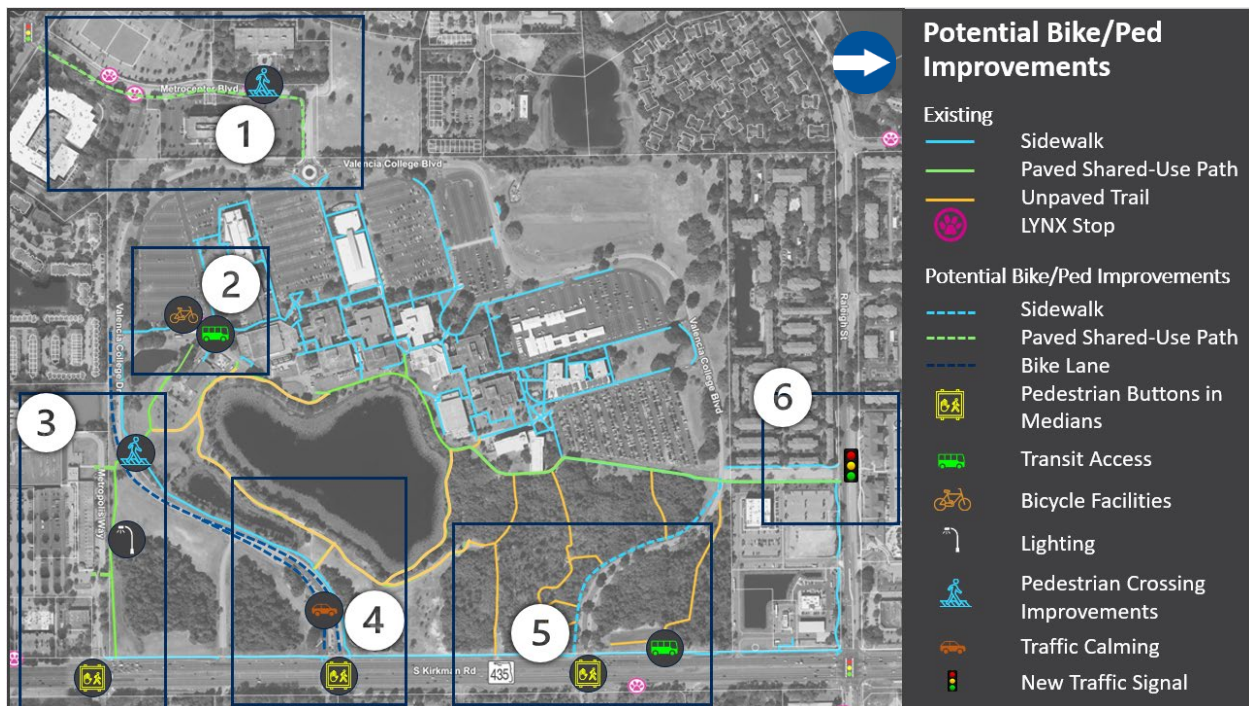
5.1 Introduction

Considering the existing conditions, results from the walking audit, and previous plans and studies, the project team developed and prioritized a list of proposed improvements. The draft plan was presented to the Valencia College working group on Friday, February 18, 2022. After this meeting, the proposed improvements were refined based on the feedback of the meeting participants.

5.2 Improvement Areas

Figure 10 shows the proposed improvements within six specific areas around the periphery of the West Campus.

Figure 10 | Valencia College - West Campus Potential Improvements



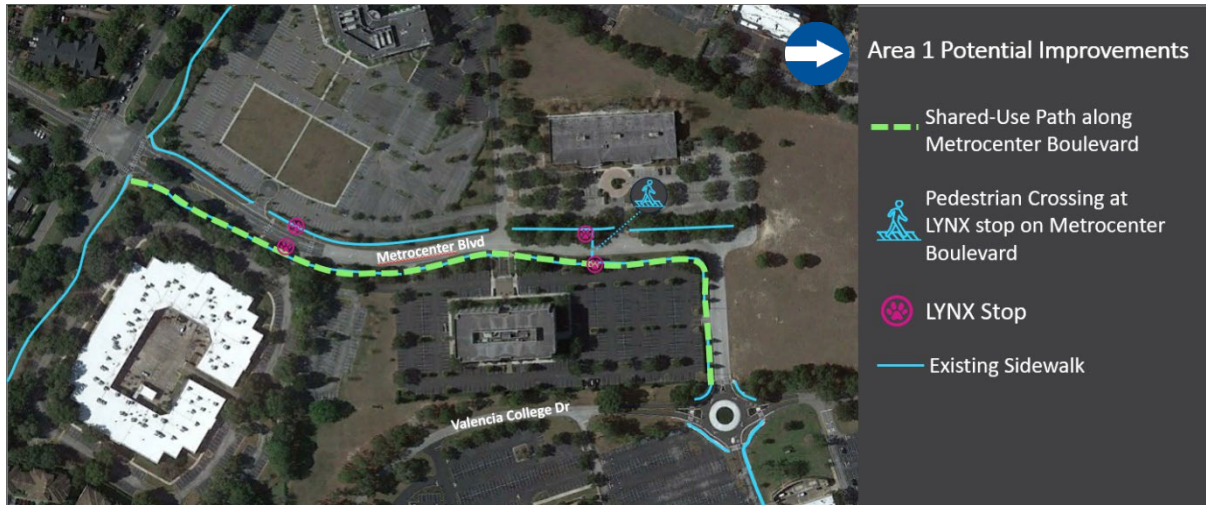
5.2.1 Area 1

Area 1 focuses on improvements for pedestrian/bicycle access to campus from Metrocenter Boulevard, as shown in **Figure 11**. Potential treatments include:

- Constructing a shared-use path along the east side of Metrocenter Boulevard from Metrowest Boulevard to Valencia College Drive
- Adding a pedestrian crossing at the northern LYNX stops along Metrocenter Boulevard

Valencia College West Campus Technical Memorandum

Figure 11 | Area 1 Potential Improvements



5.2.2 Area 2

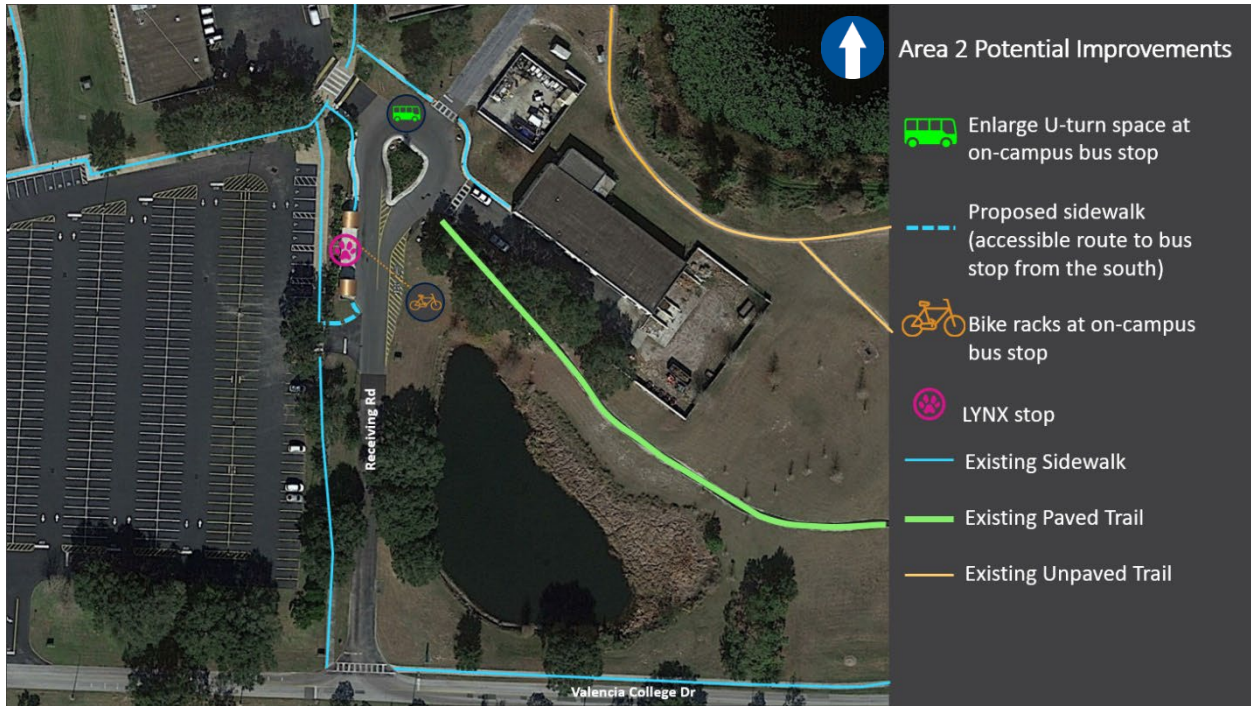
Area 2 is focused on potential improvements for the on-campus LYNX stop. There are three proposed treatments, shown in **Figure 12**, which include:

- Enlarging the U-turn space for the on-campus LYNX stop to address existing deficiencies
- Adding an accessible connection to the south side of the existing bus stop to connect with the parking lot, particularly as some transit users connect between the on-campus stop and the adjacent Walmart Plaza
- Adding bike racks to the existing LYNX stop

Campus leadership indicated they may want to reach out to the residential development to the south of the campus and discuss the potential interest in adding an access point to campus from their property that would tie into the existing sidewalk along the west side of Receiving Road and connect to the existing LYNX on-campus bus stop.

Valencia College West Campus Technical Memorandum

Figure 12 | Area 2 Potential Improvements



5.2.3 Area 3

Area 3 focuses on improvements for the area surrounding the recently paved multi-use trail as shown in **Figure 13**, which includes the following:

- Installing pedestrian crossing signage and improvements at the intersection of the multi-use trail and Valencia College Drive (South)
- Adding lighting along the multi-use trail
- Adding a pedestrian connection to the Walmart Plaza from the multi-use trail
- Installing pedestrian buttons and signals in the median at Kirkman Road
- Adding a bike facility along Valencia College Drive (South)

The multi-use trail crossing at Valencia College Drive (South) would include several base improvements:

- Replace existing signage with standard pedestrian crossing signage
- Add advance stop lines
- Improve lighting
- Install rectangular rapid flashing beacons (RRFBs)

There are a couple of additional optional treatments, such as:

- Pedestrian refuge island
- Improved raised pedestrian crossing



Valencia College West Campus Technical Memorandum

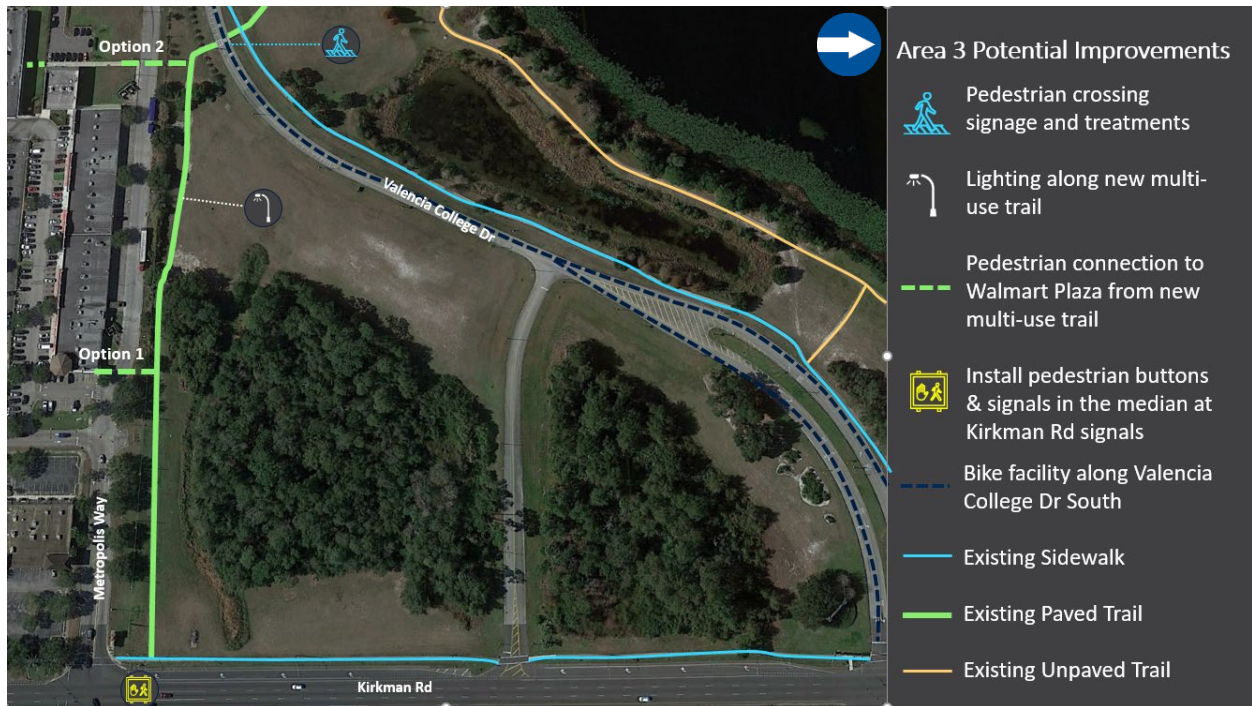
Examples of these treatment options can be seen in **Figure 14**.

The installation of a pedestrian refuge island at this crossing would consume some of the available space that would be needed for a bicycle facility along Valencia College Drive (South).

There are two options for the connection between the new multi-use trail and the Walmart Plaza.

- Option 1 (preferred) is the connection farthest east that connects to the existing sidewalk at the store fronts, as shown in **Figure 15**. This location is preferred as it will allow for better lighting and a safer crossing location with minimal vehicular conflicts as it is west of both the primary north/south internal plaza roadway and the parking lot access point to the northern plaza storefronts.
- Option 2 would provide a connection to the back of the plaza businesses, as shown in **Figure 16**, which is closer to the existing trail crossing on Valencia College Drive (South). A small section of additional sidewalk (35 to 40 feet) would be required to provide a complete sidewalk connection to the front of the plaza from this location. **Figure 17** shows the existing sidewalk located behind the Spectrum store within the plaza. This sidewalk would need to be extended down the length of the southern side of the building to tie into the existing sidewalk at the front of the store.

Figure 13 | Area 3 Potential Improvements



Valencia College West Campus Technical Memorandum

Figure 14 | Multi-Use Trail and Valencia College Drive Crossing Treatment Examples



Figure 15 | Walmart Plaza Connection to Multi-Use Trail Option 1 (Preferred)



Figure 16 | Walmart Plaza Connection to Multi-Use Trail Option 2



Valencia College West Campus Technical Memorandum

Figure 17 | Walmart Plaza Location for Additional Sidewalk



5.2.4 Area 4

Area 4 focuses on improvements for access to campus along Valencia College Drive (South), as shown in **Figure 18**. There are three proposed treatment options, including:

- Adding a bicycle facility along Valencia College Drive (South)
- Reducing westbound Valencia College Drive (South) immediately west of Kirkman Road to a single lane
- Installing pedestrian buttons and signals in the median at the Kirkman Road signal

Valencia College West Campus Technical Memorandum

Several options were discussed for a potential bicycle facility along Valencia College Drive (South), including conventional on-street bike lanes, on-street buffered bike lanes, separated bike lanes, and a shared-use path. After discussion, the working group decided that the proposed bicycle facility along Valencia College Drive (South) was not a priority for two reasons. First, the working group preferred separated bike facilities rather than conventional or buffered bike lanes. Second, an existing trail on the south side of campus connects between Kirkman Road (north of Metropolis Way) and Receiving Road; plus, a new trail connection is preferred at Kirkman Road and Valencia College Drive (North).

The proposed lane reduction on westbound Valencia College Drive (South) to a single inbound lane is intended to slow traffic entering campus. Coordination would be needed with FDOT to conduct a traffic study to investigate the modification of the existing northbound dual left turn lanes on Kirkman Road to a single left turn lane. Dual turn lanes are likely no longer needed at this location as online learning has become much more prominent since the COVID-19 pandemic and the number of students attending classes on campus has declined dramatically.

Figure 18 | Area 4 Potential Improvements



5.2.5 Area 5

Area 5 focuses on improvements to campus access from Kirkman Road, along Valencia College Drive (North). As with Area 3 and Area 4, the installation of pedestrian buttons and signals in the median at the Kirkman Road signals is a proposed treatment. Other treatments for this location are shown in **Figure 19** and include:

- Adding a sidewalk or multi-use path along Valencia College Drive (North)



Valencia College West Campus Technical Memorandum

- Paving the existing unpaved pedestrian pathway that connects to the sidewalks along Kirkman Road to provide access to/from off-campus LYNX stop

Figure 19 | Area 5 Potential Improvements



Valencia College staff noted that there would be more internal discussion in the future about activating the area north of Valencia College Drive (North) and how to best connect a potential pathway in this area to the existing multi-use trail along Resource Avenue on campus. The consensus was that a new shared-use path along the south side of Valencia College Drive (North) corridor would be the preferred pedestrian and bicycle connection in this area of campus even though the existing roadway alignment does not provide the most direct route for people walking or riding bikes.

5.2.6 Area 6

Area 6 included only one recommendation: the installation of a traffic signal with pedestrian crossing features and lighting at the Raleigh Street and Resource Avenue intersection to provide a connection into campus from the north and connecting directly to the existing campus multi-use trail. These intersection improvements are currently planned by the City of Orlando in partnership with the developer of the residential community north of Valencia College Campus.

5.2.7 Scoring and Ranking of Potential Treatments

To rank the potential improvements, survey results from the interactive survey from the walking audit and workshop were used to establish priorities for types and locations of improvements. The results are shown in **Figure 20**. The most important improvement type was, “Safety improvements to new or existing street crossings off campus.” Each potential improvement was evaluated on an all-or-nothing basis with point values based on the prioritization survey question results. The project team



Valencia College West Campus Technical Memorandum

assigned a points value to each type of improvement according to its rank with five points for the top-ranking improvement type, down to two points for the fourth-ranking improvement types (note that two improvement types tied for fourth, so they were weighted equally). The team used this ranking to evaluate the potential improvements for each study area. For example, a new pedestrian connection might achieve points under the safety improvement type (top rank = five points) and connection to transit type (third rank = three points) for a total of eight points. **Table 2** shows the resulting prioritized improvements list.

Figure 20 | Walking Audit Survey Response for Evaluation Criteria Development

1. Rank the most important improvement types to better support biking and walking to, from, and within the Valencia College West Campus”



Valencia College West Campus Technical Memorandum

Table 2 | Potential Improvements Rank and Score

Potential Improvement	Safety improvements to new or existing street crossings off campus (5 points)	New or improved walkways and bikeways along streets off campus (4 points)	Improved biking or walking connections to public transportation (3 points)	New or improved walkways and bikeways on campus (2 points)	Safety improvements to new or existing crossings on campus (2 points)	Project Total Score
Pedestrian connection to Walmart Plaza from new multi-use trail	5	4	0	2	0	11
Install pedestrian buttons & signals in the median at Kirkman Rd signals	5	0	3	0	0	8
Pedestrian Crossing at LYNX stop on Metrocenter Boulevard	5	0	3	0	0	8
Lighting along new multi-use trail	0	0	3	2	2	7
Shared-Use Path along Metrocenter Boulevard	0	4	3	0	0	7
Pedestrian crossing signage and treatments at new multi-use trail crossing	0	0	3	2	2	7
Access improvements from LYNX stops on Kirkman Rd	0	0	3	2	0	5
Proposed sidewalk / accessible route to on-campus bus stop from the south	0	0	3	2	0	5
Reduce Valencia College Dr South to single inbound lane	0	0	0	2	2	4
Enlarge U-turn space at on-campus bus stop	0	0	3	0	0	3
Bike racks at on-campus bus stop	0	0	3	0	0	3
Bike facility along Valencia College Dr South	0	0	0	2	0	2



Valencia College West Campus Technical Memorandum

6.0 Recommendations

The intended outcome from this study is a list of five high-priority projects. Because the list of priority projects in **Table 2** had three projects tied at the fourth spot, a total of six projects are included as recommended projects as shown in **Figure 21**. Valencia College would be responsible for implementing projects located on-campus, including projects #4 and #6, with support or review from the partnership agencies listed in **Figure 21**. For off-campus projects, Valencia College would coordinate with the listed partnership agency, who would lead those projects.

The top ranked project is the pedestrian connection to the Walmart Plaza from the new multi-use trail. This project would require a small amount of new sidewalk, two curb ramps, and a new marked crosswalk to complete the connection to the existing sidewalk, and will need to be coordinated with the Walmart Plaza owner and the City of Orlando.

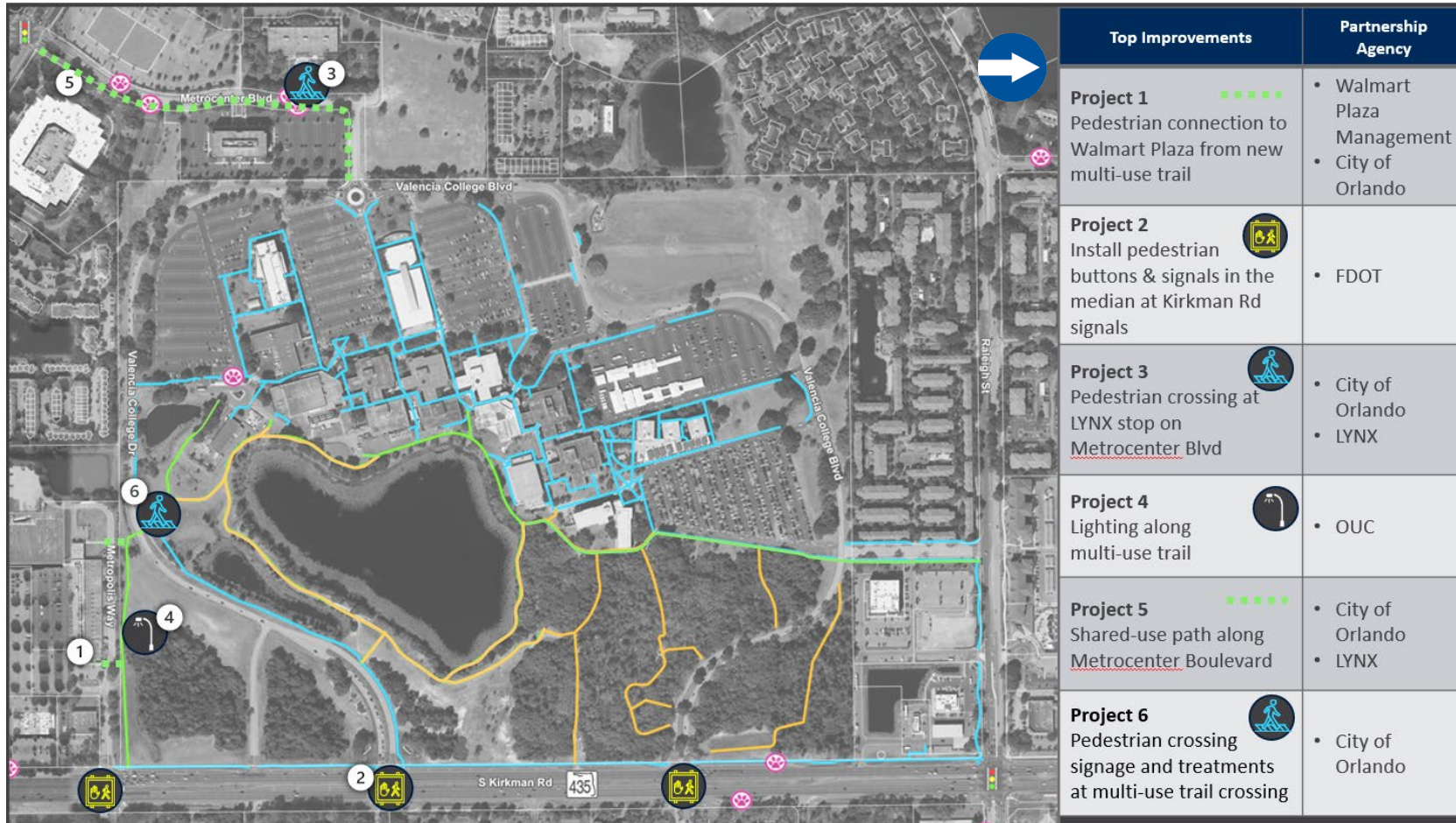
Two projects tied as the second highest rated projects. The first is the installation of the pedestrian buttons and signals in the medians at Kirkman Road. There are three locations noted for this treatment, including the intersections of Metropolis Way, Valencia College Drive (South), and Valencia College Drive (North). To move forward with implementation of this project, coordination will be needed with FDOT since Kirkman Road is a state road. The second project is the pedestrian crossing at the LYNX bus stops on the north end of Metrocenter Boulevard. This is a city street, so the City of Orlando would lead the implementation in partnership with LYNX.

Three projects tied as the third highest scoring. The first of these is the installation of lighting along the recently paved multi-use trail on the south side of campus. Power sources may include solar or a connection to the nearby Orlando Utility Commission (OUC) poles. The second of these projects is the addition of a shared-use path along Metrocenter Boulevard. Since Metrocenter Boulevard is an off-campus city street, the City of Orlando would lead the implementation. The third project is the pedestrian crossing signage and treatments at the intersection of the recently paved multi-use trail and Valencia College Drive (South). This project would include several base improvements: standardized pedestrian crossing signage, advance stop lines, lighting improvements, and rectangular rapid flashing beacons (RRFBs). Additionally, optional treatments include a pedestrian refuge island or an improved raised pedestrian crossing. The intent of these recommendations is that they can be combined and installed in a multitude of combinations that best fit the space, safety, and monetary constraints of the crossing. Valencia College would lead this on-campus project, but the City of Orlando could provide support by reviewing the improvement concept or design and verifying consistency with City and federal requirements and standards.



Valencia College West Campus Technical Memorandum

Figure 21 | Recommended Improvements for Valencia College - West Campus



Appendix





Valencia College West Campus Technical Memorandum

Walking Audit and Workshop Summary

February 4, 2022



SOUTHWEST BIKE AND PEDESTRIAN STUDY

Valencia College West Campus Walking Audit & Workshop Summary

CONTENTS

1.0	Introduction	A-1
2.0	Walking Audit.....	A-1
3.0	Workshop.....	A-6
3.1	Group Recommendation Summaries	A-9
3.1.1	Group 1.....	A-9
3.1.2	Group 2.....	A-12
3.1.3	Group 3.....	A-14

FIGURES

Figure 1	Walking Audit Route.....	A-1
Figure 2	Multi-Use Trail and Repair Station	A-2
Figure 3	Intersection of Kirkman Road and Valencia College Drive.....	A-3
Figure 4	Multi-Use Trail Crossing.....	A-4
Figure 5	LYNX Bus Stop.....	A-5
Figure 6	Valencia College Drive Roundabout.....	A-6
Figure 7	Workshop Survey Results: Most Important Treatment Types	A-7
Figure 8	Workshop Survey Results: Vision for West Campus Bike/Ped Network.....	A-8
Figure 9	Workshop Survey Results: What Prevents Walking or Biking to West Campus	A-8
Figure 10	Group 1 Members.....	A-9
Figure 11	Group 2 Members.....	A-12
Figure 12	Group 3 Members.....	A-14



Valencia College West Campus Walking Audit & Workshop Summary

1.0 Introduction

The purpose of the walking audit/workshop was to assess the conditions for the bike and pedestrian environment within the Valencia College West Campus and main access points to the campus area. The objective was to identify potential improvements that would result in a safer and better-connected campus for walkers and bikers. On Wednesday, November 10, 2021, a total of 14 attendees participated in different portions of the walking audit/workshop, including representatives from the City of Orlando and Valencia College faculty, students, security, and leadership to ensure well-rounded feedback and input on potential solutions.

2.0 Walking Audit

The walking audit targeted one of the busiest days for student activity for the Valencia College West Campus; however, student activity has not reached the same pre-pandemic levels and pedestrian/bicyclist flows were not reflective of regular conditions. The walking audit route included stops at five key locations around campus and the pathways/connections between them, as shown in **Figure 1**.

Figure 1 | Walking Audit Route



Valencia College West Campus Walking Audit & Workshop Summary

Participants shared valuable observations and personal direct experience from a bicyclist and pedestrian point of view for each of the stop locations and segments between. They also recorded observations and notes on a provided handout to help organize ideas and better follow the course of the walking audit. Key observations and points of discussion are summarized below:

1. Location 1 – Multi-Use Trail and Repair Station
 - a. The first stop was the new multi-use trail connecting the eastern edge of the core campus to Resource Avenue. Bike racks and a bike repair station are provided on the northeast side of Building 10 (see **Figure 2**).
 - b. While not a stop on the walking audit, the intersection of Resource Avenue and Raleigh Street was discussed by the participants at this location. It was noted that there may be a need for signalization at the intersection to improve safety for those crossing the intersection when walking or biking to campus from apartments on the north side of the street. It was subsequently determined that the developer of the property on the north side of this intersection is going to be installing a signal with a 50% contribution of the cost by the City.

Figure 2 | Multi-Use Trail and Repair Station



2. Location 2 – Intersection at Kirkman Road and Valencia College Drive



Valencia College West Campus Walking Audit & Workshop Summary

- a. The walking audit path followed the paved trail towards Lake Pamela and turned east to follow the outlining path, paved in crushed coquina shells to the second stop at the intersection of Valencia College Drive and South Kirkman Road.
- b. While making observations at this location, it was noted that a motorcyclist was using the bike lane to pass traffic stopped at the signal (seen **Figure 3**). Several bicyclists were observed using the sidewalk rather than the buffered bike lane in the road.
- c. Median islands were being used as a refuge during pedestrian crossings.

Figure 3 | Intersection of Kirkman Road and Valencia College Drive



3. Location 3 – New Multi-Use Trail Crossing

- a. From the second stop the audit path followed the sidewalk south along Kirkman Road to the new multi-use trail that follows the property line into campus westward. The third stop location was the crosswalk where the new multi-use trail crosses over Valencia College Drive.
- b. At this location, there are several pedestrian crossing warning signs and a raised pedestrian crossing (See **Figure 4**). However, non-standard pedestrian crossing signs are being used. The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) defines the standards used nationwide to install and maintain traffic



Valencia College West Campus Walking Audit & Workshop Summary

control devices on all public streets, highways, bikeways, and private roads open to public travel. Additionally, the existing signs have contradictory messaging with one indicate stopping for pedestrians and another indicate yielding conditions.

- c. It was mentioned by students that not all motorists yield for pedestrians at this location.

Figure 4 | Multi-Use Trail Crossing



4. Location 4 – On-Campus LYNX Bus Stop

- a. The route continued westward on the sidewalk along Valencia College Drive turning north along Receiving Road to the LYNX bus stop on campus.
- b. This LYNX stop provides two sheltered waiting areas with seating and video surveillance (See **Figure 5**); however, there is no provision of bike racks. Implementing bike racks would improve access to transit by providing opportunities for LYNX passengers to leave their bike parked while riding the bus – an important consideration if a bus arrives and its racks are already full.
- c. It was mentioned by students that busses, especially articulated busses, often encroached on the sidewalk when making the U-turn to reach the passenger loading/unloading area.



Valencia College West Campus Walking Audit & Workshop Summary

Figure 5 | LYNX Bus Stop



5. Location 5 – Roundabout

- a. The final leg of the walking audit included the newly installed roundabout at Valencia College Drive and Metrocenter Boulevard (See **Figure 6**).
- b. Campus security and operations staff mentioned that the installment of the roundabout has improved traffic operations and safety at this intersection compared to the previous all-way stop control.
- c. Several students and faculty members also mentioned that there is no convenient pedestrian access to the nearby Valencia Headquarters Building (located on Park Center Drive).



Valencia College West Campus Walking Audit & Workshop Summary

Figure 6 | Valencia College Drive Roundabout



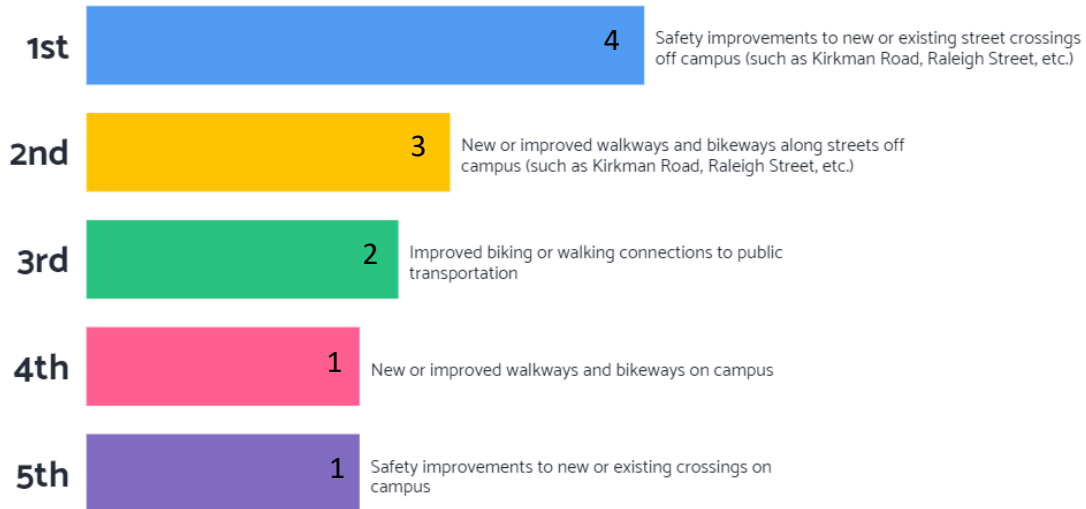
3.0 Workshop

Upon conclusion of the walking audit, participants were provided with a three-question survey on the Mentimeter platform. The first question asked participants to, “Rank the most important improvement types to better support biking and walking to, from, and within the Valencia College West Campus.” The highest ranked of the five improvement types was “Safety improvements to new or existing street crossings off campus” followed by “New or improved walkways and bikeways along streets off campus”. The third ranked improvement was “Improved biking or walking connections to public transportation”. The least number of votes were for “New or improved walkways and bikeways on campus” and “Safety improvements to new or existing crossings on campus.” **Figure 7** show the participant responses to the above survey question.



Valencia College West Campus Walking Audit & Workshop Summary

Figure 7 | Workshop Survey Results: Most Important Improvement Types



The second question asked participants to **describe, in one word, their vision for the bike/ped network for the Valencia West Campus.** As shown in **Figure 8**, “Safe” the most commonly used descriptor among others such as “inclusive,” “convenient,” “comfortable,” “natural,” and “efficient.” In discussing the results with the workshop participants, it was noted that “natural” could also be interpreted as “intuitive”.

The third and final survey question asked, **“What is the main reason that prevents people from biking/walking to West Campus?”** As shown in **Figure 9**, A large portion of the participants (five out of eleven) selected “Prefer to drive, carpool, take the bus.” The other three choices were all selected evenly (two out of eleven each) “Too far/takes too long,” “Safety concerns,” and “Lack of quality/connected ped/bike facilities.”

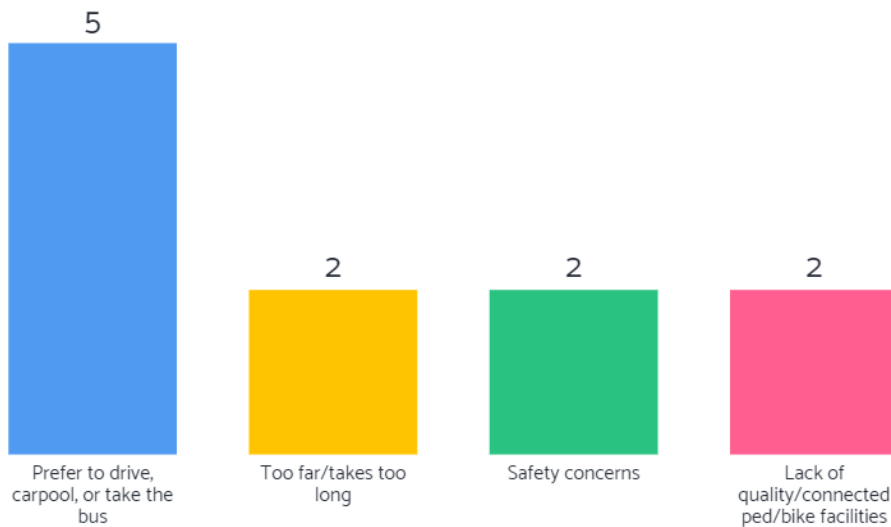


Valencia College West Campus Walking Audit & Workshop Summary

Figure 8 | Workshop Survey Results: Vision for West Campus Bike/Ped Network



Figure 9 | Workshop Survey Results: What Prevents Walking or Biking to West Campus



Following the survey, participants were given a brief educational training on potential treatment solutions along with a description of when, where, and why that treatment is used, as well as examples of where these existing treatment options can be found around in the surrounding Orlando area.

Valencia College West Campus Walking Audit & Workshop Summary

3.1 Group Recommendation Summaries

Workshop participants were then broken into three groups and provided with roll plots of the Valencia College Campus and surrounding area. Each group was tasked with providing recommendations for locations and treatments that would provide the campus with a safer and better-connected bike and pedestrian network based on information obtained in the training session, personal experience, and observations collected during the walking audit. Figure 10, Figure 11, and Figure 12 show groups discussing potential treatment options.

3.1.1 Group 1

Figure 10 | Group 1 Members



- Need for a safe pedestrian entrance via the dirt service road on the east side of campus or via a new sidewalk on Valencia College Drive North
- Better lighting and wayfinding signage along shared use paths and trails



Valencia College West Campus Walking Audit & Workshop Summary



Road and Path Suggestions

- Need for better lighting and pedestrian crossing treatments for the intersection at Raleigh Street and Resource Avenue – prefer to add a traffic signal or roundabout
 - Address issue of sight distance over the hill for eastbound traffic
- Improvements to existing trail connecting to Kirkman Road near the LYNX bus stop, south of Raleigh Street, would provide a more direct connection for students using transit and heading to class on the north side of campus
- Maintaining low hanging vegetation along the footpaths to improve safety



- Campuswide check for ground hazards such as cracked and raised sidewalks or broken utility covers



Valencia College West Campus Walking Audit & Workshop Summary

- Valencia College Drive South needs treatments for speed control of vehicles turning into campus from Kirkman Road (speed cushions/pillows, bumps, etc.)
- Add path connections between the new multi-use trail and Walmart
- At the crosswalk of the new multi-use trail and Valencia College Drive there is a need for a median refuge and push-button pedestrian crossing indicator



Bus Stop Suggestions

- On-campus LYNX bus stop has tight turnaround for busses that result in busses encroaching into sidewalk to complete the turnaround
- On-campus LYNX stop needs to have better accessibility
- Add bike racks at the on-campus LYNX bus stop
- Add pedestrian crossings at bus stops on Metrocenter Boulevard



Valencia College West Campus Walking Audit & Workshop Summary

3.1.2 Group 2

Figure 11 | Group 2 Members



Lighting and Signage Suggestions

- Add more lighting around campus trails, particularly the path around the lake
- Implement advanced pedestrian crossing warning signs for the existing multi-use trail and Valencia College Drive crossing to give drivers more time to stop for pedestrians
- Update campus maps and wayfinding signs around campus
- Add informational items to signs such as distance around lake, walking and biking times along the trails, etc.

Road and Path Suggestions

- Trim low hanging vegetation along the trails
- Add sidewalk connections from new trail to Walmart Plaza
- Add traffic signal and pedestrian features at Raleigh Street and Resource Avenue
- Better pedestrian connection to the LYNX bus stop on Kirkman Road, south of Raleigh Street; providing sidewalks along Valencia College Drive along northeast entrance to campus could improve transit access to this LYNX stop
- Consider a safe connection to the Headquarters Building
- Need for safe, lit, pedestrian entrance along existing pathway, through trees across from the Verona at Valencia Park Apartment Complex



Valencia College West Campus Walking Audit & Workshop Summary

- Speed control devices along Valencia College Drive southeast entrance to campus from Kirkman Road
- Add bike lanes to Valencia College Drive South



- Improvements to lighting along new multi-use path
- Install a path along Metrocenter Boulevard
- Add/fix missing reflectors to wooden posts along trail
- Add median refuge islands with pedestrian buttons to existing signals on Kirkman

Bus Stop Suggestions

- Potential to add/move a bus stop further south on Kirkman
- Need for better bike and wheelchair accessibility at on-campus LYNX bus stop
- Need to add bike racks to on-campus bus stop
- Need for improvements to existing LYNX on-campus bus stop to accommodate articulated busses that have problems navigating u-turn



Valencia College West Campus Walking Audit & Workshop Summary



On-campus LYNX bus stop

3.1.3 Group 3

Figure 12 | Group 3 Members



Lighting and Signage Suggestions

- Improvements to the pedestrian crossing signage at the new multi-use trail crossing



Valencia College West Campus Walking Audit & Workshop Summary



- Add lighting along new trail and around lake
- Install updated and consistent/standardized pedestrian crossing signs

Road and Path Suggestions

- Install traffic signal or roundabout at Raleigh Street and Resource Avenue intersection
- Add a bike/ped connection between the new multi-use trail and Metropolis Way and Walmart Plaza
- Improve crosswalk at the new multi-use trail crossing
- Install ground-level locators along trails to improve safety and aid in location of individuals in emergencies
 - Similar to Cady Way, Econ Trail



Valencia College West Campus Walking Audit & Workshop Summary



- Consider bike connections to Hiwassee Road and Turkey Lake Road
- Create pedestrian dedicated entrance for bus stop on Kirkman at northeast campus entrance
- Implement facilities for e-bikes and e-scooters
- Repair existing sidewalks where cracked

Bus Stop Suggestions

- Install “PawPass Signs”/ improve awareness of Valencia partnership with LYNX that allows for students/faculty to ride LYNX busses for “free”
- Add bike racks to the existing on-campus LYNX bus stop



Appendix

Sign-In Sheet

Presentation Slides



<u>Name</u>	<u>Title</u>	<u>email</u>
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SOUTHWEST BIKE AND PEDESTRIAN STUDY

Valencia Community College West Campus Walking Audit/Workshop



Walking Audit/Workshop Overview





Today's Schedule

10:15 am – 10:45 am – Introduction

- Purpose
- Logistics
- Safety Briefing

11:00 am – 1:00 pm – Walking Audit

- Walking/biking conditions observations

1:00 pm – 1:30 pm – Mini-training & lunch

- Mini-training – potential treatments
- Lunch

1:30 pm – 2:30 pm – Breakout sessions

- Potential treatment ideas - small groups

2:30 pm – 3:00 pm – Debrief

- Team presentations

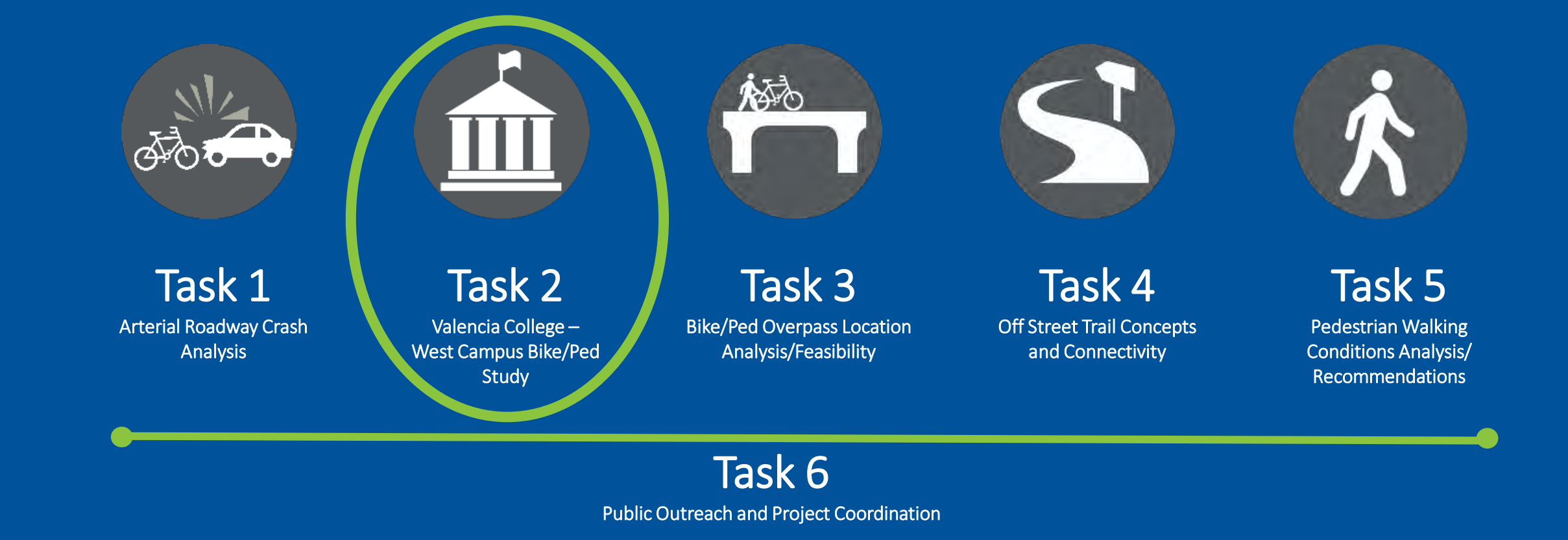


Project Purpose

The Southwest Orlando Bike/Ped Study will provide a plan to create a **safer** and **better-connected** transportation infrastructure for bicyclists and pedestrians.



Project Scope



Walking Audit/ Workshop Objectives

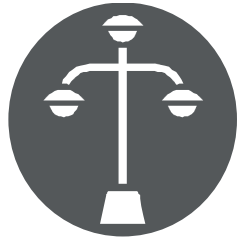
- Observe & identify concerns for ped/bike environment
 - Safety, access, comfort, connectivity, and convenience
 - What's working, what's not
 - Behaviors of drivers, pedestrians, & bicyclists
 - What's causing/contributing to issues & concerns
- Identify potential alternatives or solutions



Walking Audit Elements Checklist



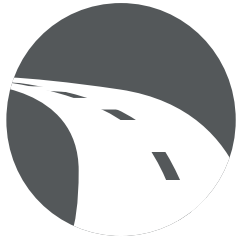
Traffic Ops & Safety



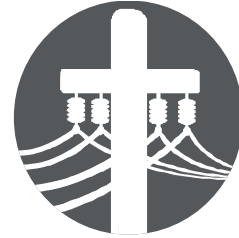
Lighting



Soils Contamination/
Environmental



Roadway Design



Utilities



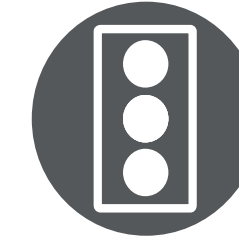
Schools/Parks



Drainage/Permits



Bike/Ped Needs



Signals/Intersections



Access Management



Land Use



SOUTHWEST BIKE AND PEDESTRIAN STUDY



Walking Audit Route (Approx 2 mi)

1. New multi-use trail and repair station
2. Kirkman Rd intersection
3. New multi-use trail crossing
4. LYNX stop
5. Roundabout





Safety Reminders



- Class II or III safety vests must be worn during field visits at all times



- Always watch for traffic – don't turn your back to traffic without a "spotter"



- Use Sidewalks when available



- Watch your step on uneven terrain

Potential Treatments



Share your feedback!

<https://www.menti.com/ffa3k76izx>



Bike/Ped Facilities



Bike Lane

Dedicated space for bicyclists separate from vehicles



Shared Lane Markings

Guidance to bicyclists and motorists & encourage safer passing practices



Protected Bike Lanes

Separated bike lanes protected with a barrier from free-flowing traffic



Sidewalk

Optimize convenience for pedestrians



Buffered Bike Lane

Increased separation from vehicular traffic



Trail

Low-stress environment for bicycling and pedestrian activity



SOUTHWEST BIKE AND PEDESTRIAN STUDY



Crossing Treatments



In-Street Crossing Sign

Highly visible to motorists



High-Visibility Signs & Markings

Increase driver awareness of the pedestrian crossing



RRFB

Increased driver yielding compliance



Median Island

Allow crossing in two stages, focusing on each direction of traffic separately



Raised Pedestrian Crossing

Safer crossing for pedestrians with slower vehicular speed



Crossing Treatments



Lighting

Ped-scale lighting and intersection street lighting
Increases visibility of pedestrians and bicyclists

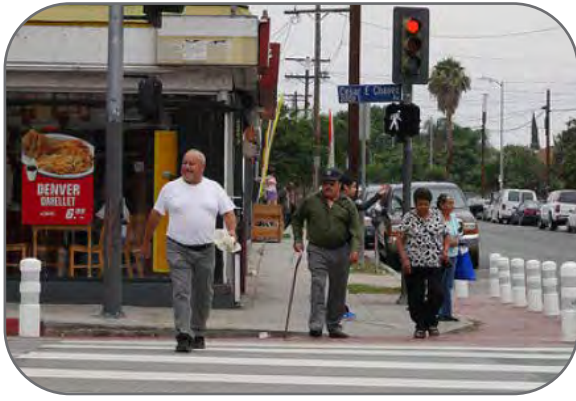


Passive Pedestrian Detection

Detects the presence of pedestrians at the curbside of and/or
in a pedestrian crossing & activates beacons automatically



Signalized Intersection Treatments



Leading Pedestrian Intervals

Head start at signal to reduce conflicts between turning vehicles and pedestrians/bicyclists



Yield to Peds Blank-Out Sign

Increase awareness of crossing pedestrians at intersections



Exclusive Left-Turn Phase

Eliminates conflicts between left turning vehicles and pedestrians



Protected Intersections

Separated space for ped/bikes leading up to and through an intersection



Roundabout

Slows vehicles, reduces conflicts, & reduces crash frequency & severity



Overpass

Eliminates conflicts with vehicles at street level



Breakout Session





Group Activity

- 1:30 pm – 2:30 pm

Your turn to help identify improvements!

- Markup the maps provided
 - Make note of:
 - What problems/issues/concerns need to be addressed
 - How your group decides to best address each problem
 - What treatments or improvements are suggested, where, and why
 - Nominate a spokesperson to give a summary of your group's proposed improvements
- 2:30 pm – 3:00 pm
 - Group presentations





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