OCTOBER 2022

ACTIVE TRANSPORTATION PLAN

UNIVERSITY OF CONNECTICUT - STORRS

SLR

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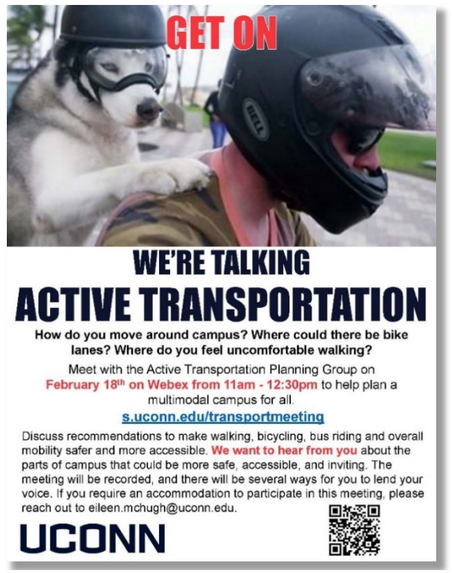
EXECUTIVE SUMMARY

The University of Connecticut has developed its first Active Transportation Plan to address the health and safety of students, faculty, staff, and visitors. Active Transportation, as defined by the Centers for Disease Control and Prevention (CDC), is any self-propelled, human-powered mode of transportation such as walking, bicycling, and transit. According to the CDC, physical inactivity is a major contributor to obesity, diabetes, heart disease, stroke, and other chronic health conditions in the United States. However, many Americans view active transportation within their communities and on college campuses as unsafe due to heavy traffic and a scarcity of sidewalks, crosswalks, and dedicated or shared facilities. The intent of the plan is to promote physical activity through active transportation by creating safe avenues for travel through infrastructure improvements, updates to campus policies and practices, and education.

Students, faculty, staff, and University leadership were asked to share their observations and experiences on walking, bicycling, scooting, skateboarding, riding, or waiting for the bus and/or navigating the Storrs campus with a disability. They told us how mobility could and should be safer and more accessible, and the issues raised helped our team of transportation planners and engineers identify potential improvements within the constraints of available space, best practices, feedback received, and cost.



Flyer advertising the first public meeting

This report begins with a discussion of the existing transportation infrastructure on campus, including supportive features such as lighting and the UConn Cycle Share Program, and liabilities such as crash locations. The **Existing Conditions** chapter includes the results of research conducted on peer (state university) campuses and a map of designed or planned future campus construction and planning projects. The latter was included because some recommended improvements could potentially be integrated into other campus projects – for example, installing pavement markings and new striping configurations as part of scheduled roadway repaving.

Public input is documented in the next chapter of the report and summarizes the comments received from meetings and online engagement tools. Most comments related to the inefficient or unsafe access between campus destinations – especially between residential locations and the core of campus – and between commuter parking and the core of campus.

We walk approximately 3 1/2 miles per hour, bike at 10 to 12, and drive at 25 ***or more*** *miles per hour on campus. It's that significant differential that makes us feel unsafe when we are not driving.*

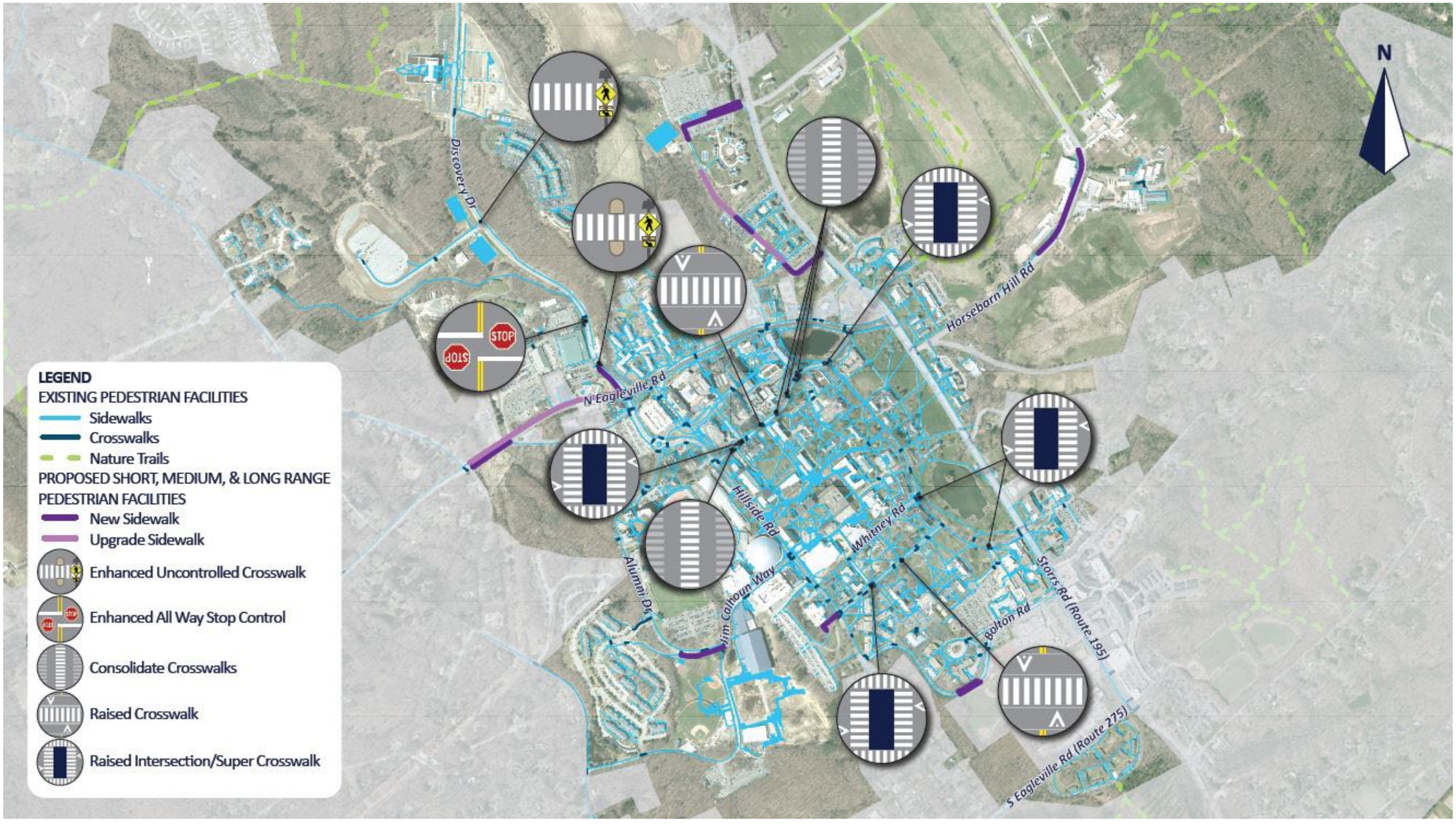
The **Improvements** chapter follows the **Public Input** chapter and details the recommended campus infrastructure, policy, and program improvements. The focus of the infrastructure improvements is to address many of the unsafe interactions between transportation modes, including speeding traffic, through better street/road and pathway design. These include new facilities, traffic-calming methods, and proven safety countermeasures that will result in a well-connected network of accessible pedestrian pathways and Personal Transportation Vehicle (PTV) facilities to accommodate bicycles, scooters, skateboards, wheelchairs, and hoverboards that is welcoming for all active transportation users. In all cases however, improvements must reinforce the fact that pedestrians have the right-of-way on the University of Connecticut campus at every opportunity, not just in crosswalks but everywhere and all the time.

The safety of all people on campus will improve through visual guidance on where motorized and nonmotorized PTVs are allowed to travel as well as through the provision of more and better PTV parking, charging, and storage options. Physical changes to the environment should be augmented with education on transportation etiquette at new student and employee orientations and through a campuswide campaign. Public Service Announcements (PSAs) on WHUS radio were offered by the station's *Bike Talk* show host at the final public meeting.

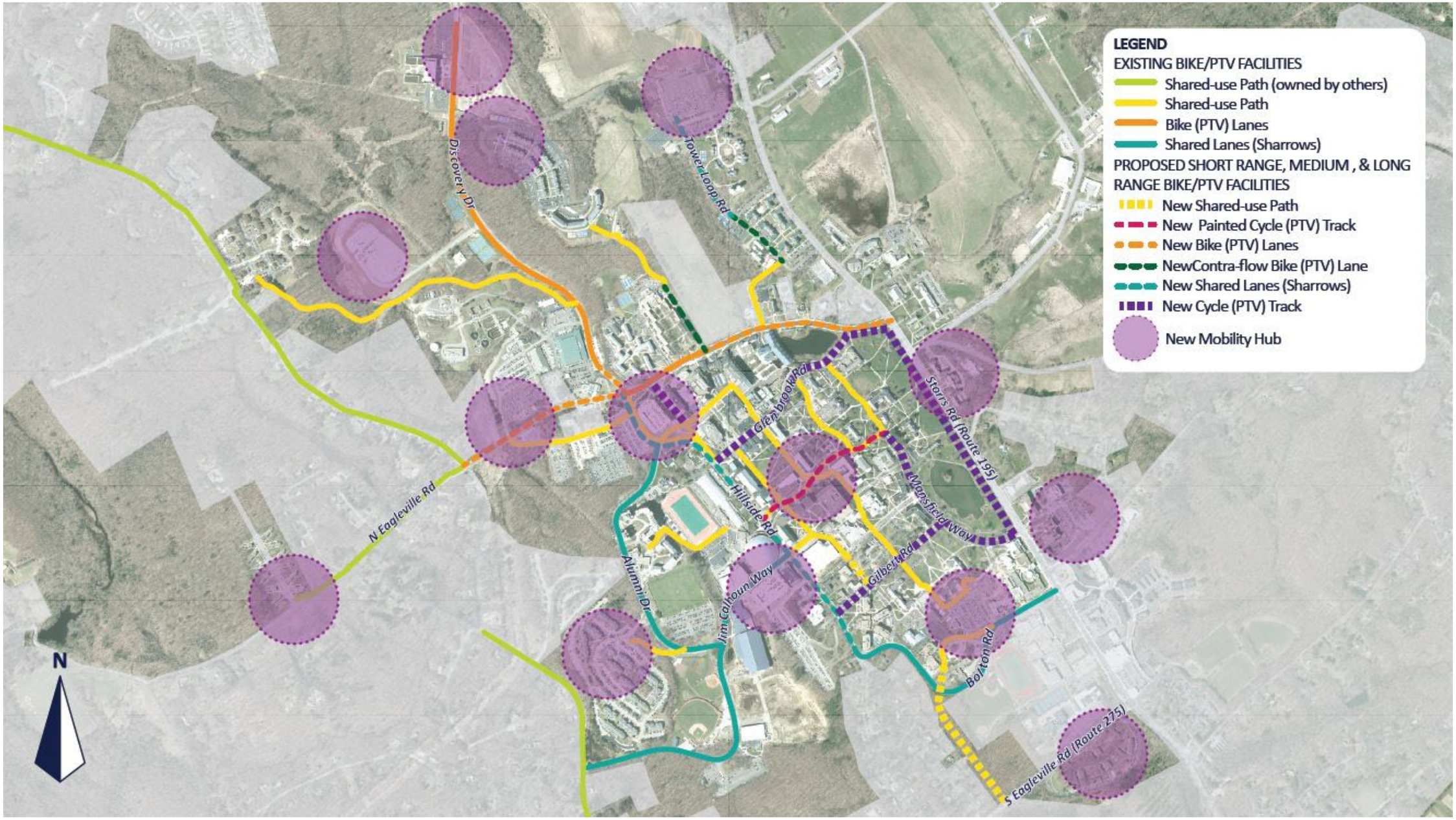
Some improvements could be easily and quickly implemented at a low cost and are grouped as potential **near-term** improvements.

A two-way cycle track painted on existing pavement on Fairfield Way is proposed as a potential near-term improvement.

Potential **mid-term** improvements are of a higher cost than most of the near-term improvements, require additional study and/or design, and require more time to implement. The potential **long-term** improvements would complete the inspirational active transportation vision for the campus and entail significant design elements, higher cost, and the potential need for further study. In addition to being explained in detail in the **Improvements** chapter, they are also listed in tabular format in the **Implementation Plan, Next Steps, and Conclusion** chapter. The envisioned long-term mobility network is shown in the following two graphics. The first shows how sidewalks, crosswalks, and trails connect to create uninterrupted facilities for pedestrians. The second shows the dedicated or shared lanes and paths that complete the existing facilities for PTVs, including bicycles.



The Potential Long-Term Mobility Network for pedestrians



The Potential Long-Term Mobility Network for PTVs, including bicycles

The Long-Term Mobility network includes the creation of a Mobility Hub concept to more comfortably and conveniently serve and link various forms of transportation and to better facilitate multimodal trips. Mobility Hubs would provide important connection points between parking areas, residential nodes, key shuttle stops, and the highly desirable areas within and adjacent to campus. The integration of active transportation amenities and infrastructure with the transit system is a critical piece of the Active Transportation Plan.

UConn Mobility Hub Concept – North Eagleville Road

The introduction of a shared bicycle, e-bike, or e-scooter system would augment the existing UConn Cycle Share and transit systems and play an integral role in a connected mobility network.

The construction of infrastructure that calms traffic and is dedicated to bicyclists, pedestrians, and PTV users will work in tandem with the Mobility Hubs and shared bicycle/scooter system to usher in a more physically active and sustainable future.

Conclusion

The University has already begun to implement **some of the following next steps**:

- *Create an official University-sanctioned Active Transportation Working Group to assist in active transportation decision-making.*
- *Engage University Safety in PTV etiquette and incentive-based-outreach.*
- ***Take further steps toward procurement of a shared bike or e-scooter (PTV) vendor***
- *Develop a survey that asks members of the UConn community what mode of transportation they use to get to campus and what mode they use to get around campus to establish baseline transportation mode splits and evaluate changes in the share of active transportation trips over time. The University should also set goals for increased walking, biking, PTV, and transit trips.*
- ***Prioritize near-term improvements for physical installation immediately, particularly those that are low cost.***
- ***Implement Pilot Road closure projects.***

To move the potential Active Transportation Plan improvements from plan to implementation will require the following:

- A prioritization of non-car modes through policy, education, and enforcement of safe interactions among travel modes
- Physical changes to the campus environment that result in a safe and connected network for pedestrians, bicyclists, and PTV users, including on-street and off-street facilities and mobility hubs
- The allocation or securing of funding

Further outreach to the UConn community, further study, further design, and/or construction may also be required to implement the recommendations included in the **Improvements** chapter of the Active Transportation Plan. To gauge progress toward the University's active transportation goals, it will be necessary to measure the changes in transportation mode use as new improvements are made and behaviors and preferences change accordingly.

1. INTRODUCTION

Active Transportation is any self-propelled, human-powered mode of transportation such as walking, bicycling, and transit. Why transit? Because trips to and from bus and train stops are made on foot, by bike, or other personal transportation vehicle (PTV). The health benefits of active transportation extend beyond those gained through physical activity, to improved air quality associated with fewer fossil-fueled vehicle trips.

The Centers for Disease Control and Prevention (CDC) similarly defines active transportation as any self-propelled, human-powered mode of transportation such as walking or bicycling. According to the CDC, physical inactivity is a major contributor to obesity, diabetes, heart disease, stroke, and other chronic health conditions in the United States. However, many Americans view active transportation within their communities as unsafe due to heavy traffic and a scarcity of sidewalks, crosswalks, and dedicated or shared facilities. This is true of college campuses as well.

Beginning in January 2022 and concluding approximately 1 year later, UConn is developing its first Active Transportation Plan (ATP). The University Planning Design and Construction (UPDC) Department, a Working Group comprised of staff and students, and SLR comprised the ATP study team. Meetings with the Working Group were conducted monthly, except for May 2022, in which the Working Group members provided critical input on the state of campus access and policy.

Working Group Members

***Bryanna Anderson**, Center for Students with Disabilities*
***John Armstrong**, Off-Campus and Commuter Student Services*
***Dwight Atherton**, Parking & Transportation Services*
***Wesley Ayers**, Facilities Operations, Landscape Services*
***Coryn Clark**, Student Health and Wellness-Medical Care*
***Jay Frain**, UConn Recreation*
***Michael Gorman**, Facilities Operations, Public Works*
***Eileen McHugh,** University Planning, Design and Construction (UPDC)*
***Patrick McKee**, Office of Sustainability*
***Kyle Muncy**, Strategic Partnerships and Business Development*
***Christopher Renshaw**, Division of Public Safety, Fire Department, EMS*
***Sean Vasington**, University Planning, Design and Construction (UPDC)*
***Patrick Walsh**, Div. of Public Safety, Fire Marshal & Bldg. Inspector*
***Matthew Zadrowski**, Division of Public Safety, Police Department*
***Quinn Molloy,** PhD Student*
***Geno Villafano**, PhD Student*
***Sydney Collins,** Undergraduate*
***Quentin Walliser,** Undergraduate*
***Phoebe Mrozinski,** Undergraduate*

The Active Transportation Plan's Vision Statement laid the foundation for the Plan by acknowledging that campus design impacts how people choose to travel to and through it and committing to improvements that make it safer and more intuitive for active transportation users:

> *"The University of Connecticut recognizes the design of its campus streets, sidewalks, paths, crosswalks, lighting, and other physical features impact decisions about one's travel to campus destinations. UConn is firmly committed to improving its policies, programs, and infrastructure to support and safely accommodate a variety of transportation choices, ensuring mobility for all. By accommodating and encouraging active transportation users, UConn can be a more environmentally and fiscally sustainable campus and a leader for active and healthy transportation in the northeast."*

During the study process, the consultant-led team worked to capture the community's vision and goals in an open, collaborative process. Feedback from the broader UConn community was collected by way of three public workshop sessions and through an interactive mapping tool and survey questions embedded in the project's StoryMap. Also, polling questions were asked during the public meetings to gauge public sentiment on issues of access, convenience, and safety. This is explained in more detail in Chapter 3 – Public Input.

Comments from Working Group members and all public input sources were assembled and broken down into the broad categories of walkway, crosswalk, and bike route locations; lighting and visibility; and congested areas on campus. As they were further analyzed, it became clear that reinforcing the fact that pedestrians have the right-of-way on UConn's campus must be reinforced as people often feel unsafe in places where more than one mode (walking, biking, skateboarding, e-scooters) mix. It was also apparent that the UConn community would like to have more efficient, connected, and sustainable transportation options.

As the timeline above shows, Working Group meetings happened consistently throughout the planning process. The diversity of experience among the Working Group membership provided the project team with insights into public safety, recreation, communications, health and wellness, transit and parking operations, on- and off-campus student concerns, sustainability, and UConn's disability community. The Working Group helped focus attention on campus policies, traffic enforcement issues, gaps in campus infrastructure, and the specific needs of their constituent groups.

Guided by a thorough understanding of existing conditions on the ground and of constituents' opinions and desires, the study team identified potential improvements for achieving the vision and goals over the next 5 years (near-term), 5 to 10 years (mid-term), and beyond 10 years (long-term). Recommendations for physical improvements to the campus transportation network were augmented by policy and programming recommendations that will be integral to their success. Once complete, the ATP will establish guidance for developing a coherent, walkable, and bikeable campus, provide a framework that connects parking facilities and other transportation hubs with common campus destinations and living communities, and recommend programs and policies to raise awareness and make active transportation modes more safe, comfortable, and convenient to users. Insight

The ATP will also have a focus on physically reducing pedestrian-vehicular conflicts and increasing safety and connectivity throughout the campus core via existing north/south and east/west corridors. Proposed improvements include traffic calming measures, safer pedestrian crossings, intersection alignments and controls, and closures or connections that address gaps in the existing network.

In addition to establishing a framework and reducing conflicts, the ATP will address the planning and infrastructure required to encourage active transportation use, including bike parking and storage; the use of electric bikes, scooters, and other forms of electrified transportation; and connectivity to/from local and regional transportation networks. An opinion of cost and an implementation matrix to guide the execution of the plan concludes the study.

The comment categories were catalogued into three larger groupings, which assisted in the establishment of goals and key points to guide the analysis portion of the study. These categories, and the associated goals and key points for each category are shown in **Figure 1**.

The category of *Etiquette, Education, and Programs* emerged as the project team heard feedback about existing policies and their enforceability, adherence to rules of the road, and the awareness of and creation of existing campus programs. The goals were to refine a plan to reinforce the message that "pedestrians always have the right-of-way" and to develop, enhance, and integrate sustainable transportation options in such a way as to augment the active transportation options that exist. Some key takeaways enabling our work in this category are that good design can and will reduce speeds and improve safety, and that education is best started early and repeated often.

The category of *Safety and Connectivity* was born out of the expressed need for a safe and connected active transportation network that provides access to campus destinations regardless of mode. To enable the success of a robust active transportation system on campus, a safe and connected system must be established. It was clear that to do this quickly, a near-term plan would need to be established, with an eye on the ultimate plan that may not be readily achievable in the near-term. We also established that PTV needed to be better defined, since the goal is not just for bicycles and pedestrians but for all nonmotorized vehicle modes of travel.

The *Access and Convenience* category speaks to the need for the reduced travel times enabled through new designs and amenities that encourage use of the existing transit system, a shared bike or scooter system, and a more connected network that links together through a series of "Mobility Hubs." Mobility Hubs, which will be discussed further in other sections of this report, allow for the convenient transition from mode to mode, making the active transportation portion of one's trip more convenient. It is also important that PTVs use the same facilities and paths that bikes use while walking continues to be on sidewalks but separated from PTVs.

Table 1-1 – Goals and Key Points by Category

COMMENT CATEGORY	GOAL(S)	KEY POINTS
Etiquette, Education, and Programs	• Reinforce the message that pedestrians always have the right-of-way • Provide additional sustainable transportation options that augment and improve transit	• Car/truck speeds can be slowed with roadway design and increased use of active transportation modes • Education on travel behaviors and expectations can be conducted at staff and student orientations
Safety and Connectivity	Ensure that everyone has safe access to campus destinations, regardless of what mode of transportation they use	• Some roadway, sidewalk, crosswalk, and other streetscape design elements should be implementable in the potential near-term; more complex or expensive ones should be potential long-term • Some policy changes must be made to enable the safe expansion of PTVs
Access and Convenience	Reduce travel times for people using active transportation modes to/from all major destinations on campus	• Shared bikes, e-bikes, e-scooters, and other PTVs become part of a campus transportation system, connected by "Mobility Hubs" • PTVs use the same lanes and paths that bikes use, and walking continues to be on sidewalks separated from PTVs wherever possible

2. EXISTING CONDITIONS

To understand the transportation network at UConn, existing conditions were determined by review of prior planning efforts, mapping, and analysis of existing conditions on the campus and input from the working group and the public at large to determine areas of concern. It was first necessary to understand how the University's campus evolved through previous plans and studies, including the Campus Master Plan (2015), and Town of Mansfield's Plan of Conservation and Development "Mansfield Tomorrow" as well as the UConn Special Event Traffic Management Report and a Hillside Road report from 2018. These provided a foundation on which to base recommendations for further improvements or integrated efforts. As a next step, the following were mapped and analyzed:

- Pedestrian infrastructure
- Lighting
- Bicycle infrastructure
- Campus crash data
- HuskyGo shuttle and WRTD bus routes and stops
- Parking
- Designed, planned, or future campus construction and planning projects

General observations were gleaned from mapping campus facilities, field observations, and feedback from the Working Group and the public through outreach.

2.1 PEDESTRIAN INFRASTRUCTURE

The UConn Storrs campus has a robust network of sidewalks. During the first public meeting, 81% of attendees told us that they get around campus by walking. Unfortunately, pedestrian safety concerns have been brought into sharp focus over the years because of a number of pedestrian fatalities. While each occurrence is unique, the overall safety of pedestrians is a primary goal of the University and an important goal of this study.

Figure 2-1 illustrates the pedestrian infrastructure around campus. UConn has an extensive network of sidewalks within the core of campus with few connectivity issues. Most connection issues occur outside of the core campus.

The campus core is generally well connected, except for a few locations where crosswalks or sidewalks are missing. Outside of the core, connectivity issues are more prevalent due to a lack of crosswalks connecting sidewalks and important destinations. Travel speeds outside the core also become an issue when interacting with pedestrians.

North Eagleville Road provides access to residential, academic, commercial, and institutional uses with pedestrian access to/from and between them critically important. It also doubles as a major purveyor of automobiles. While there are sidewalks and crosswalks today along its length from Hunting Lodge Road to Storrs Road, there are gaps in sidewalk network and too few logical crossing points west of Discovery Drive.

Glenbrook Road offers different challenges. There are many crosswalks that lose their effectiveness to the driver just by their mere number. Additionally, there are vertical and horizontal grade challenges that contribute to concerns here.

Other areas where a lack of sidewalk continuity were identified include Horsebarn Hill Road where commuter parking is provided and events are common, on Bolton Road, and in the area near W-Lot and the Residential Halls (Towers and Husky Village) on the north side of campus. The volume of traffic on Hillside Road is a challenge to pedestrians and all forms of active transportation.

There are also locations on campus where paths have been worn into the ground where people desire to go. These include sections of Alumni Drive and Bolton Road, areas surrounding Hilltop Apartments and Towers, as well as between F-lot and Facilities, and behind the greenhouses near the intersection of Route 195/Storrs Road and North Eagleville Road.

Several comments were made about the size of campus and its many distant destinations and that the following parts of the extended campus area are inaccessible – or inefficient to access – without a car. These include the Depot Campus, Spring Valley Student Farm, and Mansfield Four Corners. Access across and along South Eagleville Road is important for access to existing and proposed residential communities. And lastly, issues were also raised regarding the state of the Fenton River Trail and the trailhead at Horsebarn Hill Road. These were outside the primary focus area of this study, but it is important to document these concerns, nonetheless.

2.2 LIGHTING

Lighting was also a consideration when analyzing pedestrian infrastructure as there is a direct correlation between pedestrian safety and how well-lit an area is. **Figure 2-2** shows the existing core campus lighting. Please note that the available data used to populate this map is not complete. Some undocumented but still lighted areas may not be shown. Similar to pedestrian infrastructure, there is significant lighting within the campus core. However, there are gaps in lighting on the periphery and a desire within the community to address these gaps. Some of these gaps include but are not limited to the following:

- Horsebarn Hill Road
- Eastwood and Westwood Road
- Glenbrook Road
- Sections along North Eagleville Road west of Discovery Drive
- Along Jim Calhoun Way near the Hillside apartments
- Areas along Separatist Road

These gaps are important to understand and address such that pedestrian (and bicycle) activity is encouraged and safety is improved.

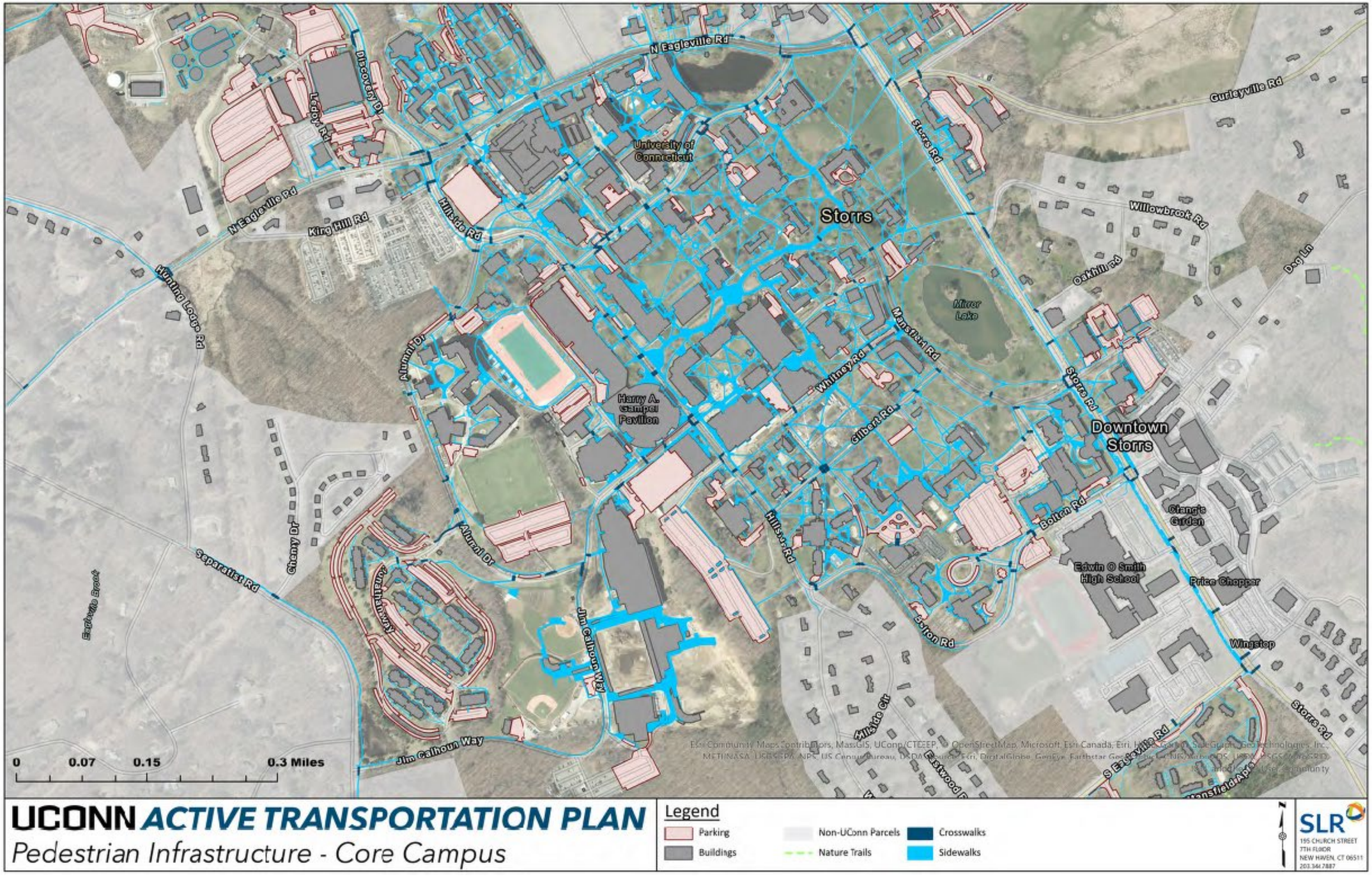


Figure 2-1 Pedestrian Infrastructure – Core Campus

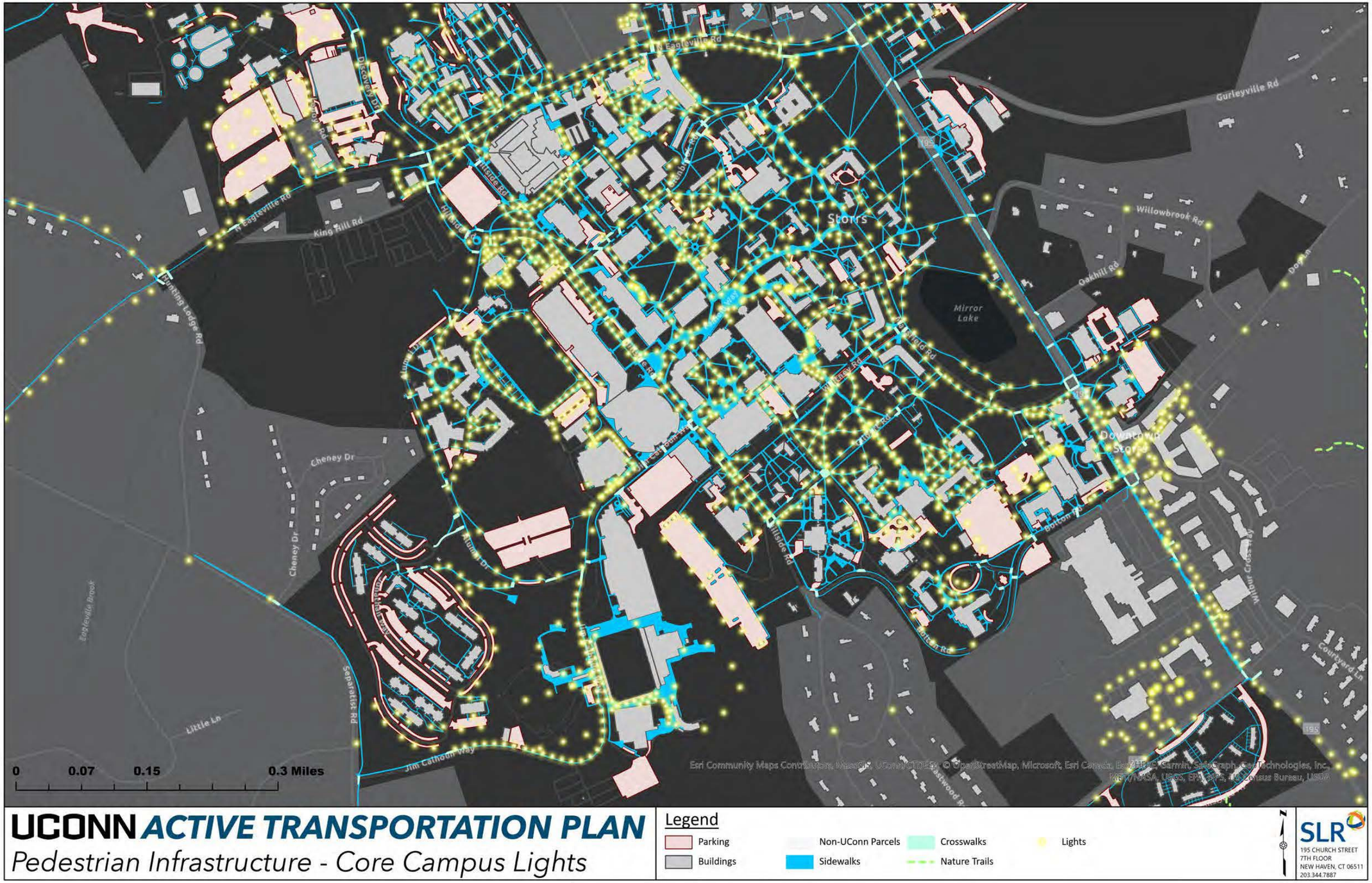


Figure 2-2 Pedestrian Infrastructure – Core Campus Lights

2.3 BICYCLE INFRASTRUCTURE

In contrast to the 81% of participants in the first public meeting's poll who indicated that they get around campus on foot, only 4% get around campus by bike. Although bicycle lanes can be found on Discovery Drive and along part of North Eagleville Road, and shared lane markings ("sharrows") appear on parts of Alumni Drive, Jim Calhoun Way, Bolton Road, and a small segment of Hillside Road, there is a lack of bike infrastructure in and around campus. The existing bike lanes are shown in green on the map in **Figure 2-3**. The sharrows, which increase motorists' awareness that bicycles share the lane with cars, are shown in yellow on the map.

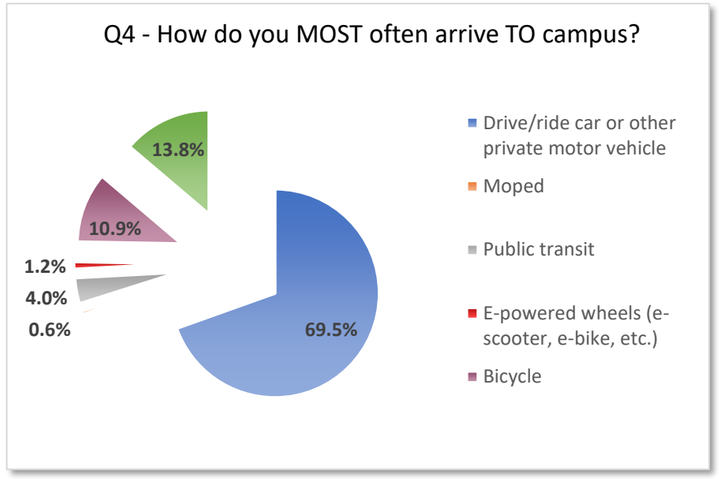
Bicycles use Mansfield Way, Academic Way, and Fairfield Way without having to share the space with cars and trucks. These limited access paved ways are for pedestrians and authorized vehicles only. The University does not currently allow bicycles or PTVs on these limited accessways, but neither does it enforce the unauthorized use.

Bicycle infrastructure is notably missing on much of North Eagleville Road, Storrs Road/Route 195, Glenbrook Road, and Hillside Road, which are all important north/south and east/west routes to or through campus. Many comments were received throughout the planning process about the discontinuous nature of bicycle lanes and bicyclists' reluctance to share the road with speeding cars.

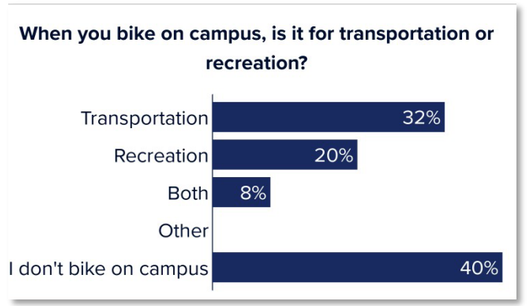
UConn applied for Bicycle Friendly University (BFU) status through the League of American Bicyclists on August 8, 2022, and expects a decision in 2 to 3 months. Bicycle Friendly University status is an important and public acknowledgement of a university's commitment to providing a more bikeable campus for students, staff, and visitors. The program provides the roadmap and technical assistance to create great campuses for cycling and evaluates applicants' efforts to promote bicycling in five primary areas: engineering, encouragement, education, enforcement, and evaluation/planning, known as the Five E's.

Bicycle Usage

A UConn Bicycle Use survey conducted in Spring of 2021 asked participants how they most often arrive to campus, and what would encourage more biking or an improved bike experience. Almost 11% of the nearly 200 respondents indicated that they bike to campus. In answer to the questions about encouragement to bike more or an improved experience, more bike lanes and routes, and safer bike routes were the top answers, as the graph below shows. The next most popular responses related to bike parking. More convenient, covered, and secure bike parking being desired.



The next chapter of this report discusses the public input received through this project's planning process, including the results of real-time polling incorporated into the first and second public meetings. One of the questions asked of those that currently bike on campus was whether you bike for transportation or for recreation. We found that of the 60% that do bike on campus, one-third do so for recreation only, more than one-half do so for transportation only, and around 10% to 15% do so for combined transportation and recreational purposes.



Bicycle parking

Another important question posed to bicyclists was what would encourage you to bike more often or improve your bicycling experience. Besides the top answers of more bike lanes and routes on campus and safer routes to campus, three of the next four responses related to improvements in parking amenities for bicycles. Prior to the Active Transportation Plan's initiation, the Bicycle Work Group mapped bicycle parking locations (seen on the map in **Figure 2.3** as blue and white circles with bicycle icons). This data served as a useful tool to identify gaps in bicycle parking locations. Bicycle parking is discussed in more detail in Chapter 4 - Improvements.

Q8 – What would encourage you to bike more often, or improve tour biking experience on the UConn Storrs campus? (Select all that apply)

Answer	%	Count
More information/education about bicycling	3%	23
More bike lanes/routes on UConn Storrs campus	16%	107
Safer bike routes to UConn Storrs campus	15%	99
Bike repair classes	4%	27
Bike safety classes	3%	23
More convenient bike parking	12%	83
More covered bike parking	13%	87
More secure indoor bike storage	11%	73
Bicycle incentive programs	12%	77
Locker and shower facilities	7%	46
Nothing would encourage me to bike more	1%	8
Nothing would improve my biking experience	0%	3
Other (please specify)	1%	9
Total	100%	665

Source: UConn Bicycle Use Survey – Spring Semester 2021

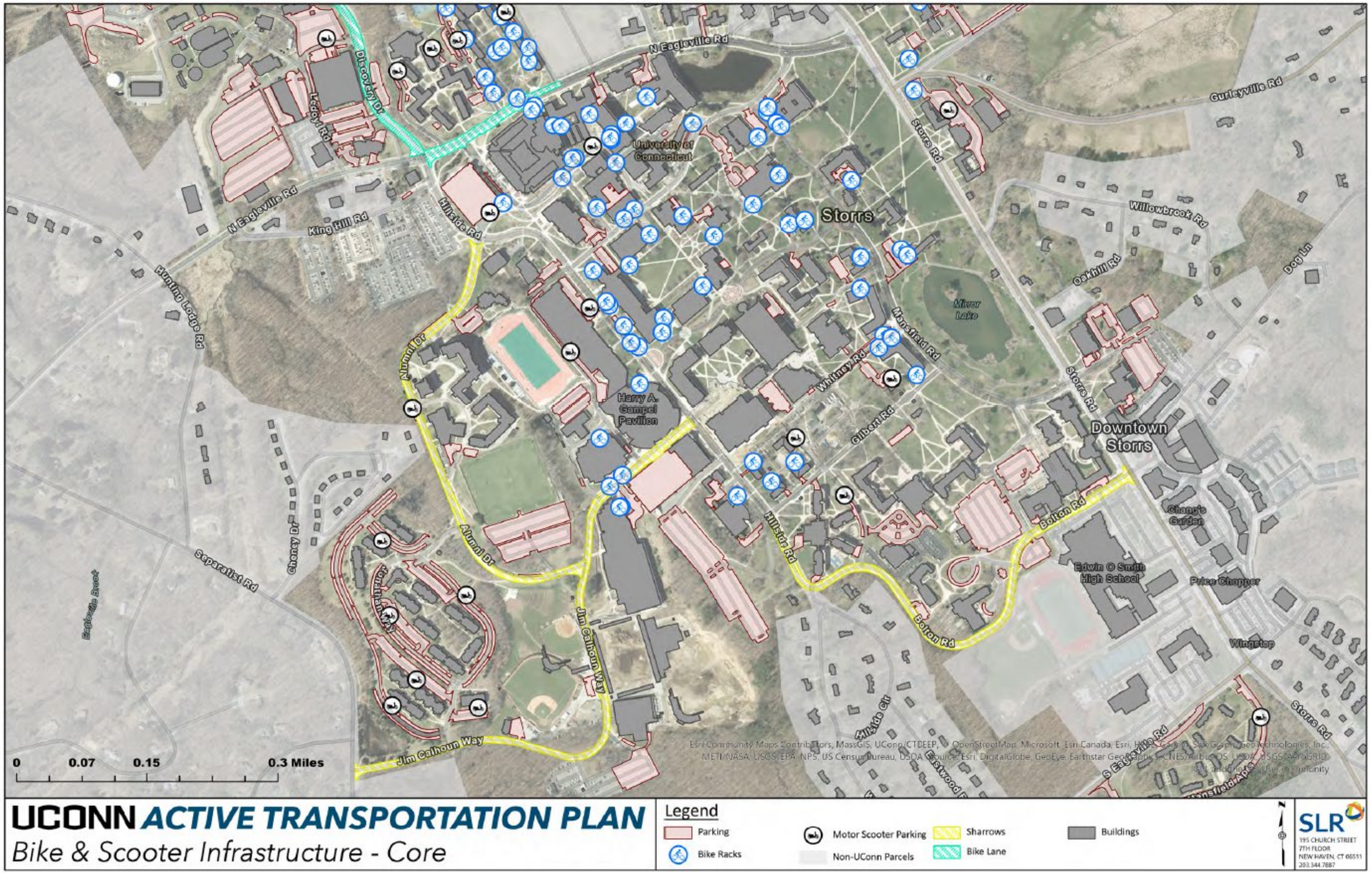


Figure 2-3 Bike & Scooter Infrastructure - Core

UConn Recreation Bicycle Share Program

UConn's Recreation Cycle Share Program offers students use of a bicycle, helmet, and lock for daily, weekly, monthly, or summer/semester use. The rates (as of this writing) are shown in the adjacent graphic. The program has historically been open to students only but is now being offered to faculty and staff who have a UConn Recreation Center membership.

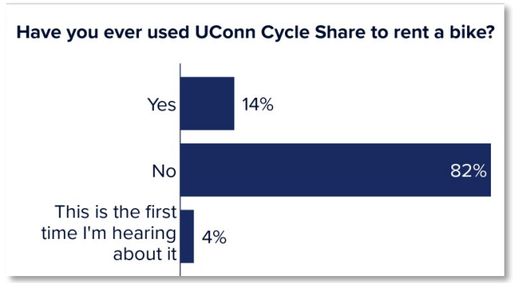
> *UConn Recreation Cycle Share is the perfect mode of transportation to get around campus, commute to class, tour Horsebarn Hill, or enjoy the shops and restaurants in Downtown Storrs!*

Cycle Share Rental Information

- The bike package includes a cruiser bike, helmet, and a lock to secure your bike.

Session	Duration	Dates Available	Cost
1 Day Rental (in person rental)	1 Day	Ongoing	$5
1 Week Rental (in person rental)	1 Week	Ongoing	$10
1 Month Bike Rental (in person rental)	4 Weeks	Ongoing	$30.00
Summer Long Term Rental (in person rental)	May 9th - Aug 10th	Ongoing starting May 9	$60.00

Based on the results of real-time polling conducted during the Active Transportation Plan public meeting, there should be more promotion of UConn Cycle Share on campus. This program allows participants to try biking as a campus commute option at very low risk – only $5 for a day. This is an important tool for encouraging active transportation and would complement a shared bike, e-bike, or e-scooter system on campus because it serves a more long-term and dedicated use purpose. Conversely, an app-enabled bikeshare or scootershare system serves the on-demand use case for transportation.



2.4 CRASHES

The UConn Crash Data Repository was used to map the last 5 years of crashes on and proximate to campus from 2017 to 2021. The two sources of the Repository's data are the Department of Public Safety (DPS) and the Connecticut Department of Transportation (CTDOT). **Figure 2-4** shows the crash density in and around the immediate vicinity of the campus core. Blue represents a lower density of vehicle crashes, and red and yellow represent a higher density of vehicle crashes. Pedestrian and bicycle crashes are represented by color-coded symbols that illustrate severity; yellow is property damage only, orange is a crash where an injury occurred, and red is a crash where a fatality occurred. A fatality occurred along South Eagleville Road, which has since heightened the desire to make safety and mobility changes along this roadway.

In the 5 years of data reviewed, there was some 867 crashes reported on campus. Most of the crashes involved only motor vehicles. Only 14 reported crashes involved pedestrians, and only two involved a bicycle. What is important to note is that nearly all the pedestrian and bicycle accidents resulted in injury at some level. During the 5-year evaluation period, one of the fatalities discussed earlier is shown on South Eagleville Road. A road safety audit was recently completed here to evaluate conditions and determine what if any mitigation should be pursued.

Crash	Type of Crash – Crash Severity		
	Fatality	Injury of any Type	Property Damage Only
Pedestrian Crashes	1	12	1
Bicycle Crashes	-	2	-
Vehicle Crashes	-	75	766
Total Crashes	1	99	767

The heat map shows that the motor vehicle crashes are generally where traffic volumes and turning movements are highest such as intersections along North Eagleville Road, South Eagleville Road, and in Storrs Center. On campus, the two hotspots are both in the vicinity of Hillside Road: one on Jim Calhoun Way and the South Parking Garage and one at or near the North Parking Garage.

The bicycle and pedestrian crashes are generally along Storrs Road and Hillside Road. These are the places where pedestrians and bicyclist mix with cars most frequently.

In addition to reported crash data, bicycle injury data from UConn Student Health Services was provided by the Bicycle Working Group for this study. Although the cause of the injuries is not always specified, the data in **Table 2-1** emphasizes the point that even in areas where bicyclists do not interact with cars, care should be given in designing safe facilities for bicycles. Because this data does not correlate with the UConn Crash Data Repository, it is also clear that there are more bicycle-related incidents than are reported.

Table 2-1 – Bicycle Injuries Reported from UConn Student Health: 2018

UConn Student Health Bicycle Injuries: 2018			
Date	**Time**	**Location**	**Description**
24-Jan	6:30 AM		Phone call after fall from bike, reporting abrasion to knee, right rib pain, advised to go to urgent care
25-Jan			Bike slipped on black ice, fell and sustained multiple abrasions and rib contusion
15-Feb	8am		Feet slipped off pedals, fell to the right side, scraping knee on curb
26-Apr		near FD	Fell due to failed brakes, EMS initally cared for abrasions on knee and arms.
2-May	am		crashed bike into metal pole, 2nd toe left foot injury ?fracture
9-May	night	Discovery Dr.	Lost control of bike, flipped, no helmet. Landed on elbow/left side, unable to extend elbow, ?fracture.
16-Jul	early am		Fell, small abrasion to upper lip, right lower leg wrapped (urgent care was only place open at the time)
18-Jul	night		Fell off bike, right tip of thumb tingly
22-Jul			Fell, abrasion on right calf and forearm
6-Aug			Fell, scraped left elbow
6-Aug			Fell trying to make a turn, scraped left forearm
24-Aug			Call from student - fell from bike, scraped knee ?infected, wound care discussed over the phone
28-Aug			Abrasion left knee, fall from bike
8-Sep			Fell off bike going about 20mph, road rash on right leg
9-Sep			Fell off bike and hit left eye, swollen shut, had headaches
12-Sep			Call from mother, states student fell from bike and injured upper orbital socket, opthomology options given to mother.
13-Sep			Fell off friend's bike, left thumb sprain
13-Sep	am		Fell, scraped left elbow
17-Sep			Pedal came off bike, left elbow abrasion from falling.
21-Sep	2:30pm		landed on chin, laceration noted, dizzy
21-Sep			Fell off bike, chin hit the ground, ?concussion - student had headaches.
3-Oct			Fell after trying to trying to turn, rode into a step, fell hitting head/face, was wearing a helmet.
6-Oct			Fell off bike, went to urgent care first, steri strips applied to ankle
11-Oct	10am		Fell from bike, Right forearm and wrist pain
2-Nov	10am		Skid and fell off bike, hit left knee on sidewalk
12-Nov			Fell off bike onto outstretched right arm/hand
12-Nov			Skid on bicycle, fell on left side, chin and right hand abrasions
18-Nov			Bicycle accident, torn all ligaments of left lower leg, needed surgery
30-Nov			Fell off bike onto wrist
4-Dec			Hit a bump, fell off bike, abrasion to right hand
5-Dec			Fell off bike, cut left hand

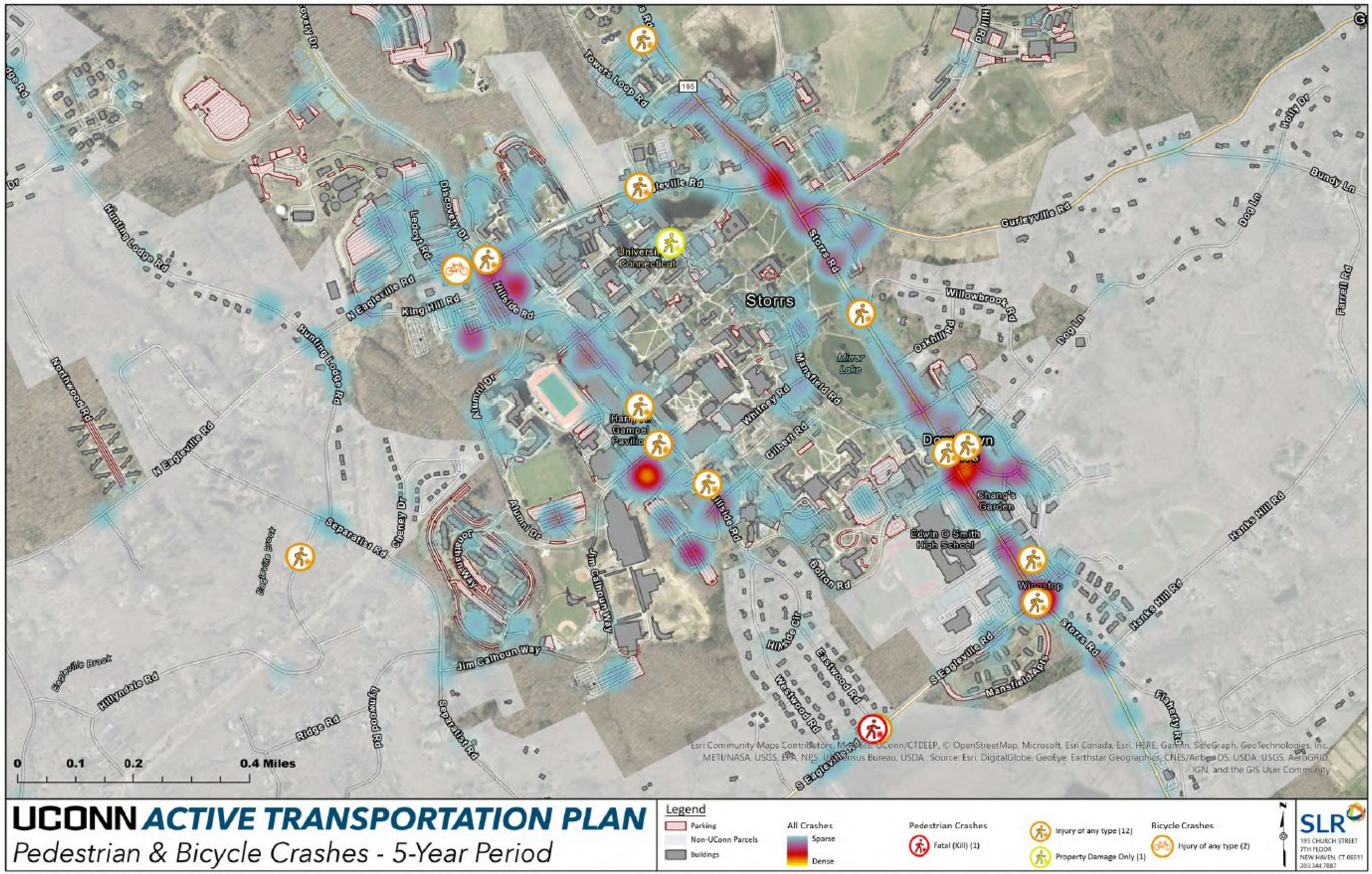


Figure 2-4 Pedestrian & Bicycle Crashes – 5-Year Period

2.5 HUSKYGO SHUTTLE AND WRTD ROUTES AND STOPS

Transit is an important enabler of Active Transportation. The HuskyGo and Windham Region Transit District (WRTD) buses provide access to destinations outside a comfortable walking or bicycling distance. HuskyGo is UConn's bus service that is free to students and staff. As of July 1, 2022, WRTD operates the HuskyGo system for UConn as well as their own. For this study, the HuskyGo service is integral to a Mobility Hub concept, which would link various forms of transportation on campus to make any trips more easily shared by multiple modes of travel. Later in this report we will discuss the Mobility Hub concepts further. They provide important connection points between parking areas, residential nodes, and other highly desirable areas. The integration with the shuttle system is a critical link in the concept.

In **Figure 2.5**, the HuskyGo route map is pictured. As shown, there are several routes that bring riders into campus from outside the core. Once on the campus core, many of the routes use either Glenbrook Road, Gilbert Road, or North Eagleville Road to circulate. This will be an important consideration in developing recommendations in those areas.

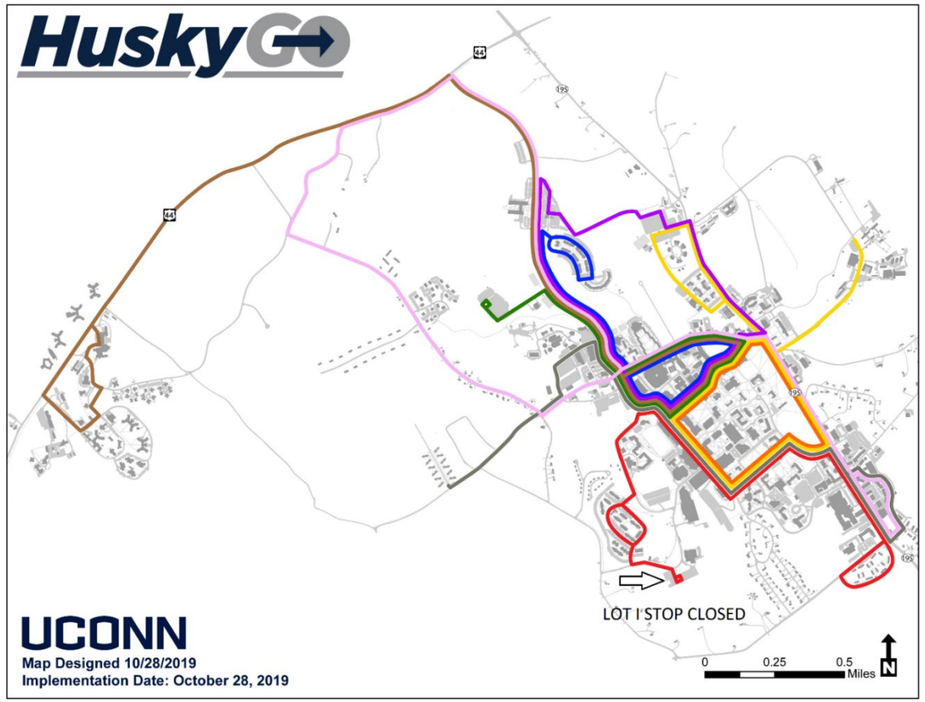


Figure 2-5 HuskyGo

Figure 2-6 shows the fall transit schedule for each of the transit lines as of this writing. Shown are the hours of operation as well as the peak and off-peak frequency.

Fall 2022 Weekday Shuttle Service

	Service Hours *Mon – Thurs*	Service Hours *Friday*	Arrival Intervals *On Peak*	Arrival Intervals *Off Peak**	Service to
Blue	7AM – 12AM	7AM – 10PM	10 minutes	20 minutes	Charter Oak
Red	7AM – 12AM	7AM – 10PM	15 minutes	40 minutes	Hilltop, Mansfield Apartments, Lot I
Green	7AM – 7PM	7AM – 7PM	15 minutes	15 minutes	Lot C
Yellow	7AM – 12AM	7AM – 10PM	15 minutes	30 minutes	Lot W, Towers, Horsebarn Hill
Orange	7AM – 12AM	7AM – 10PM	15 minutes	15 minutes	Central Campus
Purple	7AM – 7PM	7AM – 7PM	15 minutes	15 minutes	Lot K
Silver	7AM – 12AM	7AM – 10PM	20 minutes	35 minutes	Northwood, Lot F, Downtown
Hunting Lodge	7AM – 12AM	7AM – 10PM	45 minutes	45 minutes	Hunting Lodge Road & Downtown
Depot	8AM – 7PM	8AM – 7PM	30 minutes	————	Depot, Lot J
Parking Express	7PM – 12AM	7PM – 10PM	————	25 minutes	Lots C, F, J, K
Weekend 1 & 2	————	10PM – 1AM	————	40 minutes	

*__Off Peak__ = Weekday service hours before 8AM *and* after 7PM

Figure 2-6 HuskyGo Weekday Shuttle Schedule

UConn's UPass Program is an excellent benefit provided to students, allowing them free travel on all public bus and train systems in the state. Review of the campus UPass participation was also conducted for this study, but the changes in transportation usage patterns caused by the pandemic made it challenging to draw any significant conclusions from the data. Feedback received about the UPass Program included that it is challenging for off-campus students to obtain passes and that subsidizing transit for faculty and staff should be considered as a means of reducing Single Occupant Vehicle (SOV) trips to campus since many faculty and staff teach on different campuses and/or do not live close to Storrs. A monthly bus pass from Hartford, for example, is more expensive than the most expensive monthly parking permit, providing no incentive for faculty and staff to use transit versus driving.

Figure 2-7 shows peak transit stops per hour, derived from 2019 HuskyGo shuttle ridership data provided by UConn. Data from 2019 was used because it shows more normal activity than pandemic-era shuttle statistics would. The blue circles represent a range of stops per hour for each bus stop along the route. The larger the circle, the more stops per hour. The yellow and red colored circles represent the density of riders per stop. Dark red circles represent a higher ridership and pale-yellow circles represents a lower ridership. The stops identified by text callouts represent 11 peak stops per hour or more and/or a ridership of over 40,000 in a year. This data was used to help determine the location of the Mobility Hubs relative to frequency of service on different routes and passenger activity, indicating what locations would be good candidates for Mobility Hubs.

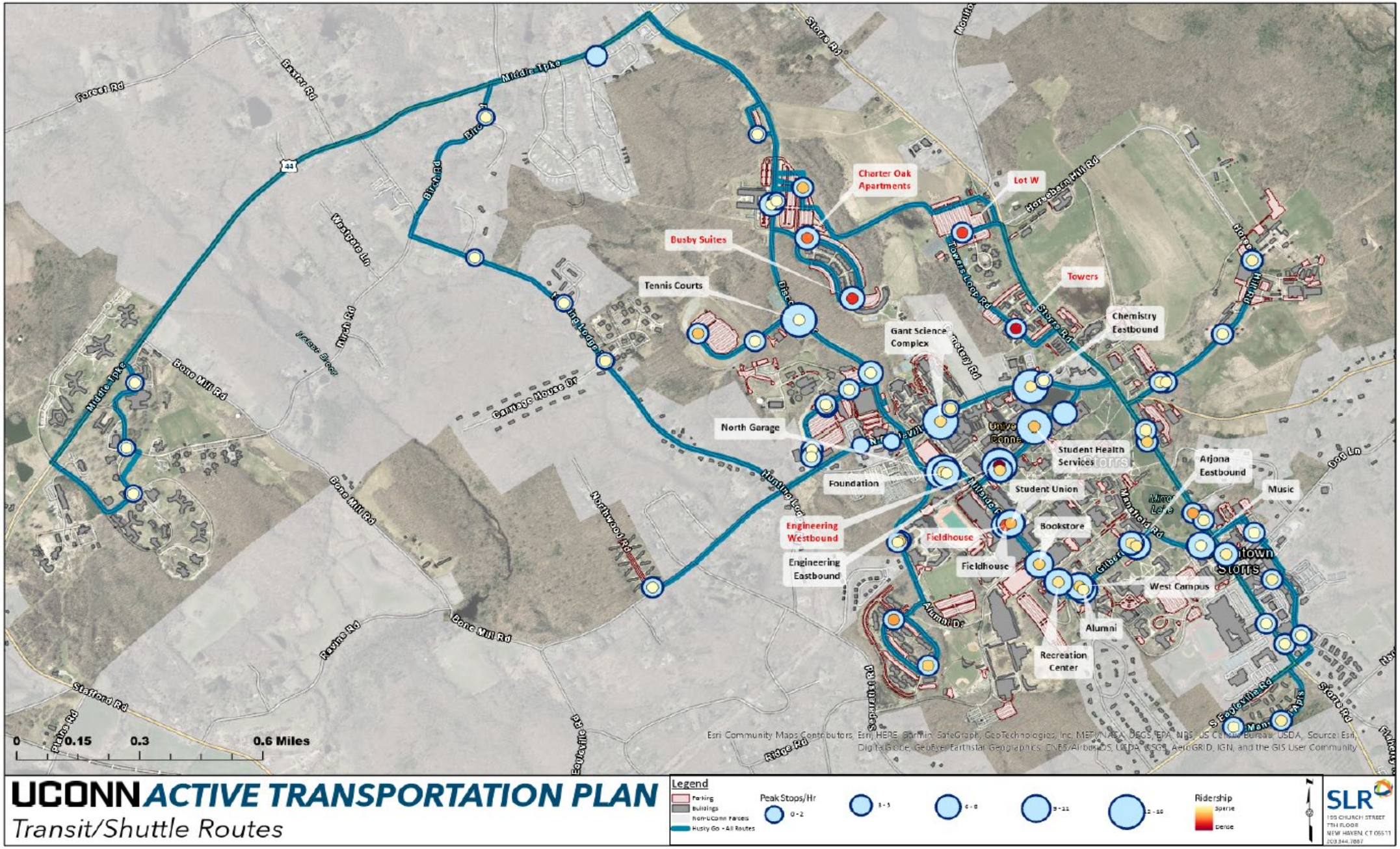


Figure 2-7 Transit/Shuttle Routes

2.6 PARKING

One of the important methods of making pedestrians, cyclists, PTV users, and transit riders safer in the campus core is to move most of the car and truck parking to the perimeter of campus so that the possibility of conflict between car and human is limited. The University has made excellent progress in this direction. **Figure 2-8** shows the relative scarcity of parking in the campus core, with most of the parking located in the North and South Garages and commuter lots outside the core.

Figure 2-8 also Illustrates the parking use on campus. The majority of student commuter lots are located to the north and south along the periphery of the core campus and in the parking garages. Employee and visitor lots are scattered throughout campus.

Despite its appropriateness from a policy and safety perspective, commuter students who responded to the live polling at the first Active Transportation Plan public meeting were almost 6 times more likely to find traveling to and from commuter parking lots inconvenient than they were to consider it convenient.

Table 2-2 shows the number of campus parking spaces by User: Student versus Employee. The slight majority (51%) of spaces are provided for student parking, compared to 49% of spaces allocated for employee parking. Of the student spaces, the largest percentage of spaces are reserved for commuters, which represent 23% of the total number of spaces on campus. Review of the campus parking permits sold was conducted for this study, but as was true of UPass data analysis, the changes in transportation usage patterns caused by the pandemic made it challenging to draw any significant conclusions.

Table 2-2 – Campus Parking Distribution[1]

Parking Type	Total Number	Percent of Parking
Commuter Student Spaces	2,408	23.20%
Garage Student Spaces	100	1.00%
Apartment Student Spaces	1,777	17.20%
Resident Student Spaces	1,036	10.00%
Total Student Spaces	**5,321**	**51.40%**
Employee – Area 1	506	4.90%
Employee – Area 2	2,490	24.00%
Employee – Area 3	260	2.50%
Employee – Garage	1,350	13.00%
Employee – Gated Surface Lot (Reserved)	55	0.50%
Employee – Special Permit	49	0.50%
Employee – Handicap (ADA)	36	0.30%
ADA (Unassigned)	294	2.80%
Total Employee Spaces	**5,040**	**48.60%**
Grand Total	**10,361**	

[1] Data provided by the UConn Parking & Transportation Services, 2021.

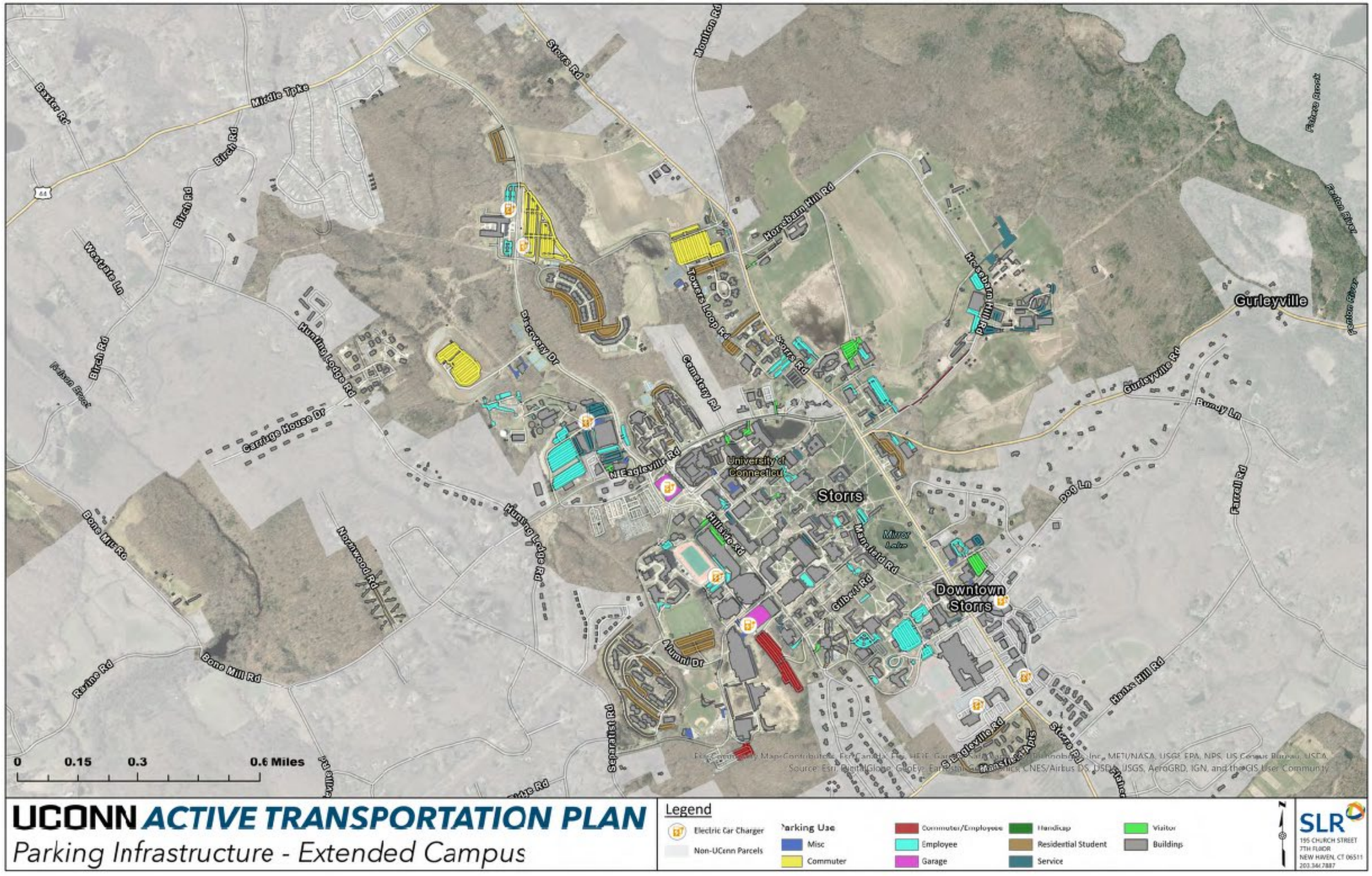


Figure 2-8 Parking Infrastructure – Extended Campus

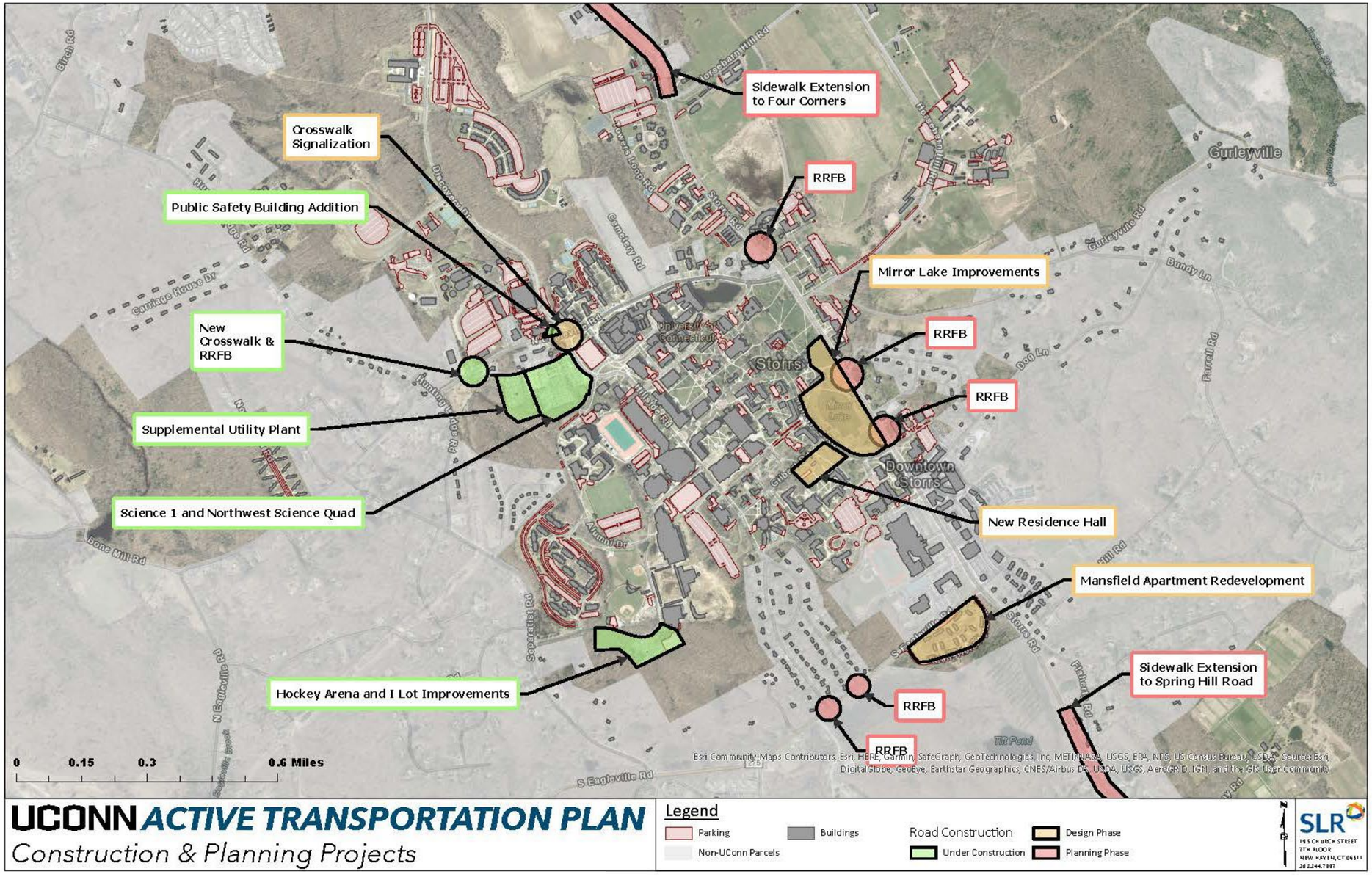


Figure 2-9 Construction & Planning Projects

2.7 DESIGNED, PLANNED, OR FUTURE CAMPUS CONSTRUCTION AND PLANNING PROJECTS

In **Figure 2-9**, the locations of campus projects that are in various stages of implementation are depicted. Projects that are currently (as of this writing) under construction are shown in green. Projects that are shown in yellow represent projects that are currently in design. The projects in red are still in the planning stage.

2.8 PEER RESEARCH

Policy Benchmarking

The table below shows the results of benchmarking against other state universities to see and compare the programs and policies they have in place, influencing how people decide to get around campus. Four universities were selected based on their approximate size and physical campus similarities to UConn. They include the following.

- UNH – University of New Hampshire
- UVM – University of Vermont
- UMass – University of Massachusetts
- UW – University of Washington

As shown, UConn, like all of these peer schools, have carpool incentives, public transit incentives, and available ride hailing services. UConn also has shared bikes available through the UConn Recreation Center's Cycle Share. All but UNH also offer this service.

Car sharing services are available at all of the peer schools but not at UConn. Two of the four peer schools have sheltered, secure bicycle parking available as well. Lastly, at the time this comparison was made, two of the four universities had "Bicycle Friendly University" status. As mentioned in Section 2.1, UConn had just submitted its' application for Bicycle Friendly University status from the League of American Bicyclists at the time this report was written, and the designation has not yet been granted.

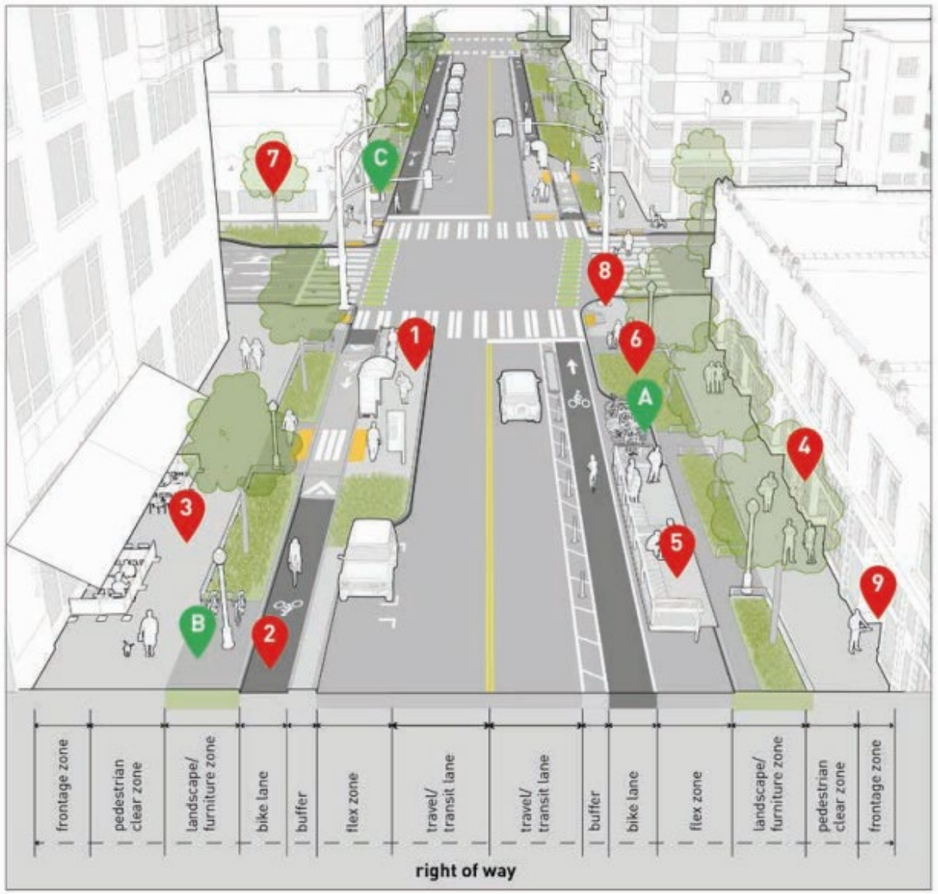
Policies that govern Personal Transportation Vehicles (PTVs) on peer campuses were reviewed as well. We found that other universities' policies varied widely in their definitions of PTVs and in the policies that regulate them.

- **UVM** – UVM and the City of Burlington defer to state policy, which does not allow electric scooters. The only other written policy they have is in their contract with the shared electric bicycle vendor used on their campus and in Burlington, which defines shared mobility devices as "e-bikes, e- scooters and additional related products and services." UVM, as well as the other universities interviewed, prohibit sidewalk riding.
- **UMass, Amherst** – UMass Amherst also follows state law, which defines motorized scooters as mopeds, scooters, and pocket bikes. They are allowed on all public ways except limited access or state highways as long as the driver has a valid license. These vehicles are not allowed on sidewalks. The University specifically bans hoverboards.

Table 2-3 – State University Policy Benchmarking

Key Policy Indicators	UConn	UNH	UVM	UMass	UW
Carpool Incentives	✓	✓	✓	✓	✓
Public Transit Incentives	✓	✓	✓	✓	✓
Ridehailing (Uber, Lyft etc.)	✓	✓	✓	✓	✓
Shared Bikes or Scooters	✓	X	✓	✓	✓
Non-central Parking	X	X	✓	X	✓
Freshman/sophomore resident student parking prohibited	✓	✓	✓	X	X
Carsharing (Zipcar, Enterprise Carshare, Getaround, CarShare Vermont etc.)	X	✓	✓	✓	✓
Secure & Sheltered Bicycle Storage	X	X	✓	X	✓
Bicycle Friendly University Status	X	X	✓	X	✓

- **UNH** – The University of New Hampshire has the most robust definition and regulations around what they have named "motorized devices" on their campus. This definition and regulatory framework are codified in the Town of Durham's local ordinances, which can be accessed here: https://www.ci.durham.nh.us/municipalcode/chapter-055-electronic-motorized-deviceselectric-scooters
- **UW –** The University of Washington has access to a robust bikeshare and scootershare system provided by the City of Seattle. The City has a graphic with guidance showing where to (and not to) park your shared bike or scooter (PTV), but the university does not have language specific to PTV policy on their website.



DON'T

1. Park at transit stops, loading zones, or disabled parking zones.
2. Park in travel lanes.
3. Park in the pedestrian clear zone. Leave at least 6 feet for pedestrians to pass.
4. Park in the frontage zone or against buildings. People with low vision use this area to navigate.
5. Block access to street features like parklets, parking pay stations, benches, and building entrances.
6. Park in a manner that damages landscaped areas.
7. Lock devices to trees, railings, or anywhere that will block access.
8. Park on corners, curb ramps, or crosswalks.
9. Block building entrances.

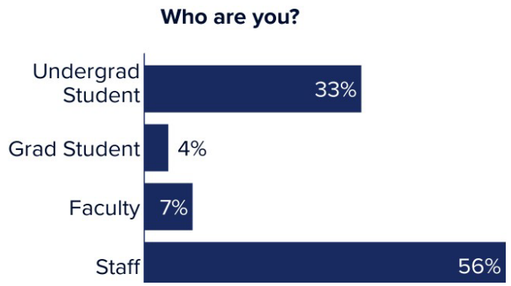
DO

A. Park in designated bike share parking areas and public bike corrals.
B. Lock devices to bike racks where they do not block pedestrian access.
C. Park on hard surfaces in the landscape/furniture zone, near the curb.

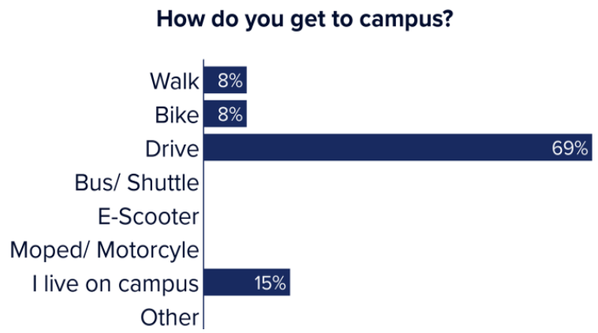
Figure 2-10 City of Seattle Shared Bike and E-scooter Parking Guidance

3. PUBLIC INPUT

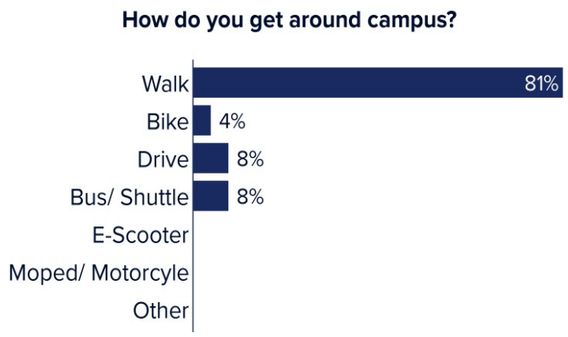
To gain a more complete understanding of walking, bicycling, scooting, transit (bus), and general traffic safety needs throughout the campus, input was sought from the broader UConn community. Three virtual public meetings were held over the course of this Active Transportation Plan (ATP) project. The first public meeting was held on February 18, 2022, and the second public meeting took place on April 27, 2022. The main purpose of the first public meeting was to introduce the ATP project and the general purpose and goals of active transportation planning to the public and to ask polling questions that established who was in the audience, how they get to and around campus, and their awareness and use of existing transportation modes.



The audience for the first public meeting was weighted toward staff, and toward driving as the primary mode of transportation **to** campus. But in answer to the question, How do you get **around** campus?" the vast majority of poll takers said they walk.



The next polling question was "If you feel the need to bring your car to the core of campus, where do you go? Why do you need a car?" The 18 responses ran the gamut from "time or convenience" to "drop off heavy/ large supplies," to "I park near the library or gym so I don't have to walk far late at night." All responses to this question can be found in **Appendix 1.**



Participants in the first public meeting's poll were also asked, "are there places you feel unsafe walking or biking?" They were then asked to show the locations on a map. These correlated with the locations shown on the map on the following page – which was generated through the online mapping tool embedded in the project StoryMap.

The rest of the polling questions asked at the first public meeting are incorporated into the Existing Conditions Chapter. Public input gained at the first meeting guided the development of draft recommendations which were shown at the second public meeting.

3.1 COMMENTS

Almost 300 comments were received from the UConn community over the course of the public engagement process, suggesting improvements that could make walking, bicycling, scooting, skateboarding, bus riding and overall mobility safer and more accessible. In addition to the comments received through the polling at public meetings and the online mapping tool and survey, verbal and typed comments were captured from the meeting chats. Comments were also received by email and from the UConn Active Transportation Working Group members throughout the process. All of the comments and input were compiled, organized by location and mode of travel, and mapped in a few different ways, such that the community's primary concerns became clear. All of the comments can be found in **Appendix 1**. Some of the most frequently raised issues from the public comments, including those that were upvoted on the online mapping tool, were the following.

MOST FREQUENTLY RAISED ISSUES

ISSUE CATEGORIES	EXAMPLES
Lighting & Visibility	• Discovery Drive/No. Eagleville Rd intersection • Glenbrook Road
Bike Routes and Accommodations	• Separate facilities for pedestrians and bicycles/PTVs: especially on Hillside Rd and along Route 195 • More & better bike parking
Walks & Crosswalks	• Missing Crosswalk on N Eagleville (several locations) • Missing sidewalk on S side of N Eagleville • Formalize (cut-through) paths
Congested Areas	• Hillside Road • Sidewalks and intersections along Route 195
Unsafe Behavior	• Fairfield Way (peds vs motorized e-vehicles) • Area around Hillside Road/Jim Calhoun Way
General Access	Hard to get to: Discovery Drive/Tech Park/Tennis Courts Depot Campus Horsebarn Hill Road (Arena/Commuter Parking area)

Many of the comments provided by the UConn community related to the inefficient or unsafe access between campus destinations – especially between residential locations and commuter parking – and the core of campus. To address this, a Mobility Hub concept was conceived as a way of creating focal points for transportation activity, which ultimately connect to each other by way of wide multi-use paths.

The map below shows the location of comments received from the interactive mapping tool that was on the project StoryMap. Any comment that received 10 or more votes is shown here on a heat map - the pink and yellow indicate where the most comments were received.

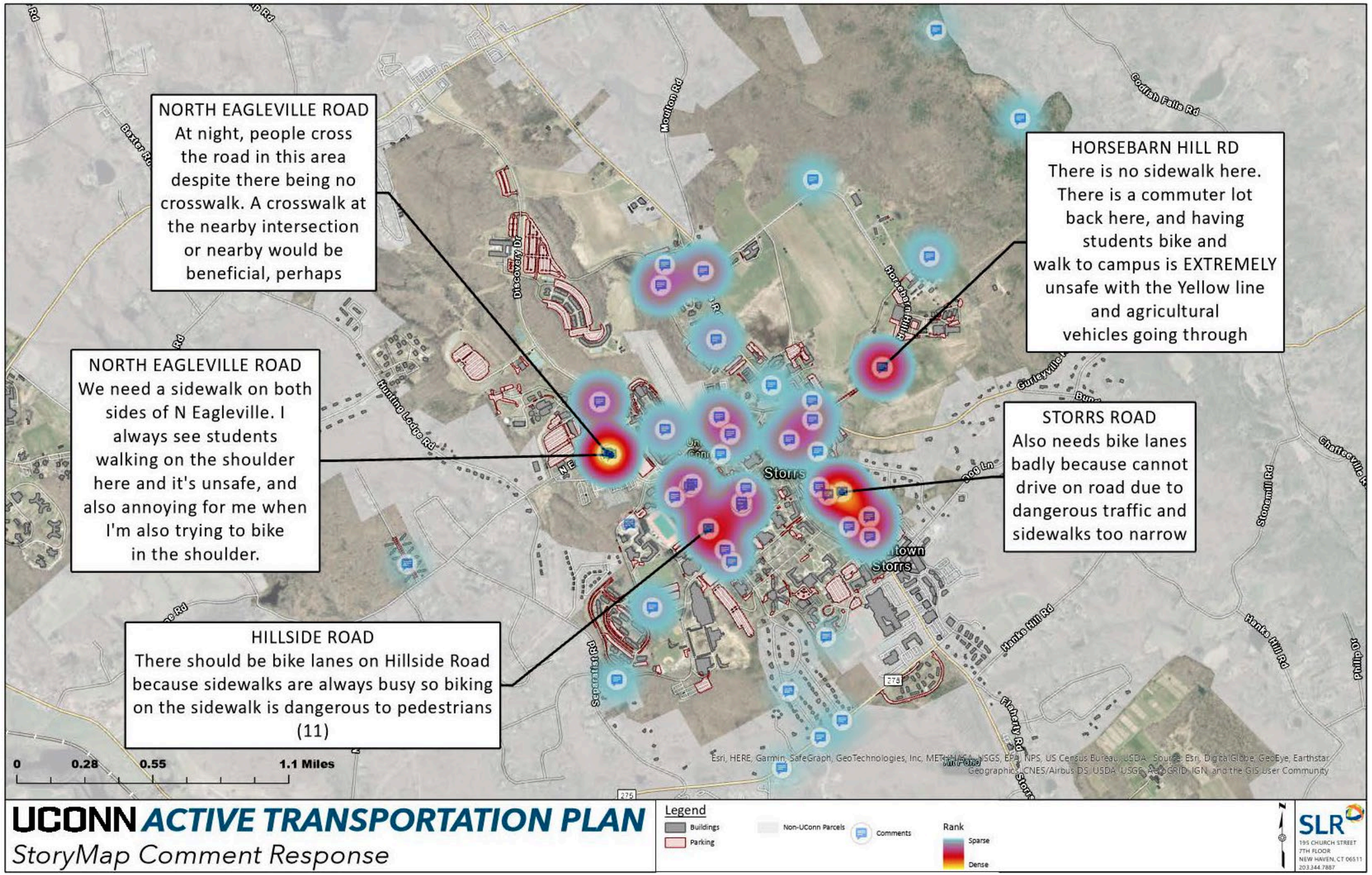
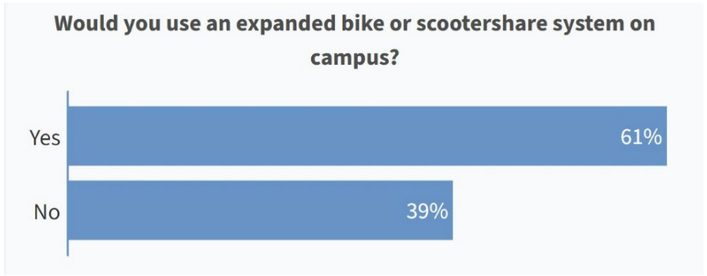
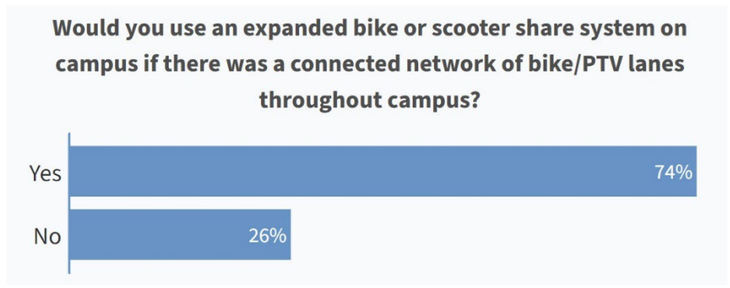


Figure 3-1 UConn Active Transportation Plan StoryMap Comment Response

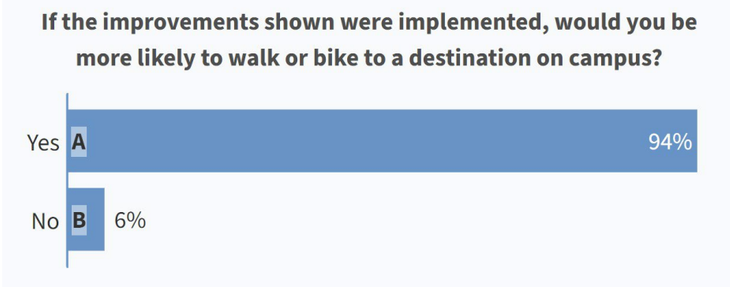
At the second public meeting, participants were first asked if they would use an expanded bike or scootershare system on campus, and almost 2/3 indicated they would.



After this first questions, they were shown a graphic depicting a connected network of paths on which they could more safely travel, that answer changed to almost ¾ of participants indicating they would use shared bikes or scooters.



And after the path and roadway design concepts were presented, that answer changed to 94% - or almost all – of participants indicating they would walk, bike or "scoot." Feedback gained at the second meeting helped refine and further guide the recommendations.



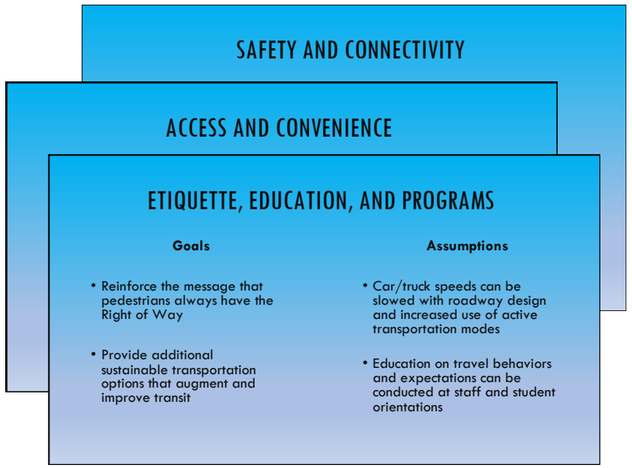
A third public meeting took place on July 19, 2022, to solicit additional comments on the recommendations and design concepts for even further refinement. All three public meetings were held virtually online. Please read on to learn more about the physical improvements that should enable, encourage, and/or make Active Transportation on campus safer.

Figure 3-2 UConn Active Transportation Plan StoryMap
(to explore the StoryMap online, visit https://arcg.is/00mvK8)

4. IMPROVEMENTS

4.1 IMPROVEMENTS OVERVIEW

The primary focus of the proposed infrastructure improvements was to increase pedestrian and Personal Transportation Vehicle (PTV) safety and connectivity throughout the UConn campus. From this point forward, we will use the terms bicycle lanes, bicycle paths, or bicycle network to include bicycle **and** PTV accommodation as PTVs travel at a similar speed to bicycles and should use the same facilities.



The improvements include new facilities, traffic calming methods, and proven safety countermeasures to develop a well-connected network of accessible pedestrian pathways and bicycle lanes to create a welcoming place for all active transportation users.

The project team acknowledges that it is critical to follow Americans with Disabilities Act (ADA) guidelines and address the needs of individuals with disabilities in any alterations to campus travel ways and offerings. The goal was to develop a master plan of physical improvements, bolstrered by the necessary policy and program changes, to promote safe and convenient access throughout the campus, regardless of travel mode. These goals and assumptions are described in more detail in the introductory section of this report.

The proposed infrastructure improvements were developed generally following the process described below.

- Review existing campus transportation infrastructure, identify safety concerns, review available bicycle and pedestrian facilities, evaluate circulation patterns and gaps, and determine connectivity challenges.
- Research existing campus policies and programs.
- Gather input from stakeholders, students, faculty, and other community members on the campus multimodal environment.
- Develop improvement alternatives that support and safely accommodate active transportation.
- Gather routine feedback from the UConn Active Transportation Working Group.
- Vet each improvement based on its safety benefit, cost, and ease of implementation.
- Develop a list of recommended infrastructure improvements that provide a framework for connecting parking facilities and other transportation hubs with the campus core and residences.
- Develop a list of strategies to improve campus education, programs, and polices to improve connectivity, raise awareness, and increase understanding of transportation etiquette.

The input received during the public engagement process combined with the review of the existing campus conditions served as the foundation for the development of the improvement alternatives. The improvement alternatives were then refined to develop a list of recommended improvements. Recommended improvements were then categorized based on what could be accomplished in the potential near-term, potential mid-term, and potential long-term, taking their safety benefit, cost, and ease of implementation into account.
The FHWA Bikeway Selection Guide[2] provides three principles important in the creation of an effective active transportation network. These principles, discussed below, guided our initial concept development.

Safety: Roadway and bikeway designs should be selected to reduce the frequency and severity of crashes and minimize conflicts between users.

Comfort: Bicycle and PTV facilities should be selected to minimize stress, anxiety, and safety concerns.

Connectivity: Trips within a network should be direct and convenient and offer access to all destinations served by the roadway network. Transitions between roadways and bikeways should be seamless and clear. Bicycle and pedestrian pathways should not end and start at points without connecting to a larger network.

The recommended potential near-term bicycle and pedestrian facilities seek to complete that network with emphasis on these three principles. With the goals and guidance discussed, we prepared a plan that outlined policy and program recommendations as well as near-, mid-, and long-term projects.

Proven Safety Measures	Safety Benefit
Add sidewalks where none exists today	65-89% reduction in crashes
Install raised medians/pedestrian crossing islands	46-56% reduction in crashes
Increased nighttime lighting	28-42% reduction in crashes
Install raised crosswalks and speed humps	30-50% reduction in crashes
Install rectangular rapid flashing beacons (RRFB)	47% reduction in crashes
Install bicycle lanes	30%+ reduction in crashes
Consolidate driveways/curb cuts	25-31% reduction in crashes
Install multiuse paths	25% reduction in crashes

[2] US Department of Transportation Federal Highway Administration (2019) Bikeway Selection Guide. https://safety.fhwa.dot.gov/provencountermeasures/

4.2 POLICY AND PROGRAM RECOMMENDATIONS

The University of Connecticut maintains and updates several documents that govern the use of vehicles on campus; the design of campus space, buildings, and other facilities; and residential housing regulations. After a thorough review of campus policies that relate to transportation in these documents, the following recommendations were made:

1) Establish Bicycle Parking Guidelines

An assessment of parking for all active and assisted transportation modes, including short- and long-term bicycle and PTV parking and skateboard racks in high student use areas, should be completed as part of the capital project design process. This language should be added to the University's *Design Guidelines & Performance Standards* document. When this assessment was done for the recent Science 1 project, it resulted in a customized bike shelter near the building. The bike parking site criteria below should aid in this assessment. The UConn Bicycle Working Group has done important work to inventory and map the campus bicycle rack locations, note where bike parking is missing, and to recommend an appropriate number of spaces to provide relative to the building's use. Over 100 facilities with no bike parking were identified, and the list is provided in the Appendix. Of these, 34 were identified as possible locations where a bike rack could serve one or more facilities, and 9 of those were prioritized based on the type of building they serve and anticipated need. The Gampel Pavilion and several large residential areas were among the prioritized locations as they have no bike parking. The recommendation to add bike parking locations is included in the list of other potential mid-term improvements.

In some cases, an insufficient number or poor location of bike parking spaces causes bicycles to be locked inappropriately to light poles, trees, and handrails. The Arjona building, Gant Hall North, and Storrs Hall are locations where bike parking exists but is not located properly – as suggested by the Bicycle Parking Resource Center guidance below.[3] The Bike Parking Guide from which these recommendations originated is included in **Appendix 3** of this document.

Recommendations for bike parking sites include the following:

- < 50 feet from destination/primary entrance of building
- Closer than primary car parking to encourage bicycling
- Near bicycle paths of travel
- Visible with signs, delineators, and ground markings
- Bike corrals near street corners can occupy parking space that otherwise impedes visibility
- Security:
    - Commercial bike racks installed into concrete or on rails (avoid free-standing racks)
    - Near pedestrian traffic
    - Visible from destination (not behind building)

Figure 4-1 shows existing bike parking using a heatmap feature and areas recommended and prioritized for new bike parking facilities.

[3] https://www.madrax.com/bike-parking-guide#design

2) Add a requirement for both short- and long-term bike parking to campus locations

There is an important distinction between short- and long-term bicycle parking. For residential housing, commuter parking lots, and major transit hubs, sheltered bike parking is recommended for longer-term storage. Language may be added to the University's *Design Guidelines & Performance Standards* document using the spirit of LEED (Leadership in Energy and Environmental Design) requirements as follows:

> *Short-term bike storage spaces should be located within 100 feet of any main entrance of the building. Short-term spaces are determined by the peak number of visitors to the building and are meant for building visitors who should use the space for 2 hours or less. LEED requires short-term spaces be provided for 2.5% of peak visitors with a minimum of 4 short-term spaces.*
>
> *Long-term spaces are storage spaces located within 100 feet of any functional entry. These spaces must be covered and available to all regular building occupants. LEED requires long-term spaces must be provided for 5% of regular building occupants with a minimum of 4 spaces*.

Sheltered and secure parking is recommended at residential areas, commuter parking lots, and in the north and south parking garages. Opportunities to provide sheltered bicycle parking exist in unused portions of parking garages und under building overhangs.

3) Adopt Personal Transportation Vehicle (PTV), MPTV, and NMPTV definitions and Policies

The UConn Fire Department's Operating Guidelines define Personal Transportation Vehicles (PTVs) as "a vehicle or device used for human transport that does not require a license." The development of this definition emerged in part because the State of Connecticut's statutes do not acknowledge all the types of small, motorized vehicles currently in use. UConn's PTV definition breaks down further into motorized (MPTV) and nonmotorized (NMPTV) personal transportation vehicles. Mopeds, motor scooters, and motor bikes all require an operator's license by State of Connecticut statute and are excluded from UConn's PTV categories.

The Connecticut statutes prohibit "motor driven cycles" from operating on any sidewalk. In response, this plan recommends that mopeds, motor bikes, motor scooters, **and** any other personal transportation vehicle that travels faster than 15 mph be prohibited on shared-use paths or sidewalks for the safety of slower-moving vehicles and pedestrians. All other motorized and nonmotorized personal transportation vehicles should be allowed on shared-use paths and sidewalks. These new definitions and policy should be integrated into the *Rules & Regulations for the Control of Parking and Vehicles on the Grounds of the University of Connecticut.*

PTV: Personal Transportation Vehicle – **a vehicle or device used for human transport that does not require a license**.

MPTV: Motorized PTV (utilizes a fuel or battery driven motor)

NMPTV: Non-Motorized PTV (doesn't use a fuel or battery driven motor)

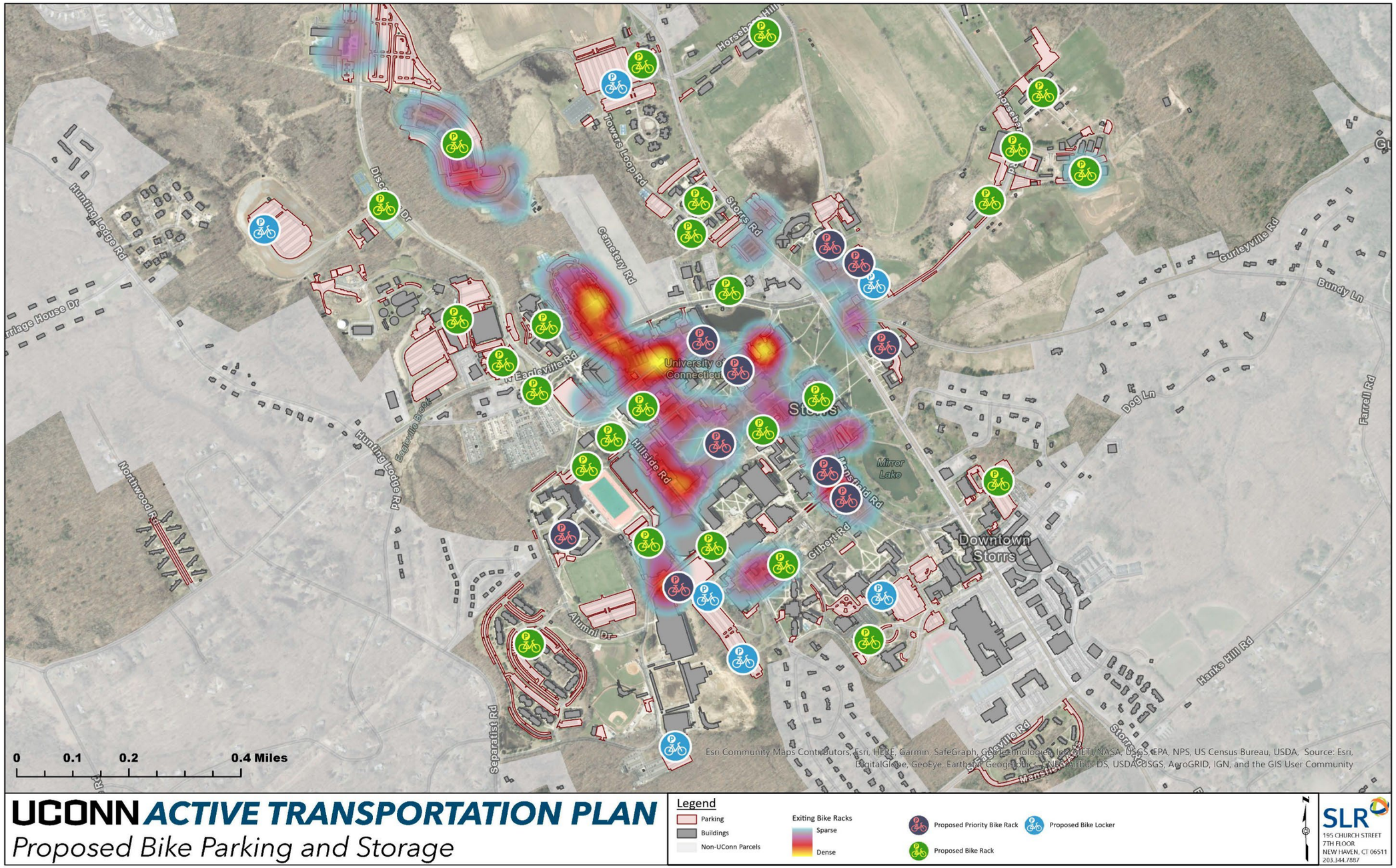


Figure 4-1 Current and Proposed Bike Parking Facilities

4) Consider changes to current transportation policies on campus as follows:

a) Designate the existing sidewalks and paths that are approximately 10 feet wide or wider as *shared-use paths*.

b) Reconsider language in Section II. of the *Rules & Regulations for the Control of Parking and Vehicles on the Grounds of the University of Connecticut* that categorizes motorcycles, motor scooters, mopeds, and motorbikes as "Scooters," and differentiate between electric and gas-powered. Revisit current restrictions on where these vehicles must be parked, relative to enforcement capability and safety guidelines.

c) Reconsider language in Section IV. of the *Rules & Regulations for the Control of Parking and Vehicles on the Grounds of the University of Connecticut*:

> IN-LINE SKATES, ROLLER SKATES, SKATEBOARDS & SIMILAR WHEELED DEVICES
>
> 1. GENERAL RESPONSIBILITY
>
> No person shall roller skate, in-line skate, or ride a skateboard in any UConn buildings, including parking ramps, nor shall any person roller skate, in-line skate, or ride a skateboard elsewhere on UConn property in areas where signs prohibiting such activities are posted.

d) Revisit current policy restricting In-line skating, roller skating, and skateboarding in areas where there is a lot of pedestrian activity.

e) Provide appropriate and safe charging areas for Hoverboards/Electronic Personal Transportation Vehicles so that their use is not discouraged relative to the UConn Residential Life 2021-2022 On-Campus Housing contract. Section 9.6.7: *Hoverboards/Electronic Personal Transportation Vehicles* currently reads as follows, "electronic personal transportation vehicles (e.g., hoverboards, electric bicycles, electric motorcycles, electric scooters, electric skateboards, etc.) that use a rechargeable battery, cannot be charged, operated, stored, or used inside residence halls and all other University of Connecticut buildings, including dining halls."

5) Create and enforce a prohibition on passing buses on campus.

The practice of drivers passing a bus that is pulled over to allow passenger boarding and alighting must be addressed through policy, education/training, and enforcement. Automated announcements that exiting riders should use crosswalks and should not cross in front of or behind a bus are planned. University Safety should formulate mitigation measures as part of a larger active transportation safety campaign.

6) Adoption of a shared bike, e-bike, or e-scooter program.

As mentioned in Chapter 2, other universities' policies were reviewed to provide context and guidance for UConn to further consider expansion of PTVs on campus. In addition to this peer research, a decision matrix was created that compares various options for personal transportation vehicle use on campus. The University could prohibit them altogether, allow only commuters or only residents to use them, or could invite a vendor to campus to provide shared e-bikes or e- scooters in addition to allowing or prohibiting private PTVs.

Table 4-1 – Personal Transportation Vehicle Decision Matrix

FACTORS/ISSUES	ALTERNATIVES			
	Prohibit PTVs on campus	Allow private PTVs for commuters	Allow private PTVs for residents	And Invite shared PTV vendor
TIME TO TRAVEL ONE MILE	**15 Minutes**	**6.5 minutes**	**7 minutes**	**8 minutes**
NEW PARKING OR STORAGE AREAS	**None**	**Some: Destination**	**Most: Base and Destination**	**Provided by Vendor**
COST OF PHYSICAL IMPROVEMENTS	**N/A**	**Moderate**	**Most**	**Minimal (Extreme if subsidized)**
STUDENT SAFETY ON MPTV	**Safest**	**Least Safe**	**Least Safe**	**Moderate Safety**
MORE CARS ON CAMPUS	**Least Safe**	**Moderate**	**Moderate**	**Safest**
EFFORT TO CREATE AND ENFORCE POLICY	**Extreme**	**Moderate**	**Moderate**	**Least**
IS GEOFENCING AN OPTION?	**N/A**	**No**	**No**	**Yes**
UCONN EFFORT TO MANAGE	**N/A**	**Least**	**Most**	**Moderate**

Issues of travel time, need for new infrastructure, cost of physical improvements to campus, and student safety were considered as well as the fact that prohibiting relatively small, slow, and sustainable modes of transportation on campus could have the negative result of ushering in more car travel. Also considered was the amount of effort it would require creating and enforcing policies and to manage these transportation modes as well as whether or not the geofencing technology that automatically enforces speed and parking etiquette is available. According to this decision matrix, bringing in a shared bike or scooter vendor has the most positive impacts.

4.3 POTENTIAL NEAR-TERM MOBILITY NETWORK

The proposed potential near-term improvements are the essential first step in the creation of a safe, comfortable, and connected network that should support existing pedestrians and bicyclists and help induce people out of their cars and into more active modes of transportation to get around campus.

4.3.1 POTENTIAL NEAR-TERM BICYCLE (& PTV) NETWORK

Today, the UConn campus has a limited bicycle network. Because PTVs also use bicycle facilities, there is even more imperative to make them safe such that they meet the needs of a growing number of users. **Figure 4-2** displays the existing facilities on campus. As shown in the figure, there are bike lanes (orange) on Discovery Drive and a portion of North Eagleville Road, shared lane markings (blue) on some of the inner-campus roadways (Alumni Drive, Jim Calhoun Way, and Bolton Road), and some shared-use paths (light green) just outside of campus. What is clear is that the campus lacks a coherent, continuous network that accommodates bikes and PTVs.

The potential near-term goal was to provide this connectivity as quickly and efficiently as practical. As such, the envisioned potential near-term bicycle network includes mostly striping improvements that can be accomplished within the existing curb-to-curb roadway width to create a quick, relatively low-cost, connected network of facilities throughout campus.

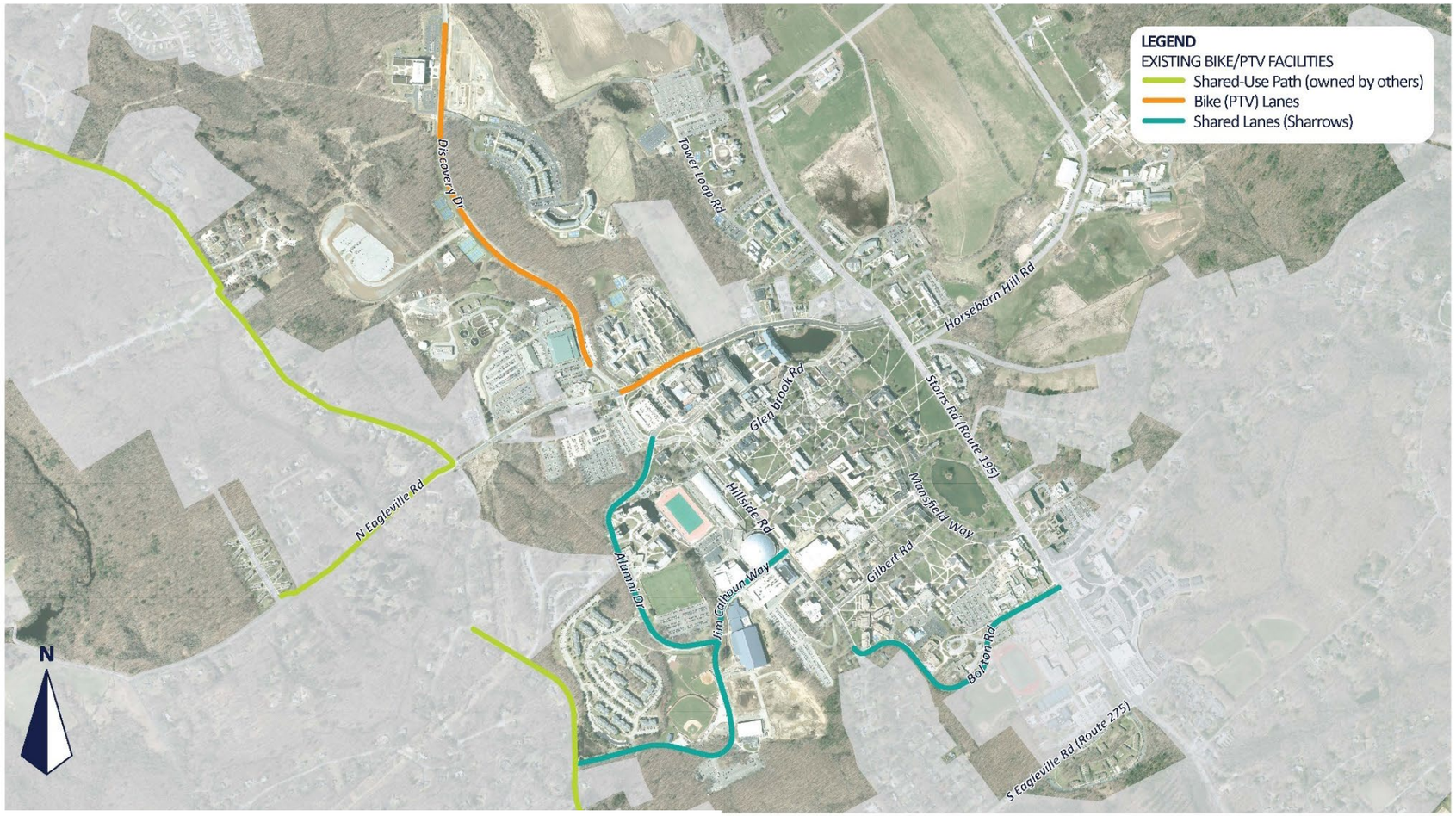


Figure 4-2 Existing Facilities on Campus

The proposed potential near-term improvements were selected based on the existing traffic patterns, roadway conditions, and desired destinations. The proposed potential near-term facilities include both on-street bike lanes and shared lane markings, and off-street cycle tracks and shared-use pathways that help make the existing facilities safer and more comfortable and introduce new facilities to better connect the campus. The physical improvements include better utilization of existing wide sidewalks, new bike lanes, new sharrows, a new painted cycle track, and new bike-bus lanes. **Figure 4-3** displays the envisioned potential near-term bicycle network. The following discussion provides an overview of the facility types introduced in the potential near-term.

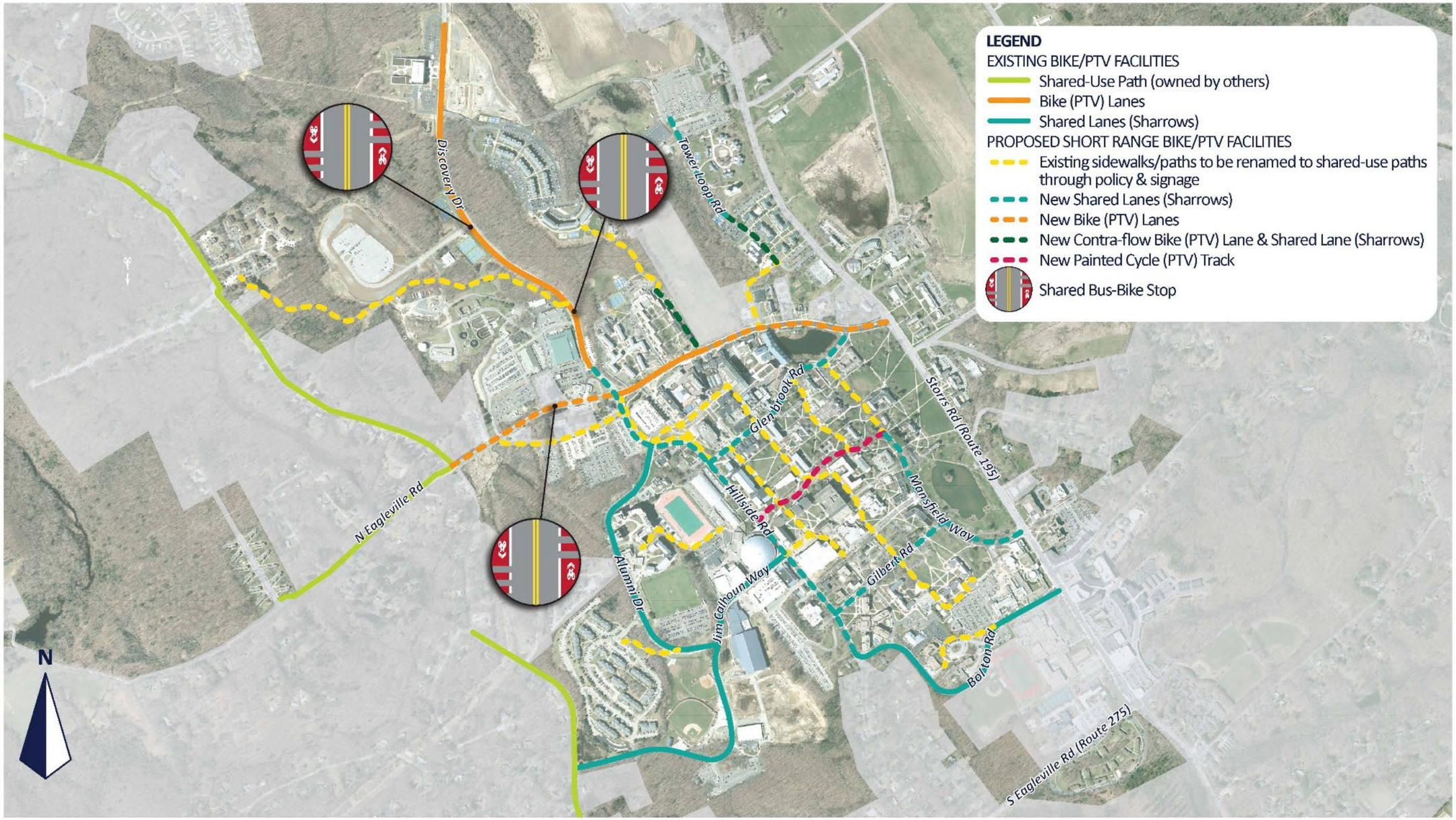


Figure 4-3 Potential Near-Term Bicycle Network

Shared-Use (Multiuse) Paths

Today, the UConn campus has a variety of pathways that are significantly wide. Wide pathways (at least 10 feet wide) are suitable for two-way pedestrian, bicycle, and PTV travel. As the first step in creating a connected network, these wide pathways should be designated as shared-use facilities, and through education and branding, inform the UConn community of the change. The designation of the wide pathways should allow them to serve all active transportation users and provide a travel network separated from vehicular traffic. While low cost and easy to implement, it should require supportive policy or program revisions and some degree of signage. As shown in **Figure 4-2**, this is a significant contributor to a connected network.

Cycle Track

A two-way cycle track is proposed to be painted on existing pavement on Fairfield Way. Cycle tracks are different from shared-use paths because they are an exclusive bicycle facility that is physically separated from vehicular traffic and distinct from the sidewalk. They are typically considered safer than bike lanes because they offer bicycle and PTV riders an off-road facility. They can be one-way or two-way facilities. They may be at street level, or sidewalk level, or at an intermediate level. The desired width is typically at least 10 feet. White lane lines and a dashed yellow centerline are used to help distinguish the cycle track from any adjacent pedestrian area and separate the two-way bicycle and PTV traffic. A rendering of the Fairfield way cycle track is shown in **Figure 4-4.**

Figure 4-4 Potential Near-Term Improvements – Fairfield Way

Bike Lanes

Bike lanes are the most common bicycle facility used in the United States today. A bike lane is an exclusive lane on the road designated especially for bicycles and PTVs. They are typically on the right side of the street between the adjacent travel lane and curb, road edge, or parking lane and are designated with bicycle pavement markings, arrows, striping, and signage.

Bike lanes act as a visual reminder to motorists of riders' right to use the roadway and provide a marked lane to show bicyclists and PTV riders where to travel. Narrowing the travel lanes or removing on-street parking to provide bike lanes can be a relatively simple treatment to help mitigate interactions and conflicts between bicycles and motor vehicles. While they do create separation between riders and vehicles, and increase rider comfort and confidence on busy streets, there is not a physical barrier between the bike lane and travel lane, which can feel uncomfortable to some riders, especially on busy high-speed roadways.

The desirable bike lane width is typically 5 feet. Solid white lane line markings are used to separate motor vehicle travel lanes from the bike lane, and bike lane symbols and arrow markings are used to define the bike lane. New bike lanes are recommended on North Eagleville Road east and west of the existing section of bike lane.

Contra-flow Bike Lanes

Bike lanes typically run in the same direction as vehicular traffic; however, they may be configured contra-flow direction on low-traffic corridors when necessary for connectivity. Contra-flow bike lanes allow bicycle and PTV riders to travel in the opposite direction of motor vehicle traffic. They can convert a one-way street to a two-way street for bicycles and PTVs. Instead of the solid white lane line markings, they are typically separated from the travel lane with yellow centerline striping. These are proposed on the North Campus Residence Hall driveway to connect to the shared-use path to the Charter Oak Apartments and on Tower Loop Road to connect the shared-use path to Husky Village and W-Lot.

Green Intersection and Driveway Crossing Markings

Bike lanes may be distinguished further using color pavement and intersection treatments. At intersections and driveways, motorists are required to yield to bicyclists within the bike lane before turning, entering, or crossing. This conflict area can be further enhanced with green-colored crossing markings. Crossing markings indicate the intended path for bicycles and PTVs and guide them on a direct path through intersections, driveways, and ramps. They also raise awareness for both riders and motorists of the potential conflict area and reinforce that through bicycles have priority over turning vehicles.

Colored pavement within a bicycle lane at these conflict areas further increases visibility and reinforces priority. Consistent application of green pavement across a bikeway corridor is important to promote clear understanding for all users. It is important to note that green-colored pavement is approved for use in bicycle lanes to enhance the conspicuity of where bicyclists are required to operate and areas of the bicycle lane where bicyclists and other roadway traffic might have potentially conflicting weaving or crossing movements in accordance with Paragraph 17 of Section 1A.10 in the 2009 MUTCD.

Bike Lane Buffers

In addition to the solid white lane line markings used for a typical bike lane, a lateral offset with a painted buffer can help to further separate riders from vehicle traffic. Proximity to motor vehicle traffic is a significant source of stress and discomfort for bicycle and PTV riders. As such, the quality of a designated facility generally increases as the space allocated to it expands because this allows for more separation and provides increased maneuvering space. Where space allows, buffers should be added to provide a greater distance between motor vehicles and riders. Buffers should be at least 18 inches wide and should have interior diagonal cross hatching if over 3 feet wide. This treatment is employed on Discovery Drive.

Shared Bus-Bike Lane

Where there is not enough space to provide a bus pull-off area at an existing bus stop, it is recommended to install a shared bus-bike lane to provide increased visibility at the bus-bicycle conflict areas. Buses, bikes, and PTVs often compete for the same space near the curb; a shared bus-bike lane can be provided to accommodate both modes at a bus stop where separate facilities cannot be provided. There are three locations where this treatment is shown – twice on Discovery Drive and once on North Eagleville Road in front of the Police and Fire Complex.

The bus-bike lane should be 10 to 11 feet wide, and shared lane markings should be used to reinforce that riders should be using the area as well. It is important to note that the FHWA issued an Interim Approval in 2019 for the use of red-colored pavement to enhance the conspicuity of station stops, travel lanes, or other locations in the roadway that are reserved for the exclusive use by public transit vehicles or multimodal facilities where public transit is the primary mode (transit lanes). This Interim Approval allows agencies to install red-colored pavement in transit lanes, pending official MUTCD rulemaking, to enhance the conspicuity of the transit lane where such a need has been determined.

Shared Lanes

Shared Lane Markings (also known as “sharrows”) help to communicate to motorists that bicyclists should be using a street and reinforce that drivers should adjust their behavior to share the road. Sharrows also indicate the lane position that bicyclists should assume when riding in the road. Although these markings do not provide a dedicated space for bicyclists, they can be a positive and affordable solution when designed correctly and used in the correct context (on low-speed, low-volume roads) where there is not enough space available to provide a dedicated bicycle facility. These are proposed in the short term to be able to complete the connectivity throughout campus but where road widths do not permit bike lane installation. In later phases of this plan, the sharrows would be replaced with more robust and effective bicycle facility treatments.

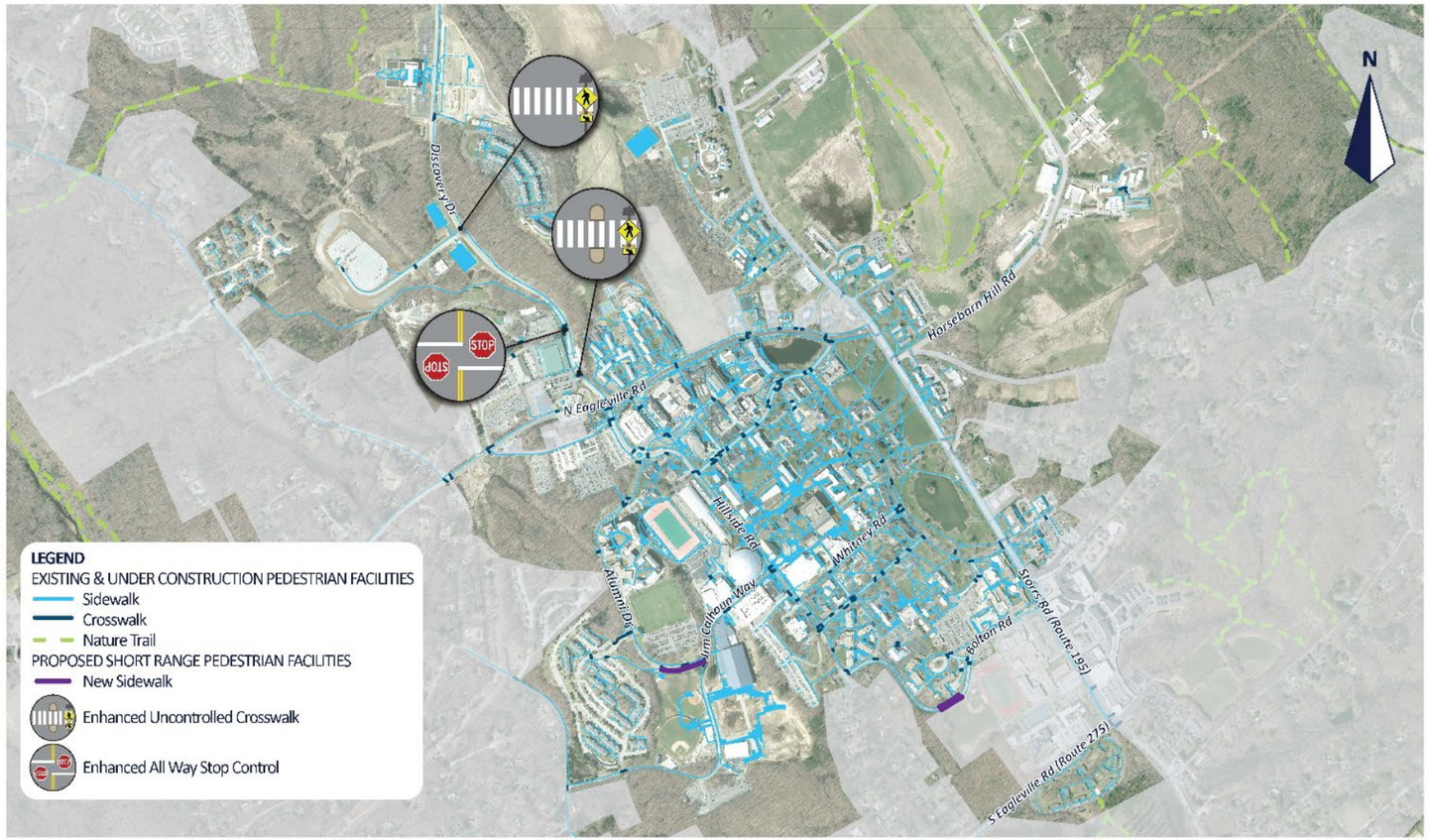


Figure 4-5 Potential Near-Term Pedestrian Network

4.3.2 POTENTIAL NEAR-TERM PEDESTRIAN NETWORK

Today, the UConn campus has a robust pedestrian network, but there are some deficiencies in the existing facilities on campus. By enhancing the existing pedestrian network and filling in the gaps, walking should become even more viable around campus. The envisioned potential near-term pedestrian improvements include midblock crosswalk enhancements and new sidewalks installations that were prioritized based on their safety benefit. **Figure 4-5** displays the envisioned potential near-term pedestrian network.

The potential near-term improvements include installation of a new crosswalk on Discovery Drive at Avalonia Way near C-Lot, enhancements to the existing all way stop control at Discovery Drive and Ledoyt Road, and to the existing midblock crosswalk on Discovery Drive at the southern parking entrance of the Central Warehouse and installation of new sidewalk on Alumni Drive to connect the Hilltop Apartments walkway to Jim Calhoun Way as well as to fill in a gap in the sidewalk on Bolton Road.

Pedestrians are among the most vulnerable road users, especially at uncontrolled locations. Using traffic calming devices and other safety countermeasures that aim at changing the behavior of both pedestrians and motorists and increase visibility and accessibility at pedestrian crossings can help encourage proper pedestrian use, lower vehicle speeds, and increase vehicle compliance. The following discussion provides an overview of the facilities introduced in the potential near-term.

Crosswalk Visibility Enhancements

Crosswalk visibility enhancements include decorative/textured crosswalks, advance markings and signs, curb extensions, and lighting. An enhanced high-visibility crosswalk is much easier for an approaching motorist to see than traditional parallel lines and better defines the proper pedestrian pathway. Advance yield signs and pavement markings are simple improvements that can be installed quickly. They should be placed 30 to 50 feet in advance of a marked crosswalk to provide more awareness to motorists that a crossing is close and help reduce the risk of a multiple-threat crash. Pedestrian-scale lighting near a crosswalk is also very important. Lights should be placed 10 to 15 feet in advance of the crosswalk on both sides of the street to make pedestrians more visible and avoid silhouette lighting.

Source: FHWA

Pedestrian Refuge Islands

Pedestrian refuge islands are raised medians that are installed at a marked crosswalk. They are an effective tool for increasing pedestrian safety and visibility and slowing vehicle speeds. They provide a place for pedestrians to stand, so they only need to focus on crossing one direction of traffic at a time. They also narrow the width of travel lanes, which can help slow vehicle speeds. They can also provide space for additional signage. However, they do require delineation and illumination to ensure visibility. They can have mountable curbs and gutters to help with trucks or plows.

4.3.3 CONCEPTUAL DESIGNS

To envision what the campus would look like with the proposed potential near-term mobility network improvements, conceptual designs of key campus areas are shown and described below.

Hillside Road

The Active Transportation Plan project team worked with the University's Traffic and Pedestrian Safety Advisory Committee to evaluate the benefits and impacts of limiting vehicle traffic on Hillside Road. The alternatives explored with the Advisory Committee included different start and end points of the closure, limits on vehicle types, one-way versus two-way routing, and different types of barriers at the start and end of the closure. It was decided that the section of Hillside Road between Glenbrook Road and Jim Calhoun Way should be closed to vehicular traffic – except for HuskyGo buses in both directions and emergency and authorized vehicles – starting in August and running through the fall semester. The closing is a pilot effort to enhance safety and to make the area friendlier to pedestrians, bicyclists, and PTV users in the foot-traffic-heavy center of campus. The impact of the preliminary closing will be evaluated following the fall semester. **Figure 4-6** shows a plan view of the concept.

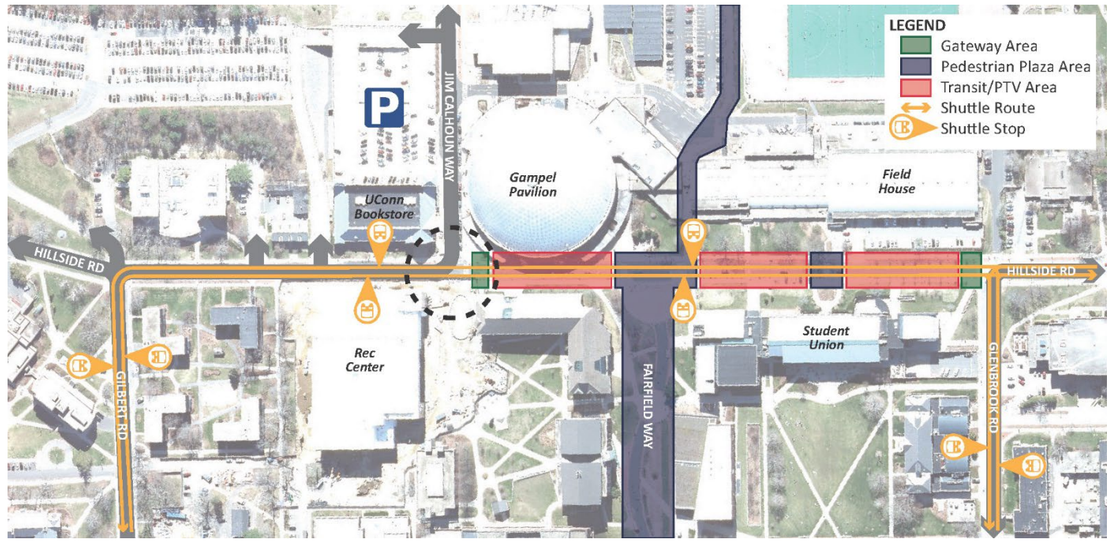


Figure 4-6 Plan View Concept

Fairfield Way

Figure 4-7 provides a plan view depiction of what Fairfield Way would look like with the striping of a two-way cycle track in the center of the asphalt portions. Fairfield Way is approximately 30 feet wide. The cycle track would be 10 feet in the center to provide two 10-foot pedestrian paths on either side. As shown, the striping of the cycle track should help show riders where to ride and help remind pedestrians that bicycles and PTVs should also be traveling on Fairfield Way. The nodes between the cycle tracks should be mixed mode zones with bicycle/PTV warning signage instructing them to defer to pedestrians.

North Eagleville Road

Figure 4-8 provides a depiction of what it would look like to restripe North Eagleville Road to provide shared bike-parking lanes between the North Campus Residence Halls and Glenbrook Road. This section of North Eagleville Road currently has on-street parking on both sides of the roadway where parking is permitted from 12:00 p.m. on Friday until Sunday at 6:00 p.m. (based on agreements UConn currently has with the adjacent churches). Because these agreements should remain and the roadway is not wide enough to provide on-street parking and bike lanes, it is recommended to reverse the messaging and restripe this section to have shared bike-parking lanes. While the travel and parking operations should not change, the restriping should help to better promote the use of the parking lanes for bicycle and PTV travel when parking is not permitted (Sunday evening through Friday at noon). Friday through Sundays, riders should still have to either use the travel lane or dismount and use the sidewalk.

Figure 4-9 shows the extension of bike lanes on the eastern end of North Eagleville Road to create a continuous bicycle facility on North Eagleville Road easterly to Storrs Road, Route 195. This improvement, all within the existing pavement, features a connection to the shared bike-parking lane, a buffered bicycle lane in both directions, green driveway crossing markings, and sharrows on Glenbrook Road.

Figure 4-10 provides a depiction of what enhanced bike lanes would look like on North Eagleville Road between Hunting Lodge Road and Discovery Drive. The existing width of North Eagleville Road allows for the installation of bike lanes without any roadway widening. As shown, green intersection and driveway crossing markings are included to raise awareness for both riders and motorists of potential conflict areas and reinforce that PTVs have priority over turning vehicles. A red shared bus-bike lane is also included at the existing bus stop at 134 North Eagleville Road (Huskies Tavern) to provide increased visibility of the bike-bus conflict area.

Figure 4-7 Potential Near-Term Improvements – Fairfield Way

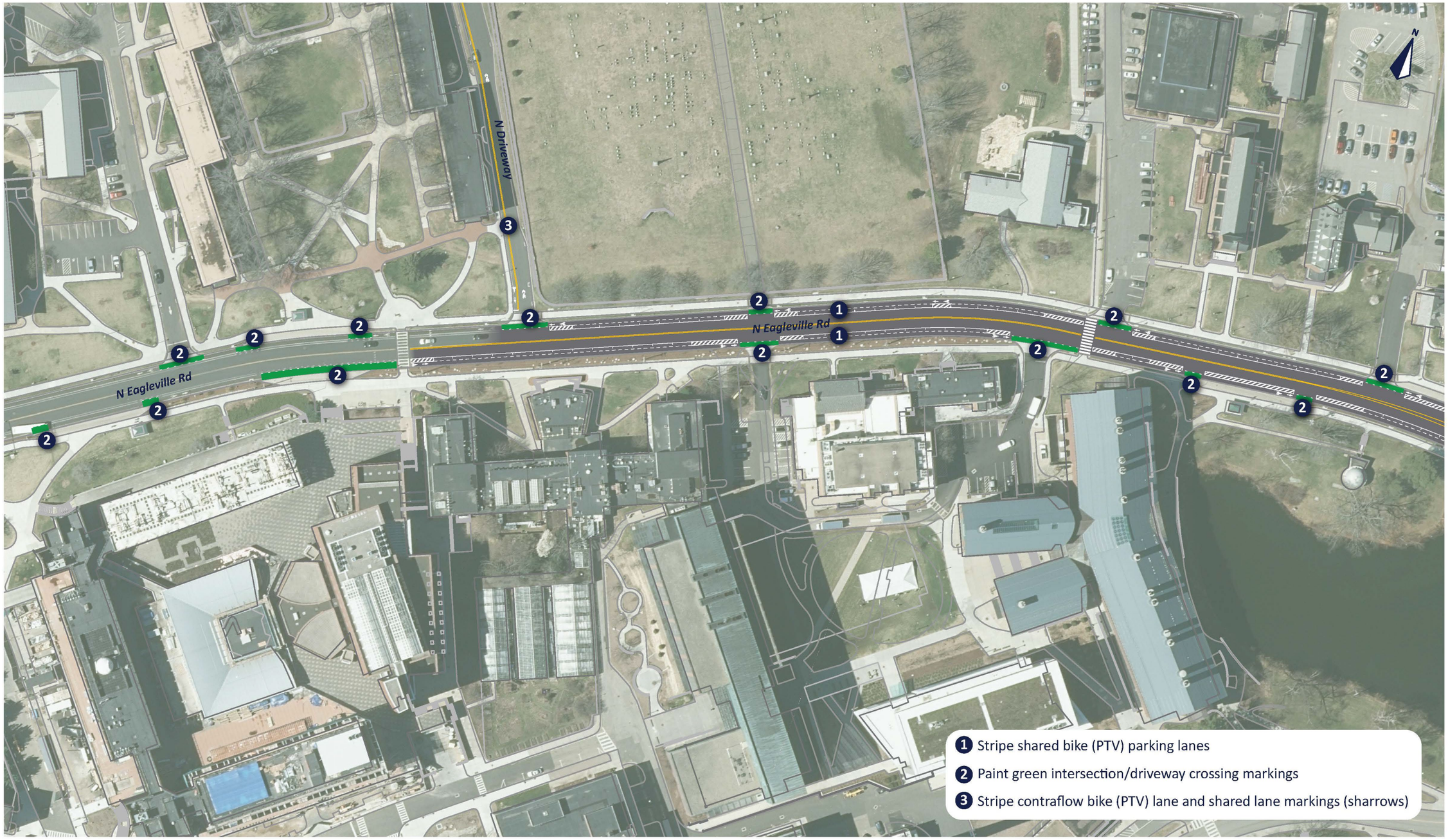


Figure 4-8 Potential Near-Term Improvements – North Eagleville Road

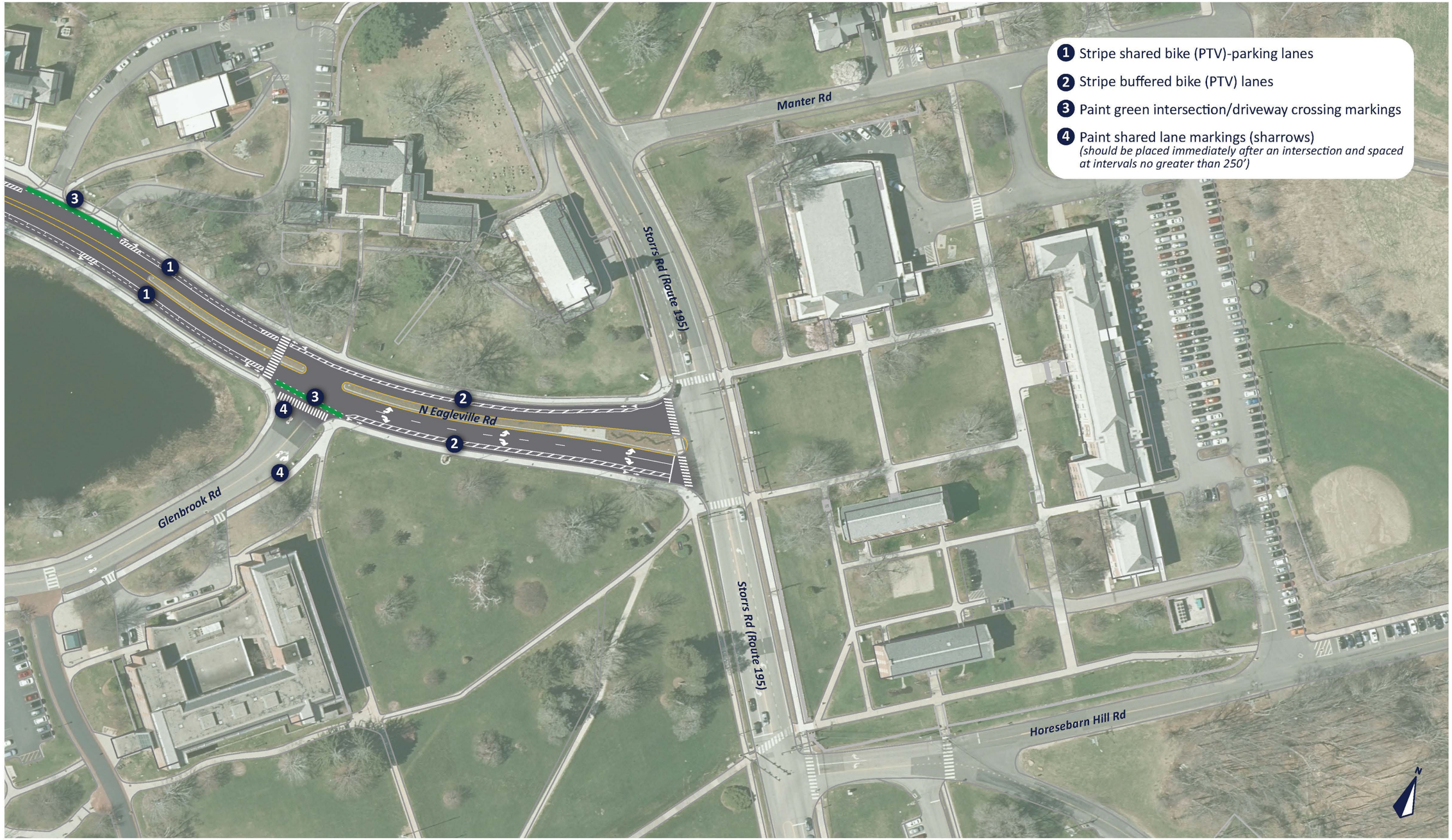


Figure 4-9 Potential Near-Term Improvements – North Eagleville Road

Figure 4-10 Potential Near-Term Improvements – North Eagleville Road

Discovery Drive

Figure 4-11 provides a depiction of the proposed new crosswalk at Avalonia Way and enhanced bike lanes on Discovery Drive. At the crosswalk, advance yield markings, advance signage, and Rectangular Rapid Flashing Beacons (RRFBs) were included to help make the crosswalk and crossing pedestrians more visible. There are currently conventional bike lanes on Discovery Drive. As shown in the figure, the bike lanes are enhanced to include buffers, green intersection and driveway crossing markings, and shared bus-bike lanes to raise awareness for both PTVs and motorists of potential conflict areas and expand the space allocated to PTVs.

Figure 4-12 provides a depiction of the southern end of Discovery Drive. As proposed at Avalonia Way, the bike lanes include buffers and green intersection and driveway crossing markings. At the intersection of Discovery Drive and Ledoyt Road, the all-way stop is proposed to be enhanced to included advance "STOP AHEAD" markings, signage, and LED stop signs to reinforce that motorists come to a complete stop at the intersection and improve pedestrian safety at the existing crosswalk. At the existing midblock crosswalk at the next southern driveway, a raised median, advance yield markings, advance signage, and RRFBs are included to improve pedestrian safety and comfort and help slow vehicle speeds.

The intersection of Discovery Drive and North Eagleville Road is an important campus intersection for vehicular, pedestrian, PTV, and transit mobility. Balancing the needs of all the intersection users is difficult. In the potential near-term, sharrows are included to extend the PTV facilities through the intersection without the removal of any turn lanes or requiring any roadway widening.

Figure 4-11 Potential Near-Term Improvements – Discovery Drive

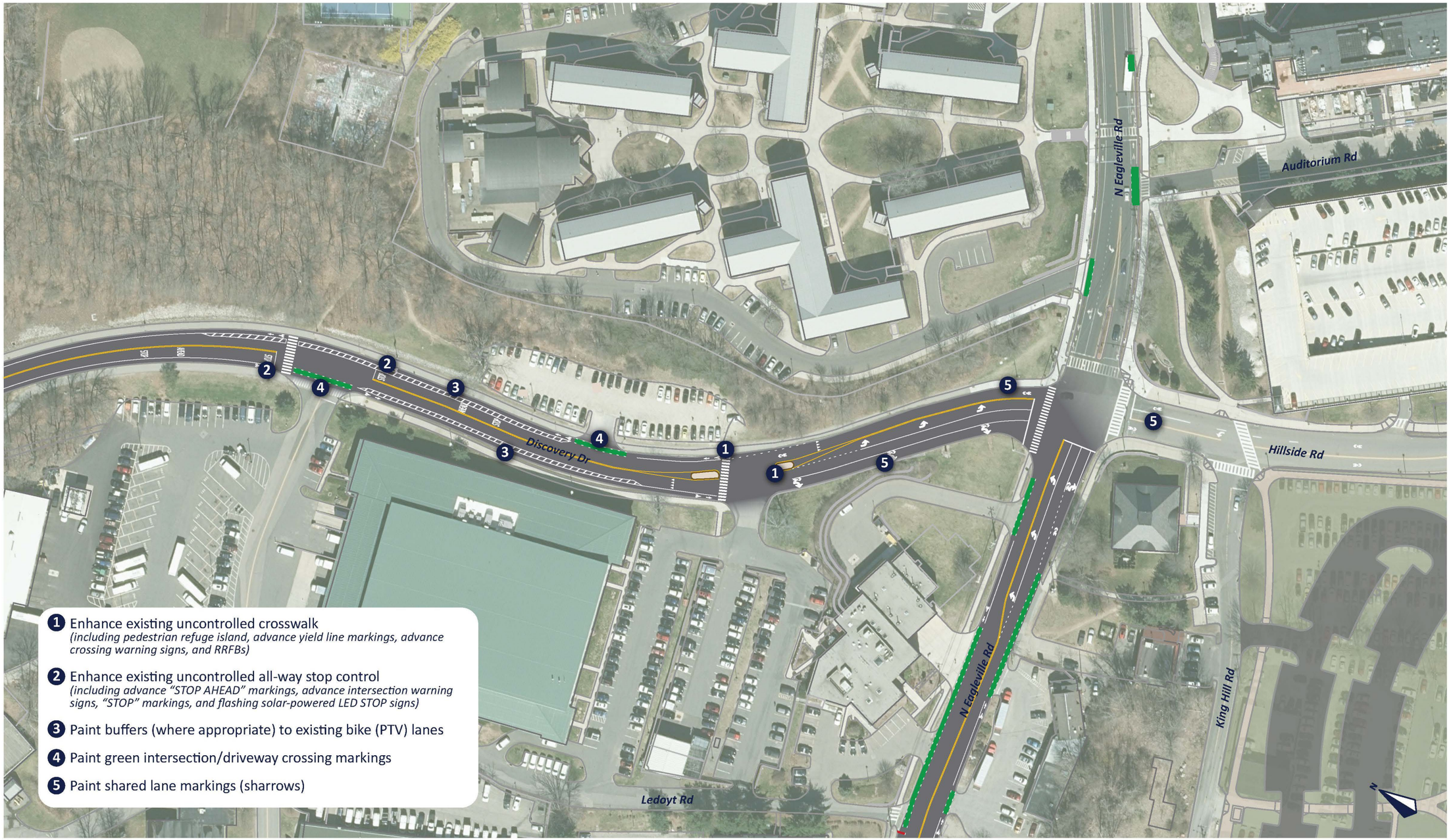


Figure 4-12 Potential Near-Term Improvements – Discovery Drive

Tower Loop Road

Figure 4-13 provides a depiction of Tower Loop Road. There is a potential shared-use path that connects North Eagleville Road with Tower Loop Road. A contra-flow bike lane and sharrows are proposed to provide a quick and low-cost PTV connection from this shared-use path to Husky Village and T Lot.

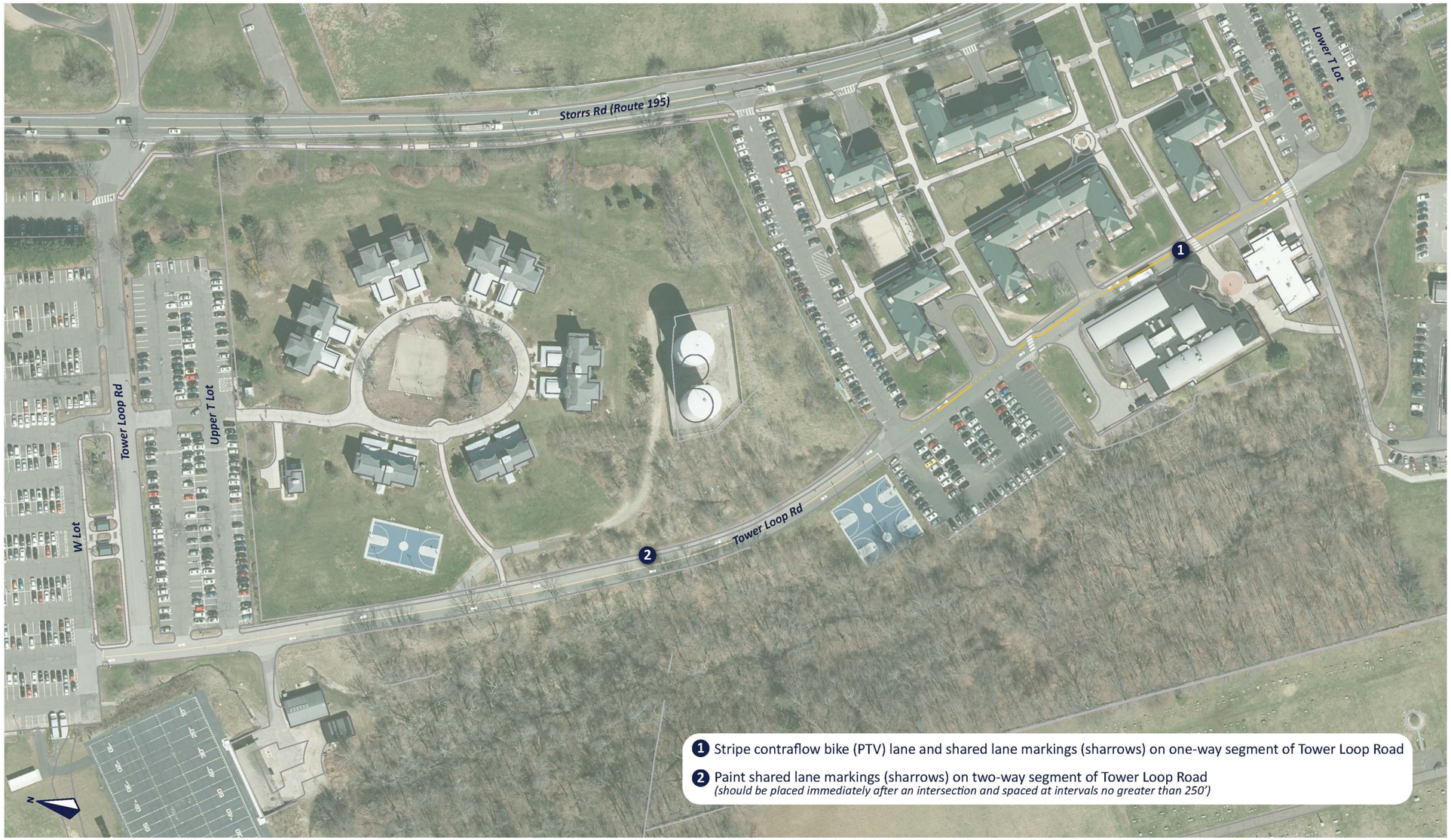
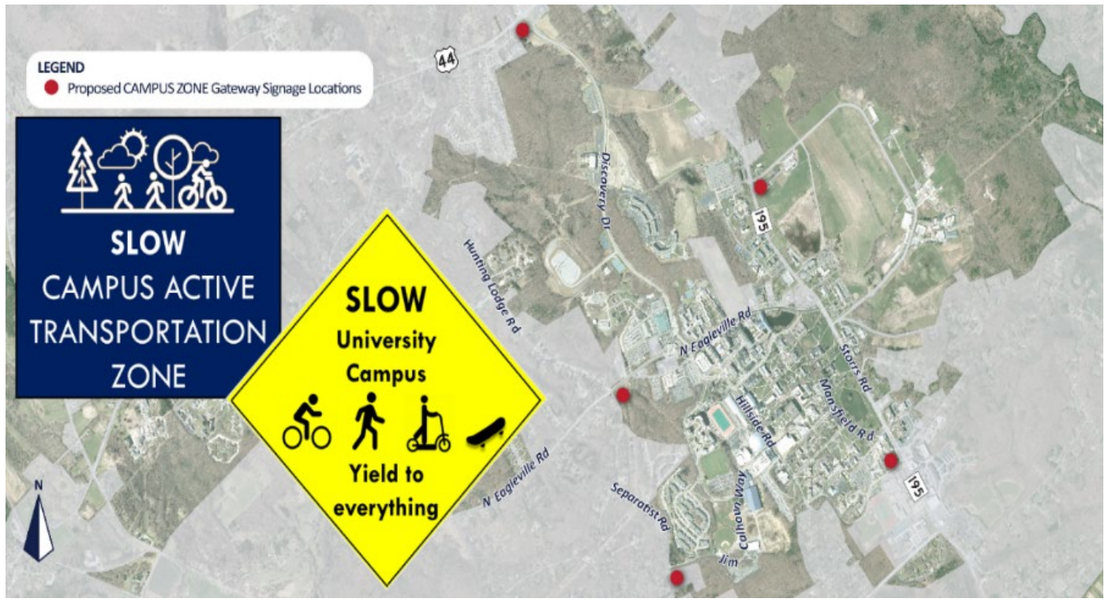


Figure 4-13 Potential Near-Term Improvements – Tower Loop Road

Other Potential Near-Term Improvements

In addition to improvements identified in the preceding pages, UConn should prioritize the general improvements listed below to further encourage active transportation on campus and prepare for the future potential mid-term and potential long-term improvements. These include expanding existing wayfinding guidelines and sign families to encompass multimodal facilities, as shown in Improvements 1) and 2), and updating policies and programming to support multimodal travel.

1.) Install Campus Core gateway signage at recommended locations – signs at entry points into campus welcome people to UConn – and remind them they are in a place where they should expect to see people walking, biking, wheeling, and scooting – and should slow down. The images below represent sample images demonstrating that the signage could be colloquial in design or more regulatory. The red dots are suggested gateway signage locations. Note that the signs shown are representative of the potential sign type. Any new signs would need to adhere to UConn's sign guidelines.



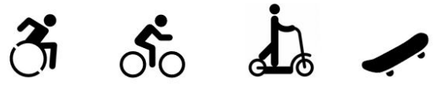
2.) Additionally, a study of signage and route branding on sidewalks and shared-use paths should be undertaken. Some of the recommendations will require some type of signage to instruct and inform users of warnings, restrictions, or permissions as it may be. Samples below show examples of in-pavement or erected signage. Note that these are representative images from other locations, and any pavement image or signage would need to conform to UConn's guidelines.

3.) Review and update PTV policies. See Section 4.2 of report.

PTV: Personal Transportation Vehicle – **a vehicle or device used for human transport that does not require a license**.

MPTV: Motorized PTV (utilizes a fuel or battery driven motor)

NMPTV: Non-Motorized PTV (doesn't use a fuel or battery driven motor)



4.) PTV Rider Education – rules of the road. Reinforce the message that pedestrians always have the right-of-way. Education on travel behaviors and expectations can be conducted at staff and student orientations.

4.4 POTENTIAL MID-TERM MOBILITY NETWORK

Once the potential near-term PTV and pedestrian improvements are completed, there should be a fundamental network of facilities that connect the parking areas and living communities with the campus core. The potential mid-term active transportation improvements include intersection upgrades and traffic calming enhancements that are intended to slow vehicles and increase the comfort of pedestrians and bicycle and PTV riders. They are the second step in the creation of safe, comfortable, and connected network that further accommodates and encourages active transportation users and assists UConn in becoming a more environmentally and fiscally sustainable campus.

4.4.1 POTENTIAL MID-TERM BIKE (PTV) NETWORK

Figure 4-14 displays the envisioned potential mid-term PTV network. The potential mid-term PTV improvements include widening, striping, and signal improvements at the intersection of Discovery Drive and North Eagleville Drive to further improve both the PTV and pedestrian facilities at this central intersection.

The potential mid-term PTV improvements also include the introduction of mobility hubs in the remote parking lots. The mobility hubs should be places of connectivity where different travel options – walking, biking, transit, and shared mobility – should come together. The parking mobility hubs should be places that allow people to park once and get anywhere quickly and easily by providing an integrated suite of mobility services, amenities, and supporting technologies to better connect transit and parking to the campus core. The parking mobility hubs should be located at the major UConn commuter parking lot areas, including Lots K, C, F, S, W, and Lot 2. As envisioned, they should integrate with the existing bus stops and shelters where they exist, including the off-campus Nash Zimmer Transportation hub at Storrs Center. New bus shelters should be prescribed as appropriate. The following discussion provides an overview of the facilities introduced in the potential mid-term.

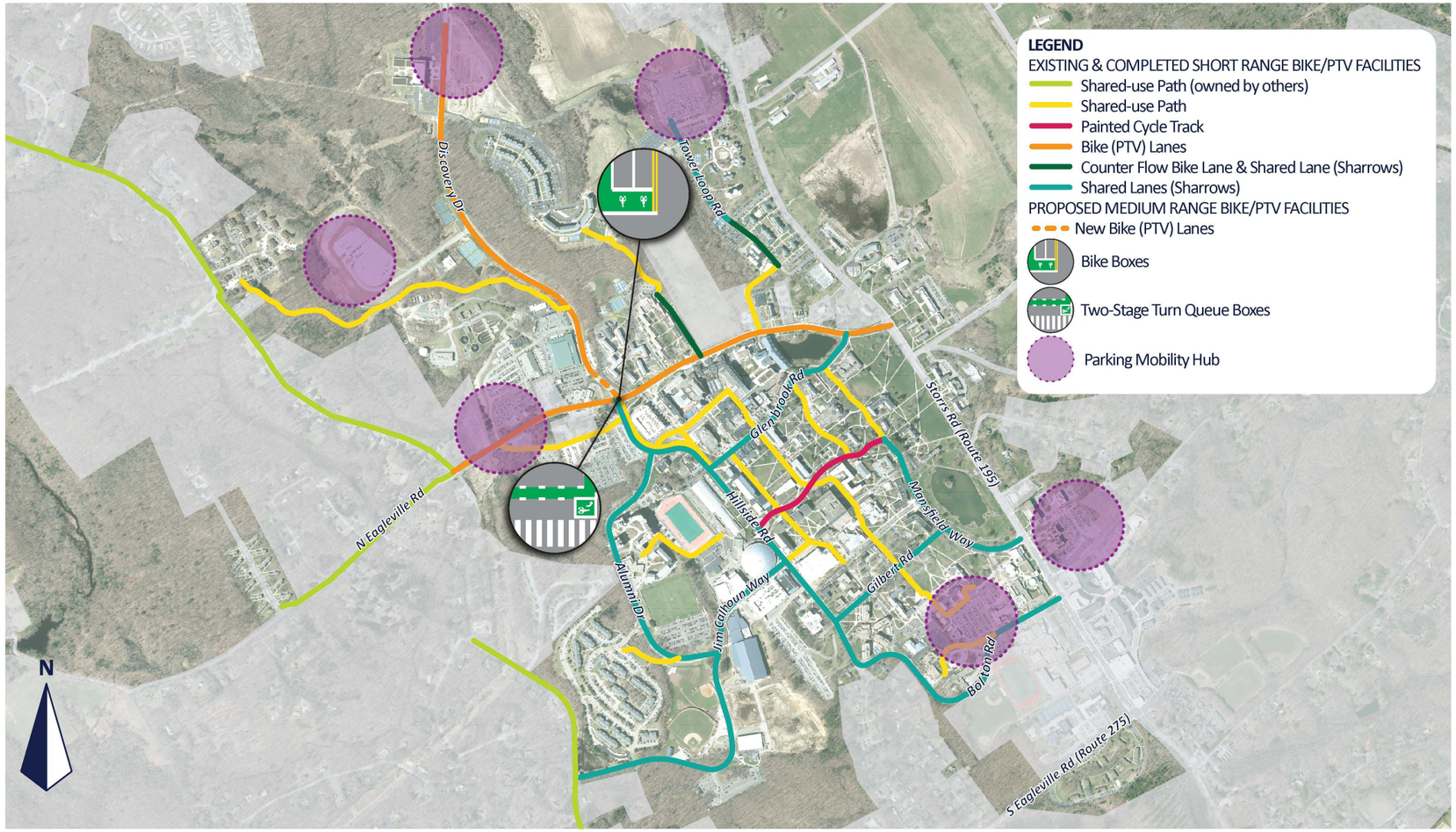


Figure 4-14 Potential Mid-Term PTV Network

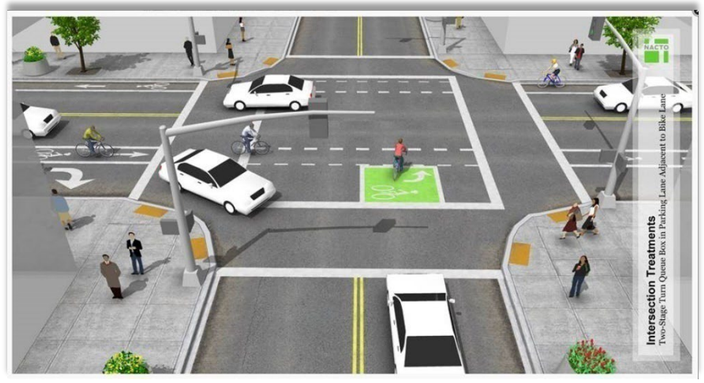
Bike Boxes

A bike box is a designated area at the head of an approach at a signalized intersection that provides bicyclists and PTV riders with a safe and visible way to get ahead of queuing traffic when the traffic signal is red. It also helps to position riders for left-turn maneuvers and prevent 'right-hook' conflicts with turning vehicles by placing riders in front of queuing vehicles. Pedestrians can also benefit from the installation of bike boxes because they typically move the vehicular stop bars further away from the crosswalks.

Bike boxes are typically 10 to 16 feet deep. White stop bars, green pavement, and bike symbols are used to designate the space as a bike box. It is important to note that the FHWA issued an Interim Approval in 2016 for the use of bike boxes in accordance with Paragraphs 14 through 22 of Section 1A.10 of the MUTCD. This Interim Approval allows agencies to install intersection bicycle boxes, pending official rulemaking revising the MUTCD, to facilitate more efficient operations at intersections.

Two-Stage Turn Queue Boxes

Two-stage turn queue boxes offer PTV riders a safe way to make left turns at busy intersections. The also provide a formal protected queueing space for bicyclists turning left. While they may increase PTV rider comfort, they typically result in increased delay for bicyclists. At a signalized intersection with two-stage turn queue boxes, PTV riders need to receive two separate green signal indications to turn, and at unsignalized intersections, PTV riders need to wait for appropriate gaps in crossing vehicular traffic.



Green pavement and bike symbols are used to designate the queue boxes. It is important to note that the FHWA issued an Interim Approval in 2017 for the use of two-stage bicycle turn boxes per Section 1A.10 of the 2009 edition of the MUTCD. This Interim Approval should allow agencies to install two-stage bicycle turn boxes to facilitate bicycle operations at intersections pending official MUTCD rulemaking.

Mobility Hubs

Creation of Parking Mobility Hubs should vary from site to site. Most locations already include a bus shelter and blue light pedestal. Some include bike parking as well. To enhance them to full-functioning hubs, the addition of charging stations, parking for other types of PTV, and a transit interface would be added. Below is a photo of a bus stop location at the North Campus Residences. Lighting, a blue light pedestal, and a bus shelter currently exist here.

In the photo rendering below, a fully built out Mobility Hub is depicted. Additional bike parking, an area to dwell scooters, and an interactive shuttle interface is shown in the vicinity of the existing shelter. In addition, an area was created for gathering, waiting, or simply charging your device. It includes seating and charging stations.

4.4.2 POTENTIAL MID-TERM PEDESTRIAN NETWORK

Figure 4-15 displays the envisioned potential mid-term pedestrian network. The potential mid-term pedestrian improvements include crosswalk and traffic calming enhancements that are aimed at improving visibility and slowing down vehicles on the campus core roadways where sharrows were installed under the potential near-term improvements and new sidewalks installments. The potential mid-term improvements include the following:

- The consolidation of crosswalks on Glenbrook Road, the installation of super crosswalks at Jorgenson Road and Mansfield Way, and the installation of a raised crosswalk at Academic Way
- The installation of super crosswalks on Mansfield Road at Whitney Road and Coventry Road
- The installation of a super crosswalk on Gilbert Road at Whitney Road Extension, and the installation of a raised crosswalk at Academic Way
- The installation of new sidewalk to connect the pathway from Z lot and McMahon Dining Hall to Hillside Road
- The installation of new sidewalk where missing along the west side of Discovery Drive from the Central Warehouse south driveway to North Eagleville Road to connect to the new crosswalk that is proposed as part of the potential mid-term intersection improvements
- The installation of a new sidewalk to connect the W Lot bus stop to Storrs Road
- The installation of a new sidewalk on Horsebarn Hill Road where missing to the arena
- Upgrades to the sidewalk and lighting along Tower Loop Road and the installation of new sidewalk where missing

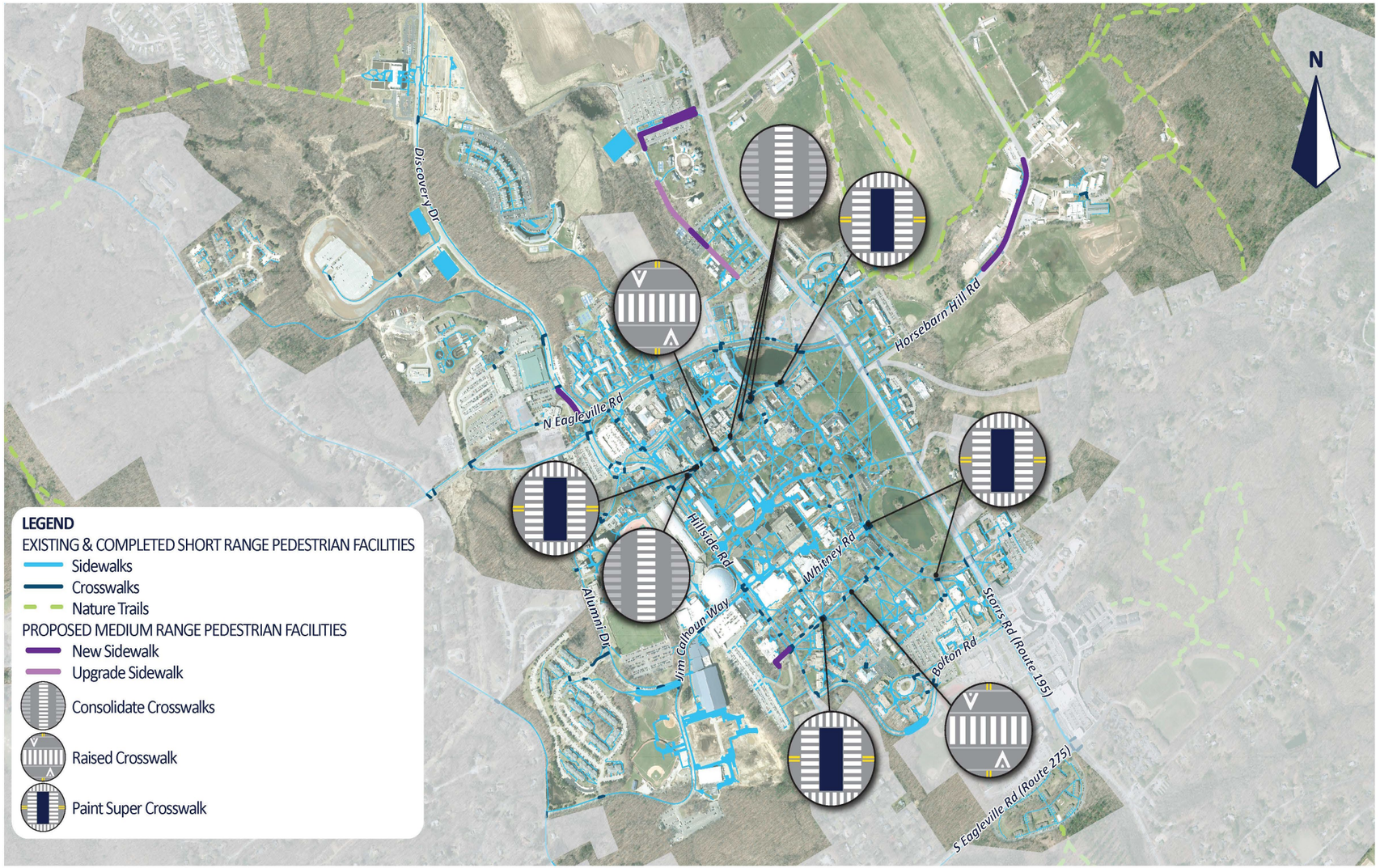


Figure 4-15 Potential Mid-Term Pedestrian Network

Sharrows were used in the potential near-term on the inner campus roadways to help complete the connected PTV network. However, they are not a dedicated facility and should only be used on low-volume, low-speed streets. To make these inner campus roadways more comfortable and safer routes for active transportation users, the roadways should become optimized for bicycle travel through the installation of traffic calming measures intended to slow vehicles and divert traffic. Traffic calming measures like raised crosswalks and super crosswalks can help to reduce the dominance of motor vehicles on roadways, provide a relaxed riding experience, and reduce cut-through traffic on campus. Since these measures should slow vehicles down, the roadways should also become more safe and comfortable for other modes of nonmotorized transportation. The following discussion provides an overview of the facilities introduced in the potential mid-term.

Super Crosswalks

'Super crosswalks' can be decorative intersections that help define the pedestrian space, break the visual monotony of asphalt roadways, and announce key campus locations. They can also be more traditional zebra markings that cover the whole intersection or simply a change in materials within the influence of the crossing. The current (2009) version of the *Manual on Uniform Traffic Control Devices* (MUTCD) is light on discussion of decorative treatments as they are not formal regulatory markings and have been said to possibly have distractive properties. Nonetheless, super crosswalks could be incorporated on campus by integrating special intersection pavement treatments or textures, or with standard but very wide transverse high-visibility crosswalk markings.

The current version of the MUTCD (Section 3G) states that if color on pavement is used to regulate, warn, or guide traffic or if retroreflective colored pavement is used, then it constitutes a traffic control device, and it shall be limited to yellow or white. Colored pavement that is "purely aesthetic" and does not regulate, warn, or guide traffic does not appear to be explicitly prohibited. The MUTCD and supplemental guidance is fairly clear in directing to not obscure the conspicuity of the crosswalk. Some decorative treatments within crosswalks may be allowed as long as the aesthetic elements do not degrade the contrast of white crosswalk markings and do not have retroreflectivity. Incorporating art within the crosswalks themselves is not recommended for UConn's campus.

Pavement art that is purely aesthetic in the middle of an intersection and that does not alter the crosswalks may be appropriate at some intersections on campus. This treatment is not read to be explicitly prohibited by the MUTCD. Pavement art is something that has been growing in popularity in recent years but likely is not really something the MUTCD foresaw over a decade ago when the last update was made. The FHWA has issued some supplemental guidance on this matter since 2009, but this topic still appears to be up to engineering judgement in some respects. Very recent research of intersection (and crosswalk) art on local streets appears to find that such art has no degradation of safety and can actually have some safety benefits as it can prompt drivers to slow and all users to pay more attention to their surroundings. Context clearly matters. Intersection art is not likely to be appropriate for arterial roads and is not allowable on state roads, highways, or interstates. Intersection art is appropriate for lower speed (e.g., 25 mph or lower) local streets.

The forthcoming update to the MUTCD is expected in the coming year or so, and it is expected to provide more clear guidance on this topic. We note that the MUTCD does allow for experimentation with the evolution of traffic engineering and human behavior over time. In November 2021, the Institute of Transportation Engineers (ITE) and the National Association of City Transportation Officials (NACTO) issued a joint letter calling for the Federal Highway Administration (FHWA) to allow for more experimentation, flexibility, and guidance on this topic. Ultimately, the specific design elements for a 'super crosswalk' on campus should be considered relative to its context and with support from the jurisdictional authority of the specific intersection.

Raised Crosswalks

Raised crosswalks act like speed humps or speed tables, physically requiring vehicles to slow down. They also function as an extension of the sidewalk and allow pedestrians to cross the street at a constant grade. They also help make pedestrian more prominent in the driver's field of vision. They are often installed on local and collector streets or in a campus setting and are typically demarcated with paint or other special paving materials.

4.4.3 CONCEPTUAL DESIGNS

To envision what the campus would look like with the proposed potential mid-term mobility network improvements, conceptual designs of key campus areas are shown and described below.

North Eagleville Road and Discovery Drive

Figure 4-16 provides a depiction of the intersection of Discovery Drive and North Eagleville Road. As stated previously, this intersection is an important campus access point for vehicular, pedestrian, PTV, and transit mobility. In the potential mid-term, it is proposed to widen Discovery Drive to extend the bike lanes in both directions and install a fourth crosswalk and adjoining sidewalk while maintaining the right-turn lane. It is also proposed to restripe North Eagleville Road to extend the bike lanes in both directions and upgrade the traffic signal equipment. These proposed improvements should extend the dedicated PTV facilities through the intersection and improve safety and user experience on Discovery Drive and North Eagleville Road. The intersection includes a bike box on the southbound approach to provide PTVs with a safe and visible way to get ahead of queuing traffic when the light is red and two-stage turn queue boxes for the North Eagleville Road approaches to provide PTVs a safer way to make left turns at the intersection. Note this requires horizontal and vertical realignment of the intersection and potential relocation of subsurface utilities

Glenbrook Road

Figure 4-17 provides a depiction of Glenbrook Road with the potential mid-term improvements. It is recommended to consolidate the crosswalks and install two super crosswalks and a raised crosswalk to improve sight lines and safety along the roadway. These improvements should accompany the sharrows installed in the potential near-term to help encourage drivers to travel at a speed appropriate for a multimodal facility. Note that there had been plans to redevelop the infirmary in the Campus Master Plan, which included a realignment of Glenbrook Road. While this mid-term improvement is not expected to result in any geometric changes to the road, review and coordination with the long-term plans here should be made.

Gilbert Road & Mansfield Road

Figure 4-18 provides a depiction of Gilbert Road and Mansfield Road with the installation of super crosswalks at the intersections of Whitney Road and Gilbert Road and a raised crosswalk on Gilbert Road and Mansfield Road with the sharrows introduced in the potential near-term.

Other Potential Mid-Term Improvements

In addition to improvements identified above, UConn should prioritize the general improvements listed below to expand the active transportation facilities outside of the campus right-of-way to connect to local and regional transportation networks. Introducing new PTV options should further encourage active transportation on campus and prepare for the future potential long-term improvements. These general improvements include the following:

1. Introduce shared E-bike and/or E-scooter Pilot Program (see Section 4.5 Policy)
2. Install campus signage and route branding on sidewalks and shared-use paths
3. Commission studies of signal timing (including bike and pedestrian signal upgrades) and campus-wide lighting
4. Study the conversion of Glenbrook Road to one-way travel, which would have a very positive impact on active transportation but brings with it many complexities requiring further study in the mid-term
5. Add more bike parking (see Section 4.2)
6. Work with others to study the installation of the following:

    - Bike lanes on Route 195/Storrs Road between North Eagleville Road and South Eagleville Road
    - Bike lanes on Route 275/South Eagleville Road (between Maple Road and Route 195/Storrs Road)
    - Crosswalk enhancements at the two existing crosswalks on Route 275/South Eagleville Road at Eastwood Road and Westwood Road
    - Bike facility on Separatist Road where the existing shared-use path ends
    - Install additional bike racks and lockers (see Section 4.5 Policy)

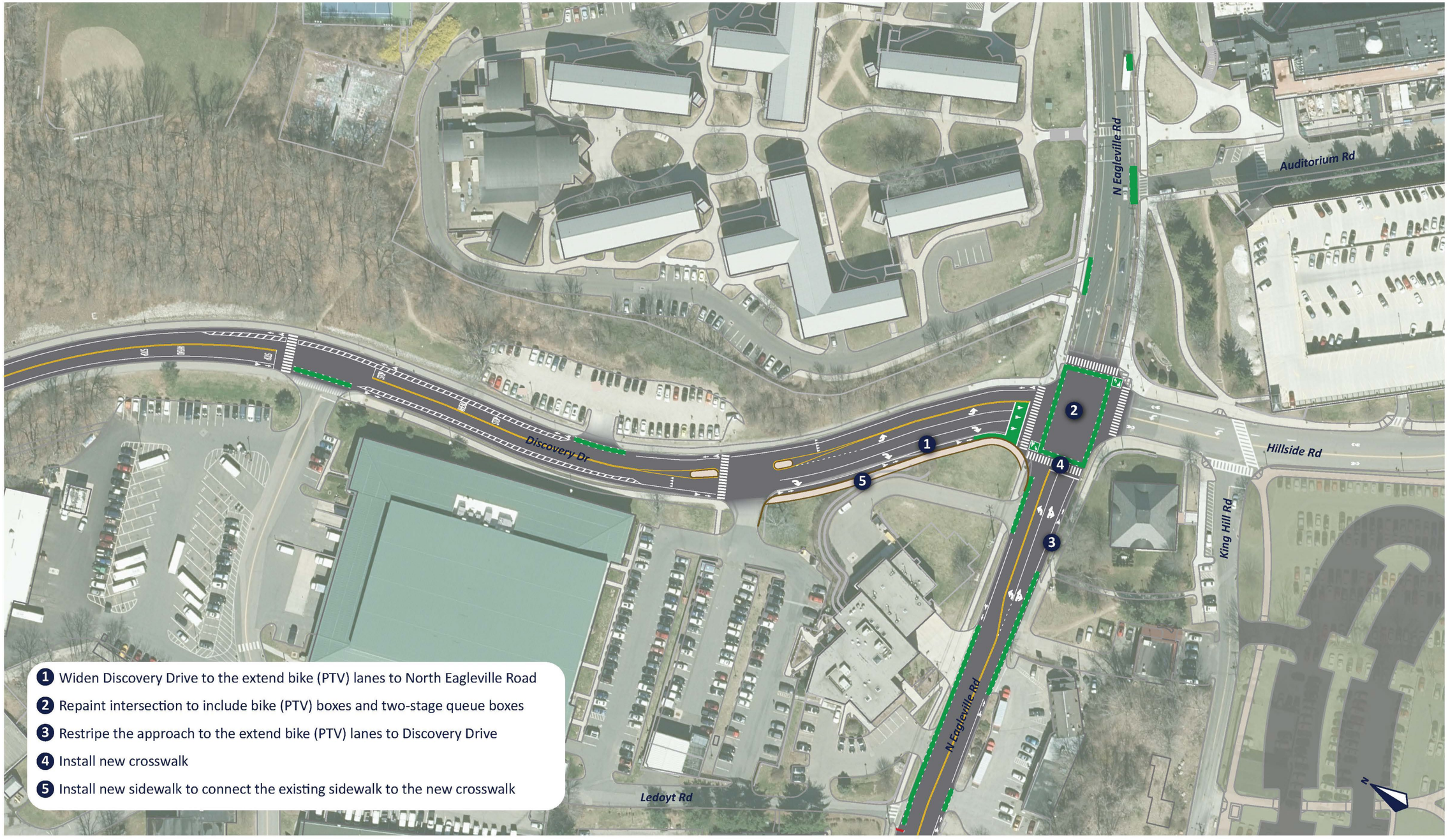


Figure 4-16 Potential Mid-Term Improvements – North Eagleville Road & Discovery Drive

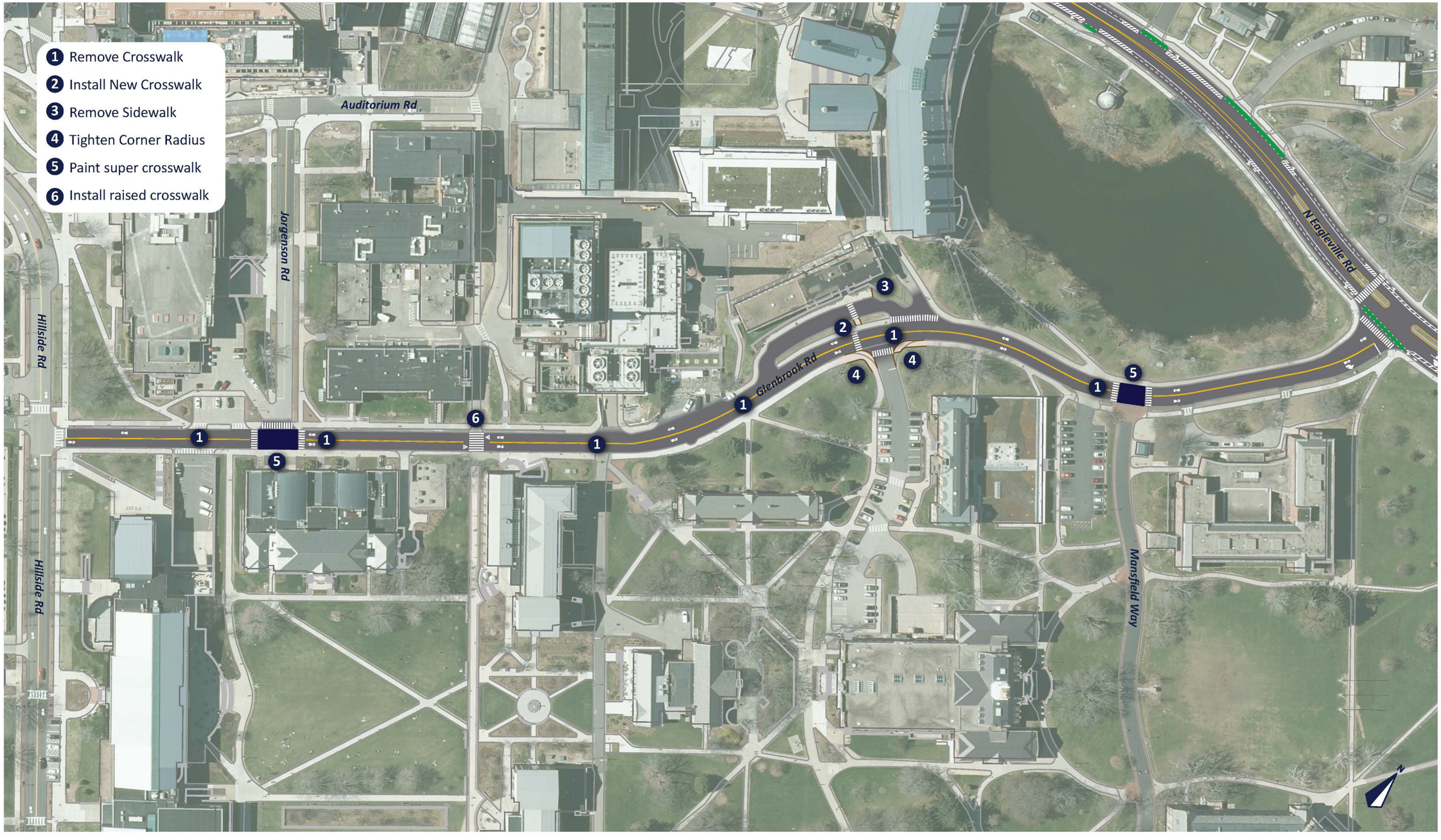


Figure 4-17 Potential Mid-Term Improvements – Glenbrook Road

Figure 4-18 Potential Mid-Term Improvements – Gilbert Road & Mansfield Road

4.5 POTENTIAL LONG-TERM MOBILITY NETWORK

Once the potential mid-term active transportation improvements are completed, there should be a cohesive organized network of facilities and modern mobility hubs that connect the parking areas with the campus core and living communities. Campus core mobility hub locations are envisioned at the following locations:

- Fairfield Way
- North Garage
- South Garage

The potential long-term PTV and pedestrian improvements include the introduction of separated paths and raised intersections along the inner campus roadways to provide increased safety and comfort for bicyclists beyond the more traditional facilities. They are the third step in the creation of a safe, comfortable, and connected network that should result in low-stress facilities for all active transportation users of all levels on campus and propel UConn into becoming a more environmentally and fiscally sustainable campus and a leader for active and healthy transportation in the northeast.

4.5.1 POTENTIAL LONG-TERM BIKE (PTV) NETWORK

Figure 4-19 displays the envisioned potential long-term bicycle and PTV network. The potential long-term improvements include the installation of cycle tracks on Auditorium Road, Glenbrook Road, Gilbert Road, Mansfield Road, and Route 195/Storrs Road within UConn's right-of-way to replace the shared lane facilities. The potential long-term improvements also include the installation of a shared-use path to connect Bolton Road and Route 275/South Eagleville Road. The installation of mobility hubs at the residential and core campus areas should complete the mobility network and provide a web of facilities and amenities for all active transportation and transit users. Residential locations include the Charter Oak Apartments, Northwood Apartments, Hilltop Apartments, Mansfield Apartments, and Edwina Whitney Residence Hall. Note that not all locations are shown on the map.

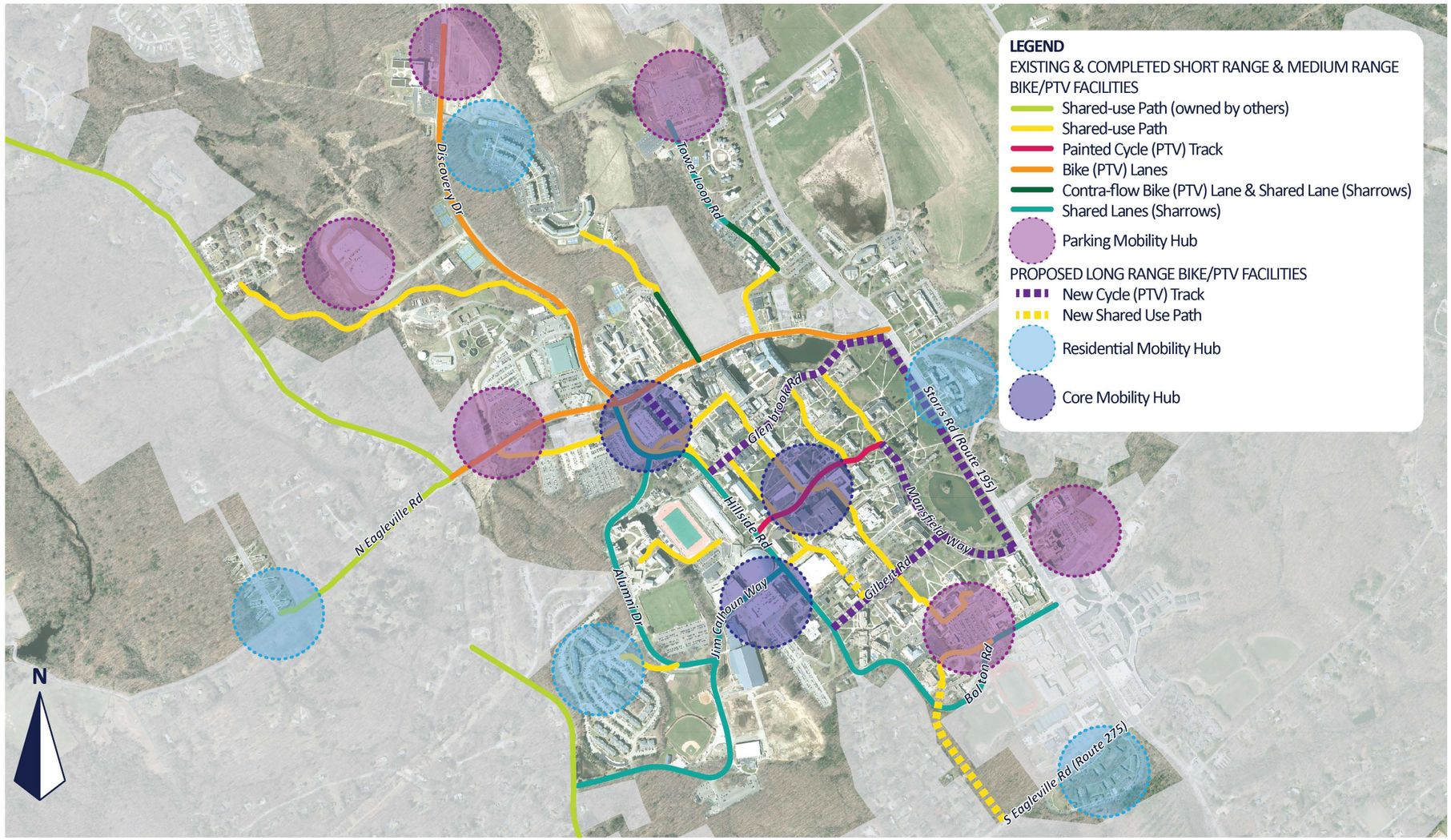


Figure 4-19 Potential Long-Term PTV Network

4.5.2 POTENTIAL LONG-TERM PEDESTRIAN NETWORK

Figure 4-20 displays the envisioned potential long-term pedestrian network. The potential long-term pedestrian improvements include additional traffic calming enhancements to further improve visibility and vehicle speeds on the campus core roadways and new sidewalks installments.

The potential long-term improvements include the following:

- The conversion of the super crosswalks on Glenbrook Road to raised intersections
- The conversion of the super crosswalks on Mansfield Road at Whitney Road and Coventry Road to raised intersections
- The conversion of the super crosswalk on Gilbert Road at Whitney Road Extension to a raised intersection
- The installation of new sidewalk to connect the existing sidewalk on Tower Loop Road with the lower T Lot and Storrs Road (Route 195)
- The installation of a new sidewalk on the south side of North Eagleville Road between King Hill Road and Hunting Lodge Road
- Upgrades to the sidewalk along the north side of North Eagleville Road between Discovery Drive and Hunting Lodge Road

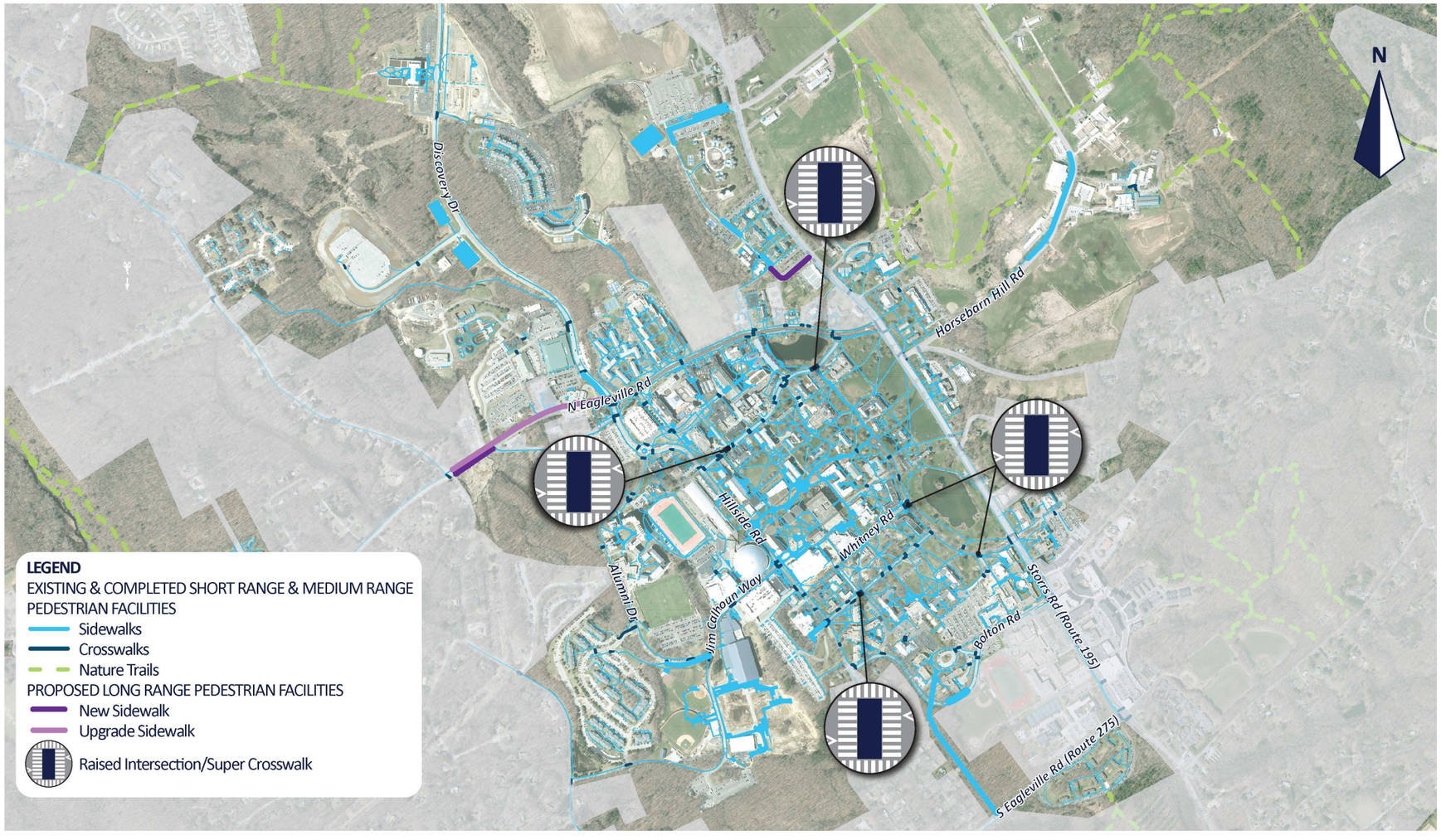


Figure 4-20 Potential Long-Term Pedestrian Network

4.5.3 CONCEPTUAL DESIGNS

Conceptual designs of key campus areas are shown and described below for the potential long-term projects.

Glenbrook Road

Figure 4-21 provides a depiction of what Glenbrook Road could look like with the installation of a two-way cycle track and the conversion to one-way vehicular travel. The conversion of Glenbrook Road to one-way vehicular travel provides enough space for a two-way cycle within the existing roadway width. The cycle track should replace the sharrows installed in the potential near-term to provide an exclusive bicycle and PTV facility on Glenbrook Road. This improvement falls in the long-term category because it requires further study, including coordination with transit planning.

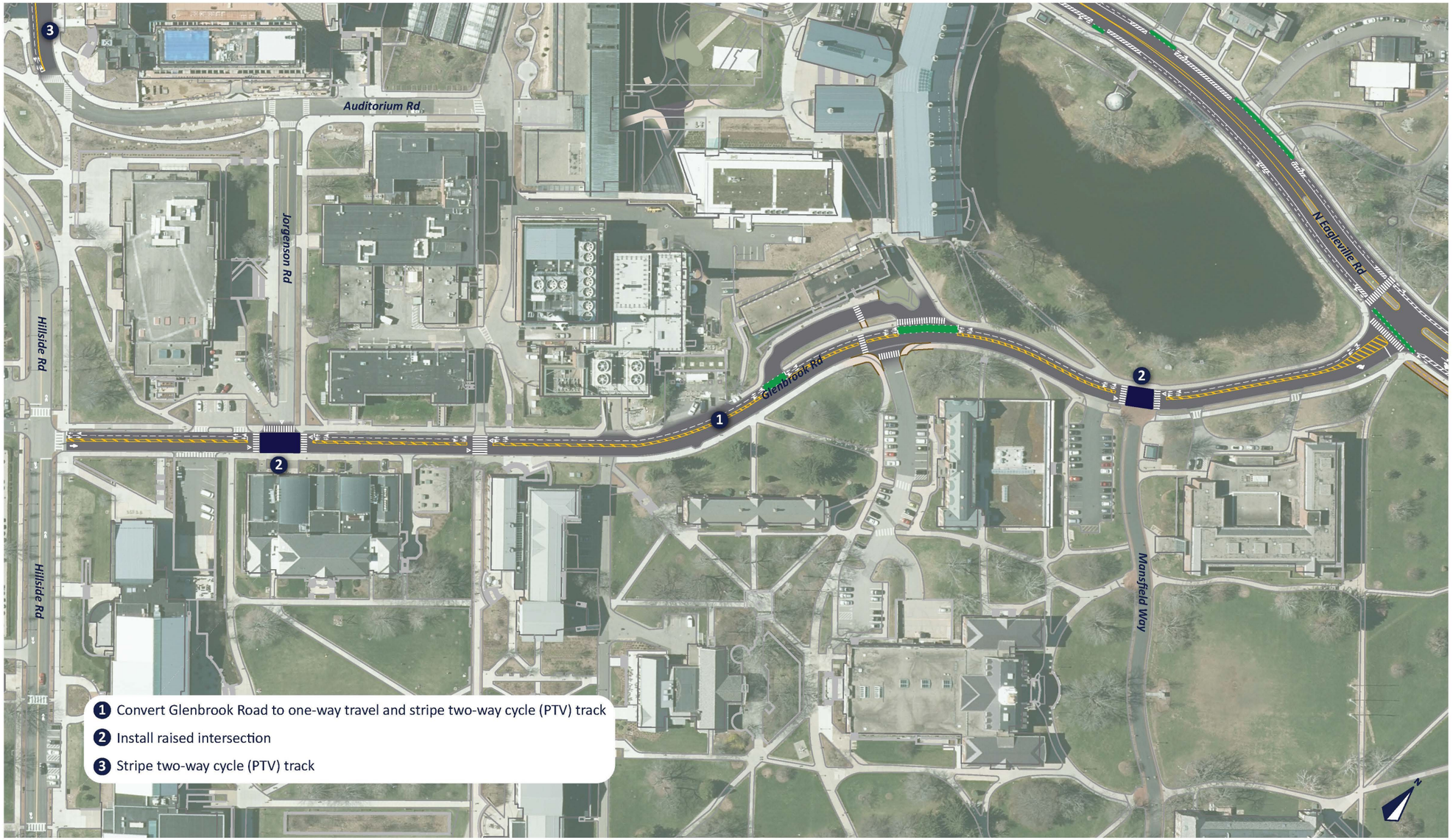


Figure 4-21 Potential Long-Term Improvements – Glenbrook Road

Gilbert Road

Figure 4-22 provides a cross section rendering of what Gilbert Road could look like with a two-way cycle track and a raised decorative intersection. A pair of one-way cycle tracks or a two-way cycle track can be installed adjacent to the existing sidewalks on Gilbert Road to replace the sharrows installed in the potential near-term to encourage more riders by providing more comfortable facilities. Please note that a super crosswalk was recommended at this intersection among the potential mid-range improvements and enhancing the “super crosswalk” at Whitney Road Extension with a more conspicuous center (potential mid-term improvement) and raising it as a large speed table (potential long-term improvement). Because of the additional cost and complexity of the raised intersection and cycle track designs, this concept falls in the potential long-term improvements category.

Figure 4-22 Potential Long-Term Improvements – Gilbert Road

5. IMPLEMENTATION PLAN, NEXT STEPS, AND CONCLUSION

An Implementation Plan was developed for the Active Transportation Plan (ATP) improvement concepts seen in Chapter 4. Throughout this study, the intention was to identify improvements that could be easily and quickly implemented at a relatively low cost. Such improvements were grouped as potential **near-term** improvements. Note that some higher-cost improvements were also identified for implementation in the near-term to more quickly buildout the bicycle (PTV) network and increase safety. Potential **mid-term** improvements are those that would be of somewhat higher cost than most of the near-term improvements, would require some additional study and/or design, and would require more time to implement. The potential **long-term** improvements are ones that would complete the inspirational active transportation vision for the campus and as such entail significant design elements, higher cost, and the potential need for further study of certain elements. With that context, the implementation plan shown in **Table 5-1** was developed, which shows each of the projects grouped by time frame, ease of implementation, and the following rough order of magnitude of construction cost ranges.

$	**< $100,000**
$$	**Between $100,000 and $300,000**
$$$	**> $300,000**

The construction cost estimates were determined based on a number of factors: SLR's professional experience, Connecticut Department of Transportation cost estimates, and recent conceptual estimating by University Planning, Design, and Construction. It is important to distinguish between construction costs and soft costs that complete a project's total costs. Examples of soft costs include further engineering and design, costs associated with logistics of construction, and project management costs.

Disclaimer: *SLR routinely tracks industry trends in terms of materials and labor price fluctuation and understands the recent effects of the COVID-19 pandemic on material costs and availability. Cost estimating is as much an art form as it is a science. These costs represent a best opinion of construction cost based on the level of detail in the concept drawings and include contingencies and account for inflation as best as can be predicted at this time. Nonetheless, these costs should be considered preliminary for planning purposes. They should not be used for budgeting. It is important to also note that they do not include soft costs such as those for finalization of engineering design, which could be estimated at an additional approximately 10% of construction costs if performed by a private sector consultant. Therefore, again, the cost estimates discussed in this section of the report are preliminary construction cost estimates for planning purposes only. They will be revised/fine-tuned as decisions are made and when designs are finalized for construction.*

As next steps, the University should move these potential ATP improvements from plan to implementation. This includes the allocation of/securing of funding as needed, further study where needed, fully designing the improvements for construction (as mentioned), and the implementation/construction of the improvements. For any individual improvement or group of improvements, a combination of factors will come into play, including ease of funding, extent to which engineering and roadway/intersection improvements can be done 'in-house' by the University, or would need to be outsourced to outside consultants and contractors. Note that some improvements could be made as part of other capital upgrades and maintenance efforts, for example, installing pavement markings and new striping configurations as part of any scheduled roadway repaving. It may be possible that some improvements could be integrated into other campus streetscape-related projects.

To keep the ball rolling towards implementing the improvements in this ATP, and increasing active transportation in general at UConn, the University's immediate Next Steps should be the following:

- Create an official University-sanctioned Active Transportation Working Group to assist in active transportation decision-making moving forward.
- Engage University Safety in PTV etiquette and incentive-based-outreach.
- Take further steps toward procurement of a shared bike or e-scooter (PTV) vendor.
- Develop a survey that asks members of the UConn community what mode of transportation they use to get to campus and what mode they use to get around campus - establishing transportation mode split and evaluating changes in the share of active transportation trips over time. This allows the University to set a goal for increased walking, biking, PTV, and transit trips.
- Prioritize the near-term improvements listed in **Table 5-1** for physical installation immediately, particularly those that are also low cost.

In Conclusion, this Active Transportation Plan (ATP) was developed for the University of Connecticut. The impetus for this ATP was a number of factors, which included growing demand for scooter and PTV use on campus, heightened importance of health and sustainability goals, and the important need to promote traffic safety, particularly for people on foot, bike, scooter, walking to/from transit, etc. Developing this ATP was a process that involved multiple public input sessions and working group meetings that were held online over the course of nearly a year. Along with this, SLR assimilated the information and data available on existing conditions. Potential Active Transportation improvements were iteratively developed, which included physical infrastructure spot and network improvements as well as policy recommendations including those focused on PTV/bicycle parking, use, and etiquette. ATP improvements have been sorted into near-, mid-, and long-term recommendations, and infrastructure design changes are visually depicted and illustrated. Lastly as part of this ATP, an implementation plan is included that contains preliminary construction cost estimates for planning purposes and a discussion of next steps. We trust that this ATP provides a solid framework to increase the safety, convenience, comfort, and extent of multimodal travel at UConn for the entire University community.

Table 5-1 – UConn Active Transportation Implementation Plan

General Location	Improvement Type	Cost
NEAR TERM - INFRASTRUCTURE		
Fairfield Way	Two-way Cycle (PTV) Track on asphalt portions of Fairfield Way	$
North Eagleville Road	Buffered bike (PTV) lanes on North Eagleville Road between Glenbrook Road and Storrs Road/Route 195	$
	Shared bus-bike lanes at existing bus stop on North Eagleville Road in front of Huskies Tavern	$
	Bike Lanes on North Eagleville Road between Hunting Lodge Road and Discovery Drive	$$
	Shared bike/parking lanes on North Eagleville Road between Northwest Residence Halls and Glenbrook Road	$$
	Intersection/driveway crossing markings at intersections and driveways on North Eagleville Road between Hunting Lodge Road and Storrs Road/Route 195	$$
Hillside Road	Pilot trial closure to personal automobile traffic between Glenbrook Road and Jim Calhoun Way during fall semester 2022	$
North Residences Driveway	Contraflow bike lane and shared lane (sharrows) on N Driveway	$
Tower Loop Road	Contraflow bike lane and shared lane (sharrows) on one-way segment of Tower Loop Road and paint sharrows on two-way segment of Tower Loop Road	$
Discovery Drive	Intersection/driveway crossing markings at intersections and driveways on Discovery Drive between K Lot and North Eagleville Road	$
	Buffers (where appropriate) to existing bike lanes, stripe shared bus-bike lanes at existing bus stops, and install enhanced uncontrolled crosswalk at Discovery Drive and Avalonia Way	$$
	Buffers (where appropriate) to existing bike lanes, enhance existing uncontrolled crosswalk at Discovery Drive at Purchasing Driveway, enhance existing all-way-stop control at Discovery Drive and Ledoyt Road	$$$
Bolton Road	Sidewalk where missing on both sides of Bolton Road	$$
Alumni Drive	Sidewalk where missing on Alumni Drive along fence	$$
Throughout Campus	Sharrows on Hillside Road, Glenbrook Road, Gilbert Road, and Mansfield Road	$
NEAR TERM - OTHER		
Campus Gateways, Throughout	Campus zone gateway signage	$
Throughout Campus	Route branding on sidewalks and shared-use paths	$
	Existing sidewalks/paths 10 feet or wider to become shared-use paths through policy	$
	PTV policies to be updated in *UConn Res. Life On-Campus Housing Contract* and *Rules & Regulations for the Control of Parking and Vehicles on the Grounds of the University of Connecticut*	$
	PTV Etiquette Education	$
MID TERM - INFRASTUCTURE		
Glenbrook Road	Redundant crosswalks on Glenbrook Road to be removed	$
	Raised crosswalk on Glenbrook Road at Auditorium Road path	$$
	Crosswalk improvements in front of Infirmary	$$
	Super Crosswalk at Glenbrook Road and Jorgenson Road	$$
	Super Crosswalk at Glenbrook Road and Mansfield Way	$$
Mansfield Road	Super Crosswalk at Mansfield Road and Whitney Road	$$
	Super Crosswalk at Mansfield Road and Coventry Road	$$
Gilbert Road	Super Crosswalk at Gilbert Road and Whitney Road	$$
	Raised crosswalk on Gilbert Road at Academic Way	$$
Horsebarn Hill Road	Sidewalk where missing on Horsebarn Hill Road between A Lot and Horsebarn Hill Arena	$$
W Lot	Sidewalk where missing at W Lot	$$
McMahon South	Sidewalk where missing from Y/Z Lot on south side of McMahon	$$
Tower Loop Road	Sidewalk where missing on Tower Loop Road - from upper T Lot to lower T Lot and Upgrade existing sidewalk on Tower Loop Road - from upper T Lot to lower T Lot	$$$
Discovery Drive	Intersection improvements at Discovery Drive and North Eagleville Road (widening or removal of turn lanes, bike lanes, bike boxes, crosswalk, sidewalk, etc.)	$$$
Throughout Campus	Additional bike parking locations - nine locations of six bike stalls	$
	Parking Mobility Hubs	$$ - $$$
MID TERM - OTHER		
Storrs Road	Bike lanes on Storrs Road/Route 195 between North Eagleville Road and Mansfield Way --- *further study*	$
South Eagleville Road	Bike lanes or shared path on South Eagleville Road/Route 275 between Maple Road and Storrs Road/Route 195 --- *further study*	$
	Crosswalk enhancements at the two existing crosswalks on South Eagleville Road/Route 275 at Eastwood Road and Westwood Road --- *further study*	$
Separatist Road	Bike lanes or sharrows on Separatist Road where the shared-use path ends --- *further study*	$
Glenbrook Road	Glenbrook Road conversion to one-way (including small area network analysis to study traffic rerouting and effect on transit headways/schedules) to allow two-way cycle track --- *further study*	$ - $$
Throughout Campus	Shared E-bike and/or E-scooter Pilot System	$
	Campus-Wide Lighting --- *further study*	$
	Signal Timing Upgrades (including bicycle and pedestrian signal upgrades) --- *further study*	$ - $$
LONG TERM - INFRASTRUCTURE		
Glenbrook Road	Raised intersection at Glenbrook Road and Jorgenson Road	$$
	Raised intersection at Glenbrook Road and Mansfield Way	$$
	Two-way cycle track on Glenbrook Road	$$ - $$$
North Eagleville Road	Sidewalk on south side of North Eagleville Road between King Hill Road and Hunting Lodge Road	$$
	Sidewalk widening on north side of North Eagleville Road between King Hill Road and Hunting Lodge Road - combine with above	$$
Tower Loop Road	Sidewalk extension on Tower Loop Road along the southern edge of lower T Lot to 195	$$
Gilbert Road	Raised intersection at Gilbert Road and Whitney Road	$$
	Two-way cycle track on Gilbert Road	$$ - $$$
Auditorium Road Extension	Two-way cycle track on Auditorium Road	$$ - $$$
Storrs Road	Two-way cycle track on Storrs Road/Route 195 within UCONN property between North Eagleville Road and Mansfield Road	$$ - $$$
Bolton Road Connector	Shared-use path connecting Bolton Road and South Eagleville Road within UCONN property	$$ - $$$
Mansfield Road	Two-way cycle track on Mansfield Road	$$ - $$$
	Raised Intersection at Mansfield Road and Whitney Road	$$$
	Raised Intersection at Mansfield Road and Coventry Road	$$$
	Core Mobility and Residential Mobility Hubs	$$$

APPENDIX 1

PUBLIC COMMENTS

To gain a more complete understanding of walking, bicycling, scooting, transit (bus), and general traffic safety needs throughout the campus, input was sought from the broader UConn community. Comments were received through live polling at public meetings, through an online mapping tool and survey hosted on the project's StoryMap, and through verbal and typed comments captured from the meeting chats. Comments were also received by email and from the UConn Active Transportation Working Group members throughout the planning process.

At the first public meeting held on February 18, 2022, polling questions were asked to establish who was in the audience, how they get to and around campus, and their awareness and use of existing transportation modes.

At the second public meeting held on April 27, 2022, polling questions established whether participants would use an expanded bike or scootershare system on campus given current transportation infrastructure relative to a future state that includes safer, more connected active transportation facilities.

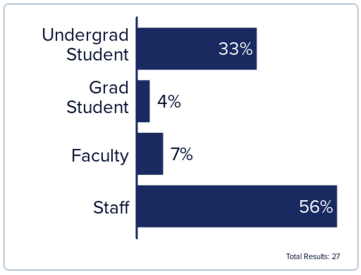
Comments that were specific to a road or area have been organized by location in the section that follows the polling question results and illustrate how much discussion there was about each location.

UConn Active Transportation Plan - 1st Public Meeting - Polling Results

(last updated Feb 18, 2022 12:01pm)

11	33	32	74%
Activities	Participants	Average responses	Average engagement

Who are you?

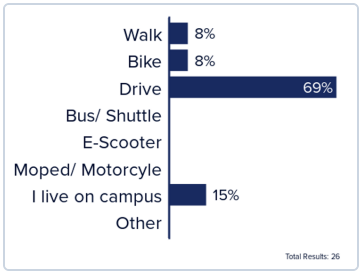


Response options	Count	Percentage
Undergrad Student	9	33%
Grad Student	1	4%
Faculty	2	7%
Staff	**15**	**56%**

82% Engagement

27 Responses

How do you get to campus?

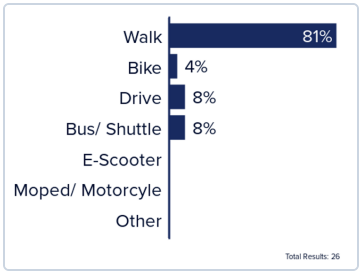


Response options	Count	Percentage
Walk	2	8%
Bike	2	8%
Drive	**18**	**69%**
Bus/ Shuttle	0	0%
E-Scooter	0	0%
Moped/ Motorcyle	0	0%
I live on campus	4	15%
Other	0	0%

79% Engagement

26 Responses

How do you get around campus?



Response options	Count	Percentage
Walk	**21**	**81%**
Bike	1	4%
Drive	2	8%
Bus/ Shuttle	2	8%
E-Scooter	0	0%
Moped/ Motorcyle	0	0%
Other	0	0%

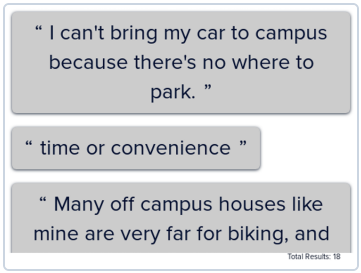
79%

Engagement

26

Responses

If you feel the need to bring your car to the core of campus, where do you go? Why do you need a car?



Responses

55%
Engagement

18
Responses

I can't bring my car to campus because there's no where to park.

time or convenience

Many off campus houses like mine are very far for biking, and so it is sometimes nice to bring a car to campus. However, I usually have to park far away in a commuter lot and then take a 20 minute walk.

Because a 10 minute walk is invigorating and lovely and still manageable while balancing other life tasks.

N/A, park off campus & walk

drop of heavy / large supplies

Park in campus after 5pm if I work late because the Green Line stops at 7pm, the Express Shuttle doesn

I walk to the core meeting areas of campus. I don't drive,

I park near the gym

I park in a garage and walk on campus but really, really wish I could take a bus to campus

I park in one of the parking garages. I live about 25 minutes away.

I park near the library or gym so I don't have to walk far late at night

Access to my building

to SHaW to pick up supplies or if working late at night

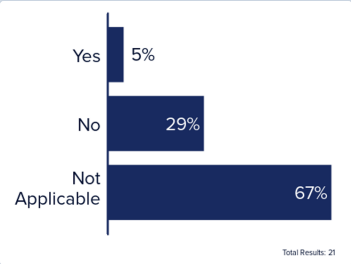
Student Union and nearby buildings for meetings.

My parents can't park anywhere except the parking garages.

Late for a meeting

It's part of my job.

If you are a commuter student, is traveling to and from commuter parking lots convenient for you?

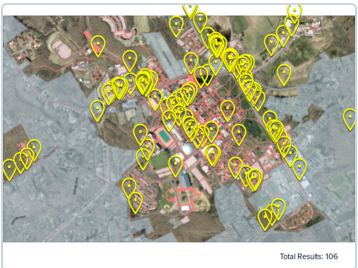


Response options	Count	Percentage
Yes	1	5%
No	6	29%
Not Applicable	**14**	**67%**

64%
Engagement

21
Responses

Are there places you feel unsafe walking or biking? Show us the top 5 places on the map

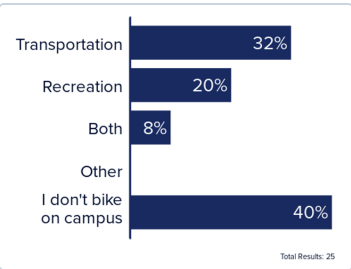


Response options	Count	Percentage
	106	100%

82%
Engagement

106
Responses

When you bike on campus, is it for transportation or recreation?

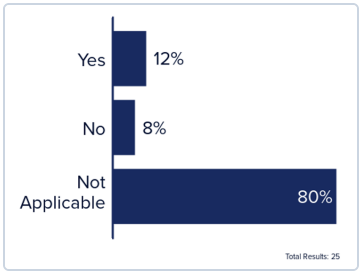


Response options	Count	Percentage
Transportation	8	32%
Recreation	5	20%
Both	2	8%
Other	0	0%
I don't bike on campus	**10**	**40%**

76%
Engagement

25
Responses

If you ride the CTtransit 913/918 express bus or WRTD, are the drop off and pick up locations convenient?

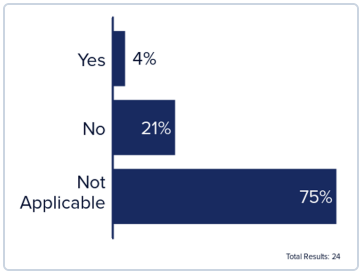


Response options	Count	Percentage
Yes	3	12%
No	2	8%
Not Applicable	**20**	**80%**

76% Engagement

25 Responses

If you have to transfer between systems, is the bus you connect to reliable?

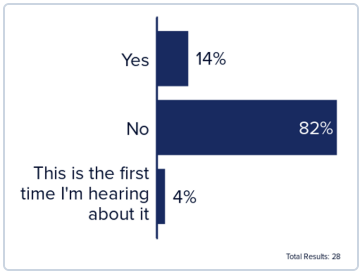


Response options	Count	Percentage
Yes	1	4%
No	5	21%
Not Applicable	**18**	**75%**

73% Engagement

24 Responses

Have you ever used UConn Cycle Share to rent a bike?

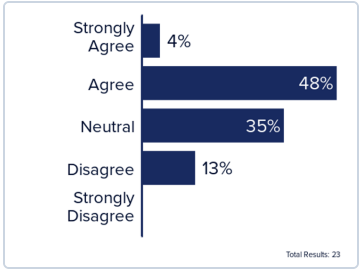


Response options	Count	Percentage
Yes	4	14%
No	**23**	**82%**
This is the first time I'm hearing about it	1	4%

85% Engagement

28 Responses

The Draft Vision Statement aligns with my vision of mobility on campus



Response options	Count	Percentage
Strongly Agree	1	4%
Agree	**11**	**48%**
Neutral	8	35%
Disagree	3	13%
Strongly Disagree	0	0%

70% Engagement

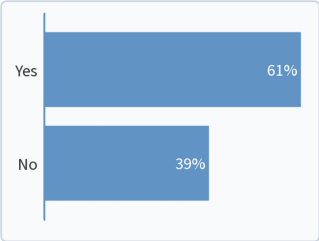
23 Responses

UConn 2nd Public Input Session - April 27

Current run (last updated May 3, 2022 9:14pm)

3	26	21	82%
Activities	Participants	Average responses	Average engagement

Would you use an expanded bike or scootershare system on campus?

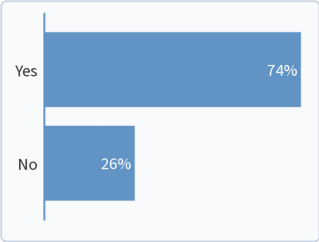


Response options	Count	Percentage
Yes	**14**	**61%**
No	9	39%

88% Engagement

23 Responses

Would you use an expanded bike or scooter share system on campus if there was a connected network of bike/PTV lanes throughout campus?

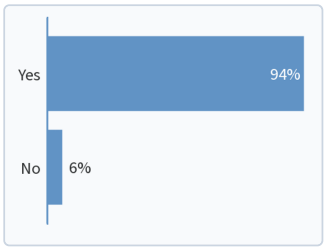


Response options	Count	Percentage
Yes	**17**	**74%**
No	6	26%

88% Engagement

23 Responses

If the improvements shown were implemented, would you be more likely to walk or bike to a destination on campus?



Response options	Count	Percentage
Yes	**17**	**94%**
No	1	6%

69%
Engagement

18
Responses

UConn Comments by location - Discovery Drive
The crossing by Discovery Drive and North Eagleville Road lacks crosswalk signals.
Lack of crosswalk signals at the intersection of North Eagleville Road and Discovery Drive.
The area around North Eagleville Road and Discovery Drive becomes very unsafe at night. Suggest better lighting, and addressing speeding cars going toward North Campus, as well as the pedestrian crossing button that doesn't work. A lot of people cross there at night.
Bikes around the intersection of North Eagleville Road and Discovery Drive a lot, and finds it annoying because you have to wait and cross with the pedestrians. She stays on the side of the street the Police Station is on, but then has to cross where there is no sidewalk with cars coming both directions in front of Sam's Store. There is no shoulder for part of the route, and when there is sidewalk, it is used by pedestrians and too narrow to bike past them. There is also a speed bump and sign that is positioned such that you have to duck your head to clear. She also said the crossing by the Bookstore and Gampel is crazy with cars going everywhere – you feel like you're going to get hit every time.
no walk signal across Discovery Dr on the north side of N Eagleville
honestly just not enough bike lanes at all imo, the only spot we have them is discovery drive I believe which is one of the least busy places
I have almost gotten hit at this crosswalk [the first x-walk north of the intersection of Discovery Dr & N. Eagleville Rd] at night walking back to Lot C because of a car that did not stop at the stop sign. Overall, people seem to always be in a rush and drive fast on campus, especially through stop signs and at night.
The intersection between North Eagleville and Discovery Drive also has many potholes that are difficult to navigate, especially when taking a turn with cars behind.
The corner of Discovery Drive and N. Eagleville is a much higher volume area than it used to be but the sidewalks and crossing signals don't seem to match up the flows of walkers or traffic.
curb cuts need to be better cleared of snow during the winter; especially along discovery drive
Better control of UConn Shuttle Buses needs to be applied. Stand on the corner of Discovery and North Eagleville Road and watch the acceleration of these vehicles. Sometimes I move over to the far edge of the sidewalk for fear of the bus hopping the curb. This also applies to all vehicles. I witnessed a tractor-trailer truck hoping to run the yellow light and almost didn't stop at this corner.
Can't access Discovery drive without a car
Can't access Discovery Drive tennis courts without a car
Can't access School of Fine Arts, Rome (from Discovery Drive) without a car
Can't access Innovation Partnership Building at UConn Tech Park on Discovery Drive without a car
Can't access Innovation Partnership Building at UConn Tech Park on Discovery Drive without a car
Discovery drive sidewalk does not go all the way to the tennis courts (requires crossing the road without a crosswalk)
no sidewalk to cross from sidewalk on side of discovery drive to road that goes to C-lot (by the tennis courts). Have to walk over the rocks
Walking from F Lot up North Eagleville Road in front of the Police Station with its current construction project. The other side of the street has no sidewalk but I prefer to get to that side to avoid the Discovery Drive and North Eagleville intersection which is insane to cross!
trying to get from F-lot to N. Eagleville is harrowing - the quickest paths are around Facilities but they are unlit and have no sidewalks. People drive WAY to fast down Discovery Drive right by the UCPD parking area and that cross walk feels like a really dangerous area. Also wish that dirt lot on Discovery Drive was paved/spaces were marked! And why doesn't the crossing from UCPD to Northwest dorms (when you cross Discovery Drive) not have a walk signal! Its like playing frogger!!!

UConn Active Transportation Plan Comments by Location - North Eagleville Road
The crossing by Discovery Drive and North Eagleville Road lacks crosswalk signals.
Lack of crosswalk signals at the intersection of North Eagleville Road and Discovery Drive.
The area around North Eagleville Road and Discovery Drive becomes very unsafe at night. Suggest better lighting, and addressing speeding cars going toward North Campus, as well as the pedestrian crossing button that doesn't work. A lot of people cross there at night.
Bikes around the intersection of North Eagleville Road and Discovery Drive a lot, and finds it annoying because you have to wait and cross with the pedestrians. She stays on the side of the street the Police Station is on, but then has to cross where there is no sidewalk with cars coming both directions in front of Sam's Store. There is no shoulder for part of the route, and when there is sidewalk, it is used by pedestrians and too narrow to bike past them. There is also a speed bump and sign that is positioned such that you have to duck your head to clear. She also said the crossing by the Bookstore and Gampel is crazy with cars going everywhere – you feel like you're going to get hit every time.
no walk signal across Discovery Dr on the north side of N Eagleville
The intersection between North Eagleville and Discovery Drive also has many potholes that are difficult to navigate, especially when taking a turn with cars behind.
The corner of Discovery Drive and N. Eagleville is a much higher volume area than it used to be but the sidewalks and crossing signals don't seem to match up the flows of walkers or traffic.
Better control of UConn Shuttle Buses needs to be applied. Stand on the corner of Discovery and North Eagleville Road and watch the acceleration of these vehicles. Sometimes I move over to the far edge of the sidewalk for fear of the bus hopping the curb. This also applies to all vehicles. I witnessed a tractor-trailer truck hoping to run the yellow light and almost didn't stop at this corner.
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Trouble spot: Gap of multimodal path from Hunting Lodge Rd at N Eagleville Rd to campus
Traffic needs to be slowed on North Eagleville Road. Since the on-street parking was removed, traffic travels faster.
The intersection of North Eagleville and Hunting Lodge Roads as an area of concern since approximately 2,500 students live in that general area. Sidewalk is only on one side of the road – and students often walk on the opposite side.
Pedestrian amenities are needed at King Hill Road near the intersection with North Eagleville Road, as a lot of students like to use that road to get into campus, but it currently has no sidewalk or crosswalks.
North Eagleville is a common walking area for students going to the bars. There are sidewalks but people speed on that road so it's not always safe especially for people crossing at night
North Eagleville Road west of Discovery has a very narrow sidewalk
At night, people cross the road in this area of North Eagleville Road (near the Fire Department) despite there being no crosswalk. A crosswalk at the nearby intersection or nearby would be beneficial, perhaps
We need a sidewalk on both sides of N Eagleville. I always see students walking on the shoulder here and it's unsafe, and also annoying for me when I'm also trying to bike in the shoulder.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Its hard to know where to bike on roads or sidewalks as a cyclist, as no matter what you are putting yourself in the way of someone else. Especially bad is a narrow sidewalk on Northeagleville road leaving campus past the police station, as there is no shoulder to bike on and a narrow sidewalk that does not have enough room for a cyclist to pass a pedestrian. There is also a speed bump on the sidewalk which hurts when on a bike.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - It is frightening to be overtaken silently by a fast bicycle, electric skateboard or scooter. With a regular skateboard, one at least can hear the sound of its arrival. The sidewalks of Rt 195 and North Eagleville Road and Hillside Road.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Gilbert Road, Hillside Road, North Eagleville
The roads just outside of the campus, but that serve as the ways into campus are unsuitable for bike commuters. Specifically, North Eagleville Rd by the apartments has many potholes on the side of the road that require the rider to ride towards the center of the road to avoid a crash.

Pedestrians in crosswalks are not respected. This is particularly true in crosswalks that now have a divider between the lanes that enter and exit campus. Cars go flying through the cross walk even though the pedestrian is in the crosswalk -- but because of the divider cars don't feel like they have to stop on THEIR side. Crosswalk located on N. Eagleville at Glenbrook is particularly bad. I have had my life pass before my eyes there more than once!
crossing north eagleville by the fire station. not all corners have crosswalk
Need more streetlights along sidewalk on No. Eagleville around Northwood Apartments - wildlife safety concerns late at night.
The bike lane on North Eagleville is pointless as it only exists between hillside road and the crosswalk in front of the Life Science building. Then it merges into parking lots. Better bike lanes are needed across campus.

UConn Active Transportation Plan Comments by Location - Glenbrook Road
Pedestrians in crosswalks are not respected. This is particularly true in crosswalks that now have a divider between the lanes that enter and exit campus. Cars go flying through the cross walk even though the pedestrian is in the crosswalk -- but because of the divider cars don't feel like they have to stop on THEIR side. Crosswalk located on N. Eagleville at Glenbrook is particularly bad. I have had my life pass before my eyes there more than once!
Trouble spot: Glenbrook Rd -- high speed of vehicular travel, multiple crosswalks, poor sight lines, distracted pedestrians, broken sidewalks
Opportunity/Idea: inner campus loop that could be closed to all but emergency/maintenance vehicular traffic and a continuous campus shuttle combined with two directional bike way (Glenbrook Rd to Mansfield Way to Gilbert Rd to Hillside Rd)
Glenbrook Rd suffers from high speed of vehicular travel, multiple crosswalks, poor sight lines, distracted pedestrians, broken sidewalks
speeding cars on Glenbrook, hillside
Glenbrook Road is not necessary. It could be definitely have only select vehicles allowed, much like Fairfield Way. It is dangerous at times, and vehicles could just take North Eagleville Road
poor sight lines of crosswalks on Glenbrook Rd with fast traffic puts pedestrians at risk, sidewalks need repair, road needs bike lanes
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - On the 195 sidewalk to get to storrs center, Gibert road, Glenbrook Road, Hillside road. Especially 195 and hillside need bike lanes immediately.
yes - I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - daily - sidewalks around Student Union/Glenbrook Rd/ and down to the north parking garage - skateboards and bicycles use the sidewalks and come up on pedestrians from behind very quickly
The speed at which the students on motorized scooters go is alarming, especially on long straight roads like hillside road or glenbrook road.
Some people in cars do not pay attention to people walking - particularly at the intersection of N. Eagleville and Glenbrook. They don't want to stop there, particularly when coming from 195. Others coming from the opposite direction have completely blown through the stop sign.
Lighting on campus. Students walking along Glenbrook at night! Due to curves, dips, two or more bus stops and toss in darkness and rain-lighting is beyond poor. Especially with bus stops-students crossing. Seems like an accident waiting to happen. As it’s a big cut thru by the pond towards nursing.
I've seen people, bikes, and scooters collide on Glenbrook Rd. on more than one occasion. I don't know why this specific road is so dangerous, but it is!

UConn Active Transportation Plan Comments by Location - Horsebarn Hill Road
One area I wanted to mention is Horsebarn hill. It isn't daily but there are a lot of folks that like to stand in the middle of the road on the crest of the hill and take photos. This is mainly at commencement time but happens throughout the year. It is also a very popular jogging and walking route (especially at sundown and dusk) with no designated paths and blind corners. I know it's a farm and we wouldn't want to take away that charm but just an observation
there's a spot off the map. Intersection of 195 and Tower Loop Rd, near Jacobsen red barn/195/horsebarn
Horsebarn Hill Rd. No sidewalks, dimly lit where lit, narrow roadway
There is no sidewalk on parts of Horsebarn Hill Rd. There is a commuter lot back here, and having students bike and walk to campus is EXTREMELY unsafe with the Yellow line and agricultural vehicles going through
We need a crosswalk at Horsebarn Hill and 195!! Maybe with a light. I've seen elderly people having to run across the road here because oncoming traffic is going too fast to see pedestrians and stop for them.
Crosswalk needs to be better lit on Horsebarn Hill Rd at Gurleyville Road. At night time, it's hard for drivers to see people crossing here.
The trailhead at Horsebarn Hill is supposed to be a trailhead to get to the UConn Forest, but it seems very unofficial and forgotten. Some clear signage and clean up of the area might be needed.
The trailhead at Horsebarn Hill is often flooded with water coming down the slope to the west. A wooden plankway here would be beneficial to allow hikers easier access to the rest of the UConn Forest.
Can't access Horsebarn Hill without a car
Can't access Horsebarn Hill without a car: bus routes are sparse so I just stopped bothering and started taking the VERY long walk out there
Can't access Horsebarn Hill without a car
There is no sidewalk where I walk around Horsebarn Hill
Horsebarn Hill - no sidewalks
Can't access Horsebarn Hill without a car
Can't access Horsebarn Hill without a car

UConn Active Transportation Plan Comments by Location - 195/Storrs Road
there's a spot off the map. Intersection of 195 and Tower Loop Rd, near Jacobsen red barn/195/horsebarn
We need a crosswalk at Horsebarn Hill and 195!! Maybe with a light. I've seen elderly people having to run across the road here because oncoming traffic is going too fast to see pedestrians and stop for them.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - On the 195 sidewalk to get to storrs center, Gibert road, Glenbrook Road, Hillside road. Especially 195 and hillside need bike lanes immediately.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - It is frightening to be overtaken silently by a fast bicycle, electric skateboard or scooter. With a regular skateboard, one at least can hear the sound of its arrival. The sidewalks of Rt 195 and North Eagleville Road and Hillside Road.
I believe the intersection of Hillside and Calhoun way would benefit from a traffic light. Or if there was a better way to exit the south garage to head towards Storrs Center without going Calhoun/Separatist/S.Eagleville/Rt 195
Some people in cars do not pay attention to people walking - particularly at the intersection of N. Eagleville and Glenbrook. They don't want to stop there, particularly when coming from 195. Others coming from the opposite direction have completely blown through the stop sign.
Trouble spot: Storrs Rd near Downtown Storrs – heavy traffic, multiple crosswalks, poor lighting, distracted pedestrians
The cemetery on Route 195 next to Storrs Congregational Church is an unsafe area to cross the street due to speeding cars that don’t stop for pedestrians. There is no raised crosswalk or signalization.
Not sure if I missed it but attention should be paid to ped/bikes on rt195 btwn Horse Barn Hill and CVS @ 4 Corners.
Route 195 has narrow streets, high traffic, and no bike lanes
Route 195 also needs bike lanes badly because cannot drive on road due to dangerous traffic and sidewalks too narrow
There's a cut through to get from 195/Storrs Rd to the DMD building quicker. It's unpaved and needs a staircase at the edge of the parking lot because of the steep incline. During the winter, it's always super icy or muddy, but it's the only way I can make it to my class on time so it would be nice if it was made safer.
A sidewalk between Mansfield Rd and 195 might be beneficial. If you're coming from Storrs Rd and want to go southwest, you need to walk all the way the around the building using the sidewalks to the west, or cut through the grass here instead.
A sidewalk that connects the one to the south of Mirror Lake to the one north by Storrs Rd would be nice. This would allow for better enjoyment of the lake by bringing pedestrians closer to the lake's edge, without having to walk through the grass.
Heavily used dirt path off 195 that would be paved with steps leading up the hill
I am concerned about the crosswalk on 195 near the Floral Sales building. Cars speed on this road and there is not good lighting near the crosswalk.
Yes - I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - bikes use the sidewalks around the intersection of 195 and Mansfield Road, and they go very fast. Sometimes, you have to jump out of the way.
yes, I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - on hills, especially coming down from the Great Lawn to 195
There should be a crosswalk crossing 195 where the sidewalk behind the cemetery arrives. (The cemetery is along 195, south of the Floriculture greenhouses and east of the Islamic Students Society.) Many staff and graduate students need to cross there to get to dairy bar or the various CAHNR buildings and it's inconvenient to have to walk over to the other crosswalks, which are in less useful positions and often ignored by cars anyway. There used to be a crosswalk in this position but Facilities has neglected it for many years.
There should be a walk-over bridge to cross Rt 195 in front of the School of Agriculture.
There should be a sidewalk from Four Corners (CVS) along Storrs road 195 up the hill to the UConn sign. It would help with traffic calming as well
There is a well-tread path from Mansfield Supply to Towers on 195, but there is no sidewalk there.
The parking area behind the greenhouses, where Bloom is, has no path down to the area below (where the church parking lot is). When parking there, it does not make sense to walk all the way around that building to then walk on the side walk along Rte. 195.
195 north of W Lot

UConn Active Transportation Plan Comments by Location - Fairfield Way
Opportunity: Wide pedestrian ways: Mansfield Way, Academic Way, service road in front of Benton Museum, Fairfield Way (potential for separated walk and bike ways)
Need more bike racks on Fairfield Way
Motorized vehicles in crowded area - Fairfield Way
There's a cut through on Fairfield Way through some Yew shrubs. This should either be made official with a sidewalk or be discouraged with higher growing plantings.
Yes! I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Fairfield Way, around the Rec Center
Yes. I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Fairfield Way.
OMG yes! I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Skateboarders are the WORST, rudest, and expect people to get out of their way regardless. During a recent rally about sexual assault a white boy skateboarded thru crowded plaza in front of Rowe (Fairfield Way) and yelled at me for being a “stupid bitch” when I didn’t move because I didn’t see him as I was focused on the speaker. “Stupid bitch.” At a sexual assault rally. Go UConn.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Campus Core and Fairfield way, I dislike that mopeds and motorized scooters are on the sidewalks, I feel like those shouldn't be allowed on sidewalks.
Large walkways like fairfield way or Mansfield bussway should have a designated bike lane, and all roads need to have a bike lane on the side of the road.

UConn Active Transportation Plan Comments by Location - Hunting Lodge Road
Trouble spot: Gap of multimodal path from Hunting Lodge Rd at N Eagleville Rd to campus
The intersection of North Eagleville and Hunting Lodge Roads as an area of concern since approximately 2,500 students live in that general area. Sidewalk is only on one side of the road – and students often walk on the opposite side.
Yes. The south side of Hunting Lodge Road.

UConn Active Transportation Plan Comments by Location - Hillside Road
Opportunity/Idea: inner campus loop that could be closed to all but emergency/maintenance vehicular traffic & a continuous campus shuttle combined with two directional bike way (Glenbrook Rd to Mansfield Way to Gilbert Rd to Hillside Rd)
speeding cars on Glenbrook, hillside
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - On the 195 sidewalk to get to storrs center, Gibert road, Glenbrook Road, Hillside road. Especially 195 and hillside need bike lanes immediately.
The speed at which the students on motorized scooters go is alarming, especially on long straight roads like hillside road or glenbrook road.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - It is frightening to be overtaken silently by a fast bicycle, electric skateboard or scooter. With a regular skateboard, one at least can hear the sound of its arrival. The sidewalks of Rt 195 and North Eagleville Road and Hillside Road.
I have felt unsafe sharing the sidewalk with bikes, mopeds, skateboard, scooters, etc - Gilbert Road, Hillside Road, North Eagleville
Trouble spot: Hillside Rd -- heavy vehicular traffic, multiple crosswalks, distracted pedestrians
Agree with Phoebe. Also, the intersection of Hillside and Gilbert is challenging. Hillside Road needs bike lanes, wider sidewalks and maybe speed bumps.
Hillside Rd is very heavily traveled with cars, many pedestrians. I wish cars weren't even on that road.
right about Hillside Road. pedestrians don't often give drivers a chance to get to where they're going at that intersection. yes, pedestrians have right of way, but that intersection in particular is pretty bad.
Crosswalks outside bookstore/gampel
Hillside Road is a good candidate for raising the pedestrian walk way
Hillside road has way too much traffic with cars, bikes, and pedestrian. There are many crosswalks so cars speed by trying to beat pedestrians
There should be bike lanes on Hillside road because sidewalks are always busy so biking on the sidewalk is dangerous to pedestrians
Coming through Hillside Road in a car is frustrating, and it's stressful as a pedestrian too. Could this be a stoplight instead of the stop sign?
The bike lane on North Eagleville is pointless as it only exists between hillside road and the crosswalk in front of the Life Science building. Then it merges into parking lots. Better bike lanes are needed across campus.
Hillside Road and Jim Calhoun Way can be such a complicated intersection...I wish there were traffic lights. It's gotten much better since being reduced to a three-way intersection, but it's terrible to cross in during busy times. I would never bike on this road.
The stretch of Hillside road between the Rec center and Alumni is constantly a busy area- always plenty of cars and people passing through. At night and especially when its raining I feel uncomfortable trying to cross the street, especially at the McMahon crosswalk. Cars dont always see people trying to cross or stop for them. I feel if there were at minimum flashing yellow lights like the ones on North Eagleville road, it would do a lot to improve safety.
I believe the intersection of Hillside and Calhoun way would benefit from a traffic light. Or if there was a better way to exit the south garage to head towards Storrs Center without going Calhoun/Separatist/S.Eagleville/Rt 195

UConn Active Transportation Plan Comments by Location - Tower Loop Road
there's a spot off the map. Intersection of 195 and Tower Loop Rd, near Jacobsen red barn/195/horsebarn
There is a well-tread path from Mansfield Supply to Towers on 195, but there is no sidewalk there.
Tower Loop Road is missing sidewalk and lights
Pretty much anything that is really far removed and/or uphill from central campus - things like DPC, Charter Oak, Towers, lots of the Ag campus require a car. Technically accessible but realistically takes way too much time and energy without a vehicle.
Between Husky Village and Towers. While some of these routes have sidewalks, they are often unkept or do not connect one to another.

APPENDIX 2

UCONN BICYCLE PARKING INVENTORY

Beginning in 2019, members of UConn's Bicycle Working Group – a subcommittee organized under the Transportation Advisory Committee (TAC) – began documenting the locations of bicycle racks on campus. This extensive volunteer effort took place over the course of a year, and the rack locations were digitized into the Geographic Information Systems (GIS) layer that populated the maps in this report. The rack location data was also integrated into the mapping feature in the myUConn app. The results of the bike parking survey, including locations that had no parking available at the time of the survey, follows.

University of Connecticut
Bicycle Work Group
Bicycle Parking Inventory
2019-2020

Map Legend	Academic and Administrative Building Name	# Bike Pkg Spaces	Style of Bike Rack(s)	Comments
ABL	Agricultural Biotech Lab	0		
ACS	Art Ceramic Studio	0		
ALUM	Alumni Center	0		
ARF	Avian Research Facility	0		
ARJ	J.H. Arjona Building	19	O, MW	
ARTB	Art Building	10	O	12/12/19
ASC	Academic Services Center	0		
ATL	Advanced Tech Lab	0		
ATWR	W.O. Atwater Lab	10	U	12/11/19
AUST	P.E. Austin Building	58	MW, W	
B1	Building #1	0		
B2	Building #2	0		
B3	Building #3	0		
B4	Building #4	*		*see HHSC, Institute of the Environment 1/10/20
B4A	Building #4 Annex	0		
B5	Building #5	*		*see HHSC, Kinesiology Dept 1/10/20
BARN	Dairy Barn	0		1/7/20
BCH	C.L. Beach Hall	9	MW	
BISH	M.D. Bishop Center	0		1/2/20

BOOK	UConn Bookstore	14	W	

BOUS	W.A. Bousfield Psych Bldg	24	MW	
BPB	Biology/Physics Building	46	C, MW, SP*	9 AB
BRON	A.B. Bronwell Building	27	W, MW	
BSC	Bio Science Complex	0		1/7/20
BUD	J.J. Budds Building	9	W	
BUSN	School of Business	50 + 20*	U, SB*	1/9/20 *near SRC
CAST	F.L. Castleman Building	16	MW, W	
CHIL	South Campus Chiller Plant	0		
CHM	Chemistry Building	18	W	
CMWH	Commissary Warehouse			
CRU	Cattle Resources Unit	0		
CUP	Central Utility Plant	0		
DB	UConn Dairy Bar	22	W	
DC	The Daily Campus	0*		*close to parking for Oaks Apts, 1/9/20
DODD	T.J. Dodd Research Center	21	O, W	
DRMU	Drama-Music Building	10	O	12/12/19 Storrs Rd
E2	Engineering II	5	G	1 AB*, rack 1 side
EHSO	Environ Health & Safety	0		
ESB	Engineering Science Bldg	0		
FAC	Fine Arts Complex	10	O style	3 AB, on Storrs Rd
FES	Farm and Event Services	0		
FG	Floriculture Greenhouse	4	O-style	
FND	UConn Foundation	0		
FOLS	Facilities Oper/Lock Services	0*		*Rack near F lot

FSB	Family Studies Building	0		
GN	Gant North Building	0		
GP	Gant Plaza	6+7	MW,W	1/10/20
GS	Gant South Building	16	U	
GW	Gant West Building	2	U	
GENT	C.W. Gentry Building	9	MW	
GUL	A.G. Gulley Hall	0		
HALL	W.H. Hall Building	0		
HAWL	W.N. Hawley Armory	2	O	
HBL	H. Babbidge Library	16 + 57 (S)	W, MW, G	Indirect access to (S)
HDC	Human Development Center	0		None
HHA	Horsebarn Hill Arena	0		
HHSC	Horsebarn Hill Sci Complex	10	W	1/10/20
HJT	H.S. Jorgensen Theatre	0		
HPH	Historic Poultry Houses	0		1/10/20
HSM	J.R. Donnelly Sports Museum	0		
HU1	Horse Unit I	0		
HU2	Horse Unit II	0		
HWF	Hazardous Waste Facility	0		
INN	Nathan Hale Inn & Conf Cntr	0		
IPB	Innovation Partnership Bldg	14+10	R+R(S)	1/1/20
ITE	Information Tech Eng Bldg	36	U, MW, O	MW, covered, temporary

JB	Jacobson Barn	0		
JONS	R.E. Jones Building	0		
JORG	Jorgensen Cntr for Perf Arts	0		
JRB	J.R. Ryan Building	*		*See ARH residence
KEL	F.E.O. Kellogg Dairy Center	0		1/10/20
KLIN	M.S. Klinck Building	0		
KNS	B.F. Koons Hall	13	U, W	1 AB
LAKE	Lakeside Building	0		
LAND	Landscaping Services	0		
LOR	A.L. Lorentzon Stables	0		
LU1	Livestock Unit I	0		
LU2	Livestock Unit II	0		
LVC	Lodewick Visitors Center	0		
MAA	Main Accumulation Area			
MAN	H.G. Manchester Hall	17	W, MW	
MB	Mink Barn	0		1/10/20
MCHU	L.D. McHugh Hall	48	R	Several AB
MLIB	Music Library	9+5	MW, W	Construction 12/12/19
MONT	H.R. Monteith Building	9	MW	
MP	Motor Pool	0		1/1/20
MUSB	Music Building	5	W	Construction 12/12/19
NKT	Nafe Katter Theatre	5	W	12/12/19
NPRK	North Parking Garage	8	U	
OAK	Oak Hall	88	R	
PBB	Pharmacy/Biology Building	24	U, V(S)	6 V racks sheltered

PCSB	D.C. Phillips Comm Sci Bldg	0		
PDFD	Public Safety Complex	0		1/13/20
PLA	Planetarium	0		Unoccupied bldg
PU1	Poultry Unit	0		
RB	Rosebrooks Barn	0		1/10/20
RH	Rosebrooks House	0		1/10/20
RHBA	R. Hicks Bldg & Arena	17	U, MW	9 MW, temporary
ROWE	J.W. Rowe Center	0		
RWF	Reclaimed Water Facility			
SCHN	A.Schenker Lecture Hall	9	MW	
SPRK	South Parking Garage	0		1/8/20
SRC	Student Recreation Center	20* + 12	U	*near fix-it station 1/9/20
STRS	A.Storrs Hall	0		
SU	Student Union	69	MW, O	1 O blocked by garbage cans
TAB	Temporary Admin Bldg	0		1/8/20
TLS	G.S. Torrey Life Sci Bldg	50	MW, U, SP	Ladder locked to SP
TSK	G.W. Tasker Admissions	0		
UPDC	Univ Planning/Design/Const	0		1/1/20
UTEB	United Tech Eng Building	8	G	1/9/20
VDM	J.L. von der Mehden Hall	3	U	12/12/19 blocked by construction

WARE	Central Warehouse			
WCB	Wilbur Cross Building	16	MW, W	
WGC	N.L. Whetten Graduate	12	O	1/9/20

	Center			
WIDM	C.L. Widmer Wing	9	MW	
WITE	G.C. White Building	0		
WOOD	W.C. Wood Hall	0		
WPCF	Water Pollution Control			
WSH	H.M.Williams Student Health	9	W	
YNG	W.B.Young Building	16 + 18	U, MW	1/2/20 MW temp
WBMA	Benton Museum	6	U	
	TOTAL for Academic and Administrative Buildings	1060		1/10/20
Map Legend	Athletics Facilities -- Indoor	# Bike Pkg Spaces	Style of Bike Rack(s)	Comments
BAT	Batting/Pitching Facility	0		1/9/20
BFFC	Burton Football Complex	12	W	1/8/20
FIF	M.E. Freitas Ice Forum	*		*Construction 1/9/20
GAMP	H.A. Gampel Pavilion	10	U	Near Natatorium
GRE	H.S. Greer Field House	26 + 3*	U , MW + MW*	3 AB, 3 MW behind fieldhouse, too close to dumpster 1/8/20
STC	M.R. Shenkman Training Cntr	6	W	1/8/20
WBCC	Werth Basketball Center	38	O, U	11/1/19
WZN	Wolff-Zackin Natatorium	*		*See GAMP
	TOTAL for Athletic Facilities -- Indoor	95		1/10/20

Map Legend	Athletic Facilities -- Outdoor	# Bike Pkg Spaces	Style of Bike Rack(s)	Comments
CSS	Connecticut Softball Stadium	*		*construction 1/9/20
FPF	Football Practice Fields	0		1/9/20
JOCF	J.O. Christian Field	*		*construction1/9/20
MRNS	J.J. Morrone Stadium	*		*construction 1/9/20
SFSC	G.J. Sherman Sports Complex	12	U	Near G lot 1/8/20
TC	Tennis Courts	0		1/1/20
	TOTAL for Athletic Facilities -- Outdoor	12		1/10/20
Map Legend	Residential Buildings & Complexes	# Bike Pkg Spaces	Style of Bike Rack(s)	Comments
ARH	Alumni Residence Halls: Belden Hall Brock Hall Eddy Hall Watson Hall Outdoor basketball court	 36 50 38 40 6	 W(S) W(S) W(S) W(S) W(S)	 Covered Covered Covered Covered 11/15/19
BRH	J. Buckley Residence Hall	37	W	1/1/20
BSRH	A.T. Busby Suites	21	W	1/1/20
COA	Charter Oak Apartments: Brown Hall Foster Hall Hoisington Hall Hough Hall Hubbard Hall Thompson Hall	 0 12 0 7 5 7	 W W W W	1/1/20
ECRH	East Campus Residence Halls	26	U, MW*	*18 MW, temporary
EHRH	E. Hicks Residence Hall	8	U	1/2/20
GERH	G. East Residence Hall	17	U, MW	
GSRH	H.L. Garrigus Suites	11	W	2 AB
GTDH	R.A. Geffenbien Towers	0		1/1/20

	Dining Hall			
HAC	Hilltop Apartment Complex: Beard Building Belthune Building Crandall Building Community Center Crawford Building French Building Grasso Building La Flesche Building Meritt Building Novello Building Stowe Building Wheeler Building Woodhouse Building Wu Building	 12 0 6 0 6 0 0 0 0 6 12 0 0 12	 W W W W W W	 1/1/20 1/1/20 1/1/20 11/25/19 2 mopeds 11/25/19 dumpster 1/1/20
HRH	Hilltop Residence Halls: Ellsworth Hall Hale Hall	 12 12	 MW MW	 4 AB
HV	Husky Village	84	W	1/1/20
MA	Mansfield Apartments	0		1/1/20
MHRH	M. Holcomb Residence Hall	11	W	10/4/19
MRH	Brian McMahon Residence Hall	28	O	
NCRH	North Campus Res Halls: Baldwin Hall Fairfield Hall Hartford Hall Hurley Hall Litchfield Hall McConaughy Hall Middlesex Hall New Haven Hall New London Hall Tolland Hall Windham Hall	 26 7 9 11 9 9 16 9 7 9	 U W G W W W G, W W W W	
NWA	Northwood Apartments	48	W*	*partially covered 1/15/20

NWRH	Northwest Residence Halls: Batterson Hall Goodyear Hall Hanks Hall Northwest Dining Hall Rogers Hall Russell Hall Terry Hall	 27, 7, 10 9 7 20 9 6 0	 MW, U, W MW W U MW MW	
PR	I.Putnam Refectory	0		1/1/20
SCRH ROME RSRH SSRH WSRH	South Campus Res Halls: L.B. Rome Commons L.J. Rosebrooks Res Hall A.M. Snow Res Hall N.L. Wilson Res Hall	 32 32 38 23	 W W W W	
SPRH	L.E. Shippee Residence Hall	20+16	W,W(S)	1/1/20
SRH	M.E. Sprague Residence Hall	20	W	10/4/19
TRH	Towers Residence Halls: Allen Hall Beecher Hall Colt Hall Fenwick Hall Hamilton Hall Jefferson Hall Keller Hall Kingston Hall Lafayette Hall Morgan Hall Sherman Hall Sousa Hall Trumbull Hall Vinton Hall Wade Hall Webster Hall	 0 5 0 0 0 0 0 3 0 6 6 0 0 0 0 0	 W MW W W	1/1/20 Too close to wall

WCRH	West Campus Residence Halls: Alsop Hall Chandler Hall Hollister Hall Lancaster Hall	 0 10 2 0*	 W 2 wall mt	1/13/20 Semi-sheltered *near Chandler

	Shakespeare Hall Troy Hall	10 0*	W	*near Shakespear
WRH	E. Whitney Residence Hall	0		1/2/20
WRT	P.J. Werth Residence Tower	60	MW	4 AB
	TOTAL for Residential Buildings & Complexes	1060		1/15/20
Map Legend	Parking Lots	# Bike Pkg Spaces	Style of Bike Rack(s)	Comments
A LOT	A lot -- student lot	0		1/1/20
C LOT	C lot -- commuter	0		1/1/20
D LOT	D lot -- residential permit	0		1/9/20
F LOT	F lot -- near FOLS	3	MW	1/1/20, too close to wall, rack for 9 only fits 3
G LOT	G lot -- near TAB	0		1/8/20
I LOT	I lot -- commuter lot near athletic fields	0		1/9/20
K LOT	K lot -- near Discovery Dr. bus stop	8	U	1/1/20
O LOT	O lot -- faculty	0		1/9/20
R LOT	R lot	0*		*construction 1/9/20
S LOT	S lot -- faculty	0		1/9/20
T LOT	T lot -- near Towers	0		1/1/20
W LOT	W lot -- commuter	0		1/1/20
Y LOT	Y lot -- commuter	0		1/9/20

Z LOT	Z lot -- faculty	0		1/9/20
	TOTAL for Parking Lots	11		1/10/20
	GRAND TOTAL for UConn Storrs campus	2238		1/10/20

*abbreviations (also see Google Doc for bike rack styles)
AB = abandoned bike
C = campus style rack
MW = modified wave style rack
O = O-style rack
R = rail style
(S) = sheltered
SB = skateboard/scooter rack
SP = seat-post stand
U = U-style rack
V = vertical stand
W = wave style rack

(CClark.2020.01.10)

APPENDIX 3

BICYCLE PARKING GUIDE

The attached guide is an excellent resource for future planning of bicycle parking facilities on campus. It was referenced in Section 4.2 of this report, in the Policy and Program Recommendations.

Bike Parking Guide

Foundational knowledge to create effective bike parking solutions.

MADRAX
Bicycle Security

Madrax.com

Contact
Email: sales@madrax.com
Phone: 800-448-7931

Address:
1080 Uniek Drive
Waunakee, WI 53597

The Objective of Bike Parking

☑ Objective: *Easily allow cyclists to park their bikes with a reasonable expectation of security and protection from damage.*

When you set out to design, plan or implement spaces for bike parking, it's important to achieve the intended solution.

This should be to easily allow cyclists to park their bikes with a reasonable expectation of security and protection from damage – for the short term. Typically, less than two hours on average.

If your objective is to provide more secure parking for longer periods of time, that would be considered bike storage and has some distinct factors and decisions that should be considered. If this is your goal, make sure to read the Madrax Bike Storage Guide.

To be successful in developing an effective bike parking solution, it requires a proper infrastructure as well as equipment that will create secure and convenient short-term storage of bikes.

The Need for Bike Parking

Without designated and organized bike parking, it is easy for problems to arise in areas where even a few cyclists are present. These problems become much more exasperated as the population becomes denser.

Good Bike Parking Should be Found at these Facilities

- Multifamily residential buildings
- Schools/University Campuses
- Commercial Businesses
- Business Offices
- Parks, Sidewalks and Other Municipal Amenities
- Public Transit Stations, Pick-ups/ Drop-offs
- Hospitals
- Car Parking Lots and Garages
- Other Public Spaces Intended for Use by the Community

The lack of quality bike parking options will lead to problems of clutter, and damage to trees, street signs, site furnishings and other streetscapes.

This is because a cyclist will choose the “best option” available to secure their bike. Which usually ends up being one of these items.

Ultimately, the presence of secure and accessible bike parking will be the driving placemaking factor that influences the destination of a cyclist as it offers the best solution to store their bike for the short term.

To become a magnet that attracts customers and fosters a bike- and pedestrian-friendly community, make sure you are providing bike parking.

Bike Parking Site Planning

When determining location, planning and designing bike parking, your focus should remain on convenience and utility of providing the greatest security for the bike.

Convenience

Convenience can be achieved by placing bike rack(s) in a location that makes the bike parking area easily accessible. To do this, the closest rack should be installed no more than 50 feet from the primary entrance of the building or intended destination.

If bike parking is placed a greater distance away or in out-of-the-way locations, cyclists may opt to use closer alternatives like street furniture, trees or fencing instead of your area intended for bike parking.

The bike parking area should also be at least as close as the nearest car parking stall. The option of bike parking should be more desirable than car parking through convenience.

You'll also want to consider paths that cyclists are most likely to travel in approaching your bike parking space. The bike parking should be easily accessible and near these paths of travel.

If it is too far off their travel path, the usage will be significantly reduced.

Place bike parking within 50 feet of the primary entrance.

Make Bike Parking Visible

Increasing the visibility of the bike parking space helps the cyclist easily locate bike parking as they approach the destination. This can be done with signage or by making the rack itself as visible as possible with bright colors.

Adding paint on the ground to indicate and mark the designated area for bike parking can also increase the convenience factor of bike parking.

Signs, delineators and markings on the ground are ways to help cyclists easily locate and access bike parking areas.

Bike Security

The bike rack that will be installed as part of your bike parking is the key component of providing the most secure environment. Selecting a commercial bike rack is discussed in more detail later in this guide.

Placing bike parking in an area with pedestrian traffic adds an additional element of security. This provides the area with passive surveillance and is a further deterrent of potential theft.

When bike parking is set behind buildings, in alleyways or other out-of-sight locations, it gives thieves more opportunity to beat the security of the lock, rack or installation and steal the bike.

The bike parking should also be visible from the destination. This lets cyclists keep an eye on the bike and be more confident about the security. It also provides another level of passive surveillance from other people at the destination.

Determining Number of Bike Parking Spots

Many cities, towns or other governmental organizations have set minimum ordinances or other mandates. These are the best places to determine the number of bike parking spaces needed.

Library.municode.com is a great resource to begin your search.

You can usually find bike parking guidelines and other ordinances regarding required bike parking capacity, placement and right-of-way in a city's public works or parks and recreation department.

Another great resource for guidelines and ordinances is bicycle advocacy organizations. These are communities of cyclists who live the bike lifestyle and have years resourceful insights when it comes to bike parking. They usually have at the ready or can easily direct you to local bike parking resources as well.

Association of Pedestrian and Bicycle Professionals (APBP) Recommended Bike Parking Minimums	
Hospitals/Health Care	1 space / 20,000 s.f. of floor area | Min. 2 spaces
Schools	1 space / 20 students of planned capacity | Min. 2 spaces
Colleges and Universities	1 space / 10 students of planned capacity | Min. 2 spaces
Business Offices	1 space / 20,000 s.f. of floor area | Min. 2 spaces
Off-street Parking Lots/Garages	1 space / 20 auto spaces | Min. 6 spaces

For more urbanized or bike-active communities, plan for another .5 – 1 spaces per volume.

Installation Mounting Options

In-ground Mount

An in-ground mount is the most secure. With this mount, the rack is placed with the feet a designated distance below the surface level. Concrete is then poured embedding and securing the legs.

Surface Mount

A surface mount involves securing the rack to the surface with wedge anchors and metal flanges on the rack. When surface mounting, it is recommended that tamper-proof hardware be used. This will help restrict a thief's ability to unsecure the rack from the ground.

Rail Mount

A rail mount has multiple racks bolted to rails. The rails can then be anchored to the surface or left freestanding.

Freestanding

Freestanding bike racks are not anchored and rest on the surface. Bike racks that have a freestanding mount should have an enclosed locking element.

Installation Mounting Surfaces

Concrete

By far the best surface material for installing bike racks is going to be concrete.

This is the most secure option for installing a bike rack. It is also the least expensive. In-ground and surface mounts are options with concrete.

Asphalt

When placing racks on an asphalt surface, there are two main options. The first is to do an in-ground mount by cutting holes in the asphalt for the legs. Then place the rack and pour concrete footings to secure the rack.

The second option would be to use racks on rails. The entire unit can be left freestanding or the rails can be anchored to the asphalt.

Pavers

For pavers, they should be removed, concrete footings poured, and the rack installed in-ground. Racks on rails are also an option for this surface material.

Surface mounts should be avoided with pavers. The pavers can be easily loosened, making it possible to remove the rack from the ground. A thief can then slide the lock off the rack and steal the bicycle.

Natural Surfaces

For more natural surfaces like dirt and grass, pouring concrete footings for an in-ground installation is the best decision.

Freestanding racks on rails would be the next best option.

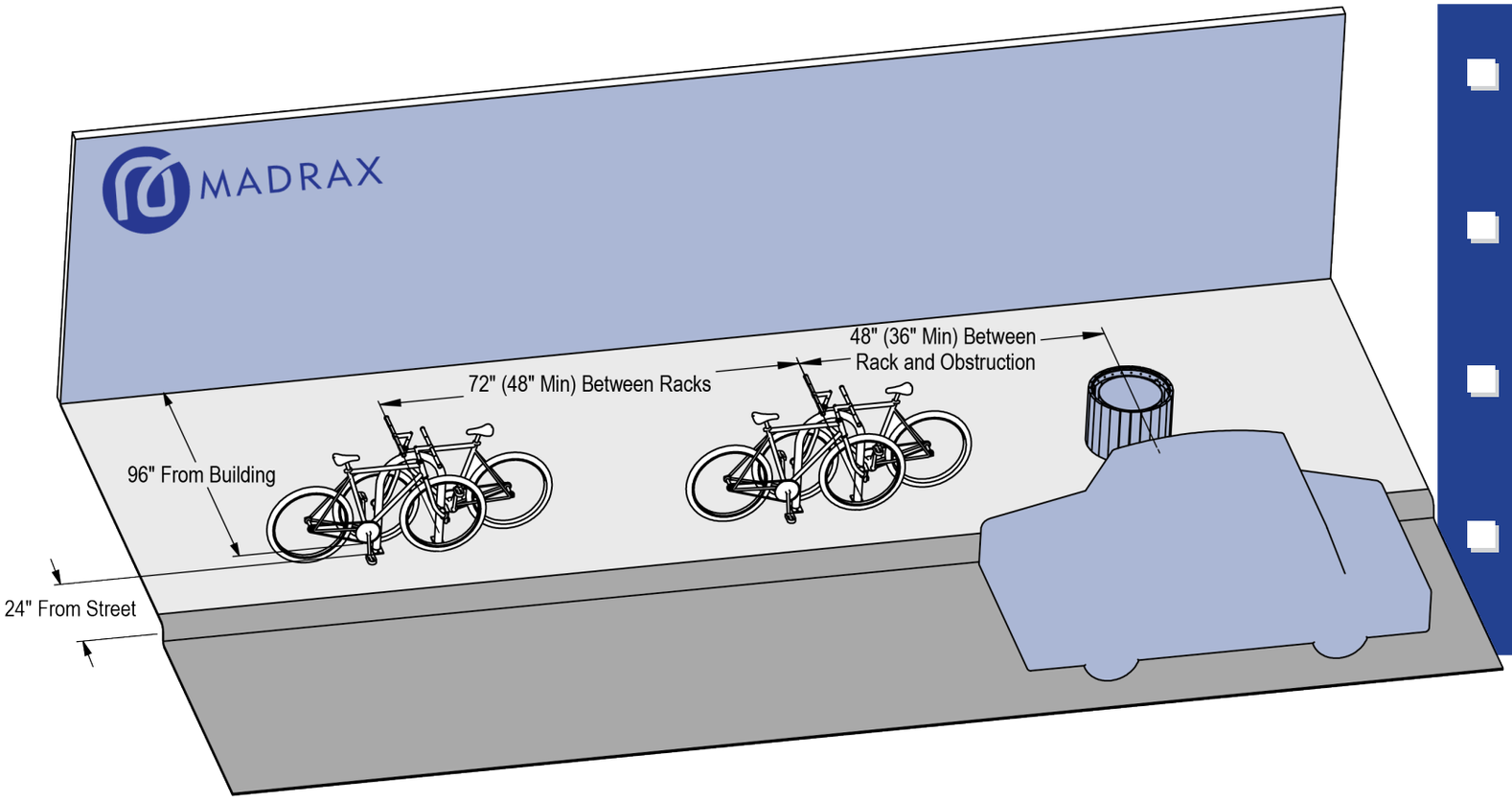
Bike Parking Site Layout

The primary scheme of your bike parking design should incorporate adequate clearance between the bike rack and walls, other fixed objects and driving or parked cars. In general, bike parking should allow for:

- Enough end and side clearance to operate bicycles into and out of the parking area
- Adequate clearance around the rack for cyclists to access and securely lock the bicycle to the rack from the side
- Accessing the rack from all sides so all available parking spaces may be used

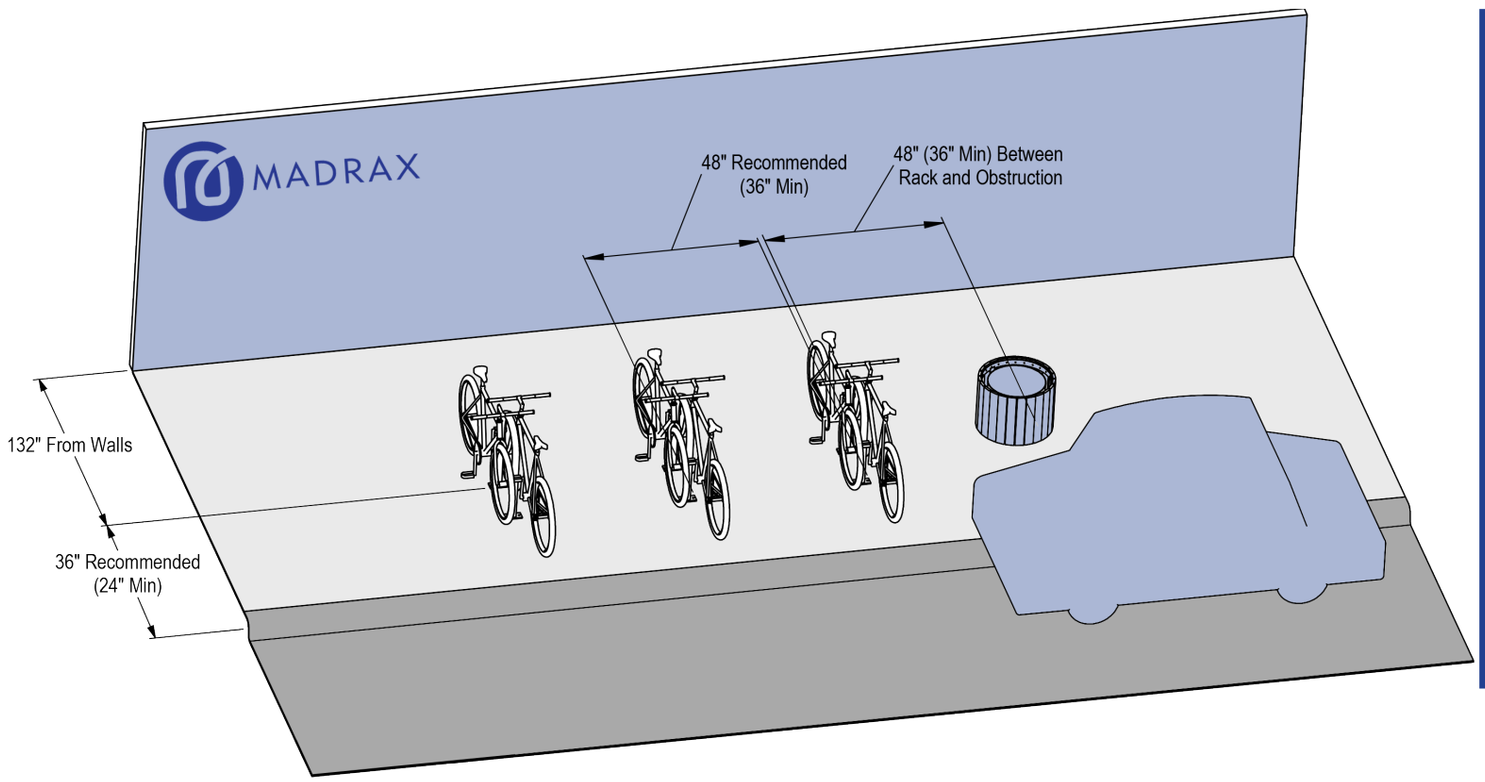
The orientation of your bike racks in relation to these elements will also necessitate different placements.

Parallel Bike Rack Layout Recommendation



- Setback from walls and other fixed objects
  48" recommended | 36" minimum
- Setback from roads/parked cars
  24" minimum
- Setback from walls to create aisles/pedestrian walkways
  96" minimum
- Spacing between bike racks
  72" recommended | 48" minimum

Perpendicular Bike Rack Layout Recommendation



- Setback from walls and other fixed objects
  48" recommended | 36" minimum
- Setback from roads/parked cars
  36" recommended | 24" minimum
- Setback from walls to create aisles/pedestrian walkways
  132" minimum
- Spacing between bike racks
  48" recommended | 36" minimum

Multi-rack Spacing

If selecting a bike rack that incorporates multiple racks, the spaces between racks should be at a distance that allows access to the bicycle from the side and avoids handlebar conflicts.

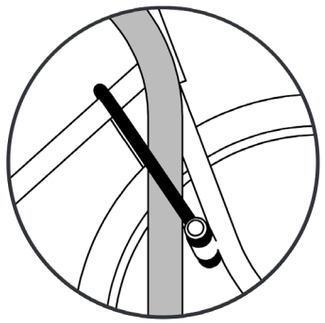
With multi-rack solutions, vertically-staggered racks can accomplish the task with less space needed between racks, reducing the overall footprint.

Bike Rack Selection

The bike rack you select to use will have the greatest affect as to how secure your bike parking space will be and its ease of use. There are many racks to choose from and they differ in their security, dimensions, spacing options and capacity for parking bikes.

We cover the topic of **selecting commercial bike racks** comprehensively in another guide and is worth reviewing to ensure you are not installing bad bike racks that will go unused and draw the dissatisfaction of users.

As it relates to bike parking, the essential elements of bike racks are worth discussing here. The bike rack solution used in your bike parking must be capable of the following.

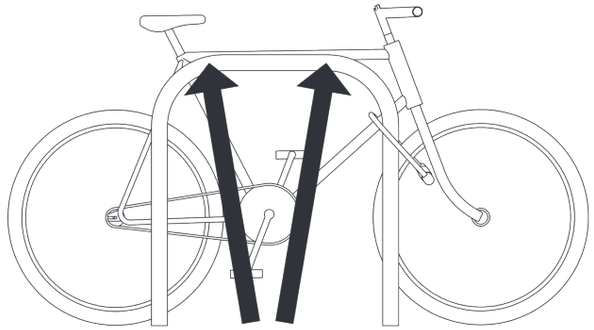


Lock the Frame and Wheel to Bike Rack

The primary feature of a rack for bike parking is that it should allow both the frame and at least one wheel to be secured to the rack using a u-style lock. U-racks and Post and Ring style bike racks are common examples of these racks.

Resists Cutting, Bending or Deformation

The bike rack should also resist cutting, bending or deformation. Many thieves will attack the rack to gain access to and steal a bike. Make sure the racks used as part of your bike parking are thick enough and resist cutting with common hand tools that can be carried/ concealed in backpacks or coats.



Supports the Bicycle in Two Places

A bike rack should generate two points of contact on the frame of the bicycle. This will provide proper support for the bicycle. Racks that support the frame, but with only one point of contact, make it more likely the wheel of the bike will turn and cause the bike to fall.

Securely Mounts to the Ground

The rack also needs elements that allow it to be securely installed or mounted to the ground. When a rack can be dislodged from the ground it becomes useless. As discussed earlier, in-ground installation is the most secure, followed by surface mounting, then racks on rails.

Best Bike Racks for Bike Parking

U Bike Racks

Known as U Bike Racks, Inverted U Racks and Staple Racks, this style of bike rack may be the most simple, but offers the key features desired for bike parking. It supports the bicycle frame in two places, helping to keep it upright. It allows for locking of the frame and a wheel to the rack. The rack is durable and one of the most secure. This type of rack also comes in many design styles that go beyond just a "U" shape.

Post & Ring

Post & Ring have a been a favorite bike parking rack for years. They provide good security and support for bicycles. The height of the ring needs to be kept in mind. It may be difficult to lock a frame and wheel to the ring it if it too high.

Wheel-well Secured

Racks with a wheel well element add an additional level of support that keeps the bicycle from falling over. The well also ensures bicycles are parked in the proper position on the rack. Racks with staggered vertical heights allow for more bikes to be parked in the footprint.

Bike Parking, In Conclusion

The number of people choosing bikes as a mode of transportation continues to grow in the United States. This not only makes bike parking a desirable feature, many communities have established or are writing requirements for bike parking making it a necessity.

Make sure you nail the details of bike parking for your project or facility by tapping into the experience and resources of Madrax. Contact us today and let us know what you need to accomplish. We'll partner with you to work towards a successful solution.

MADRAX
Bicycle Security

Madrax.com

Contact

Email: sales@madrax.com

Phone: 800-448-7931

Address:

1080 Uniek Drive

Waunakee, WI 53597

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