# Central Connecticut State University

## 2013 Transportation Plan

Prepared by the Central Connecticut Regional Planning Agency

# Contents

# Acknowledgements

This transportation demand management plan was prepared by the Central Connecticut Regional Planning Agency (CCRPA) for the Central Connecticut State University (CCSU). For information about CCRPA, see Appendix C. Production of this plan would not have been possible without the support of CCSU staff, faculty, and students. The President's Advisory Committee on Environmental Sustainability, the Student Government Association, Facilities Management, and Residence Life were instrumental to its production. Numerous student groups offered advice, feedback, and a forum for addressing CCSU students.

This plan was prepared in cooperation with the U.S. Department of Transportation (including its participating agencies) and the Connecticut Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the Central Connecticut Regional Planning Agency, and do not necessarily reflect the official views or policies of CCSU, the Connecticut Department of Transportation, or the U.S. Department of Transportation.

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# Executive Summary

With over 12,000 students and 1,700 staff and faculty members, Central Connecticut State University is a major destination in Connecticut, and a major traffic generator. With such a large volume of traffic going to one location, it is a significant contributor to congestion and related pollution generation. These same facts also make it an ideal location to implement traffic and pollution reduction strategies.

This document is a plan for managing transportation demand. The underlying goal of the plan is to shift demand for transportation services from single occupancy vehicles (SOVs) to other forms of transportation, such as biking, walking, carpooling, buses, and trains. These modes of transportation are more environmentally friendly and place fewer demands on the university's, and the state's, physical infrastructure (such as roads and parking). Improving the balance among transportation modes will lower the overall costs associated with transportation at CCSU.

# Background

The high rate of automobile commuting by students, faculty, and staff has negative consequences not only for them personally, but also for the university, the City of New Britain, and the region as a whole. These impacts include:

- Higher transportation costs for students and indebtedness for graduates
- Inability of low-income, disabled, and elderly students to access the university
- Higher levels of traffic congestion and related stress, lost time, and lost productivity
- Unpredictable travel times leading to late arrivals
- Use of real estate for parking rather than teaching, research, housing, and recreation
- Use of funds for parking rather than education
- Diminished campus appeal and attractiveness of the university to prospective students
- Higher levels of local air pollution
- Higher levels of water pollution due to impervious ground cover and surface runoff
- Greater prevalence of diseases related to poor air quality and sedentary lifestyles

# Purpose

In the spring of 2011, as part of its transportation planning mandate for the Central Connecticut region, the Central Connecticut Regional Planning Agency (CCRPA) offered to study CCSU's transportation system and prepare a Transportation Demand Management (TDM) Plan for CCSU at no cost to the university. TDM comprises a variety of strategies, from physical improvements to marketing and promotion efforts that seek to decrease usage of single-occupancy vehicles. TDM can involve both shifting the mode of transportation (from single-occupancy vehicles to other modes such as walking, biking, transit, and carpools) and decreasing the total demand for transportation (by reducing the length or number of trips).

# Process

The planning process began in earnest during the Summer and Fall semesters of 2012. CCRPA staff met with administration officials and the President's Advisory Committee on Environmental Sustainability to develop a scope of work. Data collection began soon after. Public involvement in the process began soon after that, with a series of workshops and focus groups.

| Initiatives started or assisted by CCRPA |
|---|
| Annual transportation survey |
| Introduction of car sharing (Hertz 24/7) |
| Introduction of UPass, an unlimited bus pass for students |
| Replacement of costly shuttle service bus passes |
| Creation of transportation information website |
| Creation of transportation information brochure |
| Mapping of walking paths |
| Creation of transportation information kiosk on campus |

Table 1. List of initiatives CCRPA assisted with during this process

A number of studies, detailed in the second volume of this plan, were undertaken in support of this plan. A detailed parking utilization study was completed in the Fall 2012 semester in which every parking spot on campus was monitored for a two week period using customized software developed by CCRPA. Following that, a study of shuttle and bus ridership was also completed. CCRPA staff counted every passenger for every run of each bus or shuttle serving CCSU for a two week period. Android tablets with custom-written software were used to provide exact location information for each bus stop (since the bus routes do not currently have fixed stops). This data was then given to CTTRANSIT along with suggestions for improving the routes.

Walking and driving studies of the university area were also completed. Staff walked throughout campus and the surrounding neighborhood, taking note of safety and usability issues. Staff also added every walking path on campus to Google Maps so that accurate walking directions can be given in the CCSU area. Traffic and speed data was collected on all the rounds surrounding campus.

In addition to creating this plan, a number of initiatives were started, or given a final push during this process. They are listed in Table 1.

# Goals

A series of focus groups and topic-specific meetings were held on campus during this planning process. Based on the concerns and desires expressed by participants, a series of goals was drafted to guide in the creation of policies and projects that are at the heart of this plan. From a larger set of goals, the list was consolidated to the following five goals:

1. Create an environment in and around CCSU that is safe for pedestrians and cyclists.
2. Encourage the use of public transportation and improve the reliability, usability, cost-effectiveness, and accessibility of public transit services.
3. Increase awareness of, and provide information on how to use, transportation options in and around campus.

| Policies: list of actions |
| --- |
| Assign or hire an individual to be the transportation coordinator |
| Survey students, faculty, and staff on an annual basis |
| Standardize class start times |
| Coordinate class schedules to better accommodate bus riders |
| Create and maintain a transportation information webpage |
| Assign a department to be in charge of the transportation information website |
| Update and distribute transportation brochure |
| Continue to promote the car share program |

Table 2. Recommendations from the "Policies" section

4. Improve mobility and access to essential services for the resident campus population, especially those without automobiles.
5. Provide administrative support to policies and programs that encourage the efficient use of transportation resources and improve the campus transportation system (including parking).

# Policies and Actions

This plan is designed to be easily implemented. It offers actions and policies that are divided into five sections: general policies, transit, parking, walking, and biking. These actions and policies have been carefully chosen for effect, cost, ease of implementation, and acceptance. They have also been designed so that they can be implemented by themselves, but will have greater impact when implemented as part of a broader strategy.

## Policies

These general policies are designed to make all forms of transportation easier to use. They focus on providing information to students and employees, as well as ensuring that class schedules are conducive to a variety of transportation modes.

These policies lay the groundwork necessary for other, mode specific, policies and programs. They also provide support, in the form of staff time and data collection, to ensure that planning and implementation are continuous processes.

### Highlighted projects

The largest change is to institutionalize transportation planning by creating a campus transportation coordinator position. This individual would be in charge of all transportation issues, including promotion of transit, biking, walking, and other alternatives to single occupancy vehicles. They would help maintain information displays and transportation websites. They would also seek out information on new initiatives and funding to implement them. The transportation coordinator would also be in charge of interfacing with students regarding transportation issues. They would be a single point of contact for students, faculty, and staff. They would play a crucial role in explaining, promoting, and getting buy-in for proposed transportation policies and programs.

After analyzing CCSU's needs, the administration may determine that a full-time transportation coordinator is overkill. In this case, a shared transportation coordinator should be hired in cooperation with one or more of the other CSUs. Significant efficiencies may result from this arrangement as policies can be replicated quickly across institutions and economies of scale may be realized in the procurement of goods and services. This should be done in consultation with the Board of Regents.

# Transit

Transit is an important way for students, faculty, and staff to get to and from campus. Currently, it is an underutilized mode of transportation, though it shows great promise. The recommendations in this section provide steps that, if taken in parallel to the other recommendations in the plan, will result in greater transit use, and lower demands on automobile infrastructures such as roads and parking. Recommendations focus on lowering costs, increasing information, and installing supportive infrastructure.

## Highlighted projects

The most important initiative related to transit is already underway: "fully fund the UPASS program". In the Spring of 2013, CCRPA facilitated a meeting between CCSU and CTTRANSIT. The result of the meeting was an agreement to implement the UPASS program at CCSU. This program provides interested students with an unlimited bus pass, good for travel on any of CTTRANSIT's regular, fixed-route, buses. The university will be charged $0.80 per ride (as opposed to the full fare price of $1.30), and students would pay a fixed fee per semester to obtain a swipe card. The maximum amount the university would be responsible for paying is $65,000 per year.

| Transit: list of actions |
|---|
| Fully fund the UPASS program |
| Expand the UPASS program |
| Sell transit passes on campus |
| Continue to assess transit ridership |
| Install and maintain bus stop signs around campus |
| Install and maintain information displays at bus shelters |
| Install and maintain bus shelters around campus |
| Develop a drop-off point in front of the student center |

Table 3. Recommendations from the "Transit" section

As of writing, the program is scheduled to begin in during the Fall 2013 semester, but funding arrangements are holding up implementation. The Student Government Association has expressed willingness to cover some of the cost, should the university be unwilling or unable to. The university should commit to funding it for at least five years so that students are able to count on it for the duration of their studies. The cost of funding it would pale in comparison to the cost of maintaining parking on campus. One structured parking spot costs between $20,000 and $30,000 to build; the cost of entire UPASS program is currently capped at $65,000 per year, or roughly two to three spots in a garage. Similarly, the cost of UPASS is much lower than if the university provided its own transit service. For example, CCSU was spending over

| Parking: list of actions |
| --- |
| Develop a revamped parking information website |
| Distribute parking information in orientation packets |
| Install walking information signs in parking garages |
| Create a visitor wayfinding system for parking lots/garages |
| Implement a two-tiered parking pass system |
| Increase parking enforcement with student labor |
| Charge visitors to park |
| Unbundle and make the parking fee optional |

Table 4. Recommendations from the "Parking" section

$65,000 a year on one shuttle route that ran just four times a day; CTTRANSIT routes serve campus a combined 76 times a day.

# Parking

Parking availability was the number one student complaint in the transportation survey. To better understand the nature of these complaints CCRPA conducted a study of parking availability. The results show that the overall supply of parking is not a problem, but that certain parking areas experience crowding while others are underutilized. Programs and policies should, therefore, attempt to better distribute parking use across facilities. The recommendations in the parking section of this plan focus on using information and price signals to better distribute parking utilization.


Figure 1. Map of parking availability by parking area

## Highlighted project: Implement a two-tiered parking pass system

People consistently cited parking availability as an issue during focus groups at CCSU; when presented with data showing that, at any given

time, roughly 1,000 spots are available, most people amended their complaint and noted that parking was not available *near* their classes. Indeed, as shown in Figure 1, most of the available parking is in areas located farther away from classes than the more popular garages and lots. This suggests that people spend a lot of time "cruising for parking" (the phenomenon where drivers circle repeatedly looking for the perfect parking spot) and that this is a major contributor to traffic and congestion.

A two-tiered parking pass system would reduce parking congestion while maintaining parking choice. Students would be separated into two groups and given two different parking passes. One pass would be restricted to Copernicus and Kaiser while the other would be unrestricted. Students with the restricted passes would proceed directly to Copernicus garage or Kaiser lot, reducing traffic in the garages and on surrounding roads. This system would help even out utilization, cutting down on congestion and freeing up parking closer to academic buildings.

To ensure success, the policy should be rolled out gradually. As a pilot, the "up the hill" dorms should be issued restricted passes. Parking space utilization should be monitored to ensure no adverse outcomes occur. Following this pilot program, the rest of the on-campus students should be added to the program. The parking situation should be closely monitored and tweaks should be made as necessary.

on surrounding roads. It would also avoid the pitfalls of having assigned parking lots, which could lead to certain garages being over capacity and others being under capacity.

# Walking

While the majority of students are commuters, at least 20% of the student body lives on campus and a significant number live within walking

| Walking: list of actions |
| --- |
| Create a pedestrian wayfinding system |
| Update and maintain wayfinding system |
| Connect the sidewalk in front of the public safety building with the state-owned sidewalk on Fenn Road |
| Work with regional partners to address safety concerns on Fenn Road |
| Work with local partners to ensure sidewalks surrounding CCSU are well maintained |
| Develop a tree planting plan to provide shade along walking paths |
| Work with regional and local partners to study the potential for a "road diet" on Ella Grasso Boulevard/Eddy Glover Boulevard |
| Explore speed reduction options on Stanley Street |

Table 5. Recommendations from the "Walking" section

distance. For these students, the most efficient and sustainable method of getting to campus is walking. The recommendations in this section focus on giving students information about where they can walk, and how long it will take. Some improvements to physical infrastructure are also suggested.

## Highlighted project: Create a pedestrian wayfinding system

Helping people find their way on foot can help get people out of their cars. Current on-campus signage is directed toward drivers and is placed where drivers can see it (along the roads bordering the campus). Internal signage for pedestrians would help direct people to popular locations without getting in their cars, reducing incidents of people driving between parking areas.

A wayfinding system that includes information on walk times may also help encourage drivers to park in less congested areas. If drivers know that walking from the Copernicus garage to anywhere else on campus takes less than ten minutes, they may be less inclined to waste time looking for convenient parking spot.

A good pedestrian wayfinding system will have:

- A distinct design
- Posted signs for both directions of traffic

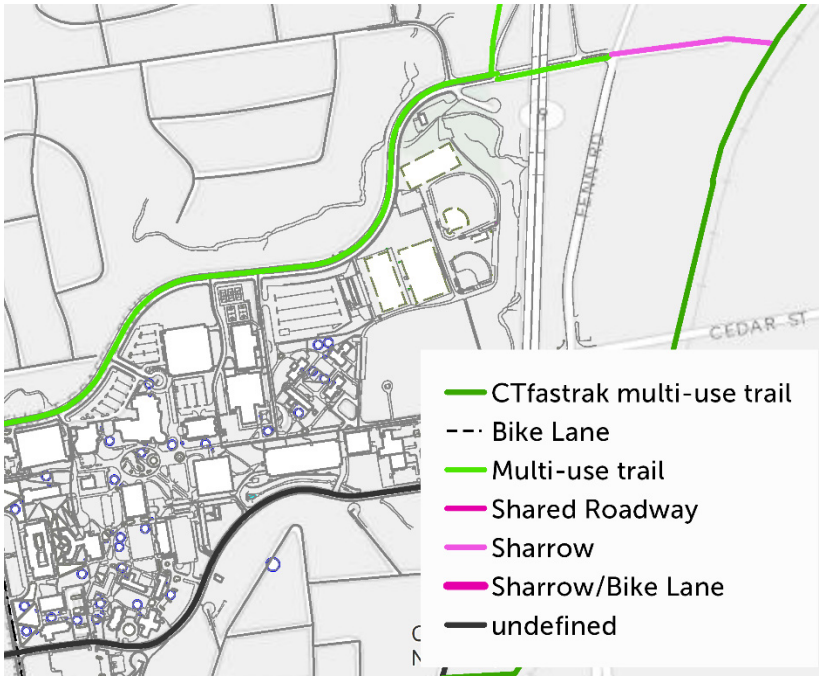


Figure 2 A possible redesign of Ella Grasso Blvd

- Distances defined by the time needed to reach a destination (walking time)
- A limited number of priority destinations

Guidance for creating pedestrian wayfinding systems is available from walksteps.org. Sample signs are included in Appendix B: Wayfinding.

### Highlighted project: Work with regional and local partners to study the potential for a "road diet" on Ella Grasso Boulevard/Eddy Glover Boulevard

Ella Grasso Boulevard, which turns into Eddy Glover Boulevard west of Stanley Street, is both a major access route for drivers, and a major impediment for users of other modes of transportation. The road, while meant to carry local traffic, is designed like a highway (with two lanes in each direction, separated by a median). The design lacks pedestrian and cyclist amenities and, by providing for more capacity than is justified, encourages speeding. This design makes using non-automotive modes of transportation dangerous. Bus riders, who, until recently, were dropped off on the northern side of Ella Grasso Boulevard, had to run across four to five lanes of fast moving traffic to arrive safely on campus. Pedestrians wishing to visit Stanley Quarter Park, just a few hundred feet from campus, must cross this imposing road.

A road diet on Ella Grasso would alter this situation and considerably improve the campus environment. More details can be found in the *Further Information* section below, but the basic idea would be to reduce the number of lanes on Ella Grasso and Eddy Glover Boulevards, and install a multi-use path on the north side. This path would be separated from automobile traffic and would permit cyclists and walkers safe access to CCSU, Stanley Quarter Park, and the soon-to-open CTfastrak station/multi-use trail on Fenn Road.

| Biking: list of actions |
|---|
| Install bike racks where necessary |
| Secure bike storage in residence halls |
| Provide secure bike parking at the student center |
| Coordinate with local and regional partners to install bike infrastructure around CCSU |
| Work with regional partners to install bicycle wayfinding signs |
| Start a pilot bike share program at RECentral |
| Information |
| Add bike parking to the official campus map |

Table 6. Recommendations from the "Biking" section

# Biking

A significant percentage of off-campus students live within a few miles of campus. Currently, significant barriers to cycling exist, causing many who may otherwise ride a bike, to drive to campus. This section suggests a number of policies that can encourage cycling, as well as physical infrastructure that will improve the cycling environment.

## Highlighted project: Start a pilot bike share program at RECentral

Many participants of outreach meetings showed interest in having a bicycle sharing program at CCSU. Considerable care will necessary though, as bike share programs involve a number of logistical hurdles. Logistical issues include maintenance, inventory tracking, check-in and check-out procedures, and liability. These details must be considered before starting such a program. Supportive road infrastructure should also be present to provide participants with safe routes to ride on.

A pilot program administered by RECEntral would be a good starting point. A limited number of bikes could be made available to interested students during normal RECEntral business hours. These bikes would primarily be used for recreational purposes. Once the system is up and running, and logistical issues are successfully overcome, the system could be expanded to include more bikes at multiple locations.

Initial discussions have taken place at the regional level to start a large-scale bike share program. Representatives of CRCOG, ConnDOT, CTTRANSIT, and CCRPA have met to discuss starting a bike share program intended to support the forthcoming CTfastrak service. CCSU's close proximity to this service may allow it to take part in this initiative. CCSU staff should coordinate with regional partners to explore this option.

# Overview

The CCSU Transportation Plan takes a holistic look at transportation in and around CCSU. The primary goal of the plan is to manage the university community's demand for transportation services, and encourage the use of the most cost-effective modes of transportation. It has a secondary goal of increasing CCSU's, and the region's, sustainability goals by shifting demand from single-occupancy vehicles to less energy intensive modes such as transit and cycling.

The plan was created by the Central Connecticut Regional Planning Agency with significant input from staff, faculty, students, and representatives from the City of New Britain.

# Introduction

With over 12,000 students and 1,700 staff and faculty members, Central Connecticut State University is a major destination in Connecticut, and a major traffic generator. With such a large volume of traffic going to one location, it is a significant contributor to congestion and related pollution generation. These same facts also make it an ideal location to implement traffic and pollution reduction strategies.

CCSU is a statewide leader in environmental sustainability. For over a decade it has spearheaded initiatives to reduce waste, increase the use of renewable energy, and lower its carbon footprint. Major initiatives have involved food service, power generation, and recycling in residence halls and at football games. While CCSU's sustainability goals also call for better management of the university's demand for transportation services that area has not received as much attention.

This document is a plan for managing transportation demand. The underlying goal of the plan is to shift demand for transportation services from single occupancy vehicles (SOVs) to other forms of transportation, such as biking, walking, carpooling, buses, and trains. These modes of transportation are more environmentally friendly and place fewer demands on the university's, and the state's, physical infrastructure (such as roads and parking). Improving the balance among transportation modes will lower the overall costs associated with transportation at CCSU.

## Background

Central Connecticut State University (CCSU) is a public university in New Britain, Connecticut with both undergraduate and graduate programs. As of 2012, enrollment totaled 12,091 students, with 67% attending full-time. Over 80% of students are commuters; just 2,500 on-campus residences are available. With over 10,000 students and 1,700 faculty and staff members commuting to campus, a significant amount of traffic is generated.

The high rate of automobile commuting by students, faculty, and staff has negative consequences not only for them personally, but also for the university, the City of New Britain, and the region as a whole. These impacts include:

- Higher transportation costs for students and indebtedness for graduates
- Inability of low-income, disabled, and elderly students to access the university
- Higher levels of traffic congestion and related stress, lost time, and lost productivity
- Unpredictable travel times leading to late arrivals

- Use of real estate for parking rather than teaching, research, housing, and recreation
- Use of funds for parking rather than education
- Diminished campus appeal and attractiveness of the university to prospective students
- Higher levels of local air pollution
- Higher levels of water pollution due to impervious ground cover and surface runoff
- Greater prevalence of diseases related to poor air quality and sedentary lifestyles

Of particular importance to CCSU's academic mission is the financial and land-use burden caused by automobile commuting. CCSU already devotes a significant portion of its land area, nearly 14%, to parking. CCSU provides 54 parking spaces for every 100 full-time equivalent students; the national average is just 49 spaces for every 100 students. These parking spaces come with significant costs for the university. Each space costs between $5,000 and $20,000 to build (based on average costs for surface lots and garages respectively). If CCSU followed the national trend, it would be able to cutout nearly 500 spaces and could have saved between $2.5 million and $10 million on construction costs. They could have also saved a significant amount of land.

CCSU has identified sustainability and transportation management as goals of campus planning. The university's administration embraced the American College and University President's Climate Commitment, and CCSU was the first state school in Connecticut to develop a Climate Action Plan. Transportation demand management further builds on the sustainability initiatives of the university (overseen by the President's Environmental Sustainability Committee) and is evident in both CCSU's 2009 Climate Action Plan and 2011 Strategic Plan, both of which include reducing automobile driving as objectives.

# Purpose

In the spring of 2011, as part of its transportation planning mandate for the Central Connecticut region, the Central Connecticut Regional Planning Agency (CCRPA) offered to study CCSU's transportation system and prepare a Transportation Demand Management (TDM) Plan for CCSU at no cost to the university. TDM comprises a variety of strategies, from physical improvements to marketing and promotion efforts that seek to decrease usage of single-occupancy vehicles. TDM can involve both shifting the mode of transportation (from single-occupancy vehicles to other modes such as walking, biking, transit, and carpools) and decreasing the total demand for transportation (by reducing the length or number of trips).

# Process

The planning process began in earnest during the Summer and Fall semesters of 2012. CCRPA staff met with administration officials and the

President's Advisory Committee on Environmental Sustainability to develop a scope of work. Data collection began soon after. Public involvement in the process began soon after that, with a series of workshops and focus groups.

A number of studies, detailed in the second volume of this plan, were undertaken in support of this plan. A detailed parking utilization study was completed in the Fall 2012 semester in which every parking spot on campus was monitored for a two week period using customized software developed by CCRPA. Following that, a study of shuttle and bus ridership was also completed. CCRPA staff counted every passenger for every run of each bus or shuttle serving CCSU for a two week period. Android tablets with custom-written software were used to provide exact location information for each bus stop (since the bus routes do not currently have fixed stops). This data was then given to CTTRANSIT along with suggestions for improving the routes.

Walking and driving studies of the university area were also completed. Staff walked throughout campus and the surrounding neighborhood, taking note of safety and usability issues. Staff also added every walking path on campus to Google Maps so that accurate walking directions can be given in the CCSU area. Traffic and speed data was collected on all the rounds surrounding campus.

| Initiatives started or assisted by CCRPA |
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| Creation of transportation information website |
| Creation of transportation information brochure |
| Mapping of walking paths |
| Creation of transportation information kiosk on campus |

Table 7. List of initiatives CCRPA assisted with during this process

In addition to creating this plan, a number of initiatives were started, or given a final push during this process. They are listed in Table 1.

# Goals

A series of focus groups and topic-specific meetings were held on campus during this planning process. Based on the concerns and desires expressed by participants, a series of goals was drafted to guide in the creation of policies and projects that are at the heart of this plan. From a larger set of goals, the list was consolidated to the following five goals:

1. Create an environment in and around CCSU that is safe for pedestrians and cyclists.

2. Encourage the use of public transportation and improve the reliability, usability, cost-effectiveness, and accessibility of public transit services.
3. Increase awareness of, and provide information on how to use, transportation options in and around campus.
4. Improve mobility and access to essential services for the resident campus population, especially those without automobiles.
5. Provide administrative support to policies and programs that encourage the efficient use of transportation resources and improve the campus transportation system (including parking).

# Organization

This plan is designed with a focus on implementation. Following this introductory section are five modular sections based on specific implementation themes: general policies, public transit, parking, walking, and biking. While each module is comprised of self-contained policies, their effects will be magnified when implemented together. The policies and recommendations are based on accepted best practices and are existing policies at many of CCSU's peer institutions. These sections comprise the plan.

A second volume contains support materials that describe the process of creating this plan, existing conditions when the process began, and descriptions of a number of supportive studies that were conducted. While these support documents are not necessary to implement these policies, they do provide valuable data and support materials. This data can be used to better understand why a project or policy is being proposed, and to assist the university in assessing progress.

Each section of recommendations includes an implementation matrix. The matrix has a brief description of the activity, a timeframe, potential partners, and estimated costs. The timeframes are:

- Ongoing: already started
- Short: can be started in the next year
- Medium: can be started within five years
- Long: may take longer than five years

Details of how each policy is to be implemented follows the matrix. A brief description of the problem is provided, followed by a description of each implementation policy or program. Each description also contains a list of actions that the university, or its partners, will need to take. Each policy and program also contains a list of partners whose involvement will greatly ease implementation.

# Policy

This is the general policy element of the Central Connecticut State University Transportation Demand Management Plan. While it contains policies and programs that can be implemented by themselves, it is designed to work in concert with the rest of the plan.

These general policies are designed to make all forms of transportation easier to use. They focus on providing information to students and employees, as well as ensuring that class schedules are conducive to a variety of transportation modes.

These policies lay the groundwork necessary for other, mode specific, policies and programs. They also provide support, in the form of staff time and data collection, to ensure that planning and implementation are continuous processes.

# Implementation

| Projects and policies | Timeframe | Partners | Cost |
|---|---|---|---|
| **Administration** | | | |
| Assign or hire an individual to be the transportation coordinator | Short | Board of Regents | TBD |
| Survey students, faculty, and staff on an annual basis | Ongoing | CCRPA | <$100 per year |
| **Scheduling** | | | |
| Standardize class start times | Short | Registrar | <$100 per year |
| Coordinate class schedules to better accommodate bus riders | Medium | CTTRANSIT | <$100 per year |
| **Information** | | | |
| Create and maintain a transportation information webpage | Short | CTTRANSIT, CCRPA | <$100 per year |
| Assign a department to be in charge of the transportation information website | | CCRPA | N/A |
| Update and distribute transportation brochure | Short | Registrar | <$100 per year |
| Continue to promote the car share program | Short | Residence Life, Car-share vendor | N/A |
| Create and maintain transportation information kiosk on campus | Short | CTTRANSIT, Student Center, CCRPA | <$100 per year |

Short = within a year; Medium = within 3 years; Long = more than 3 years

# Background & overview

For the individual programs and policies contained in subsequent sections of this plan to be successful and sustainable, a general support framework should be put in place. Some of that framework is already in place, but is scattered between multiple departments. The following policies focus on centralizing and institutionalizing the support framework.

This element is divided into administration, focusing on staff support; scheduling, focusing on class and work schedules; and information, focusing on providing transportation information to students and employees. With these policies in place, the programs contained in subsequent elements will enjoy greater success.

## Administration

Prior to starting any new initiatives, staff support must be allocated to transportation planning. Without staff support, it will be difficult or impossible to start new programs and existing programs will suffer from neglect. By dedicating staff resources to planning and implementing transportation programs and policies, the administration will show its support and lend them legitimacy.

When CCRPA began this planning process it found that numerous transportation programs had been started, but that most of them had been neglected due to staff turnover or competing priorities. CCRPA staff helped restart these initiatives and give them the final push necessary to get them ready for implementation (including car sharing, UPASS, and transportation information). After this plan is finished, that push will need to come from inside the administration.

### Assign or hire an individual to be the transportation coordinator

Actions

1. Evaluate future transportation needs
2. Coordinate with other CSU's to determine if a shared coordinator is desirable
3. Approach the regents about funding and hiring a shared or individual transportation planner

CCRPA recommends hiring a transportation coordinator. Having a transportation coordinator is considered a best practice for sustainable campuses, and is standard at many of CCSU's peer institutions. Within Connecticut, both the University of Connecticut and Yale University have full-time transportation coordinators (and staff).

This individual would be in charge of all transportation issues, including promotion of transit, biking, walking, and other alternatives to single occupancy vehicles. They would help maintain information displays and transportation websites. They would also seek out information on new initiatives and funding to implement them. The transportation coordinator would also be in charge of interfacing with students regarding transportation issues. They would be a single point of contact for students, faculty, and staff. They would play a crucial role in explaining, promoting, and getting buy-in for proposed transportation policies and programs.

After analyzing CCSU's needs, the administration may determine that a full-time transportation coordinator is overkill. In this case, a shared transportation coordinator should be hired in cooperation with one or more of the other CSUs. Significant efficiencies may result from this arrangement as policies can be replicated quickly across institutions and economies of scale may be realized in the procurement of goods and services. This should be done in consultation with the Board of Regents.

### Survey students, faculty, and staff on an annual basis

Actions

1. Assign a department or individual to administer the survey
2. Retrieve survey script from CCRPA, or make arrangements to work with CCRPA
3. Analyze current survey results
4. Make changes as needed
5. Distribute survey to students and employees at least annually

Having timely and accurate data about transportation on campus is necessary to ensure that programs and policies remain relevant and effective. CCRPA developed a web survey for this project that asks students, faculty, and staff about transportation preferences, desires, and difficulties; the survey was administered twice, in the Spring of 2012 and 2013. The survey gives valuable information about current trends, demographics, awareness of transportation options, and the concerns of commuters.

CCSU should continue to use this, or a similar survey, to determine if programs/policies are working, and to decide if new ones are necessary. CCRPA could continue to host the survey and make any requested changes, or CCRPA could give the survey script to CCSU. The survey should be administered at least annually.

# Scheduling

One of the most commonly cited reasons for not using public transportation, or modes of transportation other than single-occupancy vehicles, is the amount of time they take and scheduling conflicts. People have meetings, work commitments, and families to take care of. That does not always leave a lot of time for waiting for the bus. While the university cannot solve every temporal concern for its community members, it can, to a certain degree, control scheduling.

Other universities have effected significant shifts in mode choice by making relatively minor changes in class schedules. Additionally, paying close attention to start and end times for classes can make the academic year more predictable and consistent. Students, faculty, and staff will be better able to make long term scheduling decisions.

Actions

### Standardize class start and end times

1. Analyze current class start and end times
2. Determine class length needs in consultation with professors
3. Choose one or two start and end times
4. Adjust schedules accordingly

CCSU should consider adopting two or three standard start times, and two or three standard end times, along with a few class lengths (standard practice at many peer institutions). This will more evenly spread classes throughout the day and give students greater stability in their schedules which will make it easier to take transit or carpool.

Classes at CCSU do not start or end at standardized times, making it difficult for students to schedule academic and non-academic activities, particularly if they rely on public transportation or carpool with other students. Some classes start at 40 after the hour while others start at 20 after, 50 after, 5 after, or 30 after (as well as others). Classes end at vastly different times as well, often within a few minutes of each other (such as classes letting out at 2:30pm and 2:40pm).

Buses arrive on campus at standard times, but those times may force the student to arrive slightly late or extremely far in advance (e.g. 10 min/50 min). The variety of start and end times also means that a student may have a schedule that is conducive to riding transit one semester, but not the next.

### Coordinate class schedules to better accommodate bus riders

Actions

1. Analyze current class start and end times
2. Compare start and end times to bus schedules
3. Adjust class times to accommodate bus riders

Once standard start and end times are established, they can be tweaked to better accommodate bus riders. As shown in Table 8, buses

arrive on campus hourly, at 16, 40, and 50 after the hour. Ideally, classes would begin 10 minutes after a bus arrival time, to give students enough time to get to class; classes would end no more than 10 minutes before a departure time. This process should probably begin after 2015, when CTfastrak begins service. Numerous schedule changes will occur at the same time, potentially necessitating further class schedule changes.

# Information

When CCRPA started this planning process, there was a dearth of information about transportation at CCSU. The student center did not have bus schedules, the website had little easily accessible information regarding parking, and the shuttle schedule was buried. The initial survey that CCRPA conducted also revealed that few students, faculty, and staff knew that the campus was accessible by modes of transportation other than single-occupancy vehicles. Absent this information, it is hardly surprising that 86% of students and 94% of faculty/staff drive to CCSU (see Figure 4 and Figure 3).

Information has two functions in the CCSU context. First, it lets commuters know that other options are available, such as riding the bus and biking. Second, it gives commuters information about the entire transportation system, which improves their awareness of backup

| O Bus | O Bus | S Bus | S Bus | 69C Bus |
|---|---|---|---|---|
| 7:16 AM | 7:40 AM | 7:39 AM | 7:17 AM | 7:50 |
| 8:16 AM | 8:40 AM | 8:39 AM | 8:17 AM | 8:50 |
| 9:16 AM | 9:40 AM | 9:39 AM | 9:17 AM | 9:50 |
| 10:16 AM | 10:40 AM | 10:39 AM | 10:17 AM | 10:50 |
| 11:16 AM | 11:40 AM | 11:39 AM | 11:17 AM | 11:50 |
| 12:16 PM | 12:40 PM | 12:39 PM | 12:17 PM | 12:50 |
| 1:16 PM | 1:40 PM | 1:39 PM | 1:17 PM | 1:50 |
| 2:16 PM | 2:40 PM | 2:39 PM | 2:17 PM | 3:03 |
| 3:16 PM | 3:40 PM | 3:39 PM | 3:17 PM | 4:03 |
| 4:16 PM | 4:40 PM | 4:39 PM | 4:17 PM | 5:09 |
| 5:16 PM | 5:40 PM | 5:39 PM | 5:17 PM | 6:14 |
| 6:16 PM | 6:40 PM | 6:39 PM | 6:17 PM | 6:34 |
| 6:39 PM | 7:17 PM | 7:39 PM | 7:17 PM | 7:19 |
| 7:39 PM | 8:17 PM | 8:39 PM | 8:17 PM | |
| 8:39 PM | 9:17 PM | 9:39 PM | 9:17 PM | |
| 9:39 PM | 10:25 PM | | 10:17 PM | |

Table 8. Bus arrival times at CCSU

modes of transportation. If a commuter is reluctant to bike to campus because they are afraid they will get caught in the rain, knowing that buses have bike racks may ease their concern. Parents who may have to leave in the middle of the day to pick up a sick child from school,

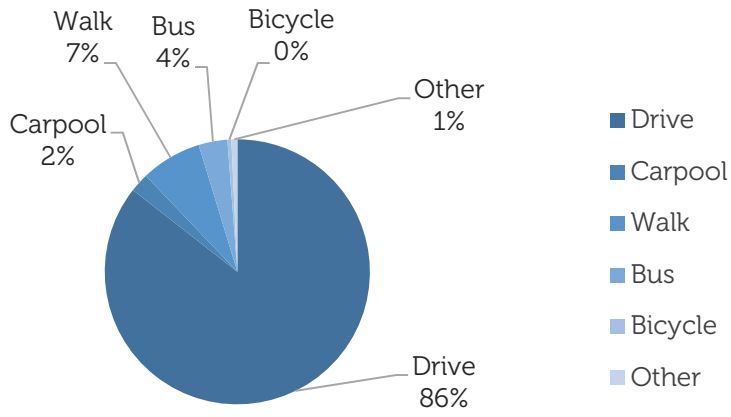



Figure 3. Student and faculty commute modes

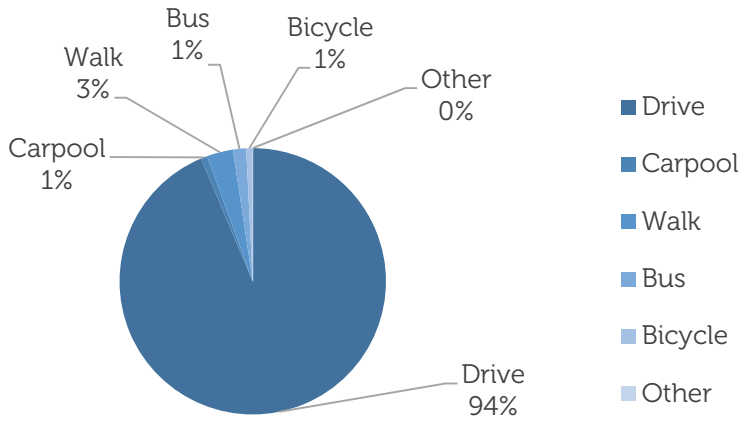



Figure 4. Faculty/Staff commute modes

may still ride the bus if they know there are short-term car rentals for such emergencies.

Actions

### Create and maintain a transportation information webpage

1. Compile information on various modes of transportation (done)
2. Develop website (done)
3. Determine which CCSU sites will link to the website
4. Determine which department will maintain the website
5. Assign an employee to update the website

During the creation of this plan, a basic transportation information webpage was created for CCSU. It includes information on bus service, parking, biking, walking, on-campus car sharing service, and ride sharing.

While the webpage is "live" on CCSU's website, it currently lacks a home. The student center's webpage does link to it, but no other CCSU websites do. It also lacks a home department that is responsible for maintaining it. This should be remedied as soon as possible. Administration officials have indicated that the site should be "owned" by the Health and Safety department with help from the Police department.

The “owner” of the website must also maintain it. Information can quickly become stale as bus schedules change (likely to happen in 2015) and rental car parking spots move. A regular schedule for updating the website should be established.

Actions

### Update and distribute transportation options brochure

1. Assign a department or individual to manage the brochure
2. Compile updated information on transportation options
3. Retrieve brochure layout file from CCRPA
4. Update information
5. Distribute to students and place in student center

To immediately fill the void of transportation information, CCRPA developed a tri-fold brochure of available options for CCSU. This brochure was designed to be bright, colorful, and easy to use. It was distributed online and through the student center. Within a few months multiple print-runs were necessary.

This brochure should continue to be updated and distributed on a regular basis. A student intern at the facilities management department, or another appropriate department, should be tasked with ensuring that all information is up to date. Copies of the brochure should be distributed to the student center, residence halls, and in orientation packets that are sent to new students.

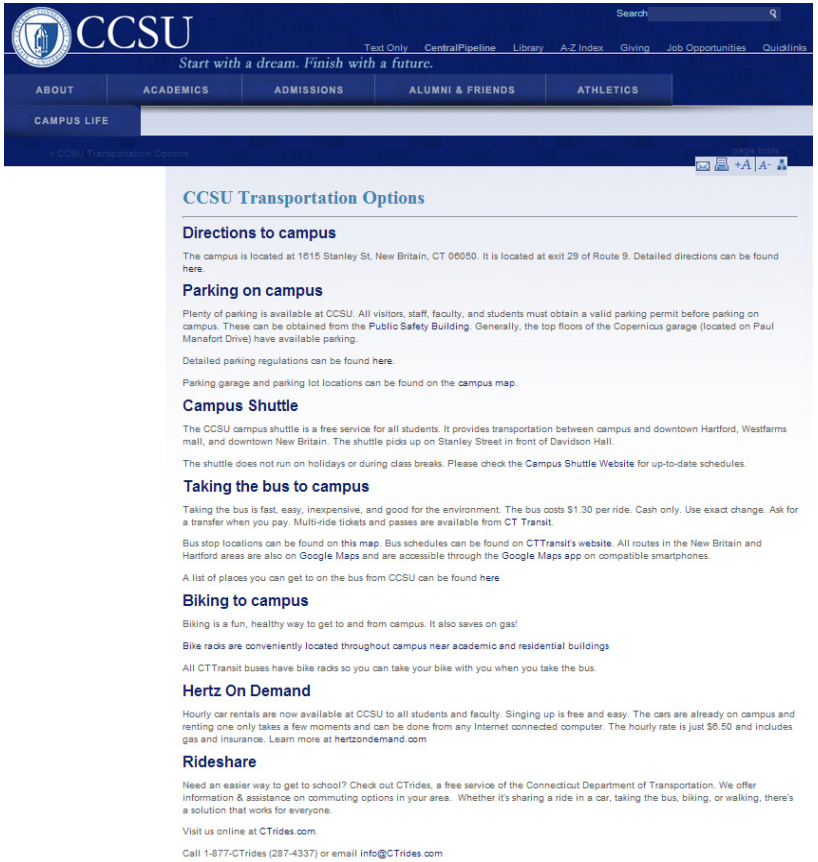



Figure 5. A preliminary transportation website was developed for this project

Actions

### Create and maintain transportation information kiosk on campus

1. Determine best location for a kiosk (done)
2. Compile information and materials for kiosk (in progress)
3. Develop maps and signs for kiosk (in progress)
4. Install maps, signs, shelves and materials
5. Establish protocols for ensuring kiosk remains stocked and up to date

In addition to the transportation options brochure, copies of bus route timetables are now available at a temporary kiosk in the student center. They have proven to be very popular with students and parents. As a result, staff at the student center have agreed to allow CTTRANSIT to create a transportation information kiosk in the student center. This kiosk will include a system map, schedules, information on riding the bus, and information on other modes of transportation available on campus, such as rideshare, and car sharing. The kiosk is currently being designed by CTTRANSIT and will be installed soon.


Figure 6. Work has already begun on a transportation information kiosk in the student center

The university should ensure that this project stays on track and that the kiosk is installed and maintained. Employees of the student center should check it regularly to ensure it stays stocked with information. They should also contact CTTRANSIT every six months to determine if any information needs to be updated.

# Transit

This section of the Central Connecticut State University Transportation Demand Management Plan deals with access to public transit. It is designed to work in concert with the rest of the plan.

Transit is an important way for students, faculty, and staff to get to and from campus. Currently, it is an underutilized mode of transportation, though it shows great promise. The recommendations in this section provide steps that, if taken in parallel to the other recommendations in the plan, will result in greater transit use, and lower demands on automobile infrastructures such as roads and parking.

# Implementation

| Action | Timeframe | Partners | Cost |
|---|---|---|---|
| **Transit passes** | | | |
| Fully fund the UPASS program | Short | CTTRANSIT, SGA | $0.85 per ride and less than $65,000 per year |
| Expand the UPASS program | Medium | CTTRANSIT, SGA | Same as above |
| Sell transit passes on campus | Short | CTTRANSIT, Student Center, RECentral | N/A |
| Continue to assess transit ridership | Ongoing | CCRPA, CTTRANSIT | TBD |
| **Infrastructure** | | | |
| Install and maintain bus stop signs around campus | Short | CTTRANSIT, CCRPA | Already funded by CCRPA |
| Install and maintain information displays at bus shelters | Short | CTTRANSIT | <$100 per shelter |
| Install and maintain bus shelters around campus | Medium | CTTRANSIT | $15,000 per shelter installation |
| Work with partners to develop a drop-off point in front of the student center | Medium | CTTRANSIT, New Britain, CCRPA | Staff time (CCRPA and CTTRANSIT) |

Short = within a year; Medium = within 3 years; Long = more than 3 years

# Background & overview

While New Britain is not New York or even Hartford, CCSU has frequent transit service. This service is essential for on-campus students and commuters without cars. On average, 140 people ride the bus to CCSU per day (Monday through Thursday). While that number pales in comparison to the number who drive to campus, the current bus system is limited and not very well publicized. If improvements were made, ridership would likely increase.

CCSU has little direct control over the transit system, but can better promote the system, incentivize its use, and advocate for expansion. There is currently a dearth of information regarding the system at CCSU, and transit passes are not available on campus. Both of these issues were cited by participants in this planning process as impediments. Also, while just 4% of CCSU students and 1% of employees, report taking the bus to campus, CCSU students and employees represent between 7% and 17% of existing riders on buses that serve campus (see Figure 7 for an overview of bus ridership in the vicinity of CCSU). Furthermore, an analysis of student addresses revealed that

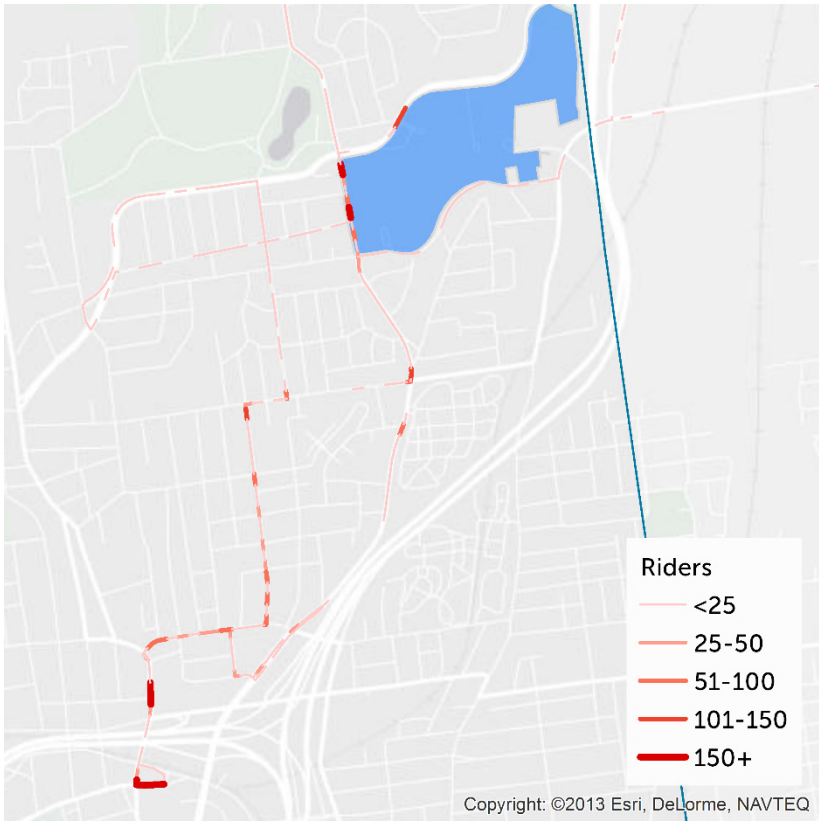



Figure 7. Bus ridership on the O, S, and 69

1,339 students live within a half-mile of a bus route that directly serves CCSU. Another 624 live within a half-mile of a forthcoming CTfastrak station. Those numbers increase dramatically if transfers are taken into consideration. That makes CCSU a large base of potential users, and gives CCSU considerable clout when advocating for improved service.

# Transit passes

For public transit to become a popular mode of transportation, it must be reliable and convenient. Providing unlimited or multi-ride passes makes payment much simpler. Not only do riders not have to worry about carrying exact change, but they don't have to spend the time inserting payment when they get on the bus. This makes things faster and more convenient.

Actions

### Fully fund the UPASS program

1. Identify a source of funding
2. Talk to the student government association about cooperating on funding
3. Finalize contract with CTTRANSIT
4. Determine the initial number of UPASSes to distribute
5. Determine what, if any, cost students will cover
6. Make passes available on a first come, first served basis
7. Monitor UPASS usage

In the Spring of 2013, CCRPA facilitated a meeting between CCSU and CTTRANSIT. The result of the meeting was an agreement to implement the UPASS program at CCSU. This program provides interested students with an unlimited bus pass, good for travel on any of CTTRANSIT's regular, fixed-route, buses. The university will be charged $0.85 per ride (as opposed to the full fare price of $1.30), and students would pay a fixed fee per semester to obtain a swipe card. The maximum amount the university would be responsible for paying is $65,000 per year.

As of writing, the program is scheduled to begin in during the Fall 2013 semester, but funding arrangements are holding up implementation. The Student Government Association has expressed willingness to cover some of the cost, should the university be unwilling or unable to. The university should commit to funding it for at least five years so that students are able to count on it for the duration of their studies. The cost of funding it would pale in comparison to the cost of maintaining parking on campus. One structured parking spot costs between $20,000 and $30,000 to build; the cost of entire UPASS program is currently capped at $65,000 per year, or roughly two to three spots in a garage. Similarly, the cost of UPASS is much lower than if the university provided its own transit service. For example, CCSU was spending over $65,000 a year on one shuttle route that ran just four times a day; CTTRANSIT routes serve campus a combined 76 times a day.

Actions

### Expand the UPASS program

1. Determine normal usage patterns and program adoption
2. Survey students to gauge interest in expanded program
3. Consult with CTTRANSIT on expanding program
4. Order and distribute extra UPASSes

When implemented in Fall 2013, the UPASS program will be available to a limited number of students. As the program becomes more popular, CCSU should expand the number of eligible students and consider making it available to all students.

Actions

### Sell transit passes on campus

1. Talk to CTTRANSIT to setup a payment and delivery system
2. Determine the best venue for selling bus passes
3. Advertise that passes are available
4. Continue to monitor program to ensure sufficient inventory is available

Currently, multi-trip bus passes are not available for purchase at CCSU. While the UPASS program will make them largely obsolete for students, the program will not be available for faculty and staff. Passes should be made available for purchase at a convenient location, such as the campus book store, or at the cenTix box office in the student center.

### Continue to assess transit ridership

Actions

1. Coordinate with CCRPA and CTTRANSIT on assessment methodology
2. Determine which department will manage the project
3. Hire students to perform the work
4. Implement study methodology
5. Analyze data
6. Report findings to CCRPA and CTTRANSIT and discuss whether changes to transit are warranted

CCRPA conducted a study of bus riders while completing this plan. The information gathered during this study helped the administration determine which transit programs should be continued, and which ones should be changed. This information should continue to be collected. Not only will it help inform decision-making, but it will help make the argument that increased investment in transit is warranted and may assist CTTRANSIT in making improvements to routes.

## Infrastructure

CCSU has no direct control over the transit system, but it can make the campus more inviting to transit. Good directional signs, route markers, route information and convenient bus stops all help to improve the visibility and usability of the bus system.

Actions

### Install and maintain bus stop signs around campus

1. Obtain funding for signs (done)
2. Determine locations for bus stop signs (done)
3. Install signs (in progress, Summer 2013)
4. Inform facilities department of sign locations
5. Inspect signs on a regular basis
6. Report problems to CTTRANSIT

CTTRANSIT's New Britain/Bristol division (of which routes O and S are a part of) currently runs as a "flag down" system and lacks fixed bus stops. As such, there are no bus stops and no bus stop signs (the stop on Stanley St that is shared with the route 69 bus, operated by the Hartford division, is the sole exception). Signs should be installed around campus to make the system more visible to potential users. Funding was secured by CCRPA to do this, and work should begin in the Summer of 2013.


Figure 8 Proposed location of a bus shelter on Paul Manafort

While these signs will be owned by CTTRANSIT, CCSU can assist in maintaining them. Reports of damaged or missing signs should be relayed to CTTRANSIT personnel to ensure prompt repair or replacement. As routes are changed in the future, CCSU should consult with CTTRANSIT on potential changes to sign locations.

### Install and maintain information displays at bus shelters

Actions

1. Coordinate with CTTRANSIT on content of information displays
2. Assist CTTRANSIT with installation of displays by compiling necessary informational materials
3. Report problems or requested updates to CTTRANSIT

There are two bus shelters near CCSU, both of which are on Stanley St. One shelter, located on the west side of Stanley, is owned and operated by CTTRANSIT. The second is on the east side in front of Davidson hall and is owned and operated by CCSU. It is currently used for the campus shuttle, which is being phased out. No transit information is posted in either shelter.

Schedules, route maps, and information about other transportation options should be installed in both shelters. CCSU should work with CTTRANSIT to ensure they are maintained and stocked with up-to-date information. The facilities management department should inspect them on a regular basis to identify problems.

Actions

### Install and maintain bus shelters around campus

1. Coordinate with CTTRANSIT and New Britain Transit to determine ownership and management of shelters
2. Determine location of shelters
3. Identify funding for shelters
4. Build and install shelters
5. Maintain shelters by reporting problems to management entity

The CCSU-owned bus shelter (in front of Davidson hall) on Stanley St, will no longer be needed for the campus shuttle, as it is being phased out. An agreement should be made to transfer control of it to CTTRANSIT and signs should be installed indicating it is an official bus stop.

There are no shelters on Paul Manafort Drive, but there are two bus stops: at least one of them should have a shelter. An appropriate location would be the stop in front of Charter Oak State College's facility on the south side of Paul Manafort. Due to the direction the 69 travels (counter-clockwise around CCSU), and the lack of sidewalks on the north side of Ella Grasso Boulevard, a stop is not recommended on Ella Grasso at this time.

Actions

### Work with CTTRANSIT to develop a drop-off point in front of the student center

1. Work with CCRPA to conduct a traffic study on Ella Grasso Boulevard and Paul Manafort Drive
2. Convene a meeting between CTTRANSIT, CCRPA, bus operator, and the City of New Britain
3. If necessary, work with CCRPA and CTTRANSIT to study bus schedule impacts
4. Identify location of drop-off point
5. Work with CTTRANSIT to making necessary changes to accommodate buses at drop-off point
6. Monitor traffic and bus arrival times

One of the most visible places on campus is in front of the student center. At some point during their time at CCSU, all students will go to the student center, and most visitors park in the adjacent garage. Having a bus shelter in this area would dramatically improve the visibility of the system and convenience for riders.

Of three routes serving CCSU, only the route 69 could utilize a drop-off point near the student center. The O and the S travel along Stanley Street, so a detour to the student center would cause significant delay. The current orientation of the 69 would, however, need to change. Buses currently travel around campus in a counter-clockwise direction

along the north side of Ella Grasso Boulevard and the south side of Paul Mannafort. By reversing the direction of travel, buses would pass in front of the student center on the south side of Ella Grasso and could easily turn into the campus without crossing multiple lanes of traffic. This orientation could also save time by reducing the number of left turns the buses would need to make. CCSU should work with CTTRANSIT and CCRPA to study this potential route change.

Due to traffic concerns, the circle in front of the student center would not be an appropriate place for a bus stop. Waiting cars may delay the bus, putting it behind schedule. An alternate drop-off point just to the east of the student center has been identified by the current bus operator and is currently used for chartered buses.

# Parking

This is the parking section of the Central Connecticut State University Transportation Demand Management Plan. It is designed to work in concert with the rest of the plan.

The vast majority of CCSU students are commuters, and over 95% of them drive to campus, making parking a constant concern. While the overall supply of parking is not a problem, the supply of "prime parking" is a problem. The recommendations in this section focus on sending price signals to commuters and increasing the availability of parking information, instead of increasing supply.

# Implementation

| Action | Timeframe | Partners | Cost |
|---|---|---|---|
| **Parking Information Systems** | | | |
| Develop a revamped parking information website | In progress | CCRPA, CTTRANSIT | N/A |
| Distribute parking information in orientation packets | Short | CCRPA | <$1,000 |
| Install walking information signs in parking garages | Medium | CCRPA | ~$5,000 |
| Create a visitor wayfinding system for parking lots/garages | Medium | CCRPA | ~$5,000 |
| **Price Incentives** | | | |
| Implement a two-tiered parking pass system | Medium | Board of Regents | Revenue neutral |
| Increase parking enforcement with student labor | Short | Board of Regents | TBD |
| Charge visitors to park | Medium | Board of Regents | Increases revenue |
| Unbundle and make the parking fee optional | Long | Board of Regents | TBD |

Short = within a year; Medium = within 3 years; Long = more than 3 years

# Background & overview

Parking availability was the number one student complaint in the transportation survey. To better understand the nature of these complaints CCRPA conducted a study of parking availability. The full results of this study can be found in the *Studies* addendum and a brief discussion can be found below. The results show that the overall supply of parking is not a problem, but that certain parking areas experience crowding while others are underutilized. Programs and policies should, therefore, attempt to better distribute parking use across facilities.

The key finding of the study was that the overall supply of parking is not a problem. During CCRPA's study (during which every parking space was counted four times a day for two full weeks), the lowest space availability recorded was 9%, or roughly 428 spaces available (at 11am on a Thursday). The recorded daily averages ranged between 20% and 24% available (or 984 to 1,185 spaces).


Figure 9. Map of parking availability by parking area

Parking availability, however, was not evenly distributed. Most of the available parking spots were in the largest garages (Copernicus, Welte, and Student Center), or in Kaiser, which is farther away from the major academic buildings. The surface lots that are most convenient to academic buildings had low availability. Furthermore, data show that in the large garages, parking is usually only available on the upper floors.

On a typical day, the first three floors of Welte are full, but plenty of spots will remain on levels four and five.

These results strongly suggest that students avoid parking that is seen as less convenient, and instead fight for prime spots on the lower levels of garages and in surface lots. The amount of time spent searching for parking within these garages contributes to the misperception that parking is scarce and encourages commuters to seek parking in one of the surface lots. Consequently, congestion and pollution are worsened.

To better distribute use between the popular and unpopular lots, and thus reduce traffic and increase user satisfaction, better information and price signals will be needed. The first set of policies and programs will focus on providing information to students about where open spots are, and how far those spots are from destinations. The second set of recommendations will focus on providing incentives that will lead to a more even distribution.

## Parking information systems

To combat these issues, greater information must be given to commuters regarding parking availability. The information must also dispel the myth that certain lots or located great distances away from academic buildings. Information must also be given to visitors regarding where to park and how to park legally. The following recommendations are designed to provide this information at low cost.

### Develop a revamped parking information website

Actions

1. Review existing parking information available throughout CCSU's website
2. Develop profiles of "parking users" and design information for each class of user
3. Determine appropriate locations for each class of information
4. Ensure that parking information is added to each location and that obsolete information is removed

Currently, information on parking is contained on the Public Safety website and consists of rules and regulations copied directly from policy manuals. A new website, with information on obtaining parking passes, where students, faculty, staff, and visitors can park, what the basic rules and procedures are, and where the easiest places to park are, should be created. This website should include an interactive map with information on the rules governing each lot (written in plain English), and how long it takes to walk from each lot to popular destinations on campus.

Actions

### Distribute parking information in orientation packets

1. Determine which information is most pertinent
2. Develop paper versions of information
3. Distribute information
4. Update as needed

Information developed for the parking website should be distributed to incoming students. A paper version of the website should be developed and included in orientation packets.

Actions

### Create a visitor wayfinding system for parking lots/garages

1. Coordinate with CCRPA to identify sign locations
2. Develop a list of popular destinations
3. Develop a consistent visual theme for signs
4. Order and install signs
5. Inspect signs on a regular basis to ensure they are up to date and in good condition

Visitors coming to CCSU for the first time often have difficulty finding parking and following parking policies. Rules regarding visitor parking are difficult to find on the CCSU website and absent on directional signs. For example, regulations posted on the CCSU website state that visitors must obtain a temporary pass from the campus police, but this is not stated anywhere on campus, leading to confusion. When CCRPA did a test run and attempted to obtain such a pass, they were met with confusion at the Public Safety building.

| | General Fee | Parking Fee | Percent of General Fee |
|---|---|---|---|
| Central CSU | $2,896 | $125 | 4 |
| Eastern CSU | 3,446 | $240 | 7 |
| Southern CSU | 3,086 | $166 | 5 |
| Western CSU | 3,015 | $267 | 9 |

Table 9. Comparison of CSU parking fees

As visitors approach the campus, they should be given clear instructions regarding where and how to park. These instructions should also be clearly posted on the CCSU website so visitors can plan for their visit. Signs directing visitors to appropriate parking lots should have a consistent theme that is coordinated with other directional signage at CCSU.

### Install walking information signs in parking garages

Actions

1. Develop a wayfinding system (see page 37)
2. Install signs in garages
3. Ensure that signs are updated and maintained

As part of a broader wayfinding plan (see page 37), signs listing walking times to popular campus locations should be developed and installed in parking garages with excess capacity. Examples of these signs can be found in Appendix B: Wayfinding. The purpose of these signs is to let people know how far popular destinations are from a given garage. This will reinforce the idea that the campus is compact enough to walk and discourage people from driving between parking areas.

## Parking fees

Students at CCSU, regardless of whether they drive or not, currently pay a "hidden" fee for parking ($125 per year as of 2013). This is bundled with the "University General Fee", which is currently $2,896. Parking represents just 4% of the general fee, which is the lowest percentage in the CSU system. CCSU students pay the lowest absolute fee in the CSU system as well.

CCSU currently has excess parking capacity, so an increased parking fee may not be warranted. Changes to the way people pay for parking, how parking regulations are enforced, and incentives not to park, may help alleviate some of the competition for prime parking spots.

### Implement a two-tiered parking pass system

Actions

1. Determine the number of excess parking spaces to fill
2. Determine which students should be in the restricted group
3. Meet with the Student Government Association to explain the policy and gain their support
4. Install signs explaining new policy
5. Distribute new parking passes
6. Monitor parking availability and adjust as needed

People consistently cited parking availability as an issue during focus groups at CCSU; when presented with data showing that, at any given time, roughly 1,000 spots are available, most people amended their complaint and noted that parking was not available *near* their classes. Indeed, as shown in Figure 9 (above), most of the available parking is in areas located farther away from classes than the more popular garages and lots. This suggests that people spend a lot of time "cruising for parking" (the phenomenon where drivers circle repeatedly looking for the perfect parking spot) and that this is a major contributor to traffic and congestion.

It is also true that not all commuters have the same parking needs. Resident students, for example, spend most of their day on campus and have less need than commuter students for quick access to their cars. Commuters and those with off-campus jobs, however, may have

tighter schedules and less time to walk across campus. Given that needs vary, passes should as well.

A two-tiered parking pass system would reduce parking congestion while maintaining parking choice. Students would be separated into two groups and given two different parking passes. One pass would be restricted to Copernicus and Kaiser while the other would be unrestricted. Students with the restricted passes would proceed directly to Copernicus garage or Kaiser lot, reducing traffic in the garages and on surrounding roads. This system would help even out utilization, cutting down on congestion and freeing up parking closer to academic buildings.

To ensure success, the policy should be rolled out gradually. As a pilot, the "up the hill" dorms should be issued restricted passes. Parking space utilization should be monitored to ensure no adverse outcomes occur. Following this pilot program, the rest of the on-campus students should be added to the program. The parking situation should be closely monitored and tweaks should be made as necessary.

## Increase parking enforcement

Actions

1. Meet with campus police to evaluate current parking enforcement efforts and resources
2. Determine future parking enforcement staffing needs
3. Develop parking enforcement training program for student workers
4. Hire student workers on a trial basis
5. Evaluate program and change as necessary

A two-tiered parking system will require more vigilant parking enforcement. Students opting for restricted parking passes may attempt to continue to park in the more popular lots. To discourage such behavior, vehicles should be ticketed for parking in the wrong lot. To reduce enforcement costs, student workers could be used to patrol the lots.

Parking enforcement may become a larger concern in 2015, when CTfastrak begins operation. A limited number of parking spaces will be available at each station. With ample parking and its close proximity to the Cedar St station, CCSU's garages and lots could become unofficial park and ride lots. Parking enforcement will help limit this behavior.

Actions

### Charge visitors to park

1. Work with departments and campus event planners to determine a rough estimate of visitor parking needs
2. Determine which garage would best meet visitor needs
3. Determine which technology would work best for controlling access
4. Develop and deploy a parking payment and validation system
5. Monitor parking to ensure the program is working

To effectively determine who is legally parked, parking enforcement must be able to determine when a car belongs to a visitor, student, or faculty/staff member. With few visitors currently obtaining temporary parking passes, it is difficult for campus police to determine if a car is parked legally.

A solution to this problem is to designate one area of campus as visitor parking during daytime hours. This would be an access controlled area where a fee would be charged (the most likely candidate would be Welte garage as it already has access control gates). A machine would dispense a parking ticket that visitors could have validated by the office they are visiting. All other users, including students or faculty attempting to avoid paying for a parking pass, would be charged a fee to park. After a certain time in the evening, visitors would be allowed to park in any garage or lot.

This solution would have multiple benefits. It would allow the university to control parking to a much greater degree without being too burdensome to visitors (for example, by having visitors obtain temporary parking passes). It would clarify where visitors are allowed to park, making directions much simpler. In the future, it could also allow commuters who only need to drive occasionally, to do so without paying the full parking pass fee. If the parking fee were made optional, a student could switch to riding the bus most days, but have the option of driving when circumstances necessitate.

### Unbundle and make the parking fee optional

Actions

1. Work with the Board of Regents to determine if, when, and how the fee could be unbundled
2. Choose a semester when no other fee increases will occur
3. Publicize well in advance of implementation that the fee structure will be changing
4. Lower the University General Fee by exactly the amount of the parking fee and introduce a parking fee
5. Once parking enforcement has been increased and a paid visitor parking system is in force, allow students to opt out of the fee by returning their parking pass
6. Enforce parking policies to discourage illicit parking

All CCSU students pay a “hidden” parking fee of $125. While this fee is relatively low (it is the lowest in the CSU system) it is unfair to students who do not drive. Based on survey day, an estimated 2,000 students

do not drive to class every day, yet they still pay this fee. Furthermore, students who do drive, but could easily use another mode of transportation, have no financial incentive to do so, as parking is a “sunk cost” (in fact, for students living within 10 miles of campus, it would cost them more to take the bus than to drive).

Unbundling the parking fee would make the cost of driving more apparent to students. Making it optional would give students the opportunity to decide how best to spend their transportation dollars. It would also allow students who do not drive to stop subsidizing those who do.

If this policy is implemented, it should be done so carefully. Fees should be based on the maintenance and debt service costs of garages and lots. The number of students opting not to park should be taken into consideration so that parking fees are revenue neutral. The cost of enforcing parking policies should also be considered and should come from collected fees, instead of the university’s general fund.

# Walking

This is the walking section of the Central Connecticut State University Transportation Demand Management Plan. It is designed to work in concert with the rest of the plan.

While the majority of students are commuters, at least 20% of the student body lives on campus and a significant number live within walking distance. For these students, the most efficient and sustainable method of getting to campus is walking. The recommendations in this section focus on giving students information about where they can walk, and how long it will take. Some improvements to physical infrastructure are also suggested.

# Implementation

| Action | Timeframe | Partners | Cost |
|---|---|---|---|
| **Information** | | | |
| Create a pedestrian wayfinding system | Short | CCRPA | $5,000 |
| Update and maintain wayfinding system | Short (ongoing) | CCRPA | <$100 per year |
| **Infrastructure** | | | |
| Connect the sidewalk in front of the public safety building with the state-owned sidewalk on Fenn Road | In progress | ConnDOT | TBD |
| Work with regional partners to address safety concerns on Fenn Road | Long | ConnDOT, CRCOG, Newington, CCRPA, New Britain | $5 million - $20 million |
| Work with local partners to ensure sidewalks surrounding CCSU are well maintained | Medium (ongoing) | CCRPA, ConnDOT, CRCOG, Newington, New Britain | TBD |
| Develop a tree planting plan to provide shade along walking paths | Medium | CCRPA | TBD |
| Work with regional and local partners to study the potential for a "road diet" on Ella Grasso Boulevard/Eddy Glover Boulevard | Medium | CCRPA, CRCOG, New Britain | TBD (paid for by CCRPA) |
| Explore speed reduction options on Stanley Street | Medium | New Britain, CCRPA, ConnDOT | N/A |
| Install pedestrian amenities on East Rd under Route 9 | Medium | ConnDOT, Newington, New Britain, CCRPA | TBD |

Short = within a year; Medium = within 3 years; Long = more than 3 years

# Background & overview

Walking is the second most popular mode of transportation for CCSU students. In our survey, five percent of off-campus students and 17 percent of on-campus students listed walking as their primary mode of transportation[1]. However, rates of walking are relatively low considering how close to campus many students live (at least 280 non-resident students live within a half mile of campus). Anecdotal evidence from our focus groups (when students were asked if they have driven from one parking lot to another, most answered that they have) and data from the registrar's office, suggest that many students who live in walking distance of class still drive.

There are many reasons that students choose to drive instead of walk. Our survey indicated that many students work off-campus and may need to leave directly after classes; with few employment options within walking distance of campus, most students would need to drive or take transit to work. Other reasons that were cited include lack of convenient routes, unsafe sidewalks, crime, and a lack of sidewalk maintenance in winter.

While not all of these problems can be directly addressed by the university, some key actions are possible. The first is to provide information to students. The second is to advocate for and provide the necessary physical infrastructure.

## Information

In addition to actions listed in the general policies section (regarding information on transportation options), information about how to get around campus is necessary to encourage walking. The primary way to do this is to create a pedestrian wayfinding system.

### Create a pedestrian wayfinding system

Actions

1. Develop a consistent visual theme for signs
2. Work with CCRPA to determine appropriate locations for signs
3. Determine which locations on, and off, campus are the most popular destinations
4. Order and install signs with directions to popular locations
5. Inspect signs on a regular basis to ensure they are up to date and in good condition

[1] For on-campus students, there may have been some confusion regarding the wording of the question, and thus, rates of walking may actually be higher.

Helping people find their way on foot can help get people out of their cars. Current on-campus signage is directed toward drivers and is placed where drivers can see it (along the roads bordering the campus). Internal signage for pedestrians would help direct people to popular locations without getting in their cars, reducing incidents of people driving between parking areas.

A wayfinding system that includes information on walk times may also help encourage drivers to park in less congested areas. If drivers know that walking from the Copernicus garage to anywhere else on campus takes less than ten minutes, they may be less inclined to waste time looking for convenient parking spot.

A good pedestrian wayfinding system will have:

- A distinct design
- Posted signs for both directions of traffic
- Distances defined by the time needed to reach a destination (walking time)
- A limited number of priority destinations

Guidance for creating pedestrian wayfinding systems is available from walksteps.org. Sample signs are included in Appendix B: Wayfinding.

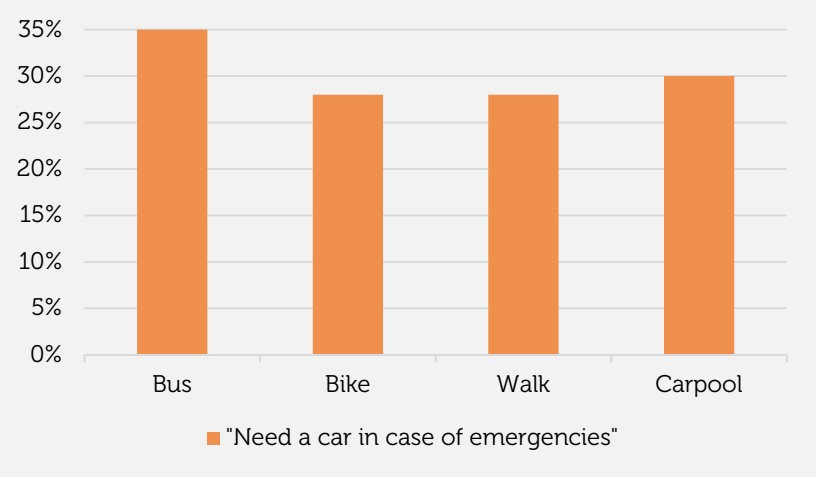



Figure 10. Students citing "need a car in case of emergencies" as an impediment to various modes of transportation

### Update and maintain wayfinding system

Actions

1. Assign a department to monitor the wayfinding signs (facilities management)
2. Ensure maps are developed of sign locations and content
3. Develop protocols for inspecting signs on a regular basis
4. When physical or organizational changes are made to the campus, update signs as necessary

A good wayfinding system must be current and in good repair. Missing, out of date, or damaged signs can diminish the system's utility. When new buildings are constructed, or new attractions are developed nearby, signs should be updated to reflect this information. Signs must

also be maintained to ensure they are readable and point in the correct direction. The facilities maintenance department should incorporate inspection and maintenance of wayfinding signs into their standard procedures.

# Infrastructure

One of the most consistent complaints the planning team received during public outreach was that there was nowhere to walk; more precisely, people complained that there was no where they could *safely* walk to. Of particular concern was the grocery store located on Fenn Road, roughly a half-mile from campus. While the store is within walking distance, a lack of pedestrian infrastructure frustrates most potential walkers. While CCSU does not control the roads surrounding campus, it can influence its regional partners and be a strong advocate for better pedestrian infrastructure.

Actions

### Connect the sidewalk in front of the public safety building with the state-owned sidewalk on Fenn Road

1. Determine when the public safety building will be finished
2. Consult with students, faculty, CCRPA, New Britain, and ConnDOT to create a final design
3. Determine which pedestrian amenities should be installed
4. Proceed with normal purchasing and contracting process

Figure 11. Desire path along Cedar St

A sidewalk was installed on Fenn Road as part of the CTfastrak project. CCSU plans to connect this sidewalk to the campus when the new public safety building is done being constructed. It is imperative that this sidewalk be constructed as soon as possible to link students to the Stop & Shop plaza in Newington, as well as the forthcoming CTfastrak station.

Actions

### Work with regional partners to address safety concerns on Fenn Road

1. Review existing CRCOG study of Fenn Road
2. Convene a meeting with regional partners to discuss current situation
3. If needed, work with regional partners to restudy the corridor
4. Ensure students, faculty, and staff are involved in the process
5. Work with regional partners to fund construction of study recommendations

The intersection of Fenn Road and Cedar Street (Route 175) is busy, complicated, and a deterrent to pedestrians. A total of 18 lanes meet at this intersection, with numerous forced and protected turns. The Capitol Region Council of Governments (CRCOG) conducted a study of the area (focusing on the intersection of Route 175, Fenn Road, and the Route 9 off-ramps) that suggested a number of potential improvements. Suggested improvements included: near-term implementation of access management techniques (such as shared access between parcels), improvements to the pedestrian environment, and long-term construction projects such as relocating route 9 on and off ramps.

CCSU should work with interested parties, such as CRCOG, CCRPA, Newington, and New Britain to revisit past studies and develop a plan that improves traffic flow, addresses safety concerns, and enhances the pedestrian environment.

Figure 12 A broken sidewalk on Francis St.

### Work with local partners to ensure sidewalks surrounding CCSU are well maintained

Actions

1. Work with CCRPA, students, New Britain, and ConnDOT to develop sidewalk evaluation criteria
2. Engage regional partners and CCSU students in an evaluation project
3. Develop recommendations based on evaluations
4. Work with regional partners to identify funding for implementation

While sidewalks are present on most of the streets surrounding CCSU, many of them are in poor condition. CCSU should work with the appropriate parties to make sure these deficiencies are addressed. Broken sidewalks are not only an eyesore but are a hazard and a deterrent to pedestrians.

Actions

### Develop a tree planting plan to provide shade along walking paths

1. Work with faculty, students, and regional partners to determine a scope and goals for a tree planting plan
2. Develop an inventory of on-campus trees
3. Determine where new trees would be appropriate and beneficial to pedestrians
4. Using student labor, develop a detailed planting plan
5. Seek funding to implement

While much of CCSU is covered in walking paths, few of those paths are shaded. During much of the school year, this is not an issue (late fall and winter), but in late spring and during the summer session walking on unshaded paths becomes uncomfortable. Planting trees along walking paths will create a more comfortable walking environment, improve the aesthetics of the campus, and encourage students to spend time outside on campus. A full tree canopy will also help reduce the heat island effect and sequester carbon, leading to significant progress on CCSU's sustainability goals.

Actions

### Work with regional and local partners to study the potential for a "road diet" on Ella Grasso Boulevard/Eddy Glover Boulevard

1. Review New Britain's proposal for a multi-use trail on Eddy Glover Boulevard
2. Meet with regional partners to discuss study parameters
3. Work with CCRPA to perform a traffic study of Ella Grasso Boulevard
4. Meet with regional partners to evaluate the study and determine a course of action
5. Engage with the local and campus communities
6. Work with regional partners to identify funding for the project

Ella Grasso Boulevard, which turns into Eddy Glover Boulevard west of Stanley Street, is both a major access route for drivers, and a major impediment for users of other modes of transportation. The road, while meant to carry local traffic, is designed like a highway (with two lanes in each direction, separated by a median). The design lacks pedestrian and cyclist amenities and, by providing for more capacity than is justified, encourages speeding. This design makes using non-automotive modes of transportation dangerous. Bus riders, who, until recently, were dropped off on the northern side of Ella Grasso Boulevard, had to run across four to five lanes of fast moving traffic to arrive safely on campus. Pedestrians wishing to visit Stanley Quarter Park, just a few hundred feet from campus, must cross this imposing road.

A road diet on Ella Grasso would alter this situation and considerably improve the campus environment. More details can be found in the *Further Information* section below, but the basic idea would be to reduce the number of lanes on Ella Grasso and Eddy Glover Boulevards, and install a multi-use path on the north side. This path would be separated from automobile traffic and would permit cyclists and walkers safe access to CCSU, Stanley Quarter Park, and the soon-to-open CTfastrak station/multi-use trail on Fenn Road.

Actions

### Explore speed reduction options on Stanley Street

1. Work with regional partners to study Stanley Street
2. If warranted, conduct study with regional partners
3. Analyze study results and choose course of action
4. Work with regional partners to secure funding

Stanley Street is a crucial transportation link for CCSU. All three bus routes serving the campus have stops on Stanley, and numerous students live in the neighborhoods to its west. It also tends to be a very fast road. Despite the proximity to residential neighborhoods, the official speed limit is 35 mph, 10 mph higher than both Ella Grasso Boulevard and Paul Manafort Drive. Unlike those roads, which see relatively high levels of speeding (more so on Ella Grasso), 95% of vehicles stay within the posted limit, and the balance go less than 10 mph over the limit.

Pedestrian crossings are limited as well. There are three crossings along the length of CCSU, one at Ella Grasso Boulevard, one at Commonwealth Avenue, and one at Francis Street. The crossing at Commonwealth is uncontrolled; there are no stop lights or signs.

Options for calming traffic on this road should be explored. Signs directing drivers to yield to pedestrians could be installed, either on the side of the road or between lanes at cross walks. New Britain's Bicycle

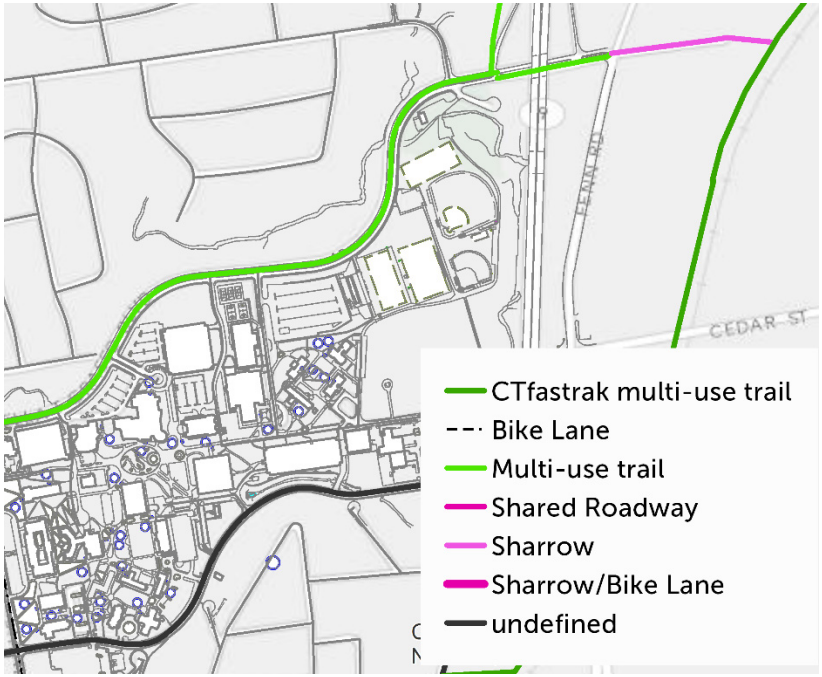



Figure 13 A possible redesign of Ella Grasso Blvd

Connectivity and Traffic Calming Study calls for "sharrows" to be installed on Stanely Street, which may encourage slower speeds. Options for changing the official speed limit on this section of the road should also be explored.

Stanley St is also a state highway so any changes must go through the Connecticut Department of Transportation

Actions

### Install pedestrian amenities under Route 9

1. Meet with regional partners to discuss studying options for pedestrian amenities
2. Convene a group of students, faculty, staff, and members of the local community
3. Work with stakeholders to design pedestrian amenities
4. Work with regional partners to secure funding

East Street is the primary link between campus and the Stop and Shop plaza on Fenn Road. In the coming years, it will also be the primary link between campus and the CTfastrak station on Fenn Road and its accompanying multi-use trail. When CCSU finishes constructing its new public safety building, a sidewalk will be installed under Route 9 and will connect to the existing sidewalk on Fenn Road, providing a crucial pedestrian link.

To ensure that this linkage is safely utilized, some pedestrian amenities should be installed. Lighting for evening walkers is essential for public safety and should be installed when the sidewalk is complete. The university should also consider having students paint murals under Route 9 (with ConnDOT's approval) to provide a more inviting atmosphere.

# Biking

This is the biking section of the Central Connecticut State University Transportation Demand Management Plan. It is designed to work in concert with the rest of the plan.

A significant percentage of off-campus students live within a few miles of campus. Currently, significant barriers to cycling exist, causing many who may otherwise ride a bike, to drive to campus. This section suggests a number of policies that can encourage cycling, as well as physical infrastructure that will improve the cycling environment.

# Implementation

| Action | Timeframe | Partners | Cost |
|---|---|---|---|
| Infrastructure | | | |
| Install bike racks where necessary | Short | | ~$100 per rack |
| Secure bike storage in residence halls | Short | | $1,400 - $1,700 per locker |
| Provide secure bike parking at the student center | Medium | ConnDOT, CCRPA | $1,400 - $1,700 per locker |
| Coordinate with local and regional partners to install bike infrastructure around CCSU | Long | New Britain, CCRPA, CRCOG, ConnDOT, Newington | TBD |
| Work with regional partners to install bicycle wayfinding signs | Medium | CCRPA, New Britain, ConnDOT, Newington, CRCOG | TBD |
| Start a pilot bike share program at RECentral | Medium | ConnDOT, CCRPA, New Britain | TBD |
| Information | | | |
| Add bike parking to the official campus map | Short | CCRPA | N/A |
| Offer a cycling class through RECentral | Medium | RECentral, Bike Walk Connecticut | TBD |
| Emphasize that showers are available in the gym for cyclists | Short | RECentral | N/A |
| Start a Bike to School Day in the Fall | Short | Bike Walk Connecticut, CCRPA, New Britain | N/A |

Short = within a year; Medium = within 3 years; Long = more than 3 years

# Background & overview

Cycling can be one of the most convenient and sustainable modes of transportation for college students. Riding a bike provides a much greater range than walking and is cheaper than both driving and taking the bus. As with driving, it offers the user a great deal of freedom and flexibility. It is also virtually emissions free and causes minimal wear and tear on the roads.

Figure 14. Maloney Hall could use a bike rack

Without the proper support, information, and infrastructure, high cycling rates may be unattainable. For people to safely and efficiently get around on a bike, supportive infrastructure must be present on roads and streets. Potential users must also be given accurate and timely information regarding safe rotues, distances to destinations, and responsible cycling behavior. CCSU will need to work with many regional partners to ensure these conditions are met.

## Infrastructure

Infrastructure is probably the most important part of the equation. Without safe roads to ride on, and safe places to store bikes, people are unlikely to bike. There will always be a few individuals who will not be deterred by heavy traffic, but for broad acceptance to occur, the infrastructure must be present. While CCSU cannot act alone in this regard, it can play an important role as a convener, stakeholder, advocate, and partner in implementation.

### Install bike racks where necessary

Actions

1. Convene meeting with students and facilities management to determine if extra racks are necessary
2. Determine locations where racks should go
3. Purchase and install racks
4. Document where racks are and update maps
5. Reevaluate locations on an annual or semi-annual basis

CCSU has 27 bike racks on campus, with space for more than 100 bikes. While this is a good start, some areas of campus are still without adequate bike parking, forcing riders to lock their bikes to other objects, such as railing and sign posts. CCSU staff should take notice of bikes being locked to other objects and install bike racks in those locations. The university should endeavor to have bike racks at every building on campus.

Actions

### Provide secure bike storage in residence halls

1. Convene meeting with resident students, facilities management, and residence life
2. Survey students to determine demand for secure parking
3. Determine if existing space can be used, or if equipment will need to be purchased
4. Determine how to control access and how spaces will be assigned/shared
5. Get quotes for necessary equipment
6. Get funding put in the budget for necessary equipment
7. Implement and monitor

During focus group sessions, many students, especially those who live on campus, expressed concern over bike thefts. With space at a premium inside dorm rooms, the only option is for a resident student is to lock their bike to a bike rack outside. This solution is problematic in the winter and leaves the bike vulnerable to theft.

Within each dorm building, a secure space could be set aside for bike storage. The most likely place would be in the basements of the dorms. The cost of implementing this policy would be minimal and would provide a valuable service to resident students.

An alternative would be to purchase bike lockers. These are boxes made of either composite materials or metal, that allow a user to roll their bike inside and secure it from theft and the elements. They can be expensive, however, at roughly $1,500 for a two bike locker. This may seem like a lot, but it is much cheaper than an automobile parking space.

Figure 15. A row of bike lockers

Actions

### Provide secure bike parking at the student center

1. Convene meeting with campus stakeholders
2. Survey students, faculty, and staff regarding need
3. Determine if existing space can be used, or if equipment will need to be purchased
4. Develop access control and space assignment policies
5. Get quotes for necessary equipment
6. Get funding put in the budget for necessary equipment
7. Implement and monitor

Staff, faculty, and students who commute to campus via bicycle need secure storage for their bikes that is protected from the elements and theft. Bike racks are great for short-term or infrequent bike storage, but for dedicated bicycle commuters, a better solution is a bike locker. People are much more likely to bring their bikes to CCSU if they know they will be safe from vandalism, theft, and the weather.

As noted above, bike lockers can be expensive (with a cost in the neighborhood of $1,500). A small rental fee should be charged to defer the cost and ensure they are available to frequent riders who will benefit from them the most. Students could also be allowed to trade their parking pass for a bike locker.

### Coordinate with local and regional partners to install bike infrastructure around CCSU

Actions

1. Meet with regional partners to discuss existing and future bike infrastructure plans
2. Convene a stakeholder group of students, faculty, staff, and community members to determine which segments are priorities
3. Work with regional partners to secure funding to implement priority segments

Research strongly suggests that bicycle infrastructure, such as bike lanes, designated bike routes, and protected bike paths, reduce the chances of being injured. Research also shows that a majority of cyclists prefer streets with bicycle infrastructure and that people are more likely to ride bikes when such infrastructure is present.

Many of CCSU's regional neighbors have plans to install bicycle infrastructure. CCRPA's Long-range Transportation Plan includes a network of regional bikeways. New Britain just completed a bicycle and pedestrian plan that includes a city-wide network of bike lanes, shared lanes, and separated bike paths (see Figure 16). The Capitol Region Council of Governments hosts a very active bicycle advisory committee and many of its member towns are pursuing bike networks of their own.

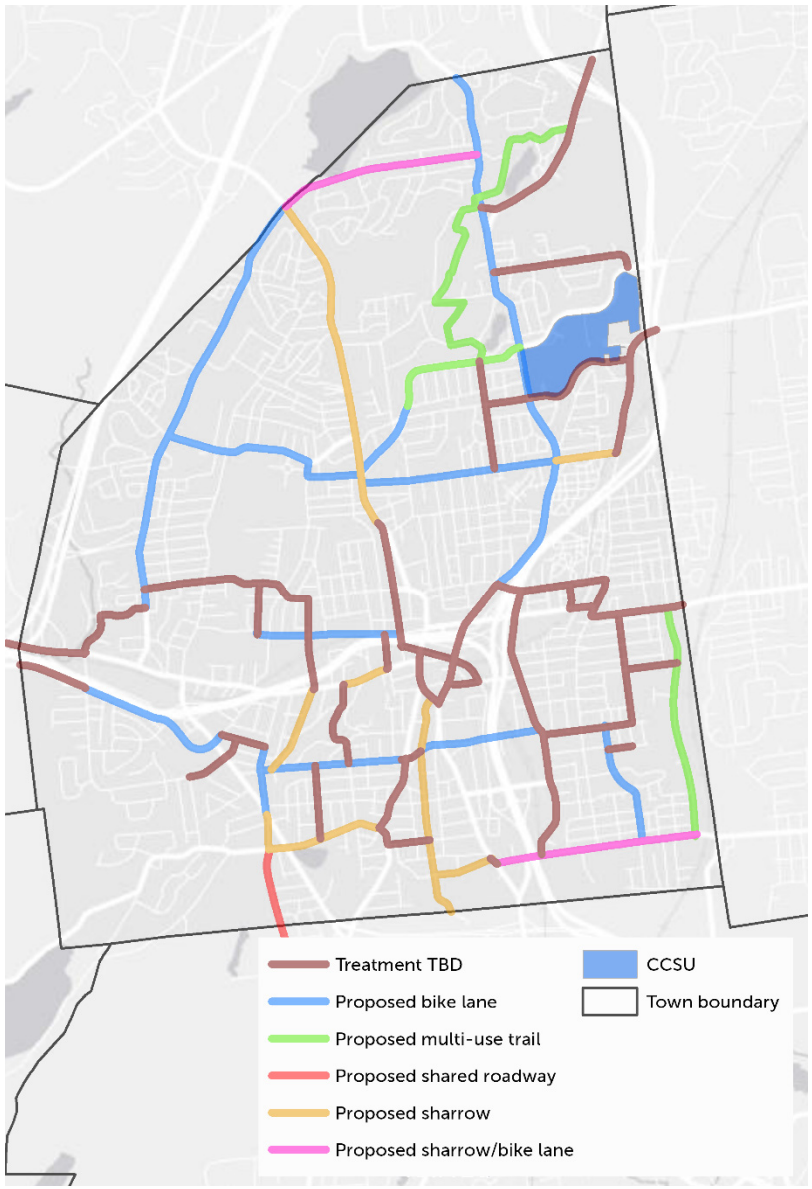



Figure 16. New Britain's proposed bike network

CCSU should work with its neighbors to ensure that bike paths that are most useful to its community are included in these plans and implemented. As a major regional destination, paths leading to CCSU should be of importance to planners. Actively engaging with regional partners will help ensure that CCSU's needs are considered.

Actions

### Work with regional partners to install bicycle wayfinding signs

1. Meet with regional partners to discuss a bicycle wayfinding system
2. Choose routes to install signs on
3. Determine destinations to be listed for each route
4. Determine locations to install signs
5. Work with regional partners to ensure signs are installed
6. Install signs on CCSU campus

Once an extensive network of bicycle routes is in place, wayfinding signs should be installed on campus, around campus, and throughout the region. CCSU should work with CCRPA, CRCOG, ConnDOT, and surrounding towns to ensure that wayfinding signs, with key information, are placed throughout the region. Not only will these signs helps cyclists get to CCSU safely, but they will also help CCSU students, faculty, and staff get from campus to area attractions.

Actions

### Start a pilot bike share program at RECentral

1. Meet with regional partners to discuss ongoing plans for a regional bike share program
2. Engage students, faculty, and staff to determine interest in and need for a bike share program
3. If warranted, work with RECentral to develop a pilot program
4. Secure funding for durable bikes
5. Develop a system for checking out bikes with blue chip cards
6. Develop maintenance and payment system (if any)
7. Implement program
8. Analyze progress and determine if changes need to be made

Many participants of outreach meetings showed interest in having a bicycle sharing program at CCSU. Considerable care will necessary though, as bike share programs involve a number of logistical hurdles. Logistical issues include maintenance, inventory tracking, check-in and check-out procedures, and liability. These details must be considered before starting such a program. Supportive road infrastructure should also be present to provide participants with safe routes to ride on.

A pilot program administered by RECEntral would be a good starting point. A limited number of bikes could be made available to interested students during normal RECEntral business hours. These bikes would primarily be used for recreational purposes. Once the system is up and running, and logistical issues are successfully overcome, the system could be expanded to include more bikes at multiple locations.

Initial discussions have taken place at the regional level to start a large-scale bike share program. Representatives of CRCOG, ConnDOT, CTTRANSIT, and CCRPA have met to discuss starting a bike share program intended to support the forthcoming CTfastrak service. CCSU's close proximity to this service may allow it to take part in this initiative. CCSU staff should coordinate with regional partners to explore this option.

# Information

While physical infrastructure is vitally important, information also provides critical support to cyclists. Potential riders need to know where the physical infrastructure is, and that it is present at all. In the survey that was conducted as part of this planning process, many respondents expressed surprise upon learning that public transportation was available at CCSU; if the university and its partners are not active, similar results may be seen regarding future bicycle infrastructure.

### Add bike parking to the official campus map

Actions

1. Digitize bike rack locations (done)
2. Add to official campus map
3. Update as necessary

While parking lots and garages are clearly identified on campus maps, bike racks are not. Putting them on the official map is a cheap and easy way of advertising bike infrastructure and will become especially important if secure bike storage lockers (see above) are installed on campus. Information on where bike racks are located is already available in the facilities department's campus plans (see Figure 17).

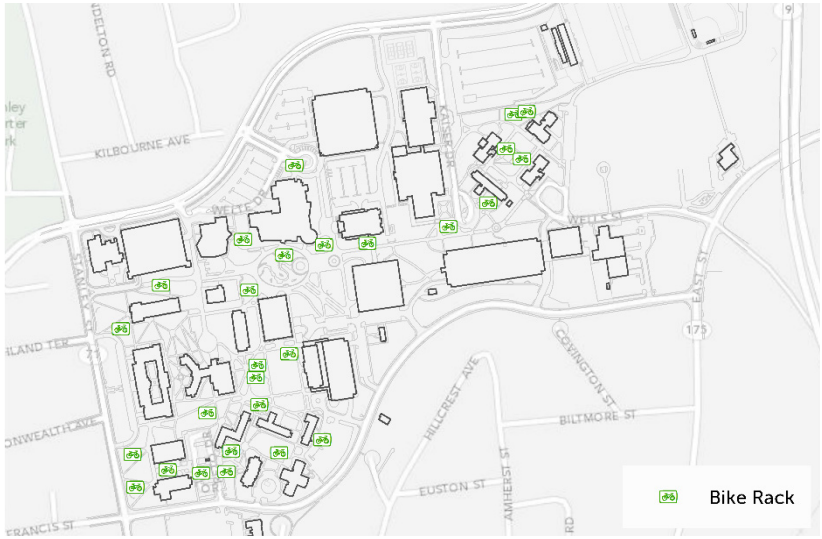



Figure 17. Locations of bike racks at CCSU

Actions

### Offer a road cycling class through RECentral

1. Meet with RECentral personnel to determine if resources are available
2. Research road cycling instructor programs
3. Invite League of American Cyclists representatives to give a seminar on road cycling
4. Get staff certified
5. Off a non-credit class to interested students

While bicycle infrastructure can make for a safer cycling environment, safe cycling practices are also important. Most people learn to ride a bike when they are kids, and are given rudimentary safety advice, but few are trained to safely ride with traffic.

RECentral, or another department, should offer a class on road cycling safety. The League of American Cyclists offers a League Cycling Instructor certification program[2] that RECentral staff could obtain. Trained could offer a road cycling class that would teach students and faculty/staff to ride safely on city streets.

Actions

### Work with Bike Walk CT to start a Bike to College Day in the Fall

1. Meet with Bike Walk CT and other nearby colleges
2. Decide on an appropriate day to for Bike to College day
3. Meet with student groups to promote the event
4. Evaluate success of event and refine for next year

[2] http://www.bikeleague.org/programs/education/seminars.php

Every year in May, the National Safe Routes to School Center sponsors a Bike to School day, aimed at getting elementary school students to ride their bikes to school. Modeled on this initiative, and Bike to Work Day events, CCSU should hold a Bike to College Day in the Fall.

Students, faculty, and staff would be encouraged to try biking to campus during one of the first weeks of classes. It is important that this event be held in the fall so that students are reached before they fall into commuting patterns. Participants would be rewarded with promotional items, such as water bottles and other biking accessories. A system of tiered rewards, including discounts on food or other items, could also be offered.

# Appendices

This section of the Central Connecticut State University Transportation Demand Management Plan deals has details on the some of the more complicated projects and policies contained in this plan. To keep the main body of this plan short, data and drawings that will be necessary to implement these projects have been moved to this section.

Projects detailed in this section include the Ella Grass Boulevard Road Diet and the pedestrian wayfinding signage plan.

# Appendix A: Ella Grasso Blvd

## Introduction

In consultations with students and faculty, the safety of roads surrounding CCSU was frequently brought up. Of particular concern were Fenn Road and Ella Grasso Boulevard/Eddy Glover Boulevard. The latter forms the northern border of campus and acts as the primary gateway to campus for drivers traveling south on Routes 9 and 71. It provides the only access to the Kaiser parking lot, used for the athletic fields (including the football stadium), and the student center garage.

## Existing conditions

While this road is an important access route, it is also commonly cited for safety concerns. There are no pedestrian crossings except at its intersection with Stanley Street and there is no sidewalk on the north side. The CTTRANSIT Route 69 bus also used to drop students off across from the student center (a popular destination) on the north side of this road, stranding them without a crosswalk or a sidewalk. The latter problem has been rectified (CTTRANSIT no longer stops at this location and riders must wait until they arrive at the designated stop on Stanley Street), but it does not solve the issue of access to popular campus destinations. Ella Grasso Boulevard only provides convenient access for drivers, not for other users.

Furthermore, the physical design of the road is problematic and may be unsafe. It is a four lane road (five in some places) that is divided by a central median. The ample room this design provides encourages high speed driving. Drivers are further encouraged to drive fast by the clear sight lines the road provides.

In contrast to the open design of Ella Grasso, Paul Manafort Drive, which forms the southern border of campus, is narrow. Paul Manafort is just two lanes for most of its stretch. The road is also lined with trees lining most of its length. These characteristics encourage slower speeds. As will be shown below, real world observations confirm this.

Data collected by CCRPA show that Ella Grasso Boulevard is overdesigned, and that a much narrower road would suffice. During the fall

semester, CCRPA placed traffic counters at the eastern and western ends of both Ella Grasso Boulevard and Paul Manafort Drive. While these roads are physically very different, traffic counts show they carry nearly identical traffic loads. Weekday average daily vehicle totals show that Ella Grasso, at its busiest location, carries 5,375 eastbound cars and 5,706 westbound cars. Paul Manafort carries 5,192 eastbound cars and 5,263 westbound cars.

While volumes on the two different roads are equal, the speeds vary considerably. Both roads have 25 mile per hour speed limits. On Ella Grasso Blvd, just over 10% of drivers stay within 5 mph of the limit. On Paul Manafort, 27% of drivers stay within the limit. Allowing drivers to exceed the limit by 10 mph (for a total speed of 35 mph) brings that up to 75% on Paul Manafort but just 44% on Ella Grasso.

While speeds of 35 mph do not sound that high, it is important to weigh them against the severity of potential pedestrian injuries. A report by AAA showed that the risk of severe injury to a pedestrian increased dramatically with speed. At 25 mph, the speed limit of both roads, risk of severe injury was around 30% and risk of death was around 15%. By 35 mph, those numbers climb to 50% and 30% respectively. That is, the risk of death doubles with just a 10 mph increase in

Figure 18. The physical designs of Paul Manafort Rd (on top) and Ella Grasso Boulevard (on bottom) are vastly different

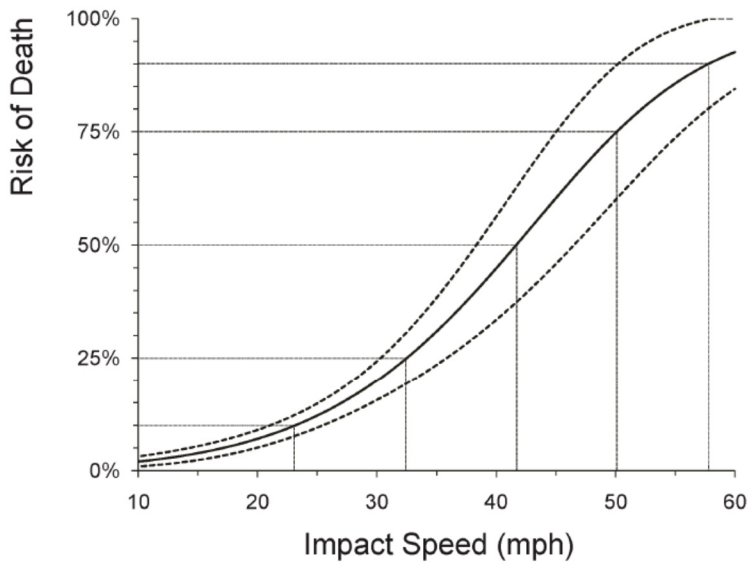



Figure 19. The relationship between vehicle speed and risk of death. From *Impact Speed and a Pedestrian's Risk of Severe Injury or Death,* Brian C. Tefft. AAA Foundation for Traffic Safety. 2011

speed. Our data shows that 56% of drivers on Ella Grasso Blvd drive at speeds that, 30% of the time, would kill a pedestrian.

# An alternative

Following an in-depth study, Ella Grasso Boulevard could be reduced to one eastbound and one westbound lane with left turn lanes at intersections. The northern half of the road could be converted to a multi-use trail for pedestrians, cyclists, and roller bladers. The multi-use trail would switch from the north side to the south side at the intersection with Barbour Street. A protected crossing would be installed at Fenn Road, and the trail would continue on Holly Drive as a shared roadway for a few hundred feet before connecting to the CTfastrak multi-use trail. The New Britain Bicycle Connectivity and Traffic Calming Study (completed in Spring 2013) recommends a similar treatment west of Stanley Street on Eddy Glover Boulevard.

The result would be a significantly improved environment for the university community. As shown in Figure 20, a multi-use trail would provide an attractive and useful amenity for local residents and the university community. The tree-lined protected path would provide cyclists and walkers with a safe environment while the narrower road would slow traffic, enhancing overall safety.

This plan is preliminary and a traffic impact study should be done before implementation proceeds. Of particular concern is the area beneath the Route 9 overpass. The relatively simple traffic pattern that is present along most of Ella Grasso Boulevard becomes considerably more complex in this area. An on-ramp and off-ramp, as well as the intersection with Fenn Road, introduce numerous turning movements. As shown in Figure 22, with some care, all users can be accommodated within a narrower roadway.

Figure 20. Cross-section of the proposed road diet

# Next steps

Before this can be implemented, further study is needed. The traffic counts done by CCRPA did not include game day traffic. Extra traffic is generated by football games, which must be considered before any alterations are made. Alterations could, however, improve traffic flow on game days. Funding would also need to be sought for the physical improvements that would be necessary, such as barriers and bike friendly signals. The crossings at Fenn Road and the Route 9 off-ramp would need to be carefully designed to ensure they are safe.

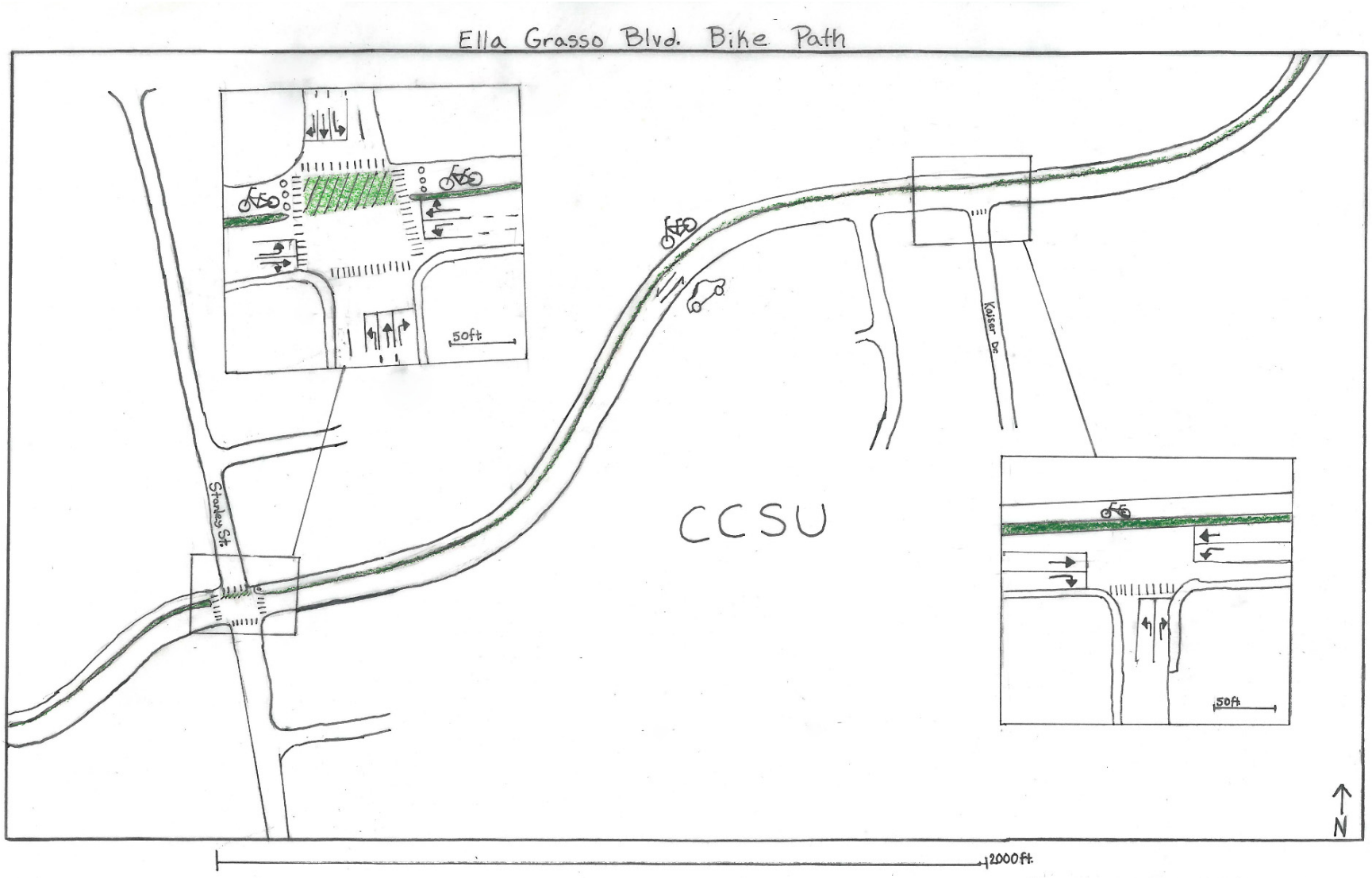



Figure 21. The proposed road diet directly east of Stanley Street

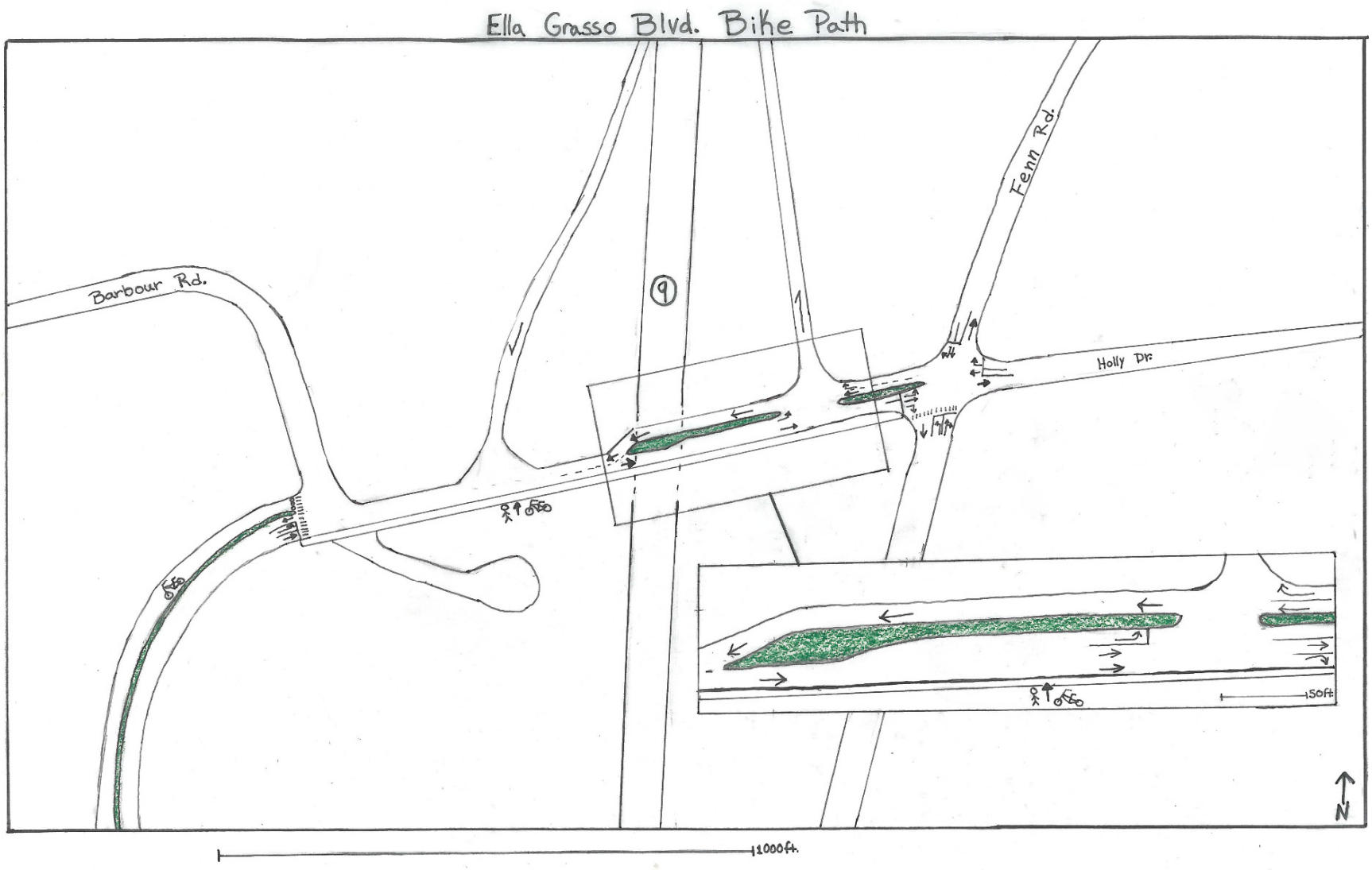



Figure 22. The proposed road diet in the vicinity of Route 9

# Appendix B: Wayfinding

## Introduction

A consistent wayfinding system acts as both support to users of modes of transportation other than single-occupancy vehicles, and as encouragement to potential users of those modes. It provides valuable information about how each location on campus can be reached, how long it will take, and what is close by. With this information in hand, members of the campus community can make informed decisions about transportation.

### The need

CCSU is a very compact campus, making it a potentially great environment for walking. A walking audit of the campus was performed by CCRPA staff to determine how long it takes to get to and from various locations. Crossing the length of the campus takes between eight and ten minutes. The longest recorded time was ten minutes, from Welte garage to Arute Field. Most areas of the campus can be reached in under five minutes.

While the size of the campus is conducive to walking, little support is provided to walkers. Signs are few and far between along walking paths, and completely absent within parking garages. A few campus directory signs are available, though not directly adjacent to popular entry points, such as the parking garages or the bus drop-off points. Visitors are given no guidance upon leaving garages and must seek out one of the few campus directories.

In addition to helping people find their way, an opportunity exists to influence people's decisions about how they get around. As noted above, most locations on campus are within a five to ten minute walk from other locations. Good directional signage, that also provides valuable information about walking times, will encourage more walking. Knowing that your next class is an eight minute walk and that the garage where your car is located is a five minute walk, will help you make an informed decision about whether or not to drive.

# Guiding principles

A few principles guide all successful wayfinding systems. For starters, the system should be consistent in coloring, typefaces, style, and content. Consistency helps make the system recognizable, usable, and memorable. The system should also be highly visible but pleasing to the eye. All stylistic elements should be eye catching without being distracting or ugly. Importantly, the wayfinding system should not blend into the background or be easily mistaken for another form of signage. For this reason it is important to avoid styles that may be mistaken for branding, road signs, or building identification signs. Finally, the system should be information-rich without being overwhelming. A limited, but consistent amount of information should be shown on each sign. It is essential that extraneous information be eliminated from signs so that important, useful, information can be included.

# Proposed sign plan

As part of this project, a wayfinding sign plan was developed. This section contains maps of proposed locations for three different categories of signs: academic buildings, transportation facilities, and “support” buildings (such as the library and the student center). For each location proposed content is provided. Each sign has a number of locations along with a directional arrow and estimated walking times.


Figure 23. A proposed color-coded map of the campus

A map that uses the same color scheme is also provided. Academic buildings are shown in blue, parking and transportation is shown in

grey, and residence halls and support buildings are in brown. The consistent color scheme will the system much more usable.

Each location is to be printed on its own signs. By keeping each location as a separate physical sign, the system can be easily modified. If a new building is constructed, signs can be printed and added to the existing wayfinding system. Off–campus locations can also be added, such as the forthcoming CTfastrak station located on Fenn Road. The modular nature of the signs also allows unpopular locations to be replaced by more frequently trafficked ones.

A different set of signs should be created for parking garages. These signs should be comprehensive so that visitors are given immediate directions to their eventual destinations. They should be posted at common exits to the garages. These signs will also serve as a reminder to students, faculty, and staff about how walkable the campus is.

## Costs

The signs have been designed to be attractive but cost-effective to print. Any number of sign vendors can print them at relatively low cost. A single copy of sign, with setup fees, is around $40. Additional copies can be printed for $20.

Significant savings could be generated by high quality wafinding signs. Each hears, hundreds, if not thousands, of campus maps are distributed to visitors. Good signage would greatly reduce the need for such maps, saving the university money and reducing waste; a side benefit would be the advancement of sustainability goals.

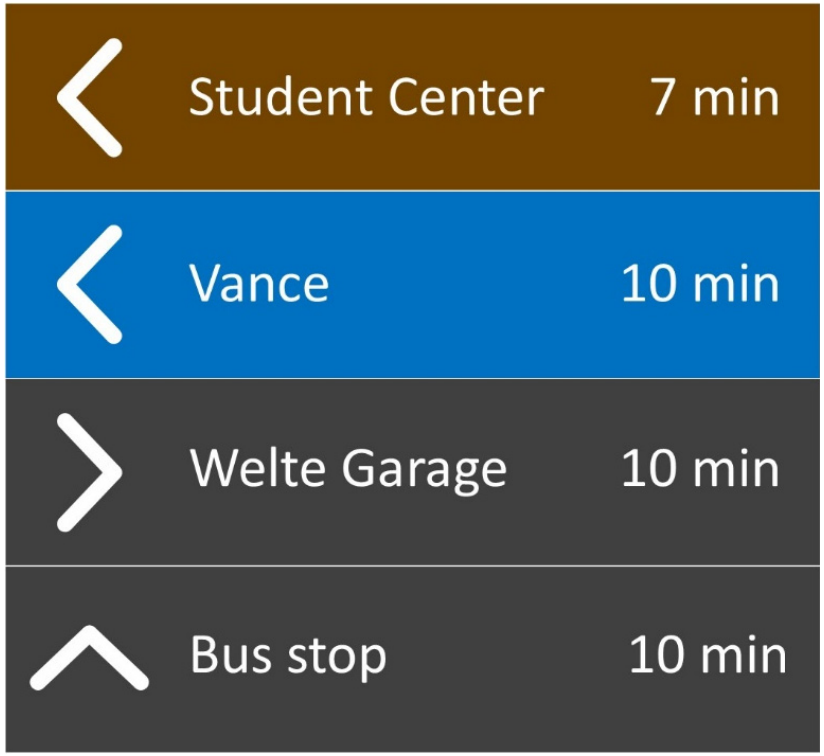



Figure 24. A sample of what a wayfinding sign would look like

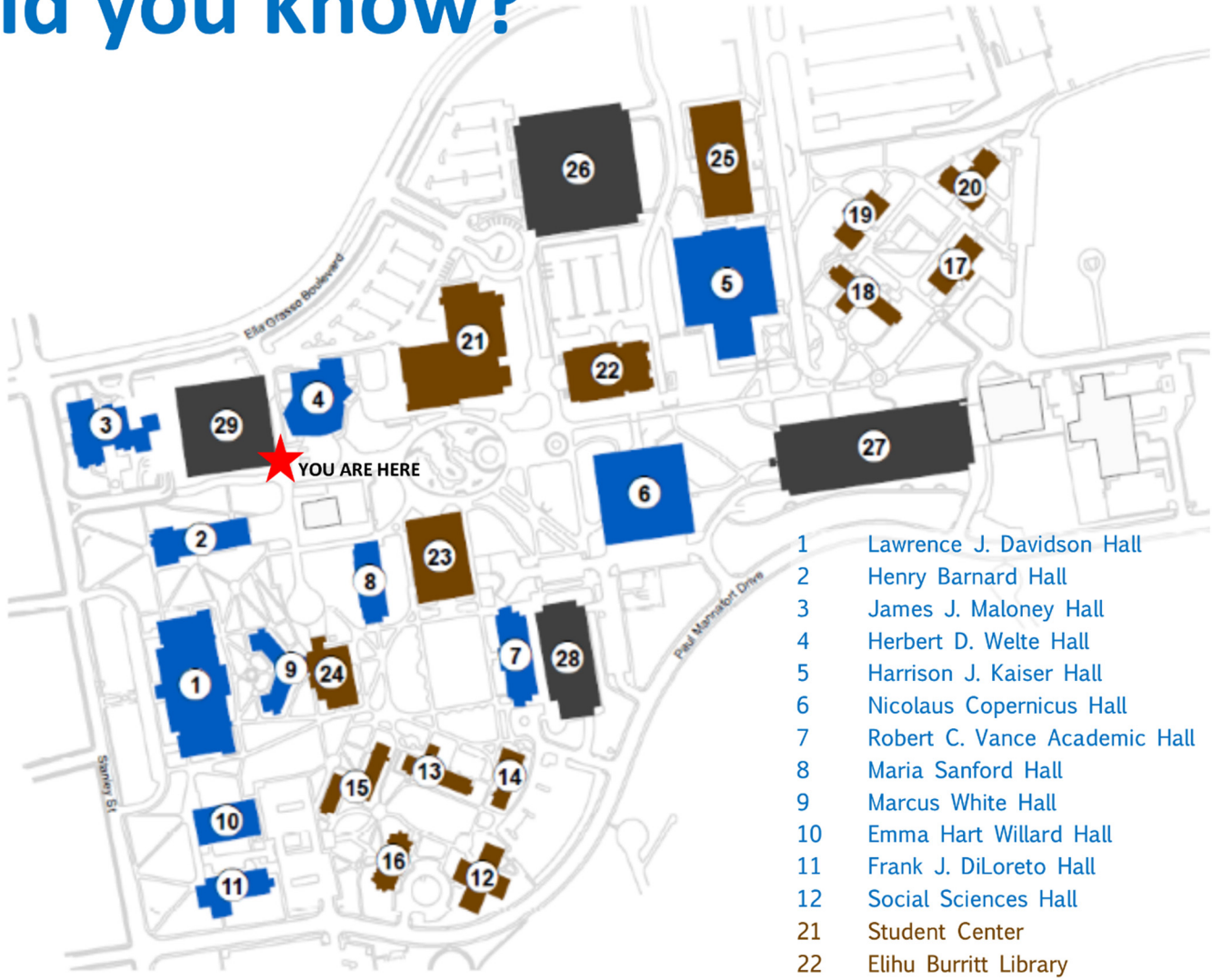
# Sample signs

Included below are details of the proposed wayfinding system. Figure 24. A sample of what a wayfinding sign would look like what the signs would look like. Four mockups of signs to be placed in popular parking areas are also included. They indicate the reference location and walking distances to each building. A map is also provided that shows where each directional sign would be installed. Following this map is a table that shows which locations would be included on each sign. The purpose of these mockups is to make this wayfinding plan "shovel-ready". Original files are available from CCRPA.

With much of the ground work completed, this sign plan can be quickly implemented. Final designs can be created through meetings between CCSU and CCRPA, with input from design students. An RFP for sign printing could then be released. Within a few months, the signs could be installed on campus.

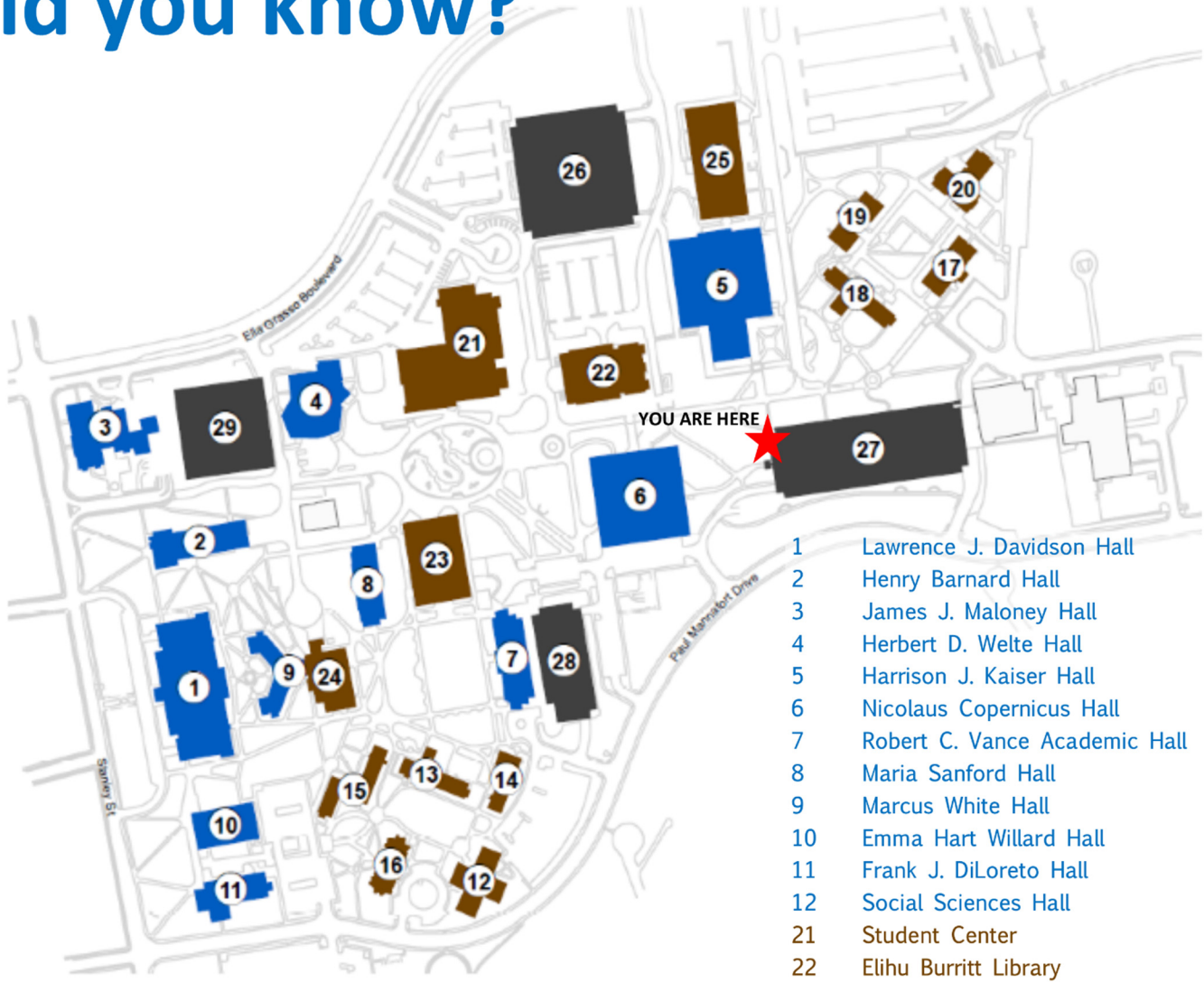
Mockups of parking area signs

# Did you know?



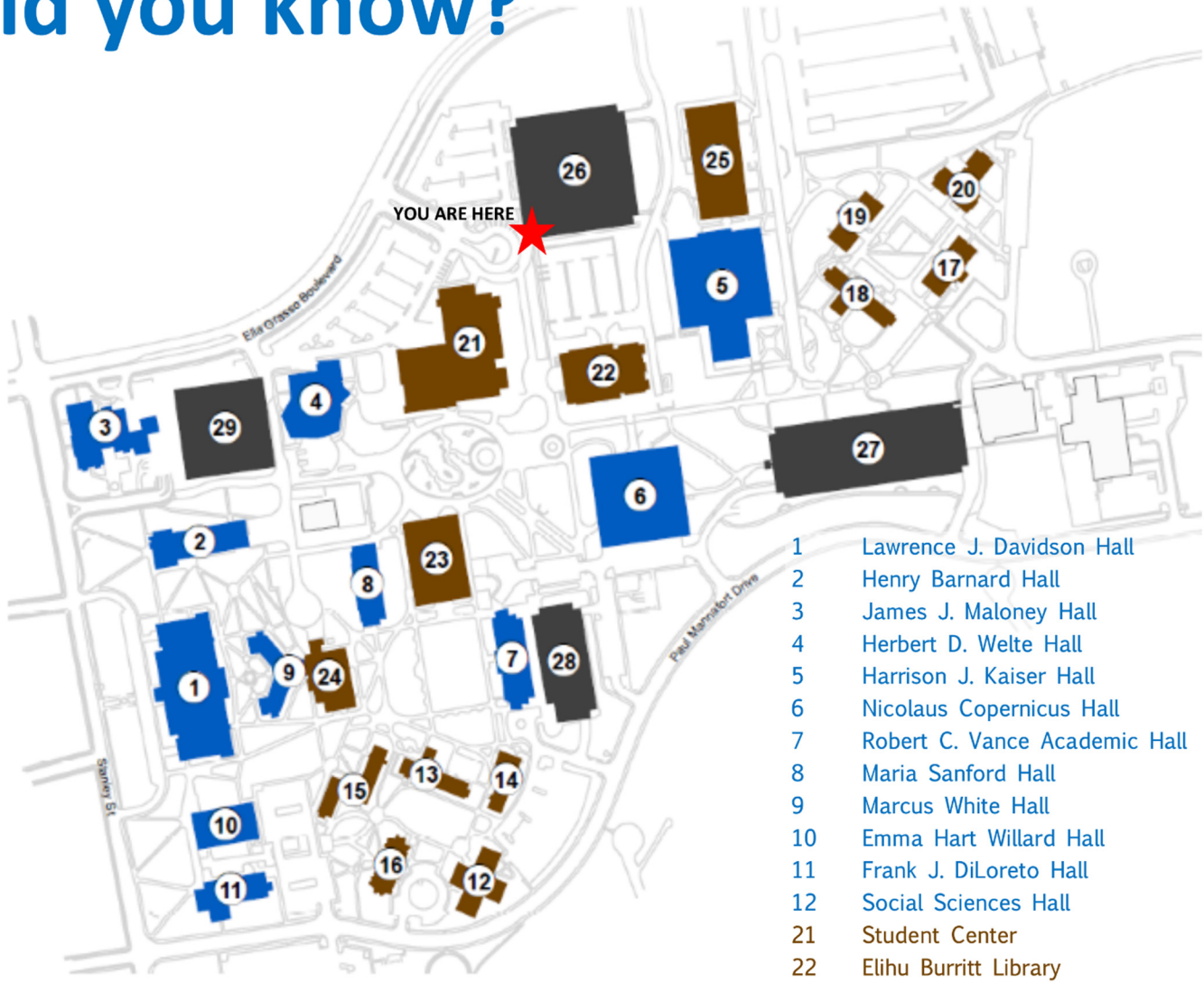

| | | |
|---|---|---|
| 1 | Lawrence J. Davidson Hall | 2 min |
| 2 | Henry Barnard Hall | 1 min |
| 3 | James J. Maloney Hall | 1 min |
| 4 | Herbert D. Welte Hall | 1 min |
| 5 | Harrison J. Kaiser Hall | 6 min |
| 6 | Nicolaus Copernicus Hall | 5 min |
| 7 | Robert C. Vance Academic Hall | 4 min |
| 8 | Maria Sanford Hall | 3 min |
| 9 | Marcus White Hall | 4 min |
| 10 | Emma Hart Willard Hall | 4 min |
| 11 | Frank J. DiLoreto Hall | 5 min |
| 12 | Social Sciences Hall | 2 min |
| 21 | Student Center | 3 min |
| 22 | Elihu Burritt Library | 4 min |
| 23 | Memorial Hall | 3 min |

# Did you know?



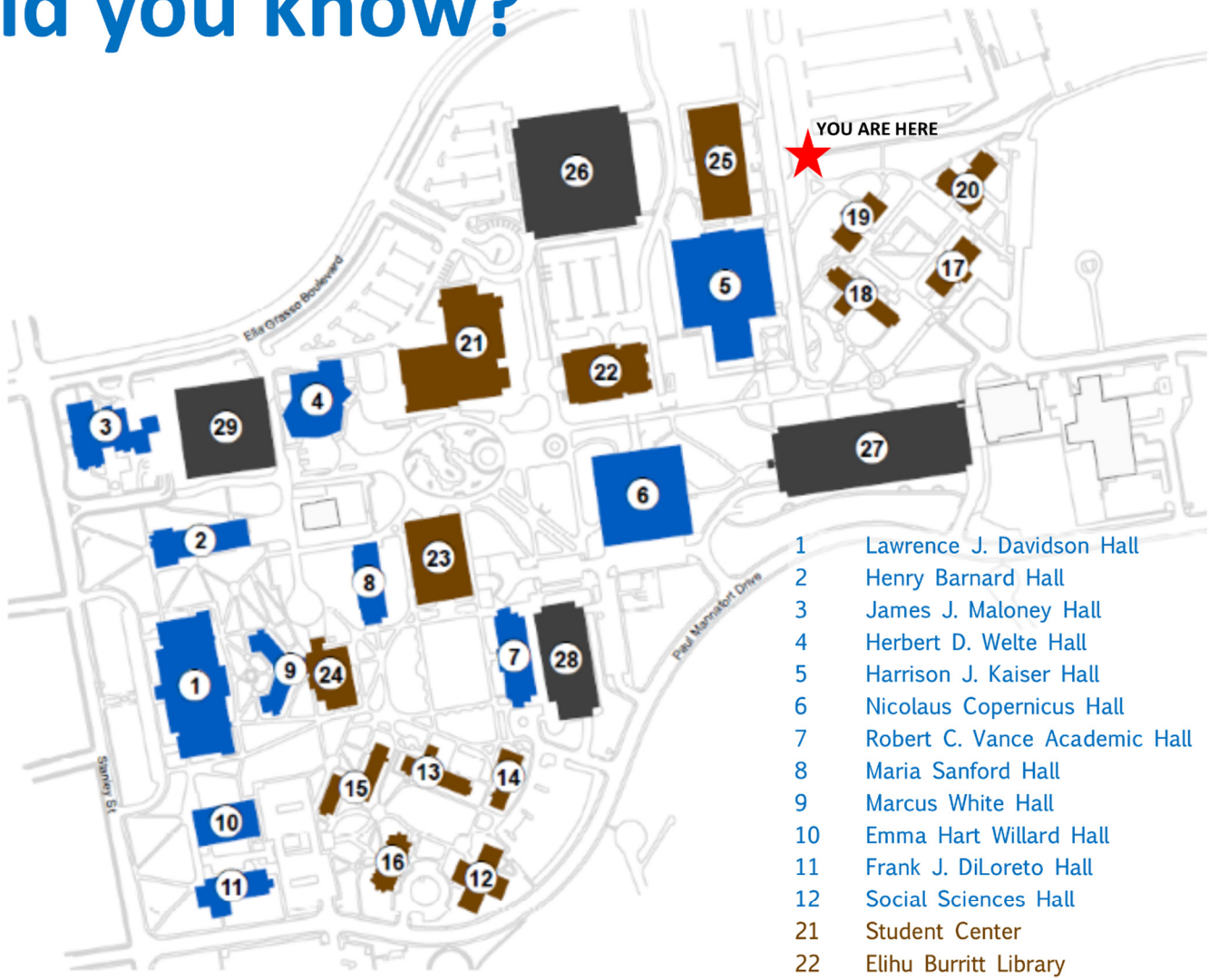

| | | |
|---|---|---|
| 1 | Lawrence J. Davidson Hall | 7 min |
| 2 | Henry Barnard Hall | 6 min |
| 3 | James J. Maloney Hall | 7 min |
| 4 | Herbert D. Welte Hall | 5 min |
| 5 | Harrison J. Kaiser Hall | 1 min |
| 6 | Nicolaus Copernicus Hall | 1 min |
| 7 | Robert C. Vance Academic Hall | 3 min |
| 8 | Maria Sanford Hall | 4 min |
| 9 | Marcus White Hall | 5 min |
| 10 | Emma Hart Willard Hall | 7 min |
| 11 | Frank J. DiLoreto Hall | 7 min |
| 12 | Social Sciences Hall | 6 min |
| 21 | Student Center | 3 min |
| 22 | Elihu Burritt Library | 2 min |
| 23 | Memorial Hall | 3 min |

# Did you know?




| | | |
|---|---|---|
| 1 | Lawrence J. Davidson Hall | 8 min |
| 2 | Henry Barnard Hall | 7 min |
| 3 | James J. Maloney Hall | 7 min |
| 4 | Herbert D. Welte Hall | 3 min |
| 5 | Harrison J. Kaiser Hall | 4 min |
| 6 | Nicolaus Copernicus Hall | 3 min |
| 7 | Robert C. Vance Academic Hall | 5 min |
| 8 | Maria Sanford Hall | 4 min |
| 9 | Marcus White Hall | 6 min |
| 10 | Emma Hart Willard Hall | 8 min |
| 11 | Frank J. DiLoreto Hall | 8 min |
| 12 | Social Sciences Hall | 6 min |
| 21 | Student Center | 1 min |
| 22 | Elihu Burritt Library | 1 min |
| 23 | Memorial Hall | 3 min |

# Did you know?




| | | |
|---|---|---|
| 1 | Lawrence J. Davidson Hall | 9 min |
| 2 | Henry Barnard Hall | 8 min |
| 3 | James J. Maloney Hall | 8 min |
| 4 | Herbert D. Welte Hall | 7 min |
| 5 | Harrison J. Kaiser Hall | 2 min |
| 6 | Nicolaus Copernicus Hall | 4 min |
| 7 | Robert C. Vance Academic Hall | 5 min |
| 8 | Maria Sanford Hall | 6 min |
| 9 | Marcus White Hall | 8 min |
| 10 | Emma Hart Willard Hall | 9 min |
| 11 | Frank J. DiLoreto Hall | 9 min |
| 12 | Social Sciences Hall | 8 min |
| 21 | Student Center | 5 min |
| 22 | Elihu Burritt Library | 4 min |
| 23 | Memorial Hall | 5 min |

## Map of sign locations

## Table of sign contents

| Sign Number | Location | Direction | Building | Time |
|---|---|---|---|---|
| 1 | Student Center | Left | Library | 1 min |
| | | Left | Copernicus/Kaiser Hall | 4 min |
| | | Straight | Memorial Hall | 1 min |
| | | Straight | DiLoreto/Willard | 5 min |
| | | Straight | Davidson | 5 min |
| 2 | Corner of Mem Hall | Left | DiLoreto/Willard Hall | 4 min |
| | | Left | Marcus White | 3 min |
| | | Right | Student Center/Library | 2 min |
| | | Straight | Davidson/Social Sciences | 2 min |
| | | Straight | Bus Stop | 4 min |
| 3 | Back of Mem Hall | Left | Vance Academic Hall | 1 min |
| | | Left | Copernicus Academic Hall | 3 min |
| | | Right | Davidson Hall/Bus Stop | 3 min |
| | | Right | DiLoreto/Willard Hall | 2 min |
| | | Right | Marcus White | 1 min |
| 4 | Corner of Marcus White | Left | Vance Academic | 2 min |
| | | Left | Down the Hill Dorms | 1 min |
| | | Right | Davidson Hall | 1 min |
| | | Right | Bus Stop | 3 min |
| | | Straight | DiLoreto/Willard Hall | 1 min |
| 5 | Side of Davidson | Left | DiLoreto/Willard Hall | 1 min |
| | | Right | Barnard/Social Sciences Hall | 2 min |
| | | Right | Bus Stop | 2 min |

| Sign Number | Location | Direction | Building | Time |
|---|---|---|---|---|
| | | Straight | Memorial Hall | 2 min |
| | | Straight | Student Center | 5 min |
| 6 | Between DiLoreto and Willard | Left | Student Center/Library | 5 min |
| | | Left | Memorial Hall | 4 min |
| | | Right | Bus Stop (69C) | 1 min |
| | | Straight | Down the Hill Dorms | 1 min |
| 7 | Front of new building | Left | DiLoreto/Willard Hall | 2 min |
| | | Left | Marcus White Hall | 1 min |
| | | Right | Barnard Hall | 30 sec |
| | | Right | Welte Garage | 2 min |
| 8 | Welte Garage Entrance/Exit | Left | Student Center/Library | 3 min |
| | | Left | Copernicus Hall | 5 min |
| | | Left | Memorial Hall | 3 min |
| | | Straight | Davidson Hall/Bus Stop | 3 min |
| | | Straight | DiLoreto/Willard Hall | 4 min |
| 9 | In front of Welte Hall | Left | Student Center/Library | 2 min |
| | | Left | Memorial Hall | 1 min |
| | | Left | Copernicus/Kaiser Hall | 4 min |
| | | Right | Davidson/Social Sciences Hall | 3 min |
| | | Right | DiLoreto/Willard Hall | 5 min |
| 10 | Down the Hill Residence | Left | Davidson/Bus Stop | 4 min |
| | | Left | Marcus White | 2 min |
| | | Straight | Memorial Hall | 1 min |
| | | Straight | Student Center/Library | 3 min |

| Sign Number | Location | Direction | Building | Time |
|---|---|---|---|---|
| 11 | Student Garage Entrance/Exit | Right | Student Center | 30 sec |
| | | Straight | Library | 2 min |
| | | Straight | Copernicus Hall | 3 min |
| | | Straight | Up the Hill Dorms | 3 min |
| | | Straight | Memorial Hall | 4 min |
| 12 | Corner between Library and Copernicus | Left | Copernicus/Kaiser Hall | 1 min |
| | | Left | Up the Hill Dorms | 4 min |
| | | Right | Memorial Hall | 2 min |
| | | Right | Davidson/Marcus White | 4 min |
| | | Right | DiLoreto/Willard Hall | 5 min |
| 13 | Copernicus Garage Lower Exit | Left | Copernicus Hall | 30 sec |
| | | Straight | Student Center/Library | 3 min |
| | | Straight | Academic Buildings | 5 - 8 min |
| 14 | Near Up the Hill Residences | Left | Student Center/Library | 5 min |
| | | Left | Memorial Hall | 5 min |
| | | Left | Academic Buildings | 5 - 8 min |
| | | Right | Up the Hill Dorms | 1 min |
| 15 | Kaiser Lot | Left | Student Center | 6 min |
| | | Left | Library | 5 min |
| | | Left | Academic Halls | 5-10 min |
| 16 | Back of Student Center | Left | Student Center | 1 min |
| | | Right | Welte Hall | 1 min |
| | | Straight | Memorial Hall | 2 min |
| | | Straight | Academic Buildings | 6 min |

| Sign Number | Location | Direction | Building | Time |
|---|---|---|---|---|
| 17 | Vance Academic | Right | Student Center/Library | 2 min |
| | | Right | Copernicus/Kaiser Hall | 3 min |
| | | Straight | DiLoreto/Willard | 4 min |
| | | Straight | Davidson | 4 min |
| | | Straight | Marcus White | 2 min |
| 18 | Bus Stop | Left | Student Center/Library | 6 min |
| | | Left | Social Sciences Hall | 2 min |
| | | Right | DiLoreto/Willard | 2 min |
| | | Straight | Davidson | 30 sec |
| | | Straight | Memorial Hall | 4 min |
| 19 | Front of DiLoreto | Left | Davidson | 1 min |
| | | Left | Barnard/Social Sciences Hall | 4 min |
| | | Left | Student Center | 6 min |
| 20 | Bus Stop across DiLoreto | Left | Student Center/Library | 5 min |
| | | Left | Memorial Hall | 3 min |
| | | Left | Davidson/Marcus White | 3 min |
| 21 | Between Copernicus Garage and Kaiser Hall | Left | Copernicus | 1 min |
| | | Left | Student Center/Library | 3 min |
| | | Left | Academic Buildings | 6 min |
| | | Straight | Kaiser Hall | 30 sec |
| 22 | Vance Garage | Left | Copernicus Garage | 2 min |
| | | Left | Kaiser | 4 min |
| | | Straight | Memorial Hall | 2 min |
| | | Straight | Davidson/Bus Stop | 5 min |

| Sign Number | Location | Direction | Building | Time |
|---|---|---|---|---|
| | | Straight | DiLoreto/Willard Hall | 5 min |
| 23 | Corner of Memorial | Left | Vance Aacademic | 1 min |
| | | Left | Down the Hill Residences | 3 min |
| | | Right | Student Center | 1 min |
| | | Right | Library | 2 min |
| 24 | Back of New Building | Left | Welte Gararge | 1 min |
| | | Right | Marcus White | 1 min |
| | | Right | DiLoreto/Willard | 3 min |
| | | Straight | Memorial Hall | 1 min |
| | | Straight | Student Center/Library | 3 min |

# Appendix C: About CCRPA

This plan is a product of the Central Connecticut Regional Planning Agency. CCRPA may be reached as follows.

## Contact information


| | |
|---|---|
| Online | http://ccrpa.org |
| Phone/fax | 860-589-7820 |
| Postal mail | 225 North Main Street, Suite 304 |
| | Bristol, CT 06010-4993. |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