

# **I** ILLINOIS

## Facilities & Services

### University of Illinois Facilities & Services Transportation Demand Management Plan

2019 - 2024

January 31, 2020



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# 2019-2024 Transportation Demand Management Plan

*A Facilities and Services Plan for TDM at the University of Illinois at Urbana-Champaign*

**January 31, 2020**

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# Keywords

TDM – Transportation Demand Management

BFU – Bicycle Friendly University

CBP – Campus Bicycle Plan

iCAP – Illinois Climate Action Plan

U of I - University of Illinois at Urbana-Champaign

F&S – Facilities & Services

TAMP – Transportation Asset Management Plan

FY – Fiscal Year

PCI – Pavement Condition Index

DOR – Division of Responsibility

LTCCS – Long Term Climate Controlled Storage

EV – Electric Vehicle

NAFA – National Association of Fleet Administrators

GHG – Greenhouse Gas

IDOT – Illinois Department of Transportation

ICT – Illinois Center for Transportation

IFSI – Illinois Fire Service Institute

CEE – Civil and Environmental Engineering

MTD – Champaign-Urbana Mass Transit District

MCORE – Multimodal Corridor Enhancement

IGA – Inter Governmental Agreement

DRES - Disability Resources & Educational Services

ISSS – International Student and Scholar Services

CUUATS – Champaign-Urbana Urbanized Area Transportation Study

RPC – Regional Planning Commission

SSC – Student Sustainability Committee

CTAC – Campus Transportation Advisory Committee

BPAC – Bicycle and Pedestrian Advisory Commission

APBP – Association of Pedestrian and Bicycle Professionals

DIA – Department of Intercollegiate Athletics

# Introduction

The mission of the University of Illinois at Urbana-Champaign (U of I) is to enhance the lives of citizens in Illinois, across the nation, and around the world through our leadership in learning, discovery, innovation, engagement, and economic development. The mission of Facilities & Services (F&S) is to provide and maintain “a physical environment that is conducive to supporting learning, discovery, engagement, and economic development at the University of Illinois.” The campus strategic plan “The Next 150” includes a key objective of operational excellence,<sup>1</sup> and F&S takes that goal very seriously.

The Transportation Demand Management (TDM) department in F&S at the university is responsible for oversight of an integrated transportation system, creating, maintaining and coordinating the overall transportation network for all modes of travel on campus, including walking, bicycling, transit, and vehicles. TDM works to implement campus and community policies and objectives, including the related transportation objectives in the Illinois Climate Action Plan (iCAP). The TDM Coordinator is the primary decision authority for issues related to the campus transportation network, on behalf of the Executive Director of F&S, with delegated authority from the Chancellor.

## TDM Prioritization Methods

TDM prioritizes efforts based on the following factors:

- 1) Safety for users: this includes all users, both in the related traffic mode and those interacting in that space.
- 2) Location: this refers to the impact on the overall networks and the perception of that impact.
- 3) Volume of Traffic: this reflects the number of users of the affected area.
- 4) Condition, such as PCI: this considers the scale of the improvements needed at the affected area.
- 5) Alignment with campus plans: this considers the connections to strategic priorities and potential coordination with other campus projects.

## TDM Strategy

### Key Goals

The TDM Vision is to provide safe, reliable, and sustainable transportation for all modes at the University of Illinois at Urbana-Champaign. The following list includes work TDM will complete by FY24.

### Asset Maintenance

- 1) Continue implementing the Transportation Asset Management Plan (TAMP) priorities and review projects for applicability and update TAMP annually in the third quarter of the fiscal year.
- 2) Update the Maintenance Matrices with Urbana and Champaign in FY22-23. Develop a new maintenance matrix with the Village of Savoy, in conjunction with improvements at Curtis Road improvements and First Street shared use paths.
- 3) Create a new Division of Responsibility (DOR) map for all pavement within the University District by FY24

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<sup>1</sup> <http://strategicplan.illinois.edu/>

- 4) Secure funding and initiate at least one capital project for total reconstruction of campus pavement each year, starting in FY22. Projects should be completed in the order defined by the ten-year capital plan, which lists Dorner Drive next after St. Mary's Road.
- 5) Collaborate with faculty for Living Learning Labs to pilot sustainable transportation materials and design, such as autonomous vehicles, biofuels, and permeable pavements.
- 6) Install Solar Powered speed indicators by the end of FY20 on
  - a) Lincoln Ave between Race and Windsor, and
  - b) St. Mary's Road East of Fourth Street.

## Commuter Program

- 1) Coordinate with Parking and F&S Sustainability to define and implement a Commuter Program to reduce single-occupancy vehicles on campus by June 30, 2023. Register 100 faculty/staff in the program by June 30, 2024.

## Bicycle Friendly University and Campus Bike Plan

- 1) Identify gaps in Bicycle Friendly University (BFU) expectations to maintain Silver level BFU status that was achieved in 2019, and implement BFU recommendations to support Gold level recognition by 2027.
- 2) Get location approval from Architectural Review Committee (ARC) for the 14'x63' Bike Shelter by December 31, 2019. Install before the fall 2020 semester.
- 3) Implement a National Bicycle Registration System by December 31, 2020.
- 4) Secure long-term climate controlled storage (LTCCS) facilities for 1,000 bicycles by 2024.
  - a) Talk to the Space Management officials in Capital Programming at Provost Office
  - b) Identify a location to store 1,000 bicycles
  - c) Identify ownership for the LTCCS
- 5) Request funding for the components of Armory Avenue bike path (from Armory and Wright to Lincoln Ave), and implement sections as funding is identified
- 6) Continue to implement the 2014 Campus Bike Plan. The 2014 Campus Bike Plan progress report will be completed by December 31, 2019, and project reprioritization will be performed by February 29, 2020.

## Green Fleets

- 1) Work with Parking and F&S Sustainability to develop a facility standard and a plan Electric Vehicle (EV) charging infrastructure by December 31, 2020.
- 2) Assist Transportation and Automotive Services in renewing the [National Association of Fleet Administrators \(NAFA\)](#) green fleet certification. Recruit 3 other fleets to get certified.
  - a) The protocol followed to purchase a new vehicle for garage and carpool – confirm with Pete.
  - b) How many fleets are there on-campus for all departments? – Work with Pete on this
  - c) Identify the fleets to recruit (fleets with 5 or more vehicles)
- 3) Reduce greenhouse gas (GHG) emissions from fleet vehicles
- 4) Investigate biofuel options for fleet vehicles
- 5) Create an annual safety education program for employees with assigned vehicles that routinely travel throughout campus
  - a) How to operate in a safe manner considering all modes of transportation

- b) Confirm with Pete on how and how often this training can be done

## Living Lab / Academic Collaborations

- 1) Support requests for academic collaborations, such as PAVER tracking, Illinois Department of Transportation (IDOT), Illinois Center for Transportation (ICT) collaborations, and Living Lab efforts (such as permeable pavement at IFSI at end of Gerty Drive and the REU project for Green Stormwater Infrastructure)
  - a) The TDM Coordinator will continue to collaborate on minimum one project per year, as applicable, in the following years with IDOT, ICT, U of I Civil and Environmental Engineering (CEE), U of I Urban Planning, and other transportation related projects
- 2) Support research to use bio-based binders for road construction projects on campus
  - a) Using the Bio-oil from Hydrothermal Liquefaction (HTL) as a biobinder for asphalt bike paths

## Encourage use of MTD by faculty & staff

- 1) Encourage use of MTD by faculty & staff by holding events (It's Your Bus Tool!)
  - a) The TDM team has contacted MTD to schedule a workshop to encourage students, faculty, and staff to use the MTD buses
  - b) The TDM team will organize these MTD workshops at least one time every year

## Regional Community Collaboration

- 1) Install Bicycle and Pedestrian counters at the 12 Corridors of the predetermined MCORE Project
- 2) Collaborate with regional community entities on projects that might impact the University District. For example, the TDM coordinator proactively resolves issues due to the Traffic Closures. This involves a lot of site-work and Inter Governmental Agreements (IGAs) or contracts for smooth operation. Once the TDM Coordinator is sure that all the issues (that could arise) have been identified and there is no accessibility issue, the TDM Coordinator approves the traffic closure. All traffic closures affecting the University-owned transportation facility or infrastructure must get approval from the TDM Coordinator.

## Communication Goals

### TDM Marketing Plan

A formal TDM Marketing plan will be developed by January 2021. This plan will promote the alternative modes of transportation, Champaign-Urbana Multimodal Corridor Enhancement (MCORE) project, bike website, bike sharing, transit to employees, safety training for all modes, promoting walking meetings and accessibility, proper use of bikes, etc.

There is a TDM website, with general information and street closures. The information in news release and additional facts about the projects are shared across campus by F&S through various distribution methods, including social media accounts and websites. TDM information is on the F&S site. Parking has their own site. The TDM Coordinator's responsibilities are to be actively involved with the community as a liaison (for transportation related topics on the University-owned property), and provide them active transportation services.

The TDM team, in collaboration with F&S Sustainability, published an update to the [Near & Far Without a Car](#) Flyer, which contains information on active modes of transportation available at the U of I. It also contains essential safe

transit information, such as SafeRides, SafeWalks, DRES shuttles, Bicycle Safety Tips, etc. F&S has partnered with several departments across the University to distribute the information in this flyer to thousands of old and new students. For example, this flyer was distributed to more than 3,000 incoming international students during their mandatory check-in at the International Student & Scholar Services (ISSS). F&S has also collaborated with MTD to distribute this flyer to students and community during their tabling events. The TDM team has also drafted articles on active modes of transportation to be published in the ISSS Newsletter, Parent and Family Programs Newsletter, and more.

## **MCORE Project**

The Champaign-Urbana Mass Transit District, in partnership with the City of Champaign, the City of Urbana, and the University of Illinois at Urbana-Champaign, has secured a \$15.7 million TIGER VI Grant that will expand mobility choices and increase user access to employers, education, healthcare, and other services along five core transit corridors in the University District. The \$46.9 million Multimodal Corridor Enhancement (MCORE) project represents a significant investment in public infrastructure that will bring streets to a state of good repair while enhancing connections between the Cities' downtown centers and the University of Illinois at Urbana-Champaign campus.

The MCORE Project has been split into 5 project phases:

- Phase 1: Green Street University District [Completed]
- Phase 2: Green Street Champaign [Completed]
- Phase 3: White Street Champaign [Completed]
- Phase 4: Wright & Armory Street projects [In Progress]
- Phase 5: Green Street Urbana [Expected start date in March 2020]

Go to <https://www.mcoreproject.com> for more information

The TDM Coordinator collaborates with the City of Champaign, City of Urbana, Champaign-Urbana Mass Transit District (MTD), Champaign-Urbana Urbanized Area Transportation Study (CUUATS), and Illinois Department of Transportation (IDOT) for the smooth progress of this complex multi-year project. The TDM Coordinator provides information to the community on the progress of the project and if there are any detours, reroutes, and traffic closures.

## **Champaign Urbana Urbanized Area Transportation Study (CUUATS)**

CUUATS is the transportation entity of the Regional Planning Commission (RPC). Their mission is to coordinate metropolitan transportation planning with the Illinois Department of Transportation, Champaign County, the Cities of Champaign and Urbana, Village of Savoy, University of Illinois, the Champaign-Urbana Mass Transit District, and the general public; and to coordinate the use of federal transportation funds within the Champaign-Urbana-Savoy-Bondville-Tolono urbanized area.

The CUUATS committee is comprised of representatives from:

1. Champaign County
2. MTD
3. City of Champaign



4. City of Urbana
5. IDOT
6. University of Illinois
7. Village of Savoy

The TDM Coordinator represents the University of Illinois at the CUUATS meetings, and serve as a Technical Committee member and a proxy for the Policy Committee member of CUUATS. The TDM Coordinator assures that the University of Illinois transportation projects are aligned with the regional strategy as defined by the CUUATS agencies.

CUUATS received funding of \$60,000 – \$35,000 from IDOT to purchase the units and \$25,000 from the Student Sustainability Committee (SSC) to install six Bike/Pedestrian Counters along three different MCORE corridors. The TDM Coordinator played a key role to get the funding, identify the vendor and locations for the counters, and the installation timeline for each location. We are also working to get funding for 18 more units for the remaining nine MCORE corridor locations.

### **Traffic Closures**

The TDM Coordinator works a Community Liaison. When there is a Traffic Closure, the TDM Coordinator coordinates with the regional community authorities and analyze the impact of this traffic closure on the transportation in that area (and areas nearby). For example, the TDM Coordinator looks into the bus system for MTD buses and the DRES buses/shuttles to make sure that the reroutes and detours are clearly marked, and are easy to follow for the construction workers, bus users, and operators. The TDM Coordinator has to check if the closure will affect any campus operation.

### **Bike Education and Bike at Illinois**

Bicycling information is on the [bike.illinois.edu](http://bike.illinois.edu) site. The Bike at Illinois brand is managed through F&S, and funded by the bike fee. Bike at Illinois is a campus effort to promote biking as a more convenient, safer, and healthier mode of transportation in the campus town. This platform provides information on bike registration, bike safety rules, bike events, and other bicycling resources in the Champaign-Urbana area.

### **Campus Transportation Advisory Committee**

A lot of the communication process is through recurring meetings with external agencies. To consolidate the communication on campus, we propose the formation of Campus Transportation Advisory Committee (CTAC), bringing F&S departments and campus stakeholders together to discuss transportation plans and provide feedback to the TDM Coordinator. This committee should meet at least annually, starting in fall 2020. CTAC could consist of Stacey DeLorenzo (TDM Coordinator), Morgan White (Associate Director, F&S Sustainability), Jake or Pete Varney, and representatives from Parking, Police, Public Safety, the cities of Champaign and Urbana, MTD, Union Safety, Wellbeing, Campus Rec or DIA, Research Park, and faculty members.

### **Bicycle and Pedestrian Advisory Commission (BPAC)**

The Bicycle and Pedestrian Advisory Commission (BPAC) was established on June 16, 2006 with the primary purpose of advising City Council on how to make bicycling and walking viable modes of transportation in the city of Urbana. BPAC duties include: analyze routing, operation and safety of bicycles; review and make recommendations regarding

the City's Capital Improvement Plan and Bicycle Master Plan; perform a regular evaluation and recommend an action plan for biking and walking facilities; coordinate with external agencies on maps and regional connections; develop education and public outreach opportunities on bicycle and pedestrian issues; and assist the City in the development of bicycle and pedestrian systems with the community.

BPAC consists of eleven (11) members appointed by the Mayor, and approved by the Council, from constituencies which have an interest and expertise in bicycle and pedestrian issues such as bicycle commuting, bicycle clubs, running, transportation planning, recreation, child advocacy, senior advocacy, physical fitness, and business. Four (4) members are representatives from the Urbana School District, Urbana Park District, University of Illinois and City of Urbana Public Works Department.

The F&S Sustainability and TDM team represent the University of Illinois at the BPAC, which meets on the third Tuesday of every month.

### **Association of Pedestrian and Bicycle Professionals (APBP)**

APBP is a community of practitioners working to create more walkable, bikeable places. They foster peer knowledge sharing, advance technical expertise, and support the professional development of our members. The three goals of APBP are to:

1. Embody operational excellence, sustainability, accountability and transparency
2. Provide influential and authoritative leadership to advance active and healthy communities
3. Engage, connect, and educate our members to grow and succeed professionally

The TDM Coordinator was a member of APBP and used to attend their events until 2017, and may renew the APBP membership in the future.

### **Bike Sharing**

Bike sharing is a system for sharing bicycles on a short-term basis. On the Urbana campus bike sharing includes both hourly and semester-long rentals, departmentally-owned bikes for employees, and bicycles available to specific student groups. The University, in collaboration with the cities of Champaign and Urbana, also offers short-term Dockless Bike Share through VeoRide (started in September 2018) to the students, faculty, staff, and visitors. Another Dockless Bike Share company, Gotcha Mobility, has expressed interest in bringing more bikes to the campus and community.

The effort to bring bike sharing to campus began in 2007 with the Multi-Modal Transportation Study, and the creation of a Transportation Demand Management Coordinator position at Facilities & Services. Since that time, several options have been explored, piloted, and institutionalized.

The TDM Coordinator is the Project Leader for the Bicycle Sharing program at the University of Illinois. Currently, there are 500 bicycles (400 e-bikes and 100 pedal bikes) on the road through VeoRide Bike Share.

## **Funding Plan**

### **TDM annual recurring state budget**

Base Budget covers TDM salary & travel, street striping, traffic signs & signals. The last documentation of base budget finances was last provided to TDM Coordinator in FY17, as shown below.

Base Annual Budget - \$227,000

TDM Coordinator Salary - \$95,000

Striping crosswalks, signs, minor maintenance, etc. - \$132,000

Painting annual cost - \$80,000 - \$125,000

Signs annual cost - \$10,000 - \$30,000

Unspent funds are rolled over to the next year's budget due to the fact that the construction season (typically March to October) for exterior transportation infrastructure work spans two Fiscal Years.

## **Transportation Asset Management Plan**

The Transportation Asset Management Plan (TAMP) is a stand-alone document that acts as a focal point for information about the assets, their management strategies, long-term expenditure forecasts, and business management processes. It identifies the key priorities for funding campus street projects. The TAMP does not include sidewalks, bikeways, or service drives.

According to the TAMP, an amount of \$8.6M over the next 6 years (FY20 – FY25) will be ideal to achieve “Good” pavement condition for the pavements on the priority list. Additionally, the University could achieve “Fair” pavement condition for 95% of all the University-owned pavements.

The TDM Coordinator will require:

- \$1.6M each for Year 1 and Year 2
- \$1.4M each for Year 3 and Year 4
- \$800K for Year 5
- \$650K for Year 6

Following this period, an additional \$150K per year will be ideal to maintain the “Good” pavement condition

Preferred Requested Funding \$8.94 million – 5 year / \$1.78 million per Year

Total expenditures would be \$8.94 million, or an average of \$1.78 million per year.

On average, this scenario spends 50% of the 5-year budget on stopgap and preventive M&R activities, with the remaining 50% spent on major M&R improvements.

If the recommended work plan is successfully implemented, PAVER predicts the area-weighted network average PCI will improve to PCI of 70 for the 5-year period starting in 2019 (by 2024)

### **Current Funding:**

\$1.5M each year for FY20 – FY22 has been allocated for pavement maintenance work. Additional funding needs will be evaluated during FY22.

## Grounds Department

Sidewalk improvements are generally the responsibility of the F&S Grounds department, except in situations where they serve only a single campus unit. Currently, the TDM Coordinator, the Grounds Department, and the Campus Landscape Department are working on the Division of Responsibility (DOR) map for the University District.

The TDM Coordinator works very closely with the Grounds department. Street Closures usually require the involvement of the Grounds Department, and the TDM Coordinator has to approve all the Street Closures.

## Bicycle Infrastructure and Programming Fee

Bikeway and bike parking maintenance and improvements are not funded, except for what is possible through the Bicycle Infrastructure and Programming Fee (Bike Fee). The student-initiated Bike Fee provides approximately \$70K per year for small scale infrastructure improvements, and \$20K for programs.

### Infrastructure projects with approved funding in FY19 and FY20 include:

Bike Parking Shelters Near Quad	\$ 38,000.00
Bike Parking Area at Mumford Hall	\$ 5,000.00
Bike Parking Area at Mechanical Engineering Lab	\$ 6,000.00
Bike Parking Area at Grainger circle bike rack renovation	\$ 6,000.00
Bike Parking Area at Armory South/Harding Band Building	\$ 6,000.00
Bike Parking Area at Campus Bike Center on Gregory Drive	\$ 3,000.00
Bike Racks for new Areas	\$ 12,000.00
Additional funds for bike shelter	\$ 45,000.00
Bike Path by Rain Garden	\$ 30,000.00

### Proposed bike infrastructure projects for FY21 through FY24

- FY21 to FY24 – Upgrade the Armory Avenue bike path –
  - FY21 south of Gregory Hall – also seeking Student Sustainability Committee funds



- FY22-23 north of Bevier Hall between Goodwin Avenue and Matthews Avenue



- FY24 south of Smith Hall



- Future priorities are
  - Removal of abandoned bike paths
  - Upgrade Hazelwood path from Lincoln Ave to Orchard Downs through the Arboretum
  - Lorado Taft Path
  - Evaluate remaining projects and prioritize per 2014 Campus Bicycle Plan.

## Student Sustainability Committee

The Student Sustainability Committee (SSC) is a student-led organization charged with the distribution of two student fees – the Sustainable Campus Environment Fee and the Clean Energy Technologies Fee.

### Current in progress SSC funded transportation projects

- 1) Bicycle registration tracking program - RFID bike tracking<sup>2</sup>  
*Note:* This funding was repurposed for the purchase and installation of Eco-Counter bicycle/pedestrian counters for three MCOE corridors.
- 2) Beginning bike maintenance education<sup>3</sup>

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<sup>2</sup> <https://icap.sustainability.illinois.edu/project-update/funding-letter-bike-registration-rfid>

<sup>3</sup> <https://icap.sustainability.illinois.edu/project-update/funding-letter-bike-maintenance-instructor>

Note: Most recently, a Bike Maintenance 101 class was held in fall 2019.

### **Proposed SSC projects for FY20 through FY24**

- 1) Armory Avenue path
- 2) Hazelwood path
- 3) Additional bike/ped counters for MCORE corridors
- 4) Additional Bike Shelter for North of Henry Admin Building/West of Main Quad

### **Other Funding Sources**

Service drives and areas that are only serving one campus unit are generally the responsibility of other responsible parties: DIA, Student Affairs, Parking, Housing, etc.

Capital projects typically include the pavements on the project site, but not the adjacent streets.

### **Conclusion**

Facilities & Services TDM has developed a strong relationship with the surrounding community, working together for increased safety, sustainability, and wellness through promotion of multi-modal transportation.