

ENG177: Intro to Sustainability – Sustainable Transportation

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Facilities & Services

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Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

About Facilities & Services

- Facilities & Services (F&S) provides and maintains a physical environment that is conducive to supporting learning, discovery, engagement, and economic development at the University of Illinois and is an active partner in research, teaching and learning.
- F&S goal is to support the university's education, research, and outreach missions by improving the physical condition of the facilities and grounds, reducing energy consumption through education and use of alternative fuel sources, and increasing customer satisfaction by providing quality services in a responsive, reliable, and customer-focused manner.



About Transportation Demand Management (TDM)

- The F&S TDM department works with regional transportation planning partners to coordinate the networks for all forms of campus travel, including walking, bicycling, transit, and motor vehicles
- TDM is responsible for oversight of a safe integrated transportation system, creating, maintaining, and coordinating the overall transportation network for all modes of travel on campus
- TDM is responsible for the implementation of TDM Plan , Campus Bicycle Master Plan , and the several transportation-related objectives in the Illinois Climate Action Plan (iCAP)



About me

- Sarthak Prasad
- Sustainable Transportation Assistant, started in July 2019
- Graduated with MS in Bioprocessing & Bioenergy from UIUC in 2017
- Responsibilities include, but not limited to,
 - Manage the bicycle network on campus
 - Manage the alternative modes of transportation on campus
 - Liaison for the cities regarding the other modes of transportation
 - Electric Vehicles on campus
 - Eco-Counters
 - Academic Collaborations for sustainability at F&S

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Illinois Climate Action Plan (iCAP) 2020

- The iCAP represents our continuous commitment to environmental stewardship to honor the work of the recent past and advance toward a sustainable future. We further our pursuit of carbon neutrality while striving for holistic campuswide sustainability and strengthening our community resilience
- Climate Leadership Commitments – Carbon Commitment (signed in 2008) and Climate Resilience Commitment (signed in 2016)
- First iteration published in 2010, which is rewritten every five years
- Read the approved [Illinois Climate Action Plan 2020](#)
- Read about all the sustainability related projects on the iCAP Portal: <https://icap.sustainability.Illinois.edu>



iCAP 2020: Transportation objectives

3.1 Fleet Replacement Plans

3.2 Increase Pavement Condition Index

3.3 Electric Vehicle Task Force

3.4 Reduce Driving on Campus

3.4.1 Develop a Commuter Program

3.4.2 Implement Campus Bike Plan

3.4.3 Telecommuting Policies

3.5 Offset Air Travel Emissions

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TDM Plan

- Published in FY20, updated and finalized in FY23
- TDM Prioritization Methods
 - Safety for users: this includes all modes of transportation, including multi modal interactions.
 - Location: this refers to the impact on the overall networks and the perception of that impact.
 - Volume of Traffic: this reflects the number of users in the respective areas.
 - Condition, such as PCI: this considers the condition of the street pavement (UIUC-owned; 20 center-lane miles) and the scale of improvements needed in the respective area.
 - Alignment with campus plans: this considers the connections to strategic priorities and potential coordination with other campus projects.
- TDM Plan's Key Goals
 - Asset Management
 - Programming
 - Funding Resources
 - Community Engagement



Progress Report

- **TDM Plan Annual Report**
 - Published in spring 2023
 - [TDM Plan Achievement Report FY23](#)
- **Campus Bike Plan progress report**
 - Published in spring 2023
 - [Campus Bike Plan progress report FY23](#)
- **2024 Campus Bike Plan update**
 - To be published in 2024
 - [2024 Campus Bike Plan](#)



Highlights from TDM Plan Achievement report

- **Asset Management Plan**

- \$4,500,000 allocated by the Provost Office in FY20 (\$1.5M per year was initially committed in FY20-22) for pavement maintenance and improvement projects
- \$2,605,000 encumbered for Transportation Asset Management Plan (TAMP) for streets.
- Updated the GIS map for striping of bike lanes, bike paths, and sharrows on-campus in fall 2022
- A study for a potential roundabout at the intersection of Lincoln and Hazelwood.
- Developing a new maintenance matrix with Village of Savoy, and updating the maintenance matrices with City of Urbana and City of Champaign
- Several bicycle infrastructure projects planned and completed
- Installed bicycle and pedestrian counters by Eco-Counters at 5 campus locations, with more planned soon. Learn more at [Pedestrian and Bicycle Counts](#).
- Installed the Smartpoles at Illini Union Bookstore

- **Programming**

- The [Bike at Illinois website](#) features information on bicycle education and facilities, bike sharing, registration, safety, and more. The [F&S website](#) includes information on walking, MTD buses, accessibility, and car-share options.

- **Collaborations**

- Collaborated with faculty, students, and staff on various projects

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Highlights from Campus Bike Plan report

- Bicycle Programs & Infrastructure Fee (Bike Fee) was approved for FY24
- F&S TDM conducted a Mode Choice Survey in spring 2022 and [published a report](#) in fall 2022
- Infrastructure projects:
 - 100% of all High Priority projects completed
 - 72% of the Medium Priority projects completed
- Pilot for Commuter Program: Bus, Bike, and Hike was launched in spring 2015
- Nearly all donut-loop bike parking removed from campus
 - In fall 2022, replaced the donut loop racks with standard inverted U-loop racks at Illini Union
 - In fall 2022, replaced the donut loop racks with standard inverted U-loop racks at Vet Med
- New bike racks installed
- Bike week 2022 – successful
- Removed abandoned bike path along Springfield Ave and installed a 10' wide shared use path
- Received SSC funding for project

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Modes of Transportation available on-campus

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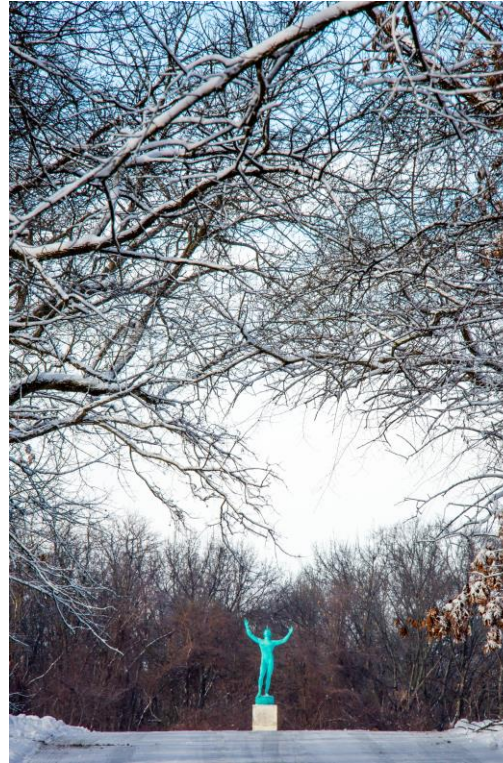
Modes of Transportation available on-campus

- Walking and Running
- Bicycling – Bike at Illinois
- Transit
- SafeWalks and SafeRides
- Ride Share



Walking and Running

- Very walkable campus
- Most of us walk at some point
- Some excellent walking trails and destination in the community
 - University of Illinois Arboretum
 - Idea Garden
 - Centennial Garden
 - Japan House
 - Allerton Park & Retreat Center
 - Meadowbrook Park
 - Crystal Lake Park
 - Kickapoo Rail Trail
 - Hessel Park
 - Learn more about other [walking destinations nearby](#) here.



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Bike at Illinois

- Campus initiative to promote bicycling on campus and community
 - <https://bike.illinois.edu>
- University has a robust bicycle network
 - Bicycle routes, repair stations, bike racks, etc.
 - <https://bike.illinois.edu/maps/biking-map/>
- Bicycle registration is mandatory
 - \$10 bicycle registration fee
 - National bicycle registration system
 - <https://go.illinois.edu/mybike>



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Bike at Illinois (continued)

- Safety tips: <https://bike.illinois.edu/safety/safe-riding-tips/>
- Rules of the Road: <https://bike.illinois.edu/safety/rules-of-the-road/>
- Bicycle events
- Educational videos: <https://bike.illinois.edu/resources/instructional-videos/>
- Campus Bike Center: <https://go.illinois.edu/cbc>
 - 51 E. Gregory Dr., Champaign, IL, 61820
 - Learn how to fix your bicycle or build your own bicycle
 - Donate or purchase used bicycles



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Transit

- MTD provides transit service for campus and community
 - Currently operating 25 bus routes
 - University ID serves as a bus pass for all students and staff
 - All buses are ADA accessible and equipped with bike racks
 - 6 Hydrogen Fuel buses on campus with plans to expand
 - Learn more at mtd.org
 - “It’s Your MTD Too!” workshop
- DRES provides curb-to-curb paratransit rides on campus
- Intercity Travel by bus or train at the Illinois Terminal
- Learn more at <https://go.illinois.edu/transit> for more information



SafeWalks and SafeRides

- SafeWalks and SafeBikes

- University of Illinois Public Safety provides this service for university students and employee
- To request a SafeWalks escort, call 217-333-1216

- SafeRides

- MTD offers limited SafeRides at night
- provide safe transportation to individuals who are generally traveling alone
- SafeRides are available from dusk (7 p.m./5 p.m.) until 6 a.m.
- Download the SafeRides Connect App or call 217-254-7433



Ride-Share

- ZipCar
- Carpool for university employees
- Veo bike share



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Academic collaborations

- Classroom collaborations
 - NRES 285
 - CEE 190
 - ENG 177
 - Reimagine our Future competition
- Capstone collaborations
 - Urban & Regional Planning students have worked on their capstone projects
 - 2024 Campus Bike Plan update
- Project collaborations
 - All capital projects
 - Walkability Audit
 - Data driven approach for bike shelter
 - Bio-oil as asphalt rejuvenator
 - Bike Canopy project at Newmark CEE
- Funding collaborations
 - Bike Registration signs on campus
 - Low-cost inspection and sustainable repair of campus pavements
 - Strong Towns



Some Cool Projects

- Eco-Counters – Bicycle and Pedestrian Counters - [Pedestrian and Bicycle Counts](#)
- Electric Vehicles – Fleet vehicles [Increase use of EVs and other Alternative Service Vehicles](#)
- Bike Shelter -
- Walkability Audit
- 2024 Campus Bicycle Master Plan update
- Bio-oil as asphalt rejuvenator
- Commuter Program for faculty and staff
- Mode Choice Survey

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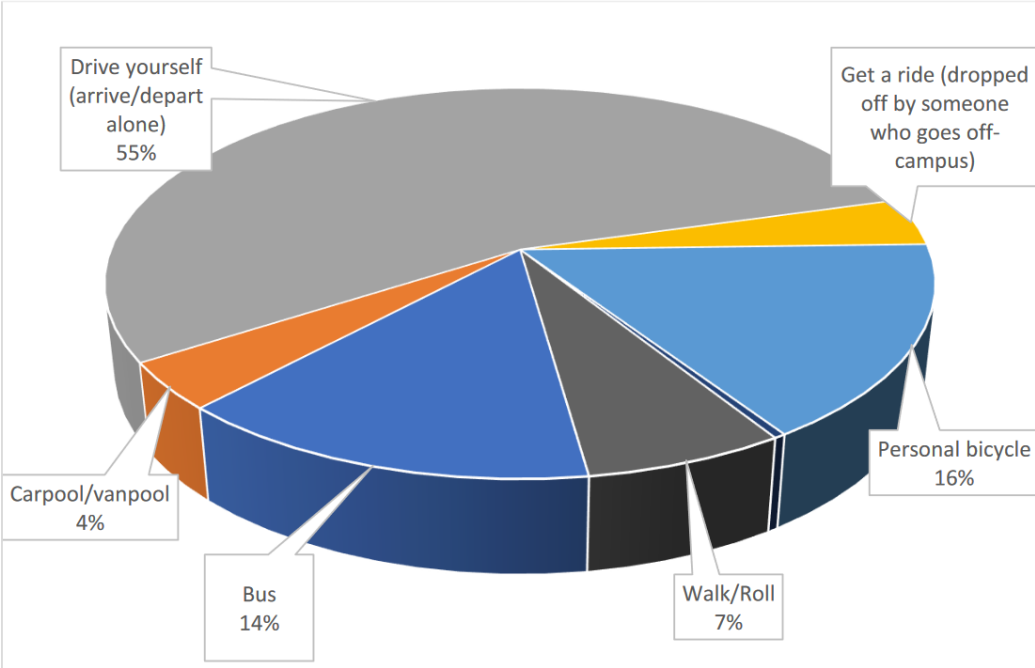
Highlights from Mode Choice Survey 2022

- F&S TDM conducted the Mode Choice Survey in spring 2022
- Survey was open from March 27, 2022 to May 2, 2022
- 610 participated in this survey, including 349 students, 56 faculty, and 205 staff members
- Survey consisted of 28 multiple choice questions
- No personal information was collected in this survey
- F&S TDM will conduct this survey every three years going forward
- Read the full report here: [Final Report and Key Findings from the Mode Choice Survey 2022.pdf](#)

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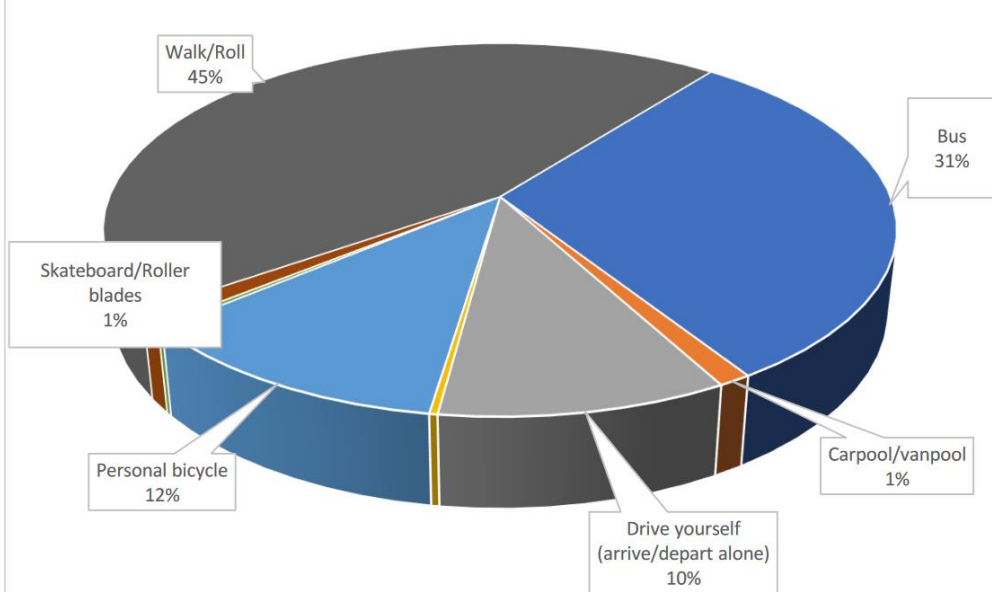


Key Findings



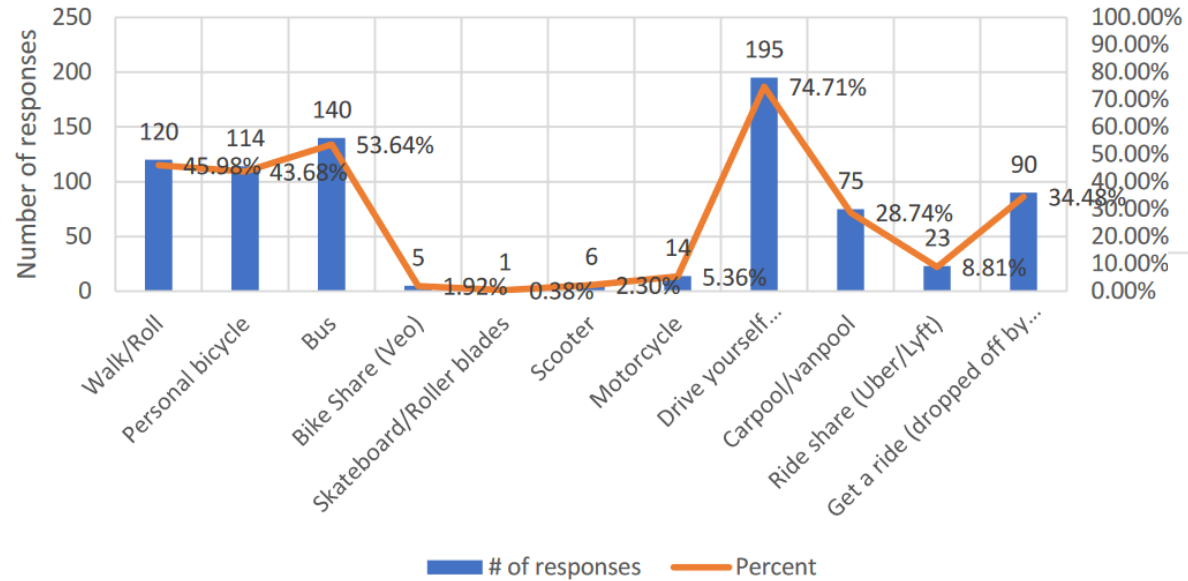
Faculty and Staff – Primary mode of travel
 55% drive alone, which is down from 60% from 2019 Mode Share survey

Number of Participants		
Type	Count	Average distance of campus from place of residence
Total	610	3.81 miles
Student	349	1.47 miles
Faculty	56	4.19 miles
Staff/Academic Professional	205	7.69 miles

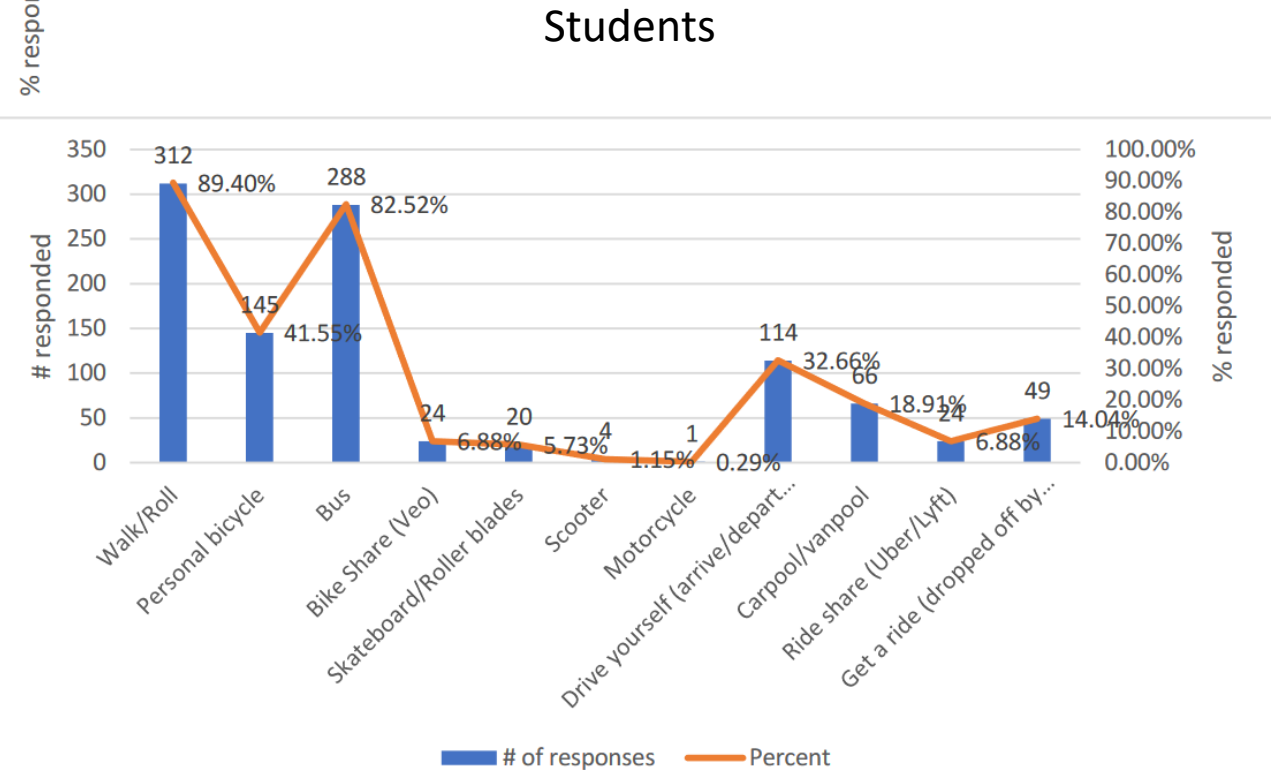


Students – Primary mode of travel
 45% walk, which is up from 37% from 2019 Mode Share survey.
 Nearly 88% use active modes of transportation

Key Findings continued – Top 3 preferred modes of travel



Faculty and Staff



Key Findings continued

- Nearly 73% of the University of Illinois faculty, staff, and students walk once they are on-campus
- 27% of the total respondents reported that they own a bicycle on-campus
 - 31% of the students
 - 6% of the faculty
 - 15% of the staff
- Nearly 42% of the students owned a car, but only 8% hold a parking permit
- Nearly 90% of the faculty and staff owned a car, but only 52.5% hold a parking permit



Eco-Counters

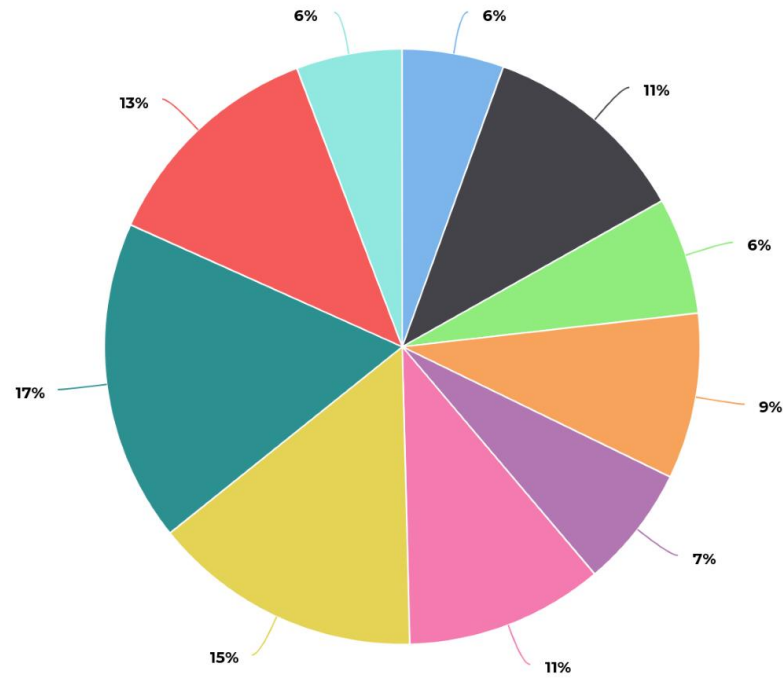
- Installed at 5 locations
 - Illini Union (installed in March 2020)
 - Wright & Healey St (installed in 2021)
 - Armory & Sixth St (installed in May 2022)
 - Green and Goodwin (installed in May 2022)
 - Bookstore/Transit Plaza (installed in July 2023)
- Purchased counters for the 7 other locations
 - ARC approved
- Monthly data is posted on the iCAP Portal: [Pedestrian and Bicycle Counts](#)



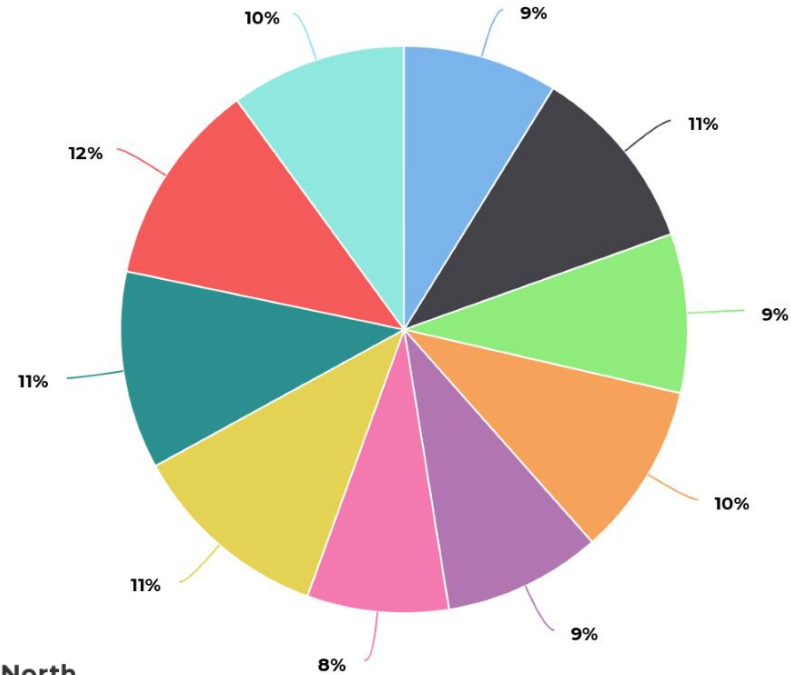
Distribution

October 1, 2023 → October 31, 2023

Pedestrians

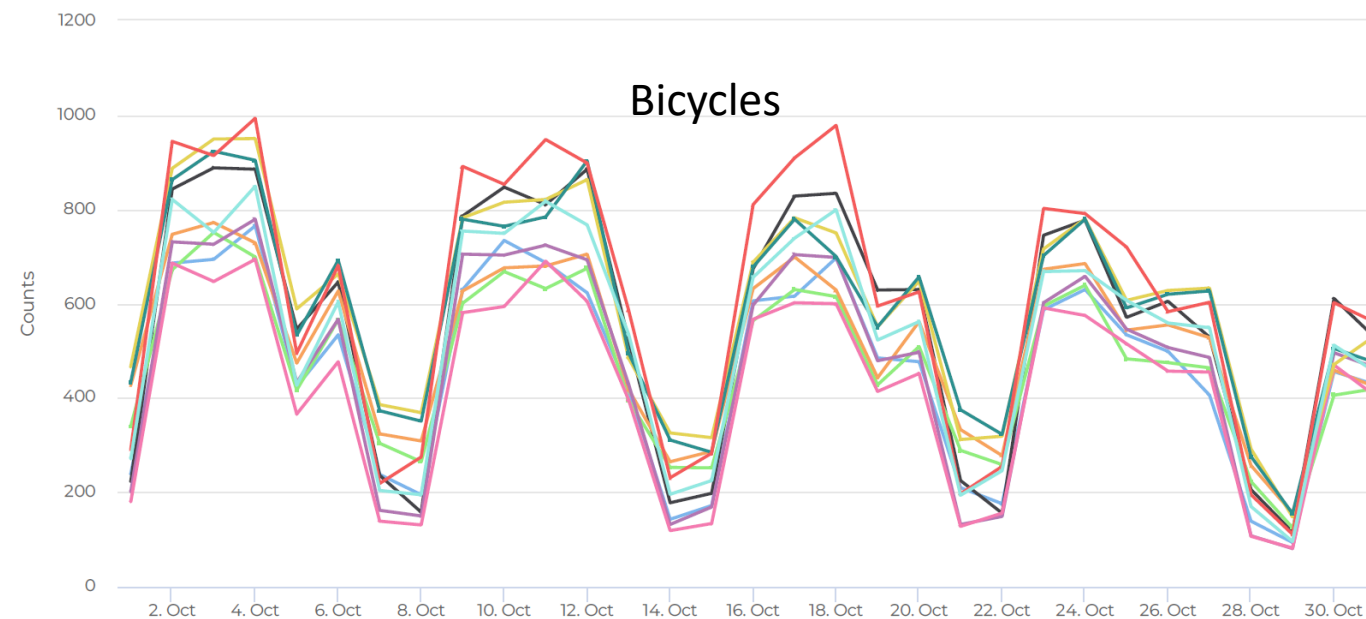
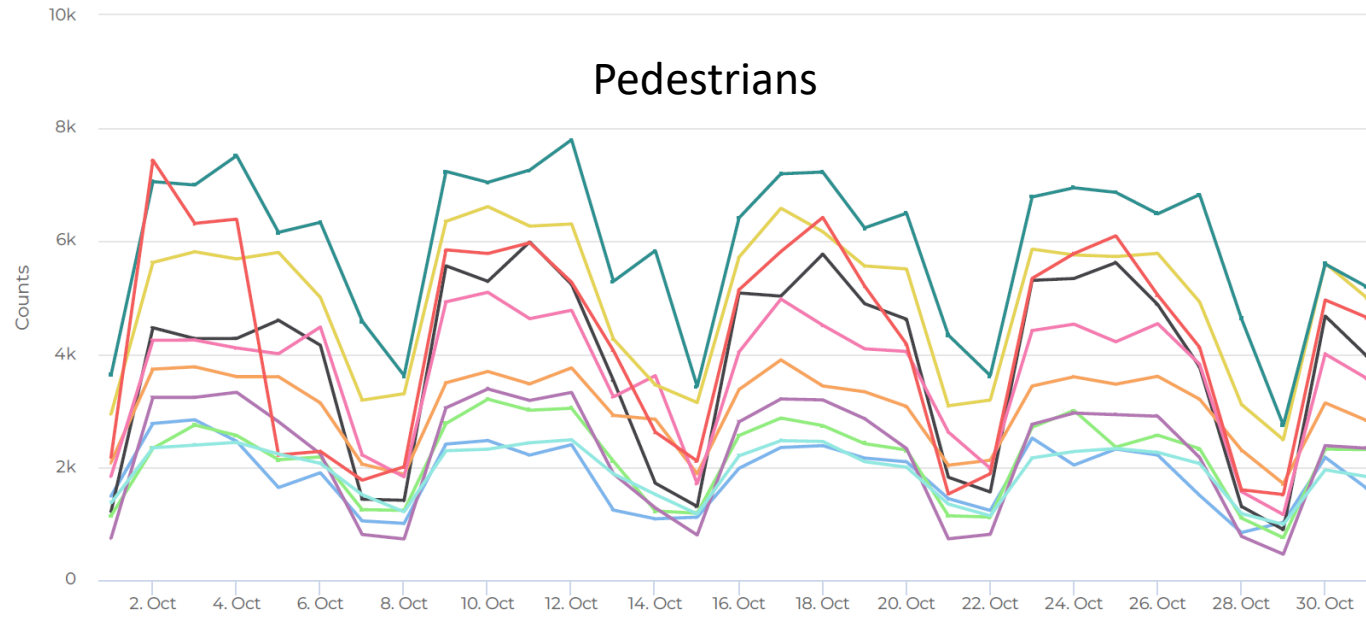


Bicycles



- Armory and Sixth North
- Armory and Sixth South
- Green and Goodwin North
- Green and Goodwin South
- Illini Bookstore/Transit Plaza East
- Illini Bookstore/Transit Plaza West
- Illini Union North Side of Green Street
- Illini Union South Side of Green Street
- Wright St and Healey St East Side
- Wright St and Healey St West side



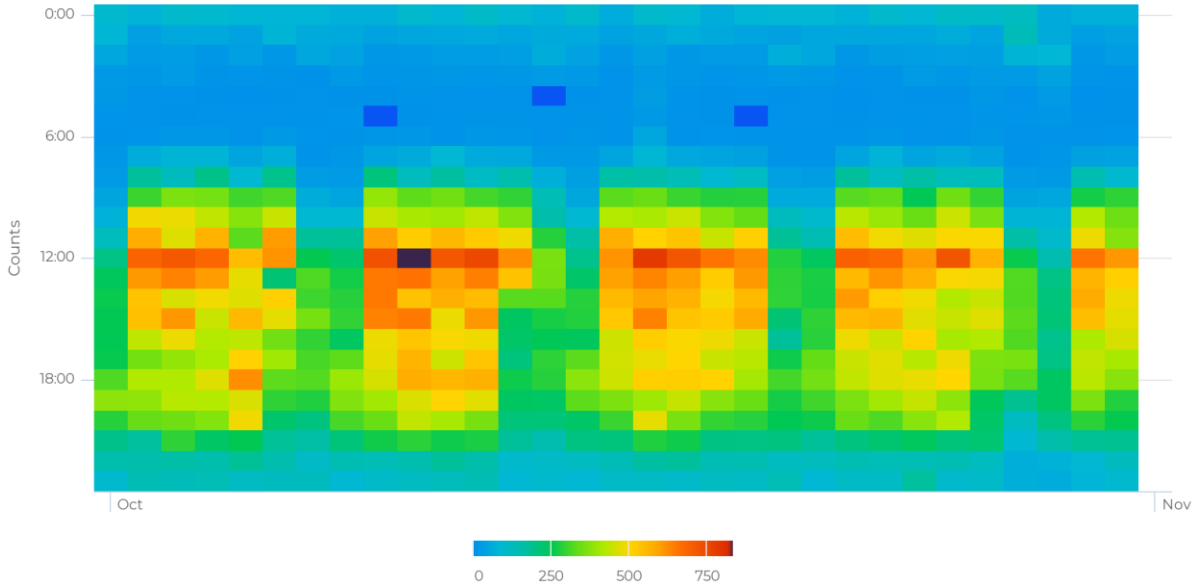


- Armory and Sixth North
- Green and Goodwin South
- Illini Union North Side of Green Street
- Wright St and Healey St West side
- Armory and Sixth South
- Illini Bookstore/Transit Plaza East
- Illini Union South Side of Green Street
- Green and Goodwin North
- Illini Bookstore/Transit Plaza West
- Wright St and Healey St East Side



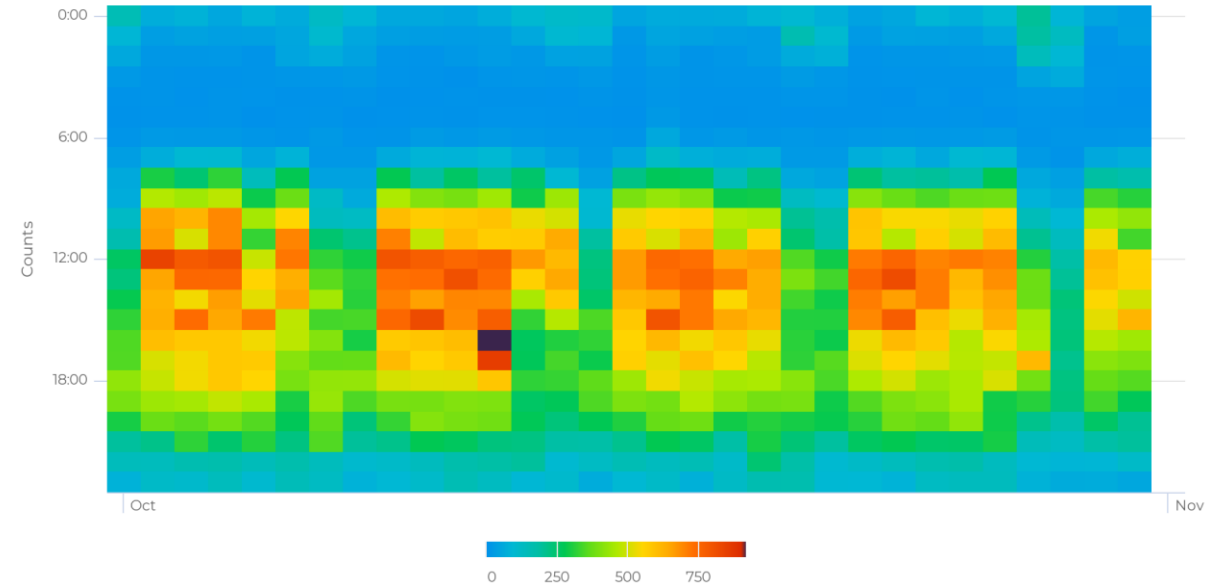
Heatmap

October 1, 2023 → October 31, 2023
Illini Union North Side of Green Street



Heatmap

October 1, 2023 → October 31, 2023
Illini Union South Side of Green Street



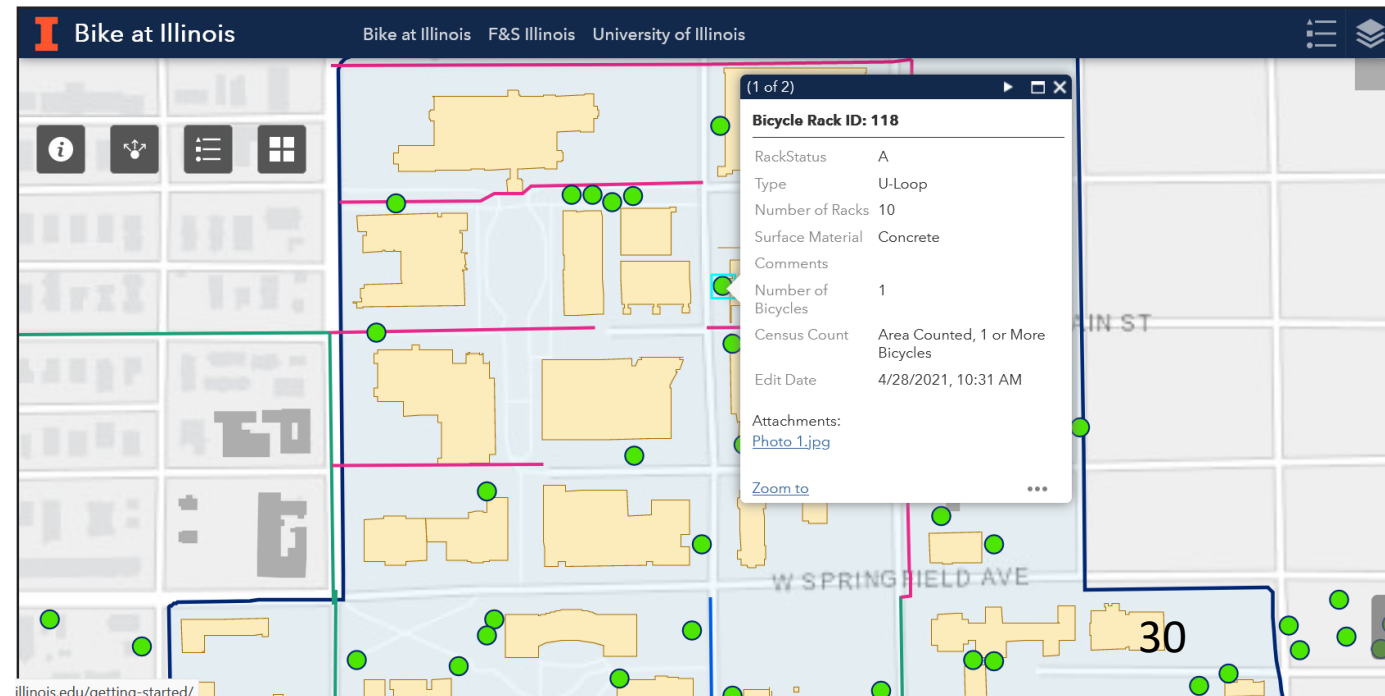
Annual events

- Bike to Work Day
- Light the Night
- Lock your Bike Right
- Bike Registration Raffle
- Bike Census
- Bicycle Round Up



Bike Map updated following Bike Census

- Updated the campus bicycle map
- All bike racks have been updated
- All bike racks have a picture associated with it
- Updated the locations of all bike repair stations
- <https://bike.illinois.edu/maps/biking-map/>



Bike Registration



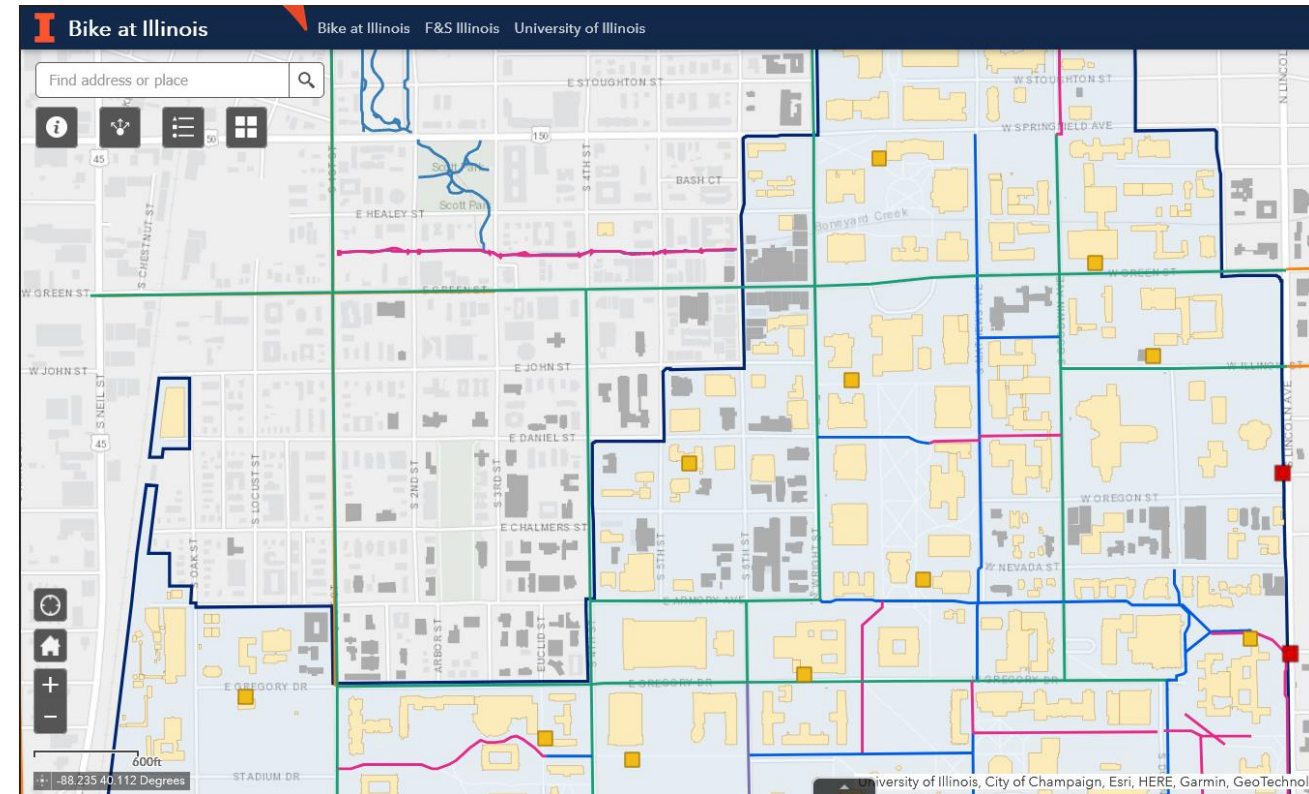
- Number of Registrations:
 - FY21: 506
 - FY22: 685
 - FY23: 927
 - FY24 (so far): 789
- Monthly numbers can be found on the iCAP Portal:
<https://icap.sustainability.illinois.edu/project/bicycle-registration>
- Only about 54% of those registered have collected their shield stickers
- Bike Registration Signs: 16 locations (SSC funded)

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Bicycle Repair Stations

- Total number of bicycle repair stations on campus = 17
- Number of bicycle repair stations at Housing facilities = 8
- Remaining nine repair stations are managed by F&S
- Existing the bicycle repair stations at
 - Campus Bike Center - replaced
 - Altgeld Hall - replaced
 - Parking lot C-5 (by International Studies Building) - replaced
 - Siebel Center for Design
- Added new bicycle repair stations at:
 - Main Library
 - West of Smith Hall
 - ECE/Micro Nano
 - Loomis Lab
 - Grainger Library (future – not installed yet)
- Go to <https://bike.illinois.edu/maps/biking-map/>



Existing bike repair stations

Campus Bike Center



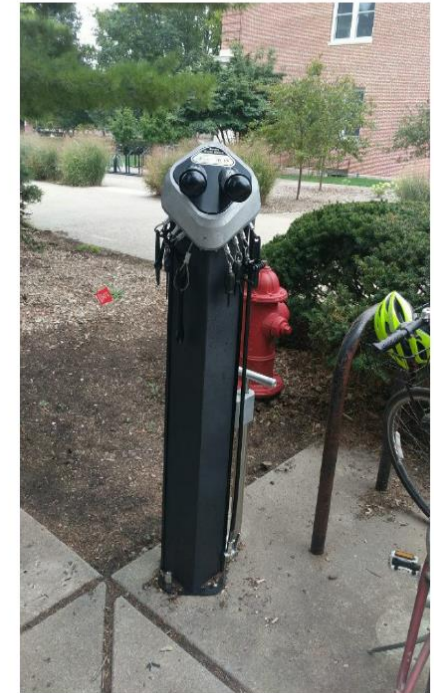
SCD



Library and Information
Science



Altgeld Hall



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New bicycle repair stations

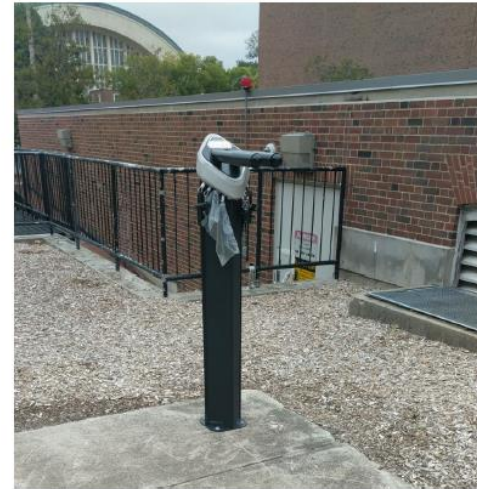
Loomis Laboratory



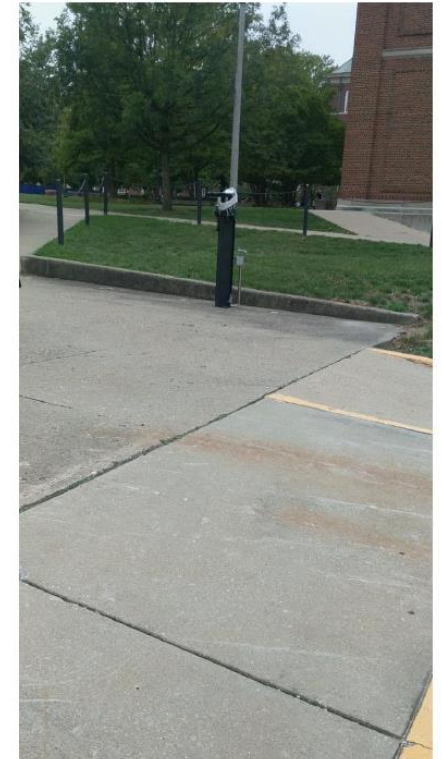
ECE



Main Library



Follinger Auditorium



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End of year round up of bicycles

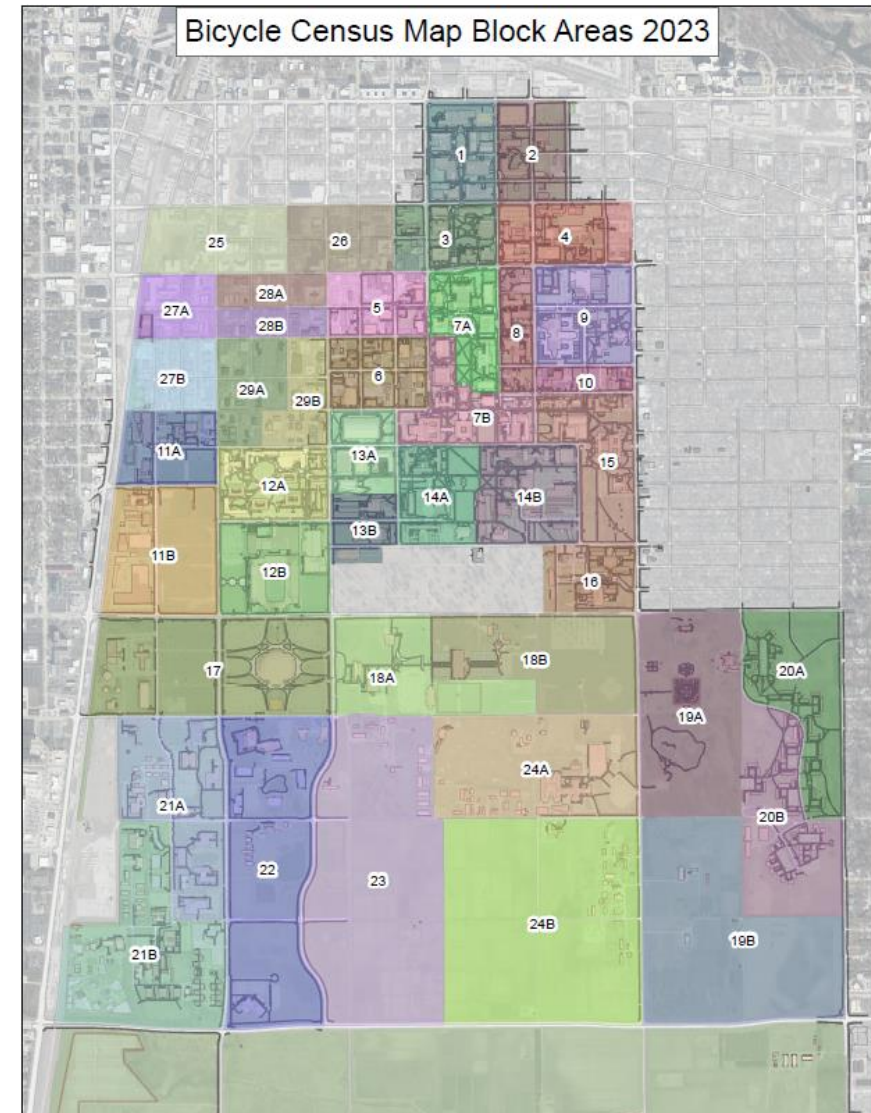
- Timeline
 - Start of the Tagging: 6/8/2023
 - End of tagging process: 6/16/2023
 - Start of the identification of abandoned bicycles: 7/5/2023
 - End of the identification of abandoned bicycles: 7/10/2023
 - Parking to remove abandoned bicycles (Start): 7/5/2023
 - Parking to remove abandoned bicycles (End): 7/14/2023
 - Inventory impounded bicycles (End): 7/19/2023
 - Bicycle Retrieval end date: 9/22/2023
- Bicycles tagged: 970
- Bicycles identified as abandoned: 300
- Bicycle impounded: 240
- Bicycles reclaimed: 26
- Unclaimed bicycles donated to Campus Bike Center and the Bike Project of Urbana-Champaign: 214
- Learn more: [Collection and Donation of Abandoned Bicycles](#)

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Bike Census 2023

- Count bicycle parked on bike racks and off racks
- Event held on Wednesday, April 26, 2023 from 10 – 11 am
- Campus divided into 42 map blocks
- Number of volunteers: 17
- Number of bicycles counted: 3,000
- Learn more at:
<https://bike.illinois.edu/bikecensus/>



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Bicycle Friendly University application

- Student collaboration
- Renewed the university's Bicycle Friendly University status
- Learn more: [Bicycle Friendly University Status](#)



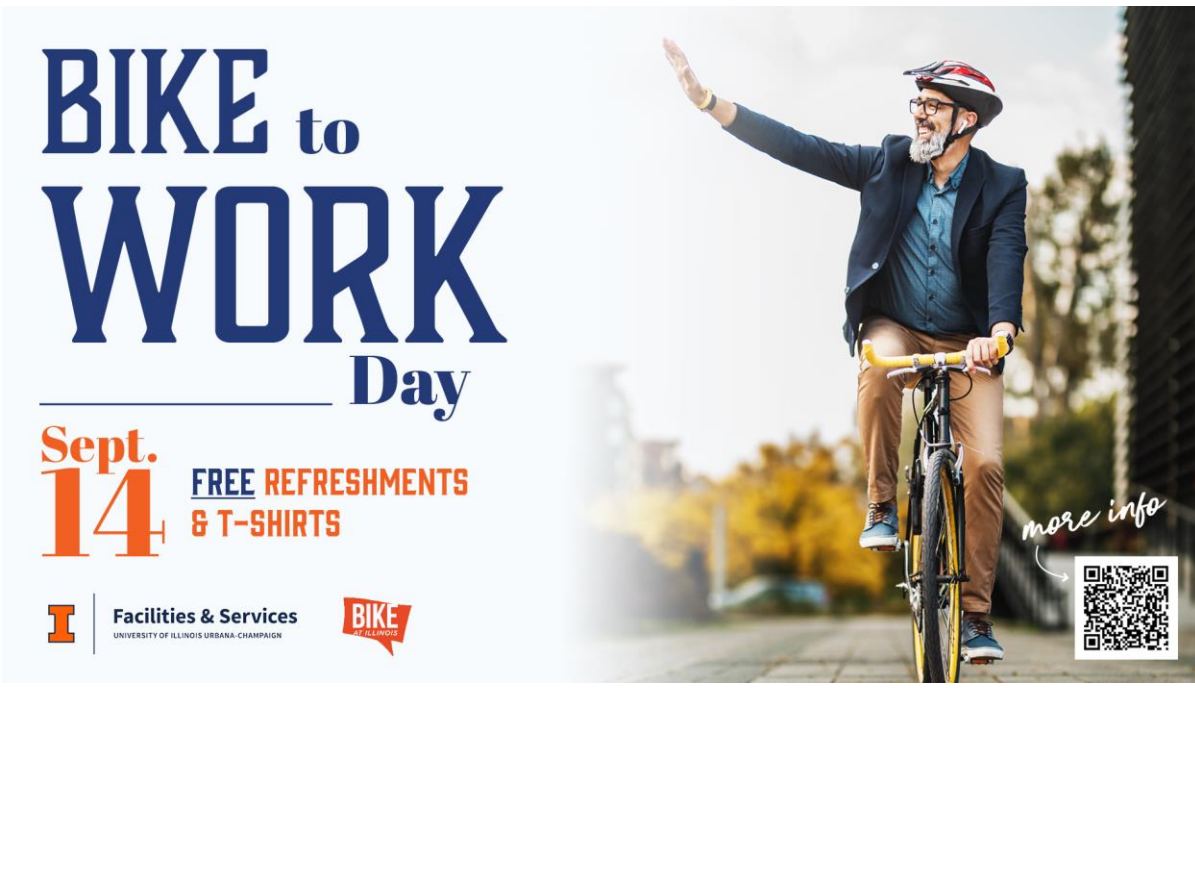
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Bike Month 2023 planning




BIKE to WORK Day

Sept. 14 FREE REFRESHMENTS & T-SHIRTS

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BIKE AT ILLINOIS

more info



LIGHT the NIGHT

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BIKE AT ILLINOIS

Free Bike Light Giveaway
Must bring Bike for Installation

TUESDAY, SEPT. 19



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F&S Green Fleet Plan

- One aspect of the iCAP includes reducing emissions from University operated vehicles
- F&S operates a fleet of nearly 300 vehicles supporting maintenance activities across this campus
- There are four primary aspects to the Green Fleet Plan:
 1. Freeze vehicle fleet at current levels
 2. Collect data, establish a baseline and report
 3. Reduce use of petroleum based fuels
 4. Incorporate new technologies when appropriate



Electric Vehicles and Chargers

- Fleet operations
 - 6 Ford F150 Lighting all electric trucks
 - 2 Ford e-transit
 - 4 EV charging stations installed
 - More EVs on order
 - \$134,000 from SSC to purchase and install more EV charging stations for fleet operations
 - Responsible unit: F&S
- General public use
 - All new construction and major renovation of parking lots and garages will have Level-2 chargers
 - Consultant hired to add a facility standard
 - Moving away from Level-1 chargers
 - Responsible unit: University Parking





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Other resources



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iCAP Teams

- Energy
- Transportation
- Zero Waste
- Engagement
- Education
- Land & Water
- Resilience



Other sustainability contacts

- Morgan White – mbwhite@illinois.edu – Associate Director of F&S for Sustainability and Interim Director of Capital Programs
- Daphne Hulse – dlhulse2@illinois.edu – Zero Waste Coordinator (F&S)
- Stacey DeLorenzo – sdeloren@illinois.edu – Transportation Systems Manager (F&S)
- Brent Lewis – bcl@illinois.edu – Campus Landscape Architect (F&S)
- Paul Foote – gfoote2@illinois.edu – Energy Efficiency Specialist (F&S)
- Jen Fraterrigo – jmf@illinois.edu – Professor (NRES) and Associate Director for Campus Sustainability (iSEE)
- Miriam Keep – keep2@illinois.edu – Sustainability Programs Coordinator (iSEE)

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Thank you!

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