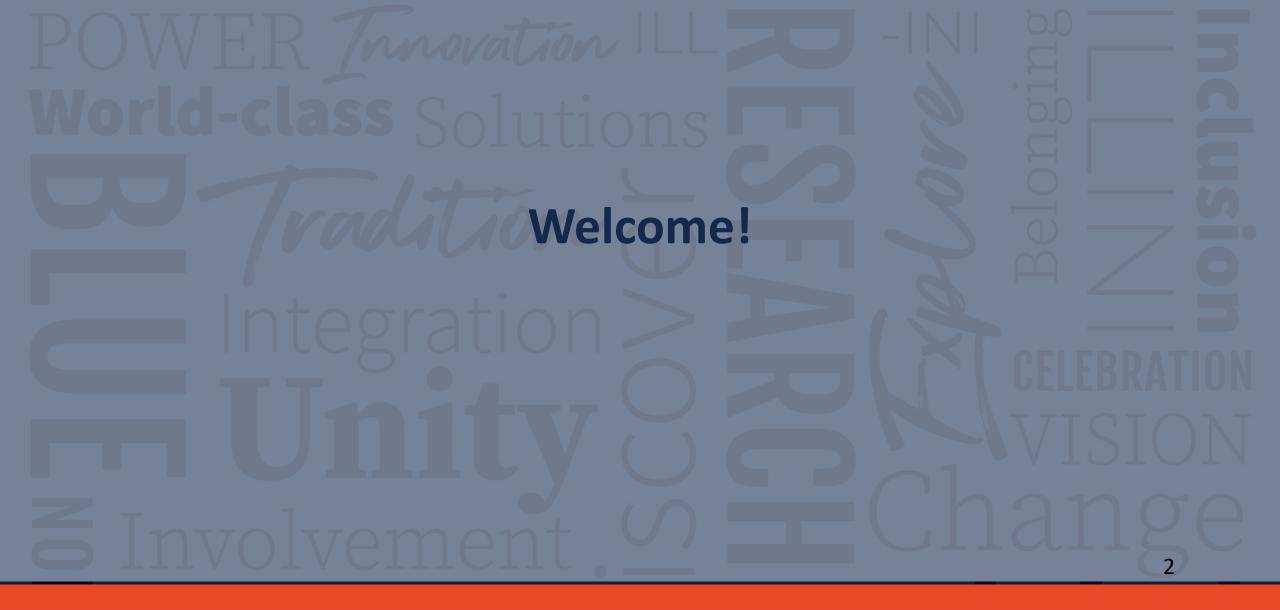
Campus Transportation Advisory Committee

> University of Illinois Urbana-Champaign Facilities & Services, May 6, 2025 Chair – Morgan White Associate Director of F&S for Sustainability







### Agenda

- Introduction Morgan White (5 minutes)
- Old Business
  - F&S TDM Status Update Stacey DeLorenzo and Sarthak Prasad (25 minutes)
  - Lincoln Ave Corridor Study (North of Florida Ave) CCRPC (15 minutes)
  - Bike Share Updates- Sarthak Prasad (5 minutes)
- New Business
  - EV infrastructure research Bhagyashree (10 minutes)
  - E-bike research Bhagyashree (10 minutes)
  - Air Travel Emissions research Karina Jang (10 minutes)
  - 2025 Transportation Survey Sepideh Azizi (10 minutes)
- Community Updates (5 minutes)



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### **Introduction - Members**

Morgan White, chair

#### Staff

Lt. James Carter Det. Tara Hurless Yasmin Ofiana Zach Acton **Cheryl Bicknell** Pete Varney Jake Benjamin Matt Brown Laura Bleill Dana Decair Jamie Singson Codie Sterner Miriam Keep

Mylinda Netherton Kiara Drake Kathy Walsh

#### Faculty

Jennifer Fraterrigo Ray Benekohal Bumsoo Lee Lindsey Braun Bill Sullivan Shelly Zhang Yanfeng Ouyang

#### **Community representatives**

David Happ, Champaign John Zeman, Urbana Jay Rank, MTD Roland White, Savoy Rita Morocoima-Black, CCRPC

#### **Students**

Transportation iCAP Team Sam Wuebbles Tushar Kokitkar Sepideh Azizi Bhagyashree Myra Stevens Karina Jang Quinn Connolly Stacey DeLorenzo, ex-officio Sarthak Prasad, ex-officio

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Facilities & Services

#### **CTAC Responsibilities**

- Review aspects of surface transportation on campus, including
  - Pedestrian, bicycle, transit and motorized facilities infrastructure
  - Safety for all modes of transportation interaction on campus
- Responsibilities include items such as:
  - Help identify needs and share information about pedestrian safety initiatives and priorities.
  - Review and make recommendations for prioritizing bicycle infrastructure, education, and enforcement on campus.
  - Provide advisory input to the Commuter Program.
  - Review and comment on matters relating to student, faculty, and staff transportation, when needed.



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# **F&S TDM Status Update: Progress reports** 8



#### **Progress Reports FY25**

#### • Campus Bike Plan progress report

- Published in spring 2025
- <u>Campus Bike Plan progress report FY24</u>

#### • 2024 Campus Bike Plan update

- Published in January 2025
- <u>Campus Bicycle Master Plan</u> (2024)

#### • TDM Plan Annual Report

- Published in spring 2025
- FY25 TDM Achievement Report



#### **Highlights from Campus Bike Plan report**

- Bicycle Programs & Infrastructure Fee (Bike Fee) was approved for FY26
- Bike Fee increased to \$3.10 per student per semester, starting in FY26, increasing the annual budget to nearly \$275,000
- 2024 Campus Bicycle Master Plan was updated and approved
- University Bicycle Ordinance was updated and published: <u>https://go.illinois.edu/BikeOrdinance</u>
- Seven shipping containers were purchased for bicycle storage
  - SSC funded project
- Held "Bike to Work Day 2024" with 1,274 participants and 1,132 t-shirts handed out
- Held "Light the Night 2024" event where nearly 800 bike light sets were installed
- Hosted the first ever "Bike for Earth Day" event in April 2025



#### **Highlights from TDM Plan Achievement report**

#### • Asset Management Plan

- Asphalt patching & Mill/Overlay –\$1,660,000 completed
  - News link about this project: Asphalt Pavement Improvement
- ADA Right of Way improvement (U19132) Completed
- PCC patches \$615,000 (\$49,000 for design) Lincoln Ave south of Florida Ave. *Construction failed due to budgetary restraints.*
- Corridor study for safety improvement along Lincoln Ave from Florida to Windsor: \$150,000 completed
- Complete Street & Crosswalk Feasibility study of Oak street: Completed \$25,000
- Oak Street Complete Streets and Sidewalks Project Design Phase Kickoff in April 2024, with a budget of \$150,000. Construction to begin in summer 2025
- Hazelwood bike path and lighting along the corridor Design in-progress. TERRA Engineering
- South Quad Shared-Use Path N-S connection Design in-progress. TERRA Engineering
- Pavement Condition Assessment
  - Including Housing and Parking DOR pavements
- Installed 23 Eco-Counters on campus. One more counter to be installed on the south of Altgeld Hall in summer 2025
- Programming
  - The <u>Bike at Illinois website</u> features information on bicycle education and facilities, bike sharing, registration, safety, and more. The <u>F&S website</u> 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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## **Bike Registration**

- Number of Registrations:
  - FY21: 506
  - FY22: 685
  - FY23: 927
  - FY24: 925
  - FY25 (so far): 725
- Monthly numbers can be found on the iCAP Portal: <u>https://icap.sustainability.illinois.edu/project/bicycle-registration</u>
- 9 shield pick up locations: <u>https://bike.illinois.edu/register-your-bike/shield-pick-up-locations/</u>





## End of year round up of bicycles

- Hiring 2 students over the summer
- Messaging ready to be sent out to the campus about donating unwanted bicycles to the Bike Center or the Bike Project
- Project will begin after graduation
- Tag the abandoned bicycles: first and second week of June
- 2 weeks of notice to remove the tags
- Verification of abandoned bicycles: End of June
- Removal of abandoned bicycles and transportation of the abandoned bicycles (by Parking) to <u>the Shipping</u> <u>Containers</u>: by early July
- Inventory of all bicycles at Round Barns: by last week of July
- Retrieval of bicycles by users: Last week of August until September 30, 2025
- Donations of unclaimed bicycles to Campus Bike Center and the Bike Project of Urbana-Champaign: October 2025

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Facilities & Services

#### **Bike for Earth Day**



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Facilities & Services

## **Bike for Earth Day**

- First ever Bike for Earth Day event hosted on April 22, 2025
- Locations:
  - Graziano Plaza
  - Hallene Gateway
  - ARC
- 325+ participated
- Installed nearly 250 light sets





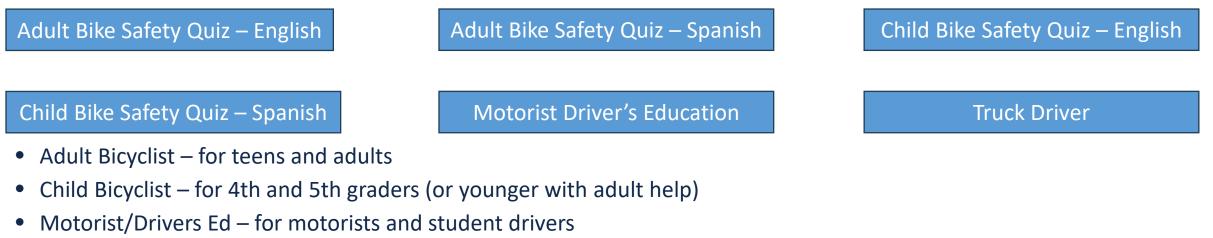
#### **Bike Census**

- Event was scheduled for April 29, 2025
- Canceled due to lack to volunteer participation



## **Bike Safety Quiz**

- https://go.social.illinois.edu/bikesafetyquiz
- Bike Safety Quiz for Adults and Kids (English and Spanish versions)
- These quizzes are education tools for adults, children, motorists, and truck/bus drivers on how to share the road safely



• Truck Driver – for drivers of buses and other large vehicles



### **Updated Bike at Illinois merchandise**





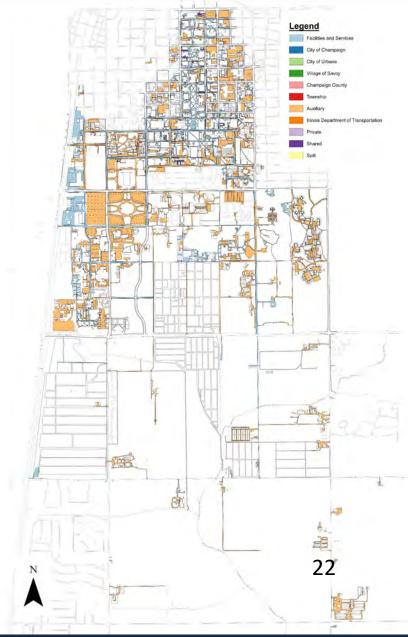






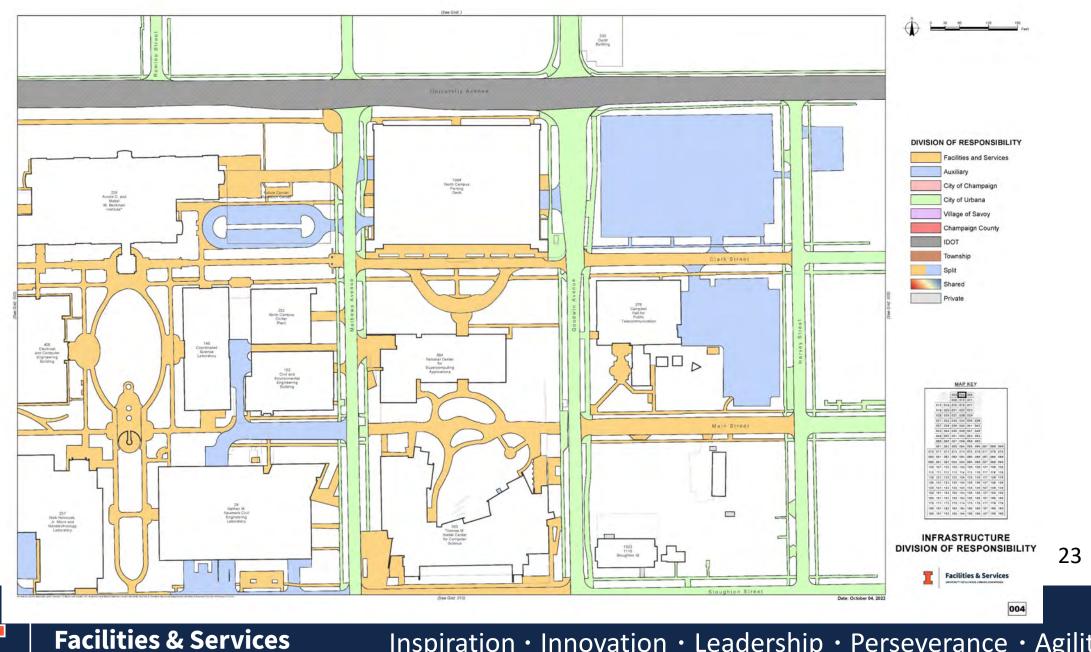
## **Division of Responsibility (DOR)**

- Pavement, including streets, sidewalks, bike paths, service drives, etc.
- Determining and discussion ownership of pavement within campus boundary
- Used Maintenance Matrix with Urbana and Champaign
- Initially differentiated pavement responsibility between:
  - University of Illinois (F&S, Auxiliaries)
  - City of Urbana
  - City of Champaign
  - Village of Savoy
  - Others, like IDOT, Township, etc.

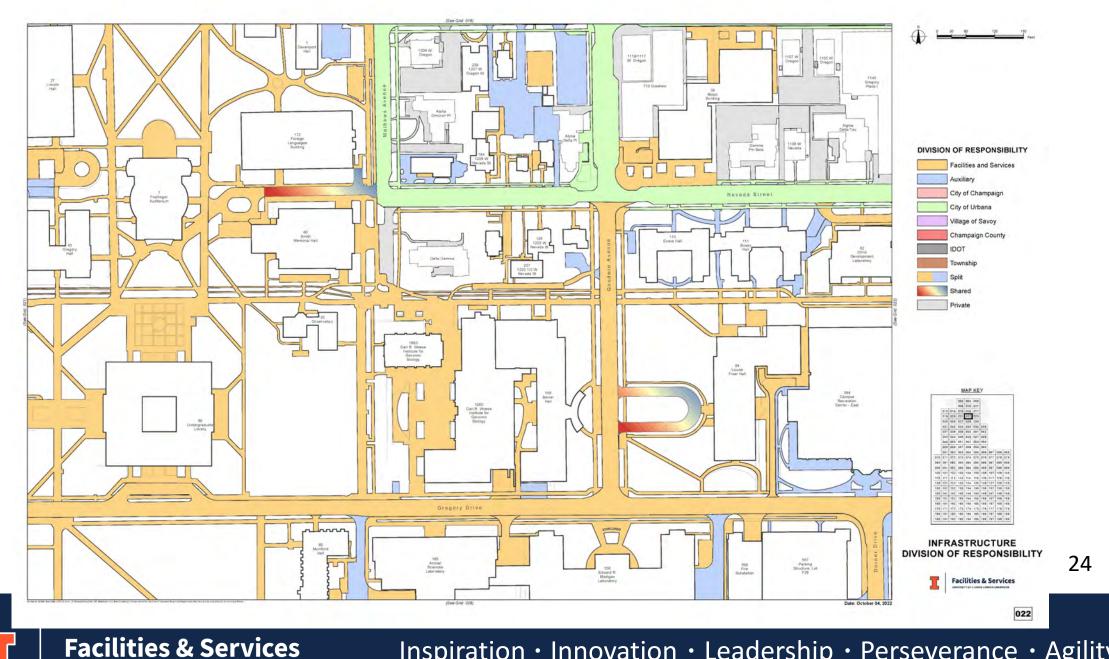




#### Facilities & Services

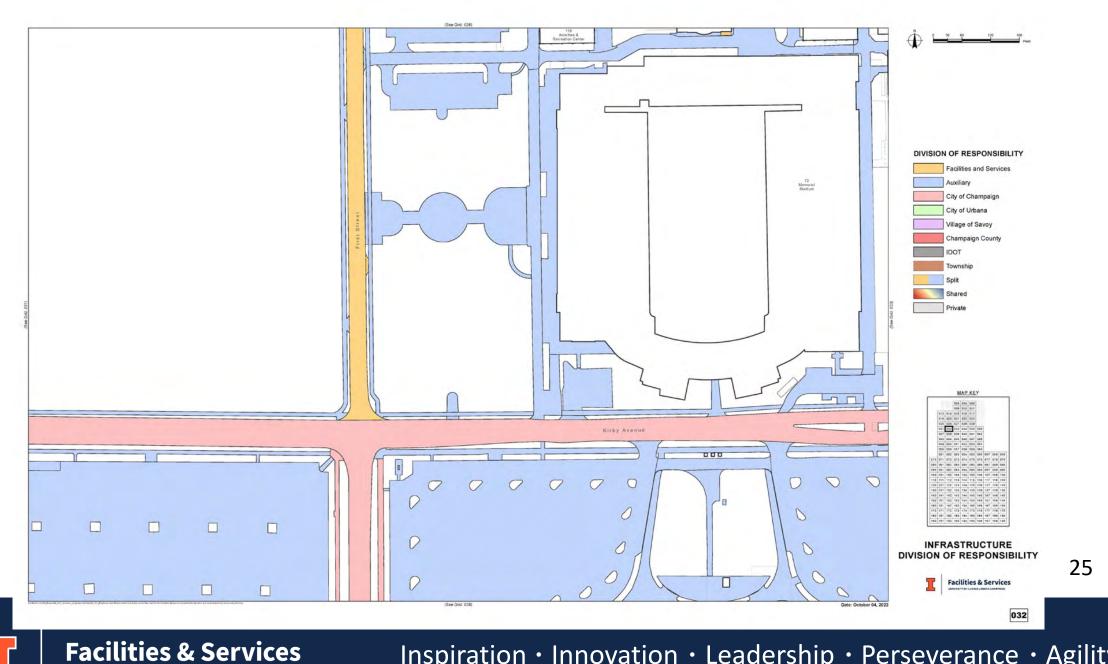


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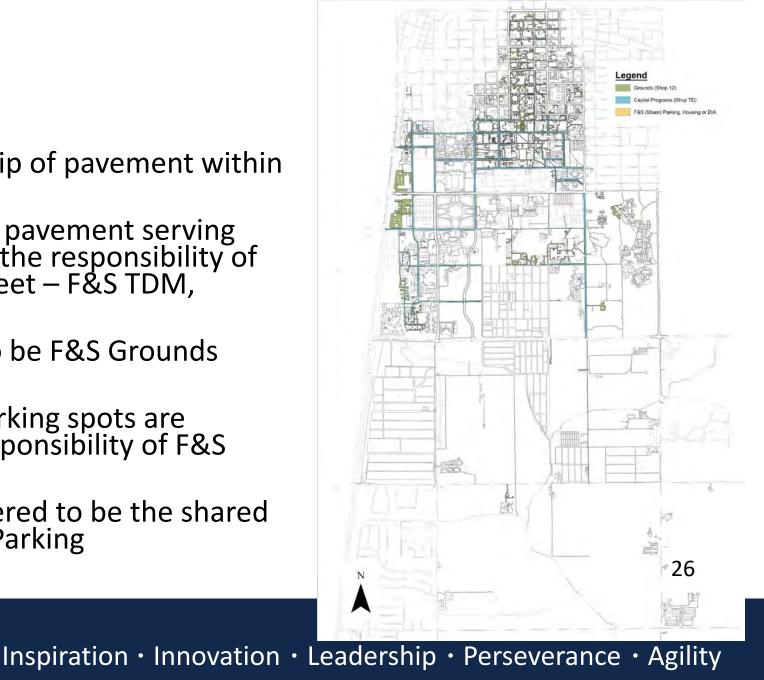
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## DOR Step – 2

- Identify and designate ownership of pavement within F&S
- The maintenance/ownership of pavement serving the campus is considered to be the responsibility of F&S (bike infrastructure and street – F&S TDM, Sidewalk – F&S Grounds)
- Service drives are considered to be F&S Grounds responsibility
- Service drives that also have Parking spots are considered to be the shared responsibility of F&S Grounds and Parking

Facilities & Services

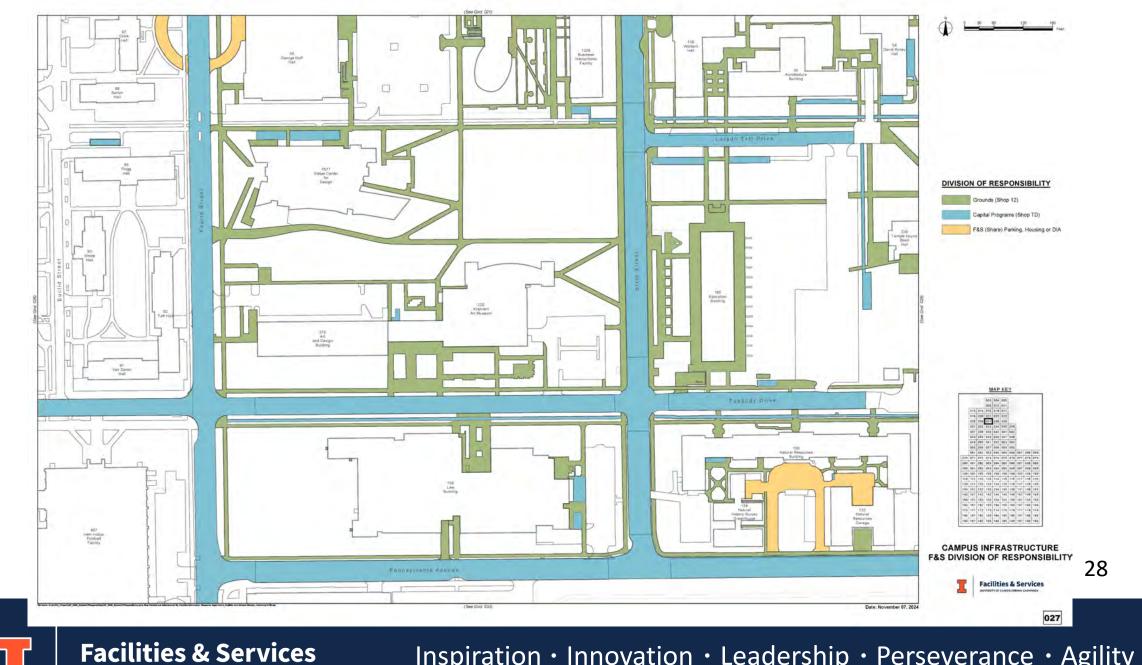
 Street parking spots are considered to be the shared responsibility of F&S TDM and Parking





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## DOR Step – 3

- Currently updating the maintenance matrix with City of Urbana and City of Champaign
- Working on developing a maintenance matrix with the Village of Savoy
- DOR Discussions with
  - Housing Completed
  - DIA Completed
  - Campus Recreation Completed
  - Parking In Progress
- Publish the DOR map

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## F&S TDM Status Update -**Student Sustainability Committee (SSC)** funded projects 30



## **SSC funded projects**

- EV charging stations for F&S fleet SSC awarded \$134,000
- Shipping containers for bicycle storage \$70,000
  - Purchased and installed seven 8' x 40' shipping containers
  - Installed hooks on one wall of each shipping containers
  - Each shipping container has a capacity of 45-50 bicycles
  - So far, we have spent nearly \$60,000
- Sustainable Transportation Interns SSC awarded \$50,000
  - Karina Jang and Bhagyashree are the current interns
- Power and Ventilation for shipping containers SSC approved \$60,511
  - Award expected in late May or early June
- Eco-Counters \$120,000 funded in spring 2022
  - 23 Eco-Counters have been installed on campus
  - Last Eco-Counter to be installed in summer 2025





#### **Shipping Containers for bicycle storage**







#### **Shipping Containers for bicycle storage**











#### **Infrastructure Project Updates**

- Oak St Complete Street & Crosswalk Feasibility: <u>\$25,000</u> - Completed
- Oak St Complete Street & Sidewalk: <u>\$150,000</u> In Progress
  - Finalizing the cost for the project
- Hazelwood Dr Shared-Use Path Design: <u>\$30,000</u> In Progress
- South Quad Shared-Use Path N-S connection Design: <u>\$65,000</u> – In Progress
- Pennsylvania Avenue from Lincoln Ave to City of Urbana Limits – Working on consultant contract
- Pavement Analysis Study Update 2024 Study: <u>\$25,000</u> – Working on consultant contract

- Kirk Dr circle drive Working on consultant contract
- Spray injection Summer 2025
  - Includes campus streets, service drives, and parking lots
  - Partnered with Parking for parking lot spray injection
  - Contracted with City of Champaign



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# Lincoln Avenue Corridor Study

Campus Transportation Advisory Committee May 2025



## Outline

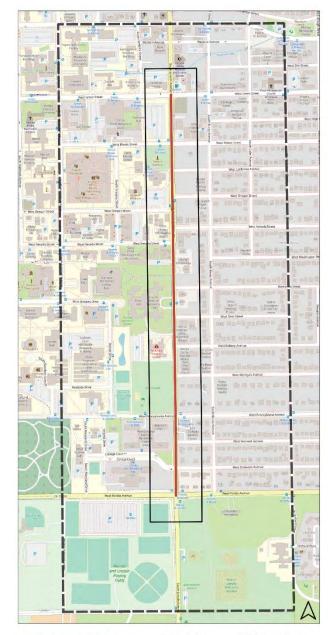
- Project Overview
- Late-2024 Outreach
- 2025 Updates



# **Project Overview**

## **Project Overview**

- Funded by a two-year SPR grant from IDOT
  - January 2023 December 2024
- Covers 1.2 miles of Lincoln Avenue in the City of Urbana, adjacent to the University of Illinois
  - Between Green Street and Florida Avenue
- Collaboration between CCRPC, the City of Urbana, the University of Illinois, and the Champaign-Urbana Mass Transit District, with engineering assistance from the Lochmueller Group



Study Area Study Area of Influence

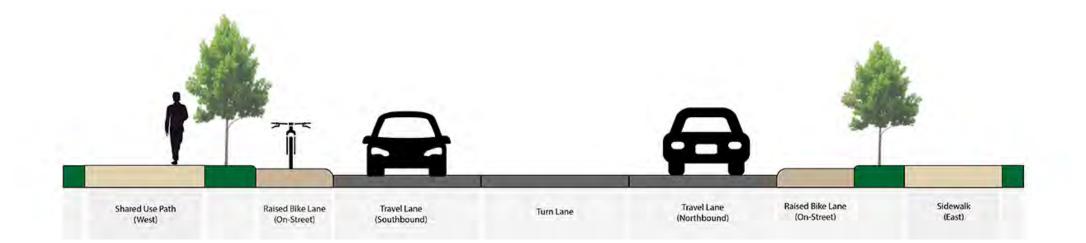
## **Project Phases**

- Spring Fall 2023
  - Approve Scope and Timeline
  - Existing Conditions
    - Round 1 Public Outreach
  - Future Conditions
- Fall 2023 Spring 2024
  - Identify Potential Countermeasures
  - Scenario Development and Evaluation
    - Round 2 Public Outreach
- Spring 2024 Summer 2025
  - Preferred Alternative Selection
  - Project Prioritization and Implementation Recommendations
  - Finalize Corridor Study Report
    - Round 3 Public Outreach
    - Round 4 Public Outreach

- On-street bike lanes for the full length of the corridor
  - These bike lanes will be vertically separated from the roadway (similar to Green Street on campus)
- Creation of right-turn-only lanes at corridor entrances
  - Southbound at Green and northbound at Florida



- Conversion of entire corridor into three-lane section
  - Through lane in each direction, and center left turn lane



- Closure of Oregon, lowa, and Indiana to vehicles
  - Bike and pedestrian access maintained
- Conversion of Nevada and Vermont to right-turn-in/rightturn-out

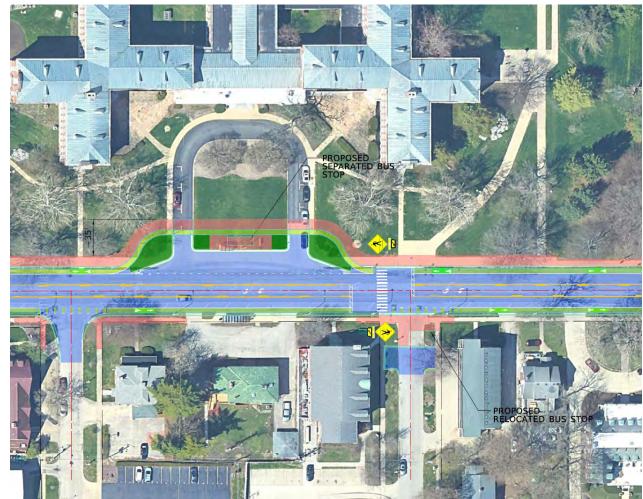




- Crosswalk location changes
  - New crosswalk at Oregon
  - Ohio and Indiana crosswalks consolidated into mid-block crossing
- Installation of rapid rectangular flashing beacons at nonsignalized crossings
  - Oregon, Iowa, Ohio/Indiana midblock, north of Michigan
- Signal timing adjustments
  - Green, Illinois, Nevada, Pennsylvania, and Florida signals



- MTD stops between lowa and Ohio slightly relocated, to avoid intermodal conflict
  - Southbound stop (at LAR) shifted west, into university ROW (pending agreement)
  - Northbound stop shifted to closed lowa intersection
- Oregon northbound stop shifted north of (closed) Oregon



## Late-2024 Outreach

## **Public Comment Period**

- Public comment on final proposal was open for a month and a half at the end of 2024, via email to RPC staff
- Received 84 emails with 255 individual comments
- Many emails were part of WUNA listserv back-and-forth, but themes and trends were the same whether these were included or excluded

### **Grouped Sentiment Counts**

| Access Closure   | 43 |
|--|----|
| Access Closure - Opposed                               | 27 |
| Access Closure - Concern                               | 6  |
| Access Closure - Support                               | 5  |
| Access Closure - Suggestion                            | 3  |
| Access Closure - Ambivalent                            | 2  |
| Pedestrian Infrastructure Recommendations              | 37 |
| Pedestrian Infrastructure Recommendations - Support    | 22 |
| Pedestrian Infrastructure Recommendations - Suggestion | 7  |
| Pedestrian Infrastructure Recommendations - Ambivalent | 5  |
| Pedestrian Infrastructure Recommendations - Concern    | 3  |
| Cycling Infrastructure Recommendations                 | 32 |
| Cycling Infrastructure Recommendations - Support       | 16 |
| Cycling Infrastructure Recommendations - Suggestion    | 5  |
| Cycling Infrastructure Recommendations - Opposed       | 5  |
| Cycling Infrastructure Recommendations - Ambivalent    | 4  |
| Cycling Infrastructure Recommendations - Concern       | 2  |
| General Recommendations                                | 17 |
| General Recommendations - Support                      | 11 |
| General Recommendations - Opposed                      | 3  |
| General Recommendations - Ambivalent                   | 2  |
| General Recommendations - Concern                      | 1  |

| Roadway Realignment                   | 15 |
|---------------------------------------|----|
| Roadway Realignment - Support         | 8  |
| Roadway Realignment - Ambivalent      | 3  |
| Roadway Realignment - Concern         | 2  |
| Roadway Realignment - Opposition      | 1  |
| Roadway Realignment - Suggestion      | 1  |
| Right-In-Right-Out                    | 10 |
| Right-In-Right-Out - Suggestion       | 8  |
| Right-In-Right-Out - Support          | 1  |
| Right-In-Right-Out - Concern          | 1  |
| Signal Timing Adjustment              | 7  |
| Signal Timing Adjustment - Support    | 3  |
| Signal Timing Adjustment - Ambivalent | 2  |
| Signal Timing Adjustment - Suggestion | 2  |
| Study Process                         | 8  |
| Study Process - Support               | 3  |
| Study Process - Opposed               | 3  |
| Study Process - Ambivalent            | 1  |
| Study Process - Concern               | 1  |
| Vehicle Speed - Suggestion            | 7  |

| Loading Zone Removal                          | 6      |
|---|--------|
| Loading Zone Removal - Ambivalent             | 3      |
| Loading Zone Removal - Opposed                | 2      |
| Loading Zone Removal - Concern                | 1      |
| Non-Study Proposal                            | 6      |
| Bus Stop Relocations                          | 4      |
| Bus Stop Relocations - Support                | 2<br>1 |
| Bus Stop Relocations - Opposed                | 1      |
| Bus Stop Relocations - Suggestion             | 1      |
| Increased Enforcement - Suggestion            | 4      |
| Additional Lighting Improvements - Suggestion | 3      |
| Infrastructure Costs - Opposed                | 2      |
| Roadway Resurfacing - Support                 | 2      |
| Commercial Parking Relocation                 | 2      |
|   |        |
| Commercial Parking Relocation - Ambivalent    | 1      |

### WUNA Posts Included/Excluded

| WUNA Posts Excluded                              |       |
|--|-------|
| Category   | Count |
| Access Closure - Opposed                         | 27    |
| Pedestrian Infrastructure Recommendations -      |       |
| Support  | 22    |
| Cycling Infrastructure Recommendations - Support | 16    |
| General Recommendations - Support                | 11    |
| Right-In-Right-Out - Suggestion                  | 8     |
| Roadway Realignment - Support                    | 8     |
| Pedestrian Infrastructure Recommendations -      |       |
| Suggestion                                       | 7     |
| Vehicle Speed - Suggestion                       | 7     |
| Access Closure - Concern                         | 6     |
| Non-Study Proposal                               | 6     |

| WUNA Posts Included                              |       |
|--|-------|
| Category   | Count |
| Access Closure - Opposed                         | 35    |
| Pedestrian Infrastructure Recommendations -      |       |
| Support  | 26    |
| Cycling Infrastructure Recommendations - Support | 18    |
| General Recommendations - Support                | 17    |
| Right-In-Right-Out - Suggestion                  | 13    |
| Access Closure - Support                         | 11    |
| Roadway Realignment - Support                    | 9     |
| Pedestrian Infrastructure Recommendations -      |       |
| Suggestion                                       | 8     |
| Vehicle Speed - Suggestion                       | 8     |
| Access Closure - Concern                         | 7     |

## **Opposition Subjects**

| Opposed                                | 44 |
|--|----|
| Access Closure                         | 27 |
| Cycling Infrastructure Recommendations | 5  |
| General Recommendations                | 3  |
| Study Process                          | 3  |
| Infrastructure Costs                   | 2  |
| Loading Zone Removal                   | 2  |
| Bus Stop Relocations                   | 1  |
| Roadway Realignment                    | 1  |

### Post-Outreach

- Based on the feedback provided, opposition to road closures was the primary point that needed to be addressed (in some way) before moving forward
- Lochmueller confirmed that garbage trucks and trucks of similar size could navigate the proposed closures
- Urbana Fire Department came forward with fire truck access concerns, which aren't addressed by Lochmueller's garbage truck analysis
- Urbana Public Works determined that, in light of public outcry and UFD concerns, they are no longer in support of complete closures

## 2025 Updates

## **Updated Recommendations**

- All full vehicle closures removed
  - Oregon changed to right-out only
  - Iowa changed to right-out only
  - Indiana changed to eastbound-in only, and Lincoln/Busey block converted to one way







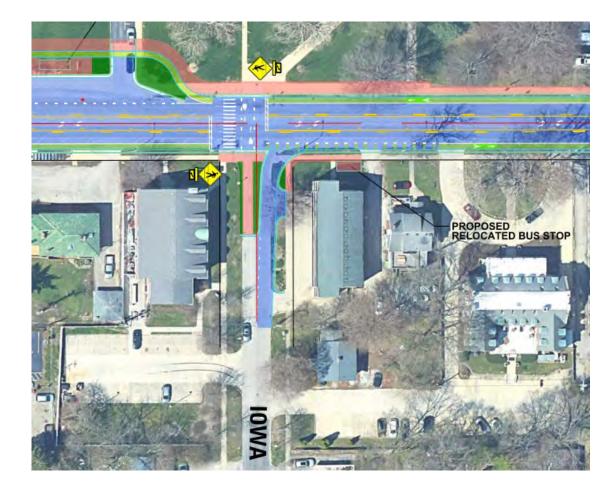
## **Updated Recommendations**

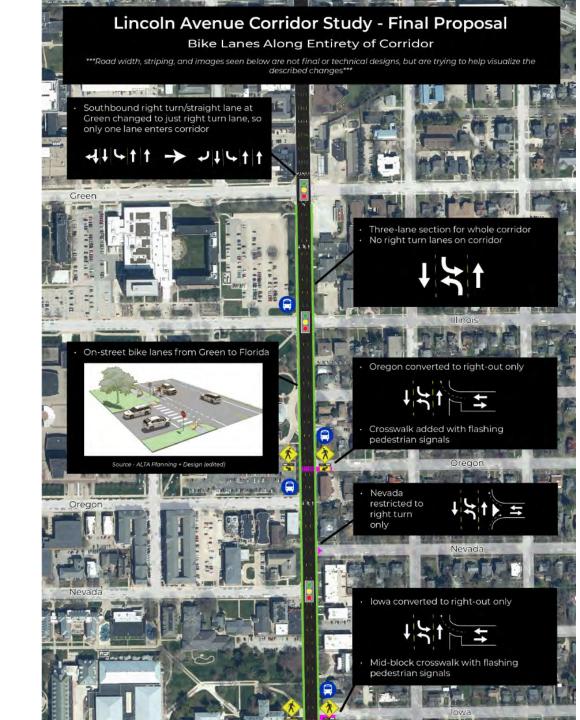
- Bus stop
   recommendations shifted
   to accommodate re opened streets
  - Northbound Oregon stop shifted north of partiallyopened Oregon intersection

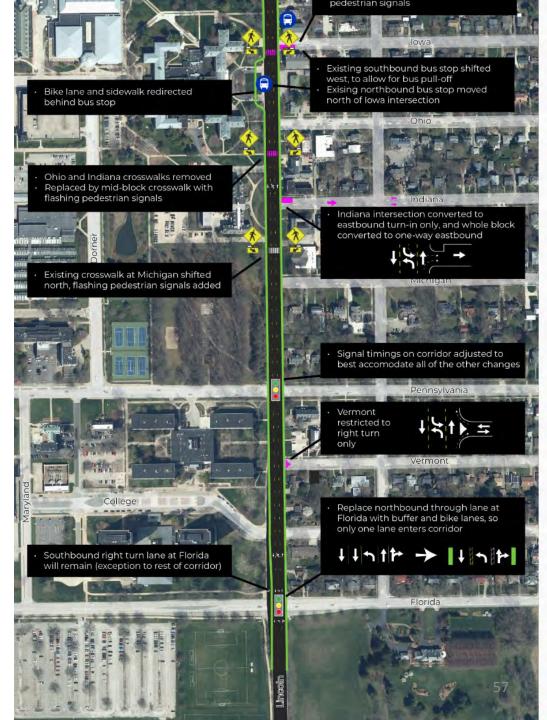


## **Updated Recommendations**

- Bus stop
   recommendations shifted
   to accommodate re opened streets
  - Northbound Iowa stop shifted north of partiallyopened Iowa intersection, new shelter dependent on ROW negotiations with property owner







# **Questions?** Comments?

More info: ccrpc.org/lincoln

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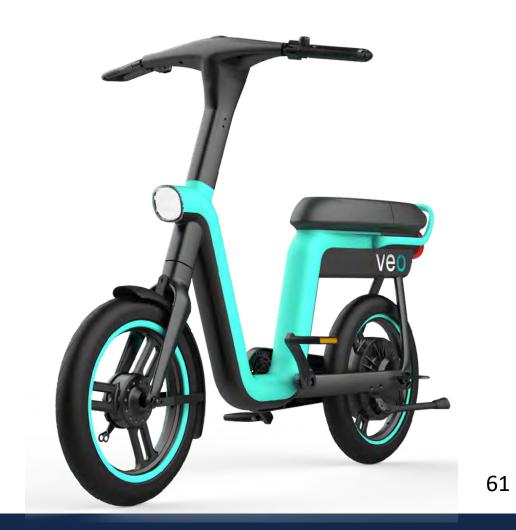






### Veo

- 750 bikes in the market
- Veo Plus Subscription plan
  - \$9.99 per month
  - \$1 unlock fee waived off
- Fleet consists of
  - Halo-e
  - Cosmo-e
  - Apollo (new 2 seater)





### **Bird Bikeshare**

- Bird bike share
  - Ceased operation in March 2025





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# **EV Infrastructure Study of Peer Universities** 64



## Introduction

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- EV infrastructure is vital for universities pursuing carbon reduction and clean transportation goals.
- Adoption of EVs among campus users is increasing, prompting the need for reliable and accessible charging solutions.
- University of Illinois Urbana-Champaign is interested in expanding EV charging infrastructure across the campus. (*broader Climate action plan goals*)
- **Purpose:** A comparative analysis of peer institutions was conducted to assess EV infrastructure strategies.
- **Goal**: To present best practices, challenges, and policy insights that will support U. of I.'s planning and implementation efforts.





### Methodology

- A structured questionnaire (via Google Forms) gathered both quantitative and qualitative data.
- Survey collected information on charger types (Level 1– 3), usage trends, installation/operational/usage costs, and EV-related policies.
- **Survey Timeline**: Open from Feb 3–28, 2025, with extensions into early March.

Facilities & Services

The survey was conducted with the 17 peer universities and received responses from the following:

- 1. University of Washington Seattle
- 2. Ohio State University
- 3. Northwestern University
- 4. University of California Los Angeles (UCLA)
- 5. Indiana University
- 6. University of Maryland
- 7. University of Wisconsin Madison
- 8. University of Southern California (USC)
- 9. University of Minnesota



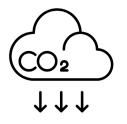
### **Existing Conditions**



### **Current Infrastructure**

- 32 Level 2 chargers (60 charging ports)
- 16 Designated Level 1 charging locations+6 chargers in B-4

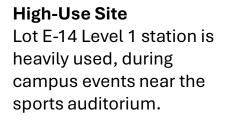
Facilities & Services



#### Target

Supports iCAP goal of a 45% reduction in transportation-related emissions by 2035.

### 





**Cost** Approx. \$12,000 per Level 2 charger (excluding installation).

Usage Fee for Level 2 Charging:

•\$0.20 per kWh during charging

•\$1.00/hour after charging ends (to encourage turnover and cover costs)

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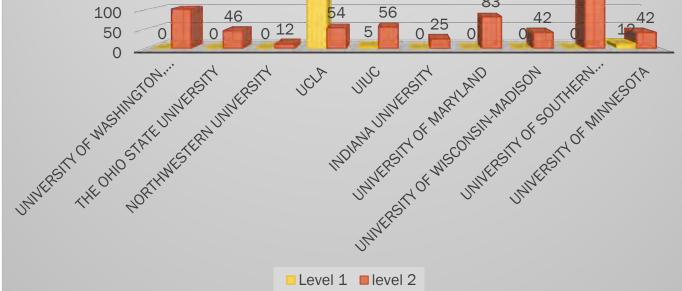


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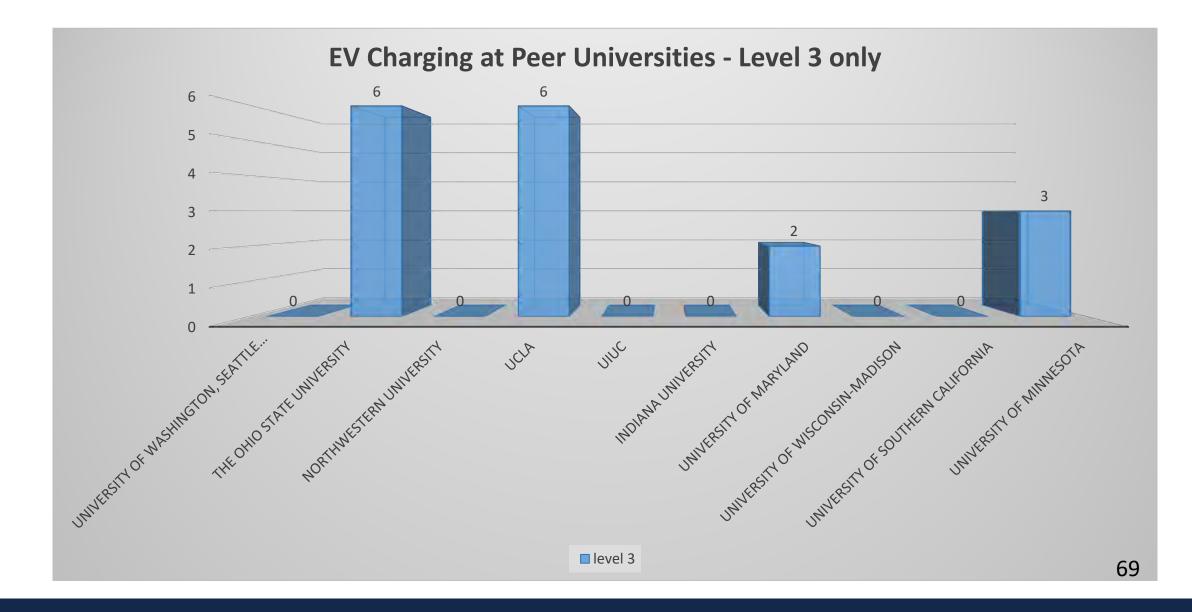
### 1. Charging infrastructure

- UCLA: Highest number of Level 1 chargers (489), with 54 Level 2 and 3 Level 3 chargers.
- Level 2 chargers: Most common type; USC leads with 250, followed by University of Washington Seattle.
- Level 3 chargers: Less common; mainly serve campus fleets.
- **Usage tracking**: Most institutions don't formally track usage.
- University of Minnesota offers Level 3 chargers for **public use**, unlike most others.

# EV Charging at Peer Universities - Level 1 & 2 only



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### 2. Current Usage

Several universities lacked formal EV ownership records; some provided detailed data.

- UCLA: ~7,255 employee users, 2,222 student users.
- University of Maryland: 500 EV users tracked through Green Permit Pro program.
- University of Wisconsin–Madison: 3,450+ users (1,269 employees, 1,606 students).
- USC: 9,584 unique users in 2024 used campus charging stations.
- Growing EV usage highlights the need for data-driven planning and scalable infrastructure. By understanding user trends, we can anticipate the future infrastructure needs and align them with sustainability goals.





### 3. Cost Overview

Costs vary by charger type, site conditions, and institutional strategies.

### Level 1 Chargers:

- Limited data; many installed years ago.
- Indiana University: ~\$750 per unit (installation cost varies).

### Level 3 Chargers:

 University of Washington: ~\$190,000 each (development + installation).

### Usage fee:

- Ohio State: \$0.50/kWh.
- University of Maryland: \$0.80/session (Blink network fee).

### Level 2 Chargers:

- University of Washington: \$75,000/port (includes full setup and service contract).
- Ohio State University: \$20,000-\$100,000 depending on location.
- Northwestern Un iversity: \$10,000 per charger.
- University of Maryland: \$6,600 hardware (dual plug) + variable extra costs.
- Wisconsin-Madison: >\$12,000 (hardware, warranty, cloud service only).
- USC: \$6,000 hardware + \$5,000-\$15,000 installation.
- University of Minnesota: \$2,000-\$15,000 per station.

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### 4. Policy Standards for New Parking Developments

- **General trend**: Most universities lack formal EV policy standards for new parking developments.
- University of Wisconsin–Madison: Reviewing policies due to conflicts between local ordinances and state law.
- **University of Maryland**: Recently expanded charging stations (2022–2023); continues to monitor for future needs and performance.

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### 5. Adding New EV Charging Stations

Currently U. of I. practices the idea of adding new stations or upgrading existing structures when panel upgrades are possible.

- **General trend**: Many universities have maxed out existing grid capacity and are investing in new infrastructure.
- **Rutgers University**: Expanding in existing lots with accessible networks; piloted solar-powered chargers but faced issues with insufficient sunlight.
- University of Minnesota: Prioritizing fleet chargers; leveraging city programs to expand network.



## Findings

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### 6. Factors Influencing Network Expansion

Several factors influence how universities expand their EV charging networks.

#### Key factors in expansion:

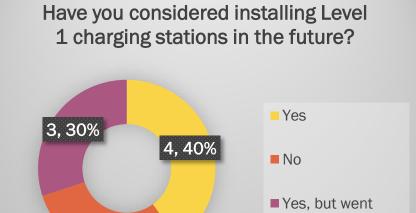
- Infrastructure limits (e.g., panel upgrades, grid capacity).
- Integration of technologies (e.g., solar chargers).
- Evaluation of current demand and usage trends.

#### Level 1 Charging Stations – Future Viability:

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#### 4 universities considering future Level 1 installations:

- Low-cost, overnight charging for short-distance fleet vehicles.
- Affordable option for short-distance commuters.
- **Example**: UCLA uses Level 1 widely—80% of customer-accessible chargers.



3, 30%

ahead with level 2

#### **3** universities not considering Level 1:

- Insufficient capacity for modern EVs.
- Higher infrastructure installation costs.
- Preference for Level 2 due to rising demand.

### **Shift toward Level 2 chargers** (e.g. University of Maryland):

- More efficient and faster charging.
- Allows use of smart, networked systems for better management.

#### **Concerns with Level 1 chargers:**

- Trip hazards from cables.
- Users must bring their own cables.

| University                               | Response                         |
|--|----------------------------------|
| UIUC                                     | Yes                              |
| UCLA                                     | Yes                              |
| Northwestern University                  | Yes                              |
| University of Washington, Seattle Campus | Yes                              |
| The Ohio State University                | No                               |
| Indiana University                       | No                               |
| University of Southern California        | No                               |
| University of Maryland                   | Yes, but went ahead with level 2 |
| University of Wisconsin-Madison          | Yes, but went ahead with level 2 |
| University of Minnesota                  | Yes, but went ahead with level 2 |

Universities and responses for Future L1 charger installation



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### 7. Average Commute Distance for Faculty Members Using EVs

- Most universities do not track commute distances for EV users.
- **U. of I.**: Average one-way commute for faculty, staff, and students is **7 miles**.
- UCLA: Average one-way commute for faculty, staff, and students is 15.6 miles.
- University of Maryland: Average one-way commute for EV users is 21.9 miles.



## Recommendations

- Expand Level 1 and Level 2 chargers
- Developing a policy document
- Offering incentives

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- Continue upgrading electrical panels
- Track and analyze usage data



# Agenda

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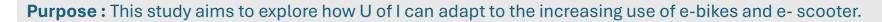




## Introduction

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- The University of Illinois Urbana-Champaign (U. of I.) supports clean and sustainable transportation through its *Illinois Climate Action Plan (iCAP)* goals.
- Campus has implemented bike- and pedestrian-friendly initiatives to encourage alternative transportation
- There is growing interest in integrating micromobility options especially e-bikes and escooters into the campus travel network



- Reviews the policies, infrastructure, and facility standards for e-bike and e-scooter use at peer institutions. The objective is to assess trends in usage, charging infrastructure, parking provisions, and safety practices.
- This report provides key findings from the survey, highlights the best practices and common challenges, and *provides guidance for incorporating e-bikes and e-scooters into the bicycle infrastructure at U OF I*.



## Methodology

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- A survey was created (via Word and Google Forms) focusing on current practices, infrastructure, policies, and future plans of peer universities.
- Shared with **18 peer universities** and the Campus Bike Program List (288 members from the U.S. and Canada).

Responses collected between February 3rd – February 28th, 2025

- 1. Colorado State University
- 2. Virginia Tech
- 3. Boise State University
- 4. Michigan State University
- 5. University of Washington
- 6. Northwestern University
- 7. University of Mississippi (Ole Miss)
- 8. Stanford University
- 9. University of Wisconsin–Madison
- 10. Purdue University
- 11. University of Maryland
- 12. University of Oregon
- 13. University of California, Los Angeles (UCLA)
- 14. University of Southern California (USC)
- 15. Indiana University
- 16. University of Minnesota
- 17. Rutgers University

## **Existing Conditions**

- E bikes and e-scooters are currently categorized under the broader term *micromobility devices* under U. of I. (also includes skateboards, inline skates, and hoverboards)
- **Parking**: E-bikes and e-scooters must use designated bike parking; **~13,500** spaces available across campus, near most buildings.

#### **Usage Rules**

- E-bikes (e.g., Veo) allowed on bike lanes and bike paths.
- E-scooters allowed on streets and in-street bike lanes.
- Both are **prohibited** in no-ride zones (Quads).
- Class 1 e-bikes and e-scooters allowed on sidewalks/shared paths at  $\leq 8$  mph.
- Motorized skateboards/hoverboards allowed on streets and bike lanes.

#### Charging

- No dedicated charging infrastructure on campus.
- Indoor charging (including in residence halls) is **prohibited** for safety.
- University is *exploring outdoor charging options*.



E- bike



E-scooter



Motorized Skateboards

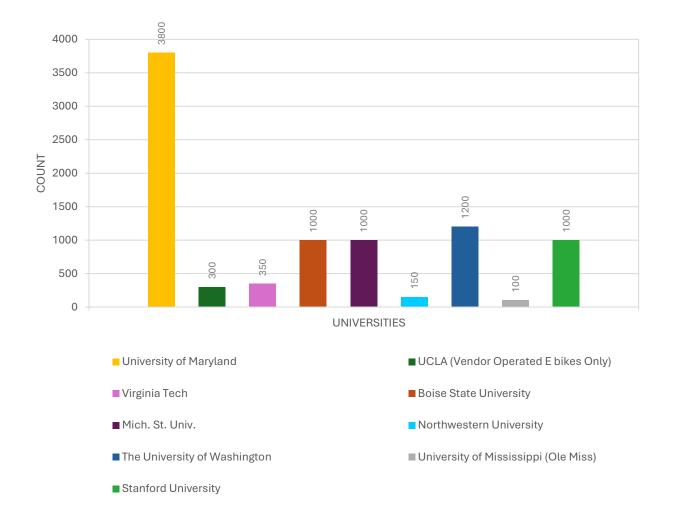


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### 1. Current Usage of E-Bikes and E-Scooters

- The estimated number of e-bikes and e-scooters in use on campuses ranges from **150 to 3800.**
- Universities currently not monitoring the usage :
  - University of Oregon
  - University of Southern California
  - Indiana University
  - University of Wisconsin Madison
  - University of Minnesota
  - Purdue University
  - University of Illinois Urbana Champaign



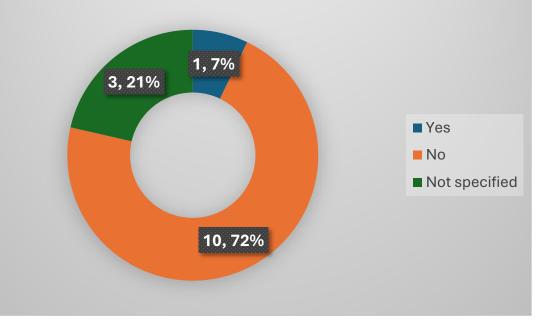
### Facilities & Services

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### 2. Parking and Storage Facilities

- Only Boise State University reported having **dedicated parking and storage facilities** for e-bikes and e-scooters, with capacity for approximately **2,000** devices.
- Twelve universities (69%) indicated they do not offer dedicated storage but allow these vehicles to use standard bicycle parking.
- Three universities (19%) noted that their policies regarding storage were not explicitly defined.

Do you provide dedicated storage facilities for E-bikes and E-scooters?





### 3. Charging Infrastructure

- Boise State University is the most advanced in terms of charging infrastructure, with **40 dedicated charging stations**.
- The University of Washington has **8 charging stations** available for e-bikes and e-scooters.

#### Several universities allow outdoor charging under specific conditions:

- Boise State University, Michigan State University, University of Washington, University of Oregon, and UCLA *permit on-campus charging, provided it is done outdoors*.
- At UCLA, devices must be *UL-certified*, and residents may only charge one device per room.
- At the University of Oregon, standard wall outlets are used for charging in select outdoor bike cages and in some buildings.
- Rest of the universities do not permit e-bike or e-scooter charging on campus.



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4. Charging Station Implementation and Safety Protocols

#### Boise State University:

- Electricians assess outlet load capacity; approved sites are labeled and added to campus map.
- Indoor charging spots (e.g., bike barns in garages) must pass fire/building safety inspections and have fire extinguishers.
- **Observation:** New charging stations show low usage; monitoring is still in early stages (completed in winter 2024).

#### University of Oregon:

- Charging infrastructure added during new construction or renovations.
- Updated Transportation Plan (2025) will include recommendations for future charging locations.
- UO Housing exploring charging stations in external bike cages near dorms.



Bike barns in garages at Boise State University



### 5. Future and Policy Developments

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Universities expressed varying levels of intent regarding future charging infrastructure

- **Boise State University**: Actively working on expanding e-bike and e-scooter infrastructure.
- University of Oregon: Updating policies to allow indoor storage/charging; 2025 plan to include mobility hubs.
- **Colorado State University**: Possible future expansion, but no current projects.
- Virginia Tech: No plans for charging infrastructure due to past fire incidents.
- **Other Universities**: Do not anticipate expanding charging infrastructure in the near future.



## **Recommendations**

- Collaborate with Campus Stakeholders
- Pilot and Monitor Usage
- Develop Clear Campus-wide Policies
- Integrate Charging in Future Capital Projects



## **Recommendations Contd.**

- Locate Charging Stations Strategically
- Establish Outdoor Charging Infrastructure
- Vendor Partnerships

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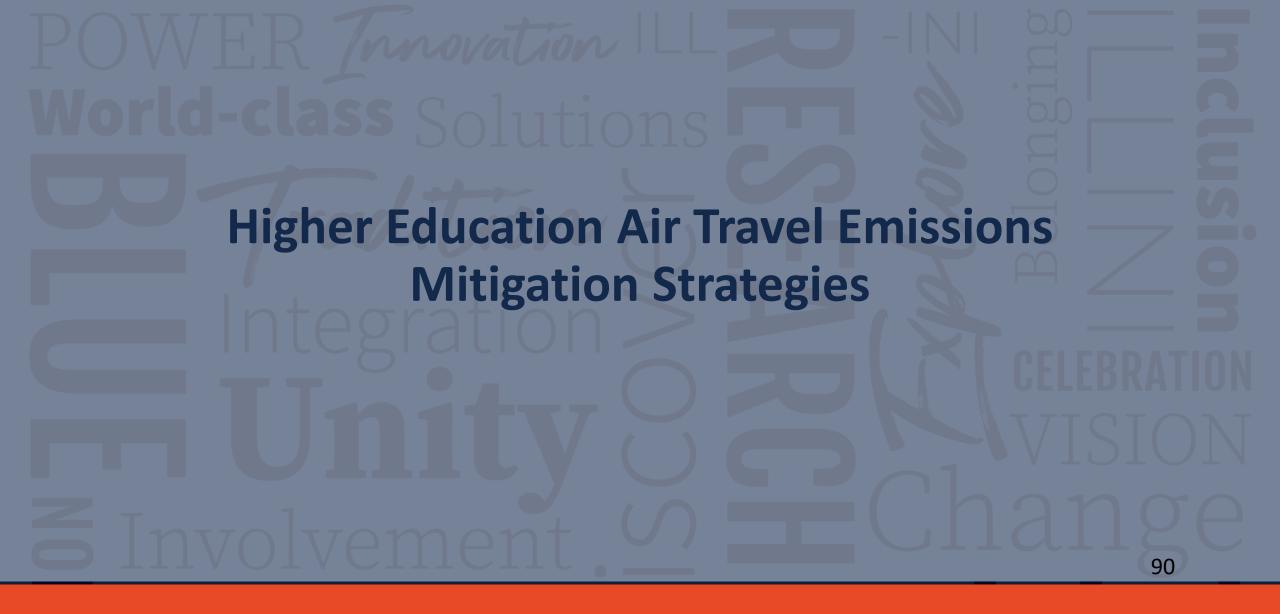
• Education Campaigns



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# iCAP 2020 Air Travel Emission Goals

- 3.5 [iSEE] Reduce net air travel emissions from FY14 baseline: 50% by FY24 and 100% by FY30.
  - Air travel is the university's largest source of transportation-based emissions.
  - As of FY19, we decreased our air travel emissions by approximately 25% from the updated FY14 baseline.
  - Report business travel data for Second Nature as part of the annual GHG emissions report
- However, we aren't currently tracking air travel emissions and cannot provide accurate data to report for our Climate Action Plan.



# **University Air Travel Emissions**

- Universities interviewed:
  - Colorado State University
  - Duke University
  - Stanford University
  - University of Edinburgh [Scotland]
  - University of Maryland
  - University of Pennsylvania
  - University of Toronto [Canada]



# **University Air Travel Emissions**

- Universities aiming to reduce air travel emissions from
  - Business trips
  - Study abroad programs
  - Faculty research
  - Athletics
- Challenges
  - Decentralized campuses
  - Lack of engagement + outreach
  - Poor data quality
  - Tracking platform/strategy
- Mitigation strategies
  - Emissions tracking through SIMAP, Concur, Excel, etc.
  - Air travel policies
  - Carbon tax on domestic and international flights
  - Carbon offsets

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## **University interviews**

\*questions added or altered per University.

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- 1. What data collection and overall softwares do you use to track air emissions emitted by staff, faculty, and students?
  - 1. What's the accuracy on calculations and tracking numbers? What percentage of the total air travel emissions does your database track?
- 2. How are departments incentivized to choose low carbon travel options?
- 3. What existing structures did your university already have that you were able to leverage?
- 4. Do you partner with student lead sustainability organizations to help further enforce and help on outreach for the program?
- 5. How do students play a role in reducing air travel emission initiatives?
  - 1. Are there voluntary forms for students to fill out if they want to submit their air travel emissions for the university to calculate?
- 6. What are some challenges you faced and how did you overcome them?



# **Key Findings**

- University of Edinburgh
  - Sustainable Travel Policy (2021)
    - Engagement through training + integrating it into booking platform
  - Travel management company + booking site
    - Reimbursement records + student surveys
  - Offsets
    - Forest and Peatland program sequestration on local lands
      - Restoring local forests + supporting biodiversity as a natural resource
      - Developing student-led tools to track emissions + support research
  - Challenges
    - Poor data quality (prior to Sustainable Travel Policy + Travel Management Company)
    - Figuring out how to tie emission reductions to a clear target
  - Current goals
    - Focus on raising awareness
    - Making the policy more accessible





# **Key Findings**

- Stanford University
  - EPA GHG Emission Factors Hub Excel file
    - Calculations based on flight distance, radiative forcing, and higher emissions per mile (short-haul flights)
  - Currently exploring calculation of student travel emissions through surveys
  - Challenges
    - Poor data quality (before using EPA GHG Emissions Factor Hub)
    - Coordination across departments
  - Current goals
    - Behavioral science studies on engagement
    - Stronger outreach efforts
    - Public dashboard

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## **Recommendations for the University of Illinois**

- 1. Tracking
  - a) Obtain and analyze business air travel data as reported in ChromeRiver system
  - b) Calculations through \$ spent, miles traveled, and airlines used to report emissions
- 2. Mitigation/Policy
  - a) Integrate a platform to track travel emissions with airline emissions database
  - b) Emphasis on outreach prior to introducing policy/pilot program
  - c) Create incentives that make departments want to prioritize low carbon travel options
- 3. Offsets
  - a) On campus offsets
    - a) Focus on local environmental benefits that can also benefit other iCAP goals
    - b) Funding on campus emissions reduction initiatives
      - i. Infrastructure upgrades, landscaping, etc.
  - b) Possibly purchase 3rd party offsets

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4. Continue researching clean aviation fuel development



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# UIUC Campus Transportation Survey

# **General Information & Initial Analysis**

•Total Respondents: 816

•Roles Represented: Undergraduate students, Graduate students, Faculty, and Staff

•International Participation: Only 6 respondents were located outside the U.S. at the time of submission

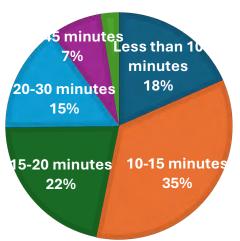
•Privacy: No names or emails were collected to ensure respondent anonymity

•Response Time: Completion times ranged from under 5 minutes to over 20 minutes, with an average of approximately 9 minutes

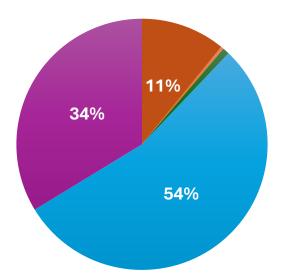
•Peak Participation: A significant majority of responses were submitted on March 3 and March 4

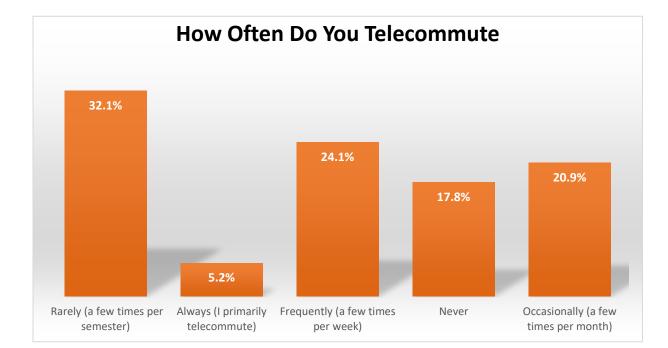
#### **Commuting Time**

Less than 10 minutes
 10-15 minutes
 15-20 minutes
 20-30 minutes
 30-45 minutes
 45+ minutes



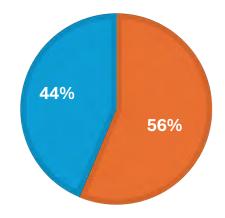
Primary Role on Campus



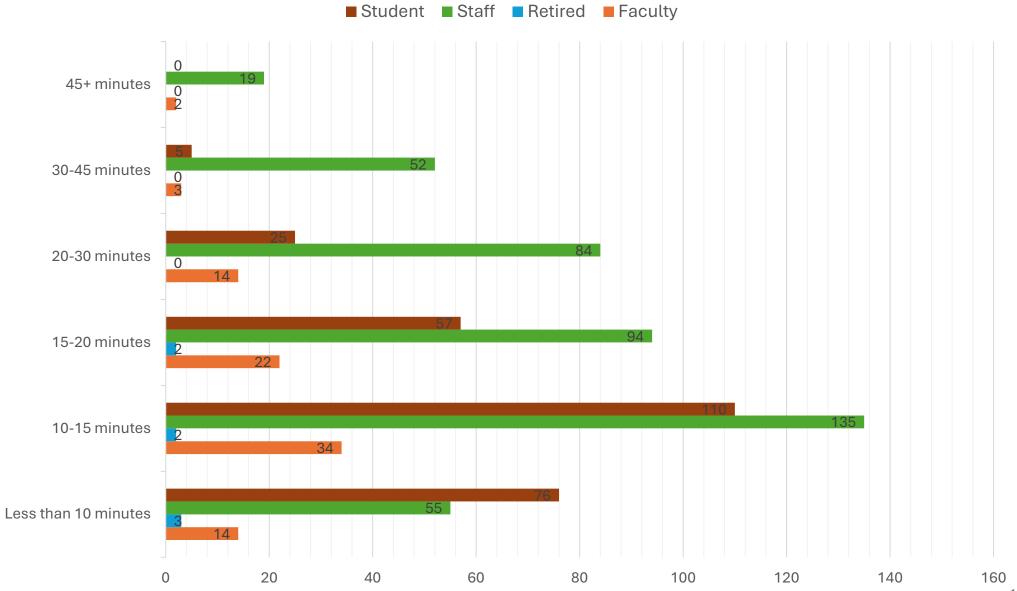


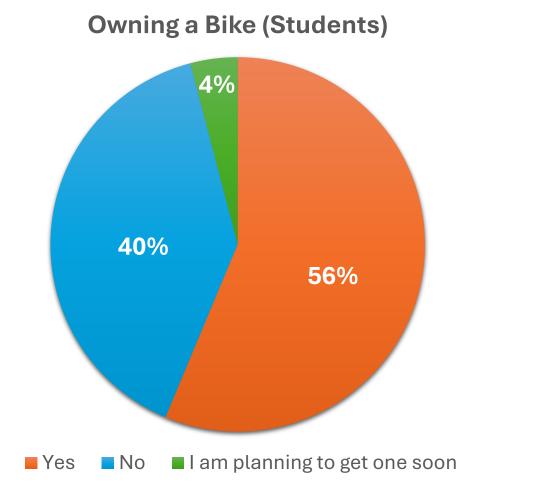
#### **PARKING PERMIT**

No, I don't have a parking permit Yes, I have a parking permit

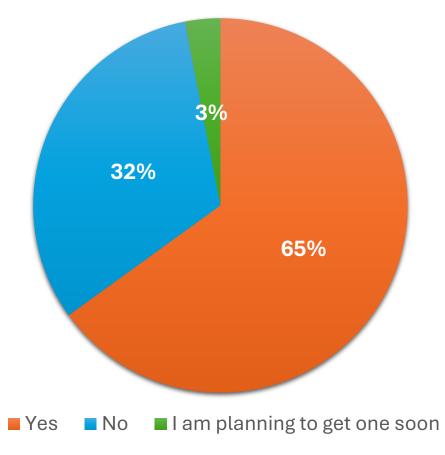


### Commute Time by Role

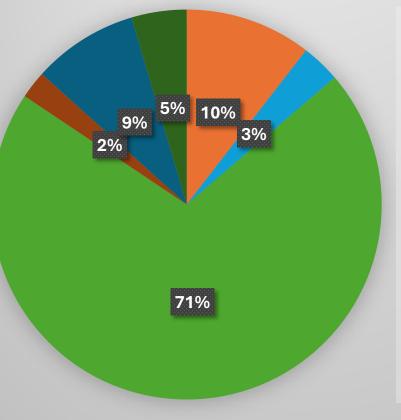




### **Owning a Bike (Faculty and Staff)**

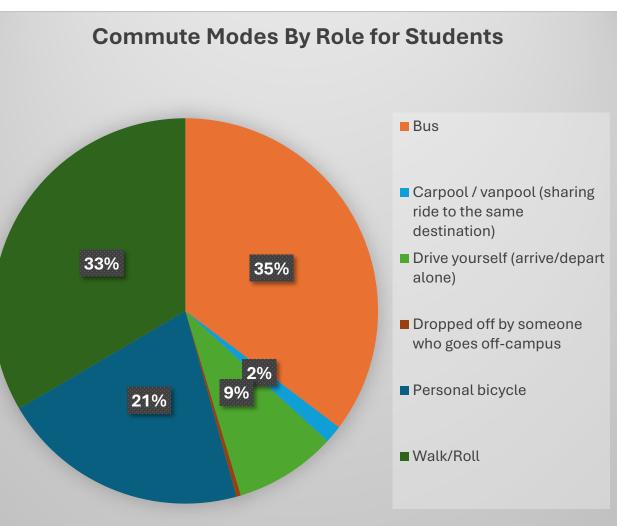


#### **Commute Modes By Role for Faculty and Staff**

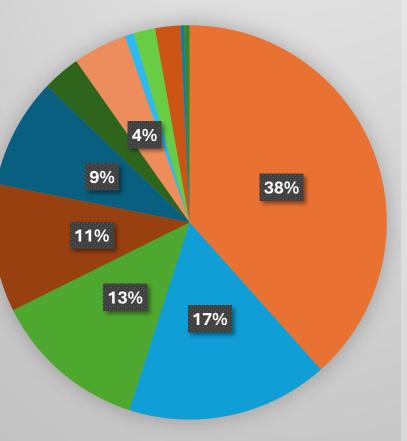


#### Bus

- Carpool / vanpool (sharing ride to the same destination)
- Drive yourself (arrive/depart alone)
- Dropped off by someone who goes off-campus
- Personal bicycle
- Walk/Roll

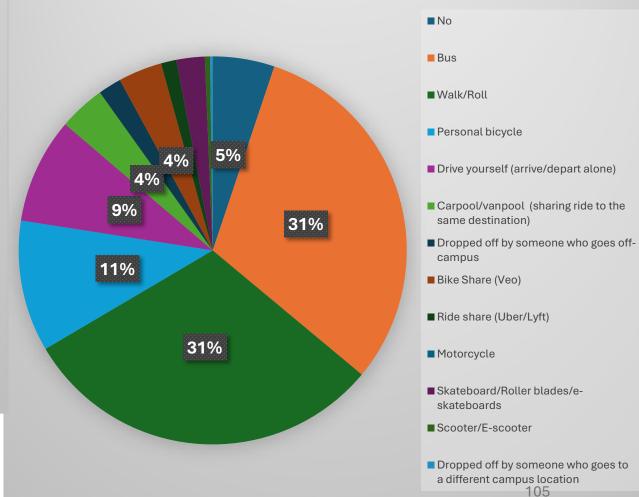


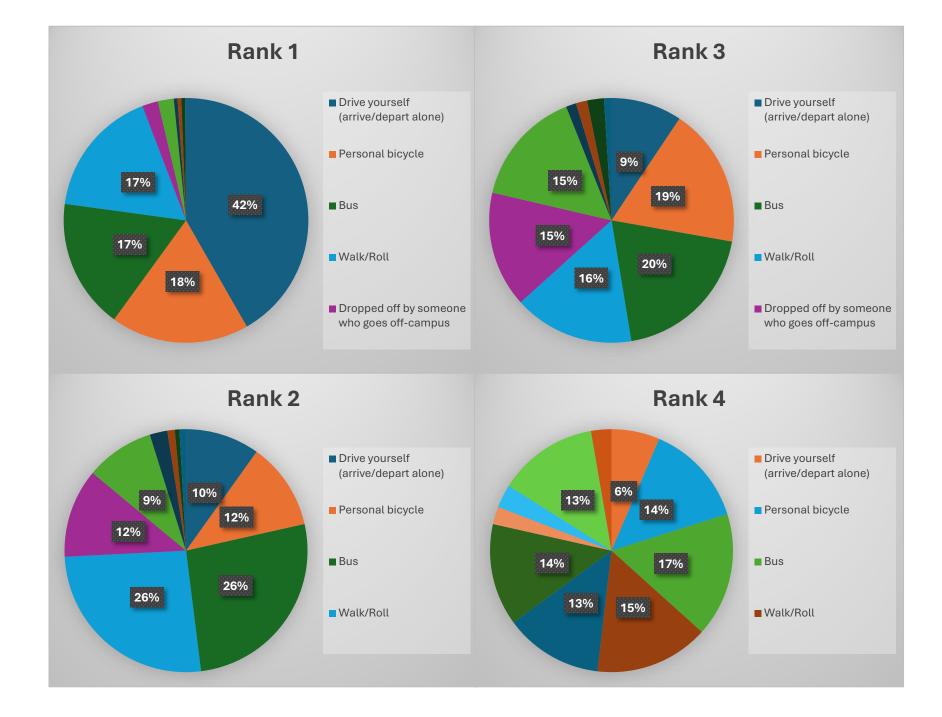
### Supplementary Modes By Mode for Faculty and Staff





### Supplementary Modes By Mode for Student





## How safe do you feel when navigating campus while walking?



## How safe do you feel when navigating campus while riding a bicycle?



#### How disability affects you navigating the campus

Very easy – I encounter minimal or no accessibility barriers.

Very difficult – Significant barriers make it hard for me to move around campus safely and...

Somewhat easy – There are occasional obstacles, but I can generally navigate well.

Somewhat difficult – I frequently face challenges such as uneven sidewalks, lack of...

Neutral – My experience varies depending on location and conditions.



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# **Future Direction of our Analysis**

•Identify key predictors of choosing active vs. motorized transportation by using Multivariate Regression

•Thematic analysis of open-ended safety concern responses

•Use ZIP codes to look at access disparities, such as bus service limitations & scoring each area on transportation equity

•Use GIS to map responses by ZIP code, Identify clusters of users lacking MTD service or reporting unsafe conditions

•Predict who would give up their parking permit with the right incentives using Decision Tree

•Publish a predictive behavior change model for sustainable transportation on campuses. Tailor policy interventions and recommendations for campus!

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# POWER Transation ILL 20 -I World-class Solutions Thank-you

Contact F&S TDM at: <u>fandscampustdm@illinois.edu</u> Stacey DeLorenzo Sarthak Prasad

