

3.



# TRANSPORTATION

## TRAVELING TOWARD ZERO CARBON



From overseas academic conferences to the daily office commute, members of the Illinois community are always on the move. But constant travel has its consequences. In FY19, approximately 13% of campus greenhouse gas (GHG) emissions were traced to the following three categories of transportation: campus vehicle usage, commuting, and air travel.

The first category, campus vehicle usage, refers to our university-owned fleet. Fleet vehicles are used by campus personnel for purposes such as police transportation, research, maintenance, construction, waste management, and short- and long-term rentals. The Urbana campus owns more than 1,200 vehicles, of which approximately 300 belong to the Facilities and Services (F&S) fleet.

We are dedicated to ensuring that our campus fleet runs as sustainably as possible. In September 2015, F&S received Tier 2 Sustainable Fleet

Accreditation from the National Association of Fleet Administrators (NAFA). We are the first university in the Big Ten — and the first university in the state — to receive this accreditation, which comes as a result of decreased fuel usage, idling time, and GHG emissions.<sup>64</sup> In August 2020, this certification was renewed for the F&S Truck Pool. Illinois has made significant strides toward mitigating fleet-related GHG emissions since 2015; as of FY19, campus fleet emissions decreased by approximately 25% from the FY08 baseline of 5,688 MTCO<sub>2</sub>e as a result of reduced

idling time, reduced trip frequency, and increased miles per gallon (mpg) per vehicle.<sup>65,66</sup> As outlined in Objective #3.1, we will further increase the sustainability of university-owned and -operated vehicles.

The second category of transportation GHG emissions is commuting. We have a great degree of control over our university-owned fleet; carbon neutrality regarding student, staff, and faculty commuters, however, requires behavioral change at the individual level, where factors like ease of travel, convenience, housing options, family considerations, and personal preference have significant environmental repercussions.

Statistics support the impact of individual behavior change. FY19 metrics reveal that 60% of campus employees commute in single-occupancy vehicles (SOV), personal vehicles operated by a single driver with no passengers.<sup>67</sup> Similarly, 1,834 Student Permits and 328 Student Shuttle Permits (used for lots E-14 and B-22) were distributed in FY19, indicating widespread use of personal vehicles by our student population. While many of our objectives focus on the highest energy users and those whose actions result in high emissions, we also recognize that many individuals in our community have opted out of driving to campus and instead bike, bus, or walk to campus every day. We are proud of these dedicated individuals

who live and act sustainably.

The Transportation SWATeam continues to investigate options for implementing shared driving programs for employee commuting; this remains a priority to the extent that health and safety best practices can be observed with respect to the COVID-19 pandemic. These could potentially advance in the next five years and beyond to reduce the number of vehicles on campus. By encouraging active transportation solutions, we can generate environmental, social, and health improvements for our community.

Notable achievements in sustainable transportation from 2015 to 2019 include:

- » In October 2019, the university was promoted from Bronze to Silver designation as a Bicycle Friendly University (BFU) by the League of American Bicyclists. Contributing factors include the 2014 Campus Bicycle Plan; bike path, lane, and route improvements; bike rack parking expansion primarily funded by the SSC (campus now maintains more than 11,600 bike parking spaces); the Bike at Illinois<sup>68</sup> website launch; and the presence of 500 Veo bikes for sharing on campus since 2018. We also have Zipcar as an

<sup>64</sup> <https://bit.ly/39FRT52>

<sup>65</sup> <https://bit.ly/39J1w35>

<sup>66</sup> <https://bit.ly/39IZ6la>

<sup>67</sup> <https://bit.ly/2XbHqcJ>

<sup>68</sup> <https://bike.illinois.edu/>

## Full-Time Employees for Sustainable Transportation

TRACKED BY FISCAL YEAR



Figure 15: Full-Time Employees for Sustainable Transportation

option for ride-sharing on campus.<sup>69,70</sup>

» UI Ride, a shuttle service between the University of Illinois Urbana and Chicago campuses, was unveiled in fall 2019. The shuttle's three daily trips allow employees to commute between campuses and opt out of flights or SOV usage. Passengers can reserve trips online or through a smartphone app.<sup>71,72</sup> We expect that UI Ride will become more recognized as a viable option for university personnel,

and that individuals will take advantage of this convenient and timely service.

» In FY19, the university was able to staff the full-time equivalent (FTE) of three employees for sustainable transportation efforts, surpassing the target of two FTE employees (Figure 15). These positions include: Transportation Demand Management Coordinator at F&S; Sustainable Transportation Assistant at F&S; and Campus Bike

Center Manager at Campus Recreation.<sup>73</sup>

As has historically been true, the third category of transportation emissions, air travel, remains a particular challenge for the university. While there are many reasons for campus and community members to utilize air travel, one key factor is the transformative university research that requires international and intercontinental collaboration.<sup>74</sup> As of July 2019, air travel emissions equaling 31,684.97 MTCO<sub>2</sub>e comprised more than half of campus's Scope 3 emissions and 7.3% of its gross emissions.<sup>75</sup> From FY14 to FY18, we reduced our total air travel emissions by 25%; while we are proud of this significant decrease, complete mitigation is unreasonable due to the centrality of certain air travel to the campus mission.

Due to COVID-19 travel limitations, the university experienced a drastic decrease in air

travel beginning in spring 2020. Students, staff, and faculty members opted for alternatives including telecommuting, teleconferencing, and traveling by train. As air travel becomes normalized in the near future, we must remain mindful of how we consume non-renewable resources in everyday life as well as in times of crisis. That said, the university continues to explore alternative solutions to decrease our overall emissions while strengthening our preparedness for future public health threats. Objectives #3.4.3 and #3.5 discuss these options in further detail.

iSEE's online interactive Guide to Purchasing Carbon Offsets<sup>76</sup> was established in fall 2019 to educate users and encourage purchasing individual carbon offsets to combat unavoidable travel-related emissions. Objective #3.5 includes a discussion of carbon offset possibilities in the Champaign-Urbana community.

<sup>73</sup> <https://bit.ly/3f1Jfuo>

<sup>74</sup> iCAP 2010 recommended a 30% decrease in overall transportation emissions from FY08-FY14. However, emissions increased by 30% over this time period. The rise was attributed solely to air travel: emissions in this category increased by 52% from FY08-FY14 and implementation of a sophisticated tracking system likely revealed more accurate — and thus greater — metrics than did previous assessments.

<sup>75</sup> <https://bit.ly/2Evmg2B>

<sup>76</sup> <https://go.illinois.edu/offsetcarbon>

<sup>69</sup> <https://bit.ly/3jVbvHd>

<sup>70</sup> <https://bit.ly/315Q4dI>

<sup>71</sup> <https://www.uillinois.edu/uiride>

<sup>72</sup> <https://apple.co/2DgTgeu>

- 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

## Transportation Objectives

The following Transportation objectives were developed by the SWATeams, iCAP Working Group, campus community, and Sustainability Council to guide the university's actions toward achieving carbon neutrality for transportation.



The university holds a Silver designation as a Bicycle Friendly University by the League of American Bicyclists. Our iCAP objectives prioritize safe and sustainable transportation.

*Credit: Facilities and Services.*

### 3.1 [Fleet Managers] Establish written replacement plans for at least 80% of campus fleets by FY24 to improve university-owned vehicle fuel efficiency.

In recent years, the university has made great strides in improving the sustainability of our campus-owned fleet. F&S previously implemented a sustainable fleet plan<sup>77</sup> and achieved green certification with the National Association of Fleet Administrators (NAFA). Moving forward, we plan to not only continually pursue the most effective certification programs, but also expand efforts to “green” campus fleets beyond F&S.

#### ESTABLISH WRITTEN REPLACEMENT PLANS

While the responsibility to implement this objective rests with all campus fleet managers, the majority of units do not possess a comprehensive strategy for fleet optimization. Development of such plans would provide the structure for a campuswide approach to sustainable vehicle management.

One of the best ways to improve fleet efficiency is implementing vehicle upgrades: transitioning from older to newer models that are optimized for fuel consumption. However, even after upgrading to fuel-efficient or electric vehicles (EV), fleets with more machines than necessary can still expend excess energy, fuel, and funding. A strategy called “right-sizing” incorporates an inventory check to determine

the extent to which university vehicles are being used 1) to complete necessary tasks 2) by designated personnel 3) in a fuel- and cost-efficient manner. Once the inventory is completed, changes can be implemented to optimize each fleet for individual departmental needs.

#### SUSTAINABLE FUELS

In the past, F&S has explored options for acquiring service vehicles that use alternative fuel sources. These include two E-ride electric service vehicles, eight zero-emission Global Electric Motorcars (GEM) purchased in 2004, and eight gas-powered low-speed vehicles (LSV). None of these vehicles are currently in service at the university due to a combination of reliability concerns, insufficient part supply, vendor availability, and personnel fluctuation. As the alternative fuel industry continues to progress, however, new technologies may emerge and existing technologies may become more viable for campus use.

A current example of an alternative fuel technology that has previously been integrated with the F&S fleet is a product of the Illini Biodiesel Initiative. Using a new facility at the Integrated Bioprocessing Research Laboratory (IBRL), this student-led program converts used vegetable oil from dining halls into 100% biodiesel. Students are working to certify the resulting biodiesel so it can be mixed with the 5% biodiesel mixture that F&S purchases for the fleet; when ready, this product can be integrated with the existing biodiesel purchased on campus to improve the fleet's sustainability.

A promising future technology for the campus is an anaerobic digester that could accompany the construction of a new Dairy Facility. The proposed digester would use organic waste to produce biofertilizer and biogas, which could be upgraded to renewable natural gas (RNG) and processed into renewable compressed natural gas (CNG). The renewable CNG could then be used as fuel for the campus fleet. Another potential source of renewable CNG is a collaboration with the Urbana-Champaign Sanitary District (UCSD), which has an operational anaerobic digester already in use. UCSD has investigated the possibility of biogas upgradation, and the university could contribute toward the Upgradation Unit and pipeline injection and install a CNG conversion station on campus for the university fleet.

### 3.2 [F&S] Increase the Pavement Condition Index (PCI) for university-owned roads so the average PCI score is at least 65 by FY25 and at least 70 by FY30.

As with the university-owned fleet regulations described in Objective #3.1, we aim to implement best practices for all transportation assets falling under campus jurisdiction. Objective #3.2 addresses our extensive system of university-owned streets.<sup>78</sup> Optimizing road surfaces should be taken just as seriously as optimizing the efficiency of the vehicles that drive on them. Smooth pavements also encourage the use of bicycles, and provide a more pleasing aesthetic for the campus.

The key metric for this objective is Pavement Condition Index (PCI), “a numerical rating resulting from a pavement condition survey that represents the severity of surface distresses.”<sup>79</sup> This metric provides a standardized process to quantify road quality. For example: Are there numerous potholes, cracks, or bumps? Do vehicles slip easily? PCI ratings occupy a scale of 0-100; a score of 0-10 results in a “Failed” status, while a score of 86-100 merits “Good” pavement condition. With regular analyses planned every three to five years, we aim to increase our PCI rating in the near future. A 2020 Pavement Management Report for the University of Illinois Urbana-Champaign campus streets, by Applied Pavement Technology, Inc., stated:

*“Overall, the 2020 area-weighted PCI of the university-maintained roadways is 65. Condition results from the previous [pavement] projects for the university can be compared to the results of this study to track how the pavement network is performing between PCI inspections. The overall area-weighted PCI was 59 in 2009, and 65 in 2016 and 2020 (excluding brick and gravel). It is interesting to note that the overall PCI remained unchanged from 2016 to 2020, despite annual spending of about \$1.5 Million. ... The percent of pavement above a PCI of 70 has increased to 50 percent (it was 37 percent in 2009), while the percent of pavement with a PCI below 40 has remained near 25 percent for all inspection years. Since the percent of pavement in the mid-range of the PCI scale (40 to 70) has decreased from 39 percent to 25 percent since 2009, it*

77 <https://bit.ly/33bgGwQ>

78 <https://bit.ly/2BIAwUI>

79 <https://bit.ly/39LuuIH>

appears most of the major work that has occurred since 2009 has focused on improving pavements in this condition range.”<sup>80</sup>

## SUSTAINABLE PAVEMENT MATERIALS

Sustainability and pavement condition go hand in hand; a strategy to improve both aspects of our university-owned road system is to increase the use of sustainable pavements. Implementing permeable pavements and biobinders will not only benefit the roads themselves but will also improve our flood and rainwater management infrastructure.

On a campus where more than 50% of the surface area is occupied by buildings or paved in roadways, walking paths, and parking lots, rainwater management poses a problem. While traditional pavement necessitates extensive gutter and drainage systems to manage water, permeable pavements (e.g., porous asphalt, which was used to pave parking lot C-8 in FY12<sup>81</sup>) allow rainwater to flow through the pavement and into a permeable gravel layer below, facilitating built-in water quality treatment and flood control. This process also keeps the pavement itself well-drained and in good condition, resulting in a higher PCI rating. Although installing permeable pavements can be costly, the reduced need for stormwater infrastructure (i.e., curbs, gutters, storm drains) roughly aligns long-term expenses with those of traditional pavement.

Biobinders are a second option for increasing the sustainability of our university-owned roads. In terms of concrete pavement compo-

sition, asphalt and cement are “binders,” the agents that bind rocks, gravel, and sand to form the surfaces used on roads. While useful as bonding agents, asphalt and cement are synthetic materials derived from petroleum (which is itself derived from fossil fuels). As evidenced by the name, biobinders and bio-asphalt varieties are created from biomass materials. For example, research conducted through the Illinois Sustainable Technology Center (ISTC)<sup>82</sup> explored the practical potential of biobinders or bio-oil made from the pyrolysis of solid feedstock such as Miscanthus (an energy grass) or the hydrothermal liquefaction (HTL) of manure, food waste, algae, and other organic waste.

Moving forward, we will investigate opportunities to integrate additional sustainable materials such as recycled or sustainably produced bricks and pavers, fly ash, and recycled glass into the composition of campus infrastructure.

### 3.3 [Parking] Establish an Electric Vehicle Task Force to identify key goals for supporting the use of electric vehicles on and off campus by FY22.

Objectives #3.1 and #3.2 focus on vehicles and roadways within the university’s jurisdiction. However, many of our transportation objectives rely on individual decision-making as well as policy; therefore, we strive to make campus conducive to environmentally conscious lifestyle choices. One avenue for individual action concerns electric vehicle (EV) usage.

In 2018, Provost Cangelaris formed an EV



Strategic landscape architecture will create visually beautiful paths and promote walking on campus.

Charging Task Force “to make recommendations on what steps the university should take, both now and in the future, to make EV charging available to commuters.”<sup>83</sup>

In this region of the electric grid, an EV typically emits less GHGs than a conventional gas-fueled vehicle of similar size.<sup>84</sup> The Parking Department supports sustainability through implementation of public-use EV charging spaces, with 17 Level 1 charging spaces at five campus locations, and six Level 2 plug-ins at three campus locations.

Other charging stations have been added by individual departments outside of the Parking Department’s efforts. These include Research

Park, the Illini Union, iSEE, and F&S. To develop a holistic strategy for EV charging infrastructure and to identify key goals for supporting the use of EVs both on and off campus, the Parking Department will form a new EV Task Force to identify methods to facilitate the transition to EVs for students, staff, faculty members, and the community at large.

### 3.4 [F&S] Reduce driving on campus and report the percentage of staff trips made using single-occupancy vehicles from 60% to 50% by FY25 and 45% by FY30.

Reducing automobile traffic in the University

80 <https://bit.ly/33zQgoP>

81 <https://bit.ly/3ggqDfU>

82 <https://bit.ly/39HDDsx>

83 <https://bit.ly/2Xl98Uf>

84 <https://bit.ly/2XbOAO9>

## Percent of Staff Trips Made Using Single-Occupancy Vehicles (SOV)

TRACKED BY FISCAL YEAR

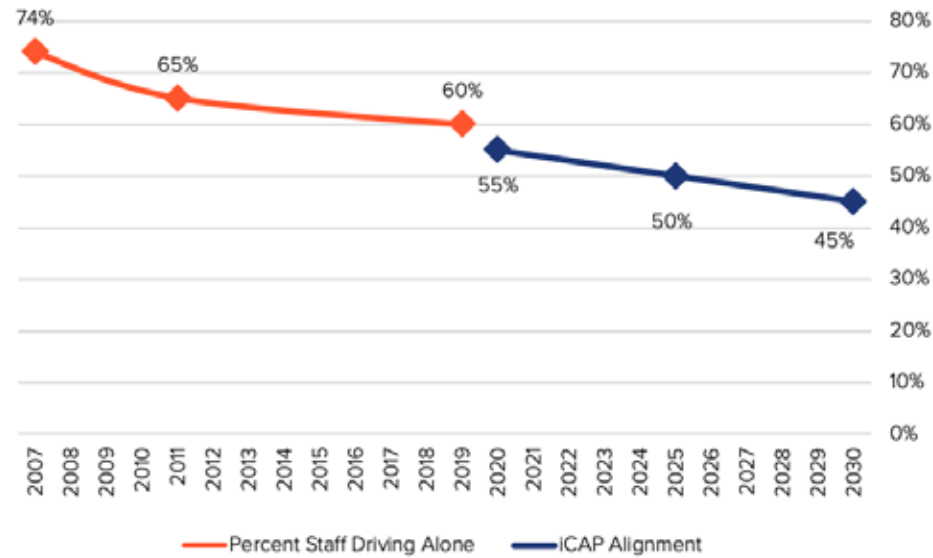


Figure 16: Percent of Staff Trips Made Using Single-Occupancy Vehicles (SOV)

District is a long-term endeavor for this campus as well as our community transportation partners. Efforts in this direction are greatly influenced by the initial work enacted through the Campus Area Transportation Study (CATS) technical and policy advisory committees' cohesive planning.

The core campus has experienced a vehicle traffic reduction since the turn of the century; however, there is a long road ahead. While only 10% of the student population drives alone, this tends not to be the case for staff and faculty members, many of whom commute to campus

in single-occupancy vehicles (SOV).

Outside of the emissions generated from driving to work, high SOV usage has many environmental consequences. For example, while many campus commuters possess a designated parking space, some do not; for these individuals, finding an available space can pose problems. "Parking hunting," or driving for excessive amounts of time in search of a space, expends gas and generates emissions. To remedy this issue, a smartphone application could assist in locating available parking spaces. The app would work in tandem with the parking pay applica-

tion, and could reduce total time spent parking hunting. To better understand and make decisions about parking availability, iSEE funded the Campus as a Living Laboratory (CALL) project "City Traffic as a Reservoir System."<sup>85</sup>

Objective #3.4, which aims to decrease negative fallout from driving both to and around campus, is directly related to choices made by individuals. In the last five years, we have decreased the percentage of staff driving alone from 65% to 60% (Figure 16). We are proud of this achievement and commend our campus and community members for their environmental consciousness.

While our key performance indicator reflects the percentage of staff who regularly travel in SOVs, this objective is centered on behavioral choices and sustainability consciousness. Though our intent is to produce quantifiable results by reducing SOV usage, we acknowledge that the factors influencing personal vehicle choice are complex (e.g., cost-effectiveness drives many students to live off-campus and commute). Moving forward, F&S will strengthen our progress toward lowering SOV usage by fostering conditions supportive for individuals getting where they need to be in a sustainable fashion. The Transportation Demand Management department at F&S will continue to lead this effort for our campus transportation systems, using the established methods of the "five E's" — Engineering, Education, Enforcement, Evaluation, and Encouragement. We will support the transportation strategies outlined in the 2017 Campus Master

Plan, such as closing streets to private vehicles and implementing an autonomous shuttle on a university-owned street. Through our continued commitment to an emphasis on walking, bicycling, and public transit, we expect that more students, staff, and faculty members will shift to sustainable, healthy, and active travel modes.

iSEE will disseminate a travel survey every three years to keep our metrics updated and track our progress as we strive for a 45% SOV use rate by FY30.

### 3.4.1 [Parking w/F&S] Develop a Commuter Program (Bus, Bike, and Hike) for faculty and staff. Register 100 people by FY24 and 500 people by FY30.

A convenient Commuter Program will incentivize staff and faculty members to leave personal vehicles off campus. Incentives through this program would only be offered to employees who relinquish their annual campus parking permits; as such, all participants will be required to obtain verification through the Parking Department.

Currently, six of the 14 Big Ten schools implement some version of a commuter program for employees and/or students.

As inspired by other institutions' efforts, incentives implemented on the Urbana campus could include:

- » Limited availability of daily parking

85 <https://go.illinois.edu/campuslivinglab>

passes for occasional needs;

- » Access to an emergency ride home program;
- » Direct support for active travel choices made by university employees;
- » Discounted charging for EVs;
- » Discounted bike-sharing opportunities;
- » Discounted UI Ride access;
- » Discounted or credited medical insurance;
- » Campus shower access;
- » Free Zipcar memberships, including a yearly driving credit stipend;
- » Opportunities for eco-conscious travelers to win a gift card or other monetary incentive; and/or
- » Opportunities to receive tax credits.

Our proposed Commuter Program will encourage employees to forgo parking permits in favor of active and shared modes of transportation. The program will also connect employees with convenient solutions such as telecommuting and carpooling programs. Campus as a Living Lab seed funding provided financial support to pursue a survey on driving and carpooling potential.<sup>86</sup> The survey plans to provide a greater understanding of why people choose their primary mode of transportation in order to develop the most effective solutions to reduce

the number of vehicles on campus.

## BUS

As we encourage community members to take advantage of public transportation and the need for mass transit grows, we remain committed to maintaining our strong relationship with the Champaign-Urbana Mass Transit District (MTD). MTD is an excellent example of a sustainable operation, and it is certified by the Illinois Green Business Association (which was started by Illinois students). It is also ISO-14001-certified<sup>87</sup> since 2013, and has converted 85% of its fleet to hybrid electric buses. Most recently, MTD began using hydrogen-fuel-cell buses.<sup>88</sup>

To increase awareness of the opportunities provided by MTD, F&S will offer at least two “It’s Your MTD, Too”<sup>89</sup> workshops annually. These workshops are a collaboration between F&S and MTD to encourage students, staff, and faculty members to use MTD’s services.

As with all iCAP 2020 strategies, public health is of the utmost importance. We will be mindful of all efforts to promote the use of public transportation with a view to ensuring sustainability and safety.

## BIKE

Bicycling is the most sustainable form of personal transportation, allowing individuals to travel long distances per unit of energy (in this case, the calorie). Several groups have worked

together for many years to improve the user-friendliness of our county’s bicycle infrastructure. In addition to implementing the 2014 Campus Bicycle Master Plan,<sup>90</sup> we will support and enhance the Bike at Illinois<sup>91</sup> initiative to spread awareness of related programming, safety, rules of the road, and other resources.

## HIKE

Walking is an active mode of transportation that is not only good for the environment, but also beneficial to individuals’ mental and physical health. We will encourage awareness of the myriad benefits that walking (to work or class, or simply for enjoyment) has to offer through a training that focuses on “the wellness of walking.”

To make walking on campus as pleasant as possible, we will use strategic landscape architecture to create aesthetically pleasing pathways. We will ensure that campus pathway designs prioritize accessibility and are pedestrian friendly. See the Land & Water chapter for more information.

### 3.4.2 [F&S] Continue to implement the 2014 Campus Bike Plan.

The 2014 Campus Bicycle Master Plan<sup>92</sup> focuses primarily on infrastructure improvements to the university’s network of bikeways in order to:

1. Increase safety for all users;
2. Encourage a sustainable mode of transportation;

3. Improve the bicycling experience for all campus cyclists;
4. Identify funding needs and secure funding for bicycle infrastructure and programming improvements; and
5. Improve the university’s standing as a national leader in bicycling.

This objective is intended to continually support and implement the 2014 Campus Bicycle Plan to achieve the goals listed above. The plan lists several high-, medium-, and low-priority bikeway improvement projects as well as safety information and educational opportunities. In addition to providing bicyclists and pedestrians with safety guidelines and rules of the road, we want to take further steps (e.g., improving traffic calming measures in heavily-trafficked streets and intersections) to ensure that the campus itself is safe and conducive to bicycle travel.

## BICYCLE FRIENDLY UNIVERSITY (BFU)

Illinois was promoted to Silver BFU status by the League of American Bicyclists (LAB) in October 2019 because of great progress in bicycle engineering, education, enforcement, evaluation, and encouragement. Moving forward, we intend to maintain the qualities that have earned us this designation and continue to improve the campus’s bicycle friendliness. To further elevate our BFU status, the LAB recommends implementing a national bicycle registration program to increase the number of

86 <https://go.illinois.edu/campuslivinglab>

87 <https://bit.ly/3fg1osZ>

88 <https://bit.ly/3hSEslj>

89 <https://bit.ly/3hMZphi>

90 [https://go.illinois.edu/BikePlan\\_2014](https://go.illinois.edu/BikePlan_2014)

91 <https://bike.illinois.edu/>

92 [https://go.illinois.edu/BikePlan\\_2014](https://go.illinois.edu/BikePlan_2014)



bicycles registered on campus. Our current goal is to achieve Gold BFU status by FY27.

### LONG-TERM BIKE STORAGE

As part of our efforts to encourage campus bicycling, we want to ease the logistical difficulties that individuals face with the task of keeping a bike at school. This is especially true of students in apartments with limited storage space. We plan to implement long-term bicycle storage (i.e., a garage-like space capable of storing 1,000 or more bicycles) on campus by FY24.

### BIKE SHARING AND MAINTENANCE

More departmental bikes (e.g., those owned by iSEE, F&S, and the Sustainability Living Learning Community) will be offered. To ensure that campus-owned bikes are well taken care of, personnel with departmental bicycle access will be encouraged to participate in maintenance courses through Campus Recreation and the Campus Bike Center, or get regular maintenance at local bike shops to prolong the life of the bike. Students will continue to have access to short-term bike rentals through companies such as Veo. Long-term rentals are



BikeFace, a sub-group of Students for Environmental Concerns, hosted "Chancellor Ride" in April 2017 to highlight the campus's need for improved biking infrastructure. Pictured (from left): Chancellor Robert J. Jones, Lorenzo Grego, America Guerra, Lily Wilcock.

Credit: Facilities and Services.

also available in town as well.<sup>93</sup> Now and in the future, we will encourage individuals to practice sanitary best practices while operating shared bikes.

#### 3.4.3 [F&S w/IHR] Establish telecommuting policies for the campus by FY24.

COVID-19 shelter-in-place guidelines established telecommuting as not only necessary, but also highly manageable for campus units. We hope to investigate and develop telecommuting options to promote the environmental benefits inherent to this work model.

First, we will discuss potential strategies for employees for whom telecommuting is viable. For remaining employees, we will consider allotting a designated number of days per year to optional telecommuting. Currently, certain organizations in India are considering similar protocols, with 15 days as a suggested starting point. Incentivized solutions (e.g., an encouraged one-day-per-week telecommuting policy) will also be explored.

On May 6, 2020, Chancellor Jones distributed an email message including the following statement: "The timing and the working arrangements of individual employees will not be the same for everyone. This allows our colleges and departments the necessary flexibility to implement their specific plans within parameters outlined by public health officials."<sup>94</sup>

Similarly, we hope to establish guidelines to standardize remote work practices for all employees while allowing for flexibility regarding the specific exercise of these options.

While work-from-home precautions in light of COVID-19 were implemented out of necessity, it is our hope that these practices can continue into the future to meet environmental stewardship 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. As we continue to augment existing efforts with innovative solutions, we can confidently push to double our existing reduction by FY24. Added mitigation through future carbon offsetting programs makes the target of net-zero air travel emissions by FY30 feasible as well.

### BUSINESS TRAVEL SURVEY

The most direct step toward reducing air travel emissions is reducing the frequency of air travel itself. To confidently move forward, we must begin with a thorough knowledge of where we currently stand: from FY22 to FY24, we will conduct an annual business travel

<sup>93</sup> <https://www.neutralcycle.com/rental>

<sup>94</sup> <https://bit.ly/33cOBFk>

survey to obtain this foundational information. By surveying campus personnel regarding the reason, regularity, and urgency with which they travel by plane on university business, we can identify opportunities for alternative methods of transportation such as the UI Ride program and teleconferencing.

A preliminary step for implementing this strategy is to conduct a UI Ride passenger survey. Riders will report where they are coming from, where they are going, whether their travel is related to research, teaching, or administration, and how else (or if) they would have made that particular trip if not with UI Ride. A random sample of riders will receive a card with a QR code for the survey, and responses will be recorded electronically.

We currently report business travel data to Second Nature as part of the annual GHG emissions report; this business travel survey will help streamline this process and ensure that the data is accurate.

### CAMPUS TELECONFERENCING AUDIT

While we are committed to curbing university-related air travel, the need for partnerships with other institutions around the world remains urgent. Advancements in teleconferencing technology present a user-friendly compromise that balances the need for collaboration with our responsibility to carbon neutrality.

Remote communication became particularly needed in spring 2020 as COVID-19 health concerns prioritized the virtual workspace.

Adapting to these changing circumstances within a compressed timeframe brought our need for robust telecommunication infrastructure into sharp relief. It also proved our capability for adopting these technologies and integrating them into our daily lives. With a comprehensive strategy, our approach to telecommunication can, and will, become seamless and sophisticated.

The first step of this comprehensive strategy involves an inventory of campus teleconferencing facilities and their accessibility by the end of FY21. SWATeam members will help iSEE develop a standardized form for distribution to campus units and departments. The form will record availability of teleconferencing facilities within campus buildings; specifically, rooms with high-quality teleconferencing capabilities and/or the ability to host group meetings remotely.

In addition to campus facilities, we will continue enabling students, staff, and faculty members to conduct teleconferences and remote work from their individual homes. Telework from personal devices was crucial to maintaining campus operations throughout the COVID-19 pandemic, and we commit to supporting these opportunities in the future. Ultimately, our goal is to take stock of current teleconferencing capabilities and assess the need to invest in a higher quality and/or quantity of digital infrastructure as we move toward air travel alternatives.

In keeping with the university's history of innovation and technological progress, we will

adopt up-and-coming technologies with a view to implementing them to our, and the environment's, advantage.

### CARBON OFFSETS PROGRAM

When air travel is unavoidable, purchasing carbon offsets can counteract emissions generated in flight. The iSEE website offers publicly accessible information about purchasing carbon offsets for air travel, as well as a four-step process for how to do so. Currently, these resources are intended for individuals; travelers can calculate the monetary equivalent of their carbon emissions and donate that amount to fund a verified sustainability project.<sup>95</sup>

In addition to informing the community about opportunities to offset carbon emissions, we hope to expand this individual offering into

a concrete program with at least five participating university units by FY24. This option would provide travelers with tangible means of offsetting emissions and encourage local action to increase awareness of global issues.

We would especially like to incorporate creative local offset projects into this program: for example, an initiative to plant trees on designated campus land proportional to the amount of air travel undertaken by staff and faculty members. Those who fly regularly would be encouraged to volunteer their time to help plant trees, with student involvement welcomed as well. Participants would receive information regarding both the negative effects of carbon emissions and the sequestering abilities of trees and native plants.

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<sup>95</sup> <https://go.illinois.edu/offsetcarbon>

# Conclusion

Illinois students, staff, and faculty members lead busy lives. By transitioning university-operated vehicles to alternative fuels, integrating sustainable management systems into campus roadways, and incentivizing active and low-emission commuting options, we continue to shrink the portion of our carbon footprint generated from transportation. However, it is imperative that the campus and community become more active participants in our transportation plan.

Transportation solutions come down to

lifestyle choices: commuting by bus instead of SOV; forgoing air travel in favor of teleconferencing; walking or biking rather than driving. Everyone is capable of making a difference, and the sum total of individual action — as well as an increased understanding of what influences decision-making in our community — will enable us to achieve our transportation goals in the coming years. No matter where our community needs to go, we strive to implement safe and sustainable solutions to help them get there.



Community tree planting is an engaging way to offset the university's carbon emissions.

*"For the past 10 years, the Illinois Climate Action Plan has provided a rigorous but feasible plan to create an environmentally-friendly campus. I believe student involvement in university decisions is extremely important because our tuition should fund projects that are ethical and focus on intergenerational sustainability. More than ever before, our actions will determine the state of the environment and society's attitudes toward environmental protection in the coming decades."*

— Anneli Cers '21