# DESMAN Study Report

Transportation iCAP Team 2023-2024

Table of Contents

[1. Introduction 1](#_Toc165469454)

[2. Background of EVs at UIUC 1](#_Toc165469455)

[2.1. Current Status of EV Use and Chargers Around Campus 1](#_Toc165469456)

[2.2 What are UIUC’s EV implementation goals? 2](#_Toc165469457)

[3. Conclusions from the DESMAN Study 2](#_Toc165469458)

[3.1. Demand 3](#_Toc165469459)

[3.2. Technology 4](#_Toc165469460)

[3.3. Placement 4](#_Toc165469463)

[3.4. Financing 4](#_Toc165469465)

[3.5. Policy 5](#_Toc165469466)

[4. Questions and Concerns About the DESMAN Study 5](#_Toc165469467)

[4.1. Demand 5](#_Toc165469468)

[4.2. Technology 5](#_Toc165469469)

[4.3. Placement 5](#_Toc165469470)

[4.4. Financing 6](#_Toc165469471)

[4.5. Policy 7](#_Toc165469472)

[5. Proposed Solutions 7](#_Toc165469475)

[5.1. Demand 7](#_Toc165469476)

[5.2. Technology 7](#_Toc165469478)

[5.3. Placement 8](#_Toc165469479)

[5.4. Financing 10](#_Toc165469480)

[5.5. Policy 11](#_Toc165469484)

[6. Conclusion 11](#_Toc165469485)

[Appendix 12](#_Toc165469486)

## 1. Introduction

In 2022, DESMAN, a national specialist in parking planning, design, and restoration, prepared a comprehensive parking study commissioned by the University of Illinois Urbana-Champaign (UIUC). The study provided the UIUC with information to guide them in developing a policy for installing electric vehicle (EV) charging stations. With the expected increase of EVs among students, staff, and visitors, EV demand, technology, placement, finances, and policies must be carefully considered.

While DESMAN prepared a thorough analysis, the study had many limitations, inaccuracies, and missing and incomplete information. The purpose of this report is to address those concerns and provide the EV Task Force with more accurate information and data regarding EV chargers, their demand on campus, and predicted future uses.

The 2023-2024 Illinois Climate Action Plan (iCAP) Transportation Team (“Team”) scrutinized the DESMAN study and provided five points of consideration that were missing from the DESMAN study. These five points surround EV demand, technology, placement, finances, and policies. This report will provide a background of EVs and EV chargers at UIUC, explain the conclusions of the DESMAN study, summarize the iCAP Team’s concerns, and propose solutions for the EV Task Force to consider. New data from the Parking Department will be analyzed to update and support these policy considerations.

## 2. Background of EVs at UIUC

### 2.1. Current Status of EV Use and Chargers Around Campus

Table 1 below shows the current Level 1 access points and Level 2 chargers on campus. As of March 2024, there are 16 Level 1 access points and 22 Level 2 charging spaces, totaling 38 EV charging locations at the UIUC. See Table 1 below for the charger’s perspective lot. Other charging stations have been added by individual departments such as Research Park, the Illini Union, the Institute for Sustainability Energy & Environment, and Facilities & Services (for Facilities & Services fleet vehicles only) that are not identified in Table 1.

**Table 1**

|  |  |  |
| --- | --- | --- |
| Lot | Charging Type | Number of EV Charging Ports |
| B04 | Level 1, Level 2 | 6, 2 |
| C07 | Level 1 | 2 |
| C09 | Level 1 | 2 |
| D05 | Level 1 | 3 |
| D-22 | Level 2 | 2 |
| E-14 | Level 2 | 2 |
| E-15 | Level 2 | 16 |
| F-29 | Level 1 | 3 |

The Parking Department is currently working on getting three FLO Level 2 dual port charging stations online. As of May 2024, they are still waiting on paperwork for those stations to go live in Lots B-4, C-3, & D-11. This addition will increase the total EV charging locations to 44 parking spots.

Additionally, the Parking Department is in Phase 2 of adding twelve Level 2 dual port charging stations to Parking Structures C-7 & C-10. These charging stations are anticipated to be completed by November 2024. This addition will further increase the total number of EV charging locations to 68 parking spots.

### 2.2 What are UIUC’s EV implementation goals?

Transportation is a personal choice; consequently, many of the UIUC’s transportation objectives rely on individual decision-making. The UIUC strives to make environmentally conscious lifestyle choices as convenient as possible to support individuals in their decision to live more sustainably. One way to reduce individual carbon footprint is by using EVs. The UIUC recognizes the increasing number of EVs and is committed to improving EV charging infrastructure on campus. The UIUC will help the state of Illinois in its goal to adopt one million EVs by 2030 and to reduce its transportation emissions by 45% by 2035. The UIUC is committed to creating sustainable solutions to achieve the carbon emission reduction goals set forth by the iCAP.

Through iCAP initiatives, the UIUC has already worked towards improving EV infrastructure. For example, Transportation iCAP objective 3.3 establishes an EV Task Force to spearhead the UIUC’s EV implementation goals. Established in 2018, the EV Task Force recommends how the UIUC should improve EV charging infrastructure.

However, no formal guidelines are in place to support these infrastructure improvement recommendations. The UIUC and EV Task Force must develop a strategic plan for EV charging installation to enhance community sustainability. The DESMAN report was meant to assist in developing this plan, but its shortcomings have delayed this plan. The Team is working to motivate the EV Task Force and the University to collaborate and establish a plan for EV charging infrastructure. The Gies College of Business also has a class to analyze the DESMAN report to give the Parking Department a thorough understanding of its predictions.

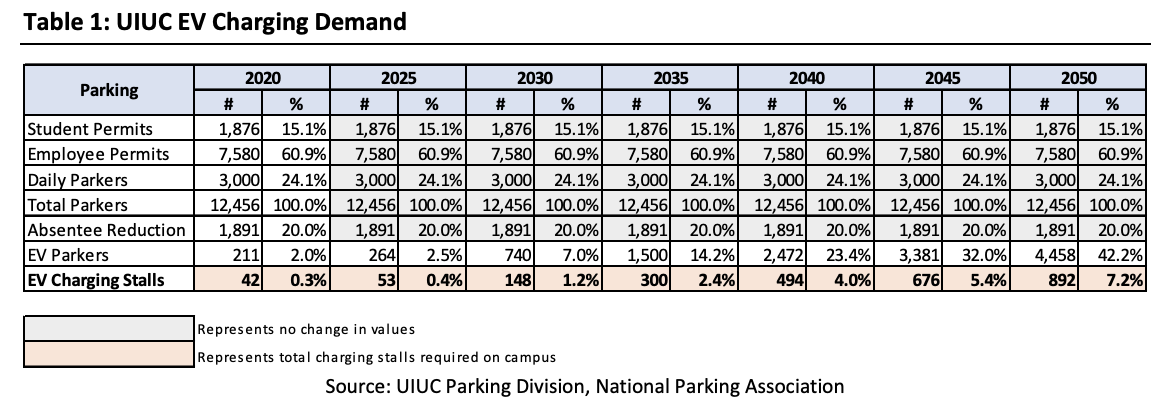
## 3. Conclusions from the DESMAN Study

The subsequent section discusses the main conclusions from the DESMAN study surrounding five categories: demand, technology, placement, financing, and policy.

### 3.1. Demand

DESMAN relies on data from the National Parking Association (NPA) to make assumptions about future demand for EVs. The NPA recognizes the transition from gas cars to EVs and estimates the percentage of EVs on the road to be 7.00% by 2030, 23.40% by 2040, and 42.20% by 2050. DESMAN assumes that EV demand at UIUC will remain constant with the NPA estimates. DESMAN also assumes that the number of permit and transient parkers will remain the same from 2020 through 2050.

To calculate EV charging demand, DESMAN multiplies the total EV daily parkers (with a 20% absentee reduction) by the NPA’s estimated percentage of EV cars. The NPA reports that no more than 25% of EVs need to be charged simultaneously with Level 2 chargers. By 2050, DESMAN estimates that 892 EV charging stalls will be required on campus to accommodate the 4,458 EV parkers. Table 1 below from the DESMAN report shows the estimated demand for EV charging through 2050.



### 3.2. Technology

### DESMAN recommends Level 2 chargers for installation at UIUC. However, DESMAN suggests that Fast Chargers should be installed for large commercial, transit, or maintenance vehicles and are “necessary for university fleet vehicles.” The NPA notes that the technology surrounding EVs is constantly changing. While Level 2 chargers are the most appropriate for current EV models, rapid changes in charging technology are expected as EV demand grows.

### DESMAN also addresses unit and stall size, encroachment issues, equipment protection, cord management, and accessibility standards. EV stalls have no stall size requirements, but chargers and long cords may cause encroachment issues when they extend the parking space dimensions.

### 3.3. Placement

### DESMAN recommends that UIUC distribute EV Supply Equipment (EVSE) equally throughout each parking facility. DESMAN assumes that the EV chargers will only be placed in parking permit facilities, implying that public charging locations are not addressed in their report. The number of charging stalls should be proportionate to the total parking spaces available in the lot. For example, in a parking lot with 100 parking stalls, by 2030, the EV demand will be 7%, and seven stalls will require EV chargers.

### 3.4. Financing

DESMAN conducts a financial assessment assuming EVs use Level 2 chargers with 7.5kW average charge per session. Based on data from the parking department, the estimated cost of a new Level 2 charger is approximately $11,800. This price does not include installation costs because they vary based on the port’s distance from the power supply. Many tax credits and subsidies will lower upfront costs. For example, the Illinois Environmental Protection Agency recently announced a $44 million funding opportunity for public EV charging infrastructure. The Team acknowledges that the University may not be eligible for these funds, however the University should still look for grants to support EV charging implementation.

In addition to installation costs, there are additional monthly costs to own and operate an EV charger. These monthly costs include capital costs at $83, data fees at $50, and electricity at $2 for a total of $135. Assuming a charger has 20 monthly users, a user would have to pay $0.98 an hour, or approximately $6.75 for a full charge. The UIUC must charge at least $0.98 an hour to break even on monthly costs. Table 2 illustrates the calculated costs.

**Table 2**

|  |  |
| --- | --- |
| **Calculation** | **Explanation** |
| 83 + 50 + 2 = 135 | Capital costs ($83), data fees ($50), electricity ($2) |
| 135 / 20 = 6.75 | Total monthly costs / estimated number of users |
| 6.75 / (7.50 \* 0.13) = 0.98 | Breakeven cost per user / average kW per charge session to full \* the kWh rate |

### 

### 3.5. Policy

Finally, DESMAN makes many policy recommendations for UIUC’s adoption of EVs. DESMAN recommends that UIUC continue to increase the number of Level 2 charging stations at levels consistent with their previous calculations. DESMAN suggests that chargers should be located close to the electrical supply.

DESMAN advocates for two payment options. First, all permit holders with EVs, excluding hybrid or monthly permit holders, will be charged an additional $50 and allowed to use the chargers at their convenience. Alternatively, permit holders can pay $1.50 an hour to use a charger. This price will decrease as charging demand increases.

## 4. Questions and Concerns About the DESMAN Study

The subsequent section discusses the questions and concerns that the Team identified from the DESMAN study surrounding five categories: demand, technology, placement, financing, and policy.

### 4.1. Demand

The Team questioned how DESMAN calculated the demand for UIUC EV charging. DESMAN bases its estimate on student permits from the 2022‐2023 academic year and employee permit data from the 2022 fiscal year. DESMAN assumes these numbers will remain the same over the next 30 years. The Team argues that DESMAN’s assumption is not informed by any historical data or trends observed on campus. The UIUC is a growing educational institution and a major employer in the Champaign-Urbana region that has consistently increased student enrollment and staffing. Additionally, as COVID-19 restrictions loosen and classes move back in-person, employee permits are also expected to increase. Based on these arguments, it is likely that the 2050 demand for EVs might be greater than what DESMAN estimated.

### 4.2. Technology

The Team has many concerns over the claims DESMAN makes regarding technology. The Team does not agree with DESMAN, who argues that Fast Chargers will be necessary for university fleet vehicles. Fast Chargers are only necessary for travel destinations where EV users must quickly charge their EV and move to their next location. University fleet vehicles do not fit this criterion. These vehicles drive no more than a few miles around campus each day and can charge all evening and overnight. There is no practical need to install Fast Chargers for university fleet vehicles.

### 4.3. Placement

The Team does not recommend that the UIUC distribute EVSEs equally throughout each parking facility. Based on existing infrastructure, some lots are better equipped than others to have EV chargers installed. If EVSEs are equally distributed throughout each parking lot, unnecessary and expensive infrastructure improvements will be inevitable. The Team acknowledges that it is important to consider the existing infrastructure, utility service, and electrical panel capacity to determine whether a parking lot is suitable for EV chargers.

Additionally, DESMAN does not consider each lot’s usage or dwell time in its report. Some lots around campus are used more frequently and in higher demand than others. For example, Lot AS01 at Beckman Institute Circle Drive has a physical capacity of 38 parking stalls, but only two permits in fiscal year 2023. However, Lot E38, near the Activities and Recreation Center, has 161 spots and 306 permits. The UIUC must also consider how long EV users will be parked in a certain lot and assess opportunities for increased utilization of chargers throughout the day through sharing. EV chargers should not be distributed equally among lots because each lot serves a unique purpose to faculty, students, and visitors.

Finally, the Team notes that DESMAN strictly focuses on placing EV chargers in lots that require parking permits. DESMAN only considers a small portion of the population: those with EVs and a campus parking pass. The University must serve more than that limited population. The Team recognizes that the UIUC is responsible for serving members outside of its community and encouraging people to adopt more sustainable transportation practices. The UIUC is a destination for student visits, sporting events, and alumni networking and must meet the needs of these visitors. In this leadership position, the UIUC must make installing public EV chargers, in addition to the private chargers, a priority.

### 4.4. Financing

DESMAN makes many financial assumptions. For example, 7.5kW is the average rate for EVs in the present day, but this will likely increase in the future. This increase will raise break-even points of costs per charge. Additionally, DESMAN assumes that exactly 20 people will use the chargers each month. It is unclear if this estimate is a reliable assumption.

The Team recognizes that the biggest hurdles to implementing EV charging include upfront costs, failing infrastructure, and the lack of willingness for users to move their EV after it is charged. DESMAN does not address these concerns in its report. For example, there must be a way to encourage EV users to move their vehicles when they are fully charged. The Parking Department notes that incentivizing EV users to move their car after it is charged is essential.

### 4.5. Policy

## DESMAN provides two payment options for EV permit holders. The first requires that EV users pay an additional $50. This policy is very straightforward, but does not consider that most EV users likely also have a non-EV and may sometimes choose to drive an alternative vehicle. Additionally, it is challenging for the Parking Department to determine which permit holders have an EV because facility permits are automatically renewed annually. It might be difficult to assess who must pay the $50 fee due to this lack of knowledge.

## The second payment policy that DESMAN proposes is to charge users by the hour. This option might be better than the first; however, it does not incentivize users to move their EV when fully charged. Level 2 chargers should be able to serve four to five users a day, but because users do not move their cars after four hours, they can never serve this many users. On the other hand, users will likely be unhappy with this charging structure, so much so that it might works against EV adoption.

## 5. Proposed Solutions

### 5.1. Demand

# To calculate a more accurate demand for EV chargers, the Team recommends that a survey be conducted and sent to current parking permit holders. The survey will include questions about commuters’ current EV usage and intentions to switch to an EV. This study will be useful in determining future EV demand more accurately at UIUC. Currently, Dr. Eleftheria (Ria) Kontou, assistant professor of Civil and Environmental Engineering at the UIUC, is working with her students to conduct such a survey. Dr. Kontou hopes to administer this survey in early summer 2024.

The Parking Department should consider recording EV ownership data by requiring this data in permit applications and renewals. EV ownership data would allow the Parking Department to track and project future EV demand more accurately.

Once EV ownership data is gathered and future EV demand at UIUC is determined, the EV charging demand calculations should be reconsidered. The new calculations should be made using updated data on students, employees, and daily permit holders and assume that these numbers will increase over time.

### 5.2. Technology

The Team suggests that Level 2 chargers should be adopted in most locations where students, faculty, staff, and visitors park. However, depending on the type of lot, this recommendation may change. For example, the demand and utilization assessment may identify areas where Fast Chargers may prove beneficial, such as at locations where visitors travel long distances to reach and do not stay for extended periods of time. Locations to consider for Fast Chargers include the State Farm Center, the Alice Campbell Alumni Center, the Illini Union, and the iHotel. Additionally, Level 1 access points or Level 2 chargers, not Fast Chargers, should be used for university fleet vehicles as they do not travel long distances or need to be charged quickly.

The Team also recommends that the University install Level 1 access points for smaller parking lots and departmental and rental spaces as a high priority. The Team recommends this because, in general, EV users prefer to leave their cars parked throughout the day without moving. The average campus commute is about seven miles, which can be recharged from a Level 1 access point in less than two hours, even in the winter. Moreover, Level 1 access points are easier to install, as they only require a power outlet. Providing Level 1 access points in parking structures and some surface lots is relatively easy. For example, there are existing outlets in parking structures that can be checked for adequate protection and potentially labeled for EV charging. It is almost certain that there is the capacity to add several outlets in each structure (one spare circuit breaker is sufficient for an EV space.) Finally, the cost of installing 5,000 electrical outlets is likely to be much lower than the cost of installing 900 Level 2 chargers.

The Team also recognizes that power supply is a large challenge. The current parking lots were not designed to accommodate Level 2 or Fast Chargers. The entire campus electrical grid may have to be revamped to get wattage to the needed lots and the necessary upgrades to be funded.

### 5.3. Placement

The Team recommends placing chargers in lots based on the lot’s demand and existing infrastructure. Data on lot’s physical capacity and allocated permits should be considered. For example, Lot B10 has 47 spaces, but allocated 81 permits. This data shows that Lot B10 is highly used and is an ideal location for an EV charger. Table 3 shows parking lots’ capacities, allocated permits, and existing chargers. Based on the ratio of allocated permits to overall capacity, lots are recommended as EV charging locations. It should be noted that this recommendation is strictly based on lot demand. Charging infrastructure should also be considered when installing EV chargers. For this recommendation, lots were selected under three criteria:

1. The permit to capacity ratio is above 1, with at least 50 permits, and the lot has no chargers (green cells)
2. The permit to capacity ratio is above 0.75, with at least 100 permits, and no chargers (orange cells)
3. The permit to capacity ratio is above 1, with at least 300 permits and the lot has one charger (purple cells)
   1. Lot C 07 meets this requirement, but is removed from the recommended list because the Parking Department is actively working on installing chargers here.

See the appendix for the lots that were excluded from this list.

Finally, the limitations of this approach should be noted. This data does not include information on the number of meter spots, departmental rentals, or OAE/ADA spaces in each lot. If this information was available at the time of this report, these spaces would not be counted in the physical capacity of the lot. Therefore, the permits-to-capacity ratio may be overestimated. Additionally, there are waitlists for certain lots, which could also factor into the lot’s popularity and amount of use. It should also be noted that placing an EV charger in a small lot with high activity will decrease the number of available permit/meter spots. In some lots that cannot afford to lose parking spaces, EV chargers may not be feasible.

**Table 3**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Lot** | **FY23 Permits** | **Physical Capacity** | **Permits/ Capacity** | **# of Level 2 EV Charging Spots** | **# of Level 1 Access Points** | **Lot Description** |
| **A03** | 150 | 136 | **1.10** |  |  | Faculty/Staff west of CIF |
| **A21** | 77 | 47 | **1.64** |  |  | Faculty/Staff west of engineering quad |
| **B01** | 247 | 241 | **1.02** |  |  | Faculty/Staff east of Grainger |
| **B02** | 89 | 77 | **1.16** |  |  | Faculty/Staff east of University High School |
| **B10** | 81 | 47 | **1.72** |  |  | Faculty/Staff/Student Department of Astronomy |
| **B17** | 111 | 130 | 0.85 |  |  | Faculty/Staff Main St. and N Harvey St. |
| **B21** | 329 | 297 | **1.11** |  |  | Faculty/Staff W Springfield Ave. and S Gregory St. |
| **B22** | 223 | 267 | 0.84 |  |  | Faculty/Staff/Student northeast engineering quad |
| **C09** | 187 | 183 | **1.02** |  |  | Faculty/Staff 6th St. and Chalmers St. |
| **C16** | 80 | 75 | **1.07** |  |  | Faculty/Staff/Student 5th St. and Daniel St. |
| **D01** | 131 | 120 | **1.09** |  |  | Faculty/Staff S Goodwin Ave. and W Illinois St. |
| **D08** | 222 | 153 | **1.45** |  |  | Faculty/Staff/Student ISR |
| **D09** | 485 | 292 | **1.66** |  |  | Faculty/Staff/Meter ISR |
| **E02** | 223 | 168 | **1.33** |  |  | Faculty/Staff College of Edu, School of Architecture |
| **E11** | 89 | 69 | **1.29** |  |  | Faculty/Staff Natural Resources Building |
| **E13** | 55 | 41 | **1.34** |  |  | Faculty/Staff College of Law |
| **E14** | 2018 | 2249 | 0.90 | 2 |  | Alternative Rental Parking west of SFC |
| **E18** | 51 | 44 | **1.16** |  |  | Faculty/Staff north of SCD |
| **E38** | 306 | 161 | **1.90** |  |  | Faculty/Staff South of Scott Hall |
| **F04** | 125 | 99 | **1.26** |  |  | Departmental Southwest of SFC |
| **F13** | 131 | 52 | **2.52** |  |  | Faculty/Staff Allen Hall |
| **F14** | 122 | 100 | **1.22** |  |  |  |
| **F17** | 132 | 52 | **2.54** |  |  | Faculty/Staff PAR |
| **F23** | 655 | 718 | 0.91 |  |  | Alternative Rental Lot north of Lincoln and Florida Playing Fields |
| **F24** | 97 | 89 | **1.09** |  |  | Faculty/Staff/Meter Lincoln Ave. and Hazelwood Dr. |
| **F27** | 639 | 470 | **1.36** |  |  | Faculty/Staff College of Vet Med |
| **F30** | 139 | 161 | 0.86 |  |  | Faculty/Staff/Student Lincoln Ave. west of Arboretum |

### 5.4. Financing

### The Team recognizes the significant financial burden of installing EV chargers. The Parking Department is self-funded and lacks the capacity to fund the large-scale adoption of EV chargers. Capital expenses for improved energy infrastructure and EV chargers should be part of a large funding proposal supported by the University, rather than paid solely by the Parking Department. By incorporating these expenses into a broader funding proposal, the University can strategically allocate resources to prioritize sustainable infrastructure projects that align with its long-term goals and commitments to sustainable transportation. Sharing the financial responsibility for energy infrastructure improvements and EV chargers among multiple University departments fosters collaboration and shared accountability. All departments will benefit from the EV chargers, so it is inequitable for one department, in this case, the Parking Department, to bear the entire financial burden.

Creating Level 1 access points, instead of installing Level 2 chargers, might help to alleviate some of the financial burden. The average Level 1 access point usage is about 2 kWh. This data must be compared against the $11,800 cost for one Level 2 charger.

Currently, to incentivize users to move their vehicle after it is fully charged, the EV charging price increases after 4 hours. However, the staff are unlikely to move their EV if they are on campus for an 8-hour workday. The charging price after 4 hours should increase more than it currently does to further encourage this behavior change.

### In addition to the price increase, an educational and awareness campaign is needed to teach people how to use EV chargers on campus. This campaign would highlight charger etiquette and the social responsibility of EV users to move their vehicles in a timely manner. Signs could be placed near chargers, emails could be sent out to permit holders, and the Parking Department can attend cross-departmental events to spread the word.

### 5.5. Policy

Of the two payment options for EV permit holders, the Team recommends that the University adopt the second option, which is to charge users by the hour. To incentivize users to move their EV when fully charged, the Parking Department can implement the strategies addressed above. This option offers flexibility and fairness in pricing. This method is beneficial for those who may need shorter charging sessions, have varying charging needs, or work hybrid. Charging users by the hour, rather than a flat fee, can lead to a more efficient and equitable EV charging system on campus. However, this price structure will likely mean that almost all EV users are paying more per mile than gasoline-vehicles users for their energy.

## 6. Conclusion

In conclusion, the analysis of the DESMAN study conducted for the UIUC has revealed several areas of concern and provided insights into key considerations for the implementation of EV charging infrastructure on campus. Despite the comprehensive nature of the study, it is apparent that there were limitations, inaccuracies, and missing information in the DESMAN study. These limitations included how EV demand was calculated, the suitability of technology recommendations, the placement strategies, the financial implications, and the proposed policies for pricing EV charging.

To address these concerns, proposed solutions were suggested. These included conducting surveys to assess EV demand, reevaluating technology recommendations, considering lot-specific demand and infrastructure for charger placement, seeking University funding support, and refining pricing and policy structures to incentivize responsible EV usage.

By addressing the concerns raised and adopting the proposed solutions, the EV Task Force can move forward with confidence in its efforts to support sustainable transportation practices and contribute to the broader goals of reducing carbon emissions and promoting environmental stewardship. The EV Task Force is called to be proactive and be a model for other Universities.

## Appendix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Lot** | **FY23 Permit** | **Physical Capacity** | **Permits/Capacity** | **# of Level 2 EV Charging Spots** | **# of Level 1 Access Points** | **Lot Description** |
| **A03** | 150 | 136 | **1.10** |  |  | Faculty/Staff west of CIF |
| A09 | 48 | 61 | 0.79 |  |  |  |
| **A21** | 77 | 47 | **1.64** |  |  | Faculty/Staff west of engineering quad |
| AS01 | 2 | 38 | 0.05 |  |  |  |
| AS03 | 1 | 15 | 0.07 |  |  |  |
| AS04 | 1 | 19 | 0.05 |  |  |  |
| **B01** | 247 | 241 | **1.02** |  |  | Faculty/Staff east of Grainger |
| **B02** | 89 | 77 | **1.16** |  |  | Faculty/Staff east of University High School |
| B03 | 1 | 6 | 0.17 |  |  |  |
| B04 | 1681 | 1482 | **1.13** | 2 | 6 |  |
| B06 | 13 | 16 | 0.81 |  |  |  |
| B07 | 36 | 38 | 0.95 |  |  |  |
| **B10** | 81 | 47 | **1.72** |  |  | Faculty/Staff/Student Department of Astronomy |
| B11 | 5 | 42 | 0.12 |  |  |  |
| **B17** | 111 | 130 | 0.85 |  |  | Faculty/Staff Main St. and N Harvey St. |
| B18 | 60 | 131 | 0.46 |  |  |  |
| **B21** | 329 | 297 | **1.11** |  |  | Faculty/Staff W Springfield Ave. and S Gregory St. |
| **B22** | 223 | 267 | 0.84 |  |  | Faculty/Staff/Student northeast engineering quad |
| C03 | 8 | 61 | 0.13 |  |  |  |
| C05 | 62 | 79 | 0.78 |  |  |  |
| C06 | 24 | 37 | 0.65 |  |  |  |
| **C07** | 333 | 311 | **1.07** |  | 2 | Faculty/Staff 6th St. and John St. |
| **C09** | 187 | 183 | **1.02** |  |  | Faculty/Staff 6th St. and Chalmers St. |
| C10 | 65 | 336 | 0.19 |  | 2 |  |
| **C16** | 80 | 75 | **1.07** |  |  | Faculty/Staff/Student 5th St. and Daniel St. |
| C18 | 0 | 11 | 0.00 |  |  |  |
| CS01 | 10 | 15 | 0.67 |  |  |  |
| **D01** | 131 | 120 | **1.09** |  |  | Faculty/Staff S Goodwin Ave. and W Illinois St. |
| D02 | 45 | 40 | **1.13** |  |  |  |
| D05 | 809 | 577 | **1.40** |  | 3 |  |
| D06 | 34 | 37 | 0.92 |  |  |  |
| **D08** | 222 | 153 | **1.45** |  |  | Faculty/Staff/Student ISR |
| **D09** | 485 | 292 | **1.66** |  |  | Faculty/Staff/Meter ISR |
| D10 | 2 | 20 | 0.10 |  |  |  |
| D12 | 1 | 10 | 0.10 |  |  |  |
| D13 | 16 | 19 | 0.84 |  |  |  |
| D15 | 3 | 28 | 0.11 |  |  |  |
| D16 | 3 | 13 | 0.23 |  |  |  |
| D18 | 0 | 5 | 0.00 |  |  |  |
| D21 | 72 | 95 | 0.76 |  |  |  |
| D22 | 142 | 162 | 0.88 | 2 |  |  |
| DS01 | 1 | 11 | 0.09 |  |  |  |
| **E02** | 223 | 168 | **1.33** |  |  | Faculty/Staff College of Edu, School of Architecture |
| E03 | 10 | 155 | 0.06 |  |  |  |
| E04 | 16 | 21 | 0.76 |  |  |  |
| E05 | 1 | 12 | 0.08 |  |  |  |
| E06 | 19 | 22 | 0.86 |  |  |  |
| E07 | 49 | 46 | **1.07** |  |  |  |
| E08 | 73 | 96 | 0.76 |  |  |  |
| E09 | 104 | 149 | 0.70 |  |  |  |
| **E11** | 89 | 69 | **1.29** |  |  | Faculty/Staff Natural Resources Building |
| **E13** | 55 | 41 | **1.34** |  |  | Faculty/Staff College of Law |
| **E14** | 2018 | 2249 | 0.90 | 2 |  | Alternative Rental Parking west of SFC |
| E15 | 157 | 148 | **1.06** | 16 |  |  |
| E17 | 66 | 75 | 0.88 |  |  |  |
| **E18** | 51 | 44 | **1.16** |  |  | Faculty/Staff north of SCD |
| E19 | 0 | 36 | 0.00 |  |  |  |
| E21 | 1 | 18 | 0.06 |  |  |  |
| E22 | 64 | 65 | 0.98 |  |  |  |
| E23 | 22 | 29 | 0.76 |  |  |  |
| E24 | 112 | 269 | 0.42 |  |  |  |
| E27 | 13 | 28 | 0.46 |  |  |  |
| E28 | 76 | 82 | 0.93 |  |  |  |
| E29 | 11 | 16 | 0.69 |  |  |  |
| E30 | 20 | 123 | 0.16 |  |  |  |
| E31 | 12 | 31 | 0.39 |  |  |  |
| E32 | 62 | 69 | 0.90 |  |  |  |
| E34 | 39 | 163 | 0.24 |  |  |  |
| E35 | 27 | 24 | **1.13** |  |  |  |
| E36 | 5 | 12 | 0.42 |  |  |  |
| E37 | 30 | 103 | 0.29 |  |  |  |
| **E38** | 306 | 161 | **1.90** |  |  | Faculty/Staff South of Scott Hall |
| E43 | 12 | 55 | 0.22 |  |  |  |
| E45 | 25 | 128 | 0.20 |  |  |  |
| E46 | 35 | 302 | 0.12 |  |  |  |
| EH20A | 24 | 20 | **1.20** |  |  |  |
| ES12 | 1 | 6 | 0.17 |  |  |  |
| ES16 | 0 | 14 | 0.00 |  |  |  |
| ES26 | 0 | 48 | 0.00 |  |  |  |
| F01 | 5 | 14 | 0.36 |  |  |  |
| **F04** | 125 | 99 | **1.26** |  |  | Departmental Southwest of SFC |
| F06 | 18 | 23 | 0.78 |  |  |  |
| F08 | 14 | 29 | 0.48 |  |  |  |
| F09 | 18 | 31 | 0.58 |  |  |  |
| F10 | 17 | 13 | **1.31** |  |  |  |
| F11 | 101 | 141 | 0.72 |  |  |  |
| F12 | 27 | 47 | 0.57 |  |  |  |
| **F13** | 131 | 52 | **2.52** |  |  | Faculty/Staff Allen Hall |
| **F14** | 122 | 100 | **1.22** |  |  |  |
| F15 | 16 | 40 | 0.40 |  |  |  |
| F16 | 6 | 45 | 0.13 |  |  |  |
| **F17** | 132 | 52 | **2.54** |  |  | Faculty/Staff PAR |
| F19 | 3 | 7 | 0.43 |  |  |  |
| F20 | 0 | 14 | 0.00 |  |  |  |
| F21 | 21 | 38 | 0.55 |  |  |  |
| F22 | 61 | 94 | 0.65 |  |  |  |
| **F23** | 655 | 718 | 0.91 |  |  | Alternative Rental Lot north of Lincoln and Florida Playing Fields |
| **F24** | 97 | 89 | **1.09** |  |  | Faculty/Staff/Meter Lincoln Ave. and Hazelwood Dr. |
| F25 | 54 | 63 | 0.86 |  |  |  |
| F26 | 14 | 30 | 0.47 |  |  |  |
| **F27** | 639 | 470 | **1.36** |  |  | Faculty/Staff College of Vet Med |
| F28 | 146 | 278 | 0.53 |  |  |  |
| F29 | 752 | 749 | **1.00** |  | 3 |  |
| **F30** | 139 | 161 | 0.86 |  |  | Faculty/Staff/Student Lincoln Ave. west of Arboretum |
| F32 | 51 | 66 | 0.77 |  |  |  |
| FS01 | 0 | 8 | 0.00 |  |  |  |
| FS02 | 0 | 48 | 0.00 |  |  |  |
| FS05 | 1 | 19 | 0.05 |  |  |  |
| FS07 | 3 | 16 | 0.19 |  |  |  |
| FS08 | 2 | 5 | 0.40 |  |  |  |