IOWA

City of Dubuque E-Bike/Scooter Project

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Background Information

About the Client

- Amanda Lewis
  - University of Wisconsin/Environmental Conservation
  - Climate Action Coordinator
  - Climate Action and Resiliency Plan
    - Research
      - Electric vehicles, greenhouse gas emissions, energy usage
- New transportation plan

About the City

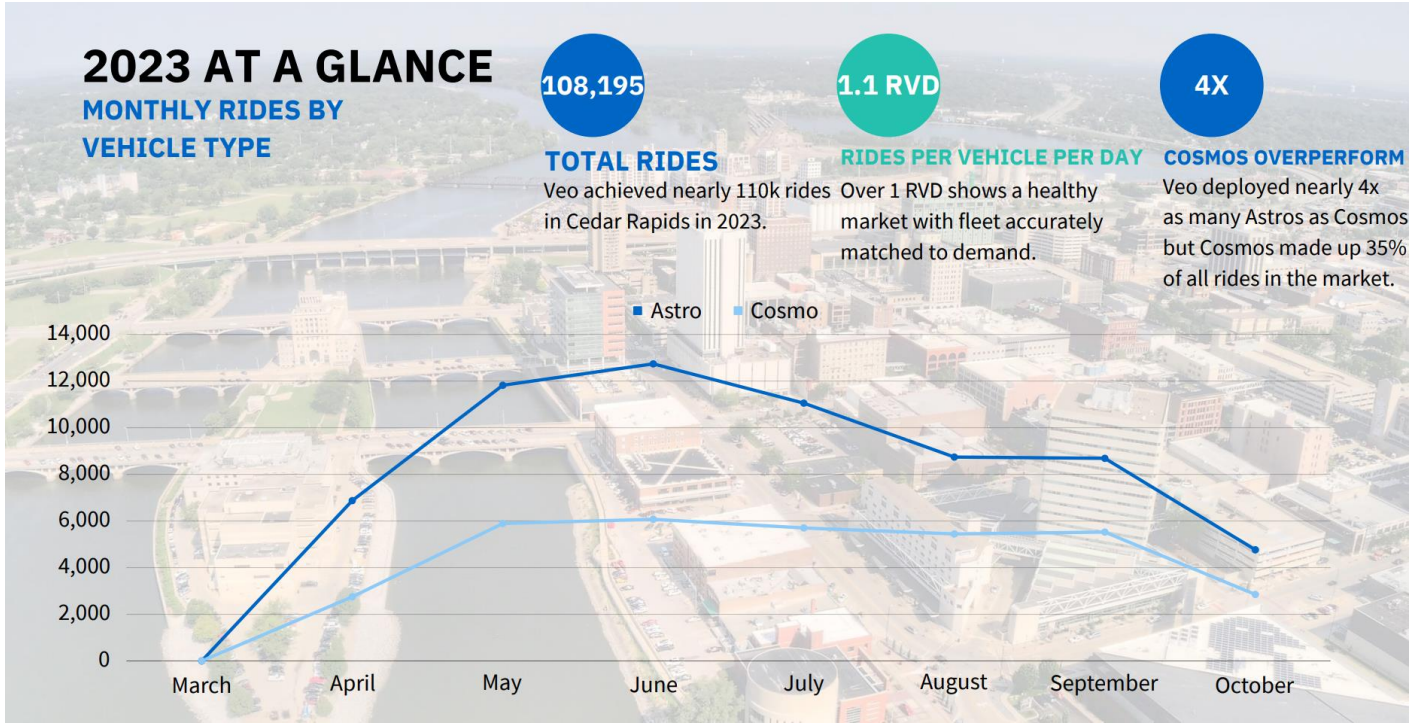
- The City of Dubuque
  - Iowa's oldest city
  - Plethora of bars/restaurants
  - Young families and professionals
  - Population: 59,119 (2021)
- Schools
  - Three high schools
  - Three private colleges
    - University of Dubuque, Clarke University, Loras College

Parking and Mobility Plan

City of Dubuque's plan to…

- Update outdated parking systems and explore new parking systems to improve user experience
- Asses current on and off street parking areas for supply and demand balance
- Identify opportunities for the advancement of the mobility network (i.e. Bike lanes, E-bikes...etc)

Cedar Rapids Veo Ride Program



- ***2022 Data:***

  - 2 Injuries (Scooter v. Vehicle)
  - 6 Injuries (Scooter Only)
  - 12 scooters In Private Property
  - 1 Citation (Traffic Reason)
  - 11 warnings
    - Including more than one rider, sidewalks, etc.

Problem Statement

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- The City of Dubuque would like to expand their public transportation options. They are interested in incorporating electric bikes and/or electric scooters into the city, but are unsure if it would be a popular solution for the demographic of Dubuque, as well as if it would work in the geography of the city.

Project Goals and Deliverables

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This project is to determine if implementing an electric bike or scooter share program is a good idea and/or feasible for the City of Dubuque. Through research conducted along with the City of Dubuque, our goal is to be able to determine if this would be a successful implementation amongst the city's demographic and geography.

<u>This project will be responsible for three main deliverables:</u>

- A PowerPoint project presentation via Zoom on December 6th
- Mock-ups of graphical information from conducted survey research with the City of Dubuque
- An Executive Summary Report that summarizes the project and key findings, implications, and recommendations.

Competitors and SWOT Analysis

Competitors and SWOT Analysis

Competitors- Personal Vehicles, Public Transportation, and Dubuque E-bikes

Strengths- growing demand, reduces traffic, reduces emissions, and potentially boosts local economy

Weaknesses- high upfront costs, safety concerns, need for public support, and lack of bike lanes

Opportunities- government funding, partnerships with businesses, and public education campaigns

Threats- resistance to change, economic downturn, infrastructure, remote workers and Dubuque E-bikes

Key Findings, Implications, and Recommendations

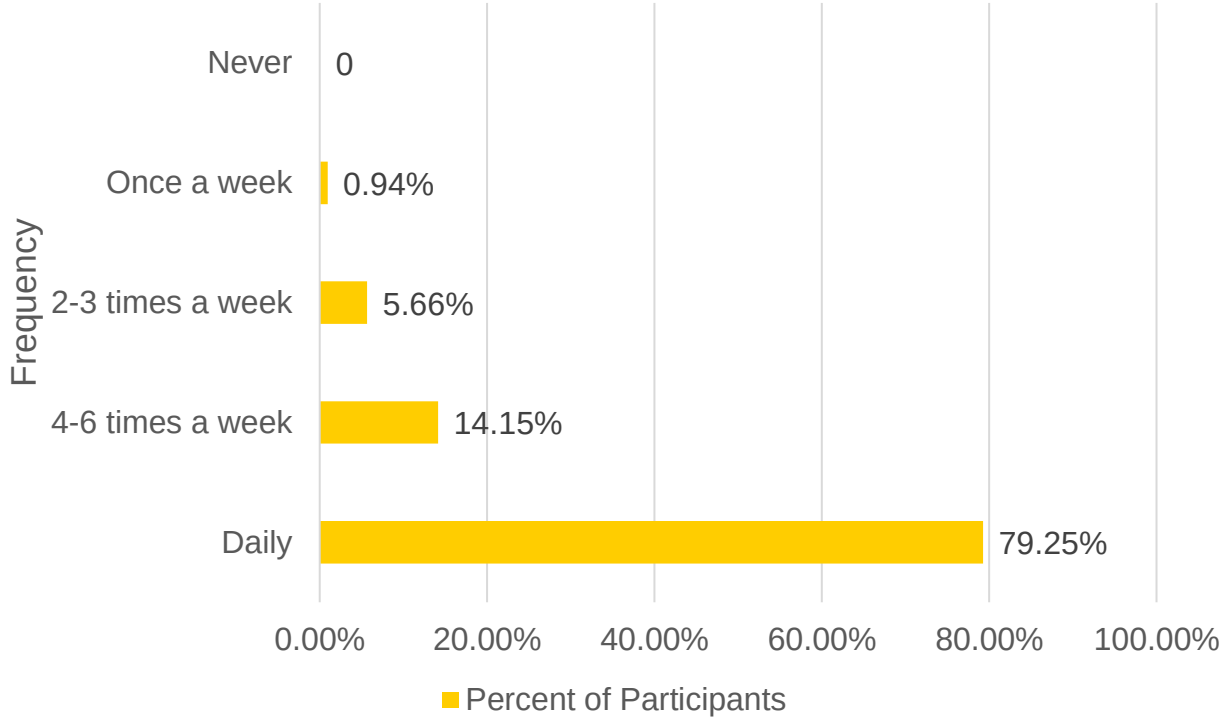
Primary Research

Survey Methodology

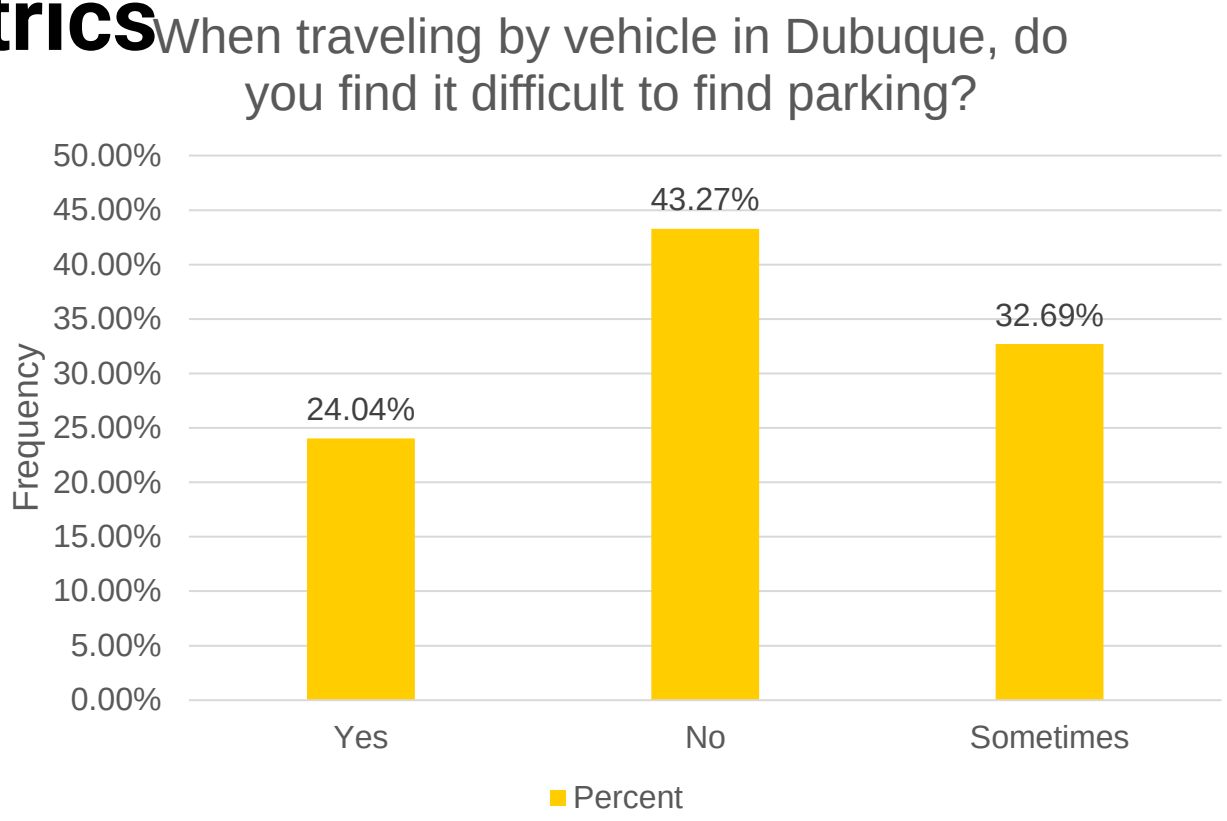
- Qualtrics
  - Approved by Tippie College of Business
- Responses: 126 (as of 12/6/2023)
  - 30 questions
  - Demographics, Experiences, Opinions...
  - Survey completed by Cottingham and Butler employees and other Dubuque residents

Qualtrics

How often do you travel in Dubuque?

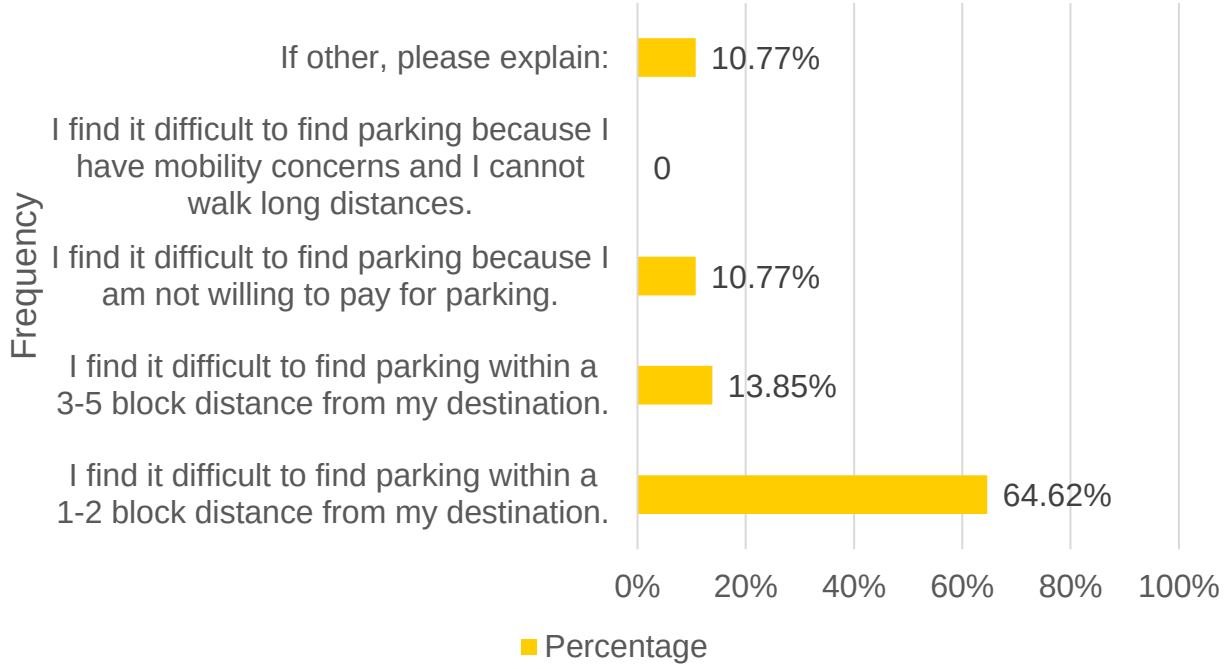


Qualtrics


When traveling by vehicle in Dubuque, do you find it difficult to find parking?
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Frequency
24.04%
43.27%
32.69%
Yes
No
Sometimes
Percent

Qualtrics

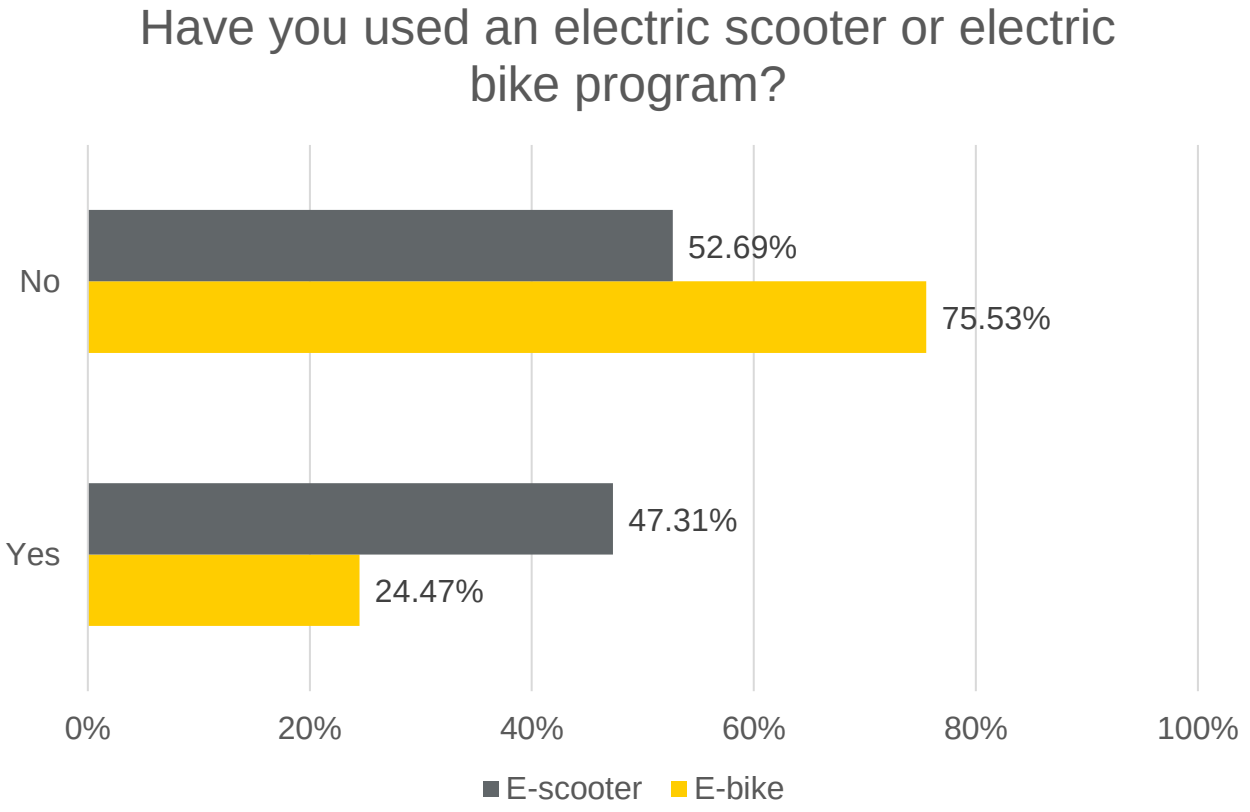
If yes, why do you find it difficult to find parking?



Qualtrics- If other please explain

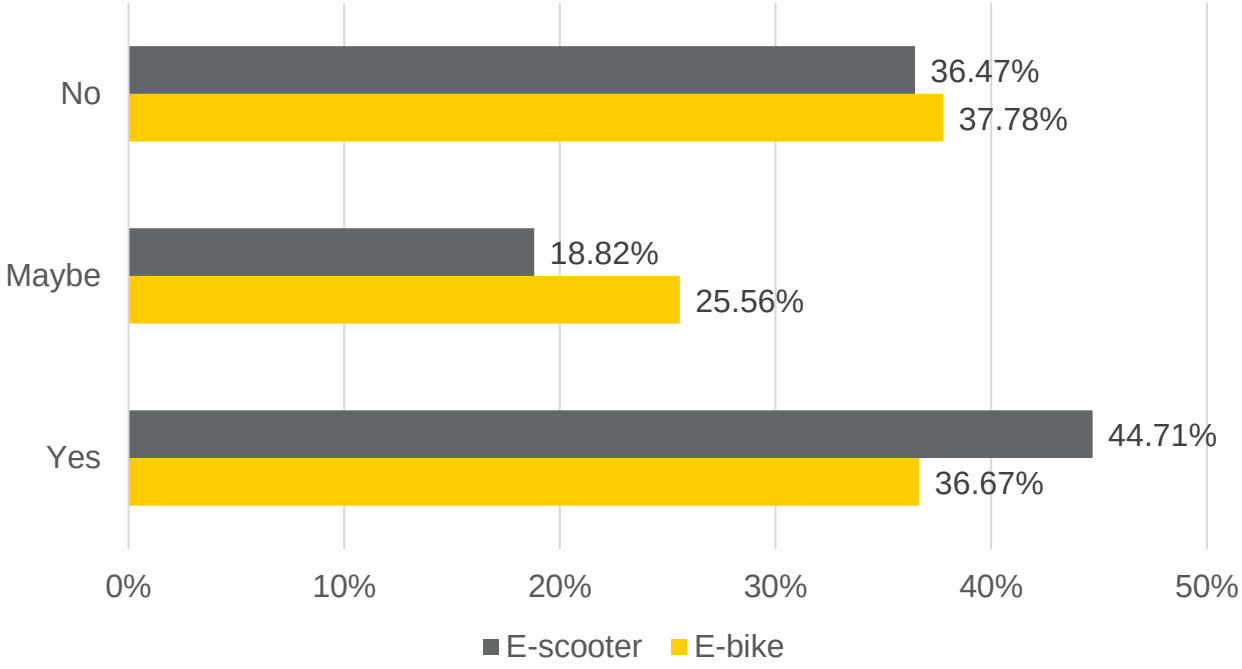
- I don't have enough money to pay the parking in Dubuque
- N/A
- I am picking mobility option as well as safety. There are spots that are too dark (ex, by TH, by clock tower, and near the Locust parking ramp. The lights are motion activated but it's scary walking towards a dark ramp.
- The downtown area has limited parking available.
- The parking is managed so poorly in DBQ...they treat it like NYC or downtown LA...and ticket people far too frequently, that it turns people away from parking or visiting downtown.

Qualtrics

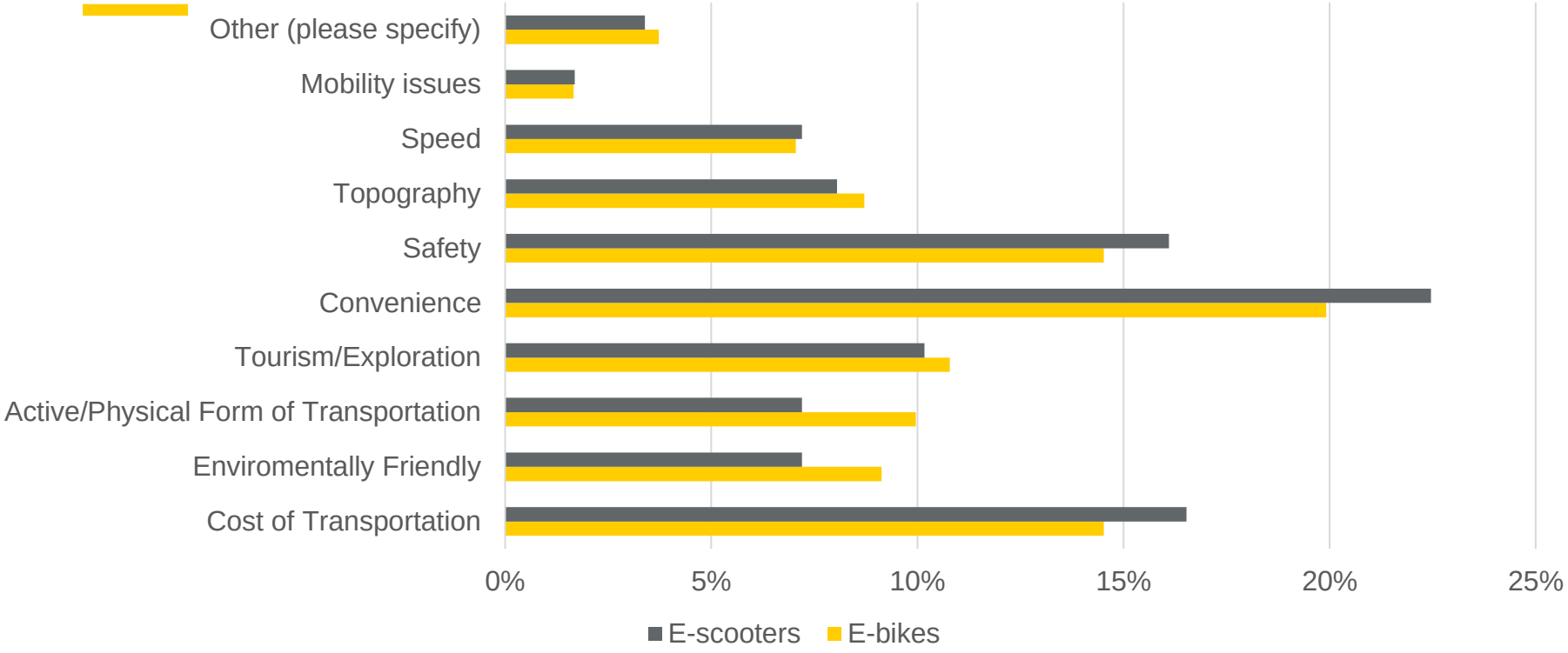

Have you used an electric scooter or electric bike program?
No
Yes
52.69%
75.53%
47.31%
24.47%
0%
20%
40%
60%
80%
100%
E-scooter
E-bike

Qualtrics

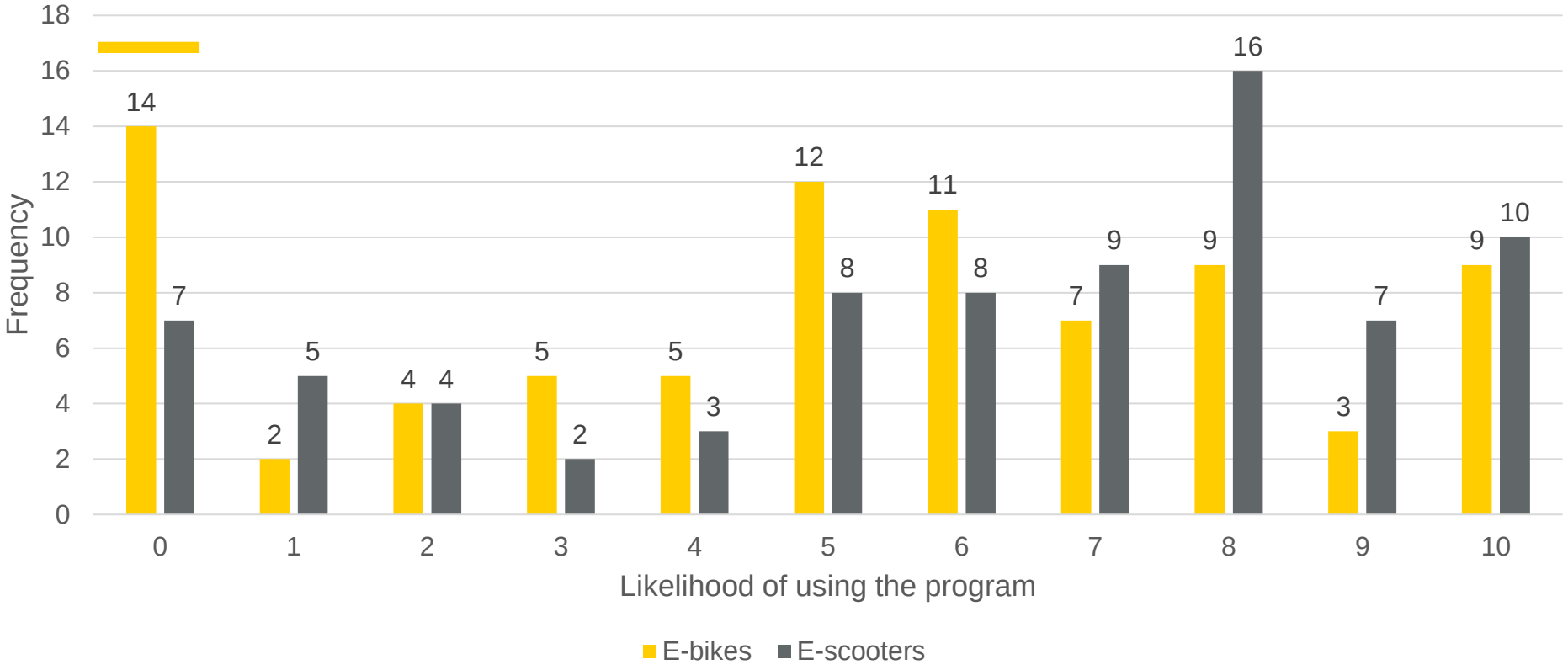
If no, would you be interested in using a rental program in Dubuque?



What are some of the most important factors to you when considering whether or not to use a rental program?



What is the Likelihood you would use a program? (0= extremely unlikely and 10= extremely likely)



Secondary Research Pros and Survey comments

Key Findings, Implications, and Recommendations

Key Finding 1

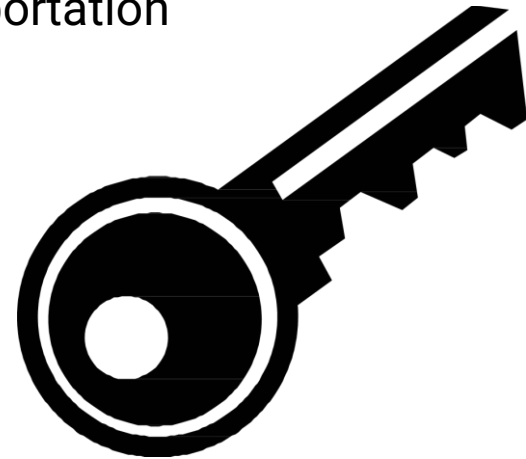
- Reduced traffic congestion

Implications or "So what?";

- Secondary option compared to primary form of transportation

Recommendations

- Have Move Dubuque create more bike lanes.



Key Findings, Implications, and Recommendations

Key Finding 2

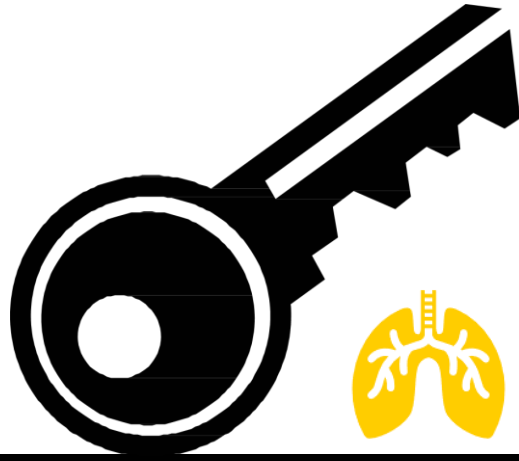
- Improved air quality

Implications or "So what?";

- University of California: Davis, California generated 70% fewer emissions (pop. 69,471)
- Improves air quality by reducing the number of cars/motorized vehicles on the road

Recommendations

- Look for government environmental funding



Key Findings, Implications, and Recommendations

Key Finding 3

- Increased physical activity

Implications or "So what?";

- Turns form of transportation into exercise
- Residential opinion
  - 67.24% - SimplyAnalytics

Recommendations

- Additional health benefits

Secondary Research Cons and Survey Comments

Key Findings, Implications, and Recommendations

Key Finding 4

- Cost

Implications or "So what?";

- $3,000 - $5,000 to install a rack/charging station
- CR: $1 unlock, 15 cents per minute

Recommendations

- Would need to invest in multiple stations across city
- Look for outsourcing of investments towards program

Survey Comments

- "I don't think it would be worth the investment."
- "Cost and availability would be a concern for me. Also, theft."
- "If this is implemented, where do people store these things? The next thing we know, is that there will have to be extra storage places built for them. It's a waste of tax payers money that could be spent on more important things."

Key Findings, Implications, and Recommendations

Key Finding 5

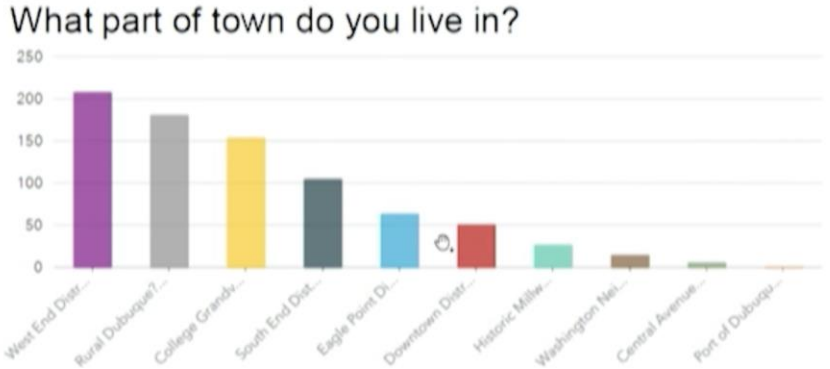
- Infrastructure

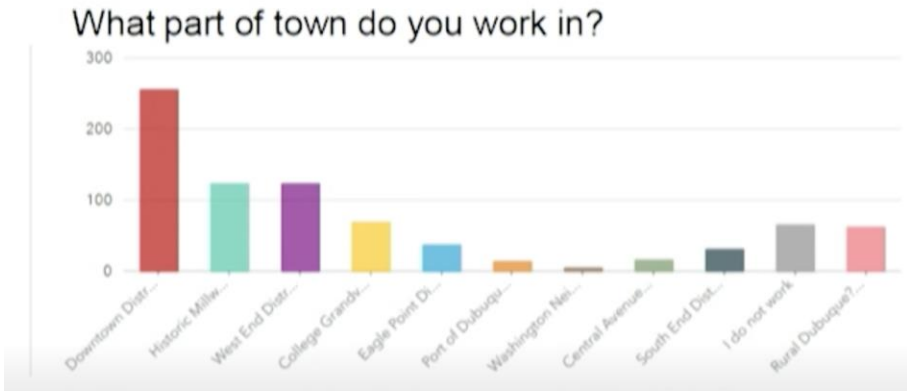
Implications or "So what?";

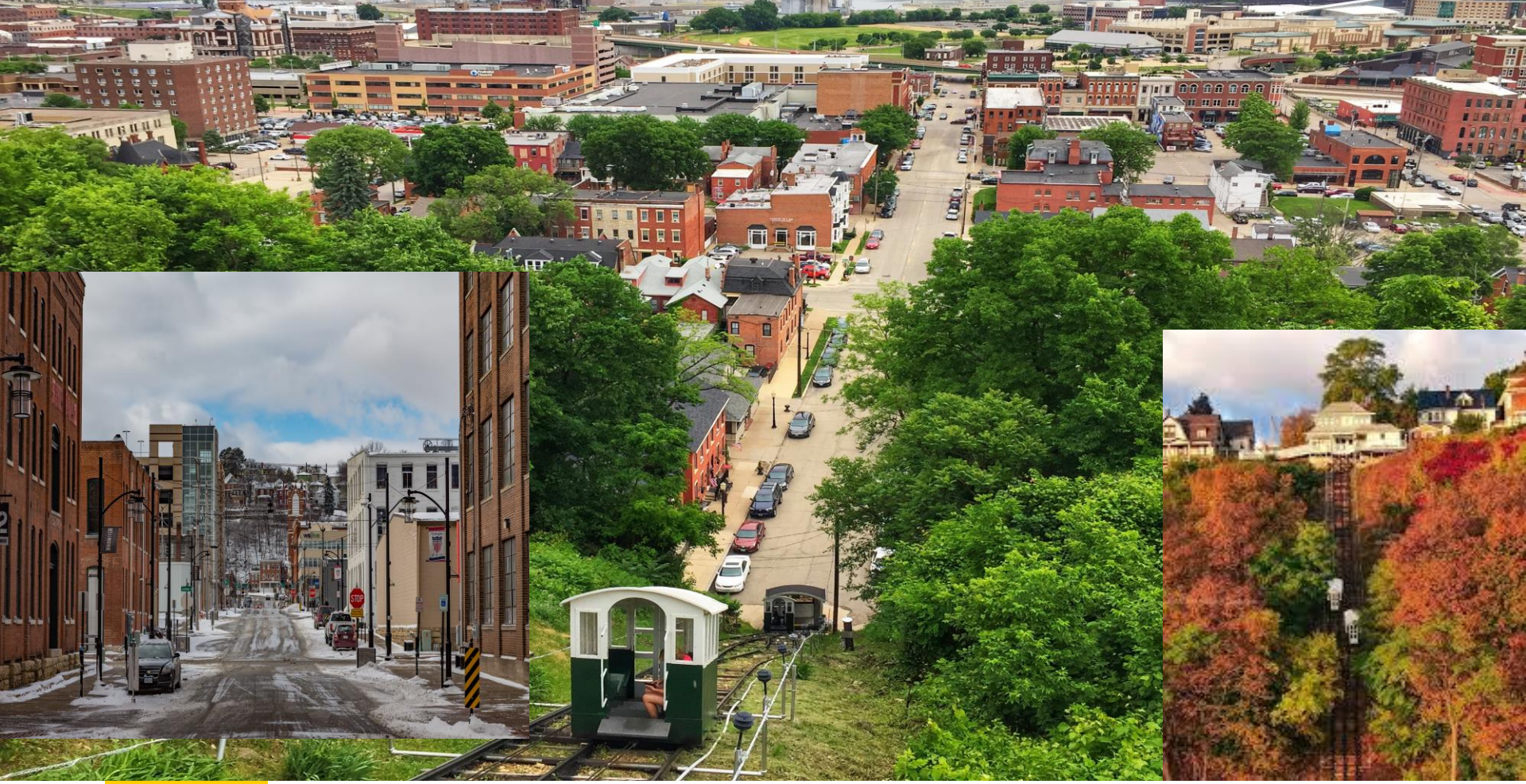
- Geographic limitations.

Recommendations

- Installation of bike lanes
- Range monitoring







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Survey Comments

- *Question- "In the space below, please share additional comments or opinions regarding the idea of an electric bike rental program at the City of Dubuque."*
- "Dubuque has a lot of hills. I also don't think that other vehicles will play close enough attention to make me feel safe using them."
- "Answer is the same for scooters-Dubuque traffic flow would need to change to feel safe on either a scooter or bike for transportation in Dubuque."
- "I feel it would need to be for specific areas (lots of one ways downtown) and the city would need bike lanes"
- "Dubuque needs better bike infrastructure (specifically protected travel lanes). An eBike program might encourage that, but I know a lot of people who don't cycle at all because they feel unsafe on the streets here"

Key Findings, Implications, and Recommendations

Key Finding 6

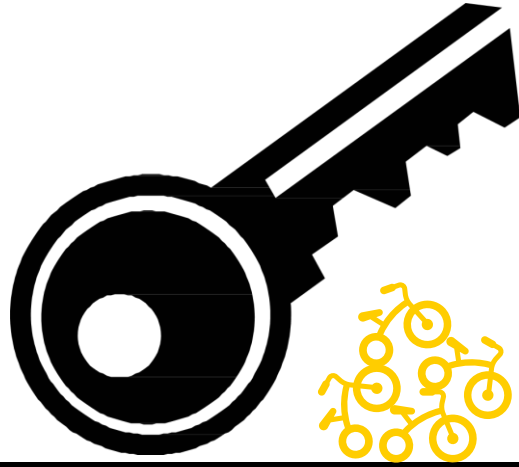
- Clutter and Misuse

Implications or "So what?";

- Can not guarantee users to return vehicles to a designated location
- In San Francisco, in just a two-month span, there were more than 12,000 citations for improperly parked scooters.

Recommendations

- Would have to implement a large, time-based fine for users who do not return vehicles to a designated charging station.



Survey Comments

- "I feel like it would have to be unique in having a secure station housing them as i feel like there's a good chance of vandalism"
- "I recently traveled to Milwaukee and there were scooters laying around everywhere. It was messy."
- "Electric scooters ruin major cities. People leave them everywhere, often times where they are not supposed to be, and end up cluttering the sidewalks. Dubuque is not a big enough place to where these are warranted. You can easily walk the downtown area (all of eight blocks) with the sidewalks unobstructed."

Key Findings, Implications, and Recommendations

Key Finding 7

- Liability and Safety Concerns

Implications or "So what?";

- The laws on electric scooters are still constantly evolving, which can make it complicated to pinpoint liability for these accidents.
- Parties that can be liable for an accident: pedestrians, e-riders, e-rental company, the city, drivers, and the manufacturer.
- More than 20 individuals may be injured for every 100,000 e-scooter trips.

Recommendations

- Would need a strong waiver contract to reduce liability. Make riders read safety information before using the vehicle.

Survey Comments

- "Hope all those college students have good health coverage thru their parents...likely a good spike in accidents following drunk operation."
- I really don't think it would get used and would likely have more issues with damages than anything else. Maybe something worth checking with the downtown NICC college for interest.

Summary / Recap

Summary

Key findings:

- **Potential benefits:** reduced traffic congestion, improved air quality, increased physical activity, and boosted tourism.
- **Potential challenges:** cost, infrastructure, clutter, misuse, liability, and safety concerns.

Recommendations to make program possible:

- Partner with local businesses and organizations
- Focus on affordable and accessible options for all residents.
- Improve their cycling infrastructure.
- Market the new way to explore the city to tourists and visitors.

Summary

Major Factors Deterring the Project

- No budget allocation
- Lack of proper infrastructure
- Liability and safety concerns

Decision

- For the time being we advise against the implementation of a rental service for both E-bikes and E-scooters.
- Future use (Move DBQ), data/information

Alternative Suggestions

- Clean Vehicle Rebate Project
  - Subsidize a set amount of money for Dubuque residents to purchase their own electric bicycle.
- Dubuque E-Bikes
  - Help support an already existing local business.
  - Could expand to collaboration with other businesses

Clean Vehicle Rebate Project

- California Clean Vehicle Rebate Program
  - Average Vehicle Price: $53,500
  - $4,000 Rebate, which is approximately 7% rebate
- Examples of Dubuque Clean Vehicle Rebate amount:
  - Average bicycle: $2,000 to $3,000
  - Potential rebate options: $140 to $210

Dubuque E-Bikes

- E-Bike Rental Business started in late 2020
- Focused on leisure biking and trail biking
- "We try to only advertise by word of mouth and rack cards. Business has increased each year since we started in late 2020."

Ideas to collaborate with the city

- Donate e-bicycles to expand rental services

Final Recommendation

- Due to high cost, possible liability, and infrastructure… **we do not recommend implementation.**

- We recommend using a “clean vehicle” rebate program.

Problem Statement Recap

- The City of Dubuque would like to expand their public transportation options. They are interested in incorporating electric bikes and/or electric scooters into the city, but are unsure if it would be a popular solution for the demographic of Dubuque, as well as if it would work in the geography of the city.

Thank you for listening!

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