

Market Sizing

PROMPT:

Given the rising popularity of e-bikes in major U.S. cities like Los Angeles and New York City, there's growing interest in expanding these services to smaller cities and towns. E-bikes offer a convenient, cost-effective, and eco-friendly mode of transport. Imagine that Lime, a major player in the e-bike industry, is considering launching its e-bike-sharing service in Ithaca, NY, on Cornell University's campus. Your task is to estimate the number of annual e-bike rides/trips that would be taken if such a service were available.

ANSWER KEY:

Expanded Variables to Consider:

1. *Different User Groups:* Students, faculty, local residents, tourists, visiting parents/alumni
2. *Seasonal Factors:* Ithaca winters, academic calendar (e.g., low demand in summers impacting the annual number)
3. *Special Events:* Orientation week, graduation, homecoming, sports events
4. *Pricing and Affordability:* Student discounts, price elasticity of users
5. *Frequency of Usage:* Daily commuters vs. occasional users
6. *Substitutes:* TCAT buses, personal bikes, walking, cars
7. *Competitors:* IthacaBike
8. *Safety & Infrastructure Considerations:* Availability of bike lanes, campus safety measures
9. *Availability on Campus:* Where are the bike "hubs", can we pick up/drop off anywhere?
10. *Spatial distribution of residential buildings and academic buildings:* Are C-town residents more likely to use, perhaps certain majors are more likely to use (e.g., vet students because their classes are further away vs. A&S students, etc.)

Quantitative Analysis:

- **No of Users**
 - Population of Ithaca is 60k
 - 30,000 are students
 - 40% of students are users that would ride bikes [is this an overestimation]

- → 12,000 potential users I
- **Avg. # Rides / Week**
 - 5 days of school
 - 4 rides a week (2 days back and forth?) → for sake of ease
 - If they want to be fancy
 - Split into High, medium and low user frequencies
 - High = 10 rides a week, medium = 4 rides a week, low = 1-2 rides a week
- **Relevant days**
 - 2 semesters, 15 weeks each
 - Hence **30 weeks**
- **Seasonal Adjustment**
 - (50% reduction during winter) = **0.5**
- **Estimated Annual E-bike Rides**
 - # Users * Avg. # Rides / Week * # Relevant Weeks * Seasonal Adjustment
 - = $12,000 * 4 * 30 * 0.5 = 720,000$ **rides per year**