Attachment #1: Case Study: Staten Island Ferry

Staten Island Ferry passing the Statue of Liberty (*Schulz)*

The Staten Island Ferry is a ferry system operated by the NYC DOT that runs between Staten Island and Lower Manhattan (New York City) on a 5.2 mile route *("Staten Island Ferry Facts")*. Carrying around 24 million passengers annually and 45,00 passengers daily it is the most used ferry system in America (*NYCEDC)*. Furthermore, it operates 365 days a year with a fleet of 7 ferries as well as rescue boats *("Staten Island Ferry Facts")*. Not all 7 boats are always in use, 5 boats rotate through the schedule on a typical week day, 3 boats on the weekend, and during weekday rush hour 4 boats are in constant cycle of transiting passengers *("Staten Island Ferry Facts")*. This has worked exceedingly well for NYC DOT as 94% of trips run on schedule *("Staten Island Ferry Facts")*. The ferries maintain a 30 minute headway except during rush hours when that time is brought down to 15 minutes *("Ferry Schedule and Times")*. This project proposal for the Berkeley Space Center, Oakland to Redwood City ferry, aspires to be as strong of a transportation option as the Staten Island Ferry has become.

Strengths:

The Staten Island Ferry is for the most part an idyllic ferry; running on time a strong majority of the time while carrying thousands of passengers a day. This ferry system runs 24/7 making it a very reliable source of travel for commuters *("Staten Island Ferry Facts")*. On top of that, the ferry is free for all who want to use it, attracting not only commuters but also tourists *("Welcome to the Staten Island Ferry")*. Considering these elements, ferry ridership had been increasing year

to year pre COVID, but did drop during the pandemic, however is almost back to pre pandemic levels of ridership *(Spivack)*. The Berkeley Space Center ferry project can understand these logistical strengths in order to successfully execute their project on a smaller scale.

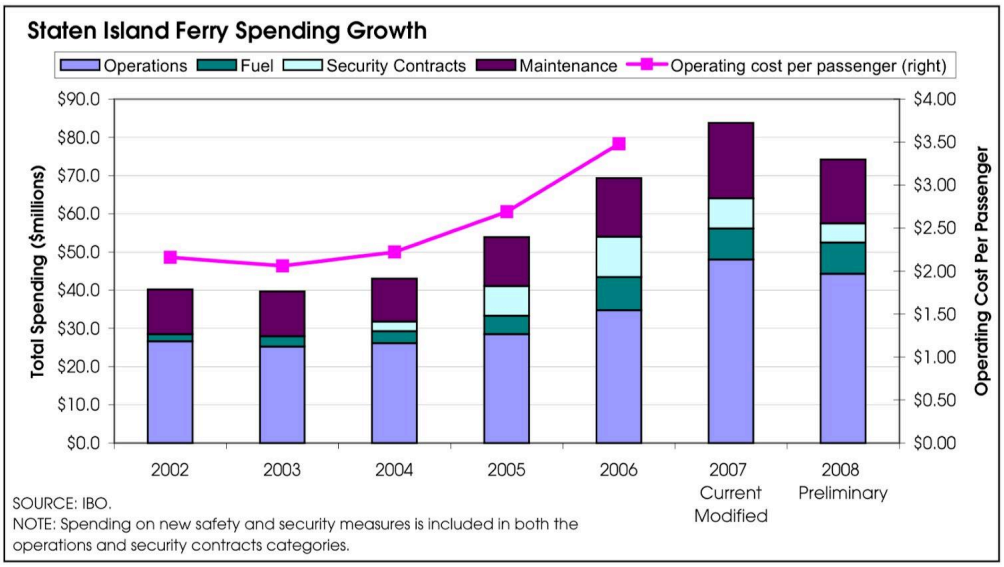
Travelers on the ferries have access to many amenities (notably the newest ferries have the most amenities and are the largest boats), these amenities range from WiFi which is standard on all boats to an outdoor track/walking loop that travelers can stretch their legs on *("The Future")*. There are also snack and refreshment bars as well as outlets to make riders' travels smoother and more enjoyable*("The Future")*.

Not only is the schedule user friendly and the boats nice to ride on, but there are ferry terminal supervisors whose job it is to make sure the ferry runs on time and smoothly. This dedicated job makes travelers feel more cared for and encourages riders to use this transportation system more heavily *("Staten Island Ferry Facts")*.

Lastly, the ferries are all required to be compliant with the national pollutant discharge elimination system as part of the clean water act. This means that the ferries are constantly identifying operational discharges, doing onboard inspections, documenting non-compliance, working to keep the passenger safety up to date, and using their best practices *("Staten Island Ferry Facts")*. This is a strong environmental policy for a non-electric ferry system, however, the BSC ferry route seeks to use electric high speed ferries and will thus be even more environmentally friendly than the Staten Island Ferry.

Weaknesses:

The Staten Island Ferry System is extremely costly to facilitate and considering that it does not charge riders for use it relies on majority city funding to facilitate this service. The cost to run the ferry is also rising every year, from 2002 to 2007 the annual cost rose from 40.2 million to 83.8 million dollars *("The Staten Island Ferry: An Overview of Service and Funding")*. Now the cost comes in at 282.5 million dollars annually *("Fiscal Year 2024 Executive Budget")*.



Actual spending breakdown from 2002-2007, and a minimalist projection for 2008 *("The Staten Island Ferry: An Overview of Service and Funding")*

This spending continued to increase despite the 2008 projection *("The Staten Island Ferry: An Overview of Service and Funding")* as can be observed from the 282.5 million that it currently costs to facilitate the Staten Island Ferry *("Fiscal Year 2024 Executive Budget")*. This rise in cost can be attributed to safety upgrades, boat maintenance, and operations themselves. However, due to the rising number of passengers the cost per passenger is rising much more slowly than it would have otherwise, with the most updated source reporting that it costs $3.48 per trip, which is slightly higher than other transit trips in NYC *("The Staten Island Ferry: An Overview of Service and Funding")*.

While safety upgrades, boat maintenance and operating costs can not be avoided, by charging for this service the cost to the city would be far lower. The ferry could accrue over 83.5 million dollars annually from fares (if there are 24 million passengers annually and a trip charge is $3.48) (*NYCEDC)("The Staten Island Ferry: An Overview of Service and Funding")*. In the vision for BSC Oakland to Redwood City Ferry, the Berkeley Space Center/NASA would be paying for their students, researchers, and staff's commute with annual passes on the ferry. The hope is that this service would appeal to other tech companies in the area increasing ridership and the farebox recovery rate; making this a more financially feasible project for the Bay Area.

Opportunities:

The opportunities the NYC DOT sees for the Staten Island Ferry includes:

- Preserving the history of the ferry service as it was originally a steam boat that served travelers starting in 1817 *("The Past")*
- Additional drop off and/or pick up points *("The Future")*
- Adding three new ferries to the fleet *("The Future")*
- And continued great customer service *("The Future")*

What the BSC Oakland to Redwood City Ferry could also see as an opportunity:

- Having ferry terminal attendants to help live up to the great customer service of the Staten Island Ferry and assist with the timeliness of departure.
- Popularize the ferry service so that in the future there is a great history of Bay Area ferries to uphold.
- Create buy in from other big Silicon Valley companies to expand the ferry service so that employees can choose to live in the East Bay while working in the South Bay as well as creating a stronger connection between UC Berkeley and Stanford, just as Staten Island and Manhattan have strong ties.
- Generate revenues from fares from big companies to keep the service cheap for riders but still have revenue to help overcome the major costs that come with a practical ferry service (unlike the free ridership of the Staten Island Ferry).

Challenges:

The Staten Island Ferry Presents some challenges that this project can learn from:

- The Staten Island Ferry is highly used but as a big lumbering ship it does not move that quickly, however the distance it travels is far shorter than the distance that the Oakland to Redwood City Ferry will travel making its travel time still very reasonable *("Staten Island Ferry Facts")*.
    - From this observation the Oakland to Redwood City Ferry will need to be high speed, more dynamic, and is going to be electric for environmental reasons, meaning that all of these factors will be even harder to align yet it is necessary to do so.
    - Luckily, the ridership will be far lower, at least in the foreseeable future, so the ferry can be much smaller.
- Rush hour will certainly need to have shorter headways for this to be a more convenient service for commuters *("Ferry Schedule and Times")*.
    - As the Staten Island Ferry fleet has 7 ships and only circulated 5 during the day it is apparent that to achieve the desired schedule and reliable timing there will need to be more than 2 ferries in rotation *("Staten Island Ferry Facts")*.
- Cost continues to be a challenge that resurfaces in almost every section of this evaluation and it is of note that transportation systems are expensive but necessary. However, with charging rates to employers it is likely that the BSC Oakland to Redwood City ferry service could have a decent farebox recovery rate.
    - Investing in this service despite its cost is incredibly important. This service, in no sense of an exaggeration, can bring some of the brightest minds in the country together in an easy and practical sense, improving innovation for the rest of the world.

Recommendation based on the Staten Island Ferry:

Based on this evaluation of the Staten Island Ferry there are a few key takeaways that should be noted in the creation of the BSC Oakland to Redwood City Ferry:

1. Charging companies for the ferry service for their employees will make this a more practical financial endeavor for the Bay Area while keeping the service fees non-existent for its riders working and learning in Silicon Valley and cheap for those who ride the ferry for other reasons.
2. Having multiple ferries, 3 or more, will keep the service running more smoothly making it a reliable and predictable service for commuters; which is something that commuters long for in current public transit.
3. Ferry terminal attendants can keep services running smoothly and aid travelers with their questions and needs making the experience more enjoyable for riders, just as the Staten Island Ferry has done.
4. A modern electric ferry fleet will add the the efficiency of this mode of travel, essential for enticing riders for a trip that is much longer than the Staten Island Ferry.

Bibliography:

"The Future." *Staten Island Ferry*, https://statenislandferry.com/history/the-future/. Accessed 10 Mar. 2025.

"The Past." *Staten Island Ferry*, https://statenislandferry.com/history/the-past/. Accessed 10 Mar. 2025.

"The Staten Island Ferry: An Overview of Service and Funding." *Independent Budget Office of New York City*, Aug. 2007, https://www.ibo.nyc.ny.us/newsfax/insidethebudget149.pdf. Accessed 10 Mar. 2025.

"Fiscal Year 2024 Executive Budget: Transportation." *New York City Council*, May 2024, https://council.nyc.gov/budget/wp-content/uploads/sites/54/2024/05/DOT-1-1.pdf. Accessed 10 Mar. 2025.

"Ferry Schedule and Times." *Staten Island Ferry*, https://statenislandferry.com/ferry-schedule-and-times. Accessed 10 Mar. 2025.

"Navigating New York City's Waterways to Become Cleaner and Greener." *New York City Economic Development Corporation (NYCEDC)*, 16 May 2023, https://edc.nyc/press-release/navigating-new-york-citys-waterways-become-cleaner-and-greener-staten-island-ferries. Accessed 10 Mar. 2025.

Schulz, Dana. "Full 24-Hour Staten Island Ferry Service Resumes Today." *6sqft*, 22 Sept. 2022, https://www.6sqft.com/full-24-hour-staten-island-ferry-service-resumes-today/. Accessed 10 Mar. 2025.

"Staten Island Ferry Facts." *NYC Department of Transportation (DOT)*, https://www.nyc.gov/html/dot/html/ferrybus/ferry-facts.shtml. Accessed 10 Mar. 2025.

Spivack, Caroline. "Staten Island Ferry Ridership Has Nearly Doubled Since 2020, New Data Shows." *Staten Island Advance*, 18 Jan. 2025, https://www.silive.com/news/2025/01/staten-island-ferry-ridership-has-nearly-doubled-since-2020-new-data-shows.html. Accessed 10 Mar. 2025.

"Welcome to the Staten Island Ferry." *Staten Island Ferry*, https://statenislandferry.com/welcome/. Accessed 10 Mar. 2025.