SEATTLE BIKE SHARE PROGRAM: PERMITTING DOCUMENT ANALYSIS AND MARKET SUMMARY

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***Note:** It is highly encouraged that SDOT's Bike Share Permit Requirements document is read, in full, prior to reading this report. It givse context to the recommendations set forth in the this report, and the research completed herein.

ABOUT ME

My name is Will Hutchison. I am a senior in the Community, Environment, and Planning undergraduate major at the University of Washington. My academic focus within the program is on transportation infrastructure, systems, and efficiency. I also have a deep interest in alternative forms of urban mobility, which ties in well. These interests led me to my project studying bike share in Seattle. As an avid bike share user, I was curious to find out how Seattle's pilot program with dockless systems was going, how its policies were structured, and how those policies could be improved to foster the long-term success and ultimate adoption of the dockless model in Seattle. This project led me to learn about bike share around the world and the cities that support it. I became quite knowledgeable on the topic, and it sparked an interest for me to pursue a professional career in the bike share industry. After graduation, I will be working for ofo as a Fleet Coordinator in Seattle.

ABSTRACT

As a student, I have found it impossible to walk to class without seeing at least a couple bike share bikes. You've probably seen them around: these green, yellow and orange bicycles have been introduced in a pilot program by the Seattle Department of Transportation to test whether dockless bike share can overcome the challenges that Pronto!, Seattle's previous attempt at bike share did not address well. The relatively new SDOT pilot program, which provides permits for operation to three companies, has been extended through the end of 2018. The main question I would like to answer is: How can SDOT adequately update its bike share program policy after the pilot has ended to support the long-term viability of dockless bikeshare and address the concerns of the public while simultaneously continuing to encourage the dockless bikeshare model? In this project, I address what it will take for LimeBike, ofo, and Spin to become a logical business case for SDOT with support from citizens. I create solutions of how to solve some of the problems this new bikeshare model faces by utilizing urban design principles, transportation planning theory, and sustainable business models. By synthesizing interviews with bike share professionals and combining this human perspective with comprehensive qualitative and quantitative research on the topic, I provide specific recommendations for bike share permitting policy changes, infrastructure improvements, and business practice goals. By producing this set of recommendations, I hope to benefit the future of mobility in Seattle and ensure a lasting place for bike share in the urban fabric of our city.

WHAT IS BIKE SHARE?

Dockless

Dockless bike share operates as a system of floating bike rentals. These bikes can be unlocked via an app, and are usually charged via credit card. After riding to a desired location, a lock on the rear wheel is engaged by the user to end the trip. This kind of bike share system is traditionally operated by a private sector company, and users pay by the minute, half-hour, or hour. Some companies offer discounted rates with monthly passes or subscriptions.

Station-Based

This model is different in that it operates as a system of rental bike stations, where bikes are picked up and dropped off. These bikes are unlocked by either an app or a pay station kiosk, where a user is charged via their credit card. In most cases, these rentals are structured as a flat fee for a specific period of time, with fees incurred for any ride time over that given period (24 hours, 48 hours unlimited rides for a month at a certain price level, etc). A bike must be parked at dock station to end trip, it cannot be left out on the street. Traditionally such bike share operations are publicly subsidized or fully funded by a municipality.

Bike share bicycles are heavier than normal bikes. This makes them more stable for inexperienced riders and harder for thieves to steal. They have a low center of gravity to further improve stability, and a single gear shifter for simplicity- usually between 3-6 gears. Per a city's safety requirements, bike share bikes traditionally have a white light on the front fender and a rear red reflector or blinking light.

METHODOLOGY

The goal of my project is to create a comprehensive set of recommendations backed by a combination of primary and secondary research sources to assist the Seattle Department of Transportation in revising, reformatting, and improving its Bike Share Permit Requirements policy. In order to do this, I have completed an in-depth literature review, identified and researched three case study cities with bikeshare

programs, travelled to Vancouver B.C. to gather first-hand user experience qualitative data on bike share systems, and held a round of interviews with stakeholders from ofo, Spin, and Limebike, SDOT, and user/non-user Seattle residents. I then synthesized this mass of information into a set of well-supported recommendations within a report of my overall findings to send to SDOT.

My literature review consisted of searching through databases of articles, peer-reviewed thesis and journal writings, and books. These databases were accessed from the University of Washington's Library directory online. This is where I was able to find research studies, historical reference material, case studies, and discussions on bike share theory. I also utilized Google search and Google Scholar to search for news articles and peer-reviewed work focused on dockless bike share and bike share within the pacific northwest vernacular. This was due in large part to the lack of literary sources and quantitative research that has been done on dockless bike share, as it is a relatively new concept. Following a similar trend, bike share has only recently reemerged in Seattle in the summer of 2017, so there is an equally limited amount of peer-reviewed sources discussing the systems in place here for the pilot program.

I have chosen three cities to use as case studies based off my findings in my literature review. These cities are Barcelona, Washington, D.C., and Vancouver, B.C. I have chosen these cities for unique reasons: Barcelona due to its similarity in geographical challenges and municipal sponsorship of bike share, Washington D.C. because of its highly successful and well-established bike share programming, and Vancouver B.C. because of its similar climate to Seattle and extremely effective station-based bike share program which contrasts Seattle's dockless pilot program. I have

studied and researched each city's bike share programs more extensively than other locations I bring up in my literature review, and cite them as preferred best-practice examples within my report.

Vancouver, B.C. was chosen as my primary research city due to its ease of access. Being so close to Seattle, I was able to arrange for a trip over a weekend to experience Mobi bike share. Mobi is a corporate-funded, government-supported station-based bike share program, which gave me an excellent contrasting example to Seattle's programs. I was able to take pictures and video of Mobi's system as well as conduct primary research on user-experience and functionality of the system. Vancouver also provides an excellent example of bicycle-friendly infrastructure and a similar climate. I rode Mobi bikes for two days, for roughly 10 kilometers per day. This was to ensure I got as familiar as possible with the system and its associated infrastructure over the short amount of time I was able to commit to the visit.

For the next stage of my project, I interviewed two people from different bike share companies operating in Seattle. I started with interviewing Kyle Rowe, from Spin, who develops new markets and cities for their company to launch a bikeshare program in. Tom Roetman, a Fleet Manager for ofo, discussed the state of bike share in Seattle and his vision for the future.

Finally, I compiled and compared my information to get a sense of what needs to change and what can stay the same with our permit requirements. I took what I learned and created six recommendations for improvement to the Bike Share Permit Requirements document.

SEATTLE MARKET OVERVIEW

There are three unique considerations for Seattle when it comes to bike share implementation. The first is geography and topography: our city is a funny shape. Seattle is long and skinny running North-South, with bodies of water on either side. East-West is a relatively short distance in comparison, but it also has some steeper inclines. In fact, topography is an issue throughout Seattle, regardless of direction: It is very difficult to ride a heavy, tall-geared bicycle up a steep hill. And this means that there are a lot of places people ride bikes downhill to- but not back uphill from.

The second factor is weather. Seattle is located in the pacific northwest, and although our summer months are quite sunny and pleasant, basically mid-September to mid-May is rainy, cold, and wet; not ideal for riding a bicycle.

The last unique feature is that Seattle is not at all dense. The city is spread out across a large area, with the majority of neighborhoods being single family homes with the occasional apartment buildings. Now, this is changing with our rapid growth, but on the whole the city is very spread out. This lack of density was a big contributor to what made Seattle's previous attempt at bikeshare, Pronto!, eventually fail. The station-based model simply is not sustainable in such a low-density city.

A fundamental of evaluating success is understanding failure. Pronto, the first station-based Seattle bike share company, ultimately became insolvent. A major limitation of the station-based bikeshare model is that bikes are not readily available across the city; for Washington, D.C.'s first bikeshare program, this was determined to be the cause of its failure (Rodriguez, 181). Pronto first began operation in Seattle in October of 2014. Its primary corporate sponsor was Alaska Airlines; however, the company ran into its financial troubles in March 2016 at which time the City of Seattle bought the program with hopes of revamping and revising Pronto to be more successful. The program never gained traction and one year later in April of 2017, Pronto was shut down (SDOT Bikeshare Program,1).

LITERATURE REVIEW

I will now introduce my research on bike share trends relating to policy. I have completed a literary analysis of peer-reviewed articles, research papers, and scientific studies, identifying three topics which are directly affected by, or directly impact, Seattle's bike share policy: Safety concerns, rebalancing efforts to address bike clutter in public space, geographical drivers for demand over time such as weather and topography. I will also discuss the potential impact of new electrically-assisted bikes on Seattle's pilot program, considering the unique geographical issues our city presents to bike share programs.

Bike Share was first practiced in Amsterdam in the 1960s', although at that time it was not much more than a dispersed network of bike rental kiosks (Bauman, 3). Most research in the field of bike share systems and infrastructure is very recent, as it is an emerging industry that has seen massive growth around the world due to technological advancements, specifically mobile phones. It is estimated that there are currently upwards of 800 bike share systems in operation across the world. This is a drastic increase since 2011, at which time there were 375 programs in operation (Bauman, 2). Even more recent still is the emergence of the dockless bike share model, and there is very little peer-reviewed and non-speculative information available on this sub-topic. This challenge has led me to evaluate literature on both types of systems, dock-based and dockless, and relate the variety of information I have found to Seattle's dockless bike share pilot program.

SAFETY

An important consideration of any bike share program is safety. The use of helmets, and how helmets are integrated into a bike share system as a whole, can be particularly tricky due to issues of sanitation, theft, and general lack of interest for wearing a helmet (Fishman – Global Bike Share, 1). One study of bikeshare use in Toronto found the rate of users wearing helmets to be 12% of all riders, due mainly to the spontaneity of bikeshare rentals and the lack of efficient options for helmet rentals (Friedman et al., 2). In Seattle, the new dockless bike share companies have chosen to provide a warning to use a helmet through their respective mobile application before a rental, and a friendly reminder that Seattle law requires helmet use, but do not

physically provide one for users. This is in direct response to the Seattle Bikeshare Permit Requirements (the current policy governing the pilot bikeshare program) which require informing users of the law but do not specify helmet provision or enforcement (SDOT, Requirement S6).

Helmet use, however, does not directly correlate with life-threatening accidents on bikes in urban areas (Fishman – Global Bike Share, 4.1). Studies have shown that bikeshare programs actually decrease cycling risk for an accident, regardless of helmet use, and there are several possible reasons for this. One, cities that implement bikeshare programs usually have a stronger-than-average cycling culture, resulting in increased awareness and cycling infrastructure. Secondly, drivers and pedestrians are more prone to watch out for cyclists as overall prevalence increases with the introduction of a bikeshare program (Fishman – Global Bike Share, 4.2).

Another large part of why bike share programs can result in lower collision risk rates for cyclists in cities with bike share programs is the design of the bikes themselves. Bike share bicycles are designed to be heavier and wider with a low center of gravity to make them slower and more stable (Martin et al., 35).

A recent consideration regarding the safety of bike share programs that has been gaining public interest is pedestrian safety. Seattle is facing issues with where bike share bikes are discarded on the streetscape. The lack of docking stations means that there is little accountability or incentive for riders to park the bikes out of the way; in populous areas within the city it is easy to find parts of the sidewalk completely blocked by bikeshare bikes. As a pedestrian, this requires diversion around the bikes into the street, or attempting to climb over them, creating a tripping hazard. It is possible to

move the heavy bikes, but this requires lifting them due to the wheel lock to prevent theft. The pilot program gives companies a seven-day grace period to track down and remove bikes in restricted areas (SDOT, 3); but this may be too long. Aggressive marketing by the companies has also resulted in bikes being placed directly in front of businesses, college halls, Greek houses, and apartments blocking entrances and exits. GPS tracking built into each bike allows bike share companies to track down and find bikes which have been erroneously placed in restricted zones, but bicycles blocking the street may not be flagged due to the distance accuracy of the GPS tracking. Thus, it becomes up to the street crews that work for bike share companies to patrol and remove bikes in restricted areas (Dovey, 20). Something I mention later in this analysis is that bike share companies in Seattle are small divisions of international companies or start-up operations as of now, which can lead to difficulties efficiently moving around bicycles as needed. Although this primarily impacts rebalancing efforts, short staffing can impact streetscape safety in the public realm as well. That being said, there are many things these companies have been doing very well: Universal, affordable pricing ($1.00 per 30 minutes of ride time), plenty of availability, and the versatility of no required drop-off stations.

BICYCLE REBALANCING

Station-based bike share has found success in many other locations across North America and Europe, with dockless systems being more prevalent in Asia, specifically China (Fishman,1). An important element of the station model is balancing and rebalancing, and much research has been done utilizing case studies of other cities

across the world. Rebalancing refers to the method by which bicycles are distributed across stations so that there are never too many or too few at any given station. This can become an issue at bike share stations near other forms of transit stations, such as trains and buses. As rush hour hits, commuters use a high volume of bikes in the morning and return a high number of bikes in the evening.

Some companies have existing rebalancing strategies which conflict with this natural rise and fall of business, in many cases due to operating restrictions or lack of resources (de Chardon, Caruso & Thomas, 48). The issue of a lack of resources can be especially prevalent in cities such as Seattle, where new trial programs from large bike share companies such as ofo and smaller startup companies such as Limebike and Spin simply cannot fund or support enough staff to adequately move bicycles around their geographical area of operation efficiently. As mentioned earlier, this research can also apply to dockless bike share programs. Although these programs have no stations to run out of docking space, rebalancing efforts should still be able to focus on providing enough bicycles to meet rush hour demands near transit stations (a point where many users switch transportation methods), as well as other nodes of high demand. One of the best advantages to dockless bike share is the availability of a bike for you to ride no matter where in the city you are, since you do not need to rely on finding a station. By focusing on hot-spots of use, bike share companies can improve rebalancing efforts to meet demand and improve their value to commuters while still offering sporadic, low-density bike placement across the city for general users.

One potential solution to the rebalancing problem is user incentives. In Madrid, the BiciMAD dock-based bike share system alerts users through their mobile app of

what docking stations are overly full and which are lacking bicycles. If they so choose, users can then pick up a bike from a full station or return their bike at an empty station and receive a discount on their trip (Munkacsy, Andras, and Andres Monzon, 4). This so-called “smart redistribution” reduces the number of trucks and vans needed for rebalancing efforts.

The dockless companies operating under the Seattle pilot program do offer incentives, but the system isn’t perfect. Ofo, for example, offers free rides and discounts for reporting damage and mechanical malfunctions on its bikes, as well as for moving bikes parked in restricted areas. However, in order to rent a bike and unlock its back wheel, a bike must not be in a restricted location. This is a massive hindrance to the incentive system in my opinion; it is a lot to ask of a user for them to lift a roughly 40-pound, awkward-to-carry-object and move it an unspecified distance. This also provides no guarantee that the bike will unlock after it is moved. For a system that encourages users who are unfamiliar with biking to give it a try, I find this may be too much to ask.

A fundamental of evaluating success is understanding failure. Pronto, the first station-based Seattle bike share company, ultimately became insolvent. A major limitation of the station-based bikeshare model is that bikes are not readily available across the city; for Washington, D.C.’s first bikeshare program, this was determined to be the cause of its failure (Rodriguez, 181). Pronto first began operation in Seattle in October of 2014. Its primary corporate sponsor was Alaska Airlines; however, the company ran into its financial troubles in March 2016 at which time the City of Seattle bought the program with hopes of revamping and revising Pronto to be more

successful. The program never gained traction and one year later in April of 2017, Pronto was shut down (SDOT Bikeshare Program,1).

Station location determines who will be the primary users of a dock-based program, whether it be tourists, the affluent, or the less fortunate (Rodriguez 182). This can bring up important discussions of ethics and profitability for both the companies operating the programs as well as municipalities funding and governing the use of the bicycles. This is where one advantage of the dockless model becomes clear: bikes are not tied down to station locations, which creates a more sporadic distribution of available bikes within the operating area. Of course, companies can rebalance these bikes within this service area as they see fit, but they can more effectively meet demand by placing bikes across the city at specific points rather than strictly at stations.

GEOGRAPHICAL INFLUENCE

The effect of weather, wind, and days of the week on Pronto ridership in Seattle has also been investigated. This research helps to provide a baseline for Seattle bike share rider decisions. Overall, rain noticeably decreased sales for Pronto short-term passes, but annual membership-holders were substantially less affected by rain (Ding et. al, 12). Short term pass riders were also more likely to ride on the weekends while annual pass-holders chose to ride during the week more frequently. Whether or not tourism increased weekend ridership was inconclusive. Wind and seasonal temperature changes did not influence ridership behavior enough to conclusively determine a correlation (Ding et. al, 12). This research is relevant to dockless bike share in that it gives a good idea of Seattle’s rider tendencies based off of changing weather

conditions, which applies to riding a bike regardless of whether it is a station-based system or not.

Regarding geography, the severity of hills can influence bike share ridership as well. A study done in Philadelphia identified that bike share was feasible in areas with gradual slopes or with more constant traffic channels paralleling a steep incline rather than directly ascending it (Wygonik, McCormack, Rowe, 4). A case study on the Queen Anne neighborhood in Seattle, however, showed that the popularity and access to transportation alternatives other than driving (walking, buses, etc.) did not increase the likelihood of bike share use in areas with steep hills. Despite the high access of goods & services in close proximity within Queen Anne, bike share ridership around the neighborhood remained low (W, M, R, 3). The bikes used by the three Seattle dockless companies now have multiple speeds to address (albeit inadequately in most cases) Seattle's geography, and have lights on the front and back to allow for riding at night and in inclement weather (SDOT Requirement S3).

A potential solution to the problem of geography in Seattle is e-bikes. Electrically assisted bicycles utilize an electric motor to help riders ascend hills and achieve higher speeds on flat ground. A battery pack over the rear wheel holds a charge and can be recharged through a charging station, regenerative braking, or in some cases, solar power. Electrically assisted bicycles are heavier than the non-assisted offerings from bike share companies, but can travel faster when utilizing the brushless electric motor.

This is a rather new technology for bike share integration, and Limebike is so far the only Seattle company providing this equipment to riders. E-bikes have also been shown to encourage people who are averse to cycling to try this method of

transportation (Fyhri 1), and lengthen the average trip distances of frequent bike share users as the electric assist allows them to travel longer without getting fatigued (Fyhri 2). According to Limebike's iOS application, their e-bike offering will cost more to rent than their standard pedal bikes. Pricing follows a similarly simple, albeit drastically more expensive model: one dollar to unlock, and one dollar per ten minutes of travel. For comparison, standard bikes can be rented from all the Seattle bike share companies for one dollar per half hour, making Limebike's new "Lime-E" bike more than three times as expensive. I see this as a potential isolation factor for lower-income communities, where this pricing structure limits the cost-saving appeal of such a method of transportation. Regardless, the e-bike as a bike share option remains relatively unproven in the American vernacular, but offers a lot of potential to combat Seattle's hilly East-West geography.

In addition to being more expensive, electric bikes could potentially have an unexpected drawback: in Madrid, Spain, the all-electric BiciMAD bike share system was designed to complement 2-6 kilometer walking distances and public transportation routes as alternative methods of transportation. But, research has shown that the system has actually been replacing these transportation alternatives (Munkacsy et. al, 15). Rather than encouraging people in cars to replace their shorter trips with a different form of motorized transportation, it has been the frequent public transit users and walkers who have chosen to take a bike instead.

Munkacsy notes that although choosing an electric bike is still a healthy and energy-efficient option, the system has not had a drastic impact on single-occupancy vehicle trips in Madrid (15). Regardless of what demographic chooses to utilize the

system, the benefits remain clear: “promoting active travel, improving cycling culture, and increasing mobility (total number and distance of trips) and decreasing (perceived) travel time” (Munkacsy 16), all key impacts of bike share systems both standard and electrically assisted.

Despite the lack of large-scale and long term research that exists on bike share systems and infrastructure, there are excellent resources that have been analyzing bike share’s progress from its very inception. As such a new concept, especially in the United States, it is exciting that Seattle has chosen to be a part of this future mobility solution. It is clear that some challenges Seattle’s pilot program face are universal - such as the problem with encouraging helmet use. But other problems, such as rebalancing, have been well-studied and investigated for solutions. Incentivizing users to help out with rebalancing and removing bikes blocking sidewalks through a system of ride discounts could help address the complaint of clutter.

INTERVIEWS

TOM ROETMAN

Tom Roetman is the Seattle Fleet Manager for ofo. He represents one face of the private sector leadership that is changing urban mobility in our city. I corresponded with him via email. His responses, as you may notice, are very diplomatic. Answers were broad and heavily vetted by the company. Given the newness of the dockless model in the United States, and more specifically in Seattle, this is not a surprise. All three bike share companies are very careful with what they share- and for the most part that is nothing. Since the bike share companies operate privately but under supervision of the SDOT, their data is not publicly available like a normal municipally-funded bike share system. All data and performance metrics, according to the Bike Share Permit Requirements document, is reported and stored in a UW database.

What follows is a direct transcript of the email I received back from Tom. The questions, in bold, were what I wrote to him.

1. How do you envision the future of Seattle bike share in a perfect world? How does bike infrastructure on the street tie in to that vision?

Bike sharing has a vital role to play in being part of a multi-modal transportation system. We envision a future where the dockless bike sharing model connects every Seattle

resident to affordable, convenient, and equitable transportation. To that end, investments in bike infrastructure will go a long way in supporting this vision as well as providing long-term benefits to Seattle communities.

2. Are there any changes that you think need to be made to the permitting requirements? How could they better support and encourage the dockless bike share model, from your perspective?

We have partnered closely with the City of Seattle to date and are excited to continue working together to establish the best bike share program for the community. Safety is a high priority for us, so we absolutely support smart regulations that protect public safety while promoting innovation and consumer choice.

3. Are there any cities with bike share programs that you believe SDOT should look at as precedents/goals for our city?

Not comfortable sharing.

4. Do you believe bike share can influence a city's transportation culture?

Cities have already moved towards a multi-modal transportation culture, with the help of new technologies in recent years. Dockless bike sharing will only strengthen this trend as another transportation option that is both green and affordable for consumers.

5. Are there any specific challenges you have faced at ofo that you attribute specifically to the Seattle market?

Not comfortable sharing.

KYLE ROWE

Kyle Rowe works in Government Affairs for Spin, another one of the three dockless bike share companies operating in Seattle. Spin is an American startup, and it is based in San Francisco. Kyle is primarily based there, but travels around the United States to meet with government officials and set up relations to create a plan to operate Spin bikes in their city. Kyle also happens to have an amazing background with the Seattle bike share program specifically- he actually wrote the pilot program permitting guidelines. Kyle is a CEP alumnus, and found himself working at SDOT on transportation planning after graduation. He worked there for five years, during the crucial transition from the failed Pronto! station-based bike share system to the new dockless pilot program. An avid bike rider himself, I met up with Kyle in the Fremont neighborhood to discuss his thoughts on bike share. As a face-to-face interview and having completed a senior project himself at one point, Kyle was eager to share his thoughts on bike share. What follows are paraphrases of Kyle's answers to my questions. A full audio transcript of the interview can be provided upon request.

-How do you envision the future of Seattle bike share in a perfect world? How does bike infrastructure on the street tie in to that vision?

First off, the city should plan to stay multivendor. I would say 2-3 of the companies already here.

Seattle's biggest need is to improve bike infrastructure. People won't use the system if they feel unsafe biking around in the first place. You need (better infrastructure) to convince outsiders to ride.

Seattle needs quicker action. The glacial pace can hinder improvement to the bike share system that we need now.

-How did citizen input play a role in how you planned to implement a bike share program? Did public comment bring up ideas that you weren't expecting? How did you field feedback from Seattleites?

The whole process happened very quickly. April was when Pronto! was gone. Approval came in May for the dockless program to go forward. The new bike share bikes were on the ground by June/July. We built the permit requirements document from scratch, as there wasn't really a precedent.

SDOT took an atypical approach. Not much community input before implementation, but that is happening now to help improve the program. We couldn't have implemented the program if there was a lot of review/comment periods. That process had been gone through with Pronto! just a few years before, so we knew Seattleites were open to the idea of bikeshare.

SDOT's new survey shows overwhelming support for bikeshare systems.

Why bother asking again when you know it had support early on? That's what we went for. Things move at a glacial pace in Seattle government.

-Has your experience at Spin changed your perspective at all? How is approaching bike share from the private sector different than the public sector?

No big changes yet. The permitting process has stayed the same, overall going better than at other cities. Dockless is different because it is private sector based, not funded by cities fully or partially. This means cities are getting a free alternative transportation system provided to them.

Chicago allows dockless bikes only where their station-based system does not operate. This is an example of a municipality misunderstanding the concept of dockless. Disrespectful due to the lack of understanding of what it takes to offer a private dockless system too. Cities need to be open to having a public-private partnership.

Cities need to care about a bike share program. Deregulation doesn't work (citing China as an example) but neither does overregulating a market.

-Are there any changes that you think need to be made to the permitting requirements?

The current equity requirement in the document was meant for just the launch of the program. It may not have been worded clearly enough. To improve it, I would suggest changing it to a requirement that explicitly states inclusion should be based on access to transportation rather than strictly income. I think some of our requirements were misinterpreted slightly, that being one of them.

Add a permit requirement #011. We forgot one! It skips from 010 to 012.

Data storage through UW needs to be followed up on. I am not sure if that is happening the way we intended.

Original plan still needs to be followed through with overall. There needs to be a review of the extent to which the existing regulations are followed, since it seems like some are and some aren't.

-Are there any cities with bike share programs that you believe SDOT should look at as precedents/goals for our city?

Seattle is still in the lead, in my opinion. Especially relative to scale.

Looking at other tier 1 major cities with bikeshare programs- Washington DC, maybe San Diego? Many T1 cities have less regulation, and that has resulted in mixed results. It's a answer before you can really ask the question, in a way. It's hard to know without trying, as bike share programs need to fit the needs of their respective city.

-Other discussions we had:

Design spaces for bikes in urban centers. We need deliberate spots, almost like paid parking- target it where needed.

Think of how many unused parking lots- or even sections or half a floor of a parking garage- could be converted to bike parking. Much more compact than cars, we could fit in such a system virtually anywhere. This concept could be applied to all bikes, just to bikeshare bikes, but regardless, it would be a great idea, right?

Sound Transit integration needs to happen. The city, along with the bike share companies, need to meet with ST to create a plan to let bike share bikes be parked on their land.

FINAL RECOMMENDATIONS

1. **Better educate the public on bike parking & regulations.**

-Use advertisement space on public transit to display infographics or simple, annotated images of the do's/don'ts of bike parking.

-Promote proper parking practices by standardizing the way bike share companies set out their bikes.

-Improve the notification of bike share parking and regulations through the company apps used to unlock bikes.

-Increase emphasis on Requirements P2 and P3.

2. **Implement bike share drop zones.**

-Take action on Requirement P5.

-Place bike drop zones at low elevation, high use areas; where people ride to, but not from.

-This helps to reduce clutter on the street, a primary citizen complaint of the program.

-This improves ease of rebalancing for companies, meaning bike can be removed from illegal areas more quickly and easily rebalanced from the legal drop zones in bulk to higher-use locations.

-Negotiate with Sound Transit to allow bike share drop zones at their stations.

3. **Reduce overall fleet size to two companies.**

-Reduces overall clutter of bikes by reducing city-wide fleet size.

-Retains the element of competition, meaning bike share companies would still be encouraged to keep prices low.

-Simplification of overall system, meaning one less bike share company to record and store data from, work with at the city, coordinate within the program.

4. **Mandatory e-bikes from operators**

-Addresses Seattle's topography problem, increasing ridership and system accessibility.

-Would increase use from consumers since they are easier to pedal and can get users to more places.

-Higher cost to build and operate from the corporate perspective.

5. **Continue current practices with helmet use, provision, and enforcement**

-It is difficult to provide bike share bikes with free-floating helmets and ensure they stay with the bikes. It is even more difficult when the bikes are free floating dockless; the task of checking bikes for compliance would be nay impossible.

-Learnings from the Mobi system: people find shared helmets to be pretty gross. Helmet provision would necessitate a dry cover for them in the rain, hair nets, some way to tie each helmet to the bike, etc.

-One option is to improve the notification of helmet laws through the bike share company apps. Perhaps with daily or per-use reminders of the helmet law, it would be more frequently followed.

-Increased enforcement of the law would increase helmet use, but assuredly decrease overall bike share system use. Consumers do not like carrying around a helmet with them.

6. **Put a cap on overall fleet size, by zone, for the companies.**

-Re-write Requirement O16.

-This would help to reduce clutter on the street, a frequent complaint from users.

-Encourages increased rebalancing efforts from bike share companies, and means that any specific area doesn't get too filled up with bikes.

-Potential separate restrictions for e-bike vs standard bike fleet for the time being, if not all bikes are e-bikes. This encourages companies to increase e-bike fleets and focus on rebalancing specific areas as needed.

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