



SMARTBIKE

Smart and Practical: Bicycle Sharing Programs

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Spring 2009

Graduating with General University Honors

Executive Summary

As times change, human beings rely more on innovation to improve their way of life. In the case of transportation, however, innovation may have been a double edged sword. Cars, buses, trains, and other forms of transportation have ultimately harmed the environment, clogged streets and highways, and have often made life harder than it should be. In some cases, innovation comes from looking backwards. Bicycle sharing programs are relatively modern additions to the normal modes of transportation to many cities around the world. The genius in these programs lies in their simplistic concept: pick up a bicycle, ride a bicycle, drop off a bicycle. While the concept is simple, the modern adaptation of this idea is reshaping how the world thinks about transportation.

Clear Channel Outdoor is a company that prides itself on innovation in outdoor advertising. Since 1998 when the company began its first SmartBike bicycle sharing program in Rennes, France, Clear Channel Outdoor has looked for opportunities to expand its innovative program while keeping its primary mission of helping its customers sell their products and services intact. Through partnerships with the local public agencies throughout Europe and more recently America, bicycle sharing programs place Clear Channel Outdoor in the unique position to accomplish this mission.

America is a place that can use the innovation that the SmartBike program brings. The fluctuating gas prices, unreliable public transportation, and frustrating downtown traffic are aspects that characterize the daily commute of many Americans living in urban environments. SmartBike and other bicycle sharing programs offer an innovative solution to the transportation problems that plague these American cities.

Looking into the future, Boston, Massachusetts should be the next city for Clear Channel Outdoor's SmartBike program. The city is ripe for a practical alternative and addition to its current approach to transportation, and plentiful advertising opportunities make it a logical choice for the next SmartBike location.

The following pages include an in depth analysis of the history of the bicycle sharing industry, including its origins and modern innovations. The American need for bicycle sharing programs will then be detailed, followed by recommendations for Clear Channel Outdoor to expand its SmartBike program to many American cities, starting with Boston, Massachusetts. This paper will show that expansion of the program to American cities is a smart, profitable, and socially conscious way for Clear Channel Outdoor to continue its tradition of providing its customers with the best channels for selling their products and services.

A bicycle sharing program is a special initiative specifically designed to provide residents of metropolitan areas with an alternate form of transportation. Bicycle sharing means that the bicycles are for public use. No individual owns the bicycle being ridden, and the rider does not have to worry about the burdens that come along with bicycle ownership. Cities that employ bicycle sharing programs realize the advantages and benefits that these programs provide not only for the city, but also for their residents whether these individuals participate in the program or not.

While innovative and forward thinking, bicycle sharing programs have existed in some form for almost fifty years. In the 1960s, Luud Schimmelpenninck of Amsterdam began the “White Bike Plan” offering free bicycles intended for one person to take, ride, and leave at another location for someone else to ride. The fifty bicycles that were initially available to users of this program were quickly confiscated by police because they “created an invitation to theft”ⁱ. While not very successful, remnants of this program are still present in Amsterdamⁱⁱ. In fact Luud Schimmelpenninck has recently called for the revival of his original “White Bike Plan” in Amsterdam using modern bicycle sharing programs as the blueprint. A 1974 project in La Rochelle, France is widely considered the first successful program allowing users to take and use the available bicycles for freeⁱⁱⁱ. Portland, Oregon implemented one of the first bicycle sharing programs in the United States, which fell apart due to theft and vandalism. The first modern bicycle sharing program emerged in Copenhagen. Launched in 1995, this program required a deposit from riders in order to temporarily rent a bicycle. The program was commercially sponsored, with the sponsoring company possessing the right to place advertisements on the bicycle frames^{iv}. The Copenhagen program is still active and widely used today, and it is

generally considered the program from which most modern bicycle sharing programs receive their inspiration.

Since the Copenhagen program started, bicycle sharing programs have begun sprouting worldwide, many following a similar formula. Clear Channel Outdoor and JCDecaux are two examples of corporate sponsors that have agreed to partner with cities in order to provide a bicycle sharing program for the city's residents. Clear Channel Outdoor's SmartBike program, for example, has started twelve programs across Europe and one in Washington, DC. Clear Channel Outdoor partners with the local public transportation department, agreeing to provide the bicycles and bicycle infrastructure free of charge in exchange for exclusive rights to some form of outdoor advertising channel. In Barcelona and Washington, DC, the agreement gave Clear Channel Outdoor the right to advertise on the city's bus shelters^v. The program in Barcelona known as Bicing is the company's most widely known effort, laying claim to approximately 6,000 bicycles and 400 rental locations.

JCDecaux, the other prominent name in bicycle sharing programs has seen great success in its implementation of bicycle sharing initiatives across Europe. Overall, JCDecaux has begun seventeen programs in European cities such as Paris, Lyon, Marseilles, Toulouse, Brussels, Seville, and Luxembourg. The most widely known of these programs is the Vélib program in Paris, France. This bold program is the largest of its kind, boasting 20,000 bicycles and 1,450 rental locations throughout the city^{vi}. The program, however, has been marred with theft and vandalism, costing the program large amounts every year^{vii}.

Some may argue, but three of the most famous and admired bicycle sharing programs currently operating are the programs in Copenhagen, Barcelona, and Paris. The program in Copenhagen is so integrated into the normal operations of the city that it is often considered one

of the biggest tourist attractions in the city. The success and efficiency of the Bicing program in Barcelona is admired and imitated in other cities. The magnitude of the Vélíb in Paris program as well as the wide utilization of the program draws attention from similar cities across the world with a desire to take advantage of the benefits bicycle sharing programs provide.

While both Clear Channel Outdoor and JCDecaux are both global leaders in the outdoor advertising world, and they both have launched successful bicycle sharing programs across Europe, Clear Channel Outdoor's SmartBike program is the initiative best suited for expansion to America. As opposed to its France-based counterpart, the American-born Clear Channel Outdoor has already had a long history of success in America.

Before the Clear Channel Outdoor name existed, Walter Foster, a bicyclist, and George Kleiser, a dentist, formed Foster & Kleiser Outdoor Advertising in 1901. The growth of the automobile industry propelled the company into the forefront of outdoor advertising because of their now easily accessible advertisements. This new recognition made way for the company's expansion out of the Pacific Northwest toward the larger cities on the Pacific and Atlantic coasts. The company was sold in 1952 and again in 1959 to W.R. Grace Co. and Metromedia respectively, but continued to use the Foster & Kleiser name until 1986, when the company changed its name to Patrick Media Group. When Karl Eller and Partners acquired the company's assets in 1995, Patrick Media Group became Eller Media Co. Clear Channel bought both this new entity along with Universal Outdoor in 1997. Four years later, Eller Media Co. changed its name to Clear Channel Outdoor, and it has continued to expand^{viii}.

Since 1998, Clear Channel Outdoor has been involved in successful partnerships with European and American cities implementing its SmartBike bicycle sharing program in urban areas. Starting in Rennes, France, the SmartBike program has spread through France, Norway,

Sweden, Spain, and Italy before finally beginning the first SmartBike program in the United States in Washington, DC in 2008. By partnering with the local transportation agencies in the respective cities, Clear Channel Outdoor has created a successful transportation alternative and addition while creating great advertising opportunities for itself^{ix}.

Clear Channel Outdoor thrives as an advertising company because of its strong tradition and the widely known Clear Channel name. The company offers a plethora of advertising options for client companies and employs the most talented artists and designers to effectively relay the client's messages to its consumers. Because of the strong brand recognition in the United States and its recent experience of implementing a bicycle sharing program in an American city, Clear Channel Outdoor is the most suitable company to begin establishing these celebrated bicycle sharing programs in metropolitan areas in the United States.

The SmartBike program employs advanced technology to create a forward thinking initiative and a great user experience. What makes the bicycles "smart" is the fact that they are specifically designed for the program's needs. Each bicycle is equipped with RFID technology, which enables the bicycles to be tracked¹. Whether the bicycles are in motion or stationary at one of the rental locations, the bicycles communicate their location to a system monitoring all SmartBikes in the city. Based on the information, several things can be done. The system will tell when one of the bicycles has been checked out for more than the allotted time. The system also shows the distribution of bicycles throughout the city's rental locations. If one area has too many or too few bicycles, a team of SmartBike employees traveling by van will be used to redistribute the bicycles effectively to ensure that they are reasonably available for users of the program. Also, what separates these bicycles from others is the way they are made. In order to prevent the theft and subsequent sale of the bicycles for their parts, these bicycles are made to be

unique with parts that are not interchangeable with parts from other bicycles. The frame is solidly built to withstand any normal abuse the bicycle may sustain, and the tires are made of a more durable rubber in order to ensure that they are not subject to as many flat tires as normal bicycles. A model of the SmartBike can be found in Exhibit A.

For the user, the SmartBike program provides an enjoyable and easy experience. A potential user of the program can simply navigate to the city's SmartBike website and follow instructions to enter credit card information and select the appropriate plan that matches his or her needs. Once entered and submitted, the user will receive a card by mail granting them access to the bicycles at the rental locations throughout the city. Exhibit B in the Appendix contains pictures of a SmartBike rental location. Once the user's card is swiped and a bicycle is selected, the corresponding bicycle will be unlocked from the bicycle rack, and the user will be free to ride the bicycle and return it to another rack located within the city. In order to ensure that all users will be able to use the program, fines will be automatically assessed to the credit card of a user who has not returned a bicycle to a bicycle rack within the allotted time, which ranges from one to three hours. After 24 hours, the bicycle will be deemed lost, and the user's credit card will automatically be charged for the full amount of the bicycle. The SmartBike program does require responsibility on the user's part, and access to the program has been traditionally reserved to those over the age of 18. Because of the innovative way in which the program operates, the SmartBike program has generated much applause worldwide.

Besides the user experience, Clear Channel Outdoor's SmartBike program also arranges innovative contracts with the cities in which the programs are implemented. The typical SmartBike program is a public-private partnership between Clear Channel Outdoor and the local transportation authority in the city in which the project will begin. In Washington, DC, for

example, the Washington District Department of Transportation (DDOT) partnered with Clear Channel Outdoor to bring the SmartBike program to the city. In return for providing funding for setting up the program and assuming all expenses for the program, Clear Channel Outdoor received exclusive rights to advertise on 800 of the city's bus shelters^x. Similar arrangements have been made in Barcelona and other cities with SmartBike programs. According to the arrangements, the profits generated by the SmartBike program go to the local transportation authority.

The praise and acclaim that bicycle sharing programs have received over the past decade are not unwarranted. Not only are the programs financially successful when implemented properly, they also provide a socially responsible alternative to driving cars and using traditional public transportation methods. Specifically, Clear Channel Outdoor's SmartBike program boasts a wide variety of improvements to the cities and residents who choose to use the programs. Among these benefits are the positive impact on the environment, the health benefits, the impact on traffic and congestion, and the positive impact on the local economy.

The obvious advantages are the ecological benefits a program such as SmartBike allows. One of the main purposes of the program is to get drivers out of their cars and onto bicycles. Statistics show that for every one person who decides to ride a bicycle instead of drive 10 kilometers to work every day for a year, total carbon dioxide released into the atmosphere reduces by 1.3 tons. On a similar note, while these programs reduce the amount of pollution released into the atmosphere, those riding bicycles instead of driving reduce their overall exposure to air pollution⁹. A 2004 study measured the exposure of cyclists and car commuters to five common air pollutants: benzene, toluene, ethylbenzene, xylene and nitrogen dioxide. Based on the findings of this study, bicycle riders on average are exposed to lower amounts of air

pollution than car commuters. The study showed that motorists show effects of more exposure to all of the pollutants except for nitrogen dioxide. What makes this an interesting finding is the fact that cyclists breathe on average three times as much as drivers, who are not directly exposed to the air outside of their vehicles. One possible explanation for this finding is the tunnel effect, which claims that drivers who drive commonly used routes are exposed to the air pollution caused by the many previous drivers. Bicycle riders who are able to take alternate routes avoid this tunnel effect. Another explanation lies in the leaking of pollutants from the exhaust and fuel systems into the cabin of the vehicle^{xi}. Bicycle sharing programs such as SmartBike greatly reduce the amount of pollution added to the environment from commuters' rides to work while simultaneously reducing their exposure to pollution.

An important benefit of SmartBike and other similar programs is its ability to reduce congestion in busy areas that experience daily gridlocks and bottlenecks due to commuter traffic. These bicycle sharing programs convert car commuters into bicycle commuters, giving these programs a great opportunity to improve the flow of traffic. For example, in the first six months of the SmartBike program in Washington, DC, over 11,000 trips were taken on the 100 bicycles placed around the city. Of these 11,000 trips, over 50% were taken during the weekday hours, clearly showing that the bicycles are being used during the workday^{xii}. The program is significantly changing how people go to work in the Washington, DC area. With a more aggressive program in Washington in the future, more trips can be taken during all times of the week, and the effects of reduced traffic can be seen more clearly. Many of the American cities plagued by congestion can find a solution to their traffic afflictions in SmartBike bicycle sharing programs.

A major criticism of America is that it breeds lazy, unhealthy people. Bicycle sharing programs directly counteract and attempt to eliminate this perception. Bicycling is an easy, fun, and active way for people of all ages to travel. In fact, SmartBike DC's own website presents the statistic that if a person replaces his or her daily commute with a 15 minute bicycle ride to and from work, the equivalent of 11 pounds of fat per year would be burnt. Similarly, the website also notes that those riding short distances can potentially reduce the risk of heart disease-related death by 22%⁹. While a 2003 study noted that about 41% of bicycle riders choose to ride bicycles for health reasons, most bicycle riders, no matter their reason for riding, experience positive health benefits from their travels^{xiii}. These important statistics are facts that bring to light the apparent health benefits of not only bicycle sharing programs, but bicycles in general.

Some cities and states have come under fire by senators and congressmen because portions of their funds from the American Recovery and Reinvestment Act of 2009 have gone to improve bicycle infrastructure. Eric Cantor, a Republican Representative for the state of Virginia, for example, stated the following on a National Public Radio morning program:

“To give you just an example, \$3 million went to the District of Columbia. You know what they did with that money? They’re going to go build bike paths, and they’re going to increase the number of bike racks in neighborhoods like Georgetown. I don’t think that that’s a stimulative move.”¹²

Public figures such as Representative Cantor making remarks such as this have not done thorough research concerning the economic benefits of investments made in infrastructure for bicycles. Studies show that investments in bicycle infrastructure such as bicycle paths, lanes,

and racks yield a higher return on investment than investing in automobile infrastructure. A study in Portland, Oregon found that for every \$1 million invested in bicycle infrastructure, 65 jobs are created on average. In the Outer Banks in North Carolina for example, the area experiences a 9 to 1 return on investment from spending on bicycle infrastructure. Also, a major statistic to note is that the bicycle industry generates over \$133 billion annually in economic activity¹². To say that investing in the bicycle industry is wasteful is groundless and untrue. In troubling times such as those facing the current American economy, spending money on proven methods of increasing employment and return on investment must be a priority.

Based on the facts supporting the environmental, traffic, health, and economic benefits of SmartBike and other bicycle sharing programs, American can utilize the SmartBike initiative to improve cities and the lives of residents within the cities. In Exhibit C, the bicycle sharing world is labeled on a map. While these programs thrive in Europe, there is visible curiosity and desire in the United States indicated by the icons with question marks. Specifically in the New England and northeastern United States, there are cities showing great interest in bicycle sharing. The many benefits of bicycle sharing mean nothing if the cities are unwilling to explore these programs as options. Clearly in America, this is not a problem.

The SmartBike program provides a realistic alternative to the normal methods of transportation. The statistics about the program already mentioned shed light on the usability and practicality of SmartBikes. There are, however, alternatives to SmartBike that can take users away from the program. Competition for any SmartBike program may include another bicycle sharing program, bicycle ownership, traditional bicycle rental shops, and Zipcar and other car sharing programs.

Direct competition in the form of another bicycle sharing program is unlikely because of the nature of the industry. Thorough implementation of Clear Channel Outdoor's program would leave no room for another similar program. In an industry such as this, the first-mover advantage is almost insurmountable if the program is initially implemented correctly. Correct implementation of a bicycle sharing program would include placing a sufficient number of bicycles in the best possible locations around the city. Belonging to different bicycle sharing programs is impractical because of the monthly or yearly fees associated with the programs. One bicycle sharing program in a city should adequately satisfy the needs of bicycle riders in the city. Also, the exclusive nature of the contracts governing the relationship between the local transportation authority and the sponsor of the program limit the number of entrants in the market to one. Both Clear Channel Outdoor and JCDecaux, the two best known bicycle sharing program sponsors, rely on exclusive outdoor advertising rights in the cities of their programs. This leaves room for only one practical solution to a city's bicycle sharing needs.

Bicycle ownership is another concern. As stated before, the bicycle industry generates over \$133 billion annually, much of which can be attributed to purchases of bicycles. What differentiates bicycle sharing from ownership is the fact that sharing eliminates the disadvantages of ownership. Storing, locking, protecting, and maintaining the bicycles are concerns that do not exist for users of the SmartBike program. These are all concerns that cost the owner of a bicycle. Some expenses such as bicycle storage and maintenance can be extremely costly for even casual cyclists. A low yearly fee (\$40 in Washington, DC) is less than the yearly cost of maintaining a bicycle, which can range from \$50 to \$300^{xiv}. Maintenance on SmartBikes is done by a trained team that patrols the rental locations, so there is no burden on the user to fix a bicycle. In fact, some cities with bicycle sharing programs have an unspoken protocol in which bicycles that are

damaged or need maintenance are designated by turning the seat around, a sign for users to select another bicycle and for the maintenance team to fix the bicycle^{xv}. The user of a SmartBike need only concern him/herself with transporting a bicycle to and from a drop-off location. Responsible users that protect the bicycles while in their possession should not worry.

More traditional bicycle shops can be seen as competition for SmartBike. Tourist-friendly areas and cities in which initiatives have taken place to make the area more bicycle friendly may have spurred the growth of bicycle shops that rent, sell, and repair bicycles. This gives residents more access to alternatives to bicycle sharing plans and bicycle ownership. The only advantage temporary bicycle rental would present over a monthly or yearly bicycle sharing program would be the ability to rent bicycles for a shorter period of time. If a cyclist's intentions are solely to take a one leisurely trip every month or ride the rented bicycle outside of the boundaries of the bicycle sharing program, this would be a more reasonable option. Still, the user of a traditional rental bicycle has the responsibility of locking and ensuring the safety of the bicycle until returned to the shop where he or she rented it. The rider still assumes some of the burdens associated with bicycle ownership even though the bicycle is being rented for a short period. Over time, daily or weekly rental costs add up and can eventually exceed the costs of participating in the SmartBike program.

Zipcars and other similar car sharing programs may be competition for SmartBike, but they are generally targeted toward a different demographic. Zipcars are more practically used by drivers who need to drive a longer distance, transport larger items, or may have guests riding with them. SmartBike rides typically last about 20 minutes and are intended only for one person riding within the city or the designated boundaries of the program. Zipcar drivers are able to drive outside of the city, to another state, and even to Canada^{xvi}. Based on differing targets and

the different uses of each program, Zipcars and SmartBikes can operate fully and successfully in the same city.

Because of the demonstrated ability of the SmartBike program to improve cities in terms of environmental, health, and economic measures, as well as the suitability and readiness of American markets for program, Clear Channel Outdoor should take further steps to more extensively infiltrate America with its SmartBike program. While the program in Washington, DC has seen moderate success since its inception in 2008, it in no way demonstrates to America the full capabilities of the SmartBike program. As stated before, the program in Washington contains only about 100 bicycles. A more extensive rollout of bicycles and better promotional initiatives would have made the program more successful. Researching different American cities will yield data on which cities are best suited to begin a SmartBike program. After thorough researching, Boston, Massachusetts should be on the top of the list for cities deserving of a SmartBike program.

Because of the visible need for transportation reform and the many benefits the city of Boston can offer Clear Channel Outdoor, it should be the next city for the expansion of the SmartBike program in the United States. For the last two years, Boston has ranked 8th on a list of the most congested cities in the United States^{xvii}. During rush hours, bottlenecks and gridlocks afflict the city, mostly caused by commuter traffic. Because of the demonstrated ability of the SmartBike program to reduce commuter traffic, Boston's congestion problem could be lessened with the addition of Clear Channel Outdoor's program.

The current public transportation system in Boston fails to adequately serve the public. In 1980, the city's subway, the T, altered its route away from Chelsea, Everett, and Roxbury, which are commonly thought of as some of the poorer areas of Boston. Residents here are less

likely to own cars and more likely to be dependent on public transportation for their commutes. While moving away from these areas, the Orange Line on the T was repositioned to stop in Medford, Wellington, and Malden, known as wealthier areas of the city^{xviii}. A SmartBike program with appropriate locations in the areas neglected by public transportation will be widely used by Boston residents for commuting, personal errands, and recreational activities.

Similar to the Red Line's design in Washington, DC's Metro, Boston residents using the city's subway cannot ride from one corner of the city to an adjacent corner without taking the long ride through and out of the downtown area. Carefully placed SmartBike locations will be a true asset for residents wishing to make the trip to another side of the city in a timely, efficient manner. While the bus system in Boston is used by some residents, the Silver Line of buses has been criticized because it is slow, and it actually adds to the city's congestion problem^{xix}.

One aspect of the city that the SmartBike program can make use of is the city's strong tourism industry. A 2008 survey by Forbes Traveler ranked Faneuil Hall Marketplace 4th on a list of the most visited attractions in the United States^{xx}. Also, a survey of the most visited US cities placed Boston 10th on the list, bringing in about 721,000 tourists from overseas per year^{xxi}. If marketed correctly, the SmartBike program can potentially entice thousands of tourists to utilize the bicycle sharing service to see the city instead of paying for numerous trips in taxis and on the city's public transit systems. Boston tourism offers SmartBike an incredible opportunity to increase the use and notoriety of the program.

One of the major reasons to expand the SmartBike program to Boston is because the city has recently been making changes to turn the city into a more bicycle-friendly area. In 2008, Mayor Thomas M. Menino of Boston began an initiative known as Boston Bikes with the aim to make the city more vibrant and healthy through programs and laws directed toward increasing

the use of bicycles in Boston. Such programs include the construction of new bicycle paths, the expansion of roads to include bicycle lanes, the placement of more bicycle racks throughout the city, and special recognition given to bicycle-friendly companies. The program will, for example, request that companies be more accepting of their employees' choices to ride their bicycles to work. More and more companies are offering on-site showering facilities that will lessen the adverse effects of a long ride to work on a hot summer day. Laws protecting bicycle riders, policies making bicycles practical modes of transportation, and a list of rights and responsibilities of bicycle riders are examples of laws and policies created in the last year to increase the usage and acceptability of bicycles throughout the city^{xxii}.

Apart from the benefits Clear Channel Outdoor and the SmartBike program can provide for the city of Boston, the city also offers Clear Channel Outdoor advertising opportunities. In a normal contract for implementing the SmartBike program in a city, the local transportation department gives Clear Channel Outdoor exclusive rights as the sole advertiser in the city's bus shelters in exchange for Clear Channel Outdoor providing the bicycles and covering all initial expenses for the program. In this case, Clear Channel Outdoor would partner with the Boston Transportation Department to start the SmartBike program. Current statistics put the number of bus shelters in the Boston area at 300, and the Massachusetts Bay Transportation Authority is in the process of installing another 400 shelters^{xxiii}. These numbers are above average for Clear Channel Outdoor's contracts. For the Washington, DC SmartBike contract, the city, which has a larger area than Boston, allows Clear Channel Outdoor to control the advertising in up to 800 bus shelters throughout the city^{xxiv}. With a contract for the 700 available bus shelters, Boston, which is 21% smaller, will receive only 12.5% fewer bus shelters. This is a great opportunity for Clear

Channel Outdoor to capitalize on a market willing to adopt a SmartBike program in a city with ample advertising opportunities.

The prior information is testament to the suitability of Boston for a SmartBike program. While advantages and benefits abound for the SmartBike program in Boston, there are obstacles to note that could hinder the expansion. The main obstacles include the harsh weather the city experiences during the winter months, the notorious road rage of Boston motorists, and the “Big Dig” which has been an ongoing occurrence throughout the city since 1991. These hindrances to the program can be averted, and SmartBikes can still be successful in Boston.

The most notable of these obstacles is the weather in Boston. Long winters, freezing weather, and snow are common to this city and all New England cities beginning in December and ending in March. A similar bicycle sharing program in Montreal, Canada called Bixi solved the weather problem by making its program available only from mid-April to the end of November^{xxv}. The weather in Montreal is fairly similar to Boston’s, but its winters are colder and longer than those in Boston. Until the Boston Bikes initiative mentioned earlier has been thoroughly integrated throughout the city, the best course of action is to follow the example of Montreal and its seasonal bicycle sharing program. Once year-round bicycle paths and an initiative to clear the paths during the winter have been fully developed, opening in April and closing at the end of November is the best course of action for the SmartBike program.

A second disadvantage a city such as Boston provides is the behavior of many Boston motorists, which many consider reckless and rude. The 2007 National Road Rage Survey placed Boston 3rd three on a list of United States cities with the rudest drivers, ranked by the number of incidents of road rage. The 2008 survey ranked Boston 2nd on the list, above New York, Baltimore, and Washington, DC, while trailing only Miami^{xxvi}. In fact, the same survey gave

Boston the distinction of the city in which a driver is most likely to rear-end another driver as a reaction to another's rude or aggressive behavior behind the wheel. While this may raise red flags for bicycle riders, these numbers were before the initiatives in the Boston Bikes program were fully enacted. Laws and provisions protecting bicycle riders while giving them rules to obey on the road make riding bicycles throughout the city safer for riders and less of a burden for motorists.

The final obstacle facing Boston's adoption of a SmartBike program is Boston's project of improving the congestion in the city through a seemingly never-ending construction project officially known as the Central Artery/Tunnel Project. Residents of Boston commonly refer to the project as the "Big Dig". Although officially complete since 2005, city planners and residents acknowledge that the project is far from perfected. Leaks in the ceiling of the tunnels and a fatality due to shoddy construction marred the first years after the project declared its completion. Because of this, improvements have been taking place throughout the city to correct these problems and make the finished project safer for commuters^{xxvii}. This project can be seen as a deterrent to the SmartBike program because cyclists may have to confront and navigate through some of the construction caused by the Big Dig. With proper bicycle infrastructure, however, the Big Dig can become an afterthought to the Boston cyclist. Under the Boston Bikes initiative, bicycle paths will be created to allow cyclists to bypass some of the most commonly used commute routes and avoid traffic caused by the renovations to the interstate project. The SmartBike program can successfully operate while the renovations to the Big Dig are simultaneously taking place.

After analyzing the suitability of Boston for a SmartBike program and the deterrents confronting any bicycle sharing program, the benefits of the program in Boston clearly outweigh

the negatives. In order for the initiative to be successful, however, it must be carefully implemented to maximize its success. A successful plan involves precise projections and placement of bicycles and rental locations along with thoroughly thought-out marketing and promotion plans.

For SmartBike, the first impression to the user is crucial. To address this, it would be best to overestimate rather than underestimate the number of initial users. The bicycles should be available for everyone who wants to ride one on the first day. While the number of bicycles is important, the placement of the rental locations is equally as important. Popular Boston locations and historic attractions such as the Faneuil Hall Marketplace, Fenway Park, Boston Commons, the Boston Public Garden, and the Freedom Trail should have rental locations located nearby. As well, the business district should have plenty of racks to make commuting by bicycle more practical for those working downtown. Also, downtown stops for the T should have rental locations located above ground to allow easy access for those who need to continue their trip. Because Boston is a fairly young city with many colleges and universities, generous placement of rental units in close proximity to these campuses is necessary to gain the subscriptions of the large student population. I propose that at least 1,000 bicycles should be placed around the city at 100 racks dispersed according to the previously mentioned criteria. Exhibit D shows a rough outline of the area of Boston that would be most suitable for the initial rollout of the bicycles and rental locations.

In contrast to the SmartBike program enacted in Washington, DC, the SmartBike program in Boston should offer both monthly and yearly options. This is because initially, the program will run only between April and the end of November. Having a monthly option available from the inception of the program will attract more users who would not use the

bicycles frequently enough to warrant a year-long subscription, along with those who only want to test the program for a short period. A \$40 price point for the yearly plan and \$10 for a monthly plan would be reasonable to start. Clear Channel Outdoor should also consider a possible \$5 weekly pass to satisfy tourists and casual sightseers visiting Boston for shorter periods of time.

In order to make the SmartBike program known to the Boston public, an intensive marketing and promotional campaign should be undertaken to announce the program prior to its opening. Clear Channel Outdoor already has the channels to advertise the program using its own tools, and an arrangement with Clear Channel, its parent company, will allow the SmartBike program to be promoted using radio and other available marketing channels. While the program is inactive during the four months of winter between December and March, Clear Channel Outdoor should work hard to ensure that the public is well aware of the reopening in April, garnering early new and renewed memberships. A promotional initiative to help sell weekly passes is advertising in travel and tourism books, placing self-guided bicycling tour maps marked with notable sights and rental locations in select publications.

A reasonable start date for the SmartBike Boston program to begin is Sunday, April 25, 2010. By this time, the winter weather should have ended, and Boston citizens will be looking to spend more time outdoors. Between now and April 25, 2010, Boston will have ample time to prepare for the opening day of the SmartBike program. This date coincides with the Sunday following the 2010 Boston Marathon. An interesting promotion for the first day of the program would be to hold a “Boston SmartBike Marathon” in which participants will be able to try out the bicycles in a fun, interactive environment. This could be a yearly initiative to kick-off the start of the SmartBike program each April.

Exploring projected numbers and statistics can shed light on the potential success of SmartBike programs not only in Boston, but across America. Based on the SmartBike programs in other cities and demographic data about Boston, an initial rollout of 1,000 bicycles at 100 rental locations throughout the downtown area is reasonable. Following the calculations and financial data found in Exhibit E, this would require startup expenses of approximately \$6,000,000 in 2010, consisting of the expense for the purchase of 1,000 bicycles plus 200 spare bicycles and the expense for installing the appropriate bicycle infrastructure throughout the city. These initial expenses for Clear Channel Outdoor will be offset by the savings experienced from their exclusive rights to advertising on the city's bus shelters. An estimation of the cost of advertising on the city's 700 bus shelters that will be available in 2010 is approximately \$4,200,000. In merely two years, Clear Channel Outdoor will have experienced savings greater than the startup costs for the SmartBike program.

Given the proposed rates for the yearly, monthly, and weekly contracts, projected subscriptions are 9,000, 3,000, and 3,000 members for the respective contracts (Exhibit F). This would generate net sales for the first year of \$405,000. Yearly operating expenses for the SmartBike program include rent for a warehouse/office in which bicycles would be stored and repaired and trained employees can monitor the distribution of bicycles at the rental locations throughout the city. Estimated rental expense for this facility based on current real estate prices in Boston is \$90,000 per year. Expenses for employees include salaries paid to the drivers of the vehicles that redistribute bicycles and perform maintenance and the salary of the office manager that monitors the program from the warehouse. Total salary expense for the first year is estimated at \$210,000. The maintenance for the bicycles in use during the first year will cost \$50,000. This is purely the cost of materials used in the maintenance, as the drivers who perform

maintenance are already being paid for their labor. Based on the number of bicycles purchased and an estimated useful life of five years with a salvage value of \$25, depreciation expense for the first year is \$126,000. First year expenses total \$476,000, which trumps net sales by \$71,000. Carrying forward this loss will allow the losses to offset future gains and losses (Exhibit G).

While there is an estimated loss during the first year of operations, the expansions detailed in the financials of Exhibit E and the projected increase in the number of subscribers seen in Exhibit F will allow the SmartBike program to experience profits beginning in 2012. Depending on the response to the program, an even more aggressive expansion strategy can be implemented to increase profits further. As the largest operating expense for the program is the salary expense for the employees, the growth of the program will also cause this and other operating expenses to grow. Because of this, the SmartBike program must learn to employ an efficient, lean operation with a minimal amount of employees.

Using the recommendations previously offered, realizing success through implementation of a SmartBike program is both realistic and feasible. Boston may be a city that is currently ready for the change and progress that the SmartBike program brings, but there are countless other American cities well suited to adopt Clear Channel Outdoor's program. Many other New England cities are interested and ready for the program. As well Miami, San Francisco, and other major American cities are in the process of making themselves bicycle friendly. Clear Channel Outdoor should look to these cities not only as opportunities for the expansion of its SmartBike program, but also as markets in which its outdoor advertising can flourish, especially on bus shelters throughout the cities. While the program will have a great social impact through its improvements to the overall well-being of the cities, the program has proven extremely

profitable for the company. Further expansion of the SmartBike initiative to the American market is a sound, lucrative business decision that Clear Channel Outdoor should seriously consider and pursue.

APPENDIX

Exhibit A



Exhibit B



Exhibit C

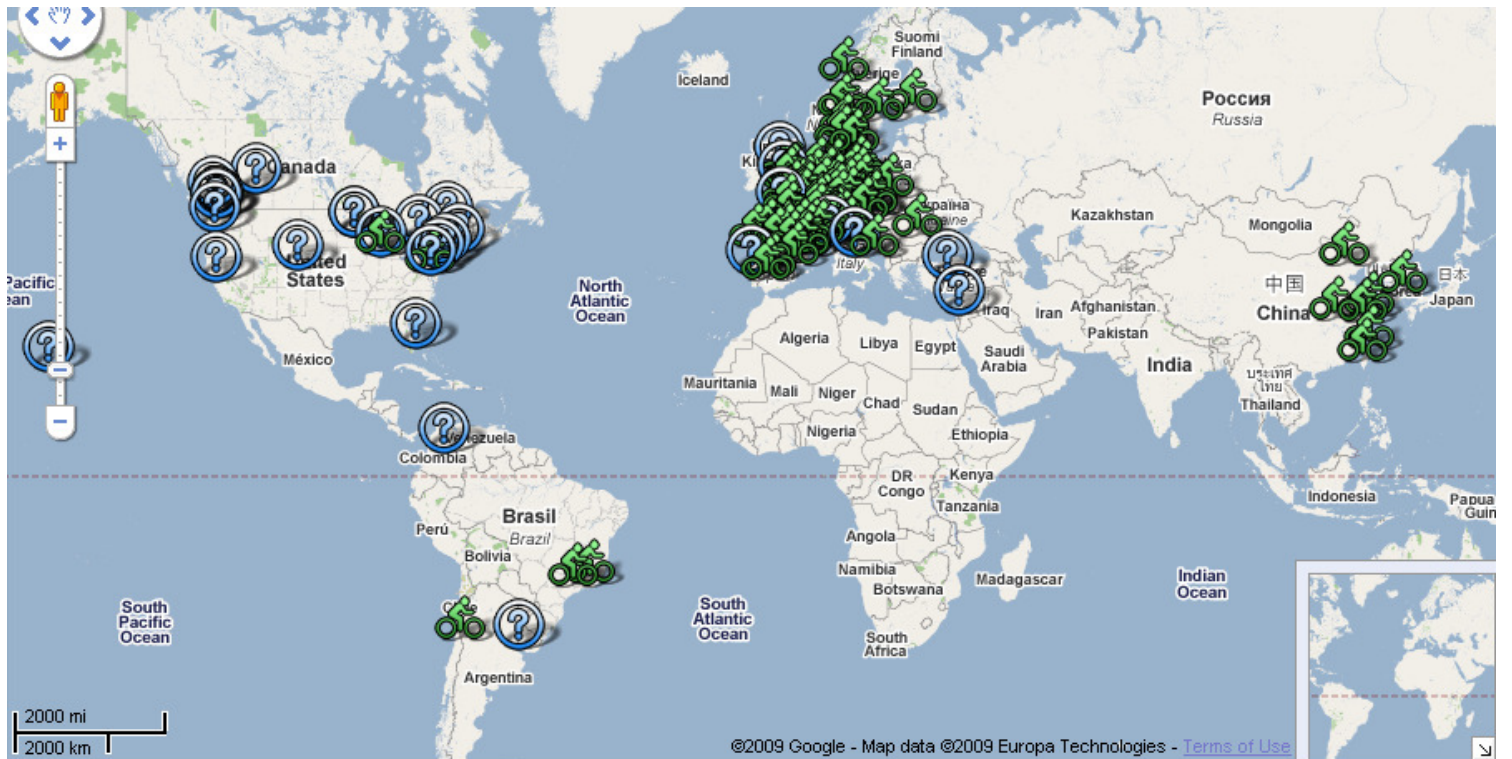


Exhibit D

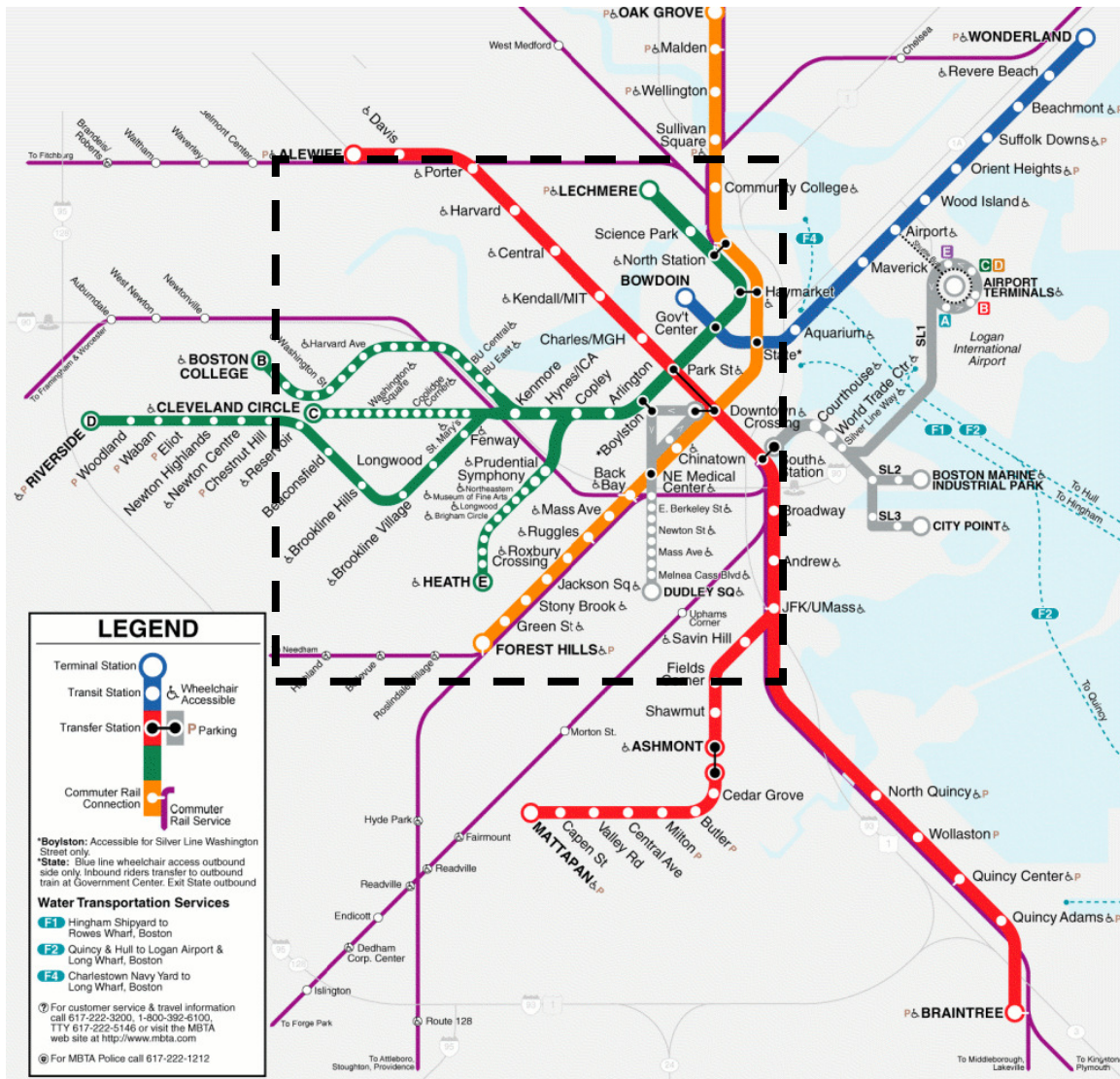


Exhibit E

Start-up Expenses 2010:

\$660,000 (1200 bicycles x \$550/bicycle)
\$5,340,000 SmartBike infrastructure and labor (bicycle racks, digging concrete for racks, laying electrical for rack system, resurfacing sidewalk)
\$6,000,000 total initial expenses

1st Year Operating Expenses:

\$90,000 warehouse rent (\$7500/mo (operating))
\$150,000 salary for drivers/maintenance labor (5 drivers x \$30,000 for 8 mo)
\$60,000 salary of office manager
\$50,000 yearly bicycle maintenance (materials only: \$50 per bike)
\$126,000 depreciation expense (1200 total bikes @ \$550 straight line depreciated over 5yr useful life and \$25 salvage value)
\$476,000 total yearly expenses

Expansion Expenses 2011, 2012 (500 additional bicycles each year):

\$275,000 (500 bicycles x \$550/bicycle)
\$2,670,000 SmartBike infrastructure and labor
\$2,945,000 total expansion expenses (per year)

Yearly Savings from Advertising

\$4,200,000 (\$500/month/bus shelter x 700 available shelters x 12 months)

Exhibit F

Membership Projections

Type of Membership	2010	2011	2012
1 year	9,000	12,000	16,000
1 month	3,000	5,000	7,000
1 week	3,000	5,000	7,000

Exhibit G

SmartBike Boston Projected Income Statements 2010-2012

	2010	2011	2012
Net Sales	\$405,000	\$555,000	\$745,000
Operating Expenses			
Rent Expense (Warehouse/Office)	\$90,000	\$90,000	\$90,000
Bicycle Maintenance (Materials Only)	\$50,000	\$75,000	\$100,000
Employee Salaries	\$210,000	\$270,000	\$270,000
Depreciation Expense	\$126,000	\$178,000	\$231,000
Operating Profit (Loss) Before Taxes	(\$71,000)	(\$58,000)	\$54,000
Loss Carryforward Deduction	\$0	\$0	\$19,720
Taxable Income	\$0	\$0	\$34,280
Income Tax Expense (34% Corporat Tax Brackett)	\$0	\$0	\$11,655
Carryforward from Net Operating Loss	(\$24,140)	(\$19,720)	\$0
Benefit from Loss Carryforward	\$0	\$24,140	\$0
Net Income (loss)	(\$71,000)	(\$33,860)	\$22,625

Depreciation calculated using an expected useful life of 5 years and a salvage value of \$25

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