City of Albany
Bike Share Feasibility Study

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City of Albany

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1 Introduction

The City of Albany Bike Share Feasibility Study is part of a larger effort to promote bicycling as a healthy and sustainable mode of transportation in Albany. It is a follow-up to the Albany Bicycle Master Plan (2009). The Albany Bicycle Signage and Wayfinding Strategy is being produced in tandem with this study.

A pair of community workshops were held in September 2012 and January 2013. The purpose of the workshops was to let members of the public ask the City and consultant team questions and to weigh in on their aspirations and concerns about a bike share system in Albany. In addition to the public workshops, a Study Advisory Committee provided the team with guidance on technical memoranda related to the Study and assisted with public outreach.

This report outlines the feasibility of a bike share system within the city. It includes an introduction to bike sharing technology and its history, a discussion of benefits (financial, health, transportation, etc), a summary of comparable systems in North America, an analysis of the local context and a list of recommendations and next steps for the City.

The momentum created by the City’s sustainability efforts has brought bike sharing to the forefront of current planning efforts in Albany. A successful system is feasible as the City and its partners work to reach the next level as a Bicycle Friendly Community. The recommended strategies in this report, combined with suggestions offered by the League of American Bicyclists (LAB) in their Bike Friendly Community Feedback Report, provide Albany with achievable goals that can support a mid-size bike share system comprised of 150-200 bicycles at launch.
2 Background

Bike sharing is an innovative approach to urban mobility, combining the convenience and flexibility of a bicycle with the accessibility of public transportation. Contemporary bike share systems consist of a fleet of bicycles provided at stations located throughout a city or region. Bicycles are available on demand, providing fast and easy access for short, one-way trips, transit-linked trips, and tourist trips. Bike share is ideal for trips that are generally considered too far to walk but not far enough to warrant an automobile or transit trip.

Cities such as Montreal, Denver, Minneapolis, Washington D.C., Boston, Columbus, Buffalo, and over 300 other cities worldwide are investing in bike sharing as a relatively inexpensive and quickly-implemented urban transportation option. The benefits of bike share are transforming these cities with:

- improved individual and community health
- economic development through green jobs and improved access to businesses
- environmental benefits such as reduced vehicle emissions
- community benefits of providing another mobility option as an extension of the transit system.
- quality-of-life improvements that attract and retain jobs and employees

Finding the most successful and appropriate model is critical for bringing a future bike share system to Albany.

2.1 History of Bike Share

Bike share technologies have evolved and innovated over the past 40 years. Early, “first generation” systems were typically brightly-painted bikes such as the “yellow bikes” in Ithaca, NY and Portland, OR. They were free, but subject to theft and poor organization. These have historically not worked well on a city-wide scale. However, a number of universities and other small campus environments have been able to establish a library-like bike share system, where a person (typically a student, staff or faculty) can check out a bike for a set period of time. These systems do not offer the convenience of systems designed for one-way trips, or tend to reach a high level of popularity, but can be successful at a small scale. The State University of New York at Albany, normally known as “University at Albany,” currently runs a library-like system on its uptown campus.

Figure 2: The launch of University at Albany's “lending library” bike share in 2009. Photo credit: Mark Schmidt, University at Albany News.
“Second generation” bike share had a locking mechanism and a check-out deposit, typically coin operated. These systems were still prone to theft because the minimal deposit was not enough to significantly reduce theft. “Third generation” systems include credit card transactions and radio-frequency identification (RFID) chips, where user identification and security deposits provided accountability against theft and vandalism. Some third-generation systems are solar powered, include wireless communication and modular stations. These high-quality systems are the ones considered for this feasibility study.

Future innovations and developments in bike share technology will likely include lighter bikes, GPS, more flexible station layouts, and electric assist. Electric assist bicycle have an electric motor and batteries, which reduces the effort required by the rider. There are also new types of bike share systems in development that are not station-based. Brooklyn-based Social Bicycles (www.socialbicycles.com) is one example of this type of technology, where bikes can be located by smart phone and can be unlocked by using a PIN number. The first Social Bicycles (SoBi) system has recently launched at the University of Buffalo with ancillary stations downtown. Zagster (www.zagster.com) is another innovative bike share system that is reserved only for tenants and employees at particular hotel, office or apartment building sites, rather than available to the general public. The Cambridge MA-based start-up recently raised $1 million for a national roll out with hotels, businesses and
real-estate managers, according to a recent news story on www.masshightech.com.

For U.S. cities with bike share systems, promotion of helmet use and overall safety has been a priority. In general, bike sharing has a very good safety record. While no city system to date has experienced significant numbers of crashes involving its riders, data indicate that a minority of riders wear helmets. Beyond providing helmets in nearby bike shops and convenience stores, some cities are testing helmet vending machines where people can rent helmets and return them for a small refund. Helmet vending machines are being tested in Melbourne, Australia, where a nation-wide helmet law is a factor for bike share participation. Another prototype is being developed by students at MIT, and is planned for a test launch in Boston in the spring of 2013 at two or three locations.

Bike share and transit can work very well together. Bike share can extend the reach of transit by providing a first- and last-mile transportation option, and surveys from existing systems show that people are using bike share to connect to public transit. Linking the systems can be achieved by simply colo-locating bike and transit stations. Bus systems with front-loaded bike racks can additionally be used by bike share users to span long distances or to overcome steep hills. The relatively heavy weight of the bike share bikes does, however, limit this opportunity.

The ability to use the same card or pass to access both bike share and a transit system would increase the marketability of both systems. However, integrated ticketing between a bike share and transit system requires significant coordination and cooperation between the providers. Reaching an agreement between providers and changing ticketing operations may require significant time and cost to negotiate, design, test and deploy. According to the Capital District Transportation Authority (CDTA), if such an agreement is reached, the processing equipment should be based on ISO/IEC 14443 standards. A contract between a transit and bike share provider would need to include cost and profit sharing agreements, as well as a plan for how to provide the integrated technology to make the two systems compatible. Although this innovation is possible and there is interest from CDTA and the City, there are currently no existing, public North American systems that incorporate bike share memberships with transit passes or cards.

2.2 How Does Bike Share Work? Typical Bike Share Characteristics and Use

Third generation bike share systems have been successful because they are user-friendly and convenient for both scheduled and spontaneous trips. They facilitate short, one-way trips and can easily be combined with the use of other modes.

Station-based System User Interface

In order to access a bike share system, one must create a member account. In the process of creating a member account, one must sign a waiver, agree to the terms and conditions, and link the account to a credit card. A casual membership, lasting one or a few days, can be purchased at a station kiosk. An annual or long-term membership can be purchased through a website. Annual members receive a card or key that they can use to unlock bikes from stations. Casual members are able to unlock bikes by using the kiosk interface at the station. Systems typically have websites and smart phone applications that allow members to see the real-time availability of bikes or docks at stations.
Most systems include a “free period” of 30 to 60 minutes that begins as soon as the bike is unlocked. A bike may be returned to any other bike share station in the system, where it locks into a dock and becomes available for another member. If the bike is returned within the free period, the member incurs no additional charges. If the member continues to use the bike beyond the free period, they begin to accrue usage fees for each additional hour that the bike is in use. These fees are typically graduated – they increase the longer the bike is in use. Some systems have lower usage fee rates for annual members than for casual members. These fees are charged to the credit card associated with the membership after the trip is complete. Once a member returns a bike to a station, there is typically a short waiting period before he or she may check out another one.

If a member checks out a bike and does not return it to any other station within a certain period (typically 1 to 3 days), the bike is considered lost and the member is charged a replacement fee. Systems usually have a customer service call center available for members to contact at any time if they have a question or problem.

System Equipment and Operations

A bike share system consists of multiple stations. Each station has multiple docks that are specially designed to lock the bikes to the station. The docks are wired to a kiosk, which can unlock bikes for members. The stations can be hardwired or solar powered. They are typically modular, for ease of installation and flexibility in station size.

A system usually contains approximately half as many bikes as there are docks. The ideal condition for each station is that it is half full and half empty at all times. This way, there are always both bikes and open docks available to members who are beginning or ending their trip. The optimal station spacing is 0.25 to 0.5 mile. At this density, if a member finds a station full or empty, they are not more than a 5-10 minute walk from the next nearest station where they can get or return a bike.

The bikes typically have adjustable seats, built-in lights, and a comfortable, upright riding position. Other common features are internal components to make them less susceptible to the weather and unique parts that make theft less likely. Existing systems have found that because the bikes are unique to the system, and do not have interchangeable parts with regular, commercially-available bikes, incidences of vandalism or theft are very
low. For example, Capital Bikeshare in Washington, D.C. currently has 1,700 bikes and approximately 3.6 million rides. Since its launch in 2010, the system has experienced a total of 25 stolen bikes, of which 11 were eventually recovered, and 14 are considered permanently lost.¹ Only 10 bikes have experienced “extreme vandalism,” according to the system operator. Thefts that do occur often involve the use of a stolen credit card to take a bike, rather than the bikes being forcibly removed from docks. It is important to work with an equipment vendor who will respond immediately if hackers discover a virtual method of removing bicycles from docks. If such a technique goes “viral”, then the security of the whole system, and of all systems of this vendor, is jeopardized.

Ideally, the stations are placed in active, mixed-use areas so that short trips occur throughout the day, and the stations are self-rebalancing. However, it is common for patterns to develop where the bikes all move from one part of the system to another (i.e. a flow of bikes from a residential area to an employment area during morning rush hour). System operators are able to track the status of stations in real time, and can dispatch a van or cargo bike to remove bikes from a full station or stock an empty station. The acceptable amount of time for a station to be full or empty is typically agreed upon in the contract between the system owner and the bike share vendor, as are agreements regarding the frequency and standards of station and bike maintenance.

**Station Planning**

Station locations are important to the success of a bike share system. Good bike share locations meet the following criteria:

- Highly visible from the street or public space
- Pedestrian accessible
- Near destinations areas, such as transit stops, employment centers, neighborhood commercial districts, landmarks and tourist destinations
- Near bike routes or paths
- Have good solar exposure (if using solar-powered stations)
- Spaced 0.25 – 0.5 miles from nearest stations

Stations are commonly placed curb-side in the street or on the sidewalk, but can also be placed in plazas, parks, or parking lots. On-street stations must be located where there is enough space for members to safely pull bicycles out of the station and merge into traffic. Sidewalk stations must be placed in areas where sidewalks are wide enough to allow an ADA-accessible route around them. It is also important to note that most third-generation system stations require no power hookups or sidewalk/road penetrations to remain stationary. This helps to lower installation costs and keeps the system flexible if stations need to be moved due to road construction or utility work.

3 Benefits of Bike Sharing

Experience from cities throughout North America suggests that there will be numerous benefits to bringing a bike share system to Albany. These include economic, public health, environmental, transportation/mobility, and safety. Together these benefits make bike share an appealing addition to Albany’s transportation network.

3.1 General Benefits

**Economic**

Bike share is relatively inexpensive and easier to implement than many other forms of public transportation. The capital cost of adding one lane-mile of urban highway ranges from $10-20 million, while the initial capital cost of the entire Capital Bikeshare system of over 1,000 bicycles in Washington, D.C. was $6.2 million. The typical cost of one transit bus is $321,000 to $375,000, while the cost of one Capital Bikeshare station with ten bicycles is $55,000. Bike share stations can be installed quickly and inexpensively, and can be expanded easily. An investment is required to cover the initial capital costs, after which user revenues and private sponsorship can help cover operation costs. Because bike share is a high-profile addition to a community, it is visible to visitors and tourists, and can generate positive media coverage. Bike share also adds “green” jobs to the city. It facilitates greater foot traffic to businesses and provides an inexpensive transportation option for commuters. For individuals, the $60-100 annual cost of bike share membership is clearly far-less expensive than the yearly cost of riding transit or owning an automobile. Bike share does have some limitations however—lack of winter service, smaller service area—so for many, it can make for a perfect complement to an annual transit pass.

**Health**

The health benefits of cycling are well recognized and include the potential to reduce obesity and mitigate the onset of chronic disease.² Encouraging more cycling in the City of Albany through bike share could be especially beneficial to residents as Albany is one of the Centers for Disease Control’s Strategic Alliance for Health communities. The Albany County Strategic Alliance for Health targets, among other things, lack of physical activity because it is a risk factor for chronic diseases. The coalition supports biking and walking as forms of physical activity for residents. Albany County has indicated its interest in bringing bike share stations to communities in the City of Albany that have the highest propensity for chronic diseases such as diabetes and heart disease. Local health care providers may also be interested in supporting bike share within Albany, potentially as sponsors of the system.

**Environmental**

Bike share is a mode of transportation with a low carbon footprint. Actual trips taken by bike share are carbon emission-free, and many third-generation bike share stations are solar-powered. Additionally, environmentally-friendly equipment – like cargo bikes or electric vehicles – can be chosen for rebalancing or other operations. There is also the potential for bike share trips to replace motor-vehicle trips, reducing carbon emissions. In a

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survey of Boston Hubway users in 2011, 5% of members said they would have otherwise made their trip by personal motor vehicle, and 6% said they would have taken a taxi.3

**Transportation/Mobility**

Bike share is ideal for middle distance trips of 30 minutes or less; trips that are generally considered too long to walk and too short to justify a car or transit trip. The presence of a comprehensive bike share network provides a realistic alternative to the personal automobile. Bike share can also extend the reach of transit, providing service to previously under-served areas or that “last mile” between the transit stop and work or home. Bike sharing also increases the rate of bicycling. It introduces bicycling to people who do not typically ride or have not ridden for many years. By providing inexpensive and convenient bicycle access, bike sharing reduces barriers to bicycling.

**Safety**

There have been very few serious injuries or fatalities among bike share riders in North America. In Washington DC, there were 330,000 trips made on Capital Bikeshare in the first seven months of operation. In that time, seven crashes of any kind were reported, and none involved serious injuries.4 Contributing to this safety record is the “safety in numbers” theory for bicyclists, which says that the more bicyclists there are, the more motorists are aware of and careful around them. Bike share bicycles are also designed for comfort, low speed and safety. They typically feature step-through frames, wide tires, require an upright position for good road visibility, and include built-in features such as bells and both front and back lights. Because they weigh nearly twice that of a regular bicycle, users typically ride them at a slower pace than most commuter or recreational bicyclists.

### 3.2 Experience in other cities

Third generation bike share systems have launched in cities similar in size and character to Albany. A few cities are profiled below and in Table 1 on page 9 for the purpose of comparison.

**Madison, WI** launched a bike share system in Spring 2011. Madison, like Albany, is a state capital, although it has a significantly larger population. While both cities feature large state colleges within city limits, the University of Wisconsin Madison campus population is larger and more centrally located near downtown. The bike share system in Madison is run by B-cycle, a bike share vendor owned by Trek Bicycle Corporation. Due to the close proximity of Trek’s headquarters and the city’s financial struggles, Trek donated the start-up and operating costs for the system’s first 5 years. At the end of its 200-day 2011 inaugural season, Madison B-cycle had 18,500 trips taken by 6,500 members. Because of its many initiatives, Madison is considered a Gold-level Bike Friendly Community by the League of American Bicyclists (LAB).

**Chattanooga, TN** is a city larger in population but lower in density than Albany. Like Albany, it is a river city and includes a modest-size state university campus at the fringes of the downtown area. The City launched a bike share system in July 2012 in partnership with Alta Bicycle Share (ABS), using the ‘BIXI’ bikes and stations from Montreal. The system is envisioned as an extension of the existing CARTA transit service. Ridership for this

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3 2011 Hubway Member Survey Results, received from Boston Bikes. Of the remaining 89% of users, 42% would have taken public transportation, 38% would have walked, and 6% would have ridden a personal bike.

system has not been reported at this time. Along with its extensive river-front path network and bike sharing system, the city achieved Bronze-level Bicycle Friendly Community status from the LAB.

**Boulder, CO** is a city with a similar population and residential density as Albany. Like Albany, the city also grows by almost half during the weekday with work commuters. It is a large university town, with over 30,000 students enrolled at the University of Colorado Boulder campus. Boulder B-cycle launched in spring of 2011, using the Trek system. It is operated by a specially-formed non-profit, the board of which includes the City of Boulder as a member. At the end of its first season in 2011, the system had 18,500 trips, approximately half of which were taken by 1,170 annual members. Boulder hosts an extensive network of paths and on-street bike facilities throughout the city. This along with its education and encouragement programs helped Boulder achieve Platinum-level Bicycle Friendly Community status – one of only three in the United States.

Table I: City Characteristics Comparisons

<table>
<thead>
<tr>
<th>City Name</th>
<th>Population (2010)</th>
<th>Daytime Population</th>
<th>Pop Density (pop/sq mi)</th>
<th>% Pop Ages 25-34</th>
<th>Median Income</th>
<th>Launch Date</th>
<th>System Size</th>
<th>Funding Sources</th>
<th>Management</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madison</td>
<td>233,209</td>
<td>293,799 (26% increase)</td>
<td>3,037</td>
<td>18%</td>
<td>$52,550</td>
<td>May 2011</td>
<td>27 stations, 225 bikes</td>
<td>Trek donation ($1 million per year)</td>
<td>Private company</td>
<td>$65 annual membership, $30 7-day pass, $4 daily pass, first 30 minutes free, $2 for 30 minutes, $5 for each additional 30 minutes</td>
</tr>
<tr>
<td>Boulder</td>
<td>97,385</td>
<td>141,176 (45% increase)</td>
<td>3,884</td>
<td>16%</td>
<td>$51,779</td>
<td>May 2011</td>
<td>25 stations, 200 bikes</td>
<td>Federal, state and local grants, private funding, foundations ($1.25 million)</td>
<td>Non-profit</td>
<td>$55 annual membership, $15 weekly, $5 daily pass, first 60 minutes free, $4 for each additional 30 minutes</td>
</tr>
<tr>
<td>Chattanooga</td>
<td>167,674</td>
<td>248,188 (48% increase)</td>
<td>1,222</td>
<td>14%</td>
<td>$36,675</td>
<td>July 2012</td>
<td>30 stations, 300 bikes</td>
<td>CMAQ ($2 million)</td>
<td>Public-private partnership</td>
<td>$75 annual membership, $6 daily pass, first 60 minutes free, $5 for each additional 30 minutes</td>
</tr>
<tr>
<td>Albany</td>
<td>97,856</td>
<td>161,660 (65% increase)</td>
<td>4,575</td>
<td>15%</td>
<td>$39,158</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### 3.3 Ownership/Operation Models

There are a variety of ownership and operation models among existing bike share systems, and there are pros and cons with each. Operating a bike-sharing system is a complex undertaking. Three potential agents in owning or operating a system are a public agency, non-profit, or private vendor.

**Public Agency:** In the United States, municipalities have opted out of operating bike-sharing systems directly because of liability issues involved in such an undertaking. There are several cities that own bike share systems that are operated under contract with a private vendor or a non-profit. This scenario does require a dedication of public agency staff time and effort to fundraise for and oversee the planning and management of the system.

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Non-profit: A successful non-profit organization can have a very good image in the public eye. Having a non-profit either operate or guide the system can help avoid public negativity. A non-profit can, however, also denote a lower-quality product if not positioned and funded correctly. In addition to funding, a non-profit needs reporting capabilities for transparency.

Private Vendor: There is a large amount of efficiency lost and uncertainty introduced each time a new organization decides to operate a bike-sharing system. A private operator can give a client more security that a system will be successfully launched and well-managed. In addition, an operator who works across multiple cities can more quickly learn the lessons of other cities to incorporate and continuously improve on best practices on running world-class bike sharing systems. A private vendor can operate a system under contract with the owner (a city or other public agency) that includes service levels requirements for the system (such as the amount of time stations can be down, response time for full or empty stations, etc.). This gives client security that the operator must run a system consistent with the goals and values of the client.

A private system lacks the transparency that the other organizational structures have. A completely privately owned and operated system requires no capital or operating funds to be contributed by a municipality, which can be very attractive for financially constrained cities. A private system gives the vendor much more (if not complete) control over site locations and operations, since the vendor is taking on all of the financial risk.

There are several different operating models to define the relationship between the vendor and the owner. Existing models include different combinations of non-profits, public agencies and private companies owning and operating the systems. Table 2 shows operating models of various cities using third-generation bike share systems in the United States.

Table 2: Bike Share Ownership and Operation Models

<table>
<thead>
<tr>
<th>System Name</th>
<th>Location</th>
<th>Stations/Bikes</th>
<th>Owner</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owned and Operated by Non-profit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nice Ride</td>
<td>Minneapolis, MN</td>
<td>145/1,325</td>
<td>Nice Ride Minnesota, a non-profit set up by the City</td>
<td></td>
</tr>
<tr>
<td>Montreal Bixi</td>
<td>Montreal, QC</td>
<td>411/5,120</td>
<td>Public Bike System Company (PBSC), a non-profit</td>
<td></td>
</tr>
<tr>
<td>Denver</td>
<td>Denver, CO</td>
<td>50/500</td>
<td>Denver Bike Share (using B-Cycle equipment)</td>
<td></td>
</tr>
<tr>
<td><strong>Owned and Operated by Private Vendor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DecoBike</td>
<td>Miami Beach, FL</td>
<td>100/1,000</td>
<td>DecoBike, private company, owns and operates the system under a concession agreement</td>
<td></td>
</tr>
<tr>
<td>Citibike</td>
<td>New York City, NY</td>
<td>600/10,000</td>
<td>New York City Bike Share, a private company, with capital funding by Citibank and MasterCard</td>
<td>Alta Bike Share, a private company</td>
</tr>
<tr>
<td><strong>Publicly-Owned with Private Operator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Balance Hubway</td>
<td>Boston, MA</td>
<td>72/720</td>
<td>City of Boston</td>
<td>Alta Bike Share, a private company</td>
</tr>
<tr>
<td>Chattanooga Bike Share</td>
<td>Chattanooga, TN</td>
<td>30/300</td>
<td>City of Chattanooga, with contract admin by Outdoor Chattanooga (non-profit)</td>
<td>Alta Bike Share, a private company</td>
</tr>
</tbody>
</table>
If there is the potential for a system to span across municipal boundaries, a central governing body should be established to guide the approach and policy of the system. For instance, the Hubway Bike Share system in the Boston area spans four municipalities. Each municipality contracts independently with the management and operations company. However, the regional planning agency also hosts a committee of representatives from each municipality and the operator in order to coordinate on decisions that affect the whole system.

3.4 Funding Models

There are a variety of funding sources that can help launch and support a bike share system. Many communities use a combination of public and private funding to cover the capital and operating costs of the system.

Public sources of funding for the capital costs of a bike share program have included Congestion Mitigation and Air Quality (CMAQ) grants or other funding through the Federal Transit Authority (FTA), Federal Highway Administration (FHWA) or the Center for Disease Control and Prevention (CDC). On a state and local level, sources have included grants, public health agencies, convention center funds, parking revenues, and special taxes. To date, most cities have limited the use of local public funding beyond in-kind services such as staff time, right-of-way use, or lost on-street parking revenues, although some cities have provided smaller “match” amounts as a show of support or to encourage private sector investment.

Private sources of funding can come in many forms. Private funders can include local companies, foundations and institutions. Private foundation grants and private donations are typically revenue sources for systems owned and operated by non-profit organizations. Relying on donations can be difficult, as this funding typically fluctuates from year-to-year. Sponsorship and advertising can be reliable sources of funding.

There are generally three approaches to sponsorship, described in Table 3.

Table 3 – Common Bike Share Sponsorship Models in the United States

<table>
<thead>
<tr>
<th>Sponsorship Model</th>
<th>Description</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
| Exclusive Presenting Sponsorship       | This can be a single sponsor that pays for full branding of system infrastructure (e.g., London or New York) or multiple sponsors that split the cost in exchange for proportional branding (e.g., Montreal or Toronto) | • One-time sale of sponsorship  
• Known timeline and full “occupancy”  
• Consistent and recognizable branding | • Often difficult to secure sponsor given the large initial investment  
• Less opportunity for smaller businesses to get involved  
• Competing brands can conflict certain tenants or nearby businesses |
| Multiple Station Sponsorship           | This model sells sponsorship opportunities on system infrastructure to multiple smaller sponsors, e.g., Denver Bike Share sells logo placement on a station kiosk plus 10 bikes for $30,000 per year or $60,000 for three years | • Fewer competing interest concerns  
• Opportunities for businesses of all sizes to be involved  
• Opportunity to value sponsorship by demand | • Income relies on “uptake” of a certain amount of sponsorship each year  
• Significant effort required to secure numerous sponsors  
• Less consistent branding |
| Hybrid – Presenting Sponsor and Smaller| A single large sponsor pays for branding of certain parts of the               | • Larger sponsorship provides more secure                                                      | • Significant effort required to secure numerous                  |

There is a subtle difference between advertising and sponsorship. Advertising includes a contract with a company to provide a regularly changing graphic display and message, which can be independent of the bike share station on other street furniture. The advertiser and/or message is not necessarily associated with bike sharing or bicycling. Sponsorship typically involves a longer-term relationship between the sponsor and the vendor, where stickers are put on the infrastructure (bikes, stations, and/or website) with a logo and/or public statement that the company supports bike share. Experience has shown that companies are generally interested in sponsorship for its positive impression and “good corporate citizen” benefits as much for its media exposure.

Table 4 compares the overall funding models for several different systems.

### Table 4: Funding Models

<table>
<thead>
<tr>
<th>System Name</th>
<th>Location</th>
<th>Stations/Bikes</th>
<th>Date Launched</th>
<th>Capital Funding To Date</th>
<th>Public Funding</th>
<th>Private Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Public Funding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chattanooga Bike Share</td>
<td>Chattanooga, TN</td>
<td>30/300</td>
<td>July 2012</td>
<td>$2 million (100% public)</td>
<td>$2 million (CMAQ funding)</td>
<td>NA</td>
</tr>
<tr>
<td>Montreal Bixi</td>
<td>Montreal, QC</td>
<td>411/1,120</td>
<td>May 2009</td>
<td>$33 million (100% public)</td>
<td>$33 million (City funds)</td>
<td>Subsequent stages funded by sponsorship, advertising, and user fees</td>
</tr>
<tr>
<td><strong>Mix of Public/Private Funding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Balance Hubway</td>
<td>Boston, MA</td>
<td>72/720</td>
<td>July 2011</td>
<td>$4 million ? (75% public, 25% private)</td>
<td>$3 million (CDC Communities Putting Prevention to Work, CMAQ, FTA Bus Facilities Livability Initiative Program, State grants)</td>
<td>$1 million (multiple local sponsors and New Balance, the naming sponsor)</td>
</tr>
<tr>
<td>Nice Ride</td>
<td>Minneapolis, MN</td>
<td>145/1,325</td>
<td>June 2010</td>
<td>$5.3 million (60% public, 40% private)</td>
<td>3.3 million (Bike Walk Twin Cities/FHWA, City Convention Center Fund, ARRA US Dept of Health and Human Services, University of Minnesota)</td>
<td>2 million (Blue Cross Blue Shield, Central Corridor Light Rail Funders Collaborative, Macalester College)</td>
</tr>
<tr>
<td>Denver Bike Share</td>
<td>Denver, CO</td>
<td>50/500</td>
<td>April 2010</td>
<td>$1.5 million (14% public, 86% private)</td>
<td>$210,000 (ARRA Federal Energy Efficiency and Conservation Block Grant Program)</td>
<td>$1.3 million (Kaiser Permanente sponsorship, Denver 2008 DNC Host Committee, other foundations and local sponsors)</td>
</tr>
<tr>
<td><strong>All Private Funding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DecoBike</td>
<td>Miami Beach, FL</td>
<td>100/1,000</td>
<td>March 2011</td>
<td>$4 million start-up cost, cost to date not disclosed (100% private)</td>
<td>NA</td>
<td>Source of private funding not disclosed.</td>
</tr>
<tr>
<td>Citibike</td>
<td>New York City, NY</td>
<td>600/10,000</td>
<td>Planned for Spring 2012</td>
<td>$41 million (100% private)</td>
<td>NA</td>
<td>$41 million (sponsorship from Citibank and MasterCard)</td>
</tr>
</tbody>
</table>

State and regional sources of public funding that Albany should consider are the Transportation Improvement Program (TIP) through the Capital District Transportation Committee and New York State Energy Research and Development Authority (NYSERDA) grants. Potential private donations or sponsorships may come from Albany’s health (Albany Medical Center, St. Peter’s Health Care Service), education (College of St. Rose, SUNY),...
or banking (KeyCorp, Citizens Bank) sectors. There may also be interest from companies headquartered in the Capital Region, such as Price Chopper or TrustCo.

### 3.5 User-generated Revenue

There are some systems that have sufficient demand such that user revenues entirely or almost entirely cover the cost to operate the system (e.g. Capital Bikeshare in Washington, D.C.). While this is not possible in every city, user-generated revenues will provide some level of income. Revenues from users include access fees and user fees. Access fees are paid up-front to become a member of the system. User fees are charged to the user based on how long they use the system for a single trip.

Most North American cities rely on a combination of user revenues, public and private funding. Farebox recovery, the percentage of operating cost recovered by user revenues, ranges in bike share systems from 36% (Boulder) to 97% (Washington, D.C.).

7 Traditionally rail and bus transit systems operate at an average farebox recovery of about 35%. In the Albany area, 20% of CDTA revenue comes from passenger fares, while 58% comes from federal, state and local funding.

Revenue generated from a bike share system can be split between the operator and the owner according to a revenue sharing agreement. This agreement is initially based on the projected performance of the system, and typically lasts for the duration of the initial contract, after which time it can be renegotiated based on the actual performance of the system. In places where a system has expanded to multiple municipalities, those municipalities must reach an agreement with the vendor on how to split revenues among them.

### 3.6 Insurance

In nearly all cases, the contractor obtains an insurance policy that covers almost all liability, including general liability, workers compensation, and auto. Theft and vandalism of the bikes is typically covered by a replacement fund, while it is possible to find insurance that covers bikes while they are docked in stations or in storage. The contractor will typically indemnify related agencies, private property owners who host a station, and other stakeholders. Insurance that protects against *force majeure* (unavoidable accident or event) and third-party damage is also recommended. In terms of personal risk, similar to car rental and other common rental transactions, any risk involved with operating a bike share bike is assumed by the customer. Bicycle share customers are required to consent to this arrangement by signing a user agreement that specifies the terms of bicycle share membership.

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4 Local Context Analysis

In order to determine the feasibility of a bicycle-share operation in Albany, the city’s character and built environment need to be considered. Strengths in any one of these areas does not guarantee the feasibility of a bike share system, but each factor influences the potential success of the system. This analysis is based on the City’s request to evaluate the potential for a third-generation, station-based bicycle sharing system.

4.1 Policy Environment

There have been a number of initiatives recently in Albany to indicate that the City values environmental sustainability and active transportation. The Albany 2030 Plan envisions Albany with a vibrant urban center and safe, livable neighborhoods, connected by an extensive network of complete streets and bikeways. Key issues identified in the plan are to address vacant and abandoned properties, connect downtown to the Hudson River, attract spending in downtown, and revitalize the waterfront. The City wants to improve safety for biking and walking, as well as increase transit options.

In 2009, the City of Albany completed a city-wide Bicycle Master Plan. The plan recognizes that increasing bicycle infrastructure helps to improve the perception of community safety and can help more people feel comfortable riding bicycles in Albany. The plan established major bikeways, neighborhood routes, and multi-use trails. It also proposed a Bicycle Education Campaign to inform motorists to share the road with bicyclists and a bike-rack placement program. The Mayor of Albany has signed the U.S. Conference of Mayors Climate Protection Agreement and made other commitments to being a sustainable city. In addition, the Capital District Transportation Committee (CDTC) New Visions Plan commits to improving bicycle and pedestrian facilities. CDTC has developed a local version of the Federal Transportation Alternatives program, (including the funding for this study) and hosts the Capital Coexist outreach campaign.

Some of the co-funders of this study, such as the Albany County Department of Health, College of St. Rose and University at Albany, have taken additional steps to promote bicycling. The Albany County Department of Health has been very active with research on chronic disease issues and how it impacts neighborhoods and different demographic groups in the county. The Department of Health is very keen to encourage walking and bicycling for those living in neighborhoods that are at risk of suffering from chronic disease. They support additional bicycle/pedestrian infrastructure and programs in many of Albany’s neighborhoods adjacent to downtown and along the Central Avenue corridor.

University at Albany has also undertaken some initiatives to promote biking among the students. Students began a bike share program in 2009 with donated bikes, locks and helmets. Bikes may be signed out for 24 hours from each dorm office, and come with a lock and helmet. The system is now coordinated through the University’s Office of Environmental Sustainability.

Albany has an active advocacy group, the Albany Bicycle Coalition, which promotes bicycling in the city. This group played a role in the Albany Bicycle Master Plan and other neighborhood-level planning efforts. The group has regular monthly meetings and organizes public bike rides to help strengthen the sense of community among bicycle riders and enthusiasts.

On a state level, New York State recently passed Complete Streets legislation. New York State requires bicyclists under the age of 14 to wear a helmet, but there is no helmet law for adults. Although helmets can, and should, be
promoted with bicycle and bike share use, mandatory helmet laws often discourage ridership by creating a barrier of entry for those wishing to use bike share spontaneously.

4.2 Demographics

Bike sharing has benefits for many different types of people. In Albany, bike share users may fit one or more of the following profiles:

- **Local Resident**: Someone who lives in or near the service zone can use it as an additional form of public transit, one that serves middle-distance trips that tend to be too far to walk but too close to drive.

- **Downtown Commuter**: Those who drive or take the bus to work, looking to make a short trip during or after work without needing their car or relying on a bus.

- **Non-Car or Non-Bike Owner**: People who don't have access to a car or a bike for a variety of reasons. Bike share can supplement walking or a monthly bus pass.

- **Student**: Many students from area colleges do not have a car and may rely on bike share to make connections to and within campus.

- **Visitor/Tourist**: Those wishing to visit downtown, Albany’s Center Square neighborhood and many other destinations, cultural attractions, and restaurants, who do not want to drive between sites and may choose to use bike share instead of driving or walking.

As shown in Table 1 on page 9, Albany is similar in population and density to some other cities which have launched bike sharing systems. The 2010 census reported 97,856 people live in the city, with a city-wide population density of 4,575 people per square mile. Albany has experienced an overall decline in population since the 1950s, with a slight increase between 1990 and 2010. Indications are that the city population will remain stable, and there is projected growth in the county and capital region. The State Government, education and health care sectors have traditionally provided a stable employment base, and the growth of the nanotechnology industry is creating new economic development opportunities. The daytime population of the city (the number of people who commute into the city for work minus those who commute out) is 65% higher than the residential population.10

![Figure 12: Albany Employment locations by Census Block (source: 2010 Census)](image-url)
With this large population of people who enter the city for work, it will be important for a successful bike share system to focus on large employment centers. However, some employment centers in Albany are in car-oriented, big box developments, which is not typically a bike-friendly environment. Context is very important for bike share to function well. A potential bike share operation in the city will function best in areas that have a mix of land uses and where trips are made throughout the day, not just during commute times. In Albany, it will be important to prioritize the urban core of the city for an initial phase of bike share. The urban core is where most business and tourist activity takes place. In most other cities with bike share, tourists represent a significant percentage of system users, with Washington, D.C., and Boston as good examples. In Albany, it is likely that daytime workers and visitors to the State Capitol and the attractions within the Empire State Plaza will be interested in using bike share to reach destinations that are beyond an easy 10 minute walk. This includes possible excursions to the riverfront Corning Preserve, Lark Street, Washington Park or Pearl Street. The added accessibility offered by a bike share system could help Downtown Albany promote its many attractions to residents, businesses and visitors.

Other cities have found that certain age and income brackets are more likely to use bike share than others. These are bike share’s “early adopters.” The most-likely age group to utilize bike share are 25 – 34 year olds, and the most-likely income bracket are people who make more than the median income of the area. The two largest age groups in Albany are 20 – 24 year olds (14.8%) and 25 – 34 year olds (15%). With the involvement of the academic community as a partner in the bike share system, there is much potential for the “early adopters” in Albany to include students and university employees.

Because lower-income communities do not tend to adopt bike share at the same rate as higher-income ones, targeted outreach and partnership with community organizations will be necessary to introduce the system and encourage ridership. For example, in Boston, income-qualified individuals can obtain significantly discounted annual bike share memberships with an extension of the “free period” per ride. These memberships are subsidized by the Boston Public Health Commission. In Washington, D.C., discounted memberships are provided to Bank on DC account holders. Bank on DC provides financial services to unbanked and under-banked households in the DC Metro Area.

4.3 Physical Characteristics
The land area of the City of Albany is approximately 21 square miles. The city generally slopes from west to east, where the Hudson River makes up its eastern boundary. The slope between the Washington Park/Lark Street area and downtown is significant enough to impact the number of people who can comfortably bicycle in the uphill direction. This is an important connection for all cyclists, not only those who may be willing to use a future bike share system. Encouraging bicyclists to follow the least-steep routes, such as Clinton Avenue, or pursuing electric assist bike share bikes will be critical for the success of a system in Albany. Ensuring strong connections between stations and major bus stops will also be important, so that bike share trips and transit trips can be combined or complementary (i.e. someone rides bike share to a destination downhill and later takes transit back uphill, etc). At the same time, Albany’s topographic constraints are similar to those found in Arlington, VA, or Montreal, both of which have successful bike share systems.


Bicycle infrastructure in Albany has grown significantly in recent years. Bike lanes were striped on a portion ofClinton Avenue, and approximately 12 miles of shared lane markings were added to city streets. There are also many miles of off-road paths in the city, including the Mohawk-Hudson Bikeway along the river, the Hackett Trail near Delaware Avenue, and paths within local parks and preserves. Although the bike infrastructure in Albany is not yet comprehensive, many other cities have launched bike share simultaneously while expanding upon their overall bicycle network. It is important, however, that a bike share program in Albany be seen as one of many steps toward improving bicycling overall in the city.

The CDTA bus network spans Albany, Rensselaer, Saratoga and Schenectady Counties, with a total ridership of 14.9 million for fiscal year 2011-2012. Co-locating bike share stations with bus stops will facilitate multi-modal connections, and provide bike share users with an alternative to biking up the steep slope from the Hudson River up to the State Capitol. Additionally, some bike share users may find it convenient to use the bike racks on CDTA buses, but this is somewhat limited as most bike share bikes weigh in excess of 40 pounds.

Albany experiences cold, snowy winters and warm, humid summers. There is significant snowfall in the city, approximately 63 inches annually. The average temperatures in late November through March are below freezing. For these reasons, it is advisable that Albany pursue a seasonal bike share system, in which the bikes and stations are taken off the streets in the winter to allow more space for snow storage and to coincide with the “off season” for bicycling. This approach has worked well in Minneapolis, Boston and Montreal.

The success of bike share depends a lot on land use and density. The best places for bike share are urban in character with a mix of land uses, and feel safe and active (preferably around the clock). Additionally, the areas around planned station locations need to be pedestrian friendly and well lit so members can walk comfortably to and from the stations.

Below is a list of the core neighborhoods in Albany that feature characteristics that could support bike share. Each one is evaluated with specific opportunities and challenges.

**Downtown/Central Business District**

Opportunities: The Central Business District in Albany is urban in character and has very high employment density. It is home to City Hall, the State Capitol building, and many state agency buildings. There is also a fine dining and hotel industry downtown, which serves business-class visitors.

Challenges: Relative to other Albany neighborhoods, there is a smaller residential population in the Central Business District (fewer than 1,500). Because of this, use of a bike share system downtown would be expected to be lower during non-work hours. However, increasing the livability of downtown is a priority for the City and the Capitalize Albany Corporation and progress is currently being made to increase the number of residents. These efforts will help support the viability of bike share in this area.

**Washington Park, Lincoln Park, Center Square area**

Opportunities: This area includes dense, mixed use areas, particularly along Lark Street and Central Avenue. Center Square in particular has significant nightlife, entertainment and dining opportunities, making this an active area at all times of day.

Challenges: Portions of the area are disconnected from downtown by Empire State Plaza and the relatively steep slope down to the Hudson River. This slope may discourage some people from using bike share to get from Downtown or the South End to Lark Street or the Washington Park area.
Pine Hills
Opportunities: This area of the city is residential and mixed-use. It contains the College of St. Rose and the University at Albany Downtown campus, as well as a large student neighborhood. It includes a younger demographic of people who are likely to use bike share. There is commercial activity on Madison Avenue and Central Avenue.

Challenges: Because the Pine Hills area is roughly halfway between downtown and the University at Albany campus, many bike share trips may be longer than the average which could impact ridership. Also, the area contains few large employers, so use could be low during off-peak periods during weekdays.

University Heights, Park South
Opportunities: New Scotland Avenue has mixed-use and commercial developments. The University Heights area contains many schools and employment centers, including Sage College of Albany, Albany Medical Center, Albany College of Pharmacy and Health Sciences, the Albany Academies and the Albany Stratton Veterans Administration Medical Center.

Challenges: In the past, the Park South area has struggled with declining population, housing vacancy and poverty. Major investment and initiatives by the City have begun to reverse this trend. It will be important to work closely with the stakeholders in this neighborhood to determine what areas will be best able to support bike share in the initial phase.

University at Albany Main Campus
Opportunities: The University at Albany Main Campus is where the majority of the school’s academic and residential buildings are. The school has a total student population of over 17,000, with approximately 57% of these students living on campus. The campus is approximately 586 acres, or just under one square mile in area. While the campus is very walkable, there may also be some opportunity for students to use bike share to connect from the edges of campus, such as the Freedom Quad or Athletic Fields, to the Campus Center.

Challenges: The University at Albany Main Campus is physically separated from the rest of the city by low density residential neighborhoods and high speed arterial roadways. The distance from campus to the more urbanized part of the city is approximately 3 miles, with limited mixed-use or commercial development in between. This may represent a large gap in a future bike share system.

Arbor Hill/West Hill
Opportunities: Arbor Hill and West Hill are dense and historically significant neighborhoods that benefit from their close proximity to downtown. Bike lanes along Clinton Ave. provide a safer and less steep east-west bike route than other downtown streets.

Challenges: There are portions of the Arbor Hill and West Hill neighborhoods identified in the Albany 2030 Comprehensive Plan (2012) where reinvestment is needed to offset high vacancy rate, high poverty status, low home ownership and decreasing housing values. There is already a reinvestment plan in effect for the Arbor Hill neighborhood. It will be important to work closely with the stakeholders in these neighborhoods to determine what areas will be best able to support bike share in the initial phase.
South End
Opportunities: Like Arbor Hill, the South End is a diverse and dense neighborhood located adjacent to downtown. Park Avenue connects the South End to University Heights along Lincoln Park and is a less steep alternative for bicyclists than other downtown streets.

Challenges: Portions of the South End have also been identified in the Albany 2030 Comprehensive Plan (2012) as being a high priority for reinvestment. Involvement of neighborhood stakeholders will be key to incorporating bike share into other improvement initiatives.

Delaware Avenue
Opportunities: Previous bike counts in the Delaware Avenue neighborhood have show high bike activity, with the largest volume of bicyclists being counted at the Delaware/Morton/Holland intersection. The neighborhood also benefits from the Hackett Bike Trail along Hackett Boulevard and from the mixed-use development along Delaware Avenue.

Challenges: Delaware Avenue itself is a very active roadway and the City has already provided shared lane markings on the roadway. Because the corridor itself contains few large employers, use of a bike share system could be low during off-peak periods during weekdays, especially beyond the west end of Lincoln Park.

Other areas of Albany that have a lower likelihood of utilizing bike share are the remote and/or more suburban neighborhoods, or areas where commercial development is car-oriented. These include North Albany, North Central, Northwest, and Southwest.

In the long term, it is also possible that a regional bike share concept could be developed, with connections to the Amtrak Station in Rensselaer and ‘satellite’ stations in nearby communities, including Troy, Schenectady and Saratoga Springs. Albany can consider its local system as the catalyst for a regional bike share model with ‘satellite’ stations throughout the Capital Region. If the region’s major educational institutions, including RPI, Union College, University at Albany and Skidmore College, joined forces with CDTA, hospitals, major

Figure 13: Hypothetical regional bike share diagram showing potential number of stations within each city
employers like GE, NanoTech, Global Foundries and the cities of Troy, Schenectady, Albany, and Saratoga, a significant regional system could be developed. Although the instances of someone making a long-distance trip between cities by bike share would be low, the benefit of a regional system is that a large population of people would have easy access to bike share in all of the communities where they live, work and play. The regional model could be similar to the Capital Bikeshare System in the Washington, DC metro area. That system is a collaborative effort of communities in northern Virginia, Washington DC and Maryland. A member of Capital Bikeshare is able to use a bike in any of these areas without additional charge.

5 Recommendations

5.1 Opportunities, Challenges and Strategies

Although Albany is a city with significant opportunities to support a bike share system, there are a number of challenges that will need to be addressed before a successful system can launch. The tables below summarize these opportunities and challenges, along with suggested mitigation strategies.

Table 5: Opportunities for Bike Share in Albany

<table>
<thead>
<tr>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Policy environment is amenable, with support for bicycling shown in the comprehensive plan and bike master plan</td>
</tr>
<tr>
<td>• University students and young professionals – typically the “early adopter” demographic – make up 30% of population</td>
</tr>
<tr>
<td>• There are multiple universities, hospitals, and local businesses who are potential partners/sponsors</td>
</tr>
<tr>
<td>• Workday population increases by 65%</td>
</tr>
<tr>
<td>• Presence of an urban core with multiple active, mixed-use areas</td>
</tr>
<tr>
<td>• Local tourist attractions in downtown area and Center Square</td>
</tr>
<tr>
<td>• The existence of the Albany Bicycle Coalition shows that there are organized citizens wanting to improve and support bicycling in the city</td>
</tr>
</tbody>
</table>

Table 6: Challenges to Bike Share and Mitigation Strategies

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bike infrastructure is growing but is not yet a comprehensive network across the city</td>
<td>• See Section 5.2 below for more detailed recommendations</td>
</tr>
<tr>
<td>• Although the City and its partners are working to revitalize neighborhoods including Arbor Hill, South End, West Hill and Park South, these areas are still in need of significant improvement</td>
<td>• Partner with neighborhood groups to plan and promote bicycling initiatives and bike share, making sure to address income or language barriers as they arise in order to maximize success in the community</td>
</tr>
</tbody>
</table>
### Other Cities

Other cities have pursued bike share systems from a variety of starting points. For example, Madison and Boulder had a bicycle mode share between 6 and 9% and a more robust bike network when they began implementing bike share. On the other hand, bike mode share in Boston hovered around 1% when they began to pursue a bike share system in 2009 in conjunction with an aggressive program of adding bike lanes and other facilities throughout the city. In the past 2–3 years, Boston Bikes (a department within the Boston Redevelopment Authority) has grown to have several full-time staff, there are 50 miles of new bike lanes, a mode share closer to 2% and the Hubway bike share system has registered over 650,000 trips in only two seasons. These recent initiatives helped the LAB designate Boston as a Silver-level Bicycle Friendly Community, one of only three in the Northeast.

As the City is able to incorporate the strategies listed in Table 6 and continues to work to make Albany a more bike-friendly city, this study recommends that Albany pursue a bike share system that:

- Operates seasonally (likely April through November);
- Offers both annual and casual (short-term) memberships, with the potential to integrate with the CDTA bus passes;
- Is adaptable to potentially incorporate evolving new bike share technologies, such as electric assist;
- Coincides with heavy promotion of safe bicycling techniques, the rules of the road and helmet use;

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical separation of the University at Albany Main Campus from the urban core by a large, low density, residential area and high traffic roadways</td>
<td>Bike facilities and wayfinding improvements on Washington, Western and Madison Avenues will help connect the urban core and the campus</td>
</tr>
<tr>
<td>Significant slope between Capitol Hill and downtown may discourage uphill trips</td>
<td>Placement of bike stations near bus stops will give users the option to take the bus uphill</td>
</tr>
<tr>
<td>As of 2012, there is a relatively low downtown residential population (though it is projected to increase with recent and planned development initiatives)</td>
<td>The City’s continued efforts to promote mixed-use development will help create all-day bike share demand in downtown</td>
</tr>
<tr>
<td>Limited local public funds available</td>
<td>Numerous sources of funding are available from state, federal and private sources (see Section 3.4)</td>
</tr>
<tr>
<td>Though growing, current bicycle mode share in Albany is relatively low at 0.8%, according to the 2010 American Community Survey</td>
<td>Incorporating recommendations from Section 5.2 will likely lead to increases in bike mode share</td>
</tr>
<tr>
<td>Ease of automobile access and parking (generally free outside downtown) can be an incentive for many to drive rather than seek alternative modes</td>
<td>Use zoning strategies, redevelopment policies and public outreach to encourage transit, biking and walking trips among commuters and residents, work with employers and developers to provide viable transportation alternatives and discourage automobile trips</td>
</tr>
</tbody>
</table>
• Has stations that are co-located with major bus stops, especially downtown so users are able to take advantage of the CDTA’s racks to carry bikes up the hill;

• Promotes bike share to low-income communities through collaboration with neighborhood groups, subsidized memberships, and a targeted media campaign;

• Can be expanded into a regional network with ‘satellite’ stations throughout the Capital Region.

In addition to the characteristics listed above, this study recommends that Albany pursue a system owned by the City or a non-profit and operated by a private vendor. This recommendation is based on the discussion of bike share operation models in Section 3.3 of this report. An experienced private vendor will be able to efficiently and effectively provide Albany with a system, and will be motivated to operate it successfully based on contractually-required performance standards. Having the City as the owner of the system enforces the idea of bike share as a public service, and the system could provide revenue directly to the City. The City should evaluate its own capacity to provide staff and time to own and oversee a system. An alternative is to have a non-profit own the system, potentially with the City as a member of the Board or as a major stakeholder. Non-profits also provide a good public image for bike share, may have broader fundraising abilities, and can operate outside of political fluctuations. If this option is considered, the City should determine if there is an existing non-profit which can take on this role, or if it will be necessary to create a new organization for this purpose.

5.2 Bike-Friendly Albany

A bike share system in Albany will benefit from overall efforts to promote bicycling in the city. Albany recently applied for Bicycle Friendly Community (BFC) status from the League of American Bicyclists (LAB). A BFC is described as a community that “welcomes cyclists by providing safe accommodation for cycling and encouraging people to bike for transportation and recreation.” In the fall of 2012, Albany received an honorable mention from LAB. An honorable mention is awarded to a community that shows its potential to fit the characterization of a Bronze-level community in the near future. In particular, a community that has not yet had time to realize the full impact of important recent successes would be a likely candidate for an honorable mention award.

In the Bicycle Friendly Community Feedback Report, the LAB recognized the accomplishments that Albany has made in each of the “five E” categories (engineering, education, encouragement, enforcement, evaluation & planning). The report also enumerated “key measures” that Albany can take to improve bicycling and potentially achieve a higher BFC status in the future. Those measures include:

• Having a Bicycle Advisory Committee that meets more frequently, is involved in developing relevant policy and planning, and reviews projects;

• Expanding the Bicycle and Pedestrian Coordinator’s time to focus on bicycle projects;

• Reducing traffic speeds city-wide and implementing traffic calming measures;

• Providing designated bicycle facilities on arterials and collector roads, particularly on Central Avenue, Madison Avenue, Western Avenue, Washington Avenue, Broadway, Main Avenue and Manning Boulevard;

13 Source: http://www.bikeleague.org/programs/bicyclefriendlyamerica/communities/bfc_about.php
• Integrating bicycle safety education as a routine part of public education and developing a Safe Routes to School program;

• Encouraging institutions of higher education to promote bicycling and seek Bicycle Friendly University status from LAB;

• Passing an ordinance to require large employers to provide bicycle parking and other amenities for bicyclists;

• Improving intersection safety for bicyclists by using color, signage, medians, signal detection, pavement markings, etc.

Beyond these key measures, the report also makes additional recommendations for improvements in each of the “five E” categories. Some of the recommendations are already underway, such as the implementation of a bicycle wayfinding system and the exploration of a bike share system. The additional recommendations are summarized below:

**Engineering**

• **Short-term**
  - Adopt a Complete Streets policy and streetscape design guidelines.
  - Increase the amount of bicycle parking.
  - Implement transportation policies that encourage alternative transportation choices, such as maximum or no minimum car parking standards.
  - Implement high visibility road crossings for shared use paths.
  - Join the National Association of City Transportation Officials (NACTO) and participate in Cities for Cycling.

• **Long-term**
  - Overcome physical barriers to provide convenient bicycle access to all parts of the city.
  - Continue to expand the bike network.
  - Develop a system of bicycle boulevards.

**Education**

• **Short-term**
  - Expand public education campaign promoting the share the road message to motorists and cyclists.
  - Consider a Bicycle Ambassador program.
  - Offer Cycling Skills classes.
  - Host courses for City engineers and planners to understand bicyclists’ needs.

• **Long-term**
  - Begin a bicyclist and motorist ticket diversion program.
Encouragement

- **Short-term**
  - Expand Bike Month efforts.
  - Consider offering a ‘Ciclovia’ or ‘Summer Streets’ type event, closing off a major road to auto traffic and offering the space to bicyclists and pedestrians.
  - Promote a bicycle-themed community celebration each time a new bicycle-related project is completed.
  - Encourage local businesses to promote bicycling to the workplace and seek Bicycle Friendly Business status from LAB.

- **Long-term**
  - Create bicycle-accessible recreational bicycle amenities, such as a mountain bike park, cyclocross course, etc.
  - Develop a series of short, themed loop rides around the community, and provide appropriate wayfinding signage.

Enforcement

- **Short-term**
  - Appoint a law-enforcement person to be the primary contact for bicyclists.
  - Ensure that police officers are educated on the “Share the Road” message and relevant traffic laws.
  - Ask police officers to target both motorist and bicyclist infractions.
  - Integrate positive enforcement ticketing, with rewards for bicyclists following the law.
  - Increase the number of officers who patrol the streets on bikes.
  - Pass more laws that protect bicyclists and repeal any laws that discriminate against bicyclists.

Evaluation/Planning

- **Short-term**
  - Continue to involve the local bicycling community in planning efforts.
  - Engage in dialogue with surrounding towns to plan connector bicycle routes.
  - Adopt a target level of bicycle use to achieve in a specific timeframe.
  - Expand efforts to evaluate bicycle crash statistics.
  - Consider measuring Bicycle Level of Service (BLOS) to be able to identify the most appropriate routes for inclusion in the community bicycle network.
  - Consider individualized marketing to support bike commuters.
  - Conduct an economic impact study on bicycling.
While there is no clear benchmark that identifies communities within the four levels of BFC designation, to achieve Bronze-level status as a BFC, a community is expected to show a strong commitment to bicycling, even if that commitment is in its early stages. Bronze communities have “room to grow” and show potential for more successes in bicycle friendliness, but important steps in the right direction are already being taken. To achieve a designation level higher than Bronze, significant advances within each of the five E’s must occur. The City has already shown interest and initiative in pursuing a bicycle-friendly status, and pursuit of the recommendations listed above will yield positive results for a potential bike share system, and for the bicycling community as a whole.

5.3 System Size and Service Area

Based on the local analysis provided in Section 4 of this report, Figure 14 shows the approximate service areas for bike share in Albany. These are divided into Phase 1 and Phase 2. Phase 1 represents the core of the city and places where the system is expected to have very high utilization. Phase 2 represents an expansion of the system further into neighborhoods that have high potential to benefit from bike share, but will require a greater commitment of funding and outreach to succeed. Many cities have employed phased expansions of their systems, choosing a smaller area to “pilot” the program in the core of the city, and then expanding to outlying areas once success has been established.\textsuperscript{14}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure14.png}
\caption{Proposed Phase 1 and Phase 2 for Bike Share in Albany}
\end{figure}

\textsuperscript{14} Capital Bikeshare in Washington, D.C., began with 49 stations/400 bikes in 2010 and has expanded incrementally to 199 stations/1,700 bikes in 2013. The Hubway in Boston, MA, launched with 45 stations/450 bikes in 2011 and has expanded to 105 stations/1,000 bikes by the end of the 2012 season. Both systems have expanded to include multiple municipalities.
The initial service area for Phase 1 is approximately 3.5 square miles. Ideal bike share station spacing is between 0.25 and 0.5 mile, so the initial service area can support approximately 15 – 20 stations, or 150 to 200 bikes. Although the exact vendor and bike/station specifications are not determined at this time, an approximate cost range for a third generation, station-based system is provided in Table 7. A bike share system in Albany would best benefit from a combination of capital investment by both public (federal, state and local) and private (corporate, institutional and foundation) sources.

The costs associate with a bike share system can be broken down into three major categories: launch, capital and operating costs.

**Launch Costs**: These are a number of “general system start-up” costs associated with establishing the system. These are mostly one-time costs (or are significantly less in future phases) that include “up-front” costs such as hiring employees, procuring a storage warehouse, purchasing bike and station assembly tools, website development, communications and IT set-up, and pre-launch marketing. There may be opportunities to reduce some of these costs through partnerships with other organizations or public agencies (e.g. using City-provided warehouse space). Each phase also has a start-up cost, although significantly less than the initial cost, which includes site planning and permitting, bike and station assembly, station installation, etc.

**Capital Costs**: These are costs associated with purchase of equipment including stations, kiosks, bikes and docks. Equipment costs vary depending on system parameters such as the number of bikes per station or the number of docks per bike, but also depend on additional features such as additional gearing/speeds for the bikes, an independent lock, or equipping bikes with GPS. Per station capital costs vary between vendors and depend on features and station size, but typically range from $45,000 to $55,000 per station.

**Operating Costs**: Operating costs include those required to operate and maintain the system. This includes staff and equipment related to:

- Station maintenance, including troubleshooting any technology problems with the kiosk or docking points, cleaning and clearing the station, snow removal, removing litter and graffiti, etc.
- Bike maintenance, including regular inspection and servicing of bikes as well as maintaining equipment inventory, etc.
- Rebalancing – typically the highest operating cost for the system is the staff time and equipment associated with moving bikes from full to empty stations.
- Customer service – providing a responsive customer interface for enquiries and complaints as well as performing marketing and outreach to new and existing customers.
- Direct expenses, such as maintaining an operations facility, purchasing tools and spare parts, upkeep of software, communications, and IT, and general administrative costs such as insurance.

Operational costs will depend on numerous factors, but are most influenced by the Service Level Agreement (SLA), which sets out the operating terms that must be met, e.g. how long a station can remain empty, how often bikes are inspected, snow removal policy, etc. The SLA will need to balance operating costs with the impact on customer service from any operating cost cuts. Depending on the SLA, operating costs could range from $2,400 to $3,100 per bike per year.

The costs shown in Table 7 represent the approximate costs for the first year of a 15-20 station system. In subsequent years, exact costs will depend on the growth of the system. Operating costs will remain the same as
the first year, or increase slightly if more bikes and stations are added to the system. Capital costs will likely be much lower in subsequent years, although there may still be some if more stations and bikes are added to the system. Launch costs for each additional year of operation will likely be much lower than in the initial year. City agencies and other organizations can play a key role in minimizing costs by providing station right-of-way and a streamlined permitting process. There may be other in-kind contributions to reduce budget line items such as providing free or low-cost warehouse space, utilizing the existing City vehicle fleet, staff assistance for map design and production, assistance with marketing and promotion, etc.

Table 7: First Year, Phase 1 Cost Estimates

<table>
<thead>
<tr>
<th></th>
<th>15 stations/150 bikes</th>
<th>15 stations/150 bikes</th>
<th>20 stations/200 bikes</th>
<th>20 stations/200 bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>Low: $700,000</td>
<td>High: $850,000</td>
<td>Low: $900,000</td>
<td>High: $1,100,000</td>
</tr>
<tr>
<td>Launch</td>
<td>Low: $200,000</td>
<td>High: $250,000</td>
<td>Low: $300,000</td>
<td>High: $350,000</td>
</tr>
<tr>
<td>Operating (per year)</td>
<td>Low: $350,000</td>
<td>High: $450,000</td>
<td>Low: $500,000</td>
<td>High: $600,000</td>
</tr>
<tr>
<td>Total</td>
<td>Low: $1,250,000</td>
<td>High: $1,550,000</td>
<td>Low: $1,700,000</td>
<td>High: $2,050,000</td>
</tr>
</tbody>
</table>

6 Next Steps

In order for the City of Albany to feature a bicycle-share program in the near future, the following “road map” of next steps is recommended:

1. Continue progress on making Albany a more bike-friendly city to increase residents’ and visitors’ confidence that bike share will be accessible and safe. Specific recommendations from the Bicycle Friendly Community Feedback Report that will have a direct or immediate impact on the success of bike share include:
   a. Expand the Bicycle & Pedestrian Coordinator’s time focused on bicycle projects. This will be especially important for the fundraising, planning and initial launch stages of bike share;
   b. Reduce city-wide traffic speeds and implementing traffic calming measures to make the roads safer for all users;
   c. Provide designated bicycle facilities on arterials and collector roads, improve intersection safety for bicyclists, and develop a system of bicycle boulevards. People will feel more comfortable using bike share when there are clear, safe routes for them to follow. The most critical corridors for improvement

Figure 15: Bike facility improvements along key roadways such as State Street will encourage more cycling and help lay the groundwork for bike share in Albany
include:

i. Madison Avenue

ii. Clinton Avenue (along the stretches currently without bike lanes)

iii. Western Avenue

iv. State Street (both the one-way section and two-way section downtown)

d. Encourage institutions of higher education and local businesses to promote bicycling, and implement transportation policies that encourage alternative transportation choices (i.e. maximum or no minimum car parking standards). This will help increase the demand for bike share;

2. Maintain the current bike share feasibility advisory committee and expand to include other civic and business leaders

3. Investigate federal funding options and work with regional, state, and federal representatives to ensure support at all levels of government

4. Meet with potential sponsors, including educational institutions, hospitals, corporations, other businesses and state agencies in pursuit of additional funds

5. Collect example RFIs, RFQs and RFPs from other cities and seek proposals from qualified non-profits and for-profit operators of a potential system.

6. Work carefully with the media to promote bike share, and help people understand what it is and what the benefits are.

7. Set goals for year one so the City and the community have the ability to gauge success. These goals could include the number of members enrolled or the total number of trips taken. In subsequent years, goals might include expansion to other locations within the Capital Region.

Implementing the Next Steps listed above will help bike share to become a reality in the next 2-5 years in Albany. In that time frame, the City has the opportunity to make bicycling a more integral part of the city’s transportation system and culture. Albany has the potential to be a place where a greater percentage of the population sees bicycling as a safe, convenient and fun way to travel for commuting, errands or recreation. The incorporation of the Next Steps and the City’s on-going sustainability efforts will make Albany a great candidate for a successful Phase I launch in the near future. With the core bike share system in place, an expansion and perhaps regional satellites in Troy, Schenectady and Saratoga Springs are possible.