Pinellas County Metropolitan Planning Organization (MPO)
Bike Share Feasibility Study

Pinellas County, Florida

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Pinellas County Metropolitan Planning Organization

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Pinellas County Metropolitan Planning Organization
Bike Share Feasibility Study

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Executive Summary

Bike share is a network of bicycles and stations that allows users to make short trips (1-3 miles) quickly, conveniently and affordably. The simple act of getting more people on bikes benefits public health, reduces motor vehicle traffic congestion, and improves access to economic opportunity. A bike share system that is strategically deployed in Pinellas County achieves those goals and, would reinforce the county’s commitment to alternative forms of transportation.

Bike share is a component of a strong transportation network, potentially moving thousands of people or more per year at relatively low cost, as compared to other transportation system investments. A small scale bike share system (e.g., 200 bicycles, 20 stations costs between $1 million and $1.5 million) could have a positive impact on Pinellas County’s transportation network. The most recent, or “fourth generation” bike share systems, which includes GPS-equipped bicycles and modular stations that use solar power and wireless communications, is the recommended system type. The benefits of “fourth generation” bike share technology include; real-time user data collection and analysis that is useful for better planning along high-priority route networks for bicyclists, location flexibility which allows for the relocation, expansion, or reduction of stations to meet market demand, etc.

Numerous cities around the world have implemented bike share systems with differing frameworks for ownership, operations, and maintenance. This study considered the advantages and disadvantages of an operating non-profit, administrative non-profit, direct contract with an operator, and privately owned and operated bike share systems. An administrative non-profit that owns the bike share infrastructure in partnership with a private operating contractor is recommended as the preferred business model as it maximizes potential revenue sources, utilizes the expert skills of the private sector to launch and operate the system, and strikes the greatest balance of minimizing risk while maintaining control and transparency for the public agency.

Another aspect of bike share that was evaluated entailed an analysis of the feasibility of establishing a “countywide” bike share system. Based on our examination of several bike share indicators, we believe that the City of St. Petersburg and portions of the downtown Clearwater area are well-suited for bike share and should be the initial focus. Our careful examination of Broward B-Cycle, the only system identified through our research as a county-level system, concluded that this system is, in fact, not “countywide” but is deployed in a strategic manner with stations primarily located along State Road (SR) A1A. SR A1A is the primary north-south state road along Florida’s east coast and runs mostly parallel to the Atlantic Ocean coastline. Broward B-Cycle has a few stations inland but the vast majority of its 26 stations are located on the SR A1A corridor in cities such as Pompano Beach, Lauderdale by the Sea, Fort Lauderdale, Dania Beach, and Hollywood. Pinellas County’s coastal geography and number of municipal jurisdictions are somewhat similar to Broward County so there is the potential for a similar system to be deployed along Gulf Boulevard that serves several of our beach communities. Furthermore, a fourth-generation bike share system deployed along Gulf Boulevard would also support the “Enhancing Beach Access” emphasis area that was established by the MPO Board in 2015.
This study recommends the Pinellas County MPO be the “convening entity” to bring bicycle sharing to the residents and visitors of Pinellas County. To that end, the Pinellas County MPO should take the following steps to bring bicycle share to Pinellas County:

1. **Create a Bike Share Implementation Taskforce, with staff from key communities and stakeholder groups, to work with the Pinellas County MPO to develop and execute an implementation plan.**

2. **Develop an implementation plan that includes strategies to:**
   - Builds upon the City of St. Petersburg’s Bike Share system.
   - Identify an existing or create an administrative non-profit entity.
   - Conduct advanced feasibility analysis to include potential station locations, density and ridership.
   - Identify and secure funding for system capital and operational costs.
   - Build relationships with Pinellas County, local governments, and the Pinellas Suncoast Transit Authority (PSTA), to gain official support through instruments such as a memorandum of understanding, city council action (an ordinance or resolution), etc.
   - Secure sponsorship commitments from the private and public sectors.
   - Review the City of St. Petersburg’s contract to determine if the framework and terms are agreeable to other interested municipalities (the concept is for the system to be publicly owned by the cities, and operated by a private contractor, which allows multiple municipalities to contract individually or collectively with the St. Petersburg operator, and allows for expansion to serve additional communities).
   - Work with interested municipalities to develop model land development regulations so that bike sharing systems are properly designed for compatibility with surrounding uses and structures.
   - Development of a “sole source” justification to utilize St. Petersburg’s operator and pricing structure
   - Confirm funding recipients for capital and rolling stock costs.

3. **The Pinellas County MPO works with key communities and stakeholder groups to implement the plan under a multi-jurisdictional framework.**

4. **Participating agencies execute an agreement with the Administrative Non-Profit Organization.**

By pursuing the recommendations listed above, launching the first phase of a bike share system in 12-24 months is a not unreasonable. Upon the success of the first phase, future expansion could include sponsored stations or another capital campaign to expand into additional areas.

**Acknowledgments**

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1 Introduction

The Pinellas County Metropolitan Planning Organization (MPO) has an established goal of providing a balanced and integrated multi-modal transportation system to help meet the growing mobility needs in our communities. This commitment to multi-modal transportation is embodied in the numerous financial resources that have been invested to expand bicycle transportation. The 2040 Long Range Transportation Plan (LRTP) identifies 346 miles of planned bicycle lanes and 150 miles of multi-use trails in its Policy Plan. These new bicycle facilities will build upon the existing network of 170 miles of bicycle lanes and 100 miles of trail facilities throughout the county. As sharing technologies have evolved, the transportation sector is changing to capitalize on new ways to move people from place to place. Over the last several years, bike sharing has increased in popularity and been implemented in communities of all sizes across the United States. This relatively new transportation concept has been recommended to the MPO as a means of providing a highly accessible and affordable mobility option for residents and visitors throughout Pinellas County.

The typical bike share program consists of a fleet of publicly accessible bicycles typically used for short trips in urbanized areas, and often in combination with transit, which distinguishes this from traditional rental bicycles. The Pinellas County MPO has commissioned this study to better understand the characteristics that make those systems successful and to determine if bike sharing is feasible at a countywide-level. To assist in the development of the study, the MPO’s Bicycle Pedestrian Advisory Committee (BPAC) established a subcommittee of knowledgeable and interested members who have dedicated their time and attention to this topic. Over the last several months, the bike share subcommittee has met to review all aspects of bike sharing programs including; the elements of a bike sharing system, various business models, potential funding sources and financing options, regional characteristics that support bike share, and local land development controls that are needed to regulate bike share systems. The subcommittee has also closely followed the City of St. Petersburg’s bike sharing initiative in order to gain first-hand knowledge of the challenges and opportunities associated with procuring and implementing this type of transportation system. This Pinellas County MPO Bike Share Feasibility Study combines content from two surveys, three advisory committee presentations, and four bike share subcommittee meetings to provide an overview of what a potential Pinellas County bike share system could look like, and key factors that should be considered when deciding whether and how to pursue the implementation of a system.

The objectives of this study are to:

- Inform key decision makers, potential partners, and stakeholders about the benefits of bike sharing;
- Evaluate the framework for a regional bike share system that allows multiple communities to participate and provide a consistent user experience and a single pricing structure;
- Convey experiences from other systems around the United States and demonstrate potential demand areas in Pinellas County; and
- Present various funding options and business models including those most applicable to Pinellas County.
The following Section 2 of the Bike Share Feasibility Study provides background context for bicycle sharing programs, including a brief history of the bike share technologies and a detailed listing of program elements and considerations. Section 3 outlines the benefits of a bike share program, while Section 4 lists the various business models and funding sources that have been employed around the United States. Section 5 includes an analysis of funding options related to the financing of bike sharing programs and Section 6 includes a geographic information system (GIS) based bike share demand analysis of Pinellas County. Section 7 outlines other potential regulatory challenges and Section 8 contains further details on a regional governance business model. Section 9 concludes the report with summary and potential next steps for system implementation.

The Pinellas County MPO Bike Share Feasibility Study is a planning document, and as such makes a number of assumptions. It will be the job of the program administrator, in conjunction with the chosen equipment vendor and operator, to refine the assumptions as necessary.

2 What is Bike Sharing?

2.1 Overview and History

Bike sharing provides a cost-effective and convenient mobility option for trips too far to walk, but not long enough to justify waiting for transit. Other shorter trips that are usually made by private vehicle may also be replaced by utilizing bike sharing. A bike share system consists of a network of bikes placed at stations situated at key locations around a specific area and is an effective extension of an area’s public transportation options. The industry has experienced significant growth over the last several years and now more than 600 cities around the world have invested in bike sharing.¹

Bike sharing has been around, almost exclusively in Europe, for the last 40 years. Until recently, these programs experienced low to moderate success because of high rates of vandalism and poor organization. However, in the last five years innovations in system hardware and software have given rise to a new generation of technology-driven bike share programs. These improvements along with a renewed emphasis on healthy lifestyles have led to the growing implementation of bike sharing in the United States.

Figure 1 - Municipal Bike Share Systems around the United States

¹ Keeping Bike Shares Running Smoothly Requires Seriously Complex Math, Gizmodo, 27 August 2014
The history of bike sharing can be tracked with improvements in technology that support these programs. First-generation bike share programs began in the 1960’s and were comprised of a fleet of bikes with a distinguishing feature (e.g., painted white) distributed around a city for free use. Locally, the Tampa Downtown Partnership initiated a first-generation program in 1997 and Eckerd College instituted its “Yellow Bike Program” in the spring of 2004. Both programs suffered from theft and vandalism and are the key reasons for the failure of many first-generation bicycle sharing programs. To add some accountability, second-generation systems introduced a locking mechanism and required a check-out deposit payable at pickup and returned at drop-off. An example of this system is the Copenhagen Bycyklen (“City Bikes”), founded in 1995, which required a coin deposit to release the bicycle for use. However, the minimal deposit was not enough to significantly reduce theft. The main problem with first and second-generation bike sharing was a lack of accountability, resulting in the development of third generation bike share systems, which are characterized by credit card transactions and RFID chips (radio-frequency identification). Vélo à la Carte in Rennes, France, was the first city-scale bike-share program to use magnetic-stripe cards and RFID technology. The system was a partnership between the City of Rennes and Clear Channel, the mass media company, which developed and operated the new “Smart Bike” technology. This program was offered by the city free of charge and included 200 bikes at 25 stations when it was initially launched.

Figure 3 - Eckerd College alumni ride “Yellow Bikes” at the 2013 Reunion Weekend. Source: Flickr

“Fourth-generation” systems are modular systems that do not require fixed locations because they use solar power and wireless communication, as opposed to hardwired installation. In this way, the stations can be moved, relocated, expanded, or reduced to meet demand. Bike share installations in Denver, Minneapolis, Miami Beach, Washington D.C., and Boston utilize fourth-generation technology.

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Table 1: Historic Development of Bike Sharing Technology

<table>
<thead>
<tr>
<th>Generation</th>
<th>Years</th>
<th>Features</th>
<th>Pros/Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Generation (free</td>
<td>1960’s</td>
<td>Distinguishing looking bikes (i.e. certain paint</td>
<td>Subject to theft and poor organization</td>
</tr>
<tr>
<td>bikes)</td>
<td></td>
<td>color)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Generation (coin</td>
<td>1990's</td>
<td>Locking mechanism and check-out deposit</td>
<td>Minimal deposit not enough to significantly reduce theft</td>
</tr>
<tr>
<td>deposit system)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Generation (IT-</td>
<td>2005</td>
<td>Credit card transactions and radio-frequency</td>
<td>Allow user identification and a security deposit to ensure accountability</td>
</tr>
<tr>
<td>based system)</td>
<td></td>
<td>identification chips</td>
<td>against theft and vandalism</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; Generation (demand</td>
<td>2008</td>
<td>Solar power and wireless communication</td>
<td>Allows for modular systems that do not require a fixed location</td>
</tr>
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<td>responsive)</td>
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</table>

2.2 System Elements

The components of a modern bike share system include a network of stations, a fleet of bicycles, software and maintenance/redistribution teams that operate the system. These elements are described in further detail below.

Bicycles

Bicycle share fleets typically consist of upright bicycles, with step through frames and adjustable seats to allow use by adults of any height. Most models feature a chainguard and 3-speed internal hub gearing, which protects the most vulnerable mechanical parts of the bicycle from exterior wear. Bicycles can be equipped with additional gears if steep topography is a consideration (a 7-speed internal hub is increasingly common). Most bicycles also have built in safety features such as pedal-powered lights, thick tires, a bell, and reflectors. Some models also include a rack or basket for holding small items, and GPS units that are used to track bicycle locations for system monitoring (operations) and planning. The numerous accessories and rugged construction for durability makes the bicycles heavier than most consumer models, often weighing 40-50 pounds. The weight and upright riding position of the bicycles encourages users to travel at moderate speeds. Although electric-assist bicycles have been explored as part of several bike share systems, the higher capital and maintenance costs typically exclude such bikes from being feasible for financially-constrained systems.
Stations
Bicycle share stations have two main elements: the kiosk provides the interface where users initiate a transaction to rent a bicycle, and a number of docks that securely hold bicycles waiting to be checked out and accept returns. A typical bicycle share station consists of a single kiosk and anywhere from 5-10 to several dozen docks, depending on local demand and available space. Minimum station size by number of docks varies among equipment vendors.

Kiosks
The kiosk, or pay station, provides the interface where users complete a transaction to rent a bicycle, which can include purchasing a single ride, a weekly pass, or annual system membership. A credit card or system membership card is usually required to complete the transaction. Fourth-generation bicycle share kiosks are solar-powered, which differs from third-generation systems that are hard-wired to local utilities.

Docks
Once a transaction at the station kiosk is complete, the kiosk will direct the user to a dock where the user can unlock a bike, typically through use of a temporary PIN code or membership card swipe. When the user has completed their trip, they can return the bicycle to any empty dock at a station to complete their rental. The dock that accepts the bike will then lock the bike in place until it is needed for another rental. Fourth generation bike share docks are modular, coming in plates of several docks each, allowing station size to be expanded or reduced adjusted if warranted by user demand.
Flexible Station Placement
A key advantage of fourth-generation bicycle share technology over hard-wired systems is the ability to relocate stations as necessary to serve demand. This can include relocating stations if they are underperforming at current locations, or adjusting station size or availability based on its seasonal demand profile. In the latter scenario, for example, a tourist-oriented station that requires active management for balancing may not be worth the cost to operate during the off-season when demand is lower. By removing and storing the station for several months, the program may help limit unnecessary operating costs. Fourth-generation station designs thus help limit risk associated with choosing either the ‘wrong’ station location or a highly seasonal location. Such limited impacts to existing infrastructure and flexibility in station placement may also limit the need for an extensive development review process.

Operations
Operating costs include those required for operating and maintaining the system and include hiring employees for operational tasks such as maintaining the stations, bikes, and other infrastructure, rebalancing the system, providing customer service, etc. Generally, the operating parameters of the system are agreed upon during contract negotiations and documented in a ‘Service Level Agreement’. These represent the contractual obligation of the operator and balance user experience and cost to provide the service.

Rebalancing
For larger systems, a dispatch center will work to alleviate usage pressures on the system, including the following considerations:
- Full stations: The highest priority goal of operators is to empty full stations as soon as possible, as this is the top frustration from members;
- Empty stations: A close secondary goal is to supply empty stations with bicycles;
- Station clusters: Stations located near each other may be analyzed to determine the level of urgency of redistributing bikes. For example, if locations closest to a problematic station are
empty or full when that station is empty or full, it may be less urgent to attend to that station, because users can easily access a different station within one or two minutes; and

- Predictive modeling tools: For the first two to four months of operation, vendor/operator will rely on best estimates for optimal bike numbers for each station at any given period, especially peak periods. Predictive model mapping allows operators to “right size” bicycle fleets at all stations during critical demand periods, especially at those stations with extreme high/low demands at specific times and for special events.

**Data Tracking**

Back-end software and computer hardware provide on-the-ground operators with tools for real-time management of the docking system in order to facilitate maintenance, repair, and redistribution. It is important to note that all individual identification is stripped from all back-end data to protect the privacy of users. The system allows monitoring of the following conditions:

- Number of empty docking points and bicycles available at any site;
- Functional status of bicycles;
- Traffic and usage patterns of docking stations and bicycles;
- Real-time locating of any bicycle at any docking station in the system; and
- Other usage data that the back-end software and computer hardware generates includes:
  - Bicycle miles travelled (from GPS or estimates of average trip length)
  - Number of trips and their duration
  - Number of subscribers with each type of subscription
  - Number of uses
  - Number of uses per subscriber per day, week or month
  - Average number of miles biked per subscriber (based on average trip length estimates)

**Maintenance**

Most bike share programs have established maintenance programs for system components, including bicycles, docks, and terminals. Utilizing wireless technology, bike share stations are able to be monitored remotely in real time, so they do not require regular on-street checking. Any issues that cannot be addressed remotely are addressed by station technicians in the field. Bike share bicycles and stations are regularly inspected and serviced to ensure proper safety, functionality, and cleanliness. Broken bicycles can be reported with the push of a button on the dock, which allows the control center to “lock” that bike and prevent it from being taken out by another user. Some vendors/operators utilize existing bike shops in order to provide maintenance services for the system.

**Marketing & Customer Service**

*Call Center* - The call center represents an important interface with the customer to deal with inquiries ranging from membership, fee structure, billing and payment, incident or breakdown reporting, full or empty station reports, troubleshooting, complaints, etc. The call center can be established locally, or merged with an existing system, although an intimate knowledge of the technology and the specifics of
the system are critical. Call volumes tend to be high during the first few months of operations and during peak visitor seasons.

Promotions - For the most part, existing bike share systems have operated with small marketing budgets relying on word-of-mouth and visibility of the bikes themselves for promotion of the system. That said, targeted campaigns particularly using social media are effective in targeting early adopters and high-use demographics. Bike sharing should be rolled into existing bicycling media such as trail maps, visitor guides, etc. Promotional events also help to increase the profile of the system. Examples from other cities include: system launch party, photo and mileage contests, “cycling season” promotions, targeted marketing of annual memberships around the holiday season, membership offers through discount services such as Groupon and Living Social, and even a “Mayor’s” bike promotion.

Website and Mobile Applications - Engaging and interactive websites and increasingly, applications for mobile devices are essential to attract and serve bike share members, and for reporting on system functionality and other data. The latter can include real-time display of full/empty stations, special event locations, and personalized summaries of trips taken, distance traveled, calories burned, and other measures.

Insurance and Liability
In most systems, the vendor/operator obtains an insurance policy that covers almost all liability (e.g. general liability, workers compensation, automobile, etc.) except that theft and vandalism of the bikes, which is covered by the replacement fund (note: insurance can be obtained to cover bikes while they are in stations or in storage). The vendor/operator typically indemnifies related agencies, private property owners who host a station, and other partners. Although not included in most contracts or agreements, insurance that protects against force majeure (i.e. "chance occurrence, unavoidable accident") is strongly 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.

Emerging Models and Other Considerations
Station-less Systems - As a constantly evolving transportation sector, there are emerging concepts and strategies that may offer an alternative to (or options within) the station-based “fourth generation” systems that have come to represent modern bicycle sharing in the United States. One such example is the station-less bicycle share model, which attempts to utilize improved technology and communications to solve issues that plagued older “second generation” systems. Similar to fourth generation systems, station-less models can employ sophisticated locking solutions and Global Positioning System (GPS) tracking to deter theft and vandalism, and generally improve accountability. Instead of formal custom stations with kiosks, however, each bicycle has its own independent locking “unit” and bicycles can be parked anywhere within a certain designated zone or zones. The point of sale
interface is handled via computer or smart phone, which is also how users are able to locate and reserve bicycles in advance.

Although less capital intensive (and thus less expensive), there are several potential drawbacks to the stationless model. First, the system is less visible and accessible to the public, which inhibits demand particularly for spontaneous trips. Second, the reliance on individual smart phones and computers can be a barrier to entry for many lower income communities. More information on two examples of station-less systems can be found at www.socialbicycles.com and www.viacycle.com.

3 Benefits of Bike Sharing

This section provides a summary of some of the financial, health, environmental, and transportation / mobility benefits of bike sharing.

3.1 Financial Benefits

Bike sharing is less expensive and is a more easily implemented urban transportation option when compared to most other transportation modes. For example, the initial 1,100 bike launch of Capital Bikeshare in Washington, D.C. cost approximately $6.2 million, several orders of magnitude less than the cost of constructing a mile of urban freeway and was operational in a matter of months.

Data suggests that bike share systems are able to cover most operating costs with user-generated revenues and sponsorships, such that ongoing public subsidies may not be needed. Whether these revenues provide full “farebox recovery” (i.e. the percentage of operating cost recovered by user revenues) or simply cover a majority of operating costs is a major difference between this mode and traditional rail and bus transit systems. Typical bike sharing systems operate with farebox recovery ratios of between 25% and 50%. In comparison, in FY 2010/2011 the Pinellas Suncoast Transit Authority (PSTA) reported a farebox recovery ratio of 25.3%.

To completely cover operating costs through user revenues may or may not be possible in Pinellas County; however, where user fees do not cover the cost of operating the system, other communities have been able to pick up the shortfalls through other sources including private-sector contributions/sponsorships, local public funding, etc.

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4 Web-based, informal bicycle sharing models are also emerging in several cities. A recent summary of such efforts can be found here: http://www.nytimes.com/2012/08/19/nyregion/spinlister-and-social-bicycles-develop-bike-sharing-alternatives.html

5 Pinellas Suncoast Transit Authority Transit Development Plan Progress Report FY 2013 – FY 2022
Bicycling, and in particular bike sharing, is an affordable form of transportation. Transportation is second to housing as a percentage of household budgets, and is a top expense for many low income families. The cost of using a bike share bicycle for a year can be as low as the annual membership fee, typically between $50 and $100 per year, compared to $7,800 for operating a car over the same time period.\(^6\)

The implementation of a bike share program also has the potential to bring economic development and increased economic activity to the surrounding area.\(^7\) Studies indicate that there has been increased economic activity associated with Nice Ride bike sharing stations in Minneapolis and increased accessibility to business transactions. Positive attitudes towards bike sharing by local businesses have also been observed, as there has been an increase of economic activity in businesses located in close proximity to bike sharing stations.\(^8\) This same phenomenon has been present in Miami Beach, where around 80% of bike share system users were more likely to patronize a business with a bike share station close-by.\(^9\)

Bike sharing systems can also:

- Create “green” jobs with on-going positions for managing and operating the system;
- Provide existing businesses an additional way to get customers to their front door or to provide employees with an inexpensive transportation option for commuting to work and running

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errands during the day (bike sharing could form part of a developer’s Transportation Management Plan);

- Provide businesses of all sizes an opportunity for brand development through station and/or bike sponsorship;
- Bike sharing also represents a positive “community amenity” contribution for many companies and real estate developers; and
- Help household budgets. Bike sharing can reduce transportation costs, and in some cases – often coupled with transit – could eliminate the need for an extra vehicle.

3.2 Health Benefits

The health benefits of bicycling are well documented and include the potential to reduce obesity, heart disease, and other sedentary lifestyle diseases. The potential synergies between bike sharing programs and health have attracted considerable interest from the health care industry, with several examples where health care providers have become major sponsors of bike sharing systems. This relationship between bicycling and health has resulted in Blue Cross and Blue Shield of Minnesota sponsoring the bike share system in Minneapolis and Kaiser Permanente sponsoring the bike share system in Denver. This potential exists with the number of major medical providers in Pinellas County such as Florida Hospital and Baycare Health System.

Healthy, active lifestyles are well-promoted and represented within Pinellas County but more remains to be done. For example, the 2012 Behavioral Risk Factor Surveillance System (BRFSS) survey conducted by the Centers for Disease Control and Prevention revealed that 22.4% of Pinellas County adults did not participate in leisure-time physical activity. Furthermore, Pinellas County residents have a higher prevalence of being overweight and obese; suffer from a stroke, heart disease, and/or diabetes than the general population in Florida or the United States.

Over the past two years, the Pinellas County MPO has partnered with the Florida Department of Health in Pinellas County to mitigate the risk factors for chronic diseases resulting from limited access to physical activity opportunities. This effort is through the framework of the Partnerships to Improve Community Health (PICH) grant program whose goal is to promote greater levels of physical activity by making improvements to parks and trails that support walking and biking. This existing partnership should be further explored to determine if bike sharing could be considered an eligible project under this grant program.

3.3 Environmental Benefits

Bike sharing is practically carbon neutral. Stations can be solar powered and environmentally friendly facilities and equipment can be chosen for operations (such as cargo bikes or electric vehicles) for system rebalancing.

Bike sharing reduces the environmental footprint of a region’s transportation system in many ways. Some bike sharing trips directly replace vehicle trips; reducing vehicle miles traveled (VMT) and vehicle

10 http://www.cdc.gov/brfss/annual_data/annual_2012.html
emissions. When bike share stations are located at transit stops, bike sharing can also increase the feasibility and accessibility of transit, indirectly increasing the likelihood of replacing vehicle trips in the region with bike-transit trips. Bike sharing also indirectly increases the number of people in the community riding private bicycles by introducing new users to bicycling without the upfront expense of purchasing a bicycle. Many American bike sharing systems have found that a common reason for discontinued memberships is that the member had recently purchased a private bicycle.

3.4 Transportation/Mobility Benefits

There is general consensus on the mobility benefits that can be realized from bike sharing programs. These benefits can be categorized as benefitting user and/or area as follows:

- Extends the reach of transit by providing a first- and last-mile transportation solution or providing service to under-served areas or areas that do not justify the cost of other transit options;
- Reduce reliance on the private automobile;
- Requires less infrastructure investment than other modes;
- Encourages more bicycling;
- Introduces people to cycling who do not typically ride;
- More bicycles on the road increases the safety of other cyclists;
- Makes a community more livable and neighborly; and
- Reduces barriers to cycling as there is no need to own or store a private bicycle or to worry about locking your bike and having it stolen.

A portion of new bike share users will likely substitute bike share trips for trips they would have otherwise made on foot or by bus. Ideally, however, people will recognize that between bike share and local/regional transit, many car trips can be replaced by these alternative and sustainable modes of travel.

The Pinellas County MPO also expressed concerns with the impact that any potential bike share system would have on existing bike shops. To that end, the subcommittee conducted outreach to bike shop owners to determine their opinions on bike sharing and whether or not it would negatively impact their businesses. Unfortunately, the response rate to the survey was lower than expected and the results were mixed so phone interviews were also conducted. Of those bike shop owners that responded, a majority did not rent bikes or received only a small percentage of their annual revenue from bike rentals. Furthermore, most did not consider bike sharing as a threat to their businesses; rather they considered it as an opportunity to get more people riding bicycles which may lead to those persons purchasing a bicycle from a local bike shop in the future. We also contacted a national bike share vendor/operator to determine if they integrated existing bike shops in their operations and found that maintenance services was the primary means of their participation. In most other business models, bike shops do not have a role in bike share because local bike shop rentals are serving a different segment of the market.
4 Business Models

4.1 Business Models

American bike share systems operate under many different business models. In fact, each existing system has a governance and organizational structure that fits the needs of the local market, municipal procurement regulations, and the funding source or sources. An overview of a sampling of American bike share business models is included in Table 2.

Table 2: Selected American Bike Share Systems Business Models

<table>
<thead>
<tr>
<th>Name</th>
<th>Stations / Bikes</th>
<th>Operations</th>
<th>Ownership of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>BICI Bike Share (Albuquerque, N.M.)</td>
<td>10/50</td>
<td>Completely private system, privately owned and operated, lease agreement only.</td>
<td>Zagster (private company)</td>
</tr>
<tr>
<td>Boston New Balance Hubway</td>
<td>155/1,500</td>
<td>Public-private partnership; operator direct contract with the City of Boston, other municipalities to contract directly with operator (RFP issued by the regional planning agency).</td>
<td>City of Boston (government agency) City of Cambridge (government agency) City of Somerville (government agency) Town of Brookline (government agency)</td>
</tr>
<tr>
<td>Broward B-Cycle</td>
<td>26/275</td>
<td>Non-profit owned and privately operated.</td>
<td>Broward B-Cycle (non-profit)</td>
</tr>
<tr>
<td>Capital Bikeshare</td>
<td>337/2,500</td>
<td>Operator direct contract with both Washington, D.C. and Arlington County</td>
<td>DDOT and Arlington County (government agencies)</td>
</tr>
<tr>
<td>Chattanooga Bicycle Transit System</td>
<td>30/300</td>
<td>Public-private partnership; operator direct contract with local transit agency (which received federal funding).</td>
<td>Outdoor Chattanooga (government agency)</td>
</tr>
<tr>
<td>Chicago Divvy Bikeshare</td>
<td>500/5,000</td>
<td>Completely private system, privately owned and operated, concession agreement only.</td>
<td>Bike N Roll (private company)</td>
</tr>
<tr>
<td>Citi Bike Miami/Miami Beach</td>
<td>100/1,000</td>
<td>Completely private system, privately owned and operated, concession agreement only.</td>
<td>DecoBike (private company)</td>
</tr>
<tr>
<td>Cleveland Bike Share</td>
<td>14/70</td>
<td>Completely private system, privately owned and operated, lease agreement only.</td>
<td>Zagster (private company)</td>
</tr>
<tr>
<td>Coast Bike Share (Tampa)</td>
<td>30/300</td>
<td>Completely private system, privately owned and operated, concession agreement only.</td>
<td>Private Company</td>
</tr>
<tr>
<td>Denver B-Cycle</td>
<td>84/700</td>
<td>Non-profit set up by the city.</td>
<td>Denver Bike Sharing (non-profit)</td>
</tr>
<tr>
<td>Nice Ride Minnesota</td>
<td>145/1,500</td>
<td>Non-profit set up by the city.</td>
<td>Nice Ride Minnesota (non-profit)</td>
</tr>
<tr>
<td>San Antonio B-Cycle</td>
<td>53/450</td>
<td>Governed by a non-profit set up by the city - operated by a bike rental company.</td>
<td>San Antonio B-Cycle (non-profit)</td>
</tr>
</tbody>
</table>
Based on the data contained in Table 2 and other industry examples, the core business models include:

- Operating non-profit (either pre-existing or established specifically) owns and operates the system;
- Administrative non-profit (either pre-existing or established specifically) owns and administers the system; operated by a private contractor;
- Privately owned and operated;
- Publicly owned; operated by a private contractor;
- Publicly owned and operated (no United States examples);
- Owned and operated as part of a street-furniture advertising contract; and
- Transit agency owned and operated.

More detailed descriptions of common models and liability considerations are provided below.

**Operating Non-Profit**
Similar to Nice Ride Minnesota and Denver B-Cycle, this model assumes a Non-Profit Organization (NPO) is formed whose mission is to create a bike sharing system. The NPO undertakes all aspects of creating the system, including funding it, establishing regional guidelines, procuring and establishing the equipment, procuring operations facilities, and providing expertise for operations. In other cities where an operating NPO has been established, there has not been an operating contract between the jurisdiction(s) and the NPO to define required service levels, reporting and other operational metrics, giving less control to the jurisdictions.

**Administrative Non-Profit with Private Operating Contractor**
Under this model, an NPO is formed whose mission is to create a bike sharing system. The non-profit undertakes funding the system, establishing guidelines, procuring the equipment, and choosing an operator. In this scenario the NPO hires a private contractor to implement and operate the system, acting as the client to the contractor. The non-profit could also undertake marketing functions for the system or outsource these services to a third party.

**Privately Owned and Operated**
Similar to Tampa’s Coast Bike Share, Miami Beach Citi Bike, Chicago’s Divvy, and New York City Citi Bike, municipalities contract with an operator for street space only using a concession agreement. The operator provides all funding for equipment and operations. Although this structure requires no public funding for capital or operations (a positive for the municipalities), it gives less control and transparency to the contracting jurisdictions, and there could be significant risk that such systems might fail due to the unknown long-term feasibility of completely privately funded and supported systems.

**Direct Contract with Operator**
Similar to Capital Bikeshare (Washington D.C.) and Hubway (Boston), municipalities within the same region contract directly with the operator using the overarching umbrella of a regional planning organization to establish similar standards across jurisdictions. There is no official board of directors,
although there is typically an ad hoc committee that forms consensus, and each jurisdiction acts as a separate client to the operator. Each jurisdiction can have a different source of funding and different revenue sharing arrangements with the operator. The jurisdiction(s) assume responsibility for initial and ongoing funding for the system.

5 Funding Options

It is a goal of this study to understand the types of user-generated revenues, government funds, corporate sponsorship and advertising opportunities, and other sources that could capitalize and sustain the operation of a program serving Pinellas County. It is important to acknowledge and understand the opportunities and challenges that will influence the funding of the capital and operating costs for a bike share program. For example, as a general rule, most Federal funding sources can be used to fund capital purchases but not pay for operational expenses.

Opportunities include:

- the presence of college campuses within the area that may be willing participants and possible sponsors for bike share;
- possible corporate sponsors for the program among the county’s major employers, particularly health care providers; and
- a very active and socially conscious population, possibly making crowdfunding an option.

Challenges include:

- constrained local government budgets;
- constrained availability of federal transportation funds due to competing projects;
- the lack of large private foundations or donors; and
- user revenues may be less than in larger cities, due to lack of high density population or employment centers.

5.1 Public Funding

Most U.S. systems have launched using a combination of public and private funding. However, the use of local public funding (versus federal or state public funding) has been limited to in-kind services such as staff time, right-of-way use, on-street parking revenues, etc. Sources of capital funds for systems that have utilized public funding include:

- Federal Highway Administration (FHWA) including; Congestion Mitigation and Air Quality Improvement Program (CMAQ), Surface Transportation Program (STP), and Transportation Alternatives (TA)
- Centers for Disease Control and Prevention (CDC)
- Federal Transit Administration (FTA)
- Department of Energy (DOE)
- State grants
- County transit oriented development funding tied to project areas around high frequency bus lines (e.g., Nice Ride Minnesota)
- Transportation enhancements associated with transit oriented development around new and existing bus routes
- Transportation Impact Fees

Table 3 provides details for various funding sources used in selected U.S. bike share systems.

### Table 3: Selected American Bike Share Systems Funding Sources

<table>
<thead>
<tr>
<th>System</th>
<th>Approx. Service Area</th>
<th>Launch Date</th>
<th>Total Capital Funding</th>
<th>Public Funding Amount</th>
<th>Private Funding Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston New Balance Hubway</td>
<td>8 sq. mi.</td>
<td>2011</td>
<td>$4 million</td>
<td>$3 million (75%, CDC CPPW, CMAQ, FTA, State grants)</td>
<td>$1 million (25%, multiple local sponsors and a naming sponsor)</td>
</tr>
<tr>
<td>Broward B-Cycle</td>
<td>25 sq. mi.</td>
<td>2011</td>
<td>$1.1 million</td>
<td>$300,000 (27%, FDOT funds)</td>
<td>$800,000 (63%, sponsorship/advertising)</td>
</tr>
<tr>
<td>Chattanooga Bicycle Transit System</td>
<td>3 sq. mi.</td>
<td>2011</td>
<td>$2 million</td>
<td>$2 million (100% CMAQ)</td>
<td>$0 (future sponsorships may be sought)</td>
</tr>
<tr>
<td>Denver B-Cycle</td>
<td>5 sq. mi.</td>
<td>2010</td>
<td>$1.5 million</td>
<td>$210,000 (16%, ARRA federal Energy Efficiency and Conservation Block Grant program)</td>
<td>$1.3 million (84% Kaiser Permanente as “presenting sponsor”, Denver DNC Host Committee, foundations, multiple station sponsors)</td>
</tr>
<tr>
<td>Nice Ride Minnesota (Phase 1)</td>
<td>12 sq. mi.</td>
<td>2010</td>
<td>$3 million</td>
<td>$1.75 million (58%, Bike Walk Twin Cities/FHWA) $250,000 (8%, City Convention Center Fund)</td>
<td>$1 million (33%, Blue Cross Blue Shield tobacco settlement funds)</td>
</tr>
<tr>
<td>San Antonio B-Cycle</td>
<td>3 sq. mi.</td>
<td>2011</td>
<td>$840,000</td>
<td>$840,000 (100% U.S. Dept. of Energy’s Energy Efficient and Conservation Block Grant program, CDC)</td>
<td>$0</td>
</tr>
</tbody>
</table>

Note: All numbers in this table are round numbers from various publicly available sources.

Public funding could potentially come from local sources such as parking revenues, special taxes, etc. Promotion and marketing of the system could also be funded and/or coordinated through established local government revenues and serve as their financial contribution to the system.

5.2 Advertising and Sponsorship

Selling advertising space, either on bicycle fenders or on information panels located on station kiosks, can generate revenue that supplements other funding sources. Advertising revenue is dependent on the number of people who will see the advertisement, and for this reason denser, larger cities will realize the most revenue. Sales of advertising space can be managed by a municipality, a non-profit owner and manager, or private contractor.
The sale of advertising space is significantly affected by local ordinances that regulate signage and advertising. Most Pinellas County municipalities have restrictions against off-site signage. Because of these regulations, the potential for using advertising revenue to support a bike share program is reduced, though current land development regulations could be amended to exempt commercial signage displayed on bikes and/or bike share stations.

Sponsorships are another strategy for raising funds from businesses, who often see sponsorship as a great opportunity for public recognition. For example, the New Balance shoe company entered into a partnership with the City of Boston to sponsor the entire system for its first three years, a contract which has since been renewed. Businesses can also sponsor individual, nearby stations in order to encourage people to visit their store. Sponsorship can come in a variety of forms, as shown below:

- **Title sponsorship:** where a company pays for full and exclusive sponsorship rights to the system and its components. The sponsor’s name is included in referring to the system, e.g., Citi Bike in New York City;
- **Presenting sponsor:** receives recognition in mention of the system, e.g., Denver Bikeshare presented by Kaiser Permanente. In most cases (e.g., Toronto, Boston, Denver), presenting sponsorship includes branding some of the stations and bikes, however presenting sponsors do not have exclusive rights to the system and share sponsorship with other organizations. A detailed valuation of presenting sponsorship would need to be conducted and negotiated with any potential sponsor(s);
- **Station and bike fleet sponsorship:** generally presentation of the sponsor's logo and/or a simple message, e.g., “this station is sponsored by company X” placed on the map frame, kiosk, and / or the docking points at a station or logos placed on the bicycle frames, baskets, or fenders. The value of station and bike sponsorship depends on the market and uptake is variable; and
- **Other:** webpage, back of receipt, membership keys, helmets, mobile applications, etc.

### 5.3 User Fees

Revenue from customers can be generated through memberships and usage fees. Current bike share systems have a variety of membership types, including annual, monthly, weekly, or daily. While prices vary, ranges are between $40 to $85 for annual memberships; $15 to $60 for a monthly pass; $15 to $30 for a three-day or weekly pass, and $5 to $8 for daily memberships. Annual and monthly memberships are usually targeted towards residents and shorter-term memberships are intended for tourists or visitors.

In addition to membership costs, bike share systems can charge a separate user fee for each time a bicycle is rented or a re-balancing fee for “station-less” bikes that are left out of the service area. Many larger systems are designed for short rental periods, in order to promote bicycle turnover and availability, and this is promoted through their price structure. For example, the first 30 or 60 minutes of every ride will be free, after which time an incremental fee is charged for every additional half hour. Smaller systems, which have fewer stations and may be less convenient for users to dock their bicycles, generally have longer rental periods of up to three or four hours.
6 Demand Analysis

The objective of the demand analysis is to provide a quantitative evaluation of demographic and geographic variables that contribute to a successful bike share system. By incorporating best practices from recent bike share feasibility studies around the United States, this methodology is designed to identify areas where bike sharing has the highest potential for success. To determine where bike sharing would be most attractive, a weighted sum raster analysis was conducted by Pinellas County’s Enterprise Geographic Information System (eGIS) Bureau to identify areas for potential bike share implementation. The demand analysis utilized the following steps:

1. Identify eight indicators favorable to bike share use;
2. Convert the indicators into GIS raster data to ensure an “apples to apples” comparison;
3. Aggregate the indicators into a composite bike share value by using a weighted sum raster analysis; and
4. Map the composite score data to identify contiguous, high-scoring areas.

6.1 Indicators

The eight indicators measure the suitability of an area for supporting bike sharing. Each indicator relates to particular characteristics associated with successful bike sharing programs and are discussed in further detail in Table 4 and the next section below.

Table 4: Demand Analysis Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Scale</th>
<th>Metric</th>
<th>Buffer</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Density</td>
<td>TAZ</td>
<td>Jobs per acre</td>
<td>n/a</td>
<td>InfoGroup national employer database</td>
</tr>
<tr>
<td>Population Density</td>
<td>Census Block</td>
<td>Population per acre</td>
<td>n/a</td>
<td>2010 Census Data</td>
</tr>
<tr>
<td>Attractions</td>
<td>Kernel</td>
<td>Point density</td>
<td>¼ mile - ½ mile</td>
<td>Pinellas County eGIS (attractions layer)</td>
</tr>
<tr>
<td>Colleges</td>
<td>Kernel</td>
<td>Point density</td>
<td>¾ mile - ½ mile</td>
<td>Pinellas County eGIS (university and college layer)</td>
</tr>
<tr>
<td>Bicycle Modeshare</td>
<td>Census Block</td>
<td>Point density</td>
<td>n/a</td>
<td>2010 Census Data</td>
</tr>
<tr>
<td>Transit Stops Density</td>
<td>Kernel</td>
<td>Point density</td>
<td>¾ mile</td>
<td>Pinellas County eGIS (transit stops layer)</td>
</tr>
<tr>
<td>Existing Bicycle Infrastructure</td>
<td>Kernel</td>
<td>Proximity distance</td>
<td>n/a</td>
<td>Pinellas County eGIS (bicycle facilities layer)</td>
</tr>
<tr>
<td>Equity (Minority/Poverty)</td>
<td>Census Block</td>
<td>% minority population greater than 50%/poverty level for Pinellas County</td>
<td>n/a</td>
<td>2010 Census Data</td>
</tr>
</tbody>
</table>
Employment Density
At a basic level, employment density identifies concentrations of jobs that serve as major trip attractors and also informs commuting patterns. As with most transportation infrastructure, higher density yields greater efficiency in service provision. Employment density measures the intensity of morning commute attractors and midday trip origins.\textsuperscript{11} Previous research has indicated that employment density is one of the primary predictors of bicycle use. For example, Frank and Pivo found that job density has a greater impact on commute mode choice than residential density, particularly when workplace density reaches 50 to 75 employees per acre.\textsuperscript{12}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Employment_Density_Map.png}
\caption{Employment Density}
\end{figure}

\textsuperscript{11} Tyler Benson, “Public Use Bike Share Feasibility Study: Volume Two: Demand Analysis,” 2009, p. 2.18.
\textsuperscript{12} Benson, p. 2.103.
Residential Population Density

Residential density supports bike share demand by providing a pool of potential users. Even the simplest bike share analyses have included this indicator. Higher density improves accessibility, which reduces travel distances and makes non-motorized travel more feasible.\textsuperscript{13} Residential density also indicates the number of off-peak trips that might be taken. In particular, personal business and social/recreational trips can be estimated on the basis of residential population density. Off-peak use increases demand for a bike share system throughout the day, with the added benefit of helping to balance bicycle inventories across an area. Higher population densities also correlate with less automobile dependence and higher use of alternative transportation choices.\textsuperscript{14}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{population_density_map.png}
\caption{Map 2 - Population Density}
\end{figure}


\textsuperscript{14} Ibid.
Attractions

Tourist attractions are destinations for bike share users. The degree to which the presence of a tourist attraction affects bike share ridership will vary on the basis of whether the business model allows short-term memberships. Most successful systems are specifically designed and priced to support tourist travel by allowing the purchase of daily and weekly memberships in addition to annual memberships. This analysis assumes that a Pinellas County system would include membership options for tourists. Many tourist attractions are dispersed throughout the county and tourists using bike share could access these attractions without contributing to the congestion and parking pressures found in the more popular areas. In addition to enticing short-term members, the tourist attractions included in this study could also generate trips for Pinellas County resident bike-share users, as community amenities such as museums, libraries, theaters, recreation centers, and sports arenas/stadiums were included in the attraction category.

Map 3 - Attractions Density
Colleges
Marketing to young and urban populations is relatively easy and inexpensive, because they often respond strongly to social media and word-of-mouth outreach. Bike share can connect students to nearby downtowns and other popular destinations such as shopping and entertainment districts.

Map 4 - College Density
**Bicycle Mode Share**

Bicycle mode share is an important tool in determining mode choice and travel patterns of an area. Since 2000, American Community Survey (ACS) data have shown a 62% increase in bicycle commuting, which designates bicycle commuting as the fastest growing commuting mode in the last decade. Furthermore, in 2014 Clearwater and Largo were identified as “Top 20 Cities” for bicycle commuting in the south region League of American Bicyclists with about 1.8% and 1.9% of the population, respectively using a bicycle for work trips.15

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Transit Stops Density
Transit stops were selected as an indicator because they provide a ready population of people traveling to destinations. Bike sharing can provide on-demand “last mile” transportation for these transit customers, creating a seamless transportation experience. Some local bus trips have the potential to be complemented by bike sharing on both the origin and destination sides of the trip. Studies have shown that the wait time between buses or during transfers are perceived to be two to three times longer than the actual time. Any reduction in perceived wait times will help attract riders. It is likely that bike sharing will become a part of the variety of choices available to commuters. In other cities, once bike sharing has been implemented, many bike share trips are trips diverted from transit. However, research has shown that these are likely just segments of a trip partially completed on transit, where bike share serves as one more travel choice. In rare cases, local transit trips may be replaced entirely by bike-sharing if the trip is short enough and contained within the bike share service area.

Map 6 - Transit Stops Density

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16 Institute of Transportation Engineers. (1997). A Toolbox for alleviating traffic congestion and enhancing mobility.
Existing Bicycle Infrastructure

A study of travel behavior of bicyclists in Portland, Oregon concluded that a supportive bicycle environment is necessary to encourage bicycling for everyday travel. Pinellas County is well-positioned with a network of different types of bicycle lanes, shared-use lanes, and multi-use trails that serve the existing bicycling community and are necessary to attract new people to bicycling. Research also shows that the areas where the highest levels of bicycling occur also have a well-connected street grid and mix of land uses.\(^\text{17}\)

Map 7 - Existing Bicycle Infrastructure

\(^{17}\) Dill, J. (2009). Bicycling for Transportation and Health: The Role of Infrastructure. Journal of Public Health Policy, 30 (S1), S95-S110.
Equity
As a form of public transit, it is important that Pinellas County’s bike share program serve all residents of the region equally, regardless of their age, race, income, or ethnicity. In many ways, low-income residents have the most to benefit from a bike share program, because it offers an inexpensive transportation alternative that complements existing public transit.

Map 8 - Equity (Minority/Poverty)
6.2 Heat Map Demand Analysis

Areas with high potential demand for bike share were identified through a heat mapping exercise that allocated “weighted points” to where people live, work, shop, play, and take transit as discussed in Section 6.1. Launching a system initially in the highest demand areas will provide the most visibility and maximize the probability of a successful launch. The composite heat map shown on the next page is an aggregation of the eight indicator maps and confirms that downtown St. Petersburg as well as areas in and around downtown Clearwater have the highest demand potential, and therefore, would make the most logical first phase of a bike sharing program. Other notable areas that did not score well but have the potential for successful bike share due to their high level of accessibility, mixed-use downtown districts, tourist orientation and concentration of popular destinations include the Gulf Boulevard corridor, certain segments of the Pinellas Trail, and the downtown areas of some of the northern Pinellas County communities (i.e., Tarpon Springs, Safety Harbor, Oldsmar, etc.). These areas could serve as the next logical extension to St. Petersburg’s system; however, the decision to expand bike sharing into other communities will most likely depend on the success of the St. Petersburg program.

The fact that high demand areas in the greater mid-county area (i.e. Clearwater, Largo and Dunedin) are not contiguous and are somewhat spread out from one another represents a challenge to determining a clearly-defined bike share system with a geographic center of demand. On the other hand, the number of active downtowns, large employers, and transit transfer centers is a condition where demand for intra-city travel and “last mile” transit connections could be assisted through a bike share system.

When developing the bike share system, it is important to address the specific needs of users and market segments prior to and after deployment. For example, through the public survey conducted as part of this study, 81 percent of the respondents supported the idea of establishing a bike sharing program in Pinellas County. Popular noted destinations identified by respondents include downtown areas, bus stops, bike paths, college campuses, and City/County parks. Tailoring system components and station locations with the assistance of an experienced vendor/operator will encourage bike share use by casual users, which will be imperative for the system’s long-term economic viability. A summary of the survey responses is included in the appendix of this study.
6.3 General Parameters for Service Areas and Station Locations

Any potential service area must consider the extent, size, and phasing of a potential bike share system within each of the participating municipalities. General parameters for system design such as the spacing of stations and the number of bikes per station can be found in various resources including; The Bike Share Planning Guide developed by the Institute for Transportation & Development Policy and Bike Sharing in the United States: State of the Practice and Guide to Implementation prepared by the Toole Design Group and the Pedestrian and Bicycle Information Center. While this study does not include specific locations for stations and the like, there is value in using the information collected from the public survey, heat map analysis, Pinellas County MPO staff, and the Bike Share Subcommittee to guide the work of the selected expert vendor/operator who would be selected through a RFI or RFP process. The aforementioned resources identified the following genera locations for bike share stations:

- Higher density housing and employment centers
- Tourist attractions, landmarks, civic facilities
- Key transit stops
- Neighborhood and commercial centers
- Colleges and hospital campuses

Minimum System Size

A system that is too small limits its effectiveness. A system of five to 10 stations is considered the absolute minimum to provide an effective mix of trip origins and destinations and to justify the cost of operations. However, larger geographic areas like Pinellas County may not fit this approach, meaning stations may be placed further apart in order to serve key destinations throughout the region. An illustration of this point is within the City of Clearwater where the Pinellas County Courthouse Complex, the Harborview Center, Coachman Park, Clearwater Marine Aquarium, Morton Plant Mease Hospital and the Pinellas Suncoast Transit Authority’s (PSTA) Park Street Transfer Terminal are all within a roughly four to five square mile area. In this example with such a lower level of density, a system of approximately seven to 10 stations would be sufficient to serve an area of this size.

The following are key considerations for implementation of a bike share system:

- The coverage area at which bicycling becomes a more attractive option than walking. On average, the median walking trip is approximately five minutes, in which time a person can walk about ¼ of a mile, but can cycle about ¾ of a mile. A majority (56 percent) of the respondents who completed our survey said they would be willing to walk no more than 10 minutes to the nearest bike share station, which is about a one-half mile walk.
- The system must provide a variety of trip origins and destinations or there is no reason to use the bikes.
- Providing a reasonable station density so that users can easily access a station. Typical station densities are a station every 984 feet (300m) to 1,300 feet (400m). As station spacing is increased, at some point users will consider they have to walk too far to access a bike and will be inclined not to make the trip or to take a different mode. A station density of one station...
every 1,300 feet (400 m) results in a minimum system size of 10 stations (0.2 square miles per station) but can mean up to a five minute walk to access a bicycle when a walk of 15 minutes would get you from the extent of the system to the center of the system.

- The system needs to be a reasonable size to justify the cost to operate the system. There are some economies of scale in terms of system operations.

Station Density
The size of the system is a function of the coverage area and typically outlines the desired spacing of stations. Operators of U.S. bike share systems generally have found that bike sharing kiosks need to be located as close to public transit as possible - preferably adjacent to a bus stop. The size of the system is a function of the coverage area and the desired spacing of stations. Most existing U.S. systems include a range of 3.5 to five bike share stations per square mile of service area. This range provides access to a bike within a short walk of anywhere in the service area and provides a nearby alternative to return a bike if the destination station is full.

Placing stations close together (5-7 city blocks) allows flexibility in usage and thus increases the number of users. In all the case studies we analyzed, stations on the edge of the system, satellite stations and small pilot programs received significantly lower usage making the stations revenue negative. We recommend that all stations be placed in close proximity to destination districts and high density mixed-use and residential areas. By centrally locating all stations, the system will be more accessible, more profitable and therefore more successful.

The station density parameter is a guideline that may need to be adjusted based on conditions on the ground. In general, the following are guidelines for the location of bike share stations:

- On wide sidewalks (bike share stations should not impede pedestrian or vehicular traffic);
- Along existing or proposed bike facilities, whenever possible;
- Near PSTA transit stops or transfer points;
- Near major cultural and/or tourist attractions; and
- Adjacent to major public spaces and parks.

Once proposed station locations have been identified, there needs to be a review conducted by area stakeholders. Engaging stakeholders in the station location process is a good way to build support for the project and gain an understanding of the demand for particular stations.

Station Siting
While most bike share stations are modular, there are certain minimum siting requirements. Figure 6 provides an overview of the appropriate dimensions for an 11 dock bike share station, which requires an approximate space of 32 feet wide and 12 feet deep (those figures accommodate the station infrastructure as well as access space) depending on the type of technology employed. Additionally, stations with solar power require access to sunlight for a minimum portion of the day (around 4 hours),
and a vertical clearance of at least 11 feet.\textsuperscript{18} Table 5 summarizes typical spacing requirements and typical weight of each station.

![Station Dimensions for an 11 dock station.](image)

Table 5: Typical Spacing and Weight Requirements

<table>
<thead>
<tr>
<th>Docks</th>
<th>Width</th>
<th>Station Depth</th>
<th>Access Depth</th>
<th>Total Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>31’ to 32’</td>
<td>6’ to 8’</td>
<td>4’</td>
<td>10’ to 12’</td>
<td>3,000 to 5,000 lbs</td>
</tr>
<tr>
<td>15</td>
<td>40’ to 42’</td>
<td>6’ to 8’</td>
<td>4’</td>
<td>10’ to 12’</td>
<td>4,500 to 5,500 lbs</td>
</tr>
<tr>
<td>19</td>
<td>50’ to 52’</td>
<td>6’ to 8’</td>
<td>4’</td>
<td>10’ to 12’</td>
<td>5,500 lbs to 6,500 lbs</td>
</tr>
</tbody>
</table>

Source: Figures were obtained through a review of publicly available literature

7 Additional Challenges

7.1 Sign Code and Advertising Restrictions

All communities in Pinellas County have regulatory standards for signage and advertising that could affect the provision of sponsorship opportunities on the bikes, stations, and other infrastructure. Although it could be argued that bike share public service and informational signs are largely exempt from permitting obligations and restrictions, the fact remains that any sign that is intended to advertise or recognize a sponsor will have a variety of restrictions including sign placement, design parameters, and permitting. Most restrictions are designed to limit the number and size of off-premise advertisements, which are legally indistinguishable from billboards. The following is a summary of how

the sign code may affect sponsorship and advertising opportunities and, in turn, reduce potential revenue for the system.

**Signage Type and Orientation**
Restrictions on signs vary depending on whether they offer public information, promote a system or station sponsor, or advertise a product. Any sign that advertises a product will trigger a range of restrictions on where they may be located and how large it can be. Advertising on bicycles may not be subject to the same restrictions because they (much like bus advertising) are not fixed and most sign codes do not address on-vehicle advertising. However, most communities have yet to determine whether docked bicycles could be interpreted as a stationary advertising sign and therefore are subject to the applicable advertising restrictions.

In addition, the nature of sponsor-adorned bike share equipment, whether determined to be a sign within a public infrastructure facility, a business premise sign (a sign that promotes a business site), or off-site advertising (i.e. billboards), can impact the type and intensity of advertising and sponsor recognition. If advertising or sponsor recognition at bike share stations is determined to be off-premise advertising, signs may only be installed if an existing advertising sign is relocated to a new location.

**Zoning and Special District Regulations**
Regulatory barriers also vary by zoning and special districts, and even along designated transportation corridors such as highways and streets that are intended to maintain visual access to scenic views or landscaping. Some street corridors, especially those identified as “scenic non-commercial corridors”, may restrict the number and type of signs used for sponsor recognition and advertising.

A major concern stemming from the sign code’s stringent restrictions is the possibility of applying inconsistent sponsorship signs throughout the system. This could create confusion and deter potential sponsors. Certain special districts such as a National Register or Local Historic District pose considerable challenges to station development with uniform advertisements and sponsor recognition. Furthermore, commercial signs are generally either not permitted or specifically authorized for certain uses (i.e. on-premise bed and breakfast signage) in residential zones. On the other hand, many commercial districts that would be slated for initial bike share deployment may have more flexible regulations on sponsor signs and advertising. Downtown zoning districts may present far less of a challenge in terms of the permitting process and the type of signs that may be used.

**Authority and Permitting Process**
Securing sign permits for a bike share system will require several layers of approval depending on where signs are located. Contingent on whether signs are located within or outside of the public right-of-way, within a historic or special district, or near a park or community center, the bike share operator must secure permits through the appropriate jurisdictional agency.

**Potential Solutions**
Several strategic actions should be made to ensure the optimal amount of sponsor revenue can be generated given the limiting circumstances presented by the sign code. These include:
- Making formal determinations with the help of City attorneys to clarify various legal grey areas including whether the map panel itself constitutes a sign;
- Ensuring any proposed administrative non-profit develops a strategic sign plan that integrates considerations from the various zonal sign code restrictions on sponsor recognition and advertisements. This will likely include focusing any advertising in zones amenable to off-premise advertising and sponsorship;
- Placing greater emphasis on sponsorship-oriented signs, rather than off-premise advertising to avoid onerous restrictions and delays in the permitting process; and
- Strategically focus station advertising in zones that are most amenable to advertising signs.

7.2 Site Planning

All communities in Pinellas County have land development regulations that define how land can be used within their jurisdiction. Most land development regulations are silent to bike share systems because this form of transportation is still relatively new to most communities. In any case, local land development regulations would need to be amended to define what a bike share system is, outline where the stations and/or kiosks can be located and their maximum size and scale. Figure 7 is an example of the site plan considerations for a station located in downtown Seattle, Washington.

Figure 7 - Site Plan Example for Station Placement in downtown Seattle.

The City of Tampa amended its land development regulations in 2014 in advance of implementing its bike share system. Their land development code now provides a regulatory framework for bicycle sharing stations (Sec. 27-290.7.), bicycle kiosks within the rights-of-way and the display of advertising (Sec. 22-136.). It is recommended that the participating jurisdictions amend their land development
regulations so that bike sharing systems are designed for compatibility with the surrounding uses and structures.

8 Bike Sharing Across Jurisdictions

As stated earlier, one of the purposes of this effort was to determine the feasibility of implementing bike sharing in Pinellas County on a regional scale. Our research has determined that there are several challenges related to implementing a bike sharing system across jurisdictions including; potential differences in pricing, service levels, various funding scenarios, and a potential for conflicts of interest among participating local governments. A regional bike share program for Pinellas County will need to select a business model well suited to the region’s unique needs, which include: a system serving distinct cities/towns; possible participation from St. Petersburg College; modest size, projected participation and budget; and no clear choices for corporate sponsorship. Overall, it was thought that the most appropriate models for consideration include:

Operating Non-Profit
Under this business model, a Non-Profit Organization (NPO) is formed to create a bike sharing system. As previously stated in Section 4 of this study, the NPO undertakes all aspects of creating the system, including funding it, establishing regional guidelines, procuring and establishing the equipment, procuring operations facilities, and providing expertise for operations. Please see the comments below in the Administrative Non-Profit section regarding the makeup and role of the board of directors and the ability for regional cooperation.

In other cities where an operating NPO has been established, there has not been an operating contract between the jurisdiction(s) and the NPO to define required service levels, reporting and other operational metrics, giving less control to the jurisdictions. Because of this reduced accountability to service levels and reporting, as well as the absence of operational expertise in starting from scratch in terms of the operations, this scenario was not recommended.

Direct Contract with Operator
Under this business model, municipalities within the same region contract directly with the operator using a regional planning organization to establish similar standards across jurisdictions. There is no official board of directors, although there is typically an ad hoc committee that forms consensus, and each jurisdiction acts as a separate client to the operator. Each jurisdiction can have a different source of funding and different revenue sharing arrangements with the operator. The jurisdiction(s) assume responsibility for initial and ongoing funding for the system.

Although this structure has proved successful in two multi-jurisdictional systems, it can introduce many unnecessary complexities, such as different pricing, different service levels and potentially conflicts of interest among the multiple clients. Therefore, this scenario was not recommended.
Privately Owned and Operated
Under this business model, municipalities contract with an operator for street space only using a concession agreement. The operator provides all funding for equipment and operations. Although this structure requires no public funding for capital or operations (a positive for the municipalities), it gives less control and transparency to the contracting jurisdictions, and there could be significant risk that such systems might fail due to the unknown long-term feasibility of completely privately funded and supported systems. Similar to the direct contract scenario, each jurisdiction would enter into a separate contract with the operator, which can lead to similar inconsistencies and conflicts of interest. Therefore, this scenario was not recommended.

RECOMMENDED: Administrative Non-Profit with Private Operating Contractor
Under this business model, a NPO is formed whose mission is to create a bike sharing system. The non-profit undertakes funding the system, establishing cross-jurisdictional guidelines, procuring the equipment, and choosing an operator. Under this model the NPO hires a private contractor to implement and operate the system, acting as the client to the contractor. The non-profit could also undertake marketing functions for the system or outsource these services to a third party. Therefore, the NPO undertakes the “administrative” aspects of running the system, but not the operational aspects. This scenario was recommended because it minimizes risk, while maximizing control, transparency, and flexibility of funding.

The board of directors of the non-profit should have majority representation from private sector individuals but should also include representatives from participating municipalities, PSTA, larger sponsors, and eventually, the operator. The non-profit should be supported politically by the participating municipalities, and be the body through which public or sponsorship funding flows. The NPO may contract with agencies and others to provide services to support bike share operations.

Ideally a collective procurement process could be established that allows individual agencies to provide the funds to the NPO who takes responsibility for sub-contracting procurement, implementation and operation avoiding the need for individual procurement processes. The funding strategy for the bike share program should be flexible and explore as many sources as possible. Corporate sponsorship, an important revenue stream for other bike share systems, will be maximized under a non-profit arrangement.

In summary, the recommendation to establish an Administrative Non-Profit with a Private Operating Contractor is based on:

- Alignment of this model with the stated goals of the bike share program.
- Flexibility of funding sources available to a non-profit, which includes grant funding, public funding, and sponsorship.
- Positive public image generated by a non-profit organization.
- Best potential for regional cooperation.
- Maintains local government control and input on site locations and operations.
• Provides operating expertise and transparency.
• Minimizes risk of system failure and public image and financial risk to agencies and sponsors.

9 Summary and Next Steps

Pinellas County has several of the characteristics required to make bike sharing successful, including the existence of emerging activity centers, relatively extensive public transit, large numbers of visitors, a supportive culture of bicycling and active living, and a policy environment that prioritizes the growth of sustainable transportation options. There are also characteristics that are less conducive to bicycle sharing demand including; a multi-jurisdictional setting, lower densities of housing and jobs; high car ownership; etc. Impacts from other factors, such as an older demographic and proximity to an anticipated bike share program in the St. Petersburg area, remain unclear. The Bike Share subcommittee urges further exploration of an Administrative Non-Profit with Private Operating Contractor business model. It is also recommended that “fourth-generation” bike share technology be pursued and deployed within the downtown Clearwater area to start. Future bike sharing planning should be explored in conjunction with the “Enhancing Beach Access” emphasis area, as the Gulf Blvd. corridor has similar characteristics to the bike sharing system in Broward County. As with many other new transportation systems, a pilot program may be a logical first step if there is a low risk tolerance. This is due in part for the need for up front capital funding, and also due to the uncertainty of demand for a larger system. Systematic expansion of the bike share system should generally target transit centers, transit-dependent neighborhoods, city centers, and areas with major employment clusters. Further, private sponsorship (title sponsorship and advertising on the stations and/or bikes) should be vigorously pursued as it will most likely be necessary to help cover the ongoing operating costs, while one-time grant sources will be necessary for up-front capital purchases and installation.

As identified in Figure 8 below, this feasibility study is the first step in establishing a bike sharing program. A conservative estimate of 24-30 months is needed to plan, fund, and implement an initial bicycle share program in Pinellas County that is publicly-owned and privately operated. A smaller-scale pilot program could be deployed and operational in as little as 6 to 9 months. These estimates are subject to change, and assume continued interest and engagement by key stakeholders and success at procuring grant or local funding. Highlighted below are next steps to maintaining the ‘critical path’ for this timeline and helping build overall consensus to move forward with a program.

Pinellas County MPO Bike Share Feasibility Study | 43
This study recommends the Pinellas County MPO be the “convening entity” to bring bicycle sharing to the residents and visitors of Pinellas County. To that end, the Pinellas County MPO should take the following steps to bring bicycle sharing to Pinellas County:

1. **Create a Bike Share Implementation Taskforce, with staff from key communities and stakeholder groups, to work with the Pinellas County MPO to develop and execute an implementation plan.**

2. **Develop an implementation plan that includes strategies to:**
   - **Builds upon the City of St. Petersburg’s Bike Share system.**
   - **Identify an existing or create an administrative non-profit entity.**
   - **Conduct advanced feasibility analysis to include potential station locations, density and ridership.**
   - **Identify and secure funding for system capital and operational costs.**
   - **Build relationships with Pinellas County, local governments, and the Pinellas Suncoast Transit Authority (PSTA), to gain official support through instruments such as a memorandum of understanding, city council action (an ordinance or resolution), etc.**
   - **Secure sponsorship commitments from the private and public sectors.**
   - **Review the City of St. Petersburg’s contract to determine if the framework and terms are agreeable to other interested municipalities (the concept is for the system to be publicly owned by the cities, and operated by a private contractor, which allows multiple municipalities to contract individually or collectively with the St. Petersburg operator, and allows for expansion to serve additional communities).**
   - **Work with interested municipalities to develop model land development regulations so that bike sharing systems are properly designed for compatibility with surrounding uses and structures.**
• Development of a “sole source” justification to utilize St. Petersburg’s operator and pricing structure
• Confirm funding recipients for capital and rolling stock costs.

3. The Pinellas County MPO works with key communities and stakeholder groups to implement the plan under a multi-jurisdictional framework.

4. Participating agencies execute an agreement with the Administrative Non-Profit Organization.

Based on our analysis of several bike share indicators, we believe that the City of St. Petersburg and portions of the greater Clearwater area are well-suited for bike share and should be the initial focus. By pursuing one of the options listed above, launching the first phase of a bike share system in 12-24 months is a not unreasonable. Upon the success of the first phase, future expansion could include sponsored stations or another capital campaign to expand into additional areas.
Appendix
**2015 Pinellas County MPO Bike-Share Interest Survey**

**FEEL THAT BIKE-SHARING IS A GOOD IDEA FOR PINELLAS COUNTY**

- 81% of respondents feel that bike-sharing is a good idea for Pinellas County.

**System Usage**

- 79% of respondents would like to see bike-share stations in their downtown.
- 56% of respondents would walk a few blocks (5-10 minutes) to use bike-share.

**System Structure**

- 74% of respondents feel that a bike-share program would be successful on the beaches.
- 74% of respondents would prefer to pay a per-trip fee to rent a bike-share bicycle.

**How Often Would You Ride?**

- 84% of respondents would feel most comfortable riding on a multi-use trail.
- 46% of respondents feel that it is very important to have a seamless network of stations throughout Pinellas County.

**Survey Demographics**

- Ages 25-64: 82.7%
- Male: 48%
- Female: 52%

**Annual Household Income**

- Less than $20,000: 11%
- $20,001 to $40,000: 16%
- $40,001 to $60,000: 19%
- $60,001 to $80,000: 20%
- $80,001 to $100,000: 19%
- $100,001 to $120,000: 16%
- More than $120,000: 4%
Sec. 27-290.7. - Transit shelters and bicycle share program stations.

A transit shelter and a bicycle share program station (with associated bicycle kiosk and bicycle rack) are typical improvements located on public right-of-way. At times there is insufficient space in the right-of-way to accommodate these facilities. When a municipal or other governmental agency acquires an easement on private property for the purpose of constructing one of these facilities, these improvements shall not be subject to minimum setback requirements. Placement of the facilities shall be subject to the provisions of section 27-283.5, visibility at intersections.

(Ord. No. 2014-40, § 3, 6-5-2014)

Sec. 22-136. - Bicycle kiosks within the rights-of-way; display of advertising.

(a) The primary purpose of a bicycle kiosk is to provide the facilities to pay for the use of a bicycle, which is part of the bicycle share program, and will be physically integrated with a bicycle rack.

(b) Bicycle kiosks are permitted in the rights-of-way of the City of Tampa, in accordance with applicable standards set forth in the City of Tampa Code of Ordinances and Florida Statutes. Such bicycle kiosks may contain advertising as provided for herein.

(c) Bicycle kiosks containing advertising may be permitted within public right-of-way, lying adjacent to certain parcels of land that are located within specific designated areas, described as follows:

(1) Within designated areas set forth in (2) below, and adjacent to any parcel zoned for a multi-family residential, commercial, office, or industrial district, including a site plan district that allows such uses as principal uses of the land; and,

(2) Adjacent to lands described in (1) above, and located within the following designated areas:

   a. The Central Business District, as described in Chapter 27, Article III, Division 2, Tampa Code of Ordinances;

   b. The Ybor City Historic District, as described in Chapter 27, Article III, Division 2, Tampa Code of Ordinances;

   c. The area commonly known as "Old Hyde Park Village," specifically within that segment of Swann Avenue between Rome Avenue and Oregon Avenue, and that segment of Dakota Avenue/Snow Avenue between Swann Avenue and Rome Avenue;

   d. The area commonly known as "Davis Islands Village Center," specifically that segment of East Davis Boulevard between Barbados Avenue and Chesapeake Avenue.

(d) No bicycle kiosk containing advertising shall be permitted adjacent to a parcel zoned for a single-family detached residential zoning district, including site plan districts that permit single-family detached residential use as the sole, principal use of the land.

(e) Bicycle kiosks containing advertising shall only be constructed at bicycle share program stations, as approved by the transportation manager, with consultation of the zoning administrator as needed.

(f) Bicycle kiosks containing advertising shall meet the following minimum design specifications:

<table>
<thead>
<tr>
<th>Table 22.136a. Bicycle Kiosk Design Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bicycle Kiosk Dimensions</strong></td>
</tr>
<tr>
<td>Description</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Maximum height[1]:</th>
<th>9’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum depth:</td>
<td>2’</td>
</tr>
<tr>
<td>Maximum width:</td>
<td>4’</td>
</tr>
</tbody>
</table>

**Bicycle Wall Panel and Advertising Standards**

<table>
<thead>
<tr>
<th>Maximum wall panels on opposite side of each wall [2, 3]:</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placement of advertising:</td>
<td>Only permitted on wall panel opposite of wall panel with non-advertising information</td>
</tr>
<tr>
<td>Maximum advertising poster dimensions:</td>
<td>Area: 19 SF [4]</td>
</tr>
<tr>
<td>Electronic message signs:</td>
<td>Prohibited on Bicycle Kiosks</td>
</tr>
</tbody>
</table>

**Bicycle Kiosk Advertising Lighting Standards**

| Lighting of advertising within the bicycle kiosk:         | Limited to back-lighting only [5] |

**Bicycle Kiosk Materials**

Shall be constructed of materials designed to withstand vandalism and weathering, such as extruded aluminum with anodized finish [6].

**Note(s):**

[1] Refer to "height" as defined in Chapter 27 Zoning and Land Development.

[2] A minimum of one (1) wall panel shall contain a display of transit information, a route map, and other information regarding the bicycle share program.

[3] Advertising shall only be allowed on the wall panel opposite the wall panel that contains non-advertising information.

[4] Advertising poster(s) shall not exceed 19 SF in area, or be greater than 5’ in height and 4’ in width.

[6] Alternative materials may be considered by the transportation manager.

(Ord. No. 2014-40, § 2, 6-5-14)
333 responses

View all responses    Publish analytics

Summary

1. What is your primary mode of transportation for trips within Pinellas County?

- Walk 8 2.4%
- Bike 20 6%
- Transit 5 1.5%
- Car/Truck 289 87%
- Motorcycle 3 0.9%
- Taxi 2 0.6%
- Other 5 1.5%

2. Do you currently have access to a working bicycle?

- Yes 247 74.6%
- No 84 25.4%

3. Have you ever rented a bicycle from a bike shop or other local vendor in Pinellas County?

- Yes 52 15.8%
4. Have you had an opportunity to use an existing bike share system before?

- Yes: 110 (33.3%)
- No: 220 (66.7%)

5. If so, which system(s) have you used and where was it located?

- NYC, Tampa, Duluth
- Paris
- Seville, Spain; Washington, DC; Boston, MA
- Nice Ride - St. Paul, MN
- Nashville, TN; Austin, TX; Ireland
- USFSP's Bike Share Program
- Work
  I'm not sure the name of the program, but it was in Hollywood, FL. You paid a fee to unlock the bike. I don't remember how the program worked. I think it would be great for vacationers.
- Washington, DC
- Montreal, Canada
- San Antonio, TX
- Key West
- Vélib Paris
- D.C.
- Tampa
- Eckerd College. Cost tons of money, people stole, vandalized or broke bikes. Not what I would call a successful program.
- Paris, Zurich, Copenhagen
- COAST in Tampa
London
Bike Share, DC, Toronto, Coast Tampa
Ft Worth, Tx B-Cycle
Toronto
Tampa: Coast BikeShare, Denver, Portland
Divvi - Chicago
san francisco, ca
Washington
Amsterdam
Pittsburgh, PA
Paris France
USFSP, St. Petersburg, FL
Denver, CO
Paris, Vienna
washington dc
daily, Michigan, Ohio
Eckerd College
Tampa, FL; Madison, WI; Washington, DC; London, UK
Montreal
Forget name, Amsterdam, Netherlands
Europe, downtown
Boston
Wash DC, Montreal
Paris, New York
Pronto systems, Seattle, WA
Miami, Denver, Paris
Chicsgo, nyc, Hollywood fl
Barcelona, Spain
New York City
Washington, D.C.
Israel
New York & Boise
seattle
Divvy, Chicago
Chattanooga
Capitol Bike Share Washington, DC
Citi Bikes in NYC
Social Bicycles - Orlando
San Francisco & NYC
NYC, Tampa
NA
Coast Bike Share in Tampa
Capitol Bike Share in D.C. Took it from Union square and rode all around the National Mall.
Tampa
Coast Bike Share Tampa
Indianapolis
Travelling, various cities
N/A
Miami beach
Madison, WI
Atlanta
DePauw University
NYC
Chicago, South Beach
Coast Bikes
ft lauderdale
South Beach
Chicago
NYC Bikeshare
Denver, CO and NYC
Deco Bike in Miami
new york
Vienna, Austria
Miami
Citibike NYC
Washington DC
London, Paris, Toronto
not sure, Washington, DC
Tampa Bikeshare
Austin B-cycle, Austin, TX
Yellow Bike Austin TX
Chattanooga, TN
Paris
Tampa; Washington DC

6. How likely would you be to use a bike-sharing program?

![Pie chart showing the likelihood of using a bike-sharing program]

- Very likely 78 (23.7%)
- Likely 99 (30.1%)
- Not likely 114 (34.7%)
- Not sure/don't know 38 (11.6%)

7. How often would you ride a bike if there was a bike-sharing program?

![Pie chart showing the frequency of bike riding]

- Multiple times each day 14 (4.9%)
- Once a day 9 (3.2%)
- 2-3 times per week 46 (16.1%)
- Weekly 64 (22.5%)
- Monthly 69 (24.2%)
- Quarterly 83 (29.1%)

8. Where would you like to see bike-share stations located?
9. How far would you walk to use a bike-share bicycle?

<table>
<thead>
<tr>
<th>Distance</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside my building (1-2 minutes)</td>
<td>58</td>
<td>19.9%</td>
</tr>
<tr>
<td>Across the street (3-5 minutes)</td>
<td>119</td>
<td>40.9%</td>
</tr>
<tr>
<td>A few blocks (5-10 minutes)</td>
<td>164</td>
<td>56.4%</td>
</tr>
</tbody>
</table>

10. What would you use the bike-sharing bicycle for?
11. Which of these bicycle facilities would you feel most comfortable riding bike-share on?

- Streets without specific provisions for bicyclists: 41 (13.4%)
- Shared-use lanes designated by shared lane markings (also referred to as "sharrows"): 92 (30.2%)
- Painted bicycle lanes: 181 (59.3%)
- Protected/separated on-street bicycle facilities (also referred to as "cycle tracks"): 201 (65.9%)
- Multi-use trails such as the Pinellas Trail: 258 (84.6%)

12. How important would it be for any potential program to provide a seamless network of bike-sharing stations throughout Pinellas County (i.e. St. Petersburg, Clearwater, Largo, Pinellas Park, etc.)?

- Very Important: 30.4%
- Somewhat Important: 22.7%
- Not Very Important: 46.9%
Very important 151 46.9%
Somewhat important 98 30.4%
Not important 73 22.7%

13. What areas do you think would support a successful bike-sharing program?

- Downtown areas 267 85.3%
- Beaches 234 74.8%
- Tourist districts 237 75.7%

14. What method would you prefer to rent a bike-share bicycle?

- Per trip fee 220 74.3%
- Annual membership 76 25.7%

15. Overall, do you think bike share is a good idea for Pinellas County?

- Yes 262 81.4%
- No 60 18.6%
16. What is your age?

- Under 18 years: 0 (0%)
- 18 to 24 years: 8 (2.4%)
- 25 to 44 years: 101 (30.6%)
- 45 to 64 years: 172 (52.1%)
- 65 years and over: 49 (14.8%)

17. What is your sex?

- Male: 156 (47.7%)
- Female: 171 (52.3%)

18. What is your ethnicity?

- White or Caucasian: 288 (88.9%)
- Black or African American: 7 (2.2%)
- Hispanic or Latino: 10 (3.1%)
- Asian or Pacific Islander: 5 (1.5%)
- Other: 14 (4.3%)
19. How many people reside in your household?
1 plus cat
Two
1
2
3
4
5
6
One
two
one
Only me
Two.
na

20. What is your annual household income?

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $20,000</td>
<td>12</td>
<td>4%</td>
</tr>
<tr>
<td>$20,001 to $40,000</td>
<td>31</td>
<td>10.3%</td>
</tr>
<tr>
<td>$40,001 to $60,000</td>
<td>47</td>
<td>15.6%</td>
</tr>
<tr>
<td>$60,001 to $80,000</td>
<td>62</td>
<td>20.5%</td>
</tr>
<tr>
<td>$80,001 to $100,000</td>
<td>56</td>
<td>18.5%</td>
</tr>
<tr>
<td>$100,001 to $120,000</td>
<td>34</td>
<td>11.3%</td>
</tr>
<tr>
<td>More than $120,000</td>
<td>60</td>
<td>19.9%</td>
</tr>
</tbody>
</table>

21. Please enter the 5-digit zip code for your home address
33776
33777
22. Are you currently employed?

- Yes 272 83.7%
- No 53 16.3%

23. Are you currently enrolled in school?
24. Please let us know any other thoughts or ideas that you have for a bike-share system in Pinellas County

We need safe bike lanes that connect St. Petersburg with the beaches - Pasadena just lost opportunity to connect trail to beach by re-striping narrow bike lanes when FDOT resurfaced road.

This survey was biased. It assumes that there is an interest in a bike share program and did not afford the respondent to indicate that they would not use a bike share program. Specifically questions 7 & 9 provided options that could only be identified as variations of approval.

if you charge no one will use.
Anti-theft, tracking devices on them.
Chery Stacks is my bikeshare hero :)
Work on better public Transit vs. Bike Sharing Programs
I like blue
Psyched! Let me know if I can help.
I am against the idea of bike share. The cost is usually passed on to local governments and bike thefts occur from the program. Not a good idea for the tax-payer, only the vendor benefits.
Do not begin with cheap rates hoping to attract, then keep regular users. Bikeshare is a valuable amenity and should be priced as such from the beginning. I believe bike stations along the Pinellas Trail in downtown areas and along trails like Safety Harbor's have potential. Beach routes to move from say Maderia to Clearwater Beach would work well too.
I'd start with downtown St Pete, as I think the beach areas would need a LOT of work to be safe and attractive for bikes.
Funding would be better spent on additional trail connections and separate facilities
PLEASE don't use my tax dollars (local, state or federal) for this ridiculous nonsense!
It's important for it not to be credit card based for our area's poor. I volunteer at a family center and believe our clients would use it from time to time. Maybe you can buy a token at a station with either a credit card or cash?
Would need to accessible enough for people to access or would not get used. Downtown parking would benefit. People staying downtown would use for brewery tours, gallery / mural tours etc.

Tricycles! With gears!
Fabulous idea!

Used bikes, selling your old bike to the city to fix and use for the sharing, bikes at every bus station. Free for college students

Great idea

I could see a localized system for trips of 2-5 miles in areas like downtown St. Pete, downtown Clearwater, north / south beaches, Dunedin, north / south Pinellas Trail, Oldsmar, etc. and yet have all the systems under one umbrella to allow use and exploration for the whole county.

Very interested in Bike Share program for beach communities and several of the downtown areas.

Include Oldsmar

YES!!

Providing free bikes or reduced price bikes to low income residents to promote alternative ways of transportation and good health.

Many cities have a "30 minute free" ride incentive. The 30 minute ride - paid or not - is impractical. People need 1-2 hours, 4 hours or full day intervals. Tourist need gamf and full day. Commuters need 1-2 hours, but need to know that if they use a bike inbound to downtown, there needs to be an available outbound bike. Bikes stations should also be in neighborhoods; otherwise, we have to drive downtown, pay to park, and ride around which will deter use.

It should use the same system Tampa does so the whole region has one system.

Retired

Please do it, and don't half ass it.

More trails

Cost of rental would be a huge factor

Total waste of taxpayer money

You need to try and get business buy-in. The more businesses in the downtown and beach areas that can cater to bike traveling, the more likely high usage is.

I’d probably use it less than I’d like due to the infirmities of age, but I’m totally in favor of it.

Need more safe bikeways before this can be successful, It's dangerous on a bike around P County

Many other cities have implemented Bike Share programs with great results. It is time for us to do the same.
Try to service the employees and visitors on Clearwater Beach - employees can take bus and then finish trip to work, tourist can get around on Jolly Trolley, then use bikes to go to specific places at their decision.

I live in Tampa but could see myself using bike share as a local visitor to places like Downtown St. Pete, Dunedin, Clearwater, Pass-a-Grille, and Clearwater Beach.

Inclusion of Oldsmar with our 10-mile Trail; 5 hotels and more

Pinellas Park needs to provide bike lanes so more people can cycle. They are in the middle of the county and have the worst bike lanes

I think it would be great and would really help with our growth.

If there is a bike share program...locations to get bikes should be enough and spread around the area. I would not be willing to travel more than a mile to get to bike share location. I think long term this is a great opportunity to preserve our environment and lower the emissions of vehicles by driving less.

provide helmets

Bike shares are good in concentrated urban areas. No one is going to ride a bike from St. Pete to Clearwater. And who benefits from bike share? I see it more for tourists than locals. Let a commercial enterprise pay if there's going to be one.

I would like to see it be equally available throughout Pinellas - not focused on beaches and south county. Initiatives seem to forget the Palm Harbor/Oldsmar area.

Have ortho problems. Can't bike at all.

Bike share works. Install one bike-share station in the Grand Central District in St. Petersburg and one on Beach Drive in Downtown St. Pete and one at the corner of 1st ave SE and 1st Street SE in St. Pete (i.e. at the site of the Farmers Market and the terminus of the Pinellas Trail) and you will see these bikes being used. The sight of bike-share bikes becoming a regular part of the dynamic at downtown St. Pete will further enhance its image as an up and coming cultural center.

Need more bike infrastructer

Do it!

Usage should be free and underwritten by the developers who want to overpopulate our region.

When company comes to visit having an affordable bike for them would be most helpful.

Thanks

Would work best on the beaches probably or Tarpon Springs, Safety Harbor and Dunedin

Will bicycle helmets be required to ride these bikes?

I ride and am certified to train others to ride a 3 wheeled stand-up scooter with an electric assist motor made by Trikke. Greater personal fitness and transportation.

s

change this questionnaire...you've structured the questions via many assumptions i.e. that'll it will be implemented but as a daily peddler I'd never use it
have stations at key nodes on Pinellas Trail.

Having a bike-sharing system for use from main bus arteries like U.S. 19 to the various St. Petersburg College campus locations seems like a great idea for our students!

I think this is a bad idea. We don't have an urban population to support this and it will cost taxpayers money.

Too dangerous on main roads to consider commuting

Place in Dunedin

If you put them in the historic downtowns where a lot of people already ride, like Tarpon Springs, Dunedin, ans St.Pete, as well as the beaches, it should be a hit!

yay!! Definitely beaches and definitely downtown to edge. Great for a "brew tour" or a "beach bike bar crawl"...parking is so difficult on the beach and downtown...even if I drove to a bike share and then biked it would make a beach day/lunch easier!!

I am concerned that the bikes will be stolen. A good locking system will be required.

Would like to see a bike-share system near the Pinellas Trail and in downtown St Pete

Although bike is my primary mode of transportation during the week (bike to work one mile), on the weekend it is a car to run errands, buy groceries, go to events in other cities. I would only feel comfortable riding on "Streets without specific provisions for bicyclists" if the speed limit was 25 mph, and it was only a two lane, two-way street. I only prefer an annual membership because I live here; I'm sure a per ride fee is much more logical for tourists.

Please make safer places to ride bikes. It is not a safe place to ride. I would ride to work by bike everyday if I thought I would arrive alive.

This would be a great asset for Pinellas County.

Bike Share Programs are money losers. It requires constant maintenance of bicycles, tracking and replacements. Would rather use the money to buy locks and lights and helmets for bike users and for education for motorists and bicyclists.

Bike share should be located at all major PSTA transfer facilities, as well as in each downtown district and selected beach access locations.

Our roads and our climate are dangerous. Climate change will make it worse. Who is responsible for the bikes and can the county or municipalities be sued if someone gets killed on one of the share bikes?

the survey should have a 'none of the above' choice. I doubt i would use the program since I have my own bike.

Senior discount

I ride my personal bicycle and would probably never utilize the bike-share system but I think it can be utilized by other citizens.

Should be demand in beach tourist areas.

It must be financial attractive for all income groups and all ages. Bicycle infrastructure is also important for everyone on a bicycle to feel safe riding. Separated bike lanes are
ideal.

I'd be more excited about a bike sharing program if we had a more robust transit system built around it. Bikes are good for short distance travel but getting to the locations that might have bikes requires a car (or a really lengthy bus ride). Fix that problem and bike sharing becomes a much more attractive prospect.

Probably best suited for tourist areas.

Question 8: put stations near Pinellas Trail. Question 10: I would rent for the day if my bike was being repaired.

pair with educational effort (drivers, bikers, law enforcement) about rules of the road

The focus of any bike sharing or bike promoting initiative must start with drastically slowing down the traffic on the streets of Pinellas County. Let's also look to coordinate lights and ticketing speeders. A bike sharing program will not be successful unless we can improve the safety of bicyclists.

do it!

The Bike-Share System could be another step closer to being eco-friendly and non-toxic.

Just Do It!

would work well in downtown St. Pete. do not recommend spread out locations throughout Pinellas

I'm retired and ride a bike, but the streets of St. pete just aren't safe enough to ride on. I own multiple bikess and ride on the trail, if there were separate bike lanes, I'd ride from my home to downtown - a 2 mile trip - Ridint east to coffee Pot and then to downtown is my usual ride, but the first 1 mile is scary, especially on 30th Ave,

coordination with other municipalities will be important as it would be great to have an integrated system that works anywhere in pinellas county. See DC for a great example of bike share - it goes in Virginia, Martyland and DC

pretty colored bicycles, please

high time!

Why not spend the money on libraries, improving roads, street drainage instead where the largest number of people would benefit from our tax dollars?!!!

I'm concerned that our county has one of the highest bike/auto accident rates in the country. I would ride in parks and other safe places. I think there should be adult trikes and tandem bikes too. Anything that will reduce auto traffic is a great idea! Good luck with your efforts.

Need to consider competition with existing local bike rentals includingbike shops.

Don't undercut a new program by placing stations where they won't be used. Similarly, ensure pricing is consistent with the intent of the program (ie as transportation for students, blue-collar workers, it shouldn't be too expensive. If targeted to tourists, pricing may be different).
along pinellas trail, keystone rd trail, etc
Downtown Dunedin would be a great hub.
Great idea!
This is a stupid idea. It rains too often. Everything is too spread out to ride. It is too hot to ride anywhere where there are other because you will covered in sweat. Also, too dangerous to ride off a path, everyone is too busy looking at the phone. I know I ride recreationally 3 times a week.
Worth gathering information on it. Probably would be used mostly by tourists so a nice thing to offer them.
How to prevent theft/damage
Might be good for some people
Finish the Pinellas Trail
Downtown St Pete and beaches
great idea, learn from others then do it
question 7 needs to allow you to enter "never" or at least give you a blank to enter a different answer; also on q. 15 my answer depends on how the program was structured and what it costs to operate.
I would love to see a bike share program in Pinellas, I hate driving and always walked/biked to work before moving to Pinellas County. But a tremendous effort is needed to improve bike and pedestrian facilities and driver education before encouraging more bicycle transportation. Existing bike lanes are used by vehicular traffic as texting buffers, turn lanes, etc., I will only bike on trail and sidewalks.
Spend the money working on a good north-south bike lane
Excellent idea, highly recommend
I would not use it
Please bring in a bike share program. Look into the one in NYC. It's great and they have bike racks everywhere! The average trip within downtown is less than 20 minutes and it would be perfect!
I am a commuter so this is coming from an average of 7k miles per year. Before you invest in a bike share, you MUST invest in Driver and Rider Education. Every road is available to bicyclists, but until drivers know that is the case, you will only increase accidents. Education is the cheapest most effective way to clear the path for the bike share.
Bike-share system is a good idea as long as it is SAFE and NOT expensive to implement and use.
This is a waste of taxpayer money. The survey asks "how often would you ride a bike if there was a bike share program" There was no "never" option in the list of choices. I picked Quarterly, but I meant never. Stop wasting other peoples money. If you want something, you pay to implement it and stop stealing money from hardworking people.
Please be sure to look at female style models (without the center crossbar).

I love the idea of bike-share, but being 16 miles from work is not conducive to biking to work.

**Number of daily responses**
4 responses

View all responses  Publish analytics

Summary

1. Do you provide bicycle rentals for your customers?

- Yes 3 75%
- No 1 25%

2. What percentage of your annual business revenues are generated from bicycle rentals?

- 1%-5% 2 50%
- 6%-10% 0 0%
- Over 10% 1 25%
- I do not rent bicycles 1 25%

3. How many bicycles do you rent in an average month?
4. Would you object to a publicly or privately-funded bicycle sharing program in Pinellas County?

- Yes 1 25%
- No 3 75%

5. If a bicycle sharing program is established in Pinellas County, would you be interested in participating by providing bicycle maintenance, system rebalancing and/or other services for the system?

- Yes 3 75%
- No 1 25%

6. Please let us know any other thoughts or opinions you have on the potential business impacts of bicycle sharing and/or ways local bike shops can be part of a bicycle sharing program.

Little impact on us. In general, more people on bikes is good for all riders and shops. From what I've read about 'bike sharing' programs, they have more drawbacks than benefits. After 6 months to a year, most reports are positive and everybody is happy, especially the providers. After that, things seem to fall apart. After having my own rental fleet for 35 years, it's clear to me, people don't take care of rental bikes like it was their own. Consequently the bike is left unlocked, stolen and abused. One report said many
were found in lakes and canals. The bikes need constant care from a safety and liability standpoint. If someone falls and breaks their neck, and you can't show, the bike was serviced by an established bike shop technician, you open the city up to a lawsuit. The person that rented the bike first may have damaged it and unbeknownst to the next rider, it may have become a safety hazard, and they could be hurt. If it's their own bike, the mechanical history is known and true fault can be determined. Though it may bring more bicycle awareness more to the forefront, and would be to my stores benefit, it still seems to risky to me. I don't like the cluttered look it gives to a city. The 'stations' where the bikes are kept are an eyesore and get worse with neglect and time.

**Number of daily responses**

![Number of daily responses graph]
Pinellas County is exploring bike share options and wants your feedback

Tony Marrero, Times Staff Writer

The city of Tampa's has rolled past the 100,000-mile mark. St. Petersburg's will be up and running soon. Now Pinellas County officials want to get in on the bike share action.

The county's Metropolitan Planning Organization is studying the idea of bringing bike share to Pinellas and is seeking input from residents and officials in the county's cities. (To fill out a survey yourself, go here Deadline is Nov. 13.) The goal is to have a report to the MPO board by early next year that would outline some options to make it happen, said Rodney Chatman, the MPO's planning manager.

“We see our report as laying the foundation and if local governments are interested, then we'd lay out a road map to get them to establish their own programs,” Chatman said. Or, he said, it could be a seamless countywide program.

The MPO had created a subcommittee of its Bicycle Pedestrian Advisory Committee to tackle the task and is currently working on GIS analyses to map out areas where bike share could work. Think dense population centers with good grid networks, such as downtown areas and college campuses, Chatman said.

Some examples include downtown Clearwater, Safety Harbor, Dunedin and Oldsmar, as well as the gulf beach cities. Another likely location: the 47-mile Pinellas Trail.

Bike share programs are exploding throughout the country and in several cities in Florida, and Chatman pointed south for a potential model for Pinellas. Broward County's B-Cycle launched in 2011 -- reportedly the first countywide bike share program in the country -- and now offers 275 bicycles at 22 stations in 6 cities, according to its website.

County Commissioner and MPO board member Karen Seel asked MPO staff earlier this year to look into a program for Pinellas.

"I've used bike share across the U.S. and I just find it to be a really great tourism attraction and a fun way to get around,” she said.

Seel said the effort should consider -- and perhaps work in conjunction with -- private vendors that already offer bike rentals throughout the county.

"Maybe we talk to companies and see if there are gaps and put together a coalition to publicize what we have and fill in those gaps,” Seel said.

Members of Tampa's Coast Bicycle program logged nearly 106,000 miles in its first 10 months. St. Petersburg is expected to pick a winning bid from among two companies this week. The city has vowed to make sure its program is accessible to poorer residents.

[Last modified: Tuesday, November 3, 2015 3:52pm]
This table indicates potential eligibility for pedestrian and bicycle projects under Federal Transit and Federal Highway programs. Specific program requirements must be met, and eligibility must be determined, on a case-by-case basis. For example: transit funds must provide access to transit; CMAQ must benefit air quality; HSIP projects must be consistent with the State Strategic Highway Safety Plan and address a highway safety problem; NHPP must benefit National Highway System (NHS) corridors; RTP must benefit trails; the Federal Lands and Tribal Transportation Programs (FLTTP) must provide access to or within Federal or tribal lands. See more information about Bikes and Transit and Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law.

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<td>Shared use paths / transportation trails</td>
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**KEY:** $: Funds may be used for this activity.

ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973
TIGER: Transportation Investment Generating Economic Recovery Discretionary Grant program
FTA: Federal Transit Administration Capital Funds
ATI: Associated Transit Improvement (1% set-aside of FTA)
CMAQ: Congestion Mitigation and Air Quality Improvement Program
HSIP: Highway Safety Improvement Program
NHPP/NHS: National Highway Performance Program/National Highway System
STP: Surface Transportation Program
TAP/TE: Transportation Alternatives Program / Transportation Enhancement Activities
RTP: Recreational Trails Program
SRTS: Safe Routes to School Program
PLAN: Statewide or Metropolitan Planning
402: State and Community Highway Safety Grant Program
FLTTP: Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program)

* TIGER: Subject to annual appropriations. $plan = Eligible for TIGER planning funds. $* = Eligible but not competitive unless part of a larger project.
* CMAQ: See the CMAQ guidance at [www.fhwa.dot.gov/environment/air_quality/cmaq/](http://www.fhwa.dot.gov/environment/air_quality/cmaq/) for a list of projects that may be eligible for CMAQ funds. Several activities may be eligible for CMAQ funds as part of a bicycle and pedestrian-related project, but not as a highway project. CMAQ funds may be used for shared use paths, but may not be used for trails that are primarily for recreational use.
* STP and TAP: Activities marked “as SRTS” means the activity is eligible only as an SRTS project benefitting schools for kindergarten through 8th grade.
* Planning funds must be for planning purposes: Maps: System maps and GIS; Safety brochures, books: As transportation safety planning; Training: bicycle and pedestrian system planning training.
* Separated Bicycle Lanes, also known as protected bike lanes or cycle tracks.