



*Alta Planning + Design*

# BIKE SHARE PLANNING, DESIGN + IMPLEMENTATION

*“You and everyone else on this feasibility study team are doing a great job of introducing our residents to the concept of bike share, managing expectations of how bike share might work in St. Louis, and listening to new ideas and suggestions. Thank you Alta for all of your hard work!”*

— Elizabeth Simons, Community Program Manager, Great Rivers Greenway Project Manager, St. Louis Bike Share Feasibility Study, MO

## WHY ALTA?

Alta has been engaged in bike share system launch, operations, and management since the inception of modern day bike share in North America. We bring a sophisticated understanding of the issues facing bike share today, such as changing technology, equity and social issues, and integration with other forms of mobility.

Having completed bike share work for over 40 communities in North America, we have an unparalleled depth of experience in the practical elements of successful bike share design—programmatically, economically, and operationally. The results are fully-informed, fact-based recommendations based on the unique characteristics of your bike share project.

*Feasibility Analysis Services:*

**INVENTORY OF  
EXISTING CONDITIONS**

**SYSTEM SIZE,  
DEMAND, AND  
STATION LOCATION  
RECOMMENDATIONS**

**BUSINESS PLAN  
DEVELOPMENT**

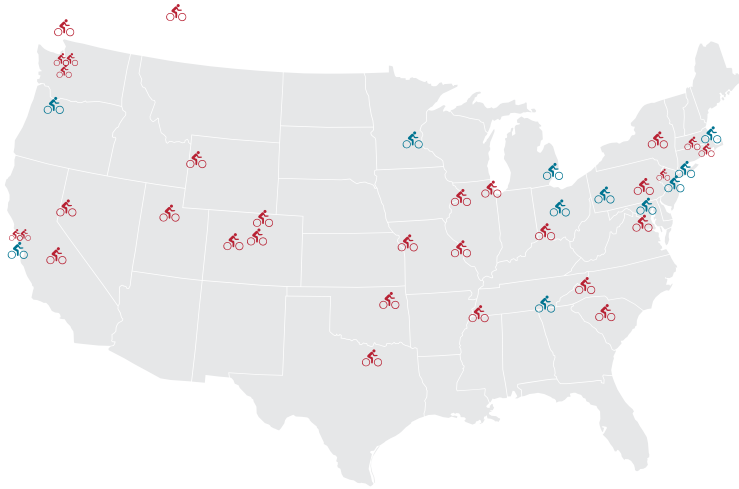
**EXPECTED COSTS AND  
REVENUE**

**SITE PLANNING AND  
PERMITTING**

**PUBLIC ENGAGEMENT**

**COORDINATING  
PUBLIC-PRIVATE  
PARTNERSHIPS**

Alta's [bike share work](#) spans North America.



**FEASIBILITY STUDY AND SYSTEM PLANNING WORK:**

- Albany, NY
- Aspen, CO
- Auburn, WA
- Baltimore, MD
- Calgary, AB
- Cincinnati, OH
- Chicago, IL
- Columbia, SC
- Dauphin County, PA
- Denton, TX
- Denver, CO
- Fort Collins, CO
- Fresno, CA
- Jackson Hole, WY
- King County/Seattle, WA
- Marin County, CA
- Memphis, TN
- Pioneer Valley, MA
- Providence, RI
- Quad Cities Region, IL & IA
- Redmond, WA
- Reno, NV
- Reston, VA
- Salt Lake City, UT\*
- San Mateo, CA
- St Louis, MO
- Tacoma, WA
- Toronto, ON
- Tulsa, OK
- Vancouver, BC



**SYSTEM PLANNING, SITE DESIGN, AND PERMITTING WORK:**

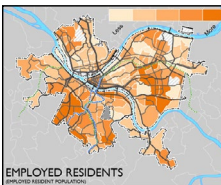
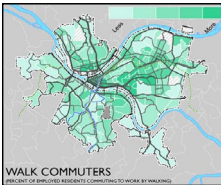
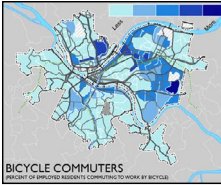
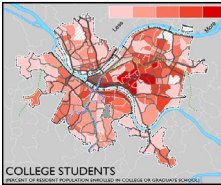
- Bay Area Bike Share, Portland, OR
- Biketown, Portland, OR
- Capital Bikeshare, Washington DC/ Arlington County, VA
- Chattanooga Bicycle Transit System, TN
- Citi Bike, New York, NY
- Citi Bike, Jersey City, NJ
- CoGo, Columbus, OH
- Healthy Ride, Pittsburgh, PA
- Hubway, Greater Boston, MA
- MoGo, Detroit, MI
- Nice Ride, Minneapolis, MN\*\*

*\*Regional Governance Study Only*

*\*\*Site Design/Permitting Only*

# APPROACH

Alta recognizes the power that bike share has to enhance mobility and generate a powerful sense of place in a city, region, or campus. Alta's tools inform bike share system design from concept to station placement, offering a complete package.



GIS analysis maps for the Bike Share Study, Pittsburgh, PA

## LOCAL CONTEXT ANALYSIS

Alta uses GIS and census data to map the demographics of a community, such as household income, vehicle ownership, bicycle and pedestrian commuters, employment centers, parks, greenways, and key destinations. Individual maps are overlaid to form a composite heat map that shows where demand for bike share is likely to be highest.

## SYSTEM SIZE, DEMAND, AND STATION LOCATIONS

Alta's heat maps show areas that are well-suited for bike share, and are used to make recommendations for system size and service area. Alta also uses GIS data to create analysis maps focused on bike share system equity.

## BUSINESS PLAN, EXPECTED COSTS AND REVENUE, AND OPERATING MODEL

Our business plans define expected system costs and develop diversified funding strategies for dock-based, smart-lock, and hybrid bike share systems. We explore all avenues of potential revenue, including user fees, sponsorship opportunities, and public and private funding. Our plans generate interest in bike share with decision makers, potential sponsors, and the general public.

## **PUBLIC ENGAGEMENT**

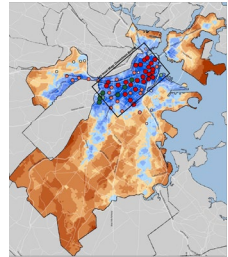
Alta understands a city's or region's need to solicit community comments related to the overall system plan, service area, and station sites. We work with clients to host a series of public meetings, as well as create a web or social media-based engagement strategy. Online input maps (aka "Wikimaps") are a particularly effective means that we use to gather input from a large number of stakeholders.



*Alta hosted multiple bike share planning public workshops in St. Louis, MO*

## **SITE PLANNING AND PERMITTING**

Our planning experience includes siting station locations, station site design, and working with local and state agencies to obtain permits for station placements. We help agencies understand station siting requirements through design drawings and visualizations.



*Hubway Bike Share GIS heat map for system planning, Boston, MA*



*For the cities of Pittsburgh, Portland, and Detroit, Alta guided the client from bike share feasibility studies and business planning, through site planning, station design, and permitting prior to launch.*



**SITE ID: 36 - Henry Ford Hospital**



Plan view diagram of Preferred Option

## Improving Equity and Access in Detroit through Bike Share Planning

*Client:*  
**Downtown Detroit Partnership**

*Client:*  
**Detroit, MI**

Alta was hired by the Downtown Detroit Partnership (DDP) to work with the City’s bike share operator, Shift Transit, to oversee system planning, site design, and permitting for the 43-station program. Permitting required collaboration with various departments within the City of Detroit, as well as the Michigan Department of Transportation (MDOT), Michigan Department of Natural Resources, and the State Historic Preservation Office (SHPO). For a handful of stations, Alta worked with DDP to secure license agreements to provide access to stations installed on private property, as well.

As an evolving city with an active downtown and Midtown cultural, educational, and medical district, a key challenge for the system planning was to provide access to residents in struggling neighborhoods that lie adjacent to or in between dense mixed use areas that typically prove ripe for bike share usage. Alta developed site plans for stations along Detroit’s evolving protected bike lane network in a diverse range of residential neighborhoods and commercial districts.

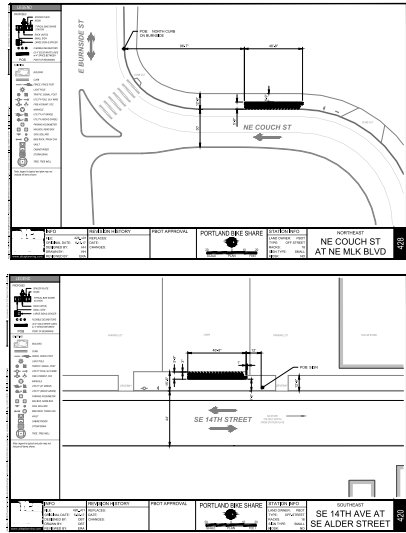


## Cultivating a Viable Approach for System Expansion in Metro Salt Lake City

The success of Salt Lake City's GREENBike bike share program prompted interest in expanding the geographic footprint of the system beyond Salt Lake City's jurisdiction. Regional expansion of the system could include municipalities up and down the Wasatch Front from Ogden to Provo. Alta led a study, commissioned by the Utah Transit Authority, to explore viable governance models for a regional GREENBike system and seek consensus around a single recommended approach. Potential strengths and weaknesses of the various local and regional agencies were analyzed based on their capability and willingness to incorporate bike share into their mission. This analysis, in conjunction with a review of bike share governance models from across the country, was combined to develop a preferred governance and organizational structure for the regional expansion of bike share. The project centers on a series of three in-depth and engaging stakeholder meetings and includes a final summary report.

*Client:*  
**Utah Transit Authority**

*Location:*  
**Salt Lake City, UT**



## Planning and Design for the First Hybrid Dockless System in the US

*Client:*  
**Portland Bureau of Transportation**

*Location:*  
**Portland, OR**

Alta provided planning and design services for Portland's bike share system, BIKETOWN. Alta developed a bike share demand model based on residential and employment density and key attractors. Based on the model and City input, Alta developed the preferred service area and tiered target station density based on anticipated use by sub-region. Alta conducted initial site surveys to identify 300 potential locations and key attributes to help the public prioritize the stations.

Following the selection of the 100 station locations, Alta performed the final field surveys and drafted detailed site plans for the stations. Alta then worked with City planners and engineers, TriMet, and private property owners to secure the necessary approvals for the stations and modified site plans as necessary. Alta successfully drove an accelerated seven-month schedule to implement 100 bike share stations by the promised launch date.





## Planning + Public Outreach = Promise for Bike Share in St. Louis

Alta completed a feasibility study, system plan, and business plan for a bike share program in the St. Louis region. As part of the effort, Alta performed a trip-demand, membership, and revenue analysis based on our unique models developed specifically for bike share. The model results were used to develop a financially sustainable business plan for the recommended non-profit. The final report included station siting guidelines and specifications for stations throughout metro St. Louis, including Forest Park, the city of Clayton, at MetroLink stations, and at key destinations in neighborhoods within the urban core. The study also featured best practice recommendations designed to enhance program equity, including station siting strategies, affordability, and promotion to lower income and minority communities.

Supplementing the effort was a robust public involvement process that included a project website, social media, multiple rounds of public workshops, and bike share demonstrations at various community events.

*Client:*  
**Great Rivers Greenway**

*Location:*  
**St. Louis, MO**

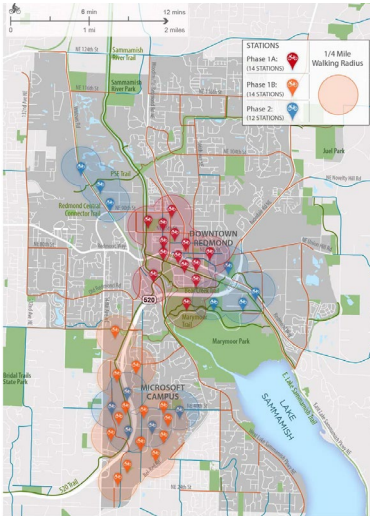


Figure 16: Bike share station location and phasing map

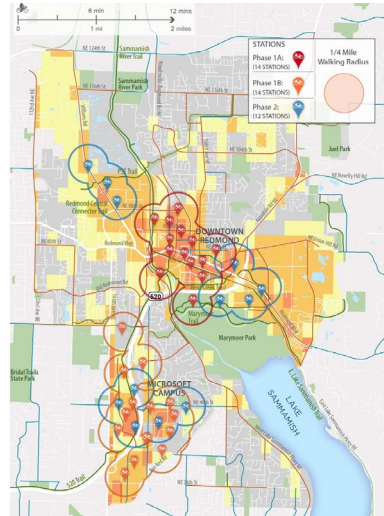


Figure 17: Bike share station location and phasing map superimposed onto the Demand Map

## Big Tech Seeks Bike Share to Complement Employees' Mobility Options

Client:  
Microsoft

Location:  
Redmond, WA

Located in Redmond, WA, the Microsoft campus is one square mile and has a staff population of approximately 40,000. Currently, a fleet of shuttles transports staff throughout the campus on-demand. Alta studied the feasibility of offsetting some of these shuttle trips with bike share trips, as well as providing bike share connectivity to the City of Redmond and regional transit services.

Alta reviewed and reported on current bike share technologies and industry trends as they relate to a future system on the Microsoft campus. This included case studies of peer U.S. bike share systems on similar campus foot-prints. Tasks included public outreach to raise awareness of bike share among campus staff and reviewing local opportunities and constraints. Alta's heatmapping tools were used to determine an appropriate program size considering station density, geographic dispersal, and system requirements, as well as identify the number of stations, bikes, and docks for the system.



## A Regional Bike Share System to Connect Communities with Limited Transit

Alta worked with the Pioneer Valley Planning Commission to provide guidance on the future implementation of a bike share program in the cities of Northampton, Springfield, Holyoke, the Town of Amherst, and the UMass Amherst campus. The Pioneer Valley program offers unique challenges to bike share planning and eventual deployment, in that each of the four communities are 5-10 miles apart with minimal transit service and limited connectivity.

Alta developed a five-year financial pro forma, provided research to enable selection of an equipment model, and assisted with recruitment of corporate sponsor(s) to fund on-going operations. Alta also developed preliminary site plans for bike share stations for the first phase of the program. This required an understanding of demand for bike share within the four municipalities and working with city and town staff to select the top four preferred sites. Bike share station mock-ups on several of the sites, shown in the graphic above, were used in presentations to potential sponsors to build enthusiasm for bike share in Northampton and surrounding communities.

*Client:*  
**Pioneer Valley Planning  
Commission**

*Location:*  
**Pioneer Valley, MA**





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