

Memorandum



To: Eileen Kadesh and Ref Lindmark, *King County Metro*

From: Adrian Witte and Kim Voros, *Alta Planning + Design*

CC: Bike Share Partnership

Date: June 16, 2011

Re: King County Bike Share – Program Definition Memorandum

Executive Summary

Bike sharing is an innovative approach to urban mobility, combining the convenience and flexibility of a bicycle with the accessibility of public transportation. Bike share systems consist of a fleet of bicycles provided at a network of stations located throughout a city. Bicycles are available on demand, providing fast and easy access for short trips, transit-linked trips, and/or tourist trips.

This project builds on previous planning efforts conducted in King County to develop a Program Plan that will deliver an implementable framework from which to make bike sharing a reality in the County.

This memorandum summarizes the potential benefits of bringing bike share to the County, the experience of other North American cities that have introduced bike sharing, and the role that public agencies and corporate partners play in bringing bike sharing to fruition. A preliminary plan that considers potential demands, geographic and social equity, phasing, and system size has also been developed.

System Benefits

Cities such as Montreal, Denver, Minneapolis, Washington DC, Miami Beach, Toronto and over 300 other cities worldwide are investing in bike sharing as a relatively inexpensive (in many cases the City does not provide any local public funding to the system) and quick implementation urban transportation option. These cities and many others planning bike sharing systems recognize the economic, environmental, and social benefits of this transformative mode that include bringing the health benefits of bicycling to a wide variety of new users, increasing cycling mode share, completing gaps and extending the reach of the public transit system, reducing a city's carbon footprint, and providing additional 'green' jobs related to system management and maintenance.

Public / Private Partnering

Bike sharing typically requires the cooperation of public agencies and private corporations. Public agencies can play a role in funding, management, and operation. However, most systems use very little local public funds, relying more on a combination of federal and state grants, corporate sponsorship (or advertising), and user generated revenues.

Public agencies have tended to take a back seat in administering and operating bike share systems, instead contracting these services to non-profit organizations or private companies. Public agencies do, however, bring the following skills and support to bike sharing:

- In-kind services such as staff time, assistance with permitting, etc.
- Right-of-way and/or property for station locations.
- Avenues and skills for pursuing grant funding.
- Potential local public funding sources.
- Outreach to potential members.
- Marketing through promotional and informational materials (such as website and bicycle maps) and market research.
- Large membership potential (as large employers).
- Creating policies that are conducive to bike sharing.

Bike sharing also has synergies with the corporate community. Sponsorship or advertising opportunities can provide a revenue stream for the bike share system from which to sustain system operations and maintenance (or, in some cases, capital costs). In return, potential sponsors are provided a variety of options, ranging from station sponsorship to title sponsorship. Supporting a bike sharing program may be beneficial to businesses from a direct marketing (exposure) standpoint or the benefits of the program may align with their corporate interests (e.g. health care providers have been the most prevalent sponsors of other systems in North America). Corporate partners may also utilize the transportation benefits offered by a bike share system through corporate membership that can deliver large numbers of users to the system.

System Plan

Planning of the system itself included defining the areas with the highest potential demand and other areas that are desirable for coverage from a geographic or social equity perspective. A phasing plan for these areas was developed to maximize early success (Phase 1) and logically expand the system to “piggy-back” on this success (Phase 2). Phase 3 would see the introduction of “satellite systems” that are discontinuous areas separate from the earlier phases. Lastly, Phase 4 would include areas that do not have high demand potential, but may be desirable “mini-systems” from a social or geographic equity perspective, or as an extension of the local transit system.

King County Bike Share Program Plan

Program Definition

This phasing does not exclude other areas from entering the system or from bringing forward launch into an earlier phase. Entry to the system will largely depend on available funding, but locations with lower user demands will need to recognize that higher levels of subsidization may be required that may need to be found through grant funding (successfully applied in other cities to expand to lower demand areas), sponsorship, developer contributions, etc.

The decision to expand beyond the first phase (and subsequent phases) will depend on available funding and the success of the system. System success is typically measured in terms of visible success such as high ridership, positive public response, and on-going financial performance, i.e. can the system be sustained through the existing or a new combination of user fees, private sponsorship, grants, and public funding.

In higher demand areas, the size of the system is largely dependent on the desired spacing of stations. Ideally, stations should be no more than 984 feet (300 meters) to 1,300 feet (400 meters) apart, representing less than a five minute walk to access a station (and a short ride to return a bike to an alternate station if the destination station is full).

For planning purposes, the size of the system has assumed an average ratio of 10 bikes per station (representative of other North American bike sharing systems) and a ratio of approximately 1.9 docks per bike, which allows users to return bikes to the station and delays the need to redistribute bikes to other stations.

The proposed phasing plan for King County is shown in **Figure 2** and includes:

- Phase 1.** Downtown Seattle, South Lake Union, Eastlake, part of Capitol Hill, the University of Washington campus (student populations provide a “high-uptake” demographic), Seattle Children’s, and the University District. **90 stations / 900 bikes.**
- Phase 2.** Expansion of the system to include the Broadway corridor, Lower Queen Anne, the rest of Capitol Hill, SoDo and the Industrial District, Fremont, and Westlake. **60 stations / 600 bikes.**
- Phase 3.** Introduce satellite systems on the east side of Lake Washington including Redmond (and potentially the Microsoft campus), Bellevue, Kirkland, and Renton. **60 stations / 600 bikes.**
- Phase 4.** Less dense areas that may not have high demands but may be good candidates to expand the reach of transit or provide additional travel options. These areas may include: Northgate, Ballard, Kent, Columbia City, Issaquah, West Seattle, communities along the Light Rail Line, etc. Number of stations should be sufficient to provide a variety of origins and destinations and to ensure economies of scale for managing the system.

Overall, the system would include 210 stations and 2,100 bikes as part of Phases 1, 2, and 3. For the launch of Phase 1, the system should not be so small as to not provide adequate bicycle coverage or sufficient destinations in the system, but must also not be too large such that it is unmanageable in the early stages operation. Based on the launch size of Washington DC, Denver, Miami Beach and Minneapolis, an initial deployment of approximately 90 stations and 900 bicycles as part of Phase 1 appears manageable.

Other Issues Impacting Success

There are a number of issues that may impact the success of the program (in terms of uptake, revenue potential, cost of the system, etc.) that will be addressed in subsequent sections of the study including:

- **Funding:** finding an appropriate model for capital, launch, and operations. This could include public (e.g. grants) and/or private funding sources (e.g. sponsorships).
- **Organization and Ownership:** who will “own” the system and how will it be administered and operated? Certain system elements should be consistent throughout the region (e.g. the same technology and seamless integration for users travelling between sub-systems) and others can be specific to each city or sub-system (e.g. funding means and revenue distribution).
- **Helmet Law:** the all-ages helmet law does not necessarily preclude the feasibility of bike sharing in King County, but it will have an impact on how the system is used and operated. Subsidized helmet vending machines such as those introduced in Melbourne (Australia) are one possible solution – although they introduce an additional burden on operators to ensure that vending machines are kept full.
- **Topography:** the steep hills in King County will impose some limitations on the system and will likely have some impact on demand. Solutions may include additional gearing or electric bicycles and system design that minimizes the steepness of slopes and allows users to check in a bike, walk up a tough hill and check out another bike.
- **Infrastructure:** experience in a number of (particularly European) cities suggests that an established network of bikeways is not essential to a successful system but that the added bicycling activity can accelerate the creation of bicycle infrastructure.
- **Permitting:** station design could be impacted by existing policies governing the use of street space, e.g. right-of-way design guidelines, historic and special district guidelines, curb space management, impact on pedestrian space, etc.
- **Sign Code:** includes determining whether additional advertising can be absorbed amongst the streetscape and existing advertising contracts, and what are the rules and processes in place for implementing new signage.
- **Maintenance Plan:** based on previous experience, the largest cost associated with maintaining the system is the redistribution of bikes when stations are empty or full. A plan for minimizing these costs will be developed.

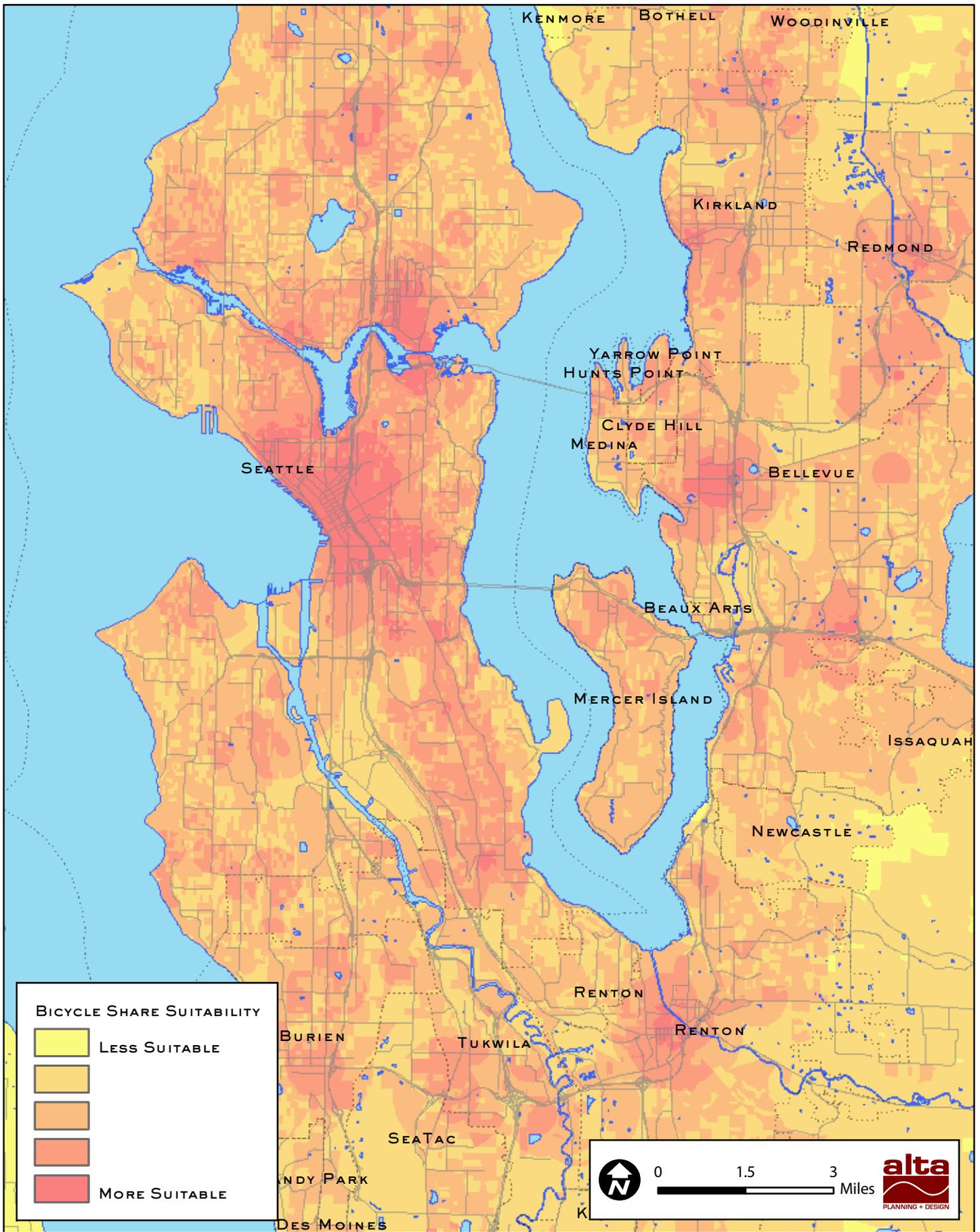


Figure 1A. Draft King County Bicycle Share Suitability

King County Bicycle Share

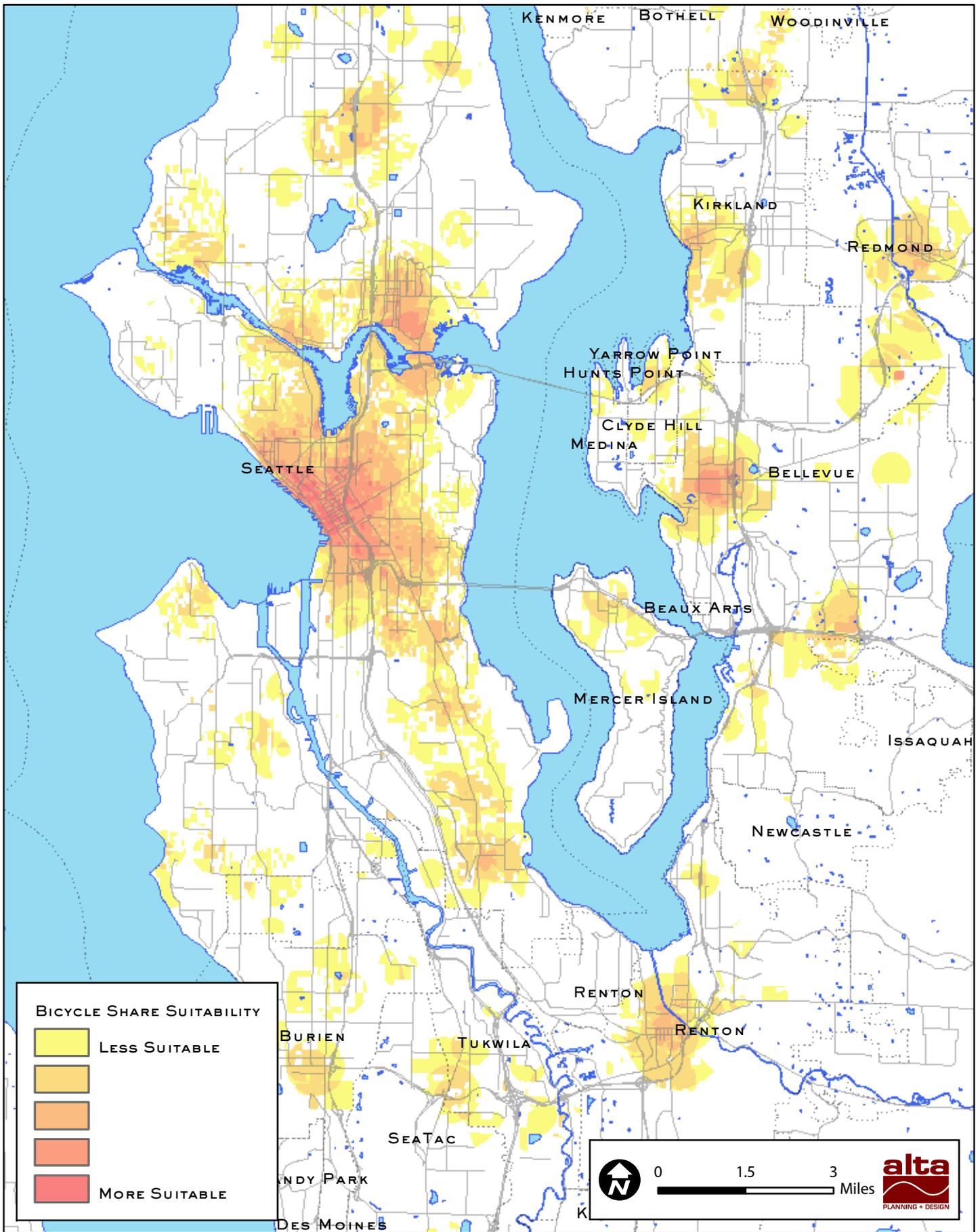


Figure 1B. Draft King County Bicycle Share Suitability Amongst Top Two Performing Categories

King County Bicycle Share