



FAMPO Bike Share Feasibility Study



What Is Bike Share

Bikes are available 24 hours a day at automated stations...



join



take

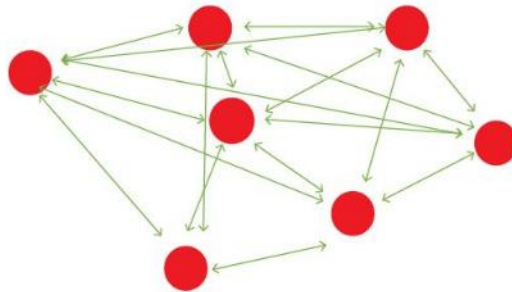


ride



return

Users can return bikes to any other station within the system...



Bike Share System Design



Bike Share System Design

photo credit: co.EXIST 2012

Regular Bike Rack Can Be Turned Into a Bike Share Station

Built-In Lock Compatible with Standard Bike Rack

GPS Tracking System

**Bikes Accessed Through Mobile Phone ;
Some Systems Allow for Kiosks**



Key Characteristics to Support Bikeshare

- Walkable and dense downtown provides a strong focus for the system.
- Downtown and nearby historic sites a regional tourist attraction.
- Growing network of recreation trails.
- Presence of University of Mary Washington

Barriers to Implementing Bike Share

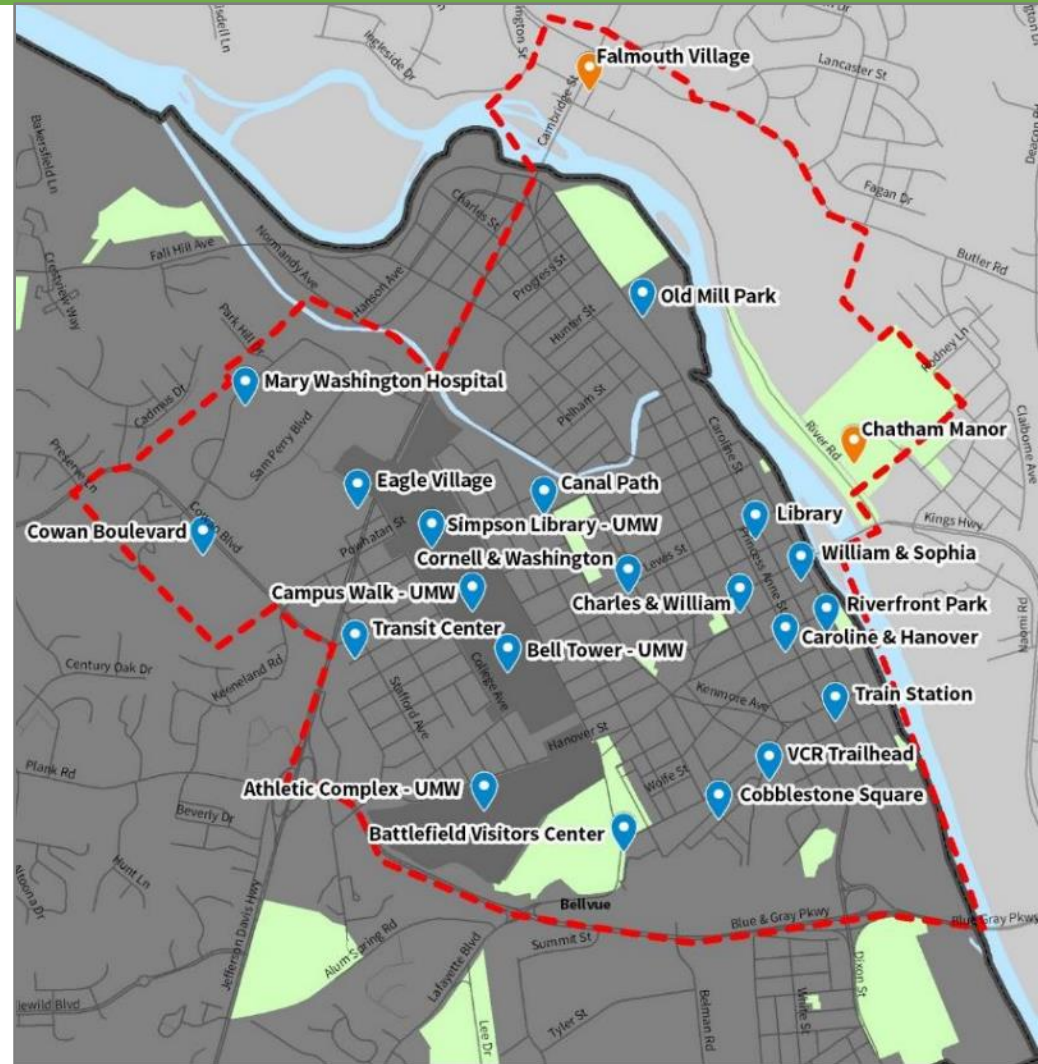
- Small size of the potential bike share system.
- Lack of bicycle infrastructure within Downtown Fredericksburg.
- High rates of automobile use.
- No clear community partner or advocate to push the project forward.

Is Bike Share Feasible?

- Number of smaller peer cities (Princeton, Spartanburg) have successful bike share systems.
- Feasibility depends ultimately on funding, political will, and public support.
 - Most peer systems depend to some degree on either public funding or grant support.
 - New emerging bike share start-ups are upending the economics of bike share.

Recommended System

- 3.5 square mile core service area
- Placement of 20 bike share stations and 120
- Stations focused on Downtown, UMW, and nearby destinations
- Opportunity to expand the system over time to additional locations



Legend

Stations



Phase 1



Phase 2

Core Service Area



Service Area Boundary



Capital Costs

	Phase 1	Phase 2
# of New Stations	18	2
# of New Bicycles	108	12
Equipment Purchases	\$404,000	\$46,000
Installation Costs & Startup	\$199,000	\$12,000
Sub-Total	\$603,000	\$58,000

- Based on the financial performance and ridership rates of peer bike share programs.
- Proposed system carries much lower cost per bicycle than station-based bike share
- Costs could be lower if there are no marked “stations” or kiosks.

Operating Costs

	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Ridership (1,000s)	13	19	20	21	21
User Revenue	\$47	\$68	\$75	\$78	\$86
Operating Revenue Subtotal	\$47	\$68	\$75	\$78	\$86
Operations	\$216	\$245	\$252	\$260	\$267
Administration	\$35	\$36	\$37	\$38	\$39
Marketing	\$16	\$15	\$16	\$16	\$17
Operating Cost Subtotal	\$267	\$296	\$305	\$314	\$324
Cost Recovery Ratio	17%	23%	25%	25%	27%
Net Operating Cost	-\$221	-\$228	-\$230	-\$236	-\$237

- User revenue covers only a quarter of operating costs.
- Advertising, sponsorship or grant revenue would need to support funding gap.
- These are conservative estimates.

So What Can Bike Share Accomplish?

- Serve the student population, enabling them to better access downtown
- Relieve parking pressures downtown by reducing the need to drive
- Improve multimodal access to bus and rail
- Provide access to the 15,000 jobs within the core service area (20% <30 y.o.)
- Provide an additional tourist amenity
- Help promote bicycling

Potential Operating Models

Public Model

Public ownership with operations handled by vendor. (Capital Bikeshare)

Public subsidizes privately owned and operated program. (Zagster)

Non-Profit

Existing non-profit owns and operates system (Spartanburg, SC)

New non-profit organization is created to operate bike share

For-Profit

Bike share franchise given to private operator in exchange for advertising and exclusive access to public ROW. (CitiBike)

Private operator enters market with limited oversight or control of city. (LimeBike)

Changing Market Place



- Emergence of venture capital funded bike share start ups.
- These operators are aggressively expanding.
- No cost to host cities.
- Unclear if they are sustainable.