

# WinFred Bike Share Study Executive Summary

December 17, 2020

## Introduction

The WinFred Metropolitan Planning Organization (MPO) initiated the Winchester Bike Share Study on behalf of the City of Winchester in 2019. The WinFred MPO contracted with EPR, P.C. to study the feasibility of a bike share system in Winchester and develop a bike share plan for the City.

## Benefits of Bike Share

Bike share systems provide short-term bicycle rentals within a defined geographic zone that allow users to access a bike from one location and return it to another. These systems offer an affordable option for mobility and recreation within the service area and tend to prioritize one-way trips to popular destinations. Bike share provides a variety of benefits to individual users, local governments, and broader society. These benefits include:

- **Mobility:** A bike share system provides an additional travel option that is affordable and sustainable.
- **Health and Wellness:** The health benefits of bicycling are well documented. This active form of transportation helps to address obesity, heart disease, and diabetes. Bicycling can also improve mental health. Physical exercise, including riding a bike, has been shown to improve outlook and reduce stress.
- **Equity:** Bike share provides low-cost mobility options to individuals who cannot afford to purchase a car. According to AAA, the annual cost of vehicle ownership is \$9,282, while bike share usage fees typically range from \$50 to \$120 per year.
- **Environmental Sustainability:** Bike share can help reduce greenhouse gas emissions by replacing vehicle trips with bike trips. Research indicates that 5-25% of bike share trips in North America replace motor vehicle trips.
- **Benefits to Localities:** The cost of implementing a bike share system is relatively low compared to other transportation investments and can enhance a locality's image and attract visitors.

## The Local Context

Winchester is a small, historic city located in the Northern Shenandoah Valley, home to 27,789 residents. The City's daytime population grows to 46,888, reflecting the City's status as a center of regional employment. Despite its modest population, Winchester is relatively dense, with a population density of 3,023 people per square mile. Around 9% of households in Winchester do not have access to a vehicle, and 8% of the City's workers commute to work by transit, bike, or on foot.

There are a few roads in Winchester with bike facilities and the Green Circle Trail, an off-street loop that connects many important destinations in the City. Several sections of the Trail are built-out with off-street paths, and others are currently under construction. The City and the WinFred MPO expressed an interest in locating a potential bike share system along the Green Circle Trail to further support this biking investment in Winchester.

## Study Methodology

WinFred and City staff created several core tasks to evaluate the feasibility of a bike share system and to develop a plan for the City.

### Peer Bike Share City Review

EPR, P.C. selected three localities that are comparable to Winchester and have established bike share programs. The study team researched these programs, interviewed key staff at these localities, and summarized lessons learned from these programs. The peer cities are

- Danville, Virginia
- Blacksburg, Virginia, and
- Brusly, Louisiana.

Researching peer localities with bike share systems helped EPR, P.C. develop recommendations for bike share technology, operating model, and other characteristics of a bike share system. Peer localities also provided detailed cost information that allowed the study team to develop cost estimates for a potential Winchester bike share system.

### Stakeholder and Public Input

EPR, P.C. conducted four stakeholder interviews with representatives of the Winchester business, education, and non-profit communities. In these interviews, the study team collected information about potential bike share locations, gathered feedback on potential issues facing bike share in Winchester, and explored opportunities for partnerships to support bike share.

The WinFred MPO and VDOT conducted an online opinion survey of the public to gauge the level of public interest in starting a bike share system. Participants answered a series of questions and placed points on a map indicating destinations for bike trips. Key takeaways from the survey responses include:

- Most survey respondents are not avid bike riders, but many are aware of bike share and have used it in other cities;
- Most survey respondents would use bike share in Winchester, but only a few would use it daily; and
- Most survey respondents would primarily use bike share for recreational trips.

### Suitability Analysis

EPR, P.C. conducted a bike share suitability analysis to identify the areas of Winchester that are most appropriate for a bike share system. This analysis considered seven factors related to bike share demand to identify areas where there is likely to be the highest demand for bike trips.

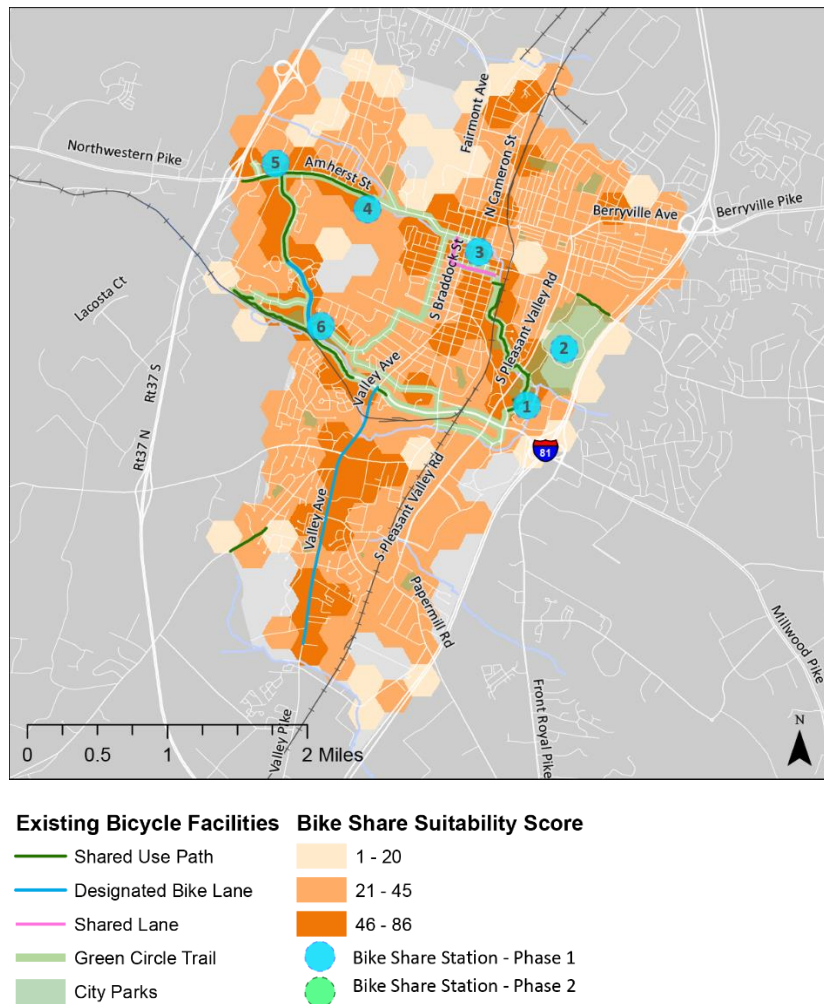
This analysis formed the bike share plan basis, which includes potential locations for bike share stations.

### Bike Share Plan

EPR, P.C. developed a phased bike share system plan that will allow Winchester to gradually implement the system based on available funding and level of public support. Each phase specifies the total number of stations and bikes and identifies the general location of each station. The initial phase includes six stations with a total of 30 bikes. Phase two and three each include three additional stations and 15 bikes. The final system, after all expansion phases, would have 12 stations and 60 bikes. This plan does

not propose specific station locations for Phase 3 but recommends areas where Winchester is expanding its bicycle network.

Figure 1. Bike Share Plan Map with Suitability Scores



## Cost Estimate

EPR, P.C. developed cost estimates for both capital and operating expenses of a bike share system. These estimates are based on costs from Winchester's peer bike share localities and assume Winchester will purchase and own the station infrastructure (bike racks and information panels) and lease bikes from a private bike share operator. The purpose of this cost estimate is to provide an example of expected costs under one implementation scenario, not to recommend this particular phasing approach.

Table 1. Cost Estimate for the First Five Years of Operation

	Unit Cost	Phase 1 Year 1		Year 2		Phase 2 Year 3		Year 4		Phase 3 Year 5	
		#	Cost	#	Cost	#	Cost	#	Cost	#	Cost
Conventional Bikes	\$1,440	30	\$43,200	30	\$43,200	45	\$64,800	45	\$64,800	60	\$86,400
Bike Racks	\$450	53	\$23,850	0	\$0	27	\$12,150	0	\$0	27	\$12,150
Information Panels	\$1,000	6	\$6,000	0	\$0	3	\$3,000	0	\$0	3	\$3,000
10% Contingency			\$7,305		\$4,320		\$7,995		\$6,480		\$10,155
<b>Total Cost</b>			<b>\$80,355</b>		<b>\$47,520</b>		<b>\$87,945</b>		<b>\$71,280</b>		<b>\$111,705</b>

The cost estimate provides a gross cost for each year, including all expansion and operating costs. Revenues, including user fees, sponsorships, and public subsidies are not included in the cost estimate.

## Recommendations

The study team developed recommendations and next steps for establishing a bike share system in Winchester.

### Make a Decision about Bike Share

Although this study finds that bike share is feasible in Winchester, a potential system needs strong support from the City to be successful. The City should make a formal decision about whether to establish a bike share system in Winchester.

### Designate Responsible Party

The City should designate the department or organization that will ultimately oversee the bike share system. Although it is best to establish public-private partnerships to support bike share, it is important to name a City department or other agency as the entity responsible for making final decisions about the bike share system.

### Establish a Bike Share Task Force

The City should establish a bike share task force chaired by a staff person from the City department to take primary responsibility for the bike share system. The task force will conduct outreach to local businesses, community leaders, and the public and provide critical information to the party responsible for bike share.

### Obtain Funding

The City should pursue funding for start-up and continued operating costs of the system. Operating expenses will need to be covered by user fees, sponsorships, and other local funding.

### Select a Bike Share Operator

The City should develop a Request for Proposals (RFP) for a bike share operator to launch and operate Winchester's bike share system. Assuming funding has been secured, Winchester will choose a bike share operator, award a contract, and oversee the bike share system's implementation.

### Adopt an All Ages and Abilities approach to Bicycle Facility Design

Research indicates that 51-56% of the population are interested in bicycling but are not comfortable riding in bike lanes that lack physical separation from traffic. To provide useful facilities for riders of *All Ages and Abilities*, designs should incorporate the needs of children, seniors, inexperienced riders, and individuals with disabilities. Providing separated bicycle facilities will allow the highest number of people to use bike share in Winchester.

### Complete the Green Circle Trail

Winchester has made significant progress towards completing the Green Circle Trail by incrementally building paths along the trail alignment. Winchester should continue this project and complete the entire trail with off-street paths or physically separated bike lanes.