

# St. Clair County Bike Share Feasibility Study



## Background

Bike share is an environmentally friendly transportation alternative that targets daily mobility by providing short-term bicycle rentals. It allows users to access bicycles on an "as-needed" basis. Programs are commonly in urban settings and provide multiple bike station locations that enable users to pick up and return bicycles to different stations. They operate via unattended bike stations where bicycle reservations, pick-up, and drop-off are self-service. Bike-sharing user fees typically cover bicycle purchase and maintenance costs, as well as storage and parking responsibilities (similar to car-sharing). The bike is reserved (and unlocked) from a bike share kiosk (bike rack, or dock) via a swipe of a credit card. Their purpose is short term, short distance use in downtown areas. Currently, there are 4 generations of bike share.



## Case Study Analysis

Two nationally recognized programs in the U.S. are Capital Bikeshare in Washington, D.C. and Nice Ride MN in Minneapolis, MN. D.C. has 1,670 bikes and MN has 1,325, with city populations over 400,000 people. Port Huron, however, has a population of about 30,000. Desiring to compare bike share programs of a smaller scale, based on similar city population, three small town bike share programs were chosen.

- ▶ Green Bike: Pullman, WA, Washington State university
- ▶ Salem Spins; Salem, MA
- ▶ Spartanburg B-Cycle; Spartanburg, SC

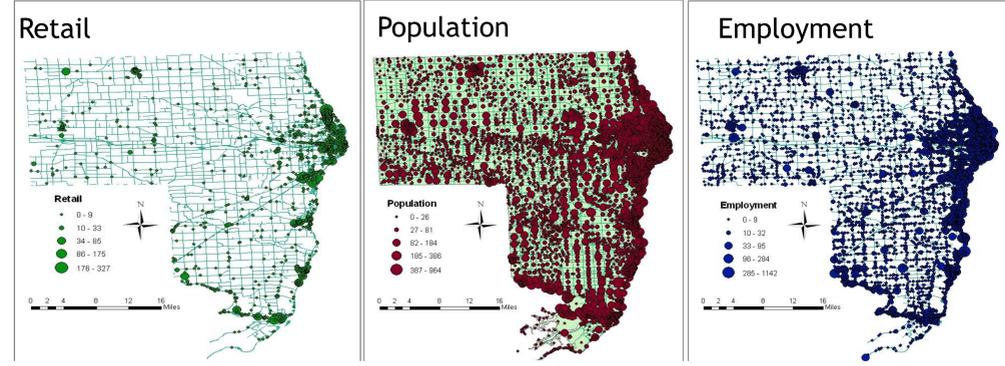
Greenbike has 120 bikes in operation, Spartanburg 15 and Salem Spins has 20. All three are funded thru a combination of public and private sponsorships, with local funding for operations. Greenbike is a campus based system, with free checkout, via University ID. Salem Spins has 2 stations, 1.6 miles apart. It is also free, but requires possession of a credit card and signed waiver. In Spartanburg, a 24-hour pass costs \$5, the first hour is free and each half hour after is \$1. A 30-day pass costs \$15 and an annual pass costs \$30.

## Demand Analysis

### Anticipated Users

- **Users of bike share:**
  - Young (20-39 years), well educated, environmentally conscious, are the early adopters (i.e. College students)
  - People with higher incomes
  - Alternative commuters
  - New bicyclists
  - Local population
  - Prefer flatter topography and warmer temperatures for bicycling
- **Bike share trips:**
  - are short, a half hour or less
  - offer the last mile service from transit hubs, parking garages, and destinations
- **Density of infrastructure:**
  - such as downtown city centers
  - specifically, bike infrastructure

### ArcGIS Analysis for St. Clair County

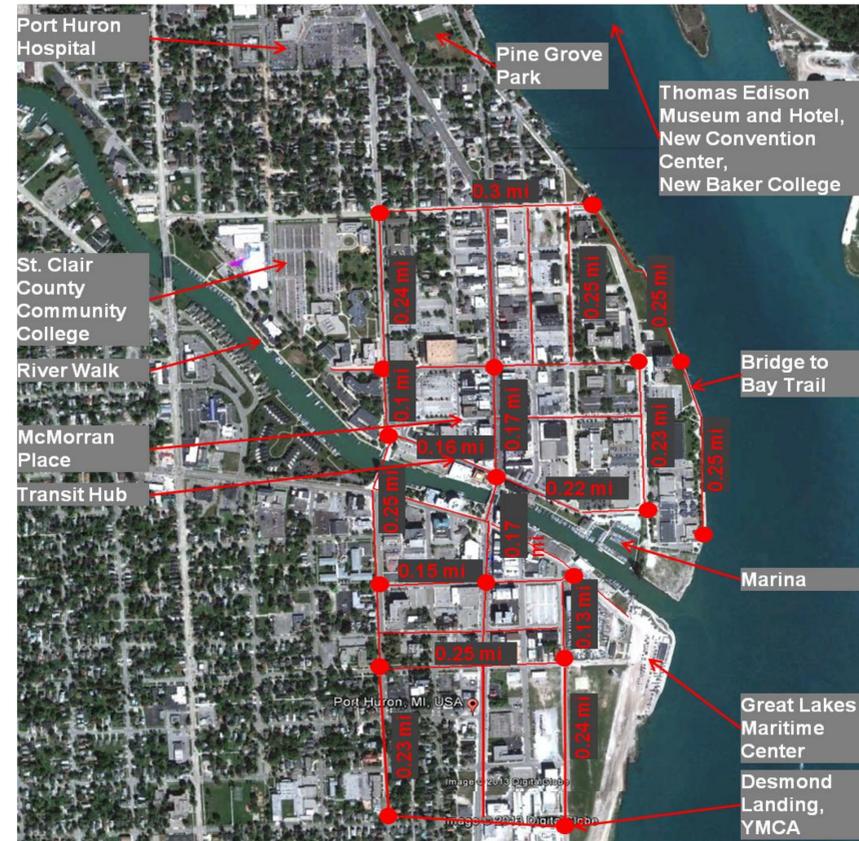


### Demand Thresholds for Port Huron and Case Studies

Thresholds for community indicators were determined from case studies, including Salem, MA, Spartanburg, SC and Washington State University. These thresholds are compared to existing conditions in Port Huron, MI. The thresholds are estimates to determine the feasibility of Port Huron for a bike share, compared to communities in operation. The weight given each community indicator, or importance of the comparison, must be given further scrutiny, of trip attractions and trip generators specific to Port Huron, for bike share trips.

Community Indicators	Criteria	Port Huron / Regional Analysis	Assessment
Population Density	City: 1,872 - 4,992 people per sq. mi Campus: 4,949 - 28,300 people per sq. mi	Port Huron is 3,740 people per sq. mi Campus: 221,025 people per sq. mi	Meets Criteria
Job Density	615 - 8,367 jobs per square mile	Port Huron has 2,732 jobs per square mile. Largest employer, at 1,142, is a health provider.	Meets Criteria
Retail Density	\$13,139 retail sales per capita	\$7,632 retail sales per capita	Does Not Meet
Bicycling Infrastructure	7.2 miles of bicycle facilities	~ 4 miles of bicycle facilities.	Does Not Meet
Parks and Recreation Areas	8.8 acres of park per sq. mi	Port Huron has 14.25 acres of park in the city per square mile of city area.	Meets Criteria
Connection to Transit	5 bus routes	Transit hub connection in Port Huron, 7 bus routes for County.	Meets Criteria
Colleges	27% to 55% of total population is between 20 and 39 years	27% is total population of city between 20 and 39 years. 4,500 student potential from community college.	Meets Criteria
Income	48% to 68% total annual household income of less than \$50,000.	69% of Port Huron's population has a total annual household income of less than \$50,000.	Does Not Meet
Race	Minorities, or non-white, rarely use.	Race is negligible for Port Huron. Over 85% white.	Meets Criteria
Recreational Expenditures: Potential and Current	96 market potential index (MPI) for road bicycling	91 MPI for road bicycling	Does Not Meet
Alternative Commuters: Distances and Mode Share	1.4% of population uses public transportation for commuting; 5.6% of population walks to work	1.1% uses public transportation to commute, 3.2% walks.	Does Not Meet
Tourism Population	N/A	High visitor counts compared to local population.	Not available.
Topography	Slope 4% or higher	Less than 4% grades across city.	Meets Criteria
Weather	Seasonal program, storage in winter.	Seasonal programs ideal. Port Huron has mild summers, low precipitation. Harsh winters.	Meets Criteria

## Recommendations



### Bikes and Stations

Preliminary station locations would be spaced at 0.25 miles apart. A 2:1 ratio of docks to bikes is needed. Access would be by use of the kiosk, by credit card or by membership code ordered via website. A payment requirement is for deterrence of bicycle theft, and long term financial sustainability of the system. For ease of operation (determination of bike share locations, available drop off slots or bicycles for pick up) a smart phone application. Stations recommended, based on the demand analysis, are for the hospital and the community college. A phased approach for expansion is ideal. If success is seen, socially and economically, adjacent communities, or dense urban areas along the Bridge to Bay trail, can sponsor additional stations. Below are the stations recommended by professionals from Port Huron, via survey in January 2013.

Top Seven Station Locations in Port Huron	
1.	YMCA, Desmond's Landing, Vantage Pt, Maritime Center
2.	Future Convention Center, Thomas Edison Inn
3.	Quay Street, Blue Water Transit Hub ("busiest part of downtown")
4.	St. Clair County Community College campus
5.	Pine Grove Park
6.	Fort Gratiot Light House
7.	McMorran Place

### Financial Feasibility

Public - private partnership is recommended, with a business plan defining costs and phase out model. Depending on private business sponsorships, or grants, at least 2 stations with a minimum of 11 docks, corresponding to 5 or 6 bikes each dock is recommended. The fee matrix should model Spartanburg, SC case study, with \$5 daily fee, free first hour, and subsequent fees for additional half hours. Cost is approximately \$76,000 in capital costs, and \$27,000 in maintenance and operating costs per year.

### Next Steps

- ▶ Community Surveys
- ▶ Business plan
- ▶ Soliciting Support and Sponsorship
- ▶ Marketing and Branding



Full report: <http://ced.msu.edu/publications/reports/planning>

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