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Dayton Bike Share Feasibility Study

Conducted by Bike Miami Valley

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What is Bike Sharing?

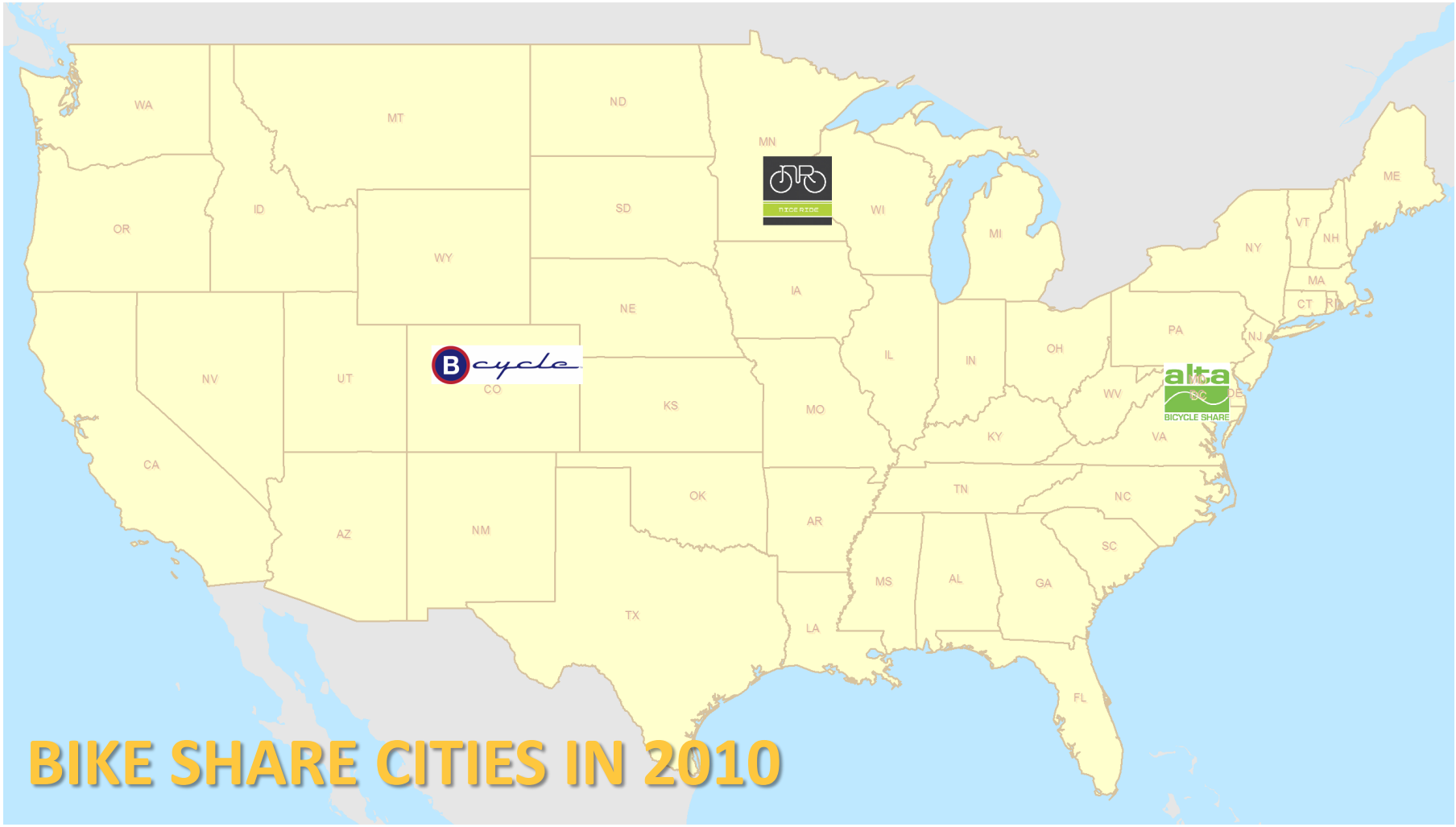
SAN ANTONIO B cycle
SANANTONIO.BCYCLE.COM

Source: San Antonio B-cycle

An array of bike docks that can easily be relocated and have solar power and wireless communication

- Annual and daily memberships allowing an unlimited number of short trips (less than 30-45 min) within membership period
- All bikes tracked via GPS; checkouts / check-ins recorded electronically

Bike Sharing in the United States



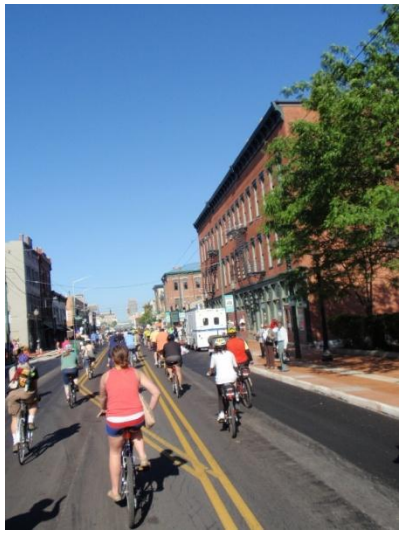
Bike Sharing in the United States

Bike Sharing in the United States

Why Bike Sharing in Dayton?

Bike Sharing Benefits

- Connects areas in and around downtown; increases street traffic, people visibility, and vibrancy
- Highly supported by young professionals; data from other cities shows young people are early adopters
- Proven strategy to improve connectivity of public transit; increase mode share
- Increases appeal of businesses within reach of bike share service area
- Significant health benefits due to increase activity and exercise
- Environmental benefits – North American cities report approximately ¼ of bike share trips replace a vehicle trip



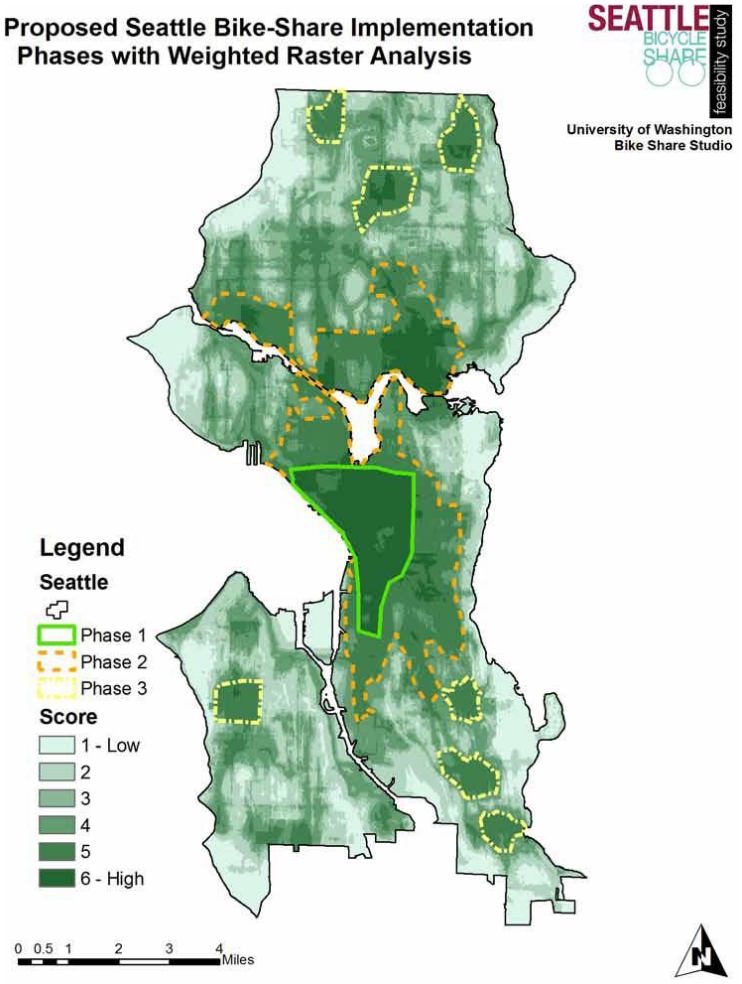
Bike Share Feasibility Study Overview

Two Major Study Elements

- GIS based "demand" analysis that examines factors influencing Dayton's suitability for a bike share
- Public survey to measure local support / interest for a bike share

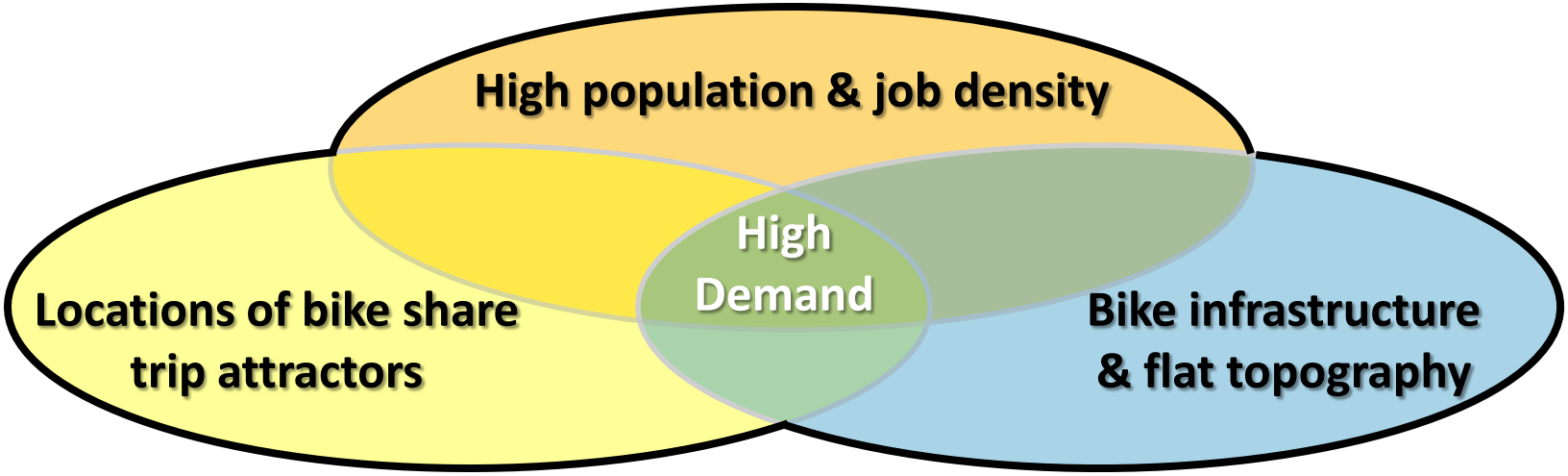
Similar to Studies Conducted for Other Cities

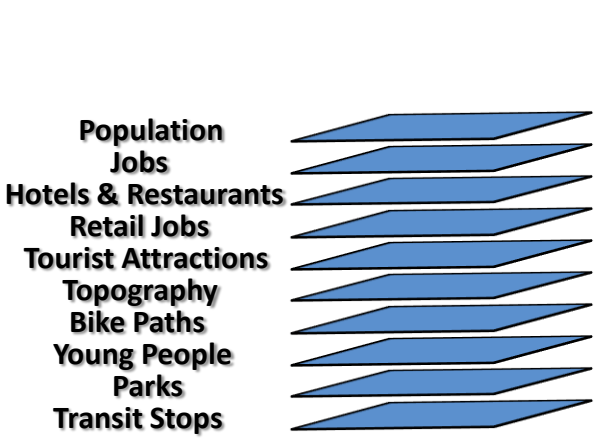
- **DVRPC:** Philadelphia Bike Share Concept Study (2010)
- **University of Washington**: Seattle Bike Share Feasibility Study (2010)
- **Alta Planning + Design:** Cincinnati (2012), Memphis (2013), Providence (2011), and several others



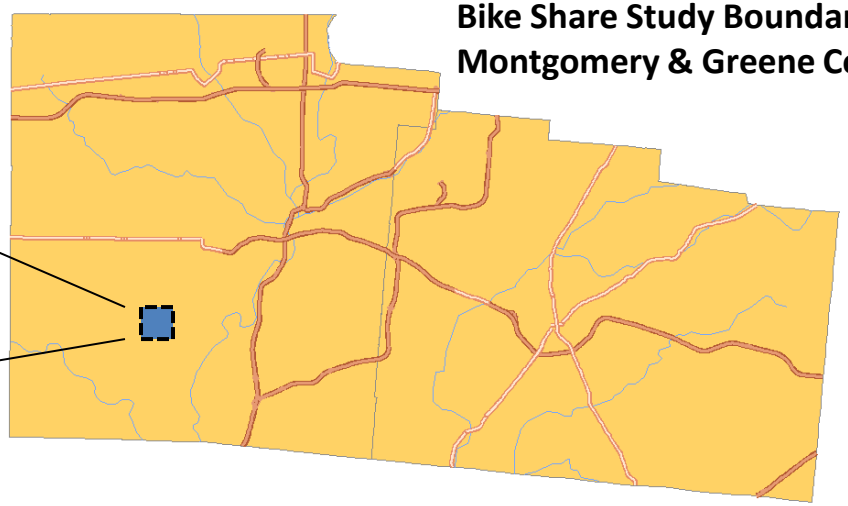
Seattle "Heat Map" of Bike Share Suitability

Dayton Bike Share Demand Analysis

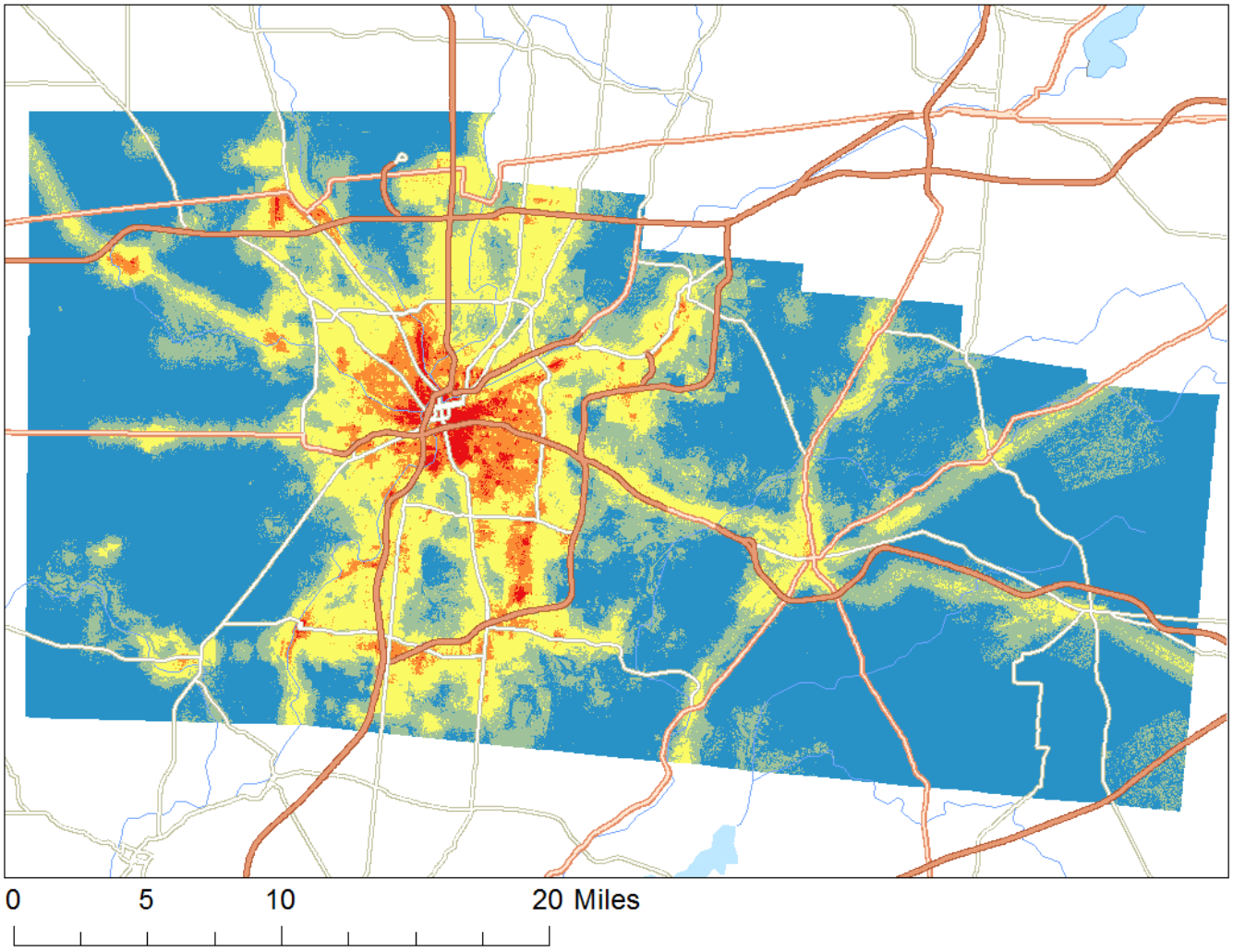




10 x 10m cell



Bike Share Demand

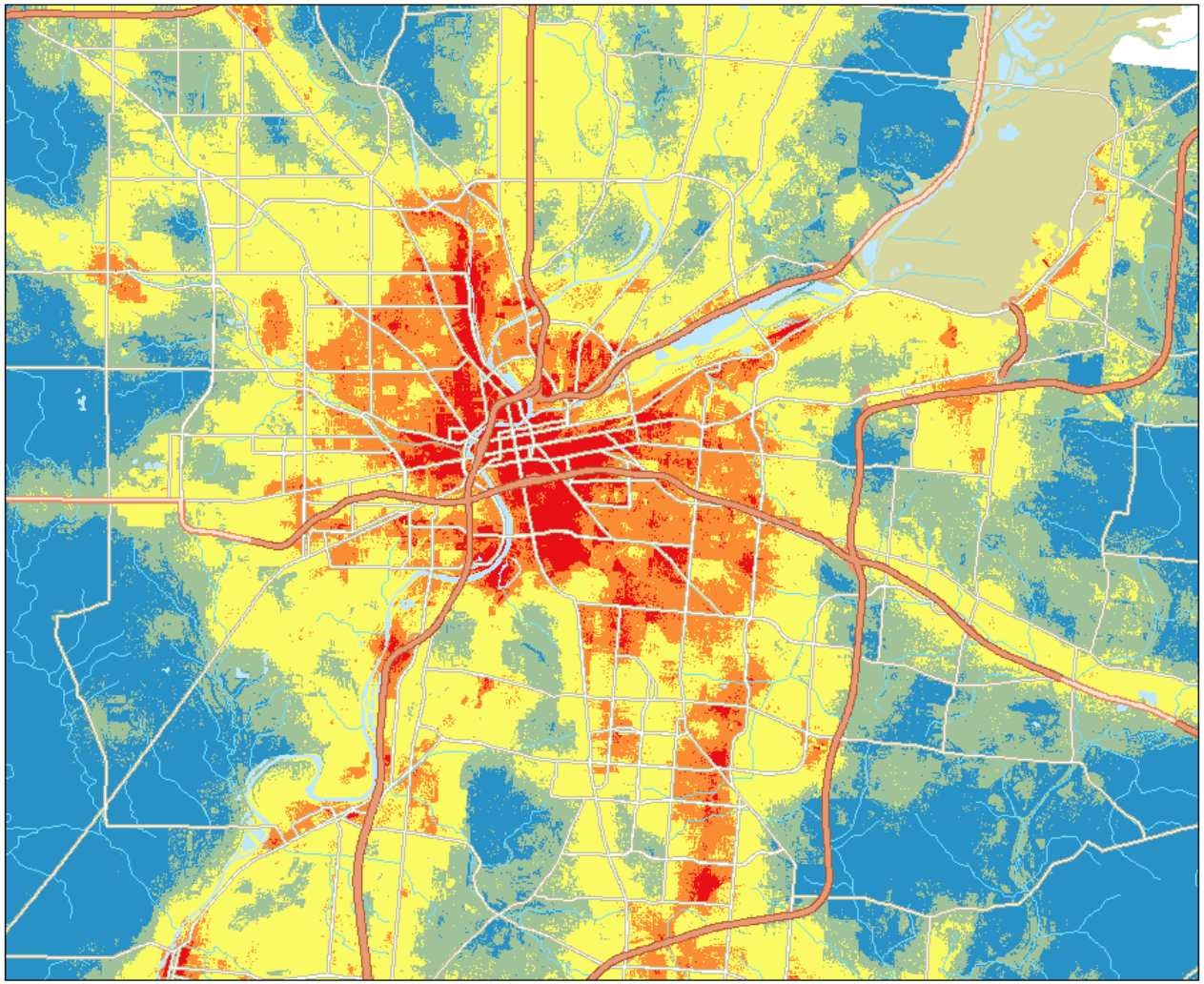


Bike Demand

- Very Low
- Low
- Moderate
- High
- Very High

Note: High and above is equivalent to the top 5% of demand results

Bike Share Demand



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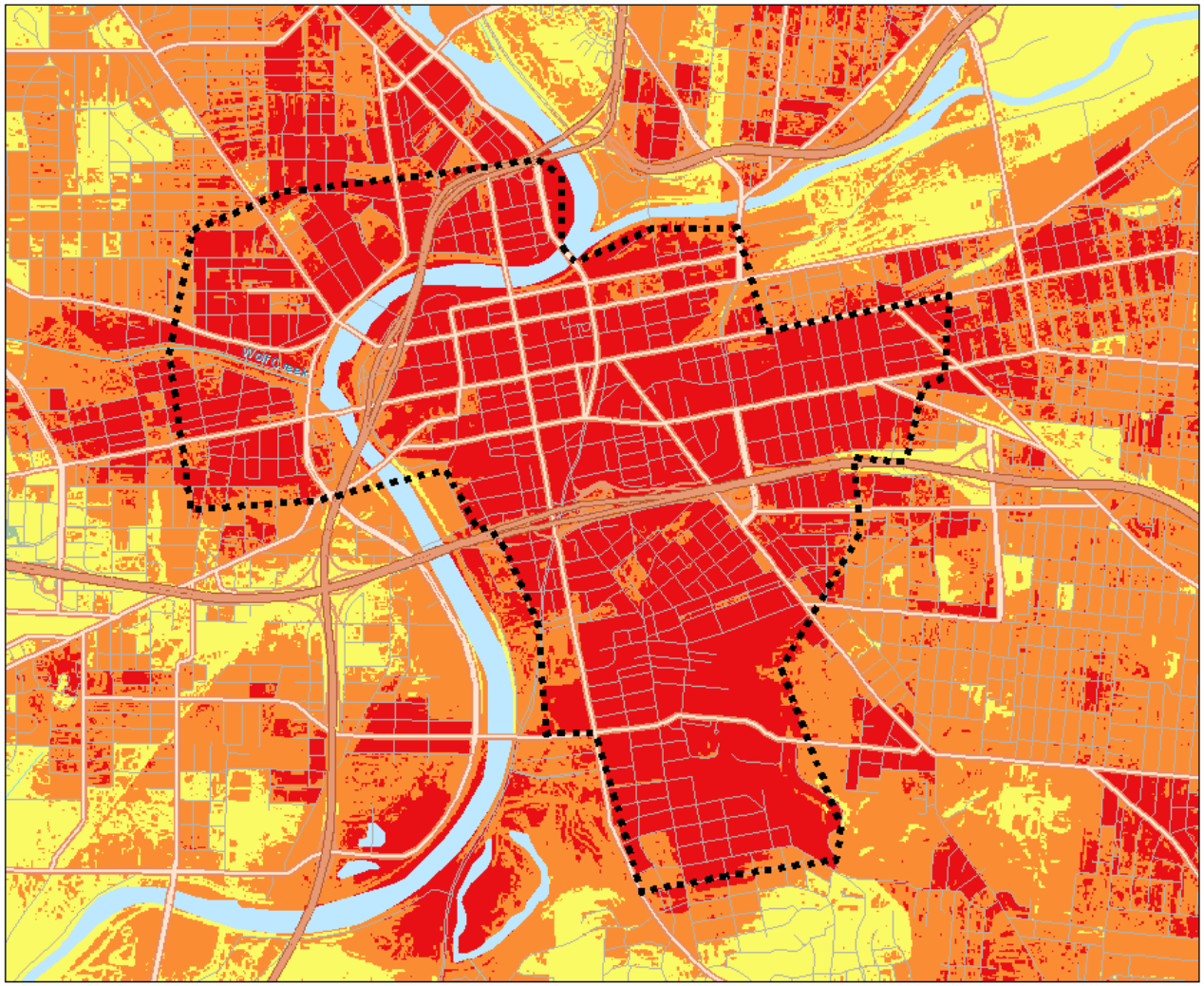
Bike Share Demand – High Demand Area



Bike Demand

- Very Low
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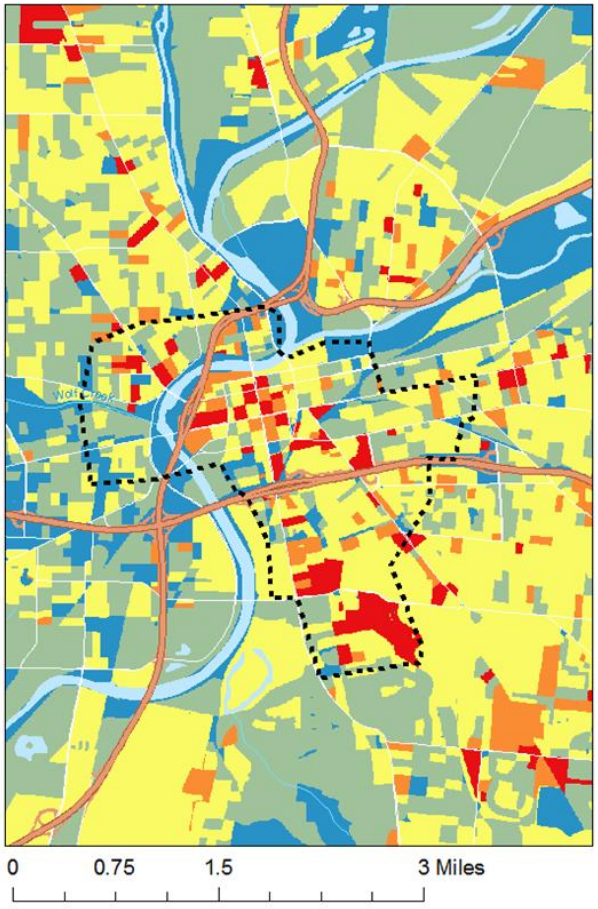
- **Note:** High and above is equivalent to the top 5% of demand results
- Highest demand area is equal to ~4.0 square miles

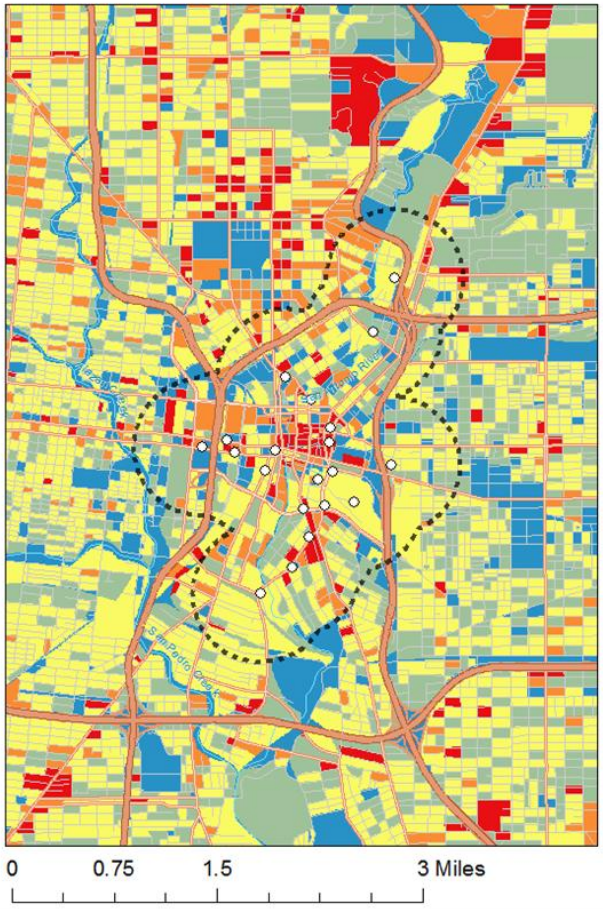
City Comparisons – Bike Share Demand

- Benchmarks high demand area in Dayton to other cities
- Addresses question about whether we're "bike share ready"
- All cities assessed for bike share demand on same scale

Dayton
Potential Bike Share



San Antonio
Existing Bike Share



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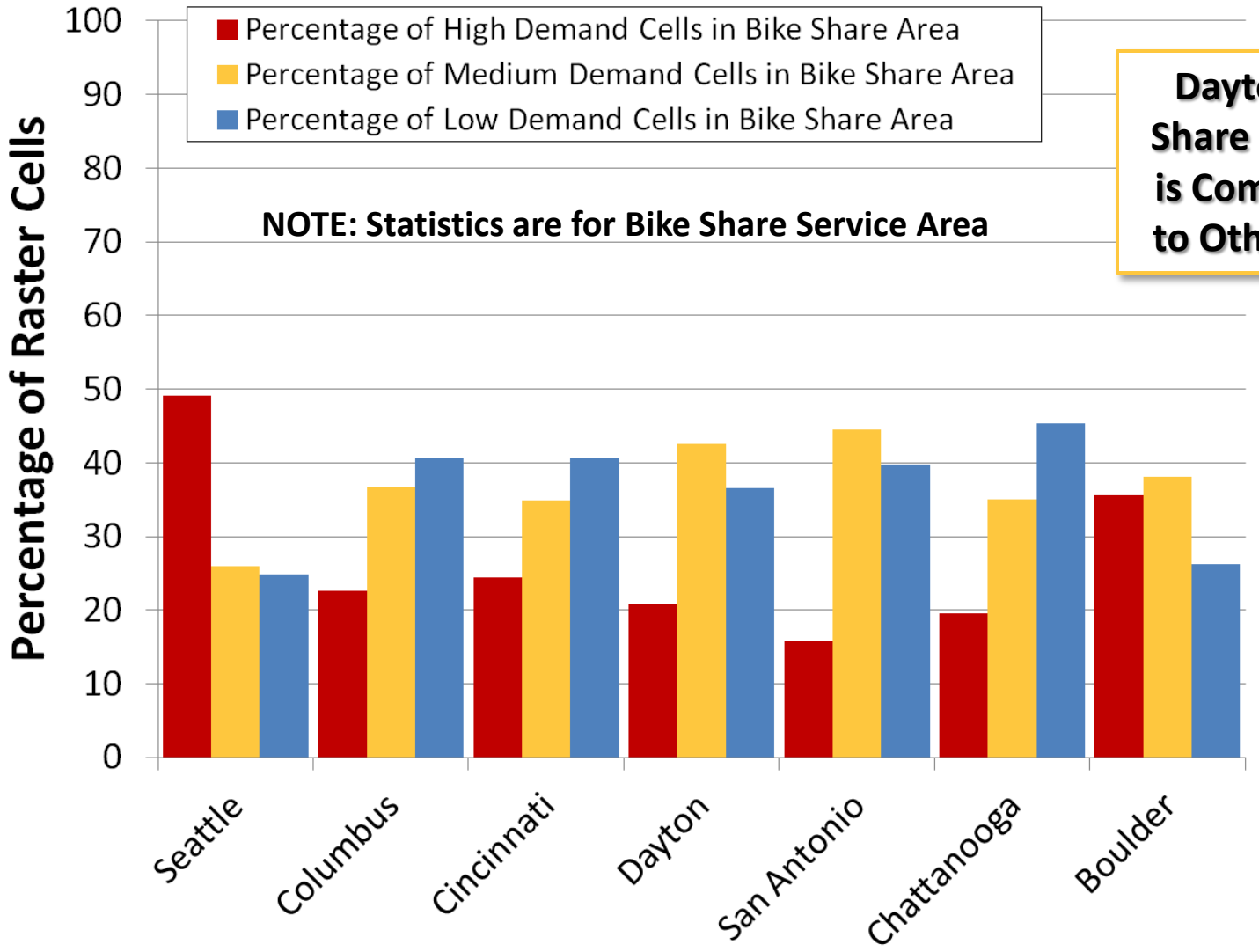
NOTE: Bike demand is weighted sum of pop density, age 18-39 pop density, job density, retail job density, and food and accommodations job density

○ Bike Share Locations

Bike Share Service Area

Service Area determined via a 0.5 mile buffer around bike share locations

Bike Share Demand: City Comparisons



Dayton Bike Share Demand is Comparable to Other Cities

High and above is equivalent to the top 10% of demand results

Dayton Bike Share
Initial Planning

Dayton Bike Share Sizing Criteria

Station Locations

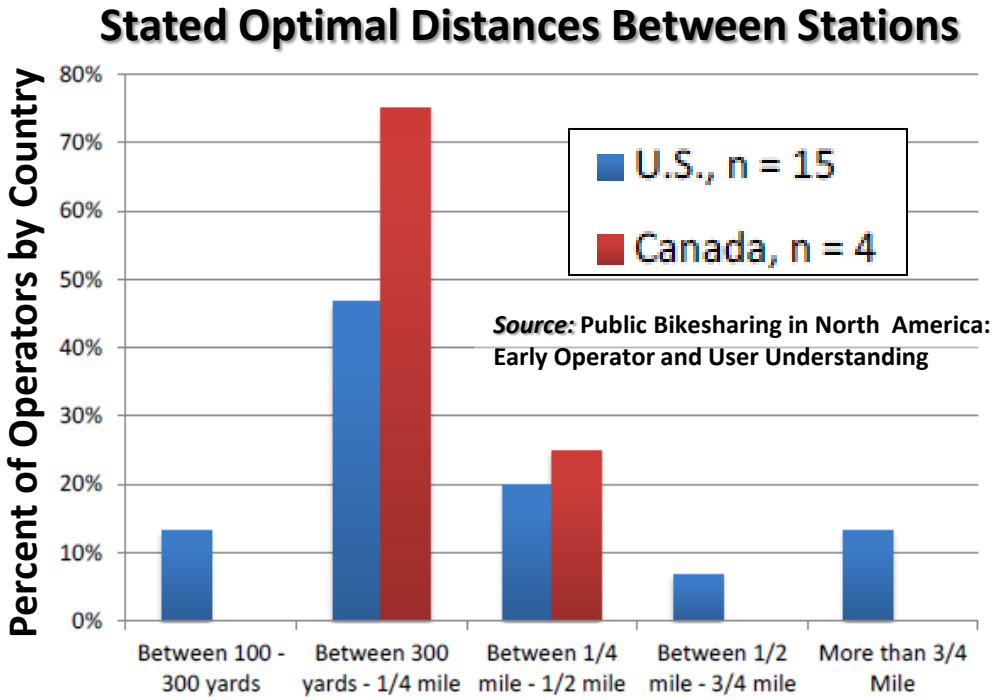
- Near likely trip origins or attractors

Distance Between Stations

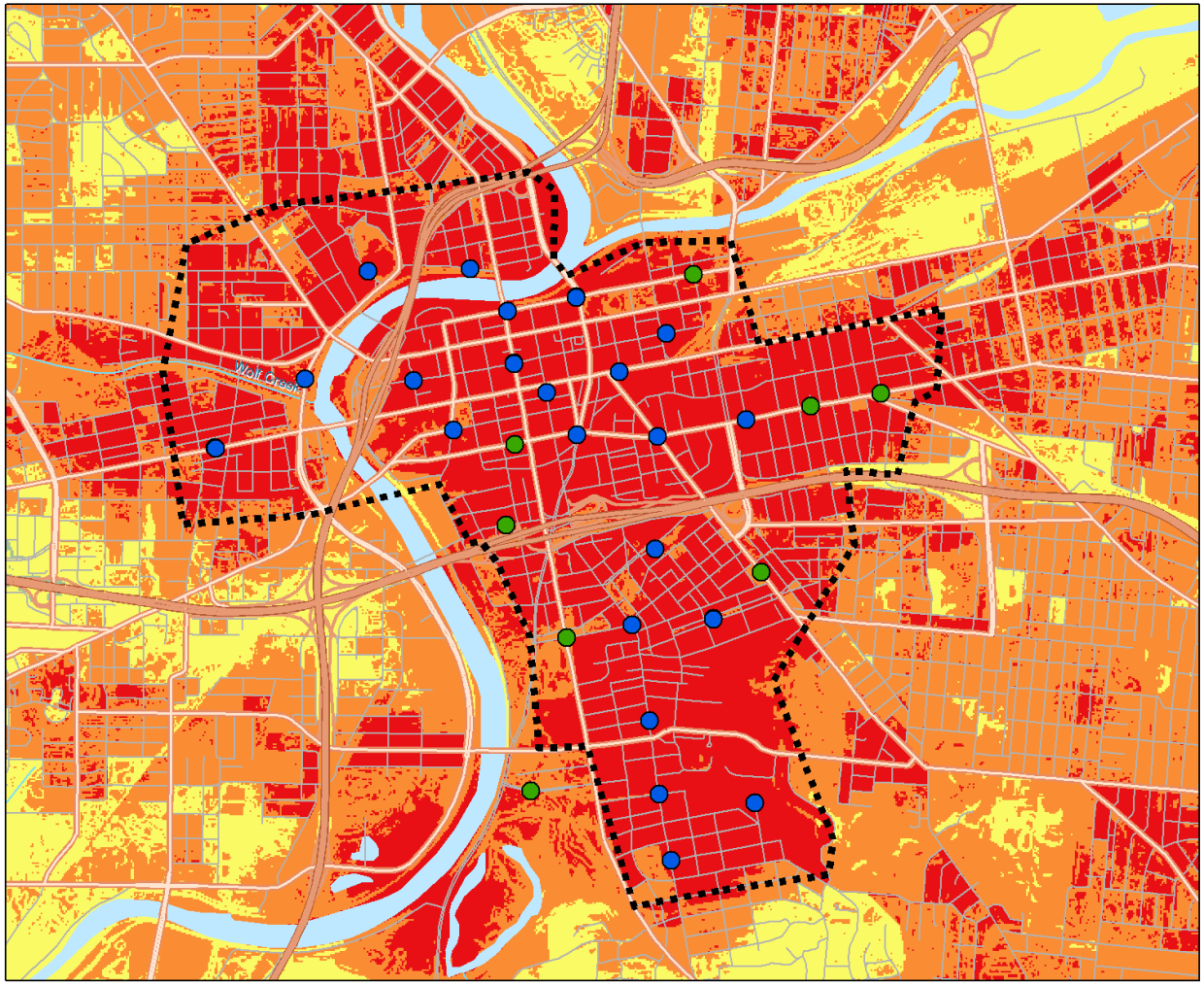
- Stations should be no more than 0.3 miles from each other (~five minute walk)

Overall Station Density

- USDOT: average density of 4.7 stations per square mile
  - Total range: 1.4 - 14.3 stations / sq. mile
  - San Antonio: station density of 4.2 stations / sq. mile
  - Chattanooga: station density of 7.5 stations / sq. mile



Possible Bike Share Locations



Bike Demand

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- Core Bike Share Locations (22)
- Expanded Bike Share Locations (30)

Finalizing the station locations and total number of bikes will require extensive communication with community stakeholders and business planning

Bike Share Operating & Funding Models

Source: Boulder B-cycle

Operational models typically a combination of:

- Non-profit
- Municipality
- Transportation authority
- For-profit contractors

Funding typically a combination of:

- Federal grants
- Local sponsorship
- Local partnerships, e.g. a university for student passes
- Station / bike advertising
- Membership revenue

Best operational models enable a wide variety of funding sources; right approach is community specific

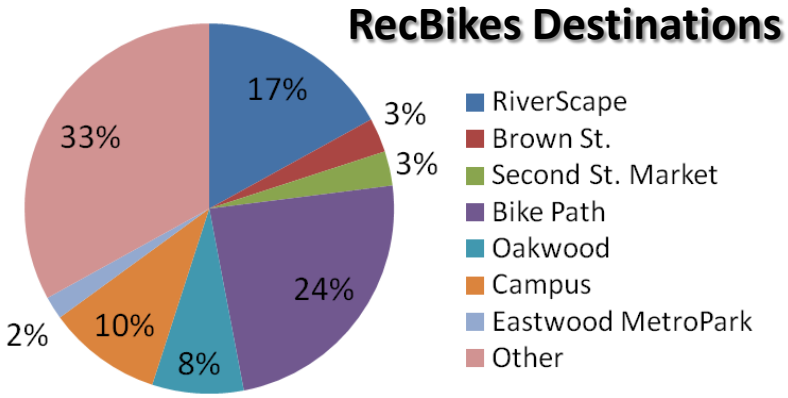
UD RecBikes: A Dayton Bike Sharing Pilot

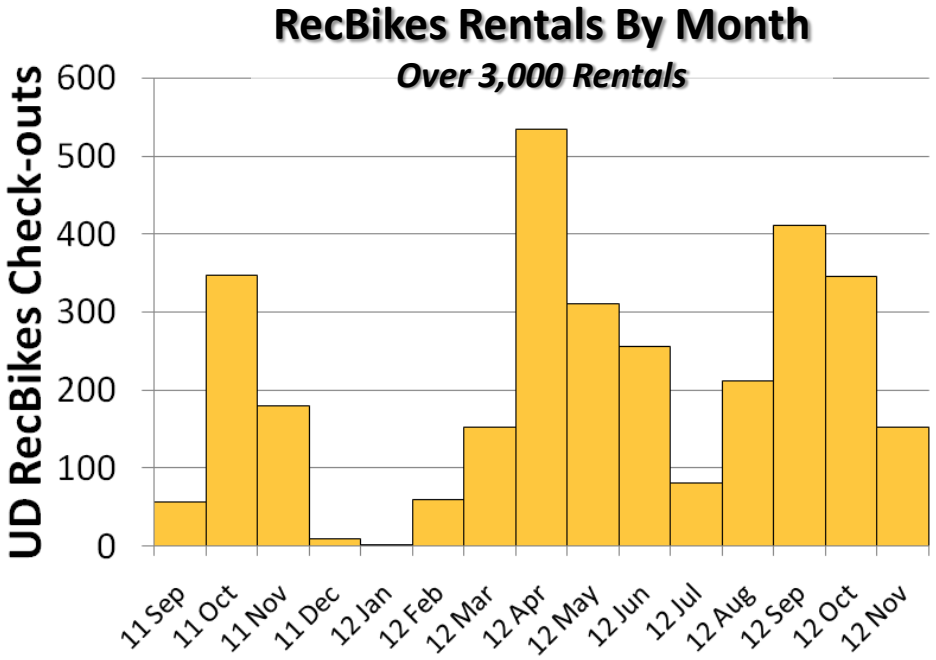
RecBikes program demonstrates the potential of a Dayton bike share

- 20 bikes housed at RecPlex
- Free "rentals" from dawn to dusk
- Only one "station"; less accessible than a typical bike share
- In warmer months, often runs out of bikes for check-out

From July – Nov 2012, RecBikes generated ~12% of the total Bike Chattanooga trips, with 7% of the bikes and 3% of stations*

***Bike Chattanooga bikes never run out, and are available any time of day**





Summary and Next Steps

Conclusions

- There is strong support for bike sharing in the Miami Valley; both in overall enthusiasm for the concept and interest in use
- An approximate four square mile area surrounding downtown is suitable for bike sharing; comparison to other cities indicates this higher demand area in Dayton is comparable to other cities that have or are considering bike shares

Next Steps

- Continue sharing feasibility study findings with community stakeholders
- Team of community partners has been convened to work on next steps over next 90 days – includes defining operational model, detailed costs, funding plan, and station map