Vienna-Fairfax-Mason Bikeshare Feasibility Study

City of Fairfax

City Council Update

November 6, 2018

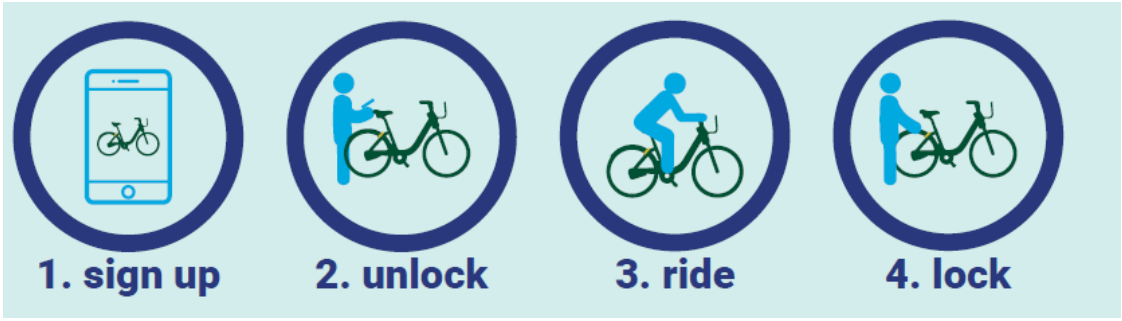
Agenda

- Study Background and Goals
- Activity To-Date
- Existing Conditions, Opportunities, and Challenges
- Technology Options
- Preliminary Recommendations
- Schedule and Next Steps

TOOLE DESIGN

What is Bikeshare?

- Transportation system ideal for short one-way or round trips
  - Users rent a bicycle at a station and return to any other station.
  - Other systems allow for stationless (“dockless”), and/or e-assist bikeshare, and/or e-scooter share.



Why Bikeshare?

- Part of a flexible multimodal system ("mobility on demand")
- Complements and extends the reach of transit
- Provides first and last mile connections
- Provides options for short trips
- Increases use of active transportation, supports a "safety in numbers" effect
- Reduces reliance on vehicles, reduces associated impacts of vehicle travel
- Cost-effective travel option
- Increases economic activity in commercial areas

TOOLE DESIGN

Study Background

- City goal: Provide viable and attractive mobility choices
- Best practices include shared mobility options

CITY OF FAIRFAX
TWO-YEAR TRANSPORTATION PROGRAM

6	Study Bike Share Feasibility (with GMU)
7	Apply for Funds to Implement Bike Share (with GMU)

Multimodal Transportation Goal 2

ACTION MM2.3.5	Complete a bikeshare feasibility study including definition of necessary station density, recommended "starter system," operating and management structure, and funding program, preferably in partnership with George Mason University.
ACTION MM2.3.6	Provide initial support to establish bikeshare in the City.

Study Partnership

- Collaboration between multiple jurisdictions to complete feasibility study
- Sets the stage for continued coordination and development of a regional system

VIENNA-FAIRFAX CITY-MASON-BURKE BIKESHARE

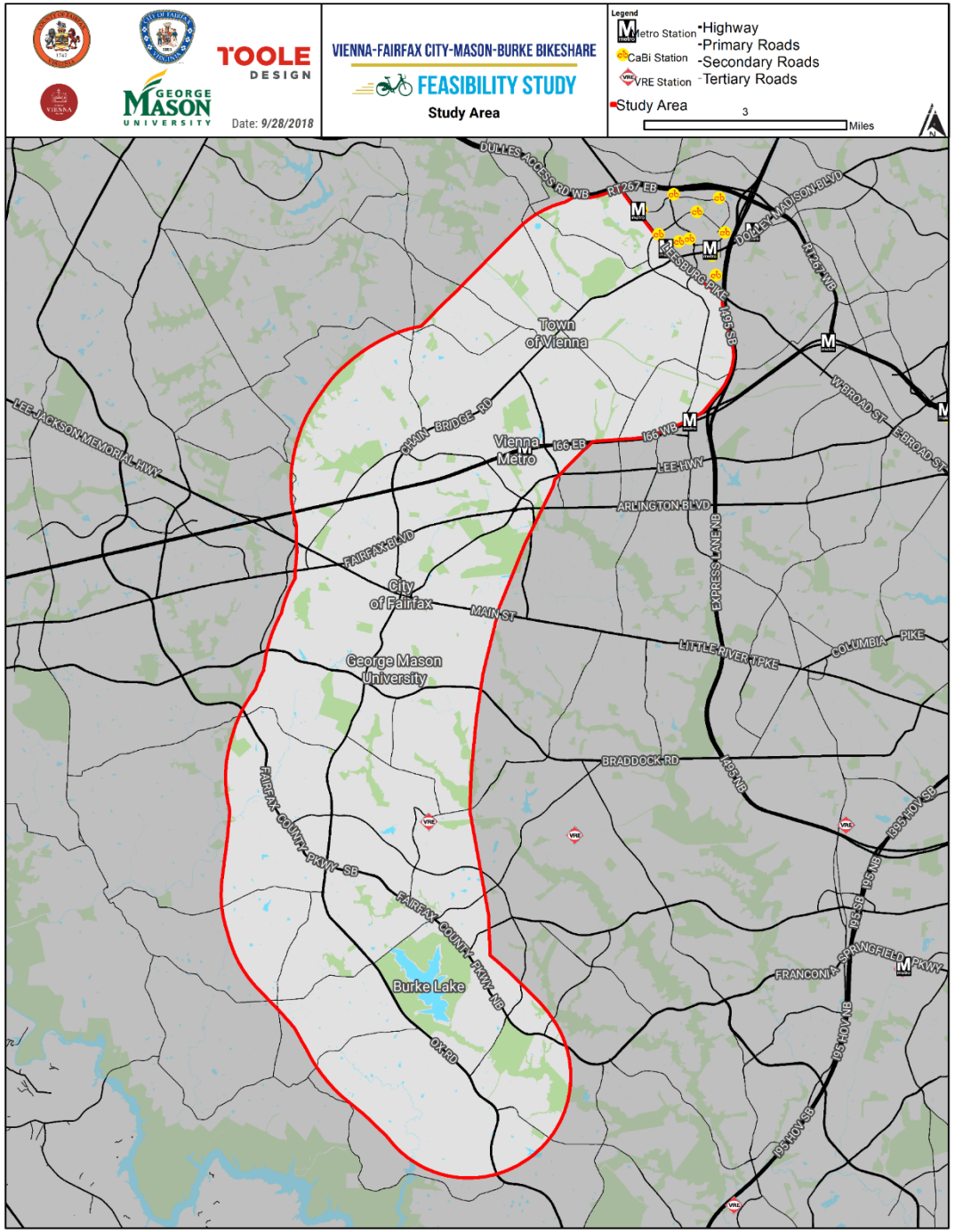
FEASIBILITY STUDY

Study Activities To-Date

- Refine vision and goals for potential bikeshare system
- Conduct public outreach
- Evaluate existing conditions, opportunities, and challenges
- Review technology options, benefits, and costs

System Goals

- Connect to trails, transit, and regional transportation options
- Increase healthy living and active transportation options
- Increase attractiveness of area for employers, business, and tourism
- Ensure affordable transportation options with access to all
- Enhance sustainable transportation options and relieve congestion
- Implement a sustainably funded and operated system

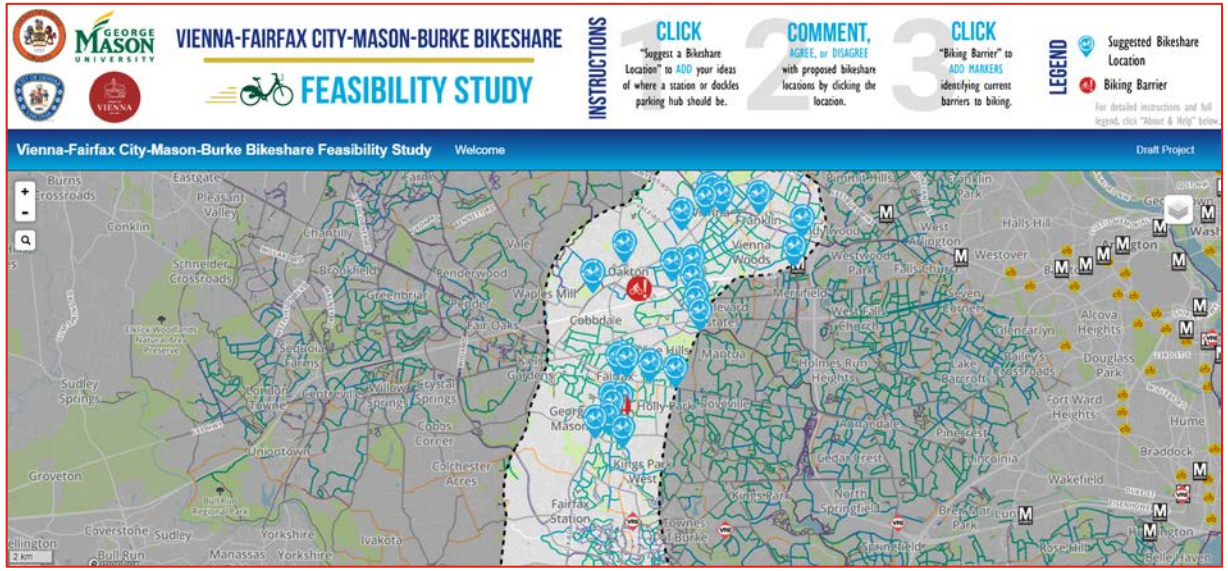


Online Public Engagement

- Website & social media
- Survey (online and at events)
- Interactive maps (online and at events)

Fairfax City-Mason-Vienna Region Bikeshare Feasibility Study

FAIRFAX CITY-MASON-VIENNA REGION BIKESHARE
FEASIBILITY STUDY



Do you support bikeshare in the Fairfax City-Mason-Vienna study area?

	1	2	3	4	5	
Strongly Support	○	○	○	○	○	Strongly Oppose

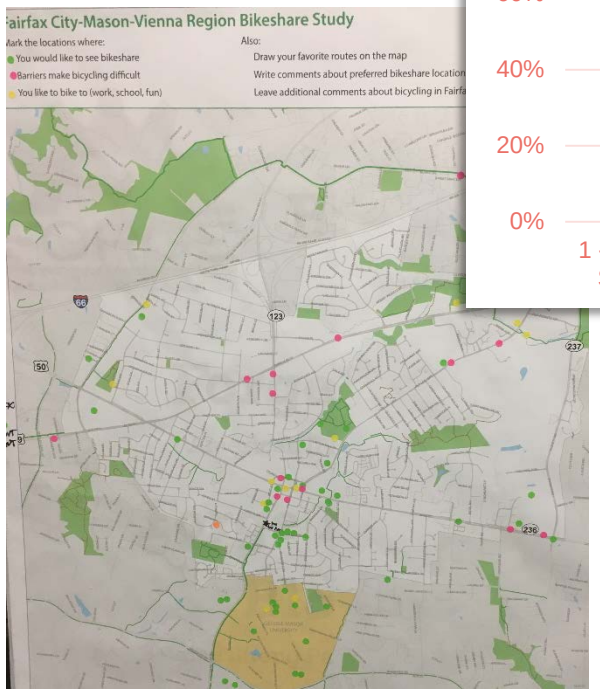
Public Outreach Events

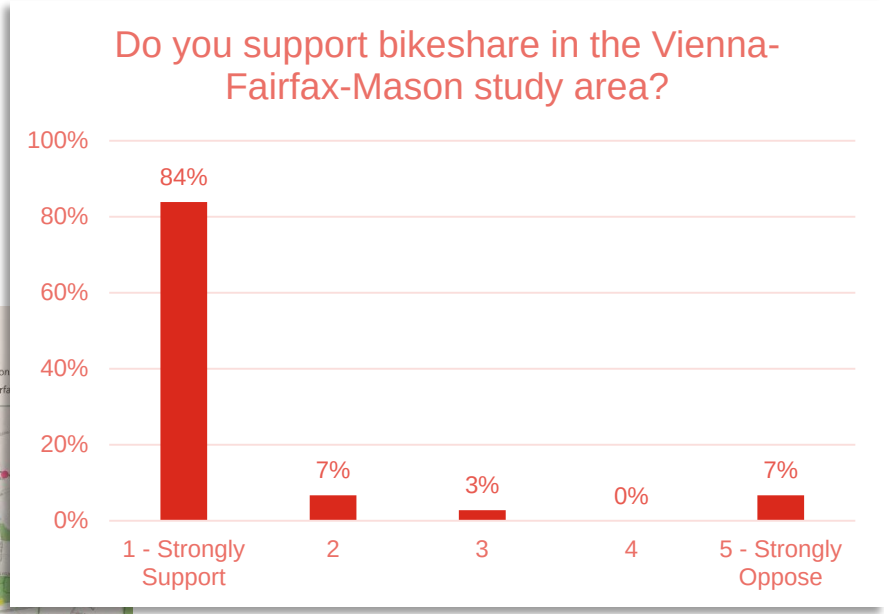
- Bike to Mason Day
- Bike to Work Day
- Rock the Block
- Mason “Get Connected” Fair
- Farmers’ Markets (Fairfax and Vienna)
- Rail station pop-ups (Vienna Metro and Burke VRE)
- Fairfax Fall Festival

TOOLE DESIGN

Public Input

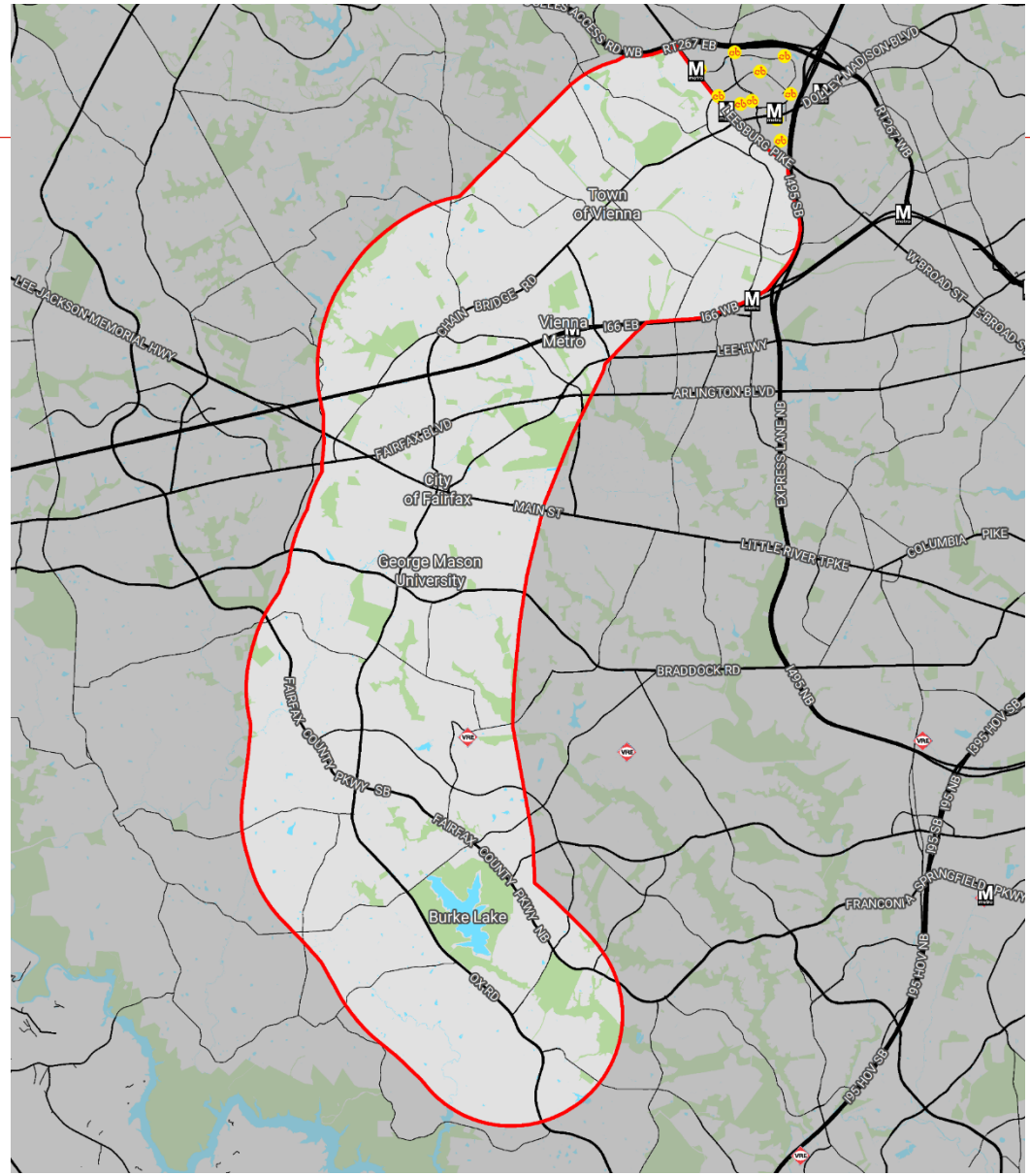
- 180 responses to online survey
- 29 bikeshare station location suggestions online
- Numerous bikeshare system preferences noted and bikeshare locations suggested at pop-up events





Existing Conditions

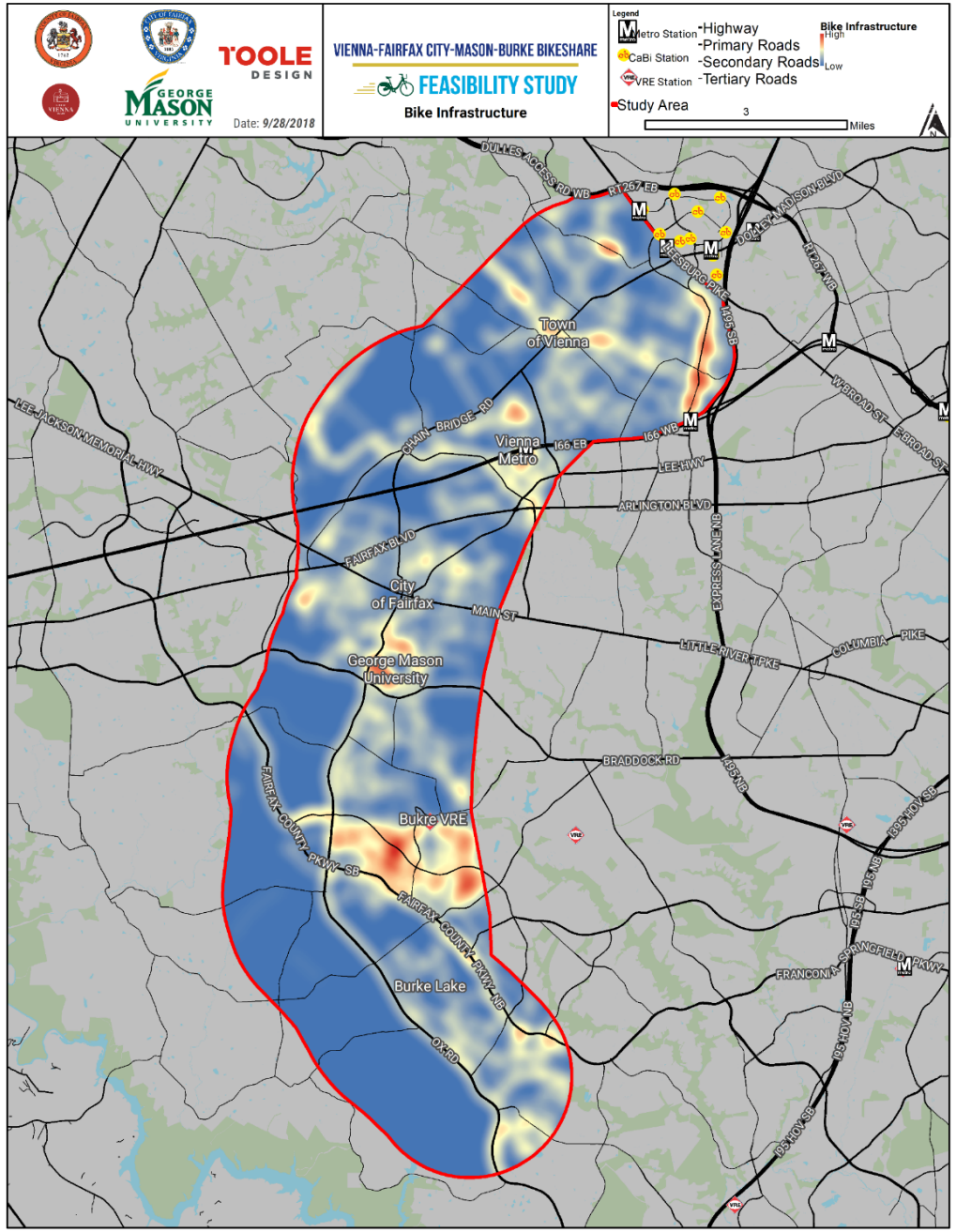
- Opportunities
  - Connections to Metrorail stations and Fairfax bikeshare network
  - Flat topography along Route 123 corridor
  - Activity centers at GMU, Vienna, City of Fairfax, Tysons Corner
- Challenges
  - Transit service gaps
  - Topography in parts of the study area
  - Limited bike infrastructure

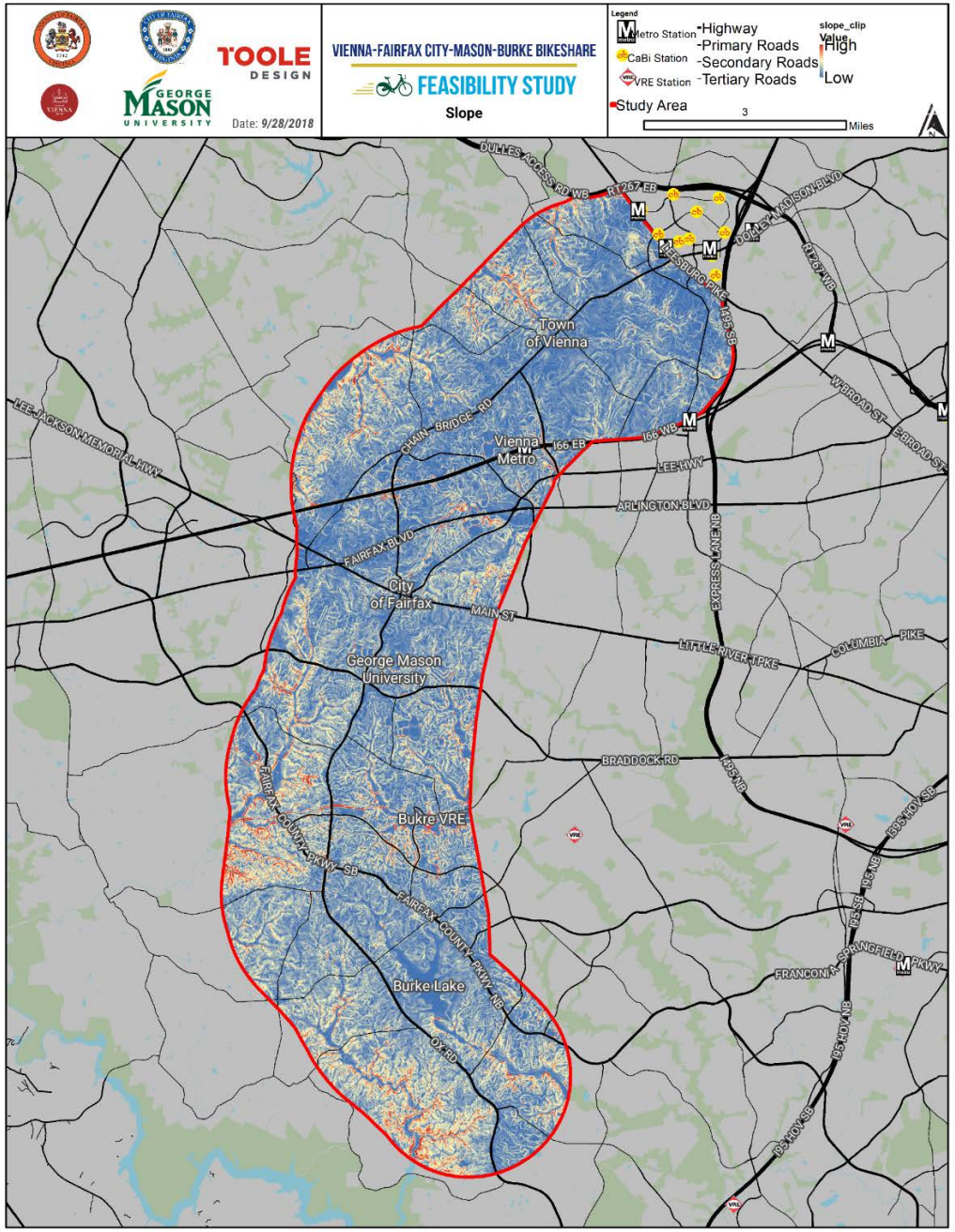


Demand Analysis

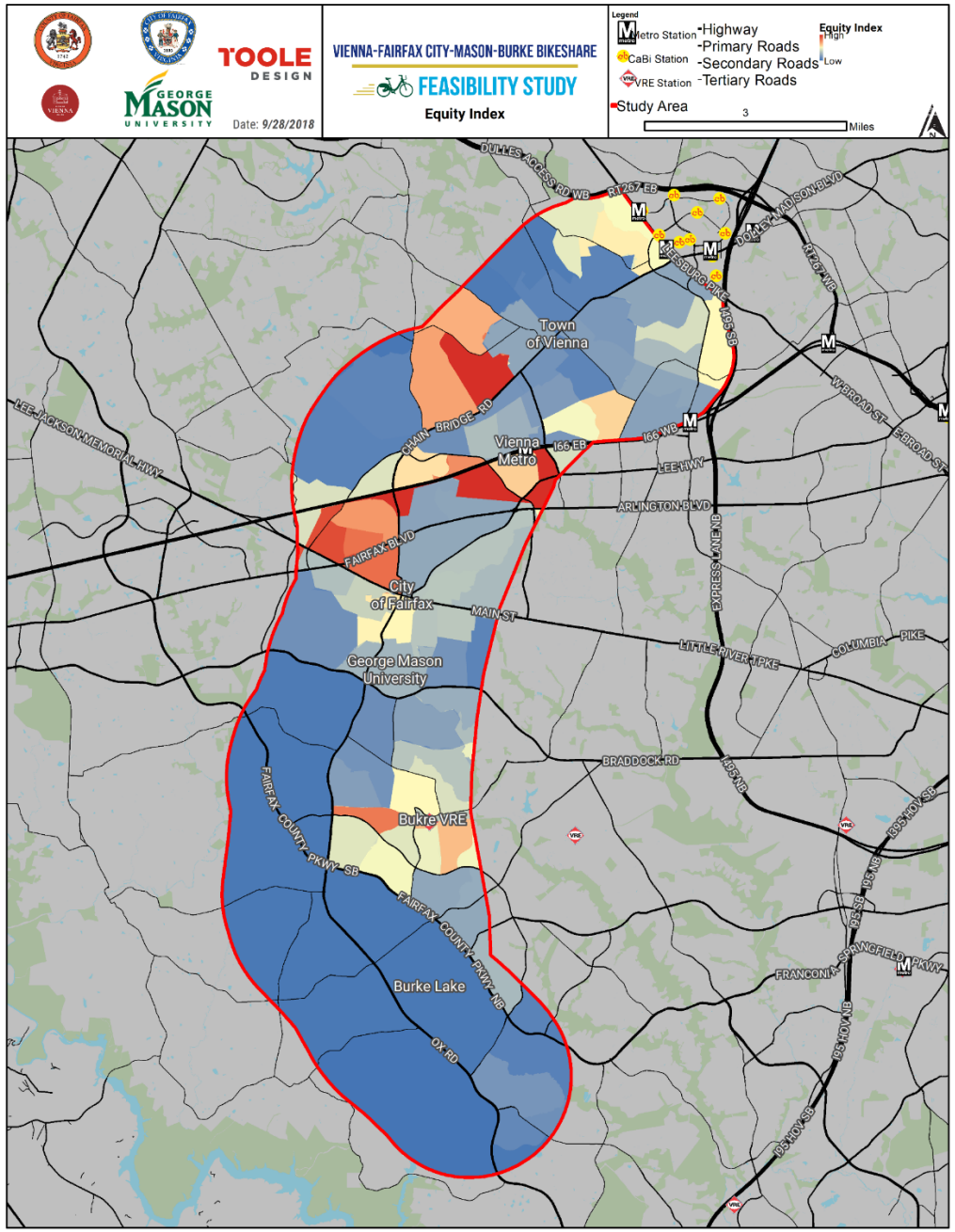
- Point scoring system used weighted values.
- Demand criteria included employment and population density, attractions, transit, and equity measures.

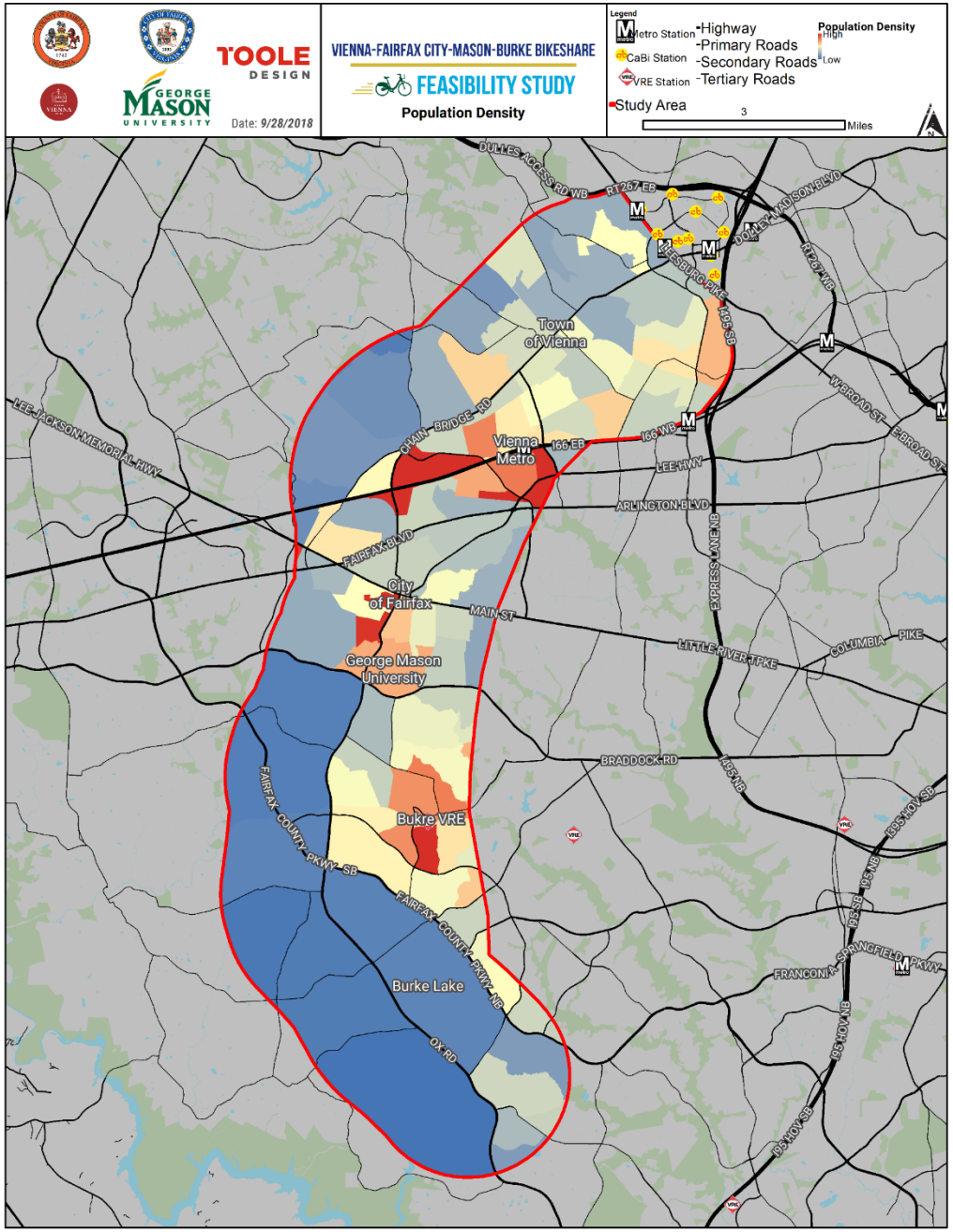
Bike Infrastructure and Topography





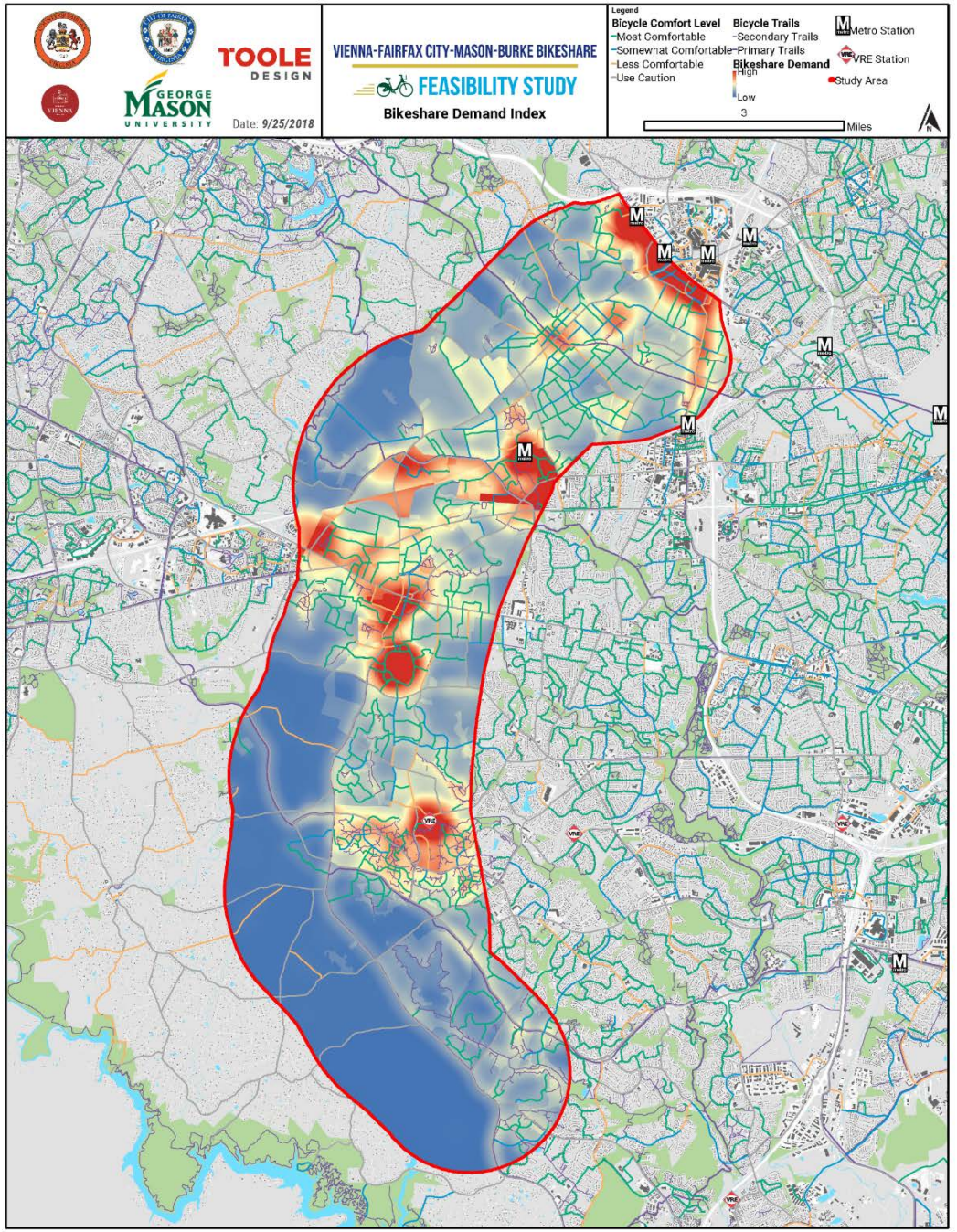
Equity and Population





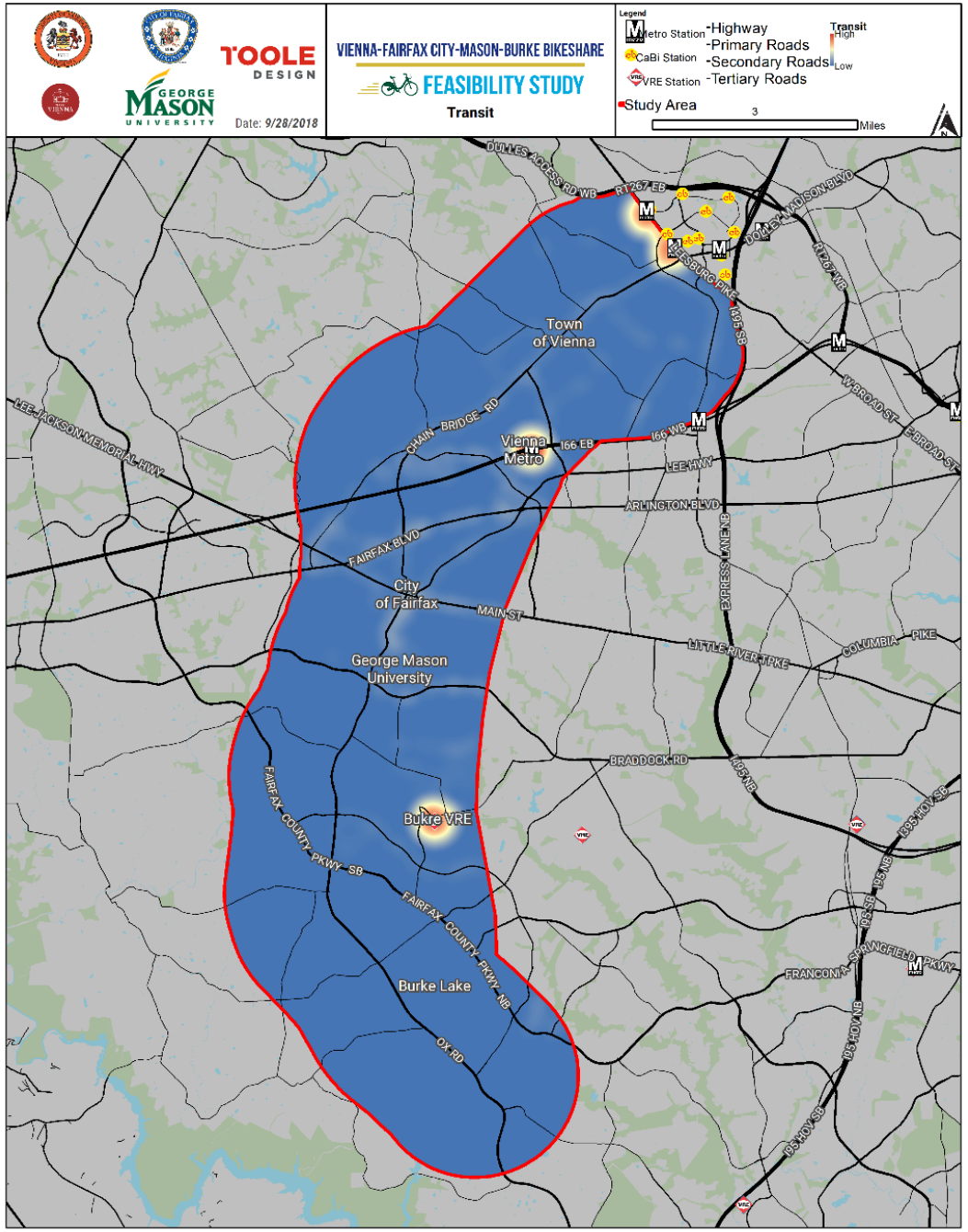
Demand Maps

- Demand mapping results indicate high potential for bikeshare usage at:
  - Tysons Corner
  - Vienna Metro
  - City of Fairfax
  - George Mason University
  - Burke VRE



Regional Integration

- Opportunities:
  - Extend the reach of existing systems (Capital Bikeshare system and dockless mobility programs)
  - Enhance connections to regional transit (Metrorail, commuter bus, VRE)
  - Connect with existing area bikeshare members
- Considerations:
  - Interoperability of multiple bikeshare technologies
  - Cost and revenue sharing arrangements
  - Regional coordination issues



Bikeshare Technologies

- Smart Dock
  - Station-Based Docking Systems
  - Technology Located at Station
- Smart Bike
  - Technology Located on Bike (GPS, Transaction Terminal, and Lock)
  - Minimal stations needed for system
- Dockless
  - Technology Located on Bike (GPS, Transaction Terminal, and Lock)
- E-assist Scooters
  - Technology Located on Scooter (GPS, Transaction Terminal, and Lock)

TOOLE DESIGN

Smart Dock

- Pros:
  - Capital Bikeshare is an established system in the region
  - Stations organized, visible, and iconic
  - Proven and tested technology
  - Reliable for users to find a bike
- Cons:
  - Siting requires long contiguous space
  - More expensive technology
  - Relies on more components
  - More time to implement

Smart Bike

- Pros
  - Stations can be made visible and iconic
  - Secure locking technology
  - Organized
  - Proven and tested technology
  - Reliable for users to find a bike
  - Flexible for users to park a bike
  - Flexible, modular, and easier to site
- Cons
  - Moderately expensive technology
  - Less predictable for operator
  - No established system in the D.C. area

Dockless

- Pros
  - Flexible for users to park a bike
  - Easy and fast to implement
  - Scalable for small or large systems
  - Inexpensive technology and no cost to cities
  - Easy to access and use
- Cons
  - Less organized
  - Less agency control
  - Less proven and tested technology
  - Less reliable for users to find a bike

E-Scooters

- Pros
  - Flexible for users to park a scooter
  - Easy and fast to implement
  - Scalable for small or large systems
  - Inexpensive technology and no cost to cities
  - Easy to access and use
  - May be used by a wider set of people than bikes
- Cons
  - Less organized and less agency control
  - Less proven and tested technology
  - Less reliable for users to find a scooter
  - May introduce issues such as riding on the sidewalk

TOOLE DESIGN

Preliminary Recommendations

- Prioritize connections to transit, trails, and destinations (Vienna and Fairfax city centers, Mason)
- Leverage existing and planned bikeshare connections
- Pursue multiple bikeshare technologies using a phased approach

Key Takeaways

- Bikeshare is feasible and advances City goals but requires supporting actions:
  - Concurrent improvements to bicycle infrastructure
  - Review of policies and regulations related to bicycles and emerging shared mobility options
  - Ongoing staff support and operational subsidies (offset by revenues from user fees and sponsorships)
- Benefits and tradeoffs exist with each technology – likely a balanced combination of docked and dockless options will be most effective to serve a variety of users

Schedule & Next Steps

- Refine recommendations and develop implementation plan
  - Phasing
  - Business plan
- Final implementation plan (December)
- Application for I-66 Commuter Choice funding to implement
  - December resolution of support
- Finalize bikeshare station locations with additional input (Spring 2019)

TOOLE DESIGN


Questions?
LimeBike