

# Regional Bicycle and Workforce Commuting Study

 Prepared by the  
**REGIONAL**commission

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## I. Introduction

Multimodal access to employment opportunities is a key component of improved transportation options, workforce development, community/economic development, and an overall Livable Roanoke Valley. Previous efforts had focused on public transit's role in connecting people with employment opportunities. This study takes an in depth look at the bicycle modes potential in connecting people with employment opportunities in the RVTPO. Specifically, this study attempted to identify target populations who use or would potentially use the bicycle mode to primarily access employment opportunities. In addition, the study attempted to identify employers who would be willing and interested in increasing the size of their workforce through accessing bicycle commuters. Finally, the study analyzes and recommends specific bicycle accommodations, programs, policies, and approaches that are designed to facilitate access to employment and workforce development through the bicycle mode of transportation.

## II. Study Area

The infrastructure is a key element of whether an employee can or will bicycle to work. While 'strong and fearless' bicyclists are willing to bike on roads with cars, and 'enthusiastic and confident' bicyclists will bike on roads with bike lanes, 'interested but concerned' bicyclists will only use separated facilities such as greenways or protected bike lanes. Many of our areas of highest employment density are served by bike lanes, but our growing network of greenways do not yet serve most of the employment centers (Figure 1). Thus, only people who feel 'strong and fearless' and 'enthusiastic and confident' are likely to bike to work, posing a high barrier to someone thinking about trying it out.

People in households that do not have cars are logical candidates for bicycling to work, if the infrastructure supports bicycling (Figure 2). Areas with >10% no-car households that are close to the city center have access to greenways, but some areas are not as well served by greenways. One area in Botetourt County has >10% no-car households and does not have much greenway or bike lane access to the rest of the area.

Figure 3 shows the bicycle connections between areas of low car ownership and areas of high employment density. On-street connections are present, although in some cases the route is circuitous. The more comfortable greenway network that serves a higher percentage of bicyclists is less robust. A comprehensive off-street bicycle network is unlikely, but a system of protected bike lanes is a more feasible way to achieve the same effect.

Bicycles could reduce commute times considerably for people without cars. A 15-minute bike ride could be a 1-hour bus ride with a transfer at Campbell Court. Bikeshare stations in areas of low car ownership and in areas of high employment density would facilitate this commute.

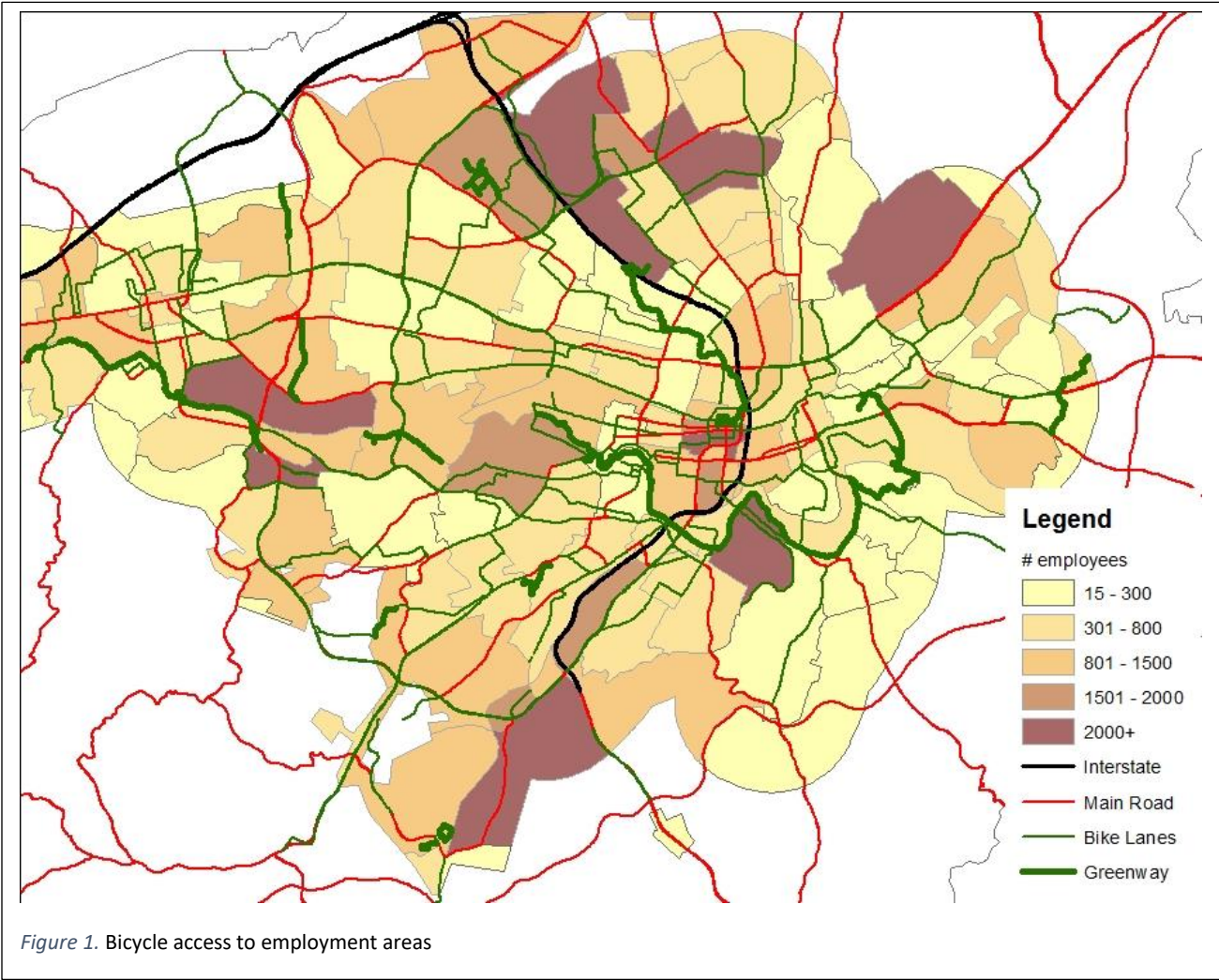


Figure 1. Bicycle access to employment areas

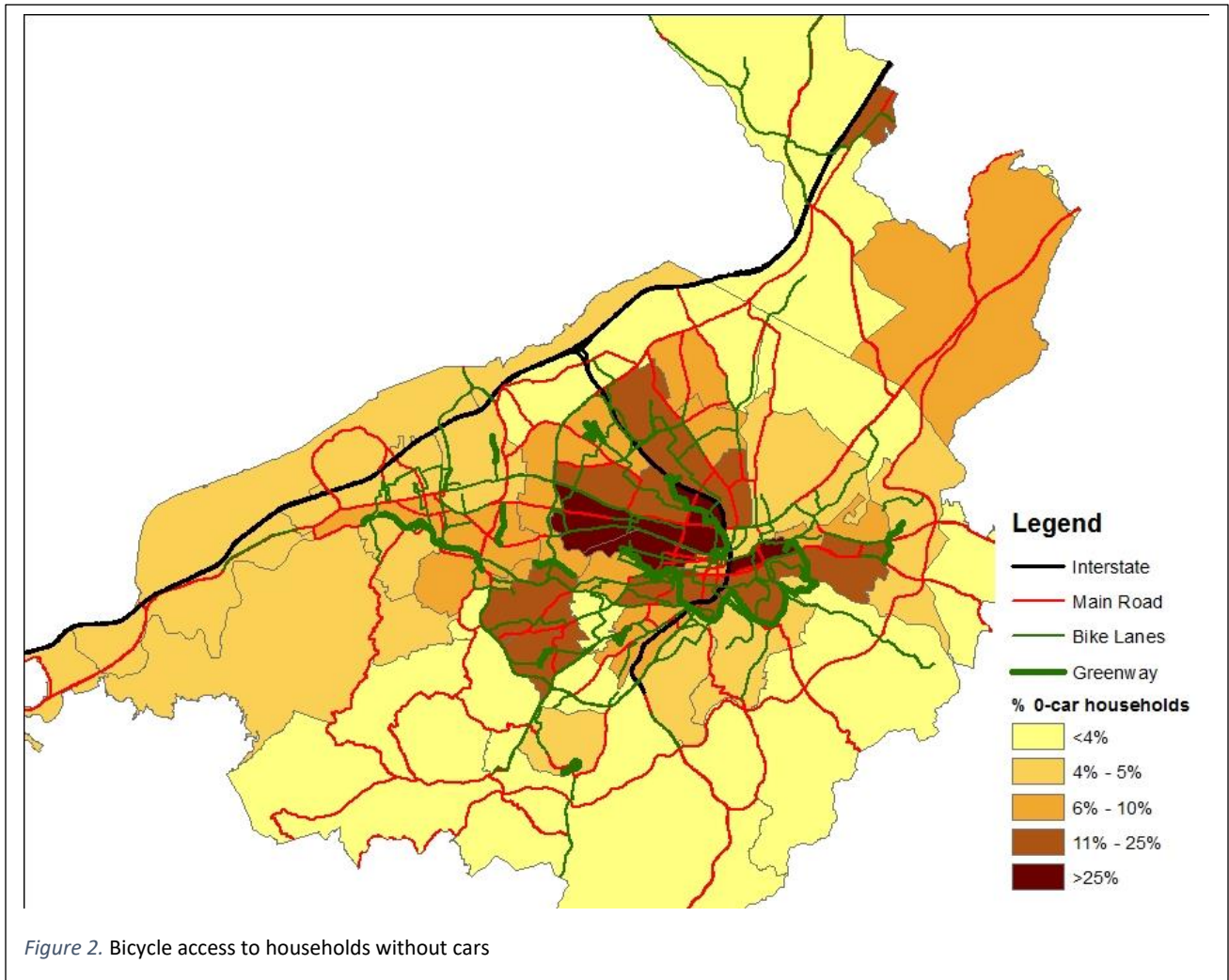


Figure 2. Bicycle access to households without cars

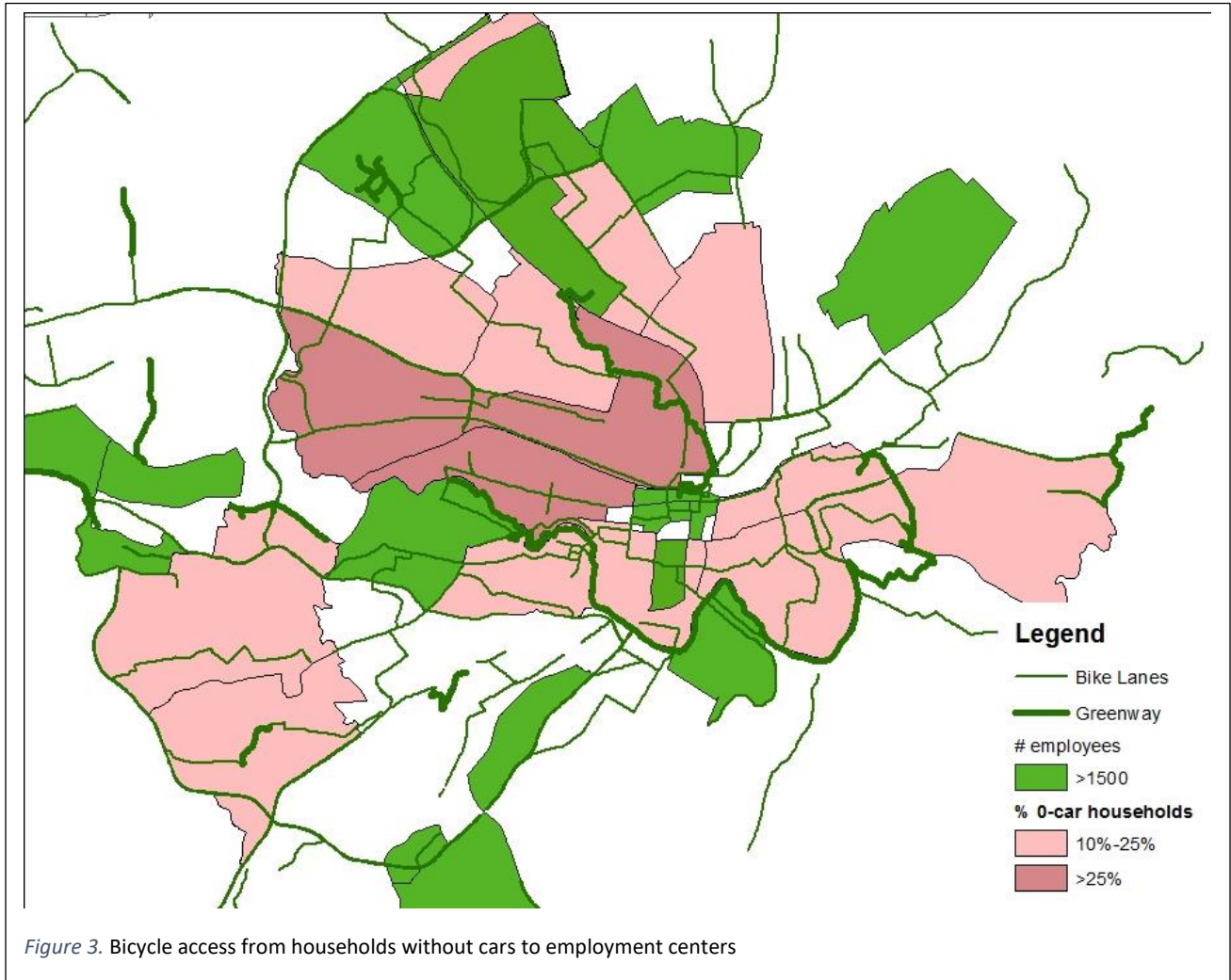


Figure 3. Bicycle access from households without cars to employment centers

### III. Survey

To identify target populations who use or would potentially use the bicycle mode to primarily access employment opportunities, we conducted a survey of employees and job seekers. The primary goals of the survey were:

- 1) to assess to what extent reliable transportation affects ability to get employment,
- 2) to assess how willing or able job seekers would be to walk or bicycle to meet that need,
- 3) to assess how willing or able employers are to enable and encourage employees to walk or bicycle to work.

A secondary goal was:

- 1) to assess how willing and able current employees would be to walk or bicycle to work.

The survey was distributed to the following staffing agencies:

- Bright Services (5121 Starkey Rd)
- Kelly Services (4355 Starkey Rd)
- Manpower (at Valley View)
- Adecco (2741 Penn Forest Blvd)
- Randstad (2071 Colonial Ave)
- Action Personnel (5332 Williamson Rd)

Of these, Action Personnel enthusiastically encouraged their employees and job applicants to complete the survey and returned 9 surveys. The other agencies did not as aggressively push the survey and did not return any surveys.

The survey was further distributed via social media to bicycle clubs.

Overall, survey responses were low (8 job seekers, 2 employers, and 17 employees). Factors that may have contributed to the low response rate were the length of the survey, insufficient incentive to complete the survey (a chance to win one of 10 \$5 Starbucks gift cards), and insufficient distribution and dissemination of the survey.

#### A. Job Seekers and Employees

Job seekers and current employees were surveyed to assess their attitudes toward bicycling and walking to work.

Job seekers were asked what effect transportation had had on their ability to accept or seek employment.

<b>Effect of transportation on employment</b>	<b>Job seekers</b>
Turned down job offer	3
Did not apply for a job	1
No effect	1

No response/Other	3
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Respondents were asked how they felt about bicycling. Standard categories established by Portland, OR are “strong and fearless”, “enthused and confident”, “interested but concerned”, and “not interested”.

Category	Job seekers	Employees
Strong and fearless	1	4
Enthused and confident	0	2
Interested but concerned	5	5
Not interested	1	3
No response	1	3

Respondents were asked how bicycling and walking appeals to them. One respondent commented that another appeal of bicycling was not having to rely on others for transportation—the independence bicycling could offer.

Appeal	Job seekers		Employees	
	Bicycling	Walking	Bicycling	Walking
Save money on transportation	6	5	8	8
Save money on parking	1	1	3	2
Exercise	4	5	13	12
Environmental benefits	3	3	8	10
Fun	1	1	9	7
Not stuck in traffic	0	1	5	5
Total respondents	8		17	

Respondents were asked what things about themselves, about their route, and about their workplace (or, for job seekers, a hypothetical workplace) deterred them from bicycling and walking, and what workplace amenities would encourage them to bicycle.

#### Personal traits that deter bicycling and walking

Trait	Job seekers		Employees	
	Bicycling	Walking	Bicycling	Walking
Don't want to	1	2	1	4
Don't have a bike or don't know how to ride	4	N/A	3	N/A
Not enough time	2	6	3	10
Not fit enough	2	2	1	1
Need to transport people/things	2	1	4	4
Disability or medical issue	0	0	2	2
Too much effort	0	N/A	1	N/A



Total respondents	8	17
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### Route traits that deter bicycling and walking

The primary route issue that deters bicycling is concerns about bicycling in bad weather or in the dark. It should be noted that these responses came before a bicyclist was killed at night commuting to work on the road most of the respondents are familiar with. That event would be expected to increase the frequency of that answer, which was already a very frequent answer. Respondents who identified themselves as job seekers were speculating about routes they might take if they had a job.

Trait	Job seekers		Employees	
	Bicycling	Walking	Bicycling	Walking
Bad weather/dark	7	4	8	6
Dangerous roads or crossings	3	2	8	6
No bike lanes/ sidewalks	3	2	8	6
Too far	1	5	6	10
Too long	1	3	2	7
Too dangerous (crime)	N/A	2	N/A	3
Total respondents	8		17	

### Workplace traits that deter bicycling and walking

Respondents who identified themselves as job seekers were asked to speculate about routes they might take if they had a job.

Trait	Job seekers		Employees	
	Bicycling	Walking	Bicycling	Walking
Need car at work	0	3	3	7
What other people would think	0	1	0	0
Don't want to be sweaty	6	N/A	8	N/A
Lack of shower facilities	3	N/A	4	N/A
Employer doesn't allow bicycle or requires driving	N/A	N/A	0	0
Work is incompatible with bicycling	0	N/A	1	0
No one else at work bicycles	N/A	N/A	1	N/A
Total respondents	8		17	

### Workplace traits that encourage bicycling

Workplace amenity	Job seekers	Employees	
	More likely to ride	More likely to ride	Already provided
Bike parking	7	3	7
Incentives	6	13	1

Showers, lockers	5	5	5
Equipment to borrow	5	6	1
Information	3	6	2
Colleagues, workplace encouragement	3	5	2
Total respondents	8	17	

## B. Employers

We designed a survey to identify employers who would be willing and interested in increasing the size of their workforce through accessing bicycle commuters. Two employers completed the survey. One was a home care services provider and the other a staffing agency. The low response rate was due to insufficient distribution and dissemination of the survey.

Benefit to employer: One employer believed their agency would see reduced health insurance costs and could showcase their sustainability and economic footprint if employees bicycled to work. The other commented that bicycling would help employees get home from work after the buses stopped running.

Benefit to employees: One agency cited healthier, happier employees and one cited less parking congestion.

Concerns: One employer believed the roads are too dangerous. (They are. I bicycled to that employer to drop off surveys.) Other concerns were bicycle theft and the need to have a car for work purposes. One employer mentioned road safety, not from the danger inherent in the road but questioned whether employees knew how to bicycle safety. This focus on individual responsibility, rather than road conditions, is a contributing factor to the persistence of rising traffic fatalities.

Ability to accommodate: One employer felt the agency could provide bike parking, sheltered bicycle storage, allow bicycles in the building, changing room, incentives for bicycling, and an errand bike. Amenities the employer could not provide were shower facilities, reimbursement of bicycle expenses, and discount on health insurance.

With inadequate survey responses, we were unable to identify employers willing and interested in increasing the size of their workforce through accessing bicycle commuters. Those who did respond to the survey do see the value of employees bicycling to work and understood their role in enabling and encouraging bicycling to work.

## IV. Recommended Accommodations, Programs, Policies, and Approaches

Employers have a critical role in enabling and encouraging employees to bicycle and walk to work. However, employees also need safe and convenient routes, which state and local

governments can provide, and are more willing to provide with the encouragement of employers, employees, and other organizations.

### A. Employers

**Bicycle Friendly Business designation:** Businesses benefit when employees bicycle to work! The League of American Bicyclists has designated 1,197 businesses as Bicycle Friendly Businesses. The League identifies many benefits to businesses when they encourage bicycling:

- Recruitment: attract and retain the best and brightest
- Increase morale and quality of life for employees
- Foster a sense of community and camaraderie in workplace
- Enhance health and wellness benefits, and reduce costs on healthcare
- Catalyze a more alert, active, productive workforce
- Reduce absenteeism
- Showcase social responsibility, a commitment to sustainability and reducing environmental footprint
- Support and expand reliable, consistent transportation, particularly for employees in urban areas
- Create a culture of wellness
- Cut transportation spending by company, individual and community
- Support long-term health benefits, both physical and mental



The most important step an employer can take to improve its bicycle accessibility is to apply for a Bicycle Friendly Business (BFB) designation from the League of American Bicyclists. The application, evaluation, and feedback process provides employers with tailored advice on how to accommodate, enable, and encourage employees to bike to work.

Each subsequent recommendation will improve the employers' performance in its BFB application. Employers can earn Bronze, Silver, Gold, or Platinum BFB status. A BFB application that does not result in a BFB award is worthwhile because the employer receives valuable individual feedback on accommodation and encouragement of bicycling.

RIDE Solutions provides consultations for BFB applications.

The remaining recommendations for employers are addressed in the BFB application, and RIDE Solutions provides consultations on any category separately from the BFB application, if desired.

### Accommodations

Without basic accommodations, it is difficult or even impossible to bicycle to work. Accommodations lower the logistical barriers such as storing the bicycle during work hours and cleaning up after a bike ride.

**Bike Share:** In May 2017, RIDE Solutions launched Roanoke Bike Share. The initial

launch of 45 bicycles and 9 stations focused on downtown Roanoke, but the goal is to expand quickly. Large businesses that are accessible by bicycle should sponsor a bike share station. Clusters of smaller businesses can sponsor individual bikes and together have a bike share station in their area. However, for bike share to work, matching stations in the residential areas—particularly areas of low car ownership—also need bike share stations.

**Bicycle Parking:** Secure, dedicated bicycle parking comes in a wide range. The most basic is an outdoor bike rack (Figure 4). A single bike rack can hold 2 or more bicycles. The best bike racks allow for at least 2 points of contact with the bicycle so it doesn't fall over, and is permanently affixed to a concrete or asphalt surface. A freestanding rack is not secure. The 'wheelbender' style of bike rack can result in damage to bicycles.

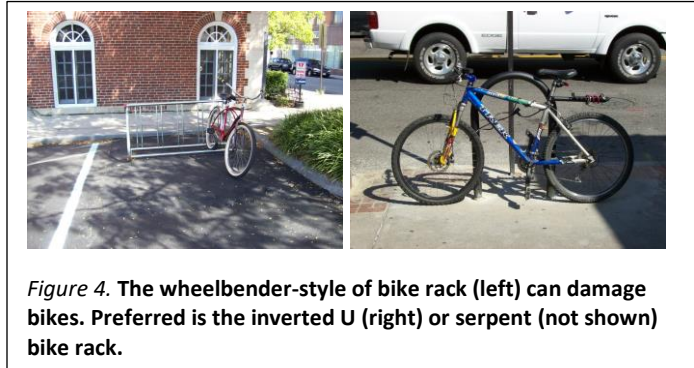
The next step up is a covered or sheltered bike rack. This provides protection from the elements that can deteriorate bicycle parts and keeps expensive bicycles out of sight from bicycle thieves. A shelter for bikes should have an open doorway or a door that opens easily, preferably automatically, to facilitate maneuvering the bicycle into the shelter.

The door is a challenge for storing bicycles inside a building. If indoor storage is provided, it will be used more if it is accessible by bicycle, without navigating stairs or heavy doors.

Some employers allow employees to store their bicycles in their office during the day. This is convenient for the employee; however, it may not be secure if the employee steps away from her office. It can also make the office crowded.

A storage room can provide secure indoor storage for a small employer but may not be a dedicated bicycle parking space if shared with janitorial or groundskeeping supplies. Larger employers may need to provide indoor bike racks or other ways to lock the bicycle, even inside.

**Changing room, lockers, showers:** Employees who bicycle to work highly desire showers at work, particularly if they have a long commute by bike. When showers are not an option at a workplace, a changing room and/or lockers are helpful. Alternatively, employers located near a gym can offer gym membership discounts or subsidies to employees who bicycle.



**Equipment:** In addition to bicycle parking and addressing post-bicycle hygiene, employers can provide other equipment that helps with the logistics of bicycling.

- Locks, lights, and rain gear to borrow
- A bicycle or fleet of bicycles for mid-day errands
- Tools, spare parts, bicycle stand

Some Dutch employers, where bicycling is very common, even give every employee a free bicycle!

**Services:** A guaranteed ride home in case of emergencies helps employees overcome the barrier of needing to respond quickly to personal crises, like a sick child.

**Location:** Employers who are relocating or opening a new branch or facility should consider locations within ¼ mile of a low-traffic, low-speed road, a road with sharrows or bike lanes, or a bike path. Because buses have bike racks, employers can further open their employees' transportation options by considering transit routes.

### Education

Offering bicycle education on topics from bicycling with traffic, route selection, and winter bicycling helps employees with the logistical hurdles, sends an encouraging message that the employer approves of bicycling to work, and provides an opportunity for coworkers to communicate their approval to teach other of bicycling to work. The approval of peers and supervisors is an important factor in an employee's decision to bicycle or not to bicycle to work.

Bicycle education can come in the form of onsite classes, such as a Lunch & Learn, or disseminating paper or electronic resources. Another option is to partner with an agency that provides bicycle education, but currently none is offered in the area. The League of American Bicyclists operates the Smart Cycling program, which teaches best cycling practices for traffic safety, and the Roanoke Valley boasts 7 League Cycling Instructors, certified by the League to teach Smart Cycling (Figure 5).



*Figure 5. A League Cycling Instructor and a student observe another student learning how to remove her wheel to change the tire at a bicycle class in Columbia, MO.*

### Encouragement

Encouragement goes beyond rewarding employees who bicycle. It sends a strong message to employees that the employer approves of bicycling. A major deterrent to bicycling to work is the disapprobation of managers and coworkers. Offering incentives and sponsoring events and challenges that promote bicycling to work communicates approval of bicycling to work.

**Incentives:** Incentives that promote bicycling to work range from bicycle lights and bells to locks and helmets. Reimbursing employees for bicycle-related expenses, perhaps after bicycling to work a minimum number of times per month or number of miles or other metric, is a way to offer incentives that maximizes utility to the employee. Employees who already have lights and locks can purchase something they need and value, or can select a quality light they prefer over the cheaper give-away, or even a new bicycle, and receive reimbursement for at least some of their expenses.

**Challenges:** In a bike challenge, participants log their miles for a period of time and may receive prizes at the end. RIDE Solutions hosts the Clean Commute Challenge in June to encourage people to walk, bicycle, ride the bus, and carpool (Figure 6).

Another, longer-term challenge is the National Bike Challenge, sponsored by People for Bikes, which provides a platform for employees to track their miles from May – September and calculate calories burned, carbons footprint reduced, and dollars saved. Companies of similar sizes compete against each other for most miles biked by their employees. The National Bike Challenge is free and offers resources to businesses to help them promote it among their employees. Upper management support and participation is a powerful promotional tool. The 5-month duration makes the challenge habit-forming.

**Events:** Holding events as part of the National Bike Challenge,

Bike to Work Day, Bike Week, Bike Month, or any other time helps build excitement and camaraderie about bicycling to work. An event could be a local ride, a Bike to Work breakfast, or a Lunch and Learn with a bike topic. RIDE Solutions celebrates Bike Month with several events, including the popular Bike Shorts Film Festival.

### Advocacy

Employers can provide on-site amenities, incentives, and programs. However, they cannot provide *safe routes* for their employees. That is why the League encourages and assesses Advocacy in the Bicycle Friendly Business application. Cities and states can more easily implement bicycle accommodations with the support of businesses and the community.



Figure 6. RIDE Solutions (left) celebrates Bike Month with a Clean Commute Challenge (middle) and the Bike Shorts Film Festival (right).

## B. Local Governments

Most employers are located on heavily traveled streets. Using lightly-traveled roads and greenways is only an option for employees until the road or path runs out, and then they must use heavily traveled roads these heavily traveled roads don't have bike lanes or other facilities, an employee without a car can't get to work.

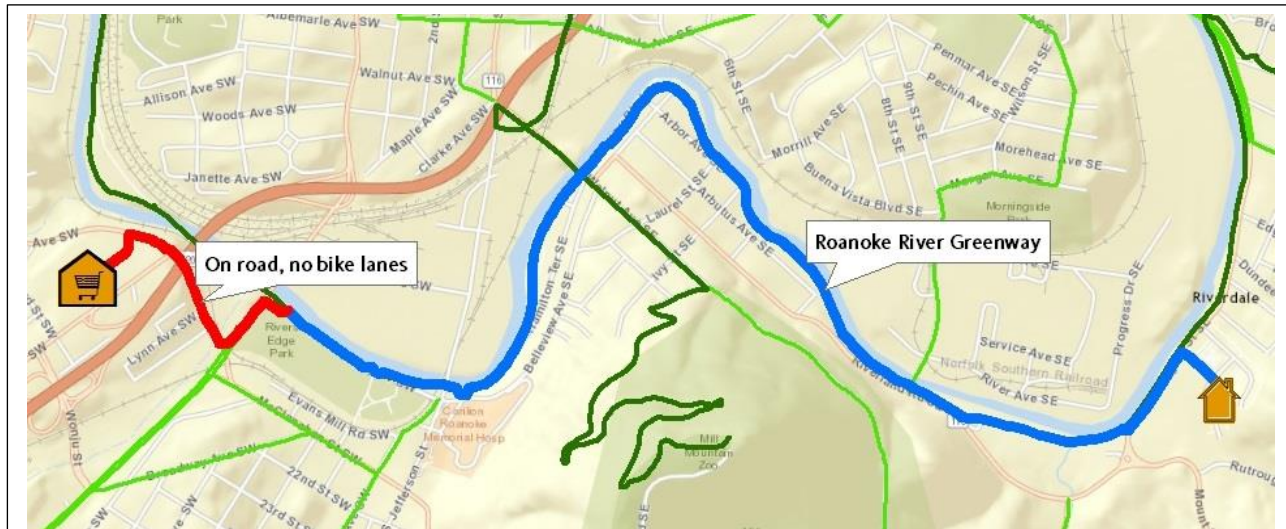


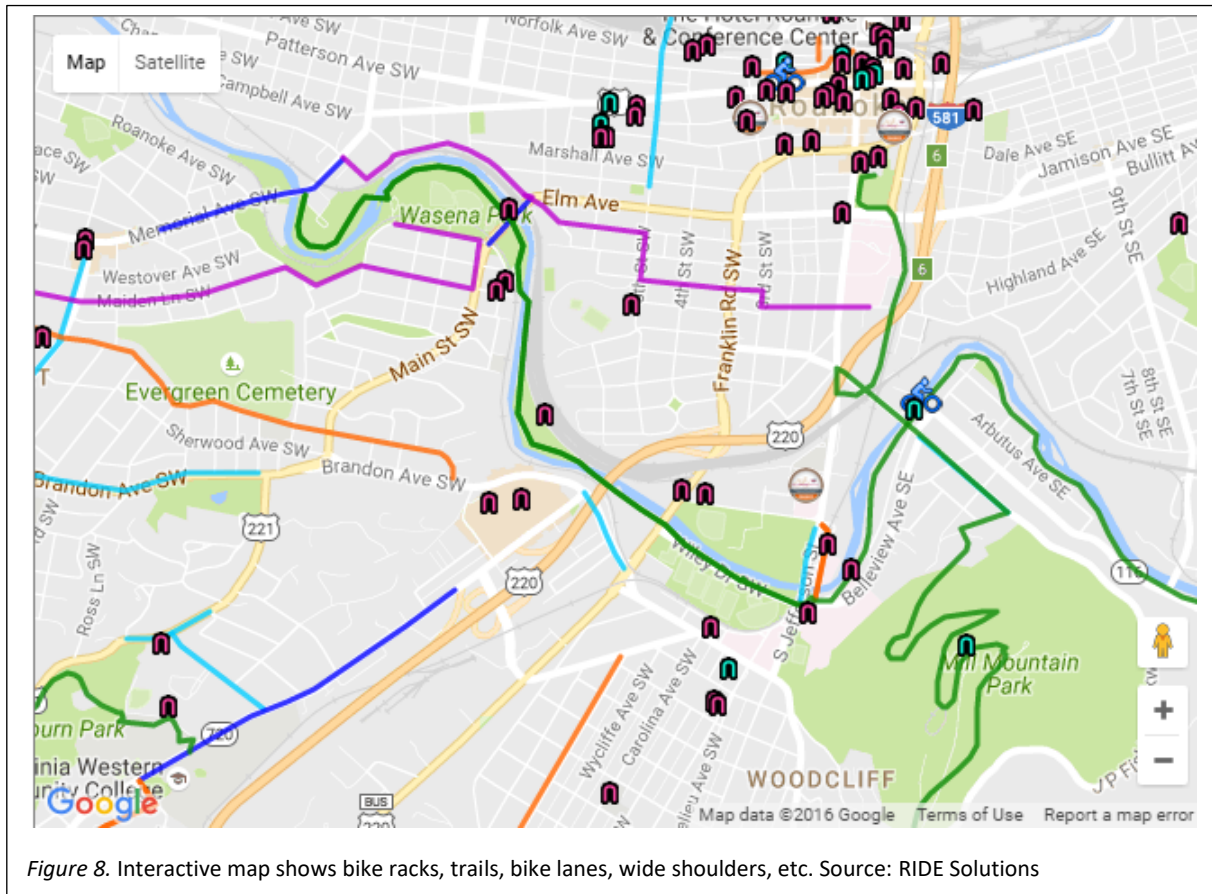
Figure 7. An employee who lives near the Roanoke River Greenway (right) and works at the Towers grocery store (left) has a peaceful commute on the Greenway (in blue) but faces the “last mile” challenge on a busy road with no bike lanes (red).

Employers can't paint bike lanes; local and state governments must plan for bicyclists on these roads. Roanoke City adopted a Complete Streets policy in 2008, mandating that the needs of all users of a road are considered during maintenance and construction. In 2014-2015, 75% of street projects resulted in additional bicycle facilities. Bicycle accommodations include sharrows, bike lanes, separated cycle tracks, and greenways, but to be useful they must take employees all the way to the workplace.

## C. Other agencies

Other agencies can support employees and employers in the Bicycle to Work effort by providing resources and information.

In addition to a rich celebration of Bike Month, RIDE Solutions created several routes to help people navigate from various parts of Roanoke to downtown. RIDE Solutions offers individual assistance in planning a safe bicycle route, planning routes with 30 people in the past year. RIDE Solutions has also created an interactive map showing the locations of bike racks, bicycle shops, and on-street and off-street facilities (Figure 8). RIDE Solutions supports employers by offering bike racks and assistance with Bicycle Friendly Business applications.



#### D. Employees

Employees can help local governments create better paths for bicycling by reporting issues with their commute, such as road conditions or hostile incidents. However, it is often not obvious where to report a problem—a single commute trip may involve roads and greenways under the maintenance and law enforcement jurisdiction of several agencies. Roanoke City provides an app called iRoanoke as well as a website where citizens can report road hazards and road harassment in Roanoke City. RIDE Solutions provides an incident reporting form and will forward the complaint to the appropriate agency, so the bicyclist does not need to know which city or county or other agency is responsible.

Many governments consider job access a high priority. Citizens can help their governments understand the importance of safe bicycle routes for job access by talking to the staff and



elected officials and getting involved in transportation planning, through RIDE Solutions and other routes.