

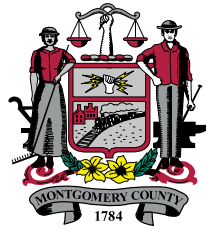


Bike Montco

The Bicycle Plan for Montgomery County



Prepared by the Montgomery County Planning Commission, 2018



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Bike Montco

The Bicycle Plan for Montgomery County

DRAFT

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Contents

Bike Montco Steering Committee	iv	Chapter 4 Public Involvement	39
Preface	vii	Steering Committee	40
Chapter 1 Introduction	1	Public Surveys	42
The Importance of a New Bicycle Plan	2	Municipal Surveys	48
Chapter 2 Vision and Goals	5	School District Surveys.	50
Plan Themes	5	Interactive Mapping	52
Connected Communities.	7	Chapter 5 Planned Bicycle Network.	55
Equity	9	Selecting the Network	56
Safety	11	Planned Bicycle Network	64
Education and Enforcement	13	Additional Policies	82
Health and Environmental Sustainability	15	Chapter 6 Focus Areas and Municipal Involvement	85
Vibrant Economy	17	Methodology	87
Chapter 3 Bicycling Today	19	Bicycling in Towns – Souderton and Telford.	88
Montgomery County’s Land Use	20	Bicycling to Trails – Upper Merion Township	92
Fragmented Government Control	22	Bicycling to Transit – Ambler Borough.	96
Existing Bicycle Infrastructure	24	Bicycling to School – Montgomery County Community College (Whitpain Township)	100
Bicycling Safety and Crash History	27	Chapter 7 Action Items.	105
Favorable Demographic Changes	28	Chapter 8 Implementing <i>Bike Montco</i>	119
Increasing Bicycle Use	32		
Emergent Bicycle Culture	34		
Growing Institutional Support	36		



PREFACE

What Is Bike Montco?

Bike Montco is a new bicycle plan for Montgomery County, PA that provides a vision of a safe and efficient bicycle network for everyone. This vision will take time and effort. The results will be unique to Montgomery county and may differ from similar networks in major cities or other suburbs.

The plan is founded upon a set of basic principles that guide the document from start to finish:



It must be visual

Bike Montco uses pictures and symbols to illustrate its points whenever possible.



It must be concise

Bike Montco strives to avoid technical language and state its concepts clearly.



It must be practical

Bike Montco supports incremental progress and its recommendations are flexible.



It must be county led

Bike Montco will direct the actions of Montgomery County and foster partnerships for successful implementation.



It must be inclusive

Bike Montco plans for everyone and avoids favoring the needs of specific types of riders over others.

Bike Montco is driven by the need to expand the county's bicycling network and is focused on physical improvements. It also focuses on issues of encouragement, education, and enforcement. *Bike Montco* is a bicycling plan and not a trail plan, so while it acknowledges the critical role of the county's trails, it emphasizes upgrades to the on-road bicycle system.

Bike Montco is also a county-level plan, so it is based upon countywide mobility needs and provides a framework to enable municipalities to do their own local bicycle planning. The planned bicycle network in Chapter 5 and local bicycle plans relate to each other in the same way that the proposed countywide trail system relates to municipal trail plans or *Montco 2040: A Shared Vision*, Montgomery County's comprehensive plan, relates to community comprehensive plans.

Creating a safe and efficient bicycle network is challenging but achievable. *Bike Montco* will help Montgomery County lead the way.



CHAPTER 1

Introduction

Bicycling is all around us. It may not be apparent at first, but many people are bicycling on Montgomery County's trails, streets, and alleys. These citizens come from all walks of life and all corners of the county. Their reasons for bicycling are just as varied, too—some ride for fun, some ride for necessity, and some ride to compete. But they are everywhere. And their numbers are increasing.

Bike Montco is the new bicycle plan for Montgomery County. Powering the heart of the third largest county in the state of Pennsylvania, with more than 825,000 people and 500,000 jobs, is a strong transportation network and a high quality of life. Bicycling plays a role in both. It deserves a new plan with a new focus.



The Importance of a New Bicycle Plan

Bike Montco is Montgomery County's second bicycle plan. The *Bicycling Road Map*, adopted by the Montgomery County Commissioners on July 23, 1998, was the first. Over the past two decades a lot has changed, and the *Road Map* no longer addresses the current challenges and opportunities facing today's bicyclists. A new plan is needed with new approaches to bicycle mobility.

So *why* exactly does Montgomery County need a new bicycle plan?

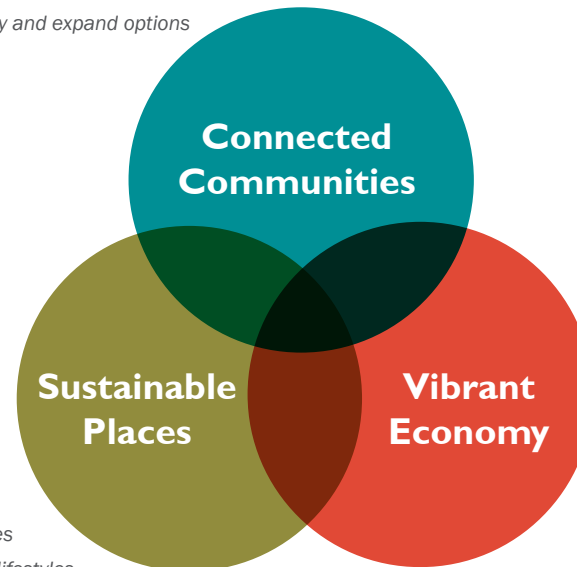
The answer is simple—bicycling is becoming increasingly popular throughout the country and the Philadelphia area. In cities all over the U.S., bicycle use is up 51 percent since 2000.¹ Closer to home, the percent of workers who ride a bicycle to work in the Delaware Valley increased throughout the region since the late 2000s,² and hundreds of thousands of people each year ride The Circuit, the region's extensive trail system, with as many as 3,000 people using the major trails in Montgomery County every day.³ Seniors, millennials, and first responders are all embracing bicycling for a variety of reasons.

At the same time, Montgomery County's bicycle infrastructure has yet to reach its full potential. The popular trail system as part of The Circuit—long a source of pride—continues to grow, but an on-road network connecting more people to more places directly from their homes is still largely unrealized.

1 *Where We Ride: Analysis of bicycle commuting in American cities.* League of American Cyclists, 2017. Pg. 2. http://bikeleague.org/sites/default/files/LAB_Where_We_Ride_2016.pdf.
2 *American Community Survey, AASHTO Census Transportation Planning Program*, ctpp.transportation.org.
3 *DVRPC Travel Monitoring: Pedestrian and Bicycle Counts.* www.dvrpc.org/webmaps/pedbikecounts.

Connected Communities

Vibrant downtowns and destinations accessible by everyone
Support strong downtowns and community destinations
Improve transportation quality and expand options



Sustainable Places

Opportunities for Healthy Lifestyles
Provide opportunities for healthy lifestyles
Support a modern and energy-efficient infrastructure network

Vibrant Economy

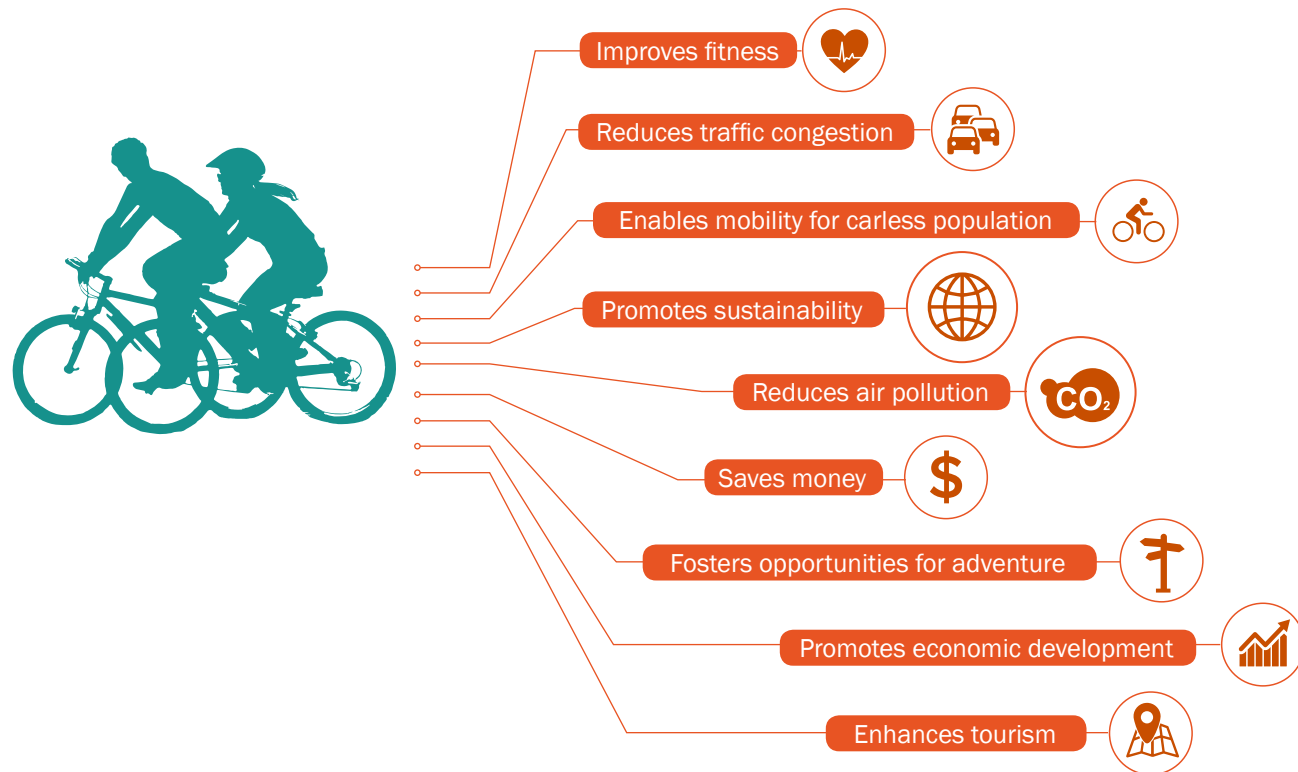
Flexibly adapting to changing market conditions
Improve transportation access to businesses
Adapt to changing market conditions and demographics
Facilitate marketing of the county and its assets

However, Montgomery County itself is changing. Demographic and lifestyle shifts supporting bicycles are occurring (Chapter 3) and attitudes toward bicycling are more favorable (Chapter 4). Major transportation agencies are embracing bicycling (Chapter 3) while new data sources are emerging to better understand the best places to install facilities (Chapter 5). And Montgomery County government is a proactive and forward-thinking leader (Chapter 7).

The county also has a new comprehensive plan, *Montco 2040: A Shared Vision*. The plan's three themes—connected communities, sustainable places, and a vibrant economy—are all furthered by the health, environmental, mobility, and economic benefits of bicycling.

Where society has a need, good planning is sure to follow. *Bike Montco* helps to fill that need for Montgomery County.

Benefits of bicycling





CHAPTER 2

Vision and Goals

“In Montgomery County, bicycling will be a fundamental part of daily life where all bicyclists can enjoy a safe, convenient ride every time they put their foot on a pedal.”

This is the vision statement for *Bike Montco*. It imagines a Montgomery County where every citizen has the freedom to choose bicycling without fear of danger or difficulty, and where bicycling is equal to any other transportation or recreational choice. It is intentionally ambitious and inclusive.

Bike Montco is designed around six themes. These themes provide a framework for the recommendations contained within the plan in Chapter 7 and, like the vision, were identified through public outreach, extensive research, and input from a volunteer steering committee (Chapter 4).

Plan Themes



**CONNECTED
COMMUNITIES**



EQUITY



SAFETY



**EDUCATION AND
ENFORCEMENT**



**HEALTH AND
ENVIRONMENTAL SUSTAINABILITY**



VIBRANT ECONOMY



CONNECTED COMMUNITIES

GOAL #1: Connect communities with a robust network that supports bicycling as a daily transportation option.

Objective 1: Expand the bicycle network to connect important destinations, trails, urban centers, and transportation hubs.

Objective 2: Support bicycling as a legitimate travel mode.

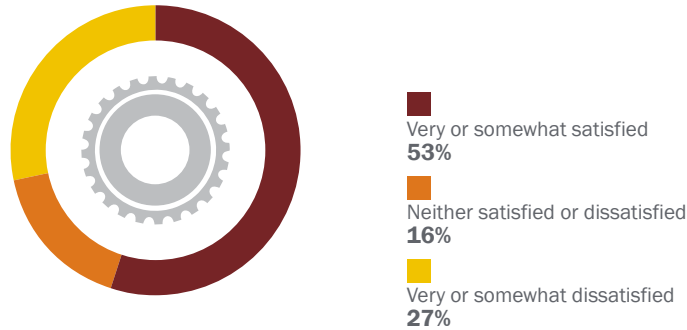
Objective 3: Integrate the bicycle network with transit and other transportation systems.

Connected Communities

From the mid-twentieth century to today, America's road building efforts focused on moving cars and trucks—not bicycles. The result is a lack of safe on-road bicycle facilities throughout many communities across the nation. This is the case in Montgomery County where only 19 out of 4,511 roadway miles contain marked bicycle lanes, resulting in a piecemeal system that doesn't connect our towns, neighborhoods, trails, and civic facilities to each other. Such connections are critical to getting our citizens to embrace bicycling as a reasonable choice for both daily transportation and recreation. It is also the key to unlocking the full potential of the county's 90-mile trail system.

A major goal of *Montco 2040: A Shared Vision*, the county's comprehensive plan, is to improve transportation quality and expand options by adding bicycle improvements to our roads. *Bike Montco* helps achieve this goal by planning and implementing a comprehensive bicycle network of both on-road lanes and off-road trails to connect people to the places they want to go throughout Montgomery County.

How satisfied are people around the country with how their community is designed for bicycling?



National Highway Traffic Safety Administration—2012 National Survey of Bicyclists and Pedestrian Behaviors. Vol. 2 pg. 56.
www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf.



Goal #2: Expand bicycling opportunities for everyone.

Objective 1: Design bicycle infrastructure to accommodate different skill levels and abilities.

Objective 2: Improve bicycle infrastructure in underserved communities.

Equity

Bike Montco states that bicycling should be a safe and viable option for every county resident regardless of race, age, physical ability, skill, income, or neighborhood.

The development of a viable bicycle network promotes equity in many ways, from providing a relatively inexpensive form of transportation for vulnerable populations to creating recreational opportunities that can be used by people of all ages to making direct public and private investments in underserved communities.

The Montgomery County government exists to serve all of its citizens, which is why *Montco 2040: A Shared Vision* places a strong emphasis on providing choices and opportunities for everyone. *Bike Montco* carries that vision by including issues of equity into the plan and ensuring it advocates for the needs of every citizen and bicyclist.



Bike Montco believes that bicycling should be a safe and viable option for every county resident regardless of race, age, physical ability, skill, income, or neighborhood.



SAFETY

Goal #3 Ensure that bicycling is safe for all.

Objective 1: Reduce bicycle-related injuries and fatalities.

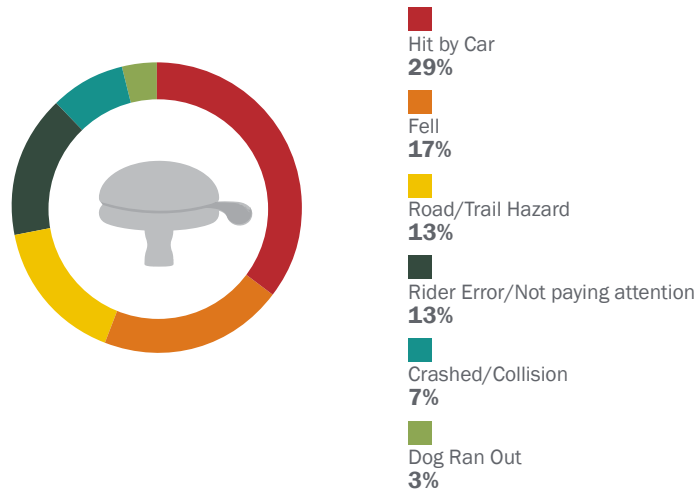
Objective 2: Ensure the bicycle network is well-maintained.

Safety

To encourage Montgomery County’s citizens to embrace bicycling as a reasonable option for both daily transportation and recreation, bicyclists need to feel safe. In order to feel safe, bicyclists need separation from vehicles as well as a path that is clear of debris, potholes, and other obstacles.

The life of every Montgomery County citizen is of the highest value, which is why it is crucial that our county’s transportation system protect the lives of bicyclists with the same urgency as drivers or pedestrians. By reducing—and potentially eliminating—injuries and fatalities to bicyclists, Montgomery County can take a bold step toward achieving *Montco 2040*’s goal of improving transportation quality and expanding options.

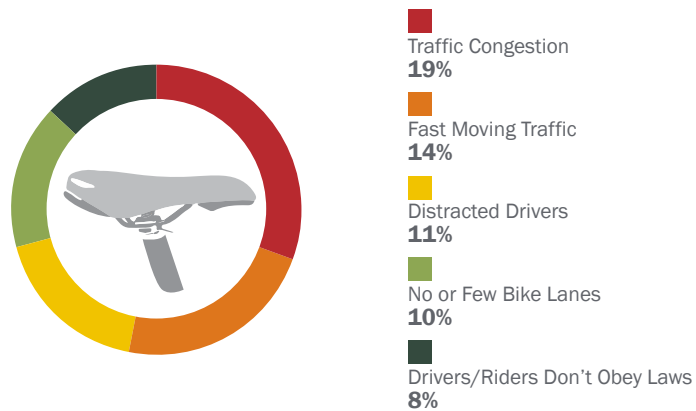
Most common causes of crashes nationally



National Highway Traffic Safety Administration—2012 National Survey of Bicyclists and Pedestrian Behaviors, Vol. 2, pg. 44.

www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf.

The five most common reasons nationally why people feel it is too dangerous to bicycle in neighborhoods



National Highway Traffic Safety Administration—2012 National Survey of Bicyclists and Pedestrian Behaviors, Vol. 2, pg. 68.

www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf.



EDUCATION AND ENFORCEMENT

Goal #4 Support education and enforcement efforts that increase awareness of bicycling.

Objective 1: Increase acceptance of bicycles by other roadway users.

Objective 2: Educate drivers and bicyclists of their rights and responsibilities.

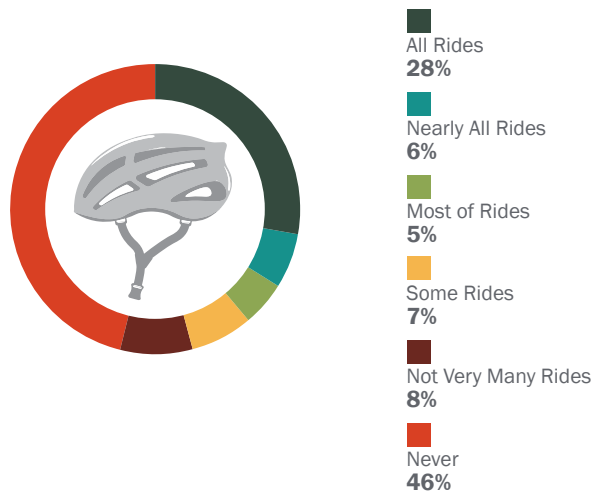
Education and Enforcement

In the Commonwealth of Pennsylvania, the bicycle is a legal vehicle. Therefore, both bike riders and drivers must be aware of each other and operate under traffic rules. Bicycle safety education for both groups is not prevalent in our communities, creating a great opportunity to instill lifelong bicycling skills in both children and adults.

Of course, success brings new challenges. As more county residents bicycle, the number of overall conflicts between vehicles, bicycles, and pedestrians will increase. Therefore, education and enforcement must be ongoing, continuing to improve conditions and spreading the philosophy of road sharing into the future.

By improving awareness of all laws, Montgomery County’s citizens will be safer no matter where they travel. Focusing on young riders or those new to bicycling will create a new generation of advocates who see a daily bike ride as a civic norm. And greater enforcement can lead to a fair application of laws that nurtures a healthy respect between bicyclists and drivers. Accomplishing all of these tasks will require greater collaboration among many stakeholders in local government, law enforcement, schools, and major institutions—one of the many important goals of *Montco 2040*.

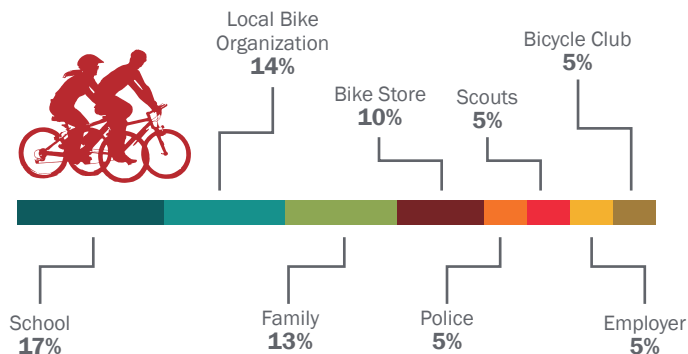
How often do riders wear helmets nationally?



National Highway Traffic Safety Administration—2012 National Survey of Bicyclists and Pedestrian Behaviors, Vol. 1 pg .4.

www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841a.pdf.

Bicycle safety providers



National Highway Traffic Safety Administration—2012 National Survey of Bicyclists and Pedestrian Behaviors, Vol.2, pg. 70.

www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf.



HEALTH AND ENVIRONMENTAL SUSTAINABILITY

Goal #5: Promote bicycling as a healthy and environmentally sustainable way to travel.

Objective 1: Increase bicycle use for health and fitness.

Objective 2: Increase bicycle use for commuting to work.

Objective 3: Increase bicycle use for non-commuting trips.

Health and Environmental Sustainability

Residents of Montgomery County are passionate about walking or riding their bicycles as opportunities to improve their health. They also are increasingly looking for ways to leave their cars behind to make their communities more sustainable in the face of increasing climate change. These two popular trends are linked.

Bicycling has well-established health benefits. As a part of an active lifestyle, it can lower incidence of obesity, diabetes, and heart and lung disease, as well as overall health care costs. Bicycling also offers low-impact, high-cardio exercise that increases muscle strength while not stressing

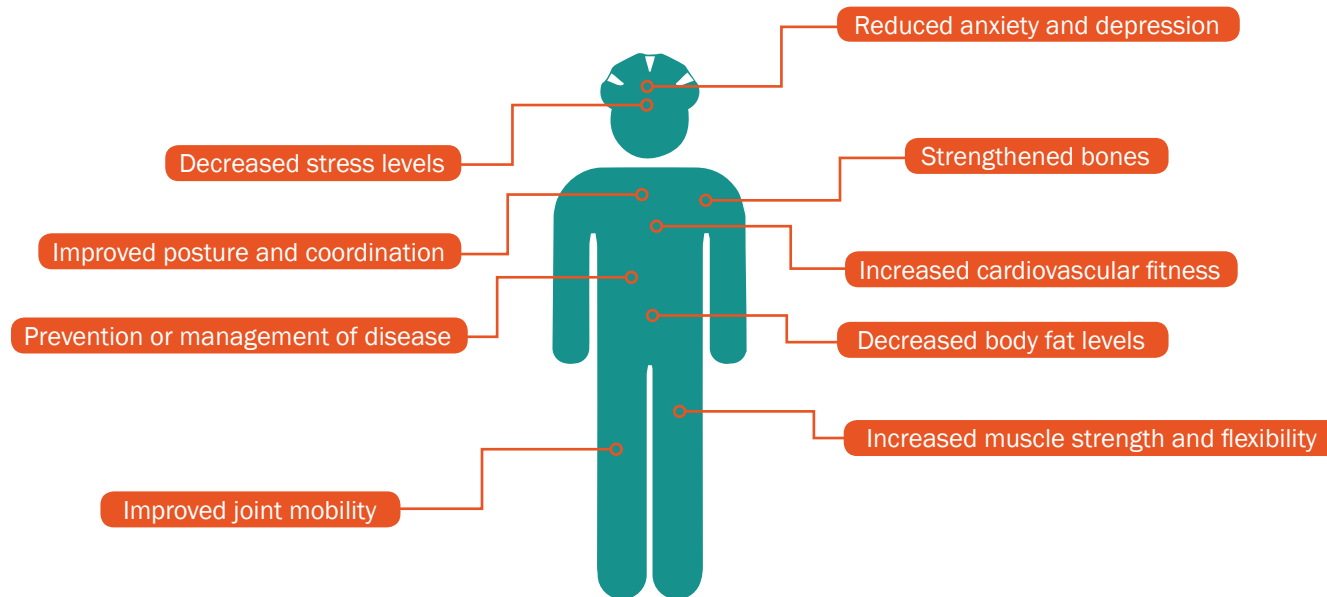
knee and hip joints, making it ideal for older riders or those with physical limitations.

The environment also benefits when bicycles are used for trips that would otherwise be taken in a car. Any reduction in automobile use reduces emissions that are particularly high from short vehicle trips, which can be easily replaced in urbanized communities by bicycling.

A major goal of *Montco 2040* is to provide more opportunities for residents to exercise and have healthy lifestyles. Another is to support a modern, resilient, green, and energy-efficient

infrastructure network. A well-planned network of bicycle routes throughout Montgomery County achieves both goals.

Health benefits of regular bicycling





VIBRANT ECONOMY

Goal #6: Create and nurture a county bicycling industry.

Objective 1: Grow bicycle tourism and spending.

Objective 2: Improve bicycle access to economic generators and attract new businesses that value bicycling.

Vibrant Economy

Bicycling can be good for business. Investments in bicycling infrastructure make good economic sense because they give residents transportation choice and a healthy quality of life. The mere presence of trails and on-road bicycle infrastructure carries the message to today's homeowners and businesses that a community is forward-thinking—in short, a place they want to be.

According to the Outdoor Industry Association, bicycle tourists spend nearly \$83 billion on trip-related items and another \$14 billion on accessories nationally.¹ More locally, economic impact studies conducted along the Schuylkill River Trail and Perkiomen Trail by the Rails-to-Trails Conservancy show that trail users, including bicyclists, spent between \$9.00 and \$11.00 on food and other soft goods during their trips, and purchased an additional \$400 annually in hard goods such as bicycles and assorted equipment.²

Montco 2040 includes many goals to strengthen our communities and our county economy. These include improving transportation access to businesses, enhancing community character, and attracting businesses. Bicycling can offer unique opportunities for supporting local businesses and other attractions, and helps ensure that our communities stay prosperous in the future.

1 https://outdoorindustry.org/wp-content/uploads/2017/04/OIA_RecEconomy_FINAL_Single.pdf, pg. 18.

2 <https://www.railstotrails.org/resourcehandler.ashx?id=3589>, pgs. 10-11.





CHAPTER 3

Bicycling Today

Understanding the current state of bicycling in Montgomery County is critical to deciding how we plan for its future. Today's challenges and opportunities help to create the vision, goals, and recommendations of *Bike Montco* for tomorrow.

This chapter explains the demographic, social, and physical factors shaping bicycling in the county today. They are identified as either challenges or opportunities to expanding bicycle infrastructure throughout Montgomery County. As the people and places in the county change over time, exciting new opportunities arise to create a network of safe and efficient bicycle routes. But change can also bring new challenges.



Challenge #1

Montgomery County's Land Use

Our places are changing, but many communities are still built for the car.

Montgomery County's transportation infrastructure and land use patterns generally favor the automobile while discouraging bicycling. There are two major reasons why, and both are rooted in significant eras of economic expansion in the Philadelphia region.

Many Montgomery County communities date back to the earliest colonial times when roads only had to accommodate horses and wagons. Some of the earliest roads, bridges, and buildings still remain today. Bridges and roads are narrow and undersized, and old homes and stores are located near the edge of the road. Their legacies make it difficult to provide room for bicycle lanes and other infrastructure.

Even though a growing number of communities are considering ways to calm traffic, elected officials find that narrowing travel lanes, eliminating on-street parking, or removing older buildings are often unpopular with citizens in the face of increasing traffic volumes and congestion. The tension between providing sidewalks and bike lanes, preserving history, and keeping traffic moving is playing out in nearly every Montgomery County neighborhood. Residents want both the freedom of choice and a congestion-free commute.

Even today, this legacy is the result of decades of suburban zoning and development throughout



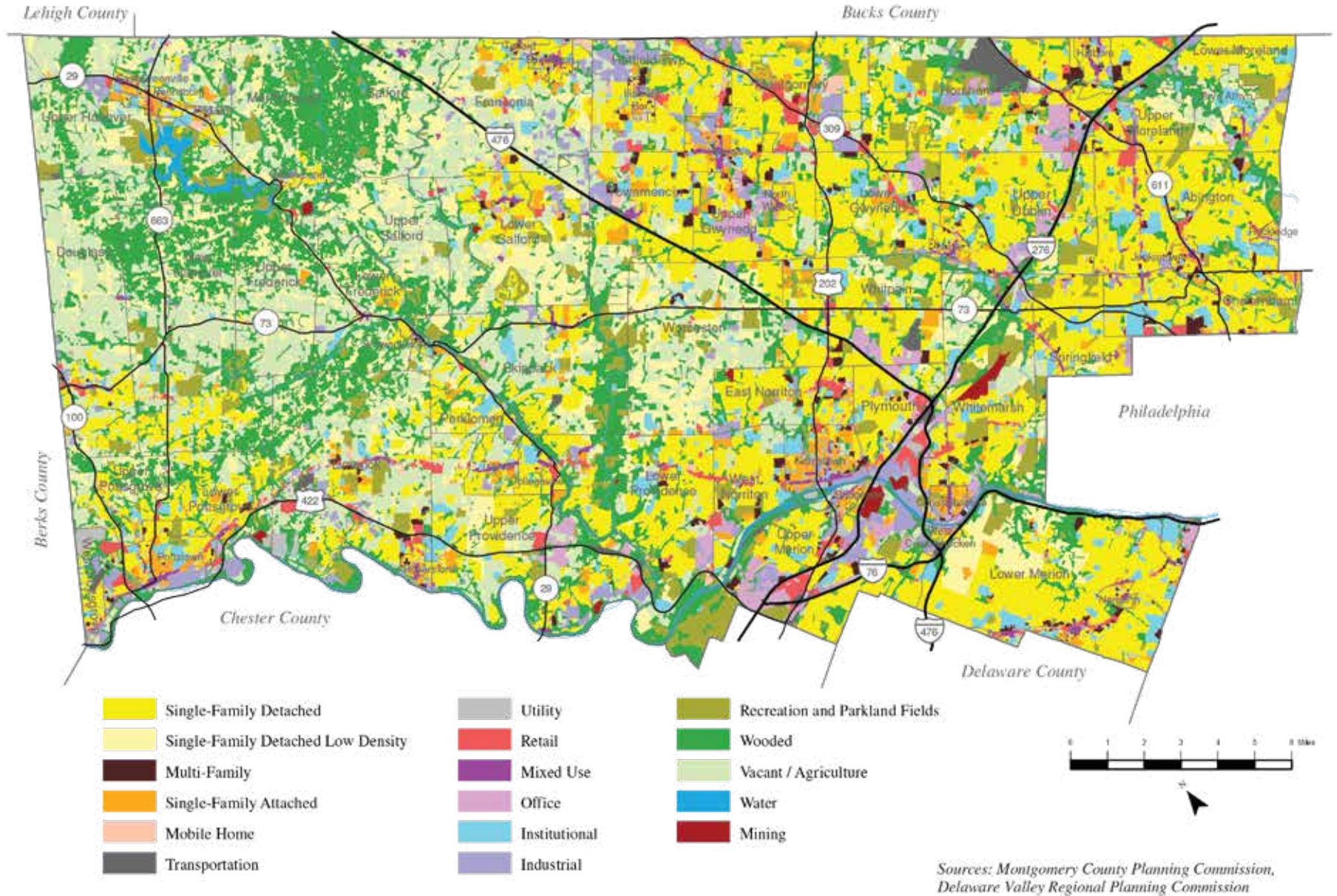
Many Montgomery communities favor cars to the detriment of bicycling.

Montgomery County that favor low-density large-lot homes and isolated commercial parks dependent upon automobiles. This ensures destinations are spread out and more difficult to access on foot or by bicycle. Single-family detached homes account for 90 percent of all residential land acreage in the county and 35 percent of land uses overall.¹

But times are changing. Many Montgomery County boroughs are seeing a revival of new urban-style apartments and retail development. Low-density townships are creating new town centers with land uses that are mixed together and close to each other. All of these emerging trends are creating places that will eventually make it easier for people to bicycle or walk between destinations, although it will take time to fully realize that potential.

¹ *Montgomery County Today: Background Information for Montco 2040 A Shared Vision. 2015. Pg 34.*

Montgomery County existing land use



Single-family detached homes make up 90% of all residential land uses in the county and 35% of land overall

Challenge #2

Fragmented Government Control

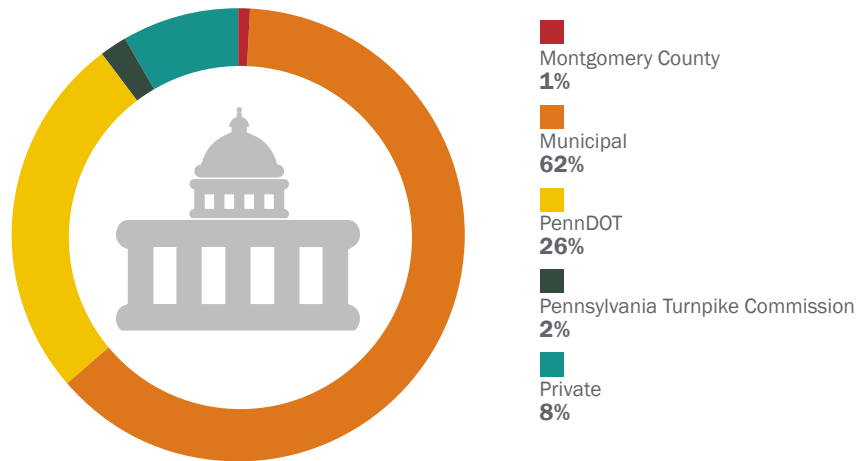
Ownership of roads and trails by various agencies and governments make it difficult to coordinate a unified vision.

Numerous government agencies are responsible for the approximately 4,500 miles of roads and nearly 325 miles of bikeable trails in Montgomery County:

- ▶ **Pennsylvania Department of Transportation** – PennDOT owns 1,190 miles of roads in Montgomery County.² These roads consist almost exclusively of major thoroughfares—principal and minor arterials and urban and rural collectors.
- ▶ **Montgomery County Roads and Bridges Department** – Montgomery County owns roughly 75 miles of roadway, all of which are overseen by the Roads and Bridges Department. This network includes parts of major roads like Ridge Pike, Germantown Pike, and Easton Road, as well as minor roads such as Deep Creek Road. Montgomery County has one of the largest networks of county-owned roads in the state.
- ▶ **Montgomery County Parks and Heritage Services** – Montgomery County’s 80-mile system of bicycle-friendly off-road trails is managed by its Parks and Heritage Services Department.

² <http://www.dot.state.pa.us/public/pubsforms/Publications/PUB%20600.pdf>, pg. 10.

Road ownership in Montgomery County

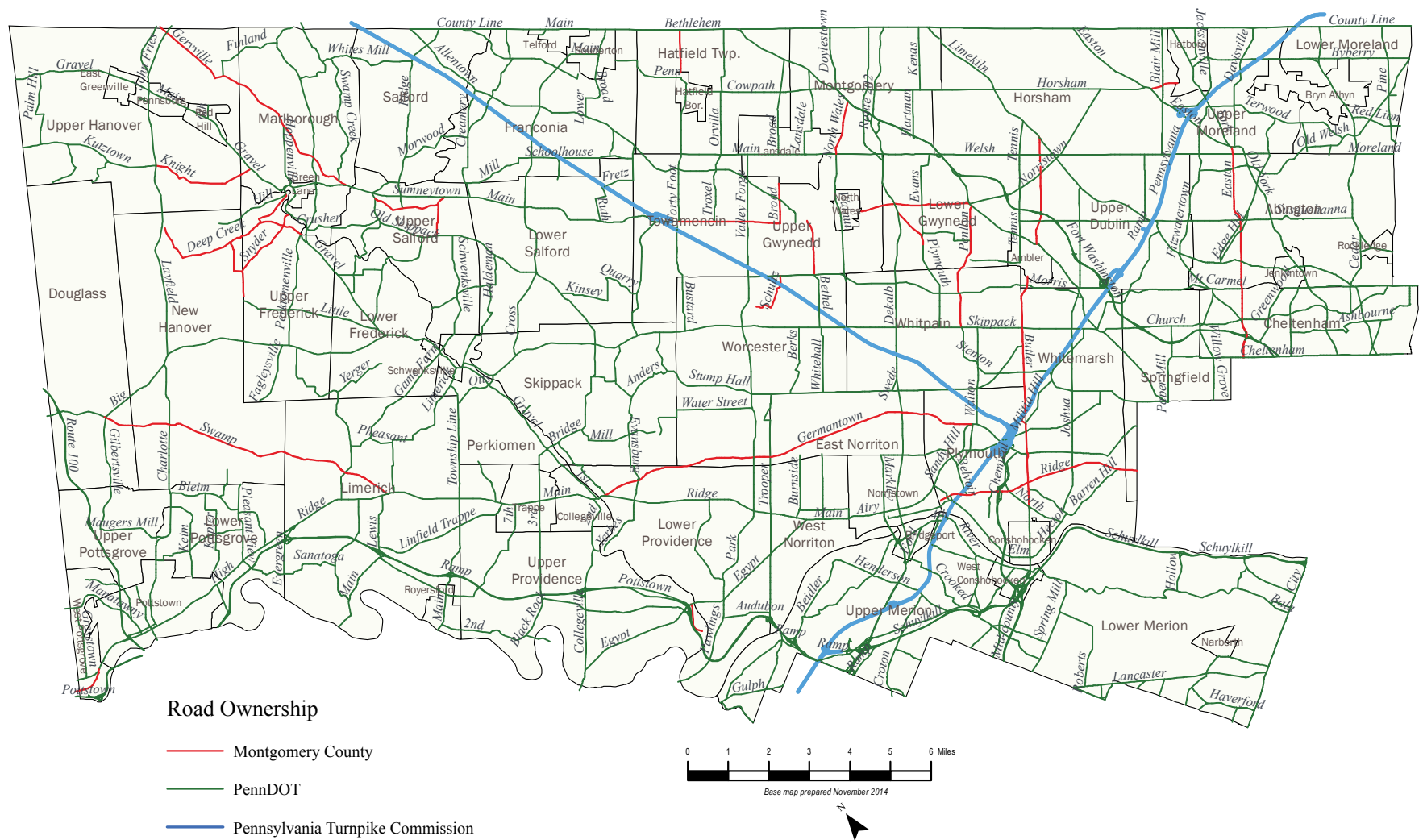


- ▶ **Local Municipalities** – Montgomery County’s 62 townships and boroughs collectively own about 2,800 miles of local streets and minor roads, and several have their own trail networks independent of the county’s system. Overall, Pennsylvania has the fourth highest number of locally-owned road mileage in the nation.³

Unlike major cities, such as Philadelphia, where the ownership of roads and trails is centralized in the hands of one municipal government, fragmented ownership in Montgomery County makes it difficult to create a comprehensive network of bicycle facilities. It also proves challenging to enact and promote strategies such as Vision Zero and complete streets policies.

³ https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/state_transportation_statistics/state_transportation_statistics_2012/html/table_01_02.html.

Montgomery County road ownership



PennDOT, Montgomery County, and 62 townships and boroughs each own different portions of the county's road network, making it difficult to coordinate efforts to build a comprehensive bicycle network.

Challenge #3

Existing Bicycle Infrastructure

There are plenty of major trails, but we are almost building an on-road network from scratch.

On-Road Bicycle Lanes

Montgomery County’s 1998 bicycle plan (*Montco Bicycling Road Map*) recommended a countywide network of primary and secondary bicycle routes using mostly state-owned arterial and collector roads. While not all major roadways are suitable for bicycles, state roads often traverse the county and are fairly straight, making them more attractive to cyclists than local roads, especially for commuting. That plan also identified roads with shoulders wider than 4 feet where bicyclists are likely to feel more comfortable and where opportunities might exist for future bike lanes.

In the twenty years since the plan was adopted, only about 19 miles of official on-road bicycle facilities have been created in Montgomery County. These lanes are not well connected to other transportation networks such as trails or transit routes or to each other.

Creating on-road bicycling facilities has proven to be very difficult. Many roads in the county have been designed over time without adequate width for bicycle lanes and wind through highly developed areas. Acquiring the necessary right-of-way to add bicycle lanes without impacting cars, transit, and pedestrians can be disruptive to existing homes and businesses—and expensive too. In communities with the tightest street conditions, it is particularly hard to carve out new



space for bike lanes, especially when there are few visible bicyclists who currently appear to need the space.

Historically, PennDOT required local municipalities wishing to install bicycle facilities on state-owned roads to apply for a Bicycle Occupancy Permit (BOP) which, until 2017, required municipalities to assume liability and maintenance responsibility for all areas designated as bike lanes. This unfunded responsibility was a major deterrent to communities working to increase biking and pedestrian accessibility. PennDOT’s new Bicycle Occupancy Permit requirements are less restrictive, thereby opening new partnering opportunities for bike lanes and greater shared responsibilities.

Montgomery County only has about 20 miles of official on-street bicycle lanes, like this new one installed by PennDOT on King Street in Pottstown.

Functional Classification*	Total Miles in Montco	Street Miles with Bike Lanes
RAMP	64.77	-
EXPRESSWAY	177.66	-
PRINCIPAL ARTERIAL	335.73	6.04
MINOR ARTERIAL	294.0	8.67
COLLECTOR	436.26	0.43
LOCAL	3,172.30	4.31
NON-TRAVEL*	31.19	-
TOTAL	4,511.91	19.45

Note: Some classes have been combined for simplicity. "Non-travel" consists of restricted institution roads, service roads, and emergency crossover areas

Multiuse Trails

Montgomery County is committed to expanding its network of multiuse trails that accommodate many types of users. The county's 90 miles of trails are typically paved or constructed of compacted gravel, which is suitable for bicycles. Old rail corridors or utility rights-of-way provide opportunities

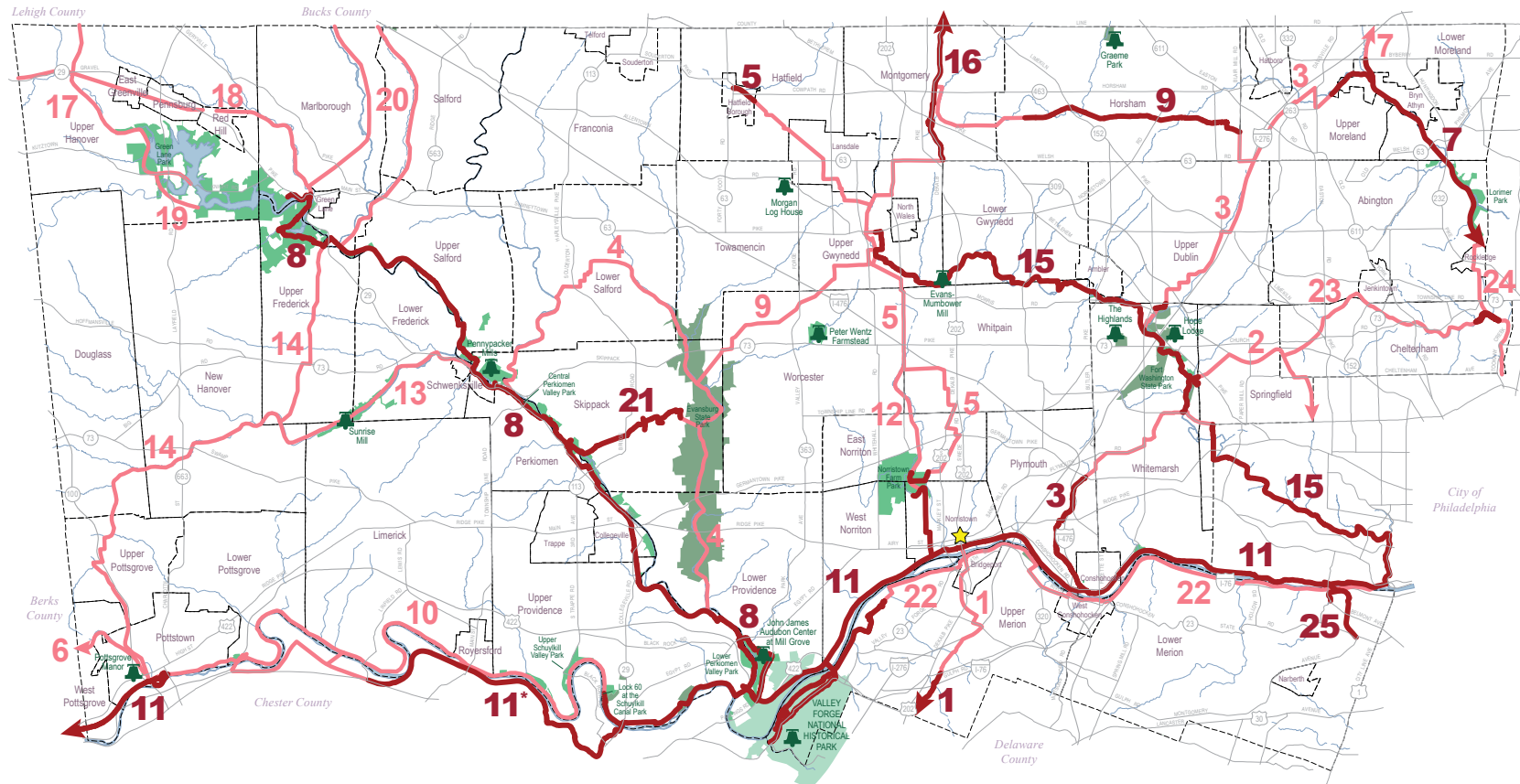
to traverse long distances with minimal road crossings, often on fairly level terrain.

Montgomery County's trail system is augmented by many municipal networks created through local planning and development activities that encourage trail building in new communities and connections to surrounding towns. More than 247

miles of local trails usable for bicycling have been identified, with more being constructed each year.

Because, many residents do not live adjacent to the county and local trail systems, they choose to drive to trailhead access points. A lack of safe bicycling infrastructure discourages many people from bicycling to the trails directly from their homes.

Montgomery County Primary Trail Network



- | | | | |
|---------------------------------------|-------------------------|--|-------------------------------|
| Completed Trail | 1. Chester Valley Trail | 10. Schuylkill East Trail | 18. Perkiomen Trail Extension |
| Proposed Trail | 2. Cresheim Trail | 11. Schuylkill River Trail | 19. Green Lane Park |
| Freight Station | 3. Cross County Trail | 11'. Schuylkill River Trail (Chester County) | 20. Highlands Trail |
| County-Owned Land | 4. Evansburg Trail | 12. Stony Creek Trail | 21. Skippack Trail |
| State-Owned Land | 5. Liberty Bell Trail | 13. Sunrise Trail | 22. Schuylkill West Trail |
| Valley Forge National Historical Park | 6. Manatawny Trail | 14. West County Trail | 23. Tookany Creek Trail |
| Historic Sites | 7. Pennypack Trail | 15. Wissahickon Green Ribbon Trail | 24. Rockledge Trail |
| | 8. Perkiomen Trail | 16. 202 Trail | 25. Cynwyd Heritage Trail |
| | 9. Power Line Trail | 17. Mill Hill Trail | |

Transit Facilities for Bicycles

The Southeastern Pennsylvania Transportation Authority (SEPTA) developed a Cycle Transit Plan in 2015 promoting bicycling to transit, bicycle storage at transit stops, and transporting bicycles on transit vehicles. There are about 300 bicycle parking spaces at the 45 SEPTA and AMTRAK rail stations in Montgomery County with more being added and planned each year. SEPTA buses in Montgomery County provide racks for two bicycles, and bicycles can be taken onto rail vehicles during off-peak periods.

Accommodating bicycles on SEPTA rail cars has long been a struggle for the agency. Current policies prohibit bicycle storage during peak hour trains, and new rail car acquisitions are expected to have “flexible” spaces that can be used by bicycles—but not dedicated to them. There are 7 regional rail lines and 45 stations in Montgomery County carrying nearly 40,000 people each day, so the effort to balance the needs of bicycles and riders is a serious challenge.

PennDOT Bike Routes

PennDOT has designated a statewide network of bicycle routes throughout the state. “Route S” is the longest officially designated bicycle route in Pennsylvania at 435 miles, beginning at the West Virginia border and leaving Pennsylvania from Bucks County. It is the only official state bicycle route passing through Montgomery County, and it travels between Valley Forge and Montgomeryville.

Unfortunately, Route S and its sister routes are largely symbolic. They typically lack shoulders, designated bike lanes, and other facilities needed for safe bicycling over long distances.



SEPTA is taking proactive steps to increase the amount of covered bicycle parking at rail stations in Montgomery County.

Photo Credit: SEPTA

Challenge #4

Bicycling Safety and Crash History

One bicycle crash is one too many.

Safety is a key element to encouraging bicycling throughout Montgomery County. Citizens are less likely to ride their bicycle—particularly on roads—if they do not feel safe traveling between home and their destination.

Bicycle/Vehicle Crash History and Analysis

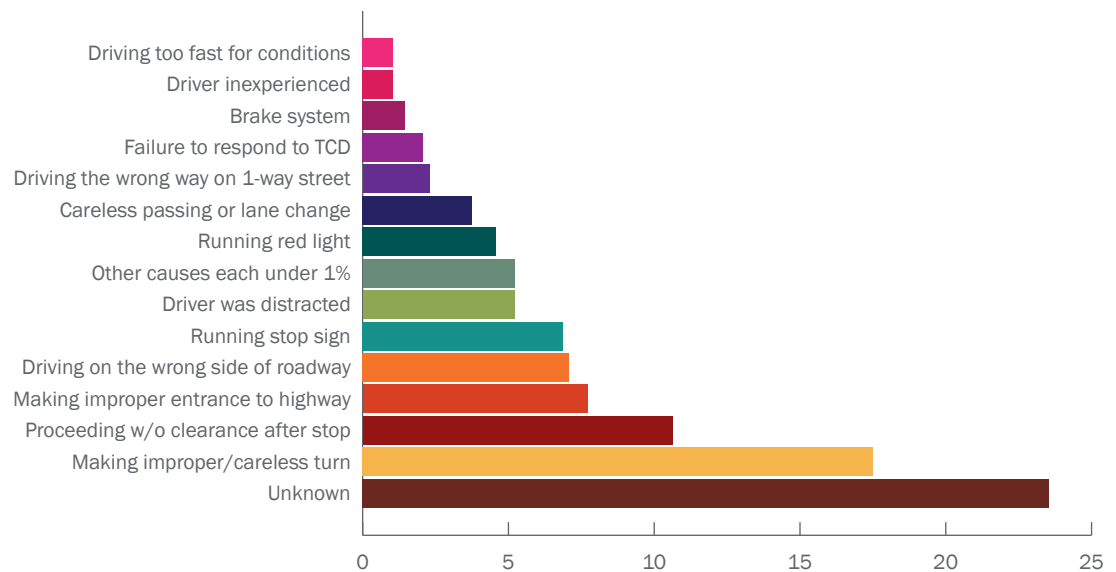
Police departments statewide collect crash data when a motor vehicle incident occurs. PennDOT aggregates and analyzes this data in order to recommend safety improvements.

“Reportable crashes” are defined in Pennsylvania state code as an incident which occurs on a road that is open to the public and must involve at least one motor vehicle. An incident is reportable if it involves injury to or death of any person or the vehicle requires towing.

Non-reportable incidents include fender-benders and crashes only involving bicycles and pedestrians. These incidents are not represented in crash data. The lack of such a reporting requirement can result in under-reporting of bicycling-related incidents. It can also lead to recommended roadway improvements that improve safety conditions for drivers but easily overlook those aimed at bicyclists.

Year	Total crashes reported statewide	Total crashes reported in MontCo	Crashes involving a bicycle statewide	Crashes involving a bicycle in MontCo
2010	121,608	8,276	1,490	76
2011	125,607	8,463	1,324	73
2012	123,912	8,392	1,392	71
2013	124,351	8,345	1,385	73
2014	121,541	8,140	1,316	55
2015	127,401	8,557	1,277	55
2016	129,395	8,801	1,306	77
TOTAL	873,815	58,974	9,490	480
AVERAGE	124,831	8,425	1,356	69
PERCENTAGE		6.75%	1.09%	0.81%

Prime factor for cause of crash involving bicyclists in Montgomery County, 2010–2016



Source: PennDOT crash reporting system data

Crash statistics do not distinguish who was at fault for a crash nor does a review of the prime factors indicate if the bicyclist or the driver took the errant action. The prime factors do indicate that both drivers and bicyclists need to obey traffic rules.

Opportunity #1

Favorable Demographic Changes

As our people and places change, so do attitudes toward bicycling.

Montgomery County is growing well into the twenty-first century. With the second largest population increase in Pennsylvania since 2010 and the highest net migration in the state between 2016 and 2017⁴, new residents are moving to the county from other places—and bringing their preferences and transportation needs with them.

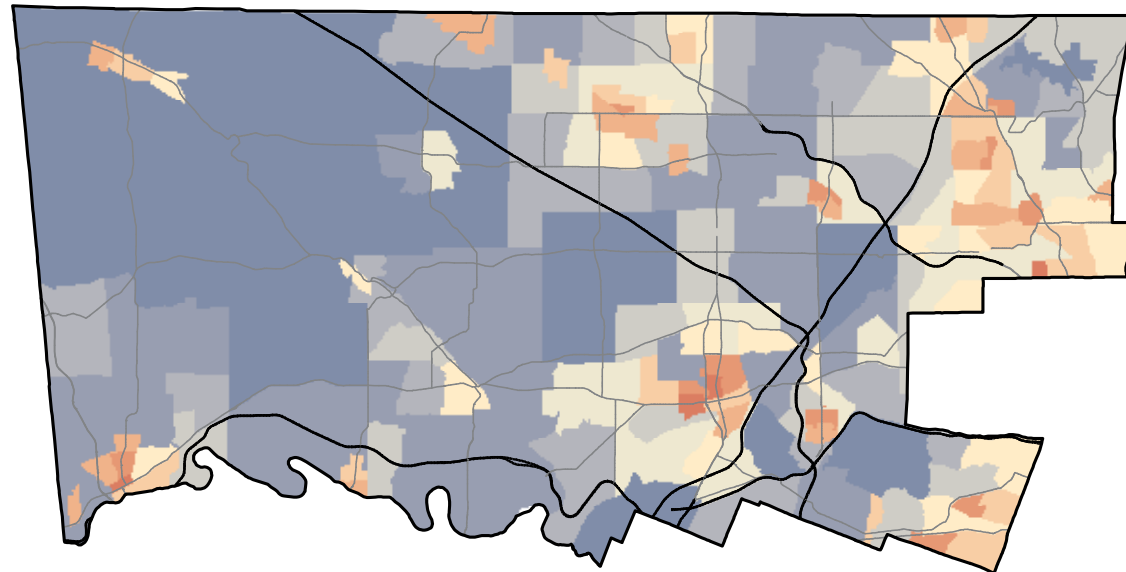
The resulting demographic changes are creating new opportunities to increase bicycling throughout Montgomery County. Our communities are filling up and filling out, which is reshaping the viability of bicycling. New people bring new attitudes toward how they want to get around, and both businesses and local governments see alternatives to driving as key to a good quality of life. Amidst all of this transformation, one thing is certain—people and places are embracing bicycling.

Population Density

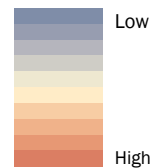
Bicycling as a form of regular travel is becoming more popular across the United States⁵, especially in more urbanized areas where origins and destinations are closer together. People are more likely to use a bicycle for errands when trips are short and convenient. In Montgomery County, older boroughs, like Narberth and

4 Penn State Harrisburg. Pennsylvania State Data Center, March 2018 Research Brief. https://pasdc.hbg.psu.edu/sdc/pasdc_files/researchbriefs/March_2018.pdf.

5 Where We Ride: Analysis of bicycle commuting in American cities. League of American Cyclists, 2017. Pg. 2. http://bikeleague.org/sites/default/files/LAB_Where_We_Ride_2016.pdf.



Population Density



Source:
American Community Survey
2011-2015 5-year Estimates

Montgomery County's dense boroughs and townships encourage bicycling for everyday needs, while its open areas are magnets for bicycle-based recreation and tourism.

Ambler, have retained their traditional downtowns while growing townships, such as Towamencin and Lower Salford, are adding commercial and residential density.

With 1,552 people per square mile, Montgomery County is the fourth densest in Pennsylvania⁶. Much of it is found in the county's eastern half, where many older boroughs and tightly developed inner-ring suburban townships are located. Most of the SEPTA regional rail stations in Montgomery

6 2010 U.S. Census. <https://www.census-charts.com/Density/Pennsylvania.html>.

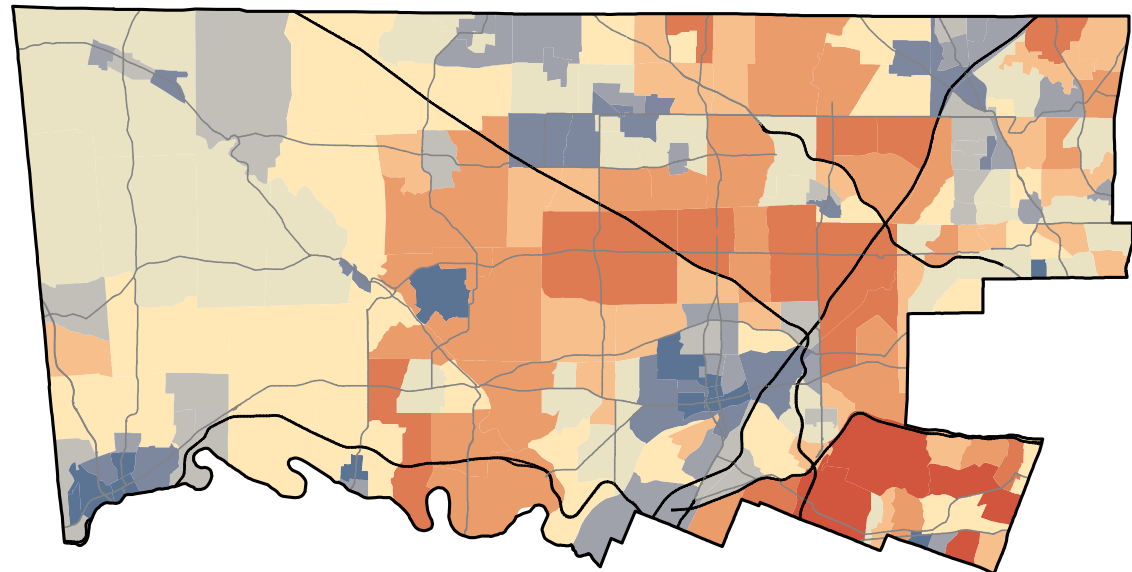
County are located here too. These assets have the potential to make bicycling for work and for daily errands a way of life.

However, the western half of the county contains its own possibilities. Dense communities exist here too, and several new mixed-use town centers designed around recreating a downtown environment have been built in this part of the county since 2010. Montgomery County's western half also contains several major regional trails and scenic vistas, which attract bicycle tourism.

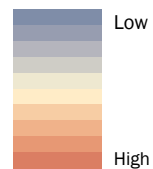
Household Income

Household income can be a strong predictor of bicycling, especially for commuting to work. On the one hand, the highest rate of bicycle commuting nationwide is among those who earn less than \$10,000 per year⁷ even though lower-income populations are likely to have limited access to bicycles. The transportation burden is higher for the bottom 20 percent of American households, who spend nearly 15 percent of their income on transportation⁸ (which is almost identical with the top quintile). These citizens can be found throughout the county in both older towns and newer communities.

On the other hand, some of the fastest growth nationwide of bicycling to work occurred among higher-income citizens. The American Community Survey reports that among carless households, the fastest growing segment of bicycle commuters were those earning \$75,000 or more annually, from 1.1 percent in 2006 to 2.4 percent in 2013.⁹ The 2008–2012 American Community Survey also reported that the rate of bicycle commuting begins increasing among households with incomes of \$150,000 and above.¹⁰ These trends are taking place in large American cities, but they are also likely happening in some of the wealthiest communities in the eastern half of Montgomery, which were built prior to the 1950s.



Median Income



Source:
American Community Survey
2011-2015 5-year Estimates

Based on national trends, bicycling is likely more prevalent among Montgomery County citizens with lower incomes, but it is increasingly attractive in the wealthier communities too.

⁷ *Commuting in America 2013: The National Report on Commuting Patterns and Trends*, AASHTO, 2015, pg. 13 http://traveltrends.transportation.org/Documents/B14_Bicycling%20and%20Walk%20Commuting_CA14-4_web.pdf.

⁸ Alex Morrell and Andy Kiersz, "Seeing how the highest and lowest-earners spend their money will make you think differently about 'rich' vs 'poor'". *Business Insider*, December 4, 2017. <http://www.businessinsider.com/how-high-income-and-low-income-americans-spend-their-money-2017-3>.

⁹ <https://www.census.gov/content/dam/Census/library/publications/2015/acs/acs-32.pdf>, page 18, Table 7.

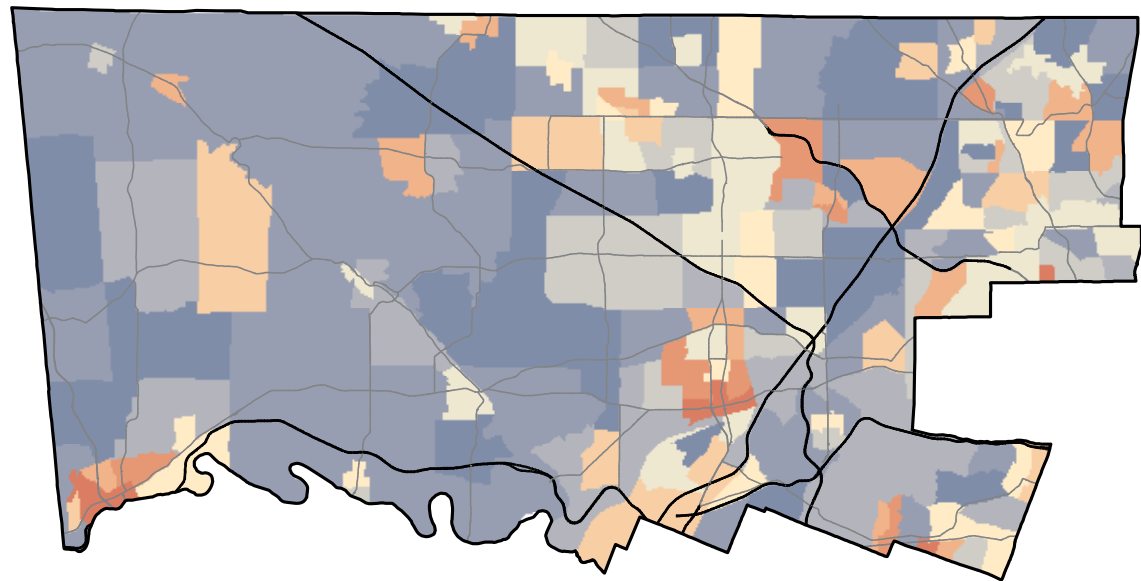
¹⁰ <https://www.census.gov/content/dam/Census/library/publications/2014/acs/acs-25.pdf>, pgs 7, 10, and 13.

Car Ownership

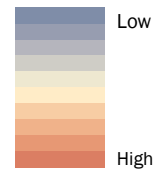
Car ownership is less important in areas where jobs, schools, businesses, and homes are close together and there is better access to transit. However, no matter where you live in Montgomery County, it is difficult to travel without a car. In Montgomery County, 6.2 percent of the households do not have regular access to a vehicle.¹¹ Some of these may be part of senior or college communities where transportation is provided by others. Others are located in denser areas—both rich and poor—where transit is more available and parking is more constrained.

For obvious reasons, households without cars must find other ways to travel. Although getting rides, borrowing a car, taking transit, and walking constitute the majority of ways that carless people get to work, the national percentage of carless workers commuting by bicycle increased across the board, from 2.6 percent in 2006 to 3.2 percent in 2013.¹² Although the U.S. Census doesn't provide the same data at a local level, these national trends are likely occurring in Montgomery County on a lesser scale, where overall bicycling to work increased between 2000 and 2010.¹³

¹¹ U.S. Census, *American Community Survey 2011-2015*.
¹² <https://www.census.gov/content/dam/Census/library/publications/2015/acs/acs-32.pdf>, pgs. 18-19.
¹³ *Montgomery County Planning Commission Data Portal*. webapp02.montcopa.org/planning/dataportal; see also *Shaping Our Future: A Comprehensive Plan for Montgomery County, Transportation Plan*, pg. 37.



% Carless Households



Source:
American Community Survey
2011-2015 5-year Estimates

The lack of a car opens the door to increased bicycling use, and carless households can be found throughout much of Montgomery County.

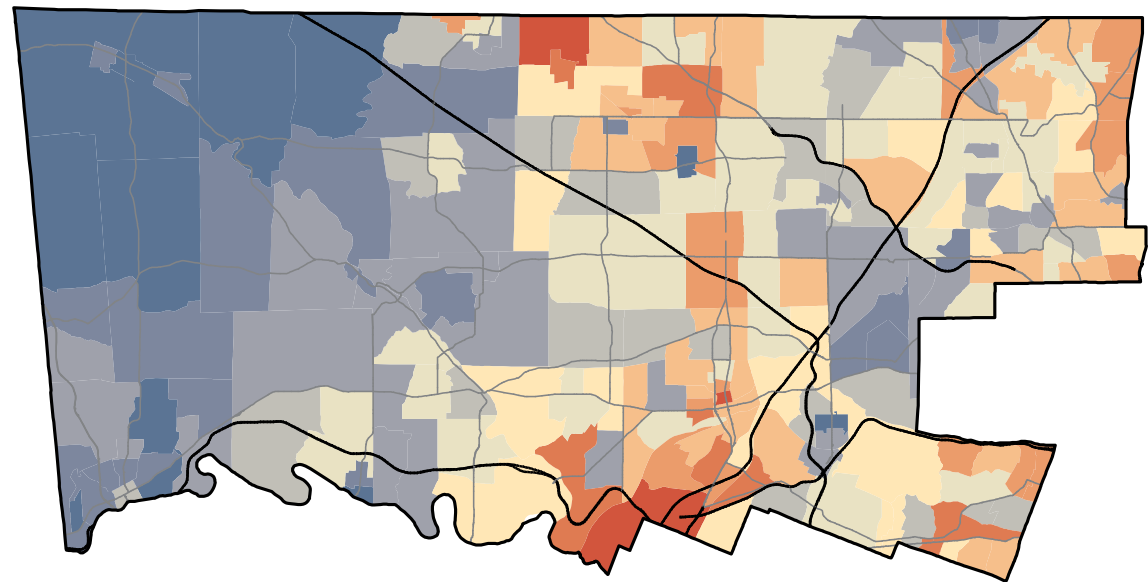
Diversity

Throughout the country, bicycling is on the rise among minority communities. Nationwide statistics show that Hispanics, African-Americans, and Asian-Americans are the fastest growing bicycling populations, increasing from 16 percent to a combined 23 percent of all bike trips in the U.S. between 2001 and 2009.¹⁴

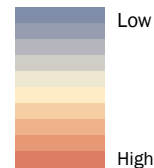
Closer to home, Montgomery County's population is not only booming, but it is also becoming more diverse. According to the 2010 U.S. Census, minorities and people of multiple ethnicities make up almost 20 percent of the county population, with Asians (46 percent) and African-Americans (26 percent) forming the bulk of new arrivals between 2000 and 2010.¹⁵ The Asian and Hispanic communities are among the fastest growing racial groups in Montgomery County.¹⁶

Foreign-born residents in the county are distributed unevenly. Some are located in older areas of higher density, such as Norristown or Cheltenham. Others live in more suburban environments, such as Montgomeryville or King of Prussia. However, in many countries around the world bicycling is seen as an acceptable form of transportation, and foreign-born populations may be more willing to travel by bicycle.

If national trends hold, Montgomery County will become more racially diverse in the decades ahead, and minority communities will increasingly embrace bicycling. These users will be spread throughout the county and will also benefit from a network of interconnected routes.



% Foreign Born



Source:
American Community Survey
2011-2015 5-year Estimates

Minorities and foreign-born residents are spread throughout Montgomery County, making it important to create a network of bicycle routes that can benefit and connect all county citizens.

¹⁴ National Household Travel Survey, Federal Highway Administration, U.S. Department of Transportation. http://bikeleague.org/sites/default/files/equity_report.pdf. Page 3

¹⁵ Montgomery County Today: Background Information for Montco 2040 A Shared Vision. 2015. Page 18.

¹⁶ *Ibid.*, page 18

Opportunity #2

Increasing Bicycle Use

Not only is it higher than our suburban neighbors, but it's increasing.

In 2015, the Delaware Valley Regional Planning Commission (DVRPC), instituted bicycle counts along selected roads and trails in Montgomery County. The findings recorded low on-road ridership but established that bicycle use is far higher on Montgomery County's trails.

DVRPC's efforts recorded approximately 1,000 daily users on the Schuylkill River Trail and 650 daily users on the Chester Valley Trail. In contrast, Susquehanna Road in Abington Township, which contains one of the county's few long stretches of continuous on-road bicycle lanes, only sees an average of 26 riders per day. The high usage of trailhead parking also indicates that many people are driving to the trails instead of using local roads or trails to complete the entire trip by bike.

Commuting

A broader analysis undertaken by the U.S. Census Bureau's 2011–2015 American Community Survey indicated that only 0.2 percent of Montgomery County workers commuted using a bicycle, while the overwhelming majority (79 percent) commute to work by driving alone.

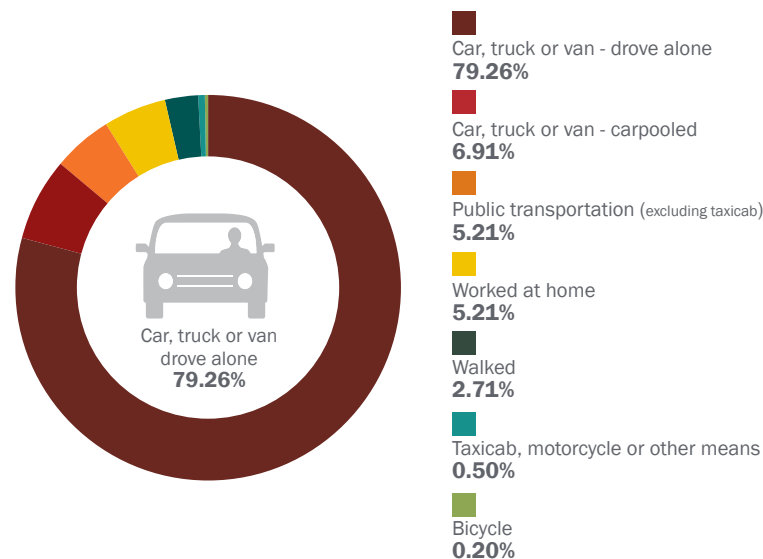
Despite these numbers, Montgomery County has a higher percentage of bicycle commuters than other suburban Philadelphia counties.¹⁷

¹⁷ American Community Survey, AASHTO Census Transportation Planning Program, ctpp.transportation.org

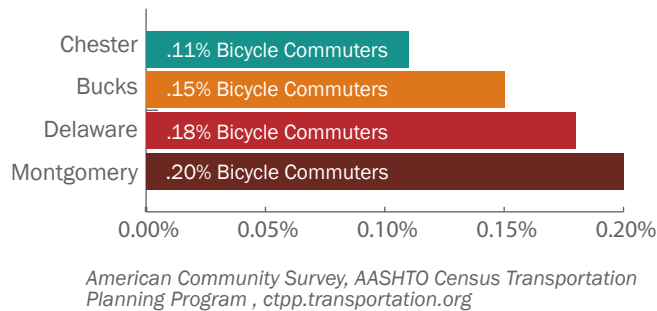


Montgomery County has a higher share of commuters bicycling to work than in Bucks, Chester, and Delaware Counties.

Montgomery County resident commute mode share, 2015



Bicycle commuters in suburban Philadelphia, 2013



Montgomery County is a popular venue for organized events and training, such as this bicycle race in Norristown.

The county's well-developed trail system and its lengthy border with Philadelphia, where the number of bicycle commuters is rapidly increasing, are likely factors. In addition to people who bicycle as their primary method of getting to work, some residents use a bicycle as their secondary commuting mode or ride a bicycle to access a train station or bus route to get to work. While there are some limitations to taking a bicycle onto a SEPTA vehicle during peak travel times, overall, use of a bike to access transit is increasing throughout the region.¹⁸

¹⁸ *Ibid.*

Recreation

Recreational bicycling is popular in Montgomery County for many reasons. It typically takes place over the weekend and during non-peak commuting hours throughout the week, enabling bicyclists to enjoy less vehicle traffic when riding on roads.

Montgomery County is home to a growing number of bicycle clubs and organized events. In 2017, three regional bicycle races were held in the county, drawing attention to cycling and providing an outlet for local bicycle riders. Various kinds of cyclocross races, BMX races, and community races can be found in wide-ranging places such as Pottstown, Ambler, and Narberth, among others.

Mountain biking is becoming increasingly popular as a recreational sport. Green Lane Park, Lorimer Park, and Evansburg State

Park all have trails that are open to mountain bikes; however, few of these trails have been purposefully designed for this use. Development of more purpose-built mountain bike trails and sustainable rehabilitation of existing trails would encourage more mountain bike use.

Surveys conducted for *Bike Montco* show that recreational bicycling is highly popular. Out of all respondents who ride bicycles, three-quarters indicated that they do so for recreation or exercise, while roughly 13 percent use a bicycle for commuting to work or to run errands. These statistics are similar to national data that show a preference for recreational bicycling.

Opportunity #3

Emergent Bicycle Culture

Non-profits and citizens are already building a foundation.

Bicycling advocates throughout Montgomery County are building a culture of safety and acceptance in many different ways. Bicycle clubs, such as Suburban Cyclists Unlimited (SCU) and the Bicycle Coalition of Greater Philadelphia, and advocacy groups are using social media to organize casual events and inspire people to ride. Various government and non-profit organizations, such as school districts, transportation management associations, and various county departments, are educating adults and children on safe practices. Townships and boroughs are promoting bicycling by occasionally closing off major roads for special events like races and bicycle days. The grassroots push to create a local bicycle culture in the county has never been stronger.

In recent years, several long-distance bicycle rides were sponsored by local and regional bicycle clubs in the county including:

- ▶ Pedaling on the Parkway (Montgomeryville)
- ▶ SCU 2017 Quad County Metric (Green Lane Park)
- ▶ Greater Philadelphia Tour de Cure (Ambler)
- ▶ Scenic Schuylkill Century (Whitemarsh)
- ▶ Oktoberfest Ride (Collegeville)

There are countless major initiatives in Montgomery County that are exposing citizens to bicycling. The more the public is exposed to bicycling, the more they will accept it as a routine part of everyday life. The more they accept it, the more likely they will bicycle. The more people who bicycle, the bigger the constituency for safe

and convenient facilities. This is the virtuous cycle to achieve real change. But it all starts with exposure.



Park(ing) Day started in San Francisco in 2005 and has grown into a global event that re-visions public space for parking, bicycling, and other sustainable uses.

Montgomery County Health Department Bicycle Safety Initiative

The Montgomery County Health Department (MCHD) promotes bicycling as a healthy form of recreation and transportation and helps the community stay safe through bicycle education programs and helmet distributions. Education offered by the MCHD includes Safe Routes to School programming and social media campaigns with comprehensive safety messaging. The health department's bicycling safety outreach is held at the Elmwood Park Zoo in Norristown, which includes monthly safety-themed walks and highlights tips to keep families safe, active, and healthy.

Through the Montgomery County Trail Challenge, the Montgomery County Health Department also encourages residents to explore and become familiar with the bikeable network of parks and trails found throughout the county.

Bicycle Share Programs

Bicycle share programs are becoming increasingly popular in communities across the U.S. These programs allow users to rent and return bicycles from any one of a number of convenient locations—called stations—where demand for bicycles is expected to be high. Philadelphia launched its program in 2015 through Indego, a local public bicycle-sharing company. Recently, these programs have begun moving beyond major cities to suburban communities and college campuses.

The Montgomery County Division of Parks, Trails, and Historic Sites established the county's first bicycle sharing program in 2015 through a contract with Zagster, Inc. to operate three stations along the county trail system. The



Since 2015, Montgomery County has been contracting with Zagster to provide a bicycle share program along the county's own 90-mile trail network.

stations are located at the Welsh Road Trailhead on the Pennypack Trail, at the Lower Perkiomen Valley Park trailhead on the Perkiomen Trail, and in the Norristown Farm Park.

Other governments and bicycling advocates operate bicycle share programs, too. The Partnership Transportation Management Association (PTMA) administers ten stations distributed throughout northern Montgomery County. Bicycles are stored at various businesses and municipal buildings where they can be checked out for free. The only requirement is that users must wear a helmet. Pottstown Borough

has a local bike share program at two locations administered by the Schuylkill River Heritage Association. In addition, Ursinus College and Gwynedd Mercy University have their own bike share programs.

Opportunity #4

Growing Institutional Support

Major transportation organizations and businesses are embracing bicycling.

The bicycling community has been embracing grassroots advocacy for many years. But now it is finding allies in what were once considered unlikely places, as the business world and major transportation agencies increasingly support bicycling in a host of formal and informal ways.

PennDOT and SEPTA control the overwhelming majority of the transportation network in Montgomery County, and their growing support for bicycling creates new opportunities to expand on- and off-road infrastructure.

Meanwhile, more and more Montgomery County employers are providing facilities, such as bicycle racks and showers, to encourage commuting or establishing company-wide bicycling groups for recreation. Such institutional support for bicycling is crucial to giving it legitimacy in the minds of the public.

PennDOT

The new PennDOT Connects initiative is the agency's most comprehensive effort so far to foster a balanced multimodal transportation system. The program requires every new transportation project receiving state funds to consider community needs and plans before engineering begins. PennDOT does this by collaborating with local, county, and regional governments to incorporate their bicycling, transit, and pedestrian needs into the project. They are often recommendations from bicycle

plans, comprehensive plans, or corridor studies. The PennDOT Connects initiative wields enormous potential to improve bicycle facilities.

PennDOT has many other notable efforts to better balance the needs of bicyclists on their roads, such as the 2008 *Smart Transportation Guidebook*¹⁹ and the 2007 *Bicycle and Pedestrian Master Plan*²⁰ (currently being updated). The Department of Transportation also manages a number of recurring grant opportunities intended to improve on- and off-road bicycling infrastructure, notably the Multimodal Transportation Fund (MTF) and the Transportation Alternatives Set-Aside program.

These planning and funding initiatives signal PennDOT's biggest commitment yet to bicycling.

¹⁹ <https://www.dvrpc.org/Reports/08030A.pdf>

²⁰ <http://www.dot.state.pa.us/public/pdf/BPPlan.pdf>

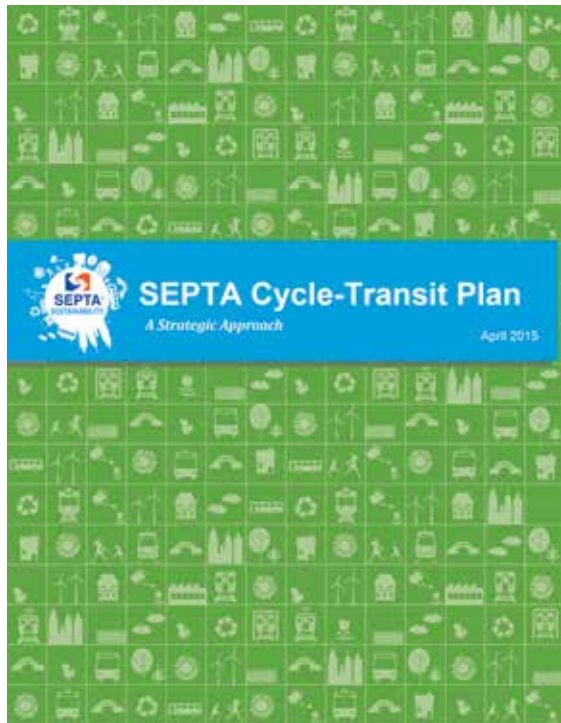


SEPTA

As the nation's sixth largest public transit provider, SEPTA plays a major role in how Montgomery County citizens travel. SEPTA fully embraced bicycling with the publication of the agency's Cycle-Transit Plan²¹ in 2015.

The document's three major categories are "Bikes to Transit," "Bikes at Transit," and "Bikes on Transit." The 28-page plan then lays out 15 related recommendations such as partnering with other agencies to improve on- and off-road bicycle routes near stations, adding sheltered and secured parking on SEPTA property, and reconfiguring the seating arrangement on trains to better accommodate more bicycles.

21 <http://www.septa.org/sustain/pdf/cycletransitplan15.pdf>



The Cycle-Transit Plan is an acknowledgement by SEPTA that bicycling is not only growing in the Delaware Valley, but it is a key component to improving the competitiveness of its own transit system.

Employers

Employers of all sizes are increasingly seeing bicycling as a lifestyle preference that can attract and keep new talent. Businesses, such as GlaxoSmithKline, Shipley Energy, Barton Partners, and AECOM, along with commercial property owners, like Brandywine Realty Trust and Liberty Property Trust, and governments, such as Montgomery County, provide bicycle racks, indoor showering facilities, and various employee incentives to bicycle to work.



CHAPTER 4

Public Involvement

Bike Montco included a robust public outreach effort so that the needs and desires of the public could be understood and addressed in the plan. This effort included both emerging forms of technology and traditional approaches.

The *Bike Montco* plan used technology and social media very heavily:

- ▶ A project logo, web page, Facebook, and Twitter accounts were created for the plan
- ▶ A public survey was hosted online using SurveyMonkey.com
- ▶ A short video about bicycling to work was posted to YouTube
- ▶ Wikimapping.com, a widely available crowdsourcing public engagement tool offered by Krimsnatch, LLC, was used to collect feedback about the existing bicycle network

Traditional outreach was done as well. A steering committee of over 40 civic leaders was formed to help shape the final plan. Two public workshops were held early in the planning process and one public event was held to share the draft *Bike Montco* plan. Postcards announcing the effort were distributed at bike shops, fitness clubs, and establishments along the county trail system.

Outreach to the community continued for about nine months. More than 2,200 people completed



paper and online surveys. Over 600 people left feedback on the WikiMap, noting favorite riding locations, places they avoid, and obstacles to bicycling throughout the county.

Overall, approximately more than 3,000 people participated in the *Bike Montco* planning effort.

Steering Committee

A steering committee, made up of civic leaders throughout Montgomery County, provided guidance and policy input throughout the planning process. Committee members included bicycling enthusiasts, various levels of government, transportation specialists, and community interest groups.

All of these members shared the common interest of improving the county's bicycle network. Their participation helped ensure that the planning team had a broad understanding of bicycling needs around the county and that numerous opportunities for feedback were available and enlisted future support for the

plan's recommendations. These steering committee members included:

- ▶ **Community leaders** such as municipal elected officials, school board members, state officials, and regional and county officials
- ▶ **Experienced riders** familiar with bicycle policy issues in the region and knowledgeable about the planning process
- ▶ **Future bicycle riders**, young and old, who may not bike now but are interesting in bicycling
- ▶ **Engineers and planners** with training and experience in transportation policy

- ▶ **Media** and influential groups or individuals who were likely to promote the plan and influence audiences the county typically cannot reach
- ▶ **General members of the public** who can create a grassroots support movement to influence the safety, expansion, and improvement of bicycle mobility even if they are not bicyclists. The advocacy of local residents and citizens is crucial for convincing elected officials to build bicycle and trail projects.



The steering committee participated in various bicycling events and area field visits throughout 2017.





A steering committee of approximately 30 civic leaders from throughout Montgomery County, meeting 10 times during the planning process, played a strong role in shaping the plan.

Public Surveys

More than 2,200 people completed a survey. To ensure the respondents represented a broad cross-section of residents, surveys were distributed to the Montgomery County jury pool on a regular basis throughout the survey period. Others completed the survey at public workshops or online. This wide cross-section of county residents revealed some interesting information.

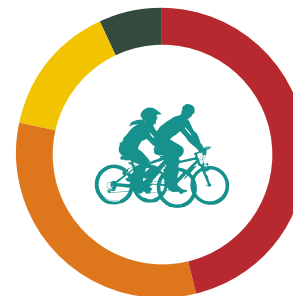
Who Responded and Why Do They Ride?

- ▶ **Profile** – Respondents were mostly white (84.5 percent), well-educated (92 percent with post high school education to some degree), and middle-aged (74 percent between ages 35 and 64).
- ▶ **Mobility** – Most respondents had access to a bicycle (86 percent) and most had access to at least two motor vehicles within their household (78 percent).
- ▶ **Bicycle Access** – About 42 percent of respondents rode a bicycle at least once a week while 18 percent of respondents indicated that they never rode a bike. Of those who do not ride often, the principle reason given was lack of access to a bicycle. Other reasons for not riding included lack of safety and lack of convenience.
- ▶ **Type of Rider** – Nearly 80 percent of all respondents identified themselves as either “Enthusied and Confident” or “Interested but Concerned” bicycle riders. About 7 percent
- considered themselves in the “No Way, No How” category and about 15 percent considered themselves “Highly Experienced.” More than 50 percent of bicyclists ride more than 5 miles per ride, and the predominant reasons for riding are recreation and exercise. “Riding to work” or “to run errands” were a small proportion of the reasons chosen.
- ▶ **Quality of Ride** – Overall, respondents rated bicycling in Montgomery County as either Excellent (7.6 percent) or Fair (49.6 percent) and most indicated that it is “somewhat important” (34.7 percent) or “very important” (52.9 percent) to improve bicycling conditions throughout the county.



Two public workshops were held, one in each end of the county, where citizens were able to take the survey in an interactive format.

The types of rider in Montgomery County

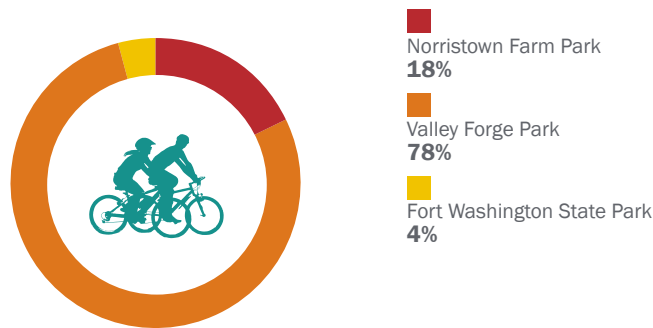


- **Enthusied and confident:** You are comfortable sharing the roadway with automotive traffic, but prefer to ride separately. **46.18%**
- **Interested but concerned:** You are curious about bicycling but concerned about safety. You bicycle sometimes. **32.26%**
- **Highly experienced:** You will bicycle no matter the conditions. **14.68%**
- **No way, no how:** You don't ride and never will. **6.88%**

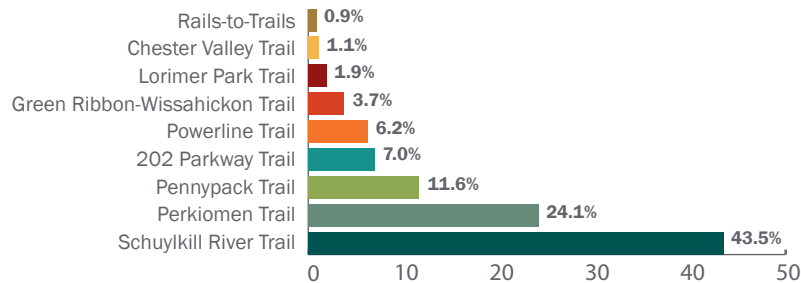
Where Do People Like to Ride?

The survey asked about riders' favorite places to ride. Montgomery County-owned trails were noted as the favorite place to bicycle by 69 percent of all respondents, with the Schuylkill River Trail and the Perkiomen Trail being favored by nearly 70 percent of respondents. Valley Forge National Historical Park was the top favorite among parks (78 percent).

Favorite places for bicycling:



Favorite trails to bicycle on:

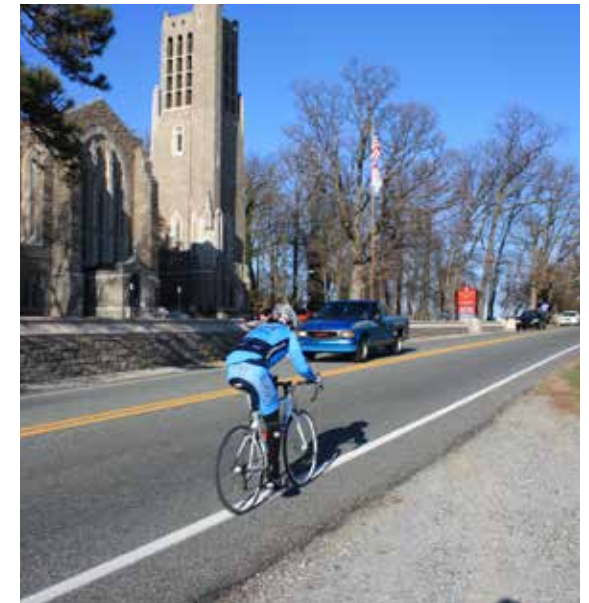


Bicyclists tend to avoid—but want to use—some of the county's major roads, such as PA 23 in Valley Forge.

Where Do Bicyclists Avoid?

Among locations that are difficult for bicycling, major roads such as PA 611, US 202, and PA 309, were quickly identified. Similarly, respondents identified major roads as the ones most in need of improvements to bicycle infrastructure, suggesting that riders want to use the most direct way possible. In a separate question, King of Prussia, the county's largest employment and tourist destination, was noted as a generally tough location, along with the roadways leading to and from existing trails.

Among municipalities, Abington, the greater Norristown area, Plymouth Meeting, and Lansdale were identified as the most difficult to ride through. These are some of the most populated communities and largest employment centers in Montgomery County, and these survey results reinforce the existing challenges highlighted in Chapter 3.



How Do Residents Feel About the Current State of Bicycling in the County?

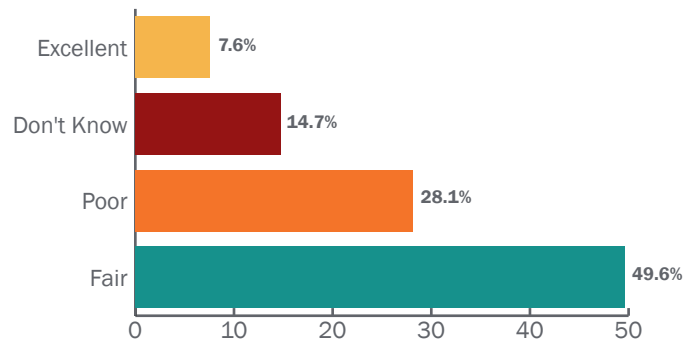
Montgomery County residents take a negative view of existing conditions by an overwhelming number. Out of nearly all responses, over a quarter (28.1 percent) rate it poor and nearly half (49.6 percent) rate it fair. Only about 1 in 13 people (7.6 percent) rate it positively.

However, equally strong is the response of county citizens who believe that it's important to improve bicycling conditions. A total of 87.6 percent of respondents said it was either "very important" or "somewhat important" to do so. Less than 10 percent believe improving bicycling conditions is not important at all.

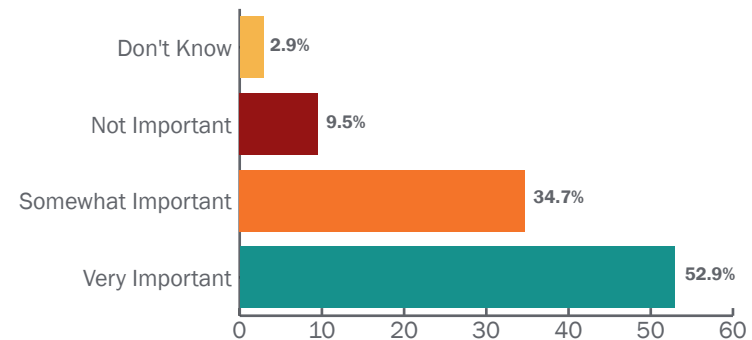


An overwhelming number of people who took the Bike Montco public survey believe that roads in Montgomery County need better bicycling infrastructure, like this bicycle lane on Susquehanna Road in Abington Township.

How residents rate the present conditions for bicycling in Montgomery County



Importance of improving bicycling conditions in Montgomery County



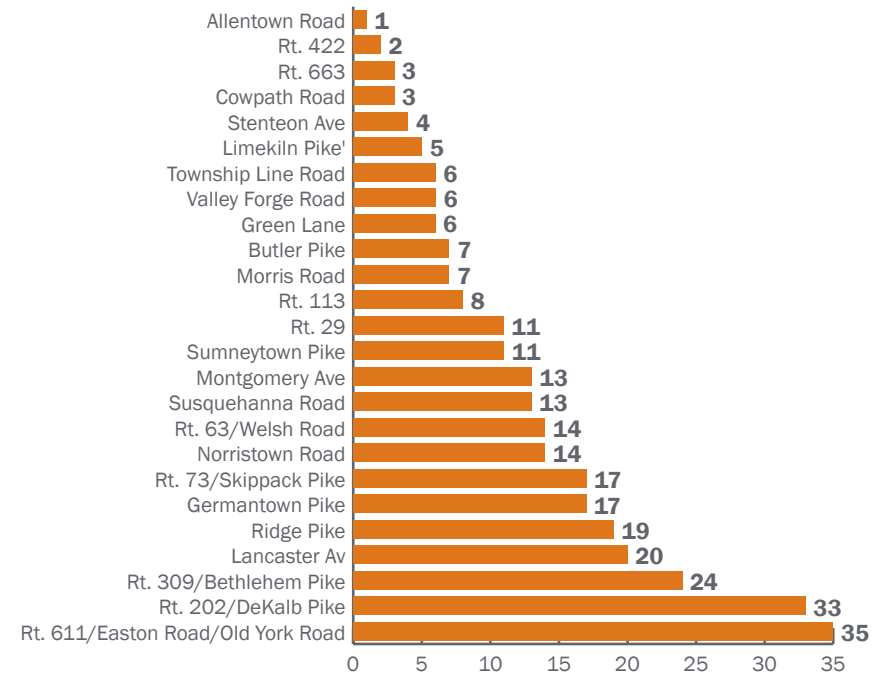
What Discourages People from Bicycling?

Those who took the survey were very clear about impediments to bicycling in Montgomery County. Given the opportunity to choose all that apply from a list of possible options, busy roads with too much traffic (79.6 percent), a lack of separate bike lanes or trails (68.7 percent), and personal safety concerns (60.4 percent) all dominated the results. Lack of information about where to safely bike came in at a distant fourth. Although the lack of traffic enforcement dominated the 47 votes of the “other” category, overall it was still a minority of the responses.

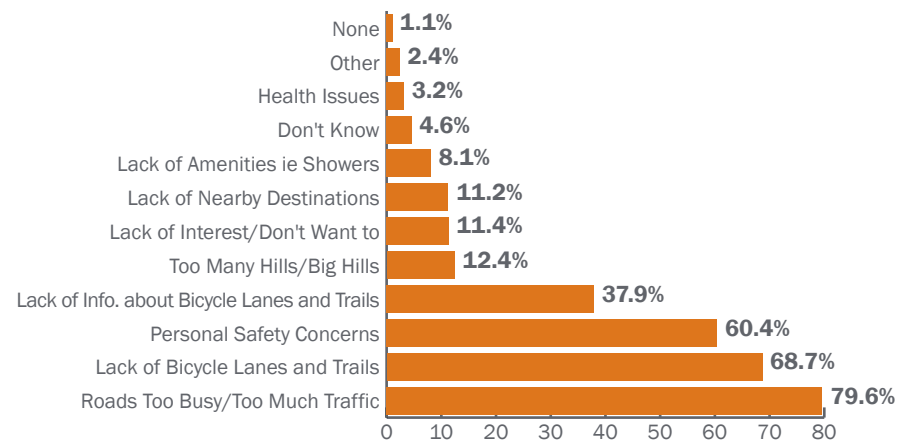
Similarly, respondents indicated that they would bicycle more if there were more designated bicycle lanes in the shoulder (66.6 percent), buffered on-road bicycle lanes (56.7 percent), and paved multiuse trails (62.3 percent).

Clearly, having safe bicycling infrastructure—or the lack thereof—is a major issue.

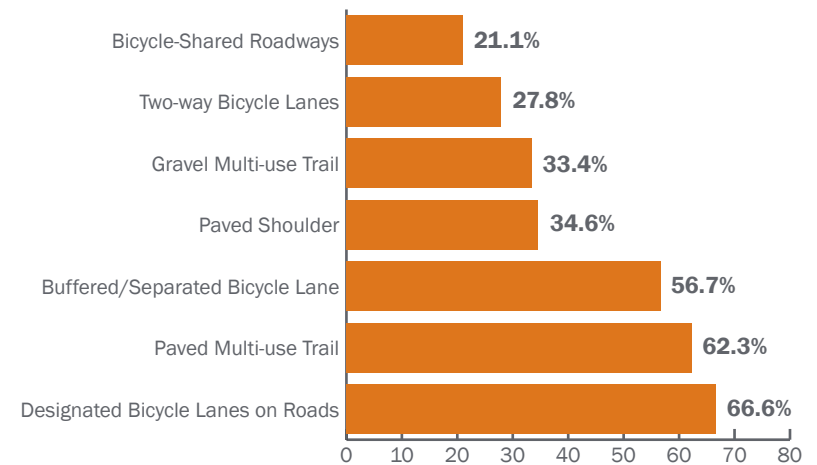
The most difficult specific roads to bicycle in Montgomery County



Factors that most discourage bicycling in Montgomery County



Types of facilities that would encourage more bicycling



What Should Be Done to Increase Bicycling?

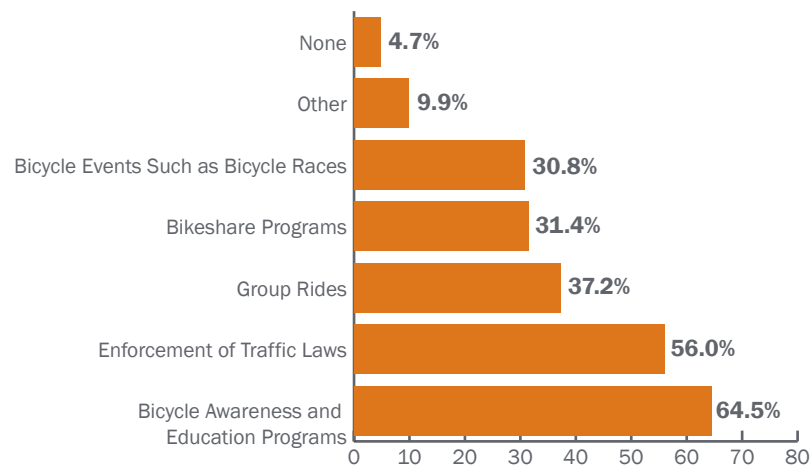
Respondents were asked about public and private sector policies and activities to increase bicycling around the county. Bicycle awareness and education programs (64.5 percent), as well as enforcement of traffic laws (56 percent), are the most popular programs that respondents would like to see. Among the people who responded “other,” the overwhelming majority (77.1 percent) listed bicycle lanes/shoulders.

Citizens also offered their opinion on the type of support facilities and amenities that could encourage more people to bicycle. Out of nearly all responses, bathrooms on the trail system was the clear favorite (68.1 percent), while other amenities, such as repair equipment, route maps, racks on buses and trains, and storage facilities, all garnered widespread support. The answers for “other” again identified bicycle lanes and shoulders.

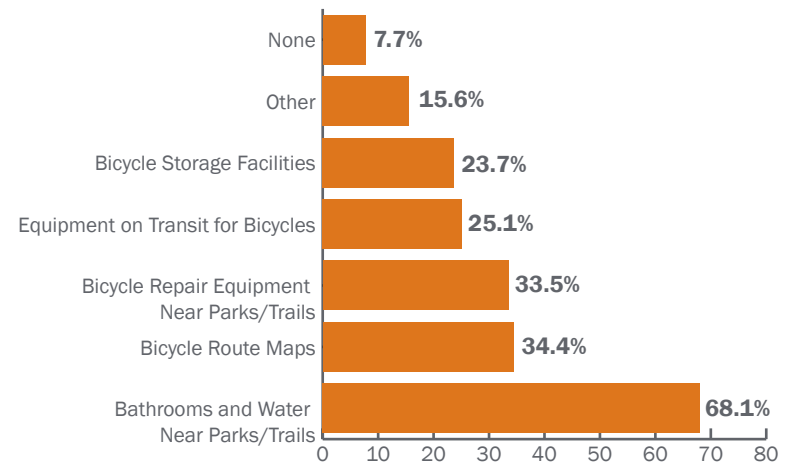


The presence of bicycle amenities, such as this bathroom facility in the county's Lower Perkiomen Valley Park, help to encourage riding for both recreation and commuting.

Bicycle programs and/or activities the county should promote



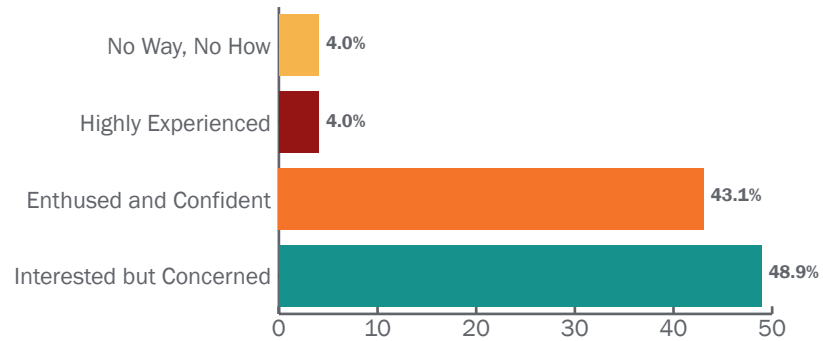
What type of bicycle rider support is needed?



For Whom Should the County Be Planning?

When given the opportunity to choose one of the four skill-based types of bicycle riders, survey respondents clearly support the middle of the spectrum. A massive plurality—92 percent—feel the county should be planning for the “Interested but Concerned” (48.9 percent) and “Enthusied and Confident” (43.1 percent) riders. The two extremes, “Highly Experienced” and “No Way, No How,” each garnered only 4 percent of the vote, suggesting that both bicycling enthusiasts and the general public want investments in the bicycling network that benefit the greatest number of people.

Type of bicyclist Montgomery County should be planning for



Respondents overwhelmingly believe the Bike Montco plan should focus on planning efforts that embolden the majority of everyday people to ride.

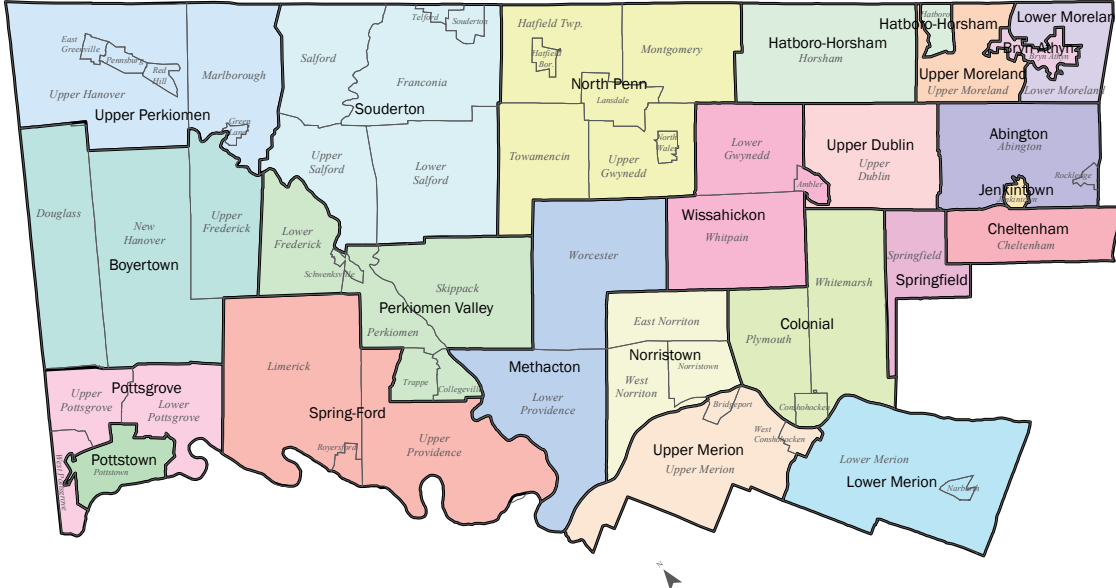
Municipal Surveys

Public support for better bicycling facilities is growing, but municipal governments influence how development occurs and how local funds are used within the community to build them. They use comprehensive plans, ordinances, and codes to shape the community that residents want. School districts' planning and approaches to engaging the broader community can also support those goals. Montgomery County's 62 townships and boroughs were invited to participate in the *Bike Montco* planning effort through a special survey designed to gauge the support of local elected officials and their staffs.

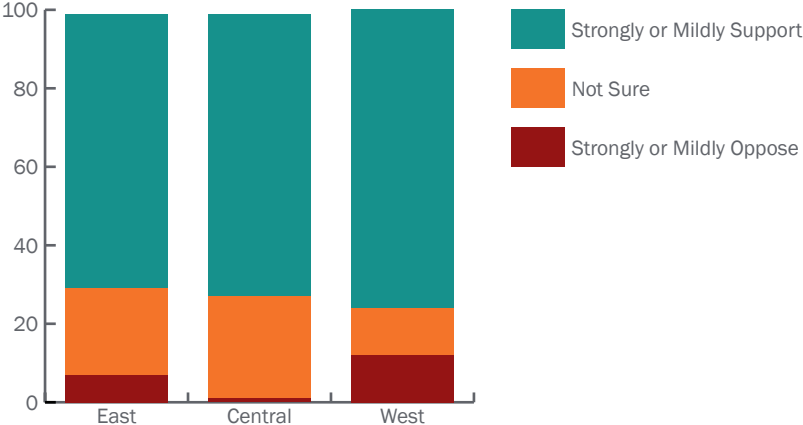
Municipal Support of Bicycling

More than 200 municipal managers and elected officials were surveyed about municipal attitudes and efforts toward bicycling. Responses were received from all 62 municipalities.

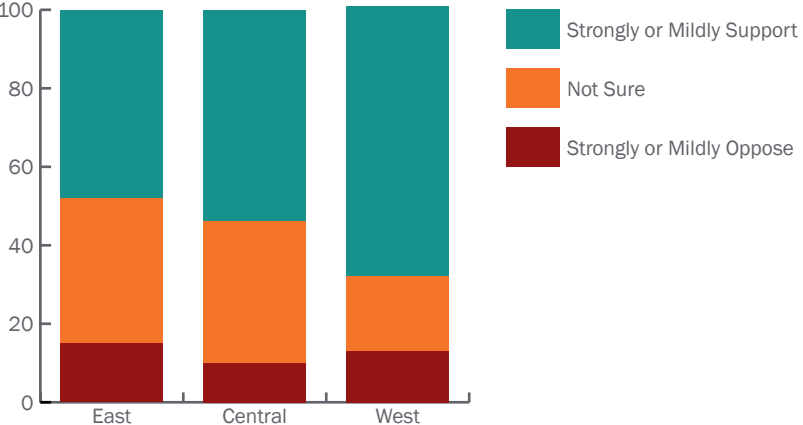
Montgomery County municipalities and school districts



Municipal support for separate biking trails



Municipal support for on-road bike lanes



Overall, bicycling ranked high as a priority for municipal planning and is perceived as gathering wide support by the public. Roughly 75 percent of the survey respondents indicated that members of their communities either mildly or strongly support separate bicycle trails, and 56 percent mildly or strongly support on-road bicycle facilities.

A closer look indicates there is little difference between the eastern, central, and western Montgomery County municipalities when asked about support for more bike-accessible trails versus on-road bike lanes. All three regions mildly or strongly support separate bicycling trails by 70 percent–76 percent, with the greatest support in the western municipalities.

Municipal representatives report more ambivalence toward on-road facilities, but overall support for them remains fairly strong at 68 percent in western Montco, 53 percent in the central areas, and 48 percent in the eastern municipalities. Through their comments, respondents often indicate concerns about introducing on-road bicycle lanes on busy, narrow roadways in the eastern and central part of Montgomery County where traffic congestion and safety issues are daily occurrences.

Although municipal leaders stated that their communities desire better bicycling infrastructure, the majority of Montgomery County municipalities are not actively engaged

in bicycle planning efforts. As of August 2017, only 20 percent of municipalities adopted a dedicated bicycle plan or addressed the topic through another document, such as an open space or sustainability plan. Slightly more have bicycle-related provisions in their zoning code or subdivision and land development ordinance. About 30 percent indicated their municipality sponsors some type of bicycle safety or education program.

Several communities throughout the county are working on or completed comprehensive plan updates. In nearly all cases, the need to accommodate bicycling has been advanced as a priority for both recreation as well as commuting.



Although only about one-fifth of Montgomery County municipalities are actively engaged in bicycle planning, municipal officials indicate there is widespread support for bicycling at the local level.

School District Surveys

School districts also influence communities, both with infrastructure investments on school properties and by helping children learn to navigate their worlds. Like municipalities, school districts have the power to shape the values of the local community and are overseen by locally elected boards made up of the residents themselves.

Between 1970 and 2010, the percentage of children who walk or bicycle to school in the United States decreased from 48 percent to 13 percent.¹ Today, most kids arrive at school by bus or are driven by parents and friends. This shift contributes to higher rates of obesity among children of all ages. Nearly 1 in 5 children and young adults (ages 6 to 19) in the United States is obese.²

Creating safe conditions and encouraging more students to bicycle to school would have numerous benefits for Montgomery County's 135,000 school-age children. Children who walk or ride to school gain exercise and concentrate better.³ Moreover, the overwhelming majority of Montgomery County school districts reported traffic problems during pick-up and drop-off periods as more parents choose to drive their children to school. More families walking or bicycling to school would reduce traffic congestion and improve safety for everyone.

1 https://www.livablestreets.info/traffic_congestion_why_its_increasing_and_how_to_reduce_it

2 Centers for Disease Control and Prevention, "Childhood Obesity Facts". <https://www.cdc.gov/healthyschools/obesity/facts.htm>

3 Copenhagen and Aarhus Universities, Research Center OPUS, and Danish Science Communication. *Mass Experiment 2012*. <http://sciencenordic.com/children-who-walk-school-concentrate-better>



Encouraging the next generation to bicycle is crucial to changing attitudes in Montgomery County.

The *Bike Montco* school district survey was sent to principals and superintendents and focused on three broad categories: biking to school, facilities and infrastructure, and classes and programs. A total of 31 responses were received, representing 19 of the county's 23 school districts.

Biking to School

The overwhelming majority of the county's school districts allow students to arrive by bicycle, with only a few prohibiting elementary-age children from riding. Approximately half of the districts that permit bicycling to school have special restrictions or requirements that students must first meet. Two districts do not allow any students to ride to school, citing liability and safety concerns.



Students in the North Penn school district must be in at least third grade, wear a helmet, and have their parents sign a permission form. Moreover, students are only allowed to ride to schools that also allow students to walk.

Facilities and Infrastructure

Bicycle racks or storage areas are commonly provided at many schools in Montgomery County. Some provide trails or other dedicated places to ride on campus. Special bicycle routes between neighborhoods and local schools can help relieve parents' concerns about safety when allowing their children to ride alone.

Classes and Programs

School districts were asked about programs or initiatives that encourage students to bicycle. Several districts host "Walk or Roll to School Days," which are often accompanied by special celebrations, bicycle parades, or festival-style events that create excitement about riding. Additionally, some districts provide bicycle safety or bicycle education programs as part of their curriculum.

Safe Routes to School (SRTS) programs are a growing trend nationally.

These programs encourage and enable more children to walk and bicycle to school safely. SRTS programs can be managed by volunteers and/or school staff. In Montgomery County, Pottstown is the only school district with an official SRTS program. Since adopting the plan in 2013, the borough has been able to get funding from PennDOT, DVRPC, and a federal Safe Routes to School grant to implement projects designed to make riding to school safer.



Many Montgomery County schools have bicycle racks on their property, but the challenge is often finding a safe route to them.

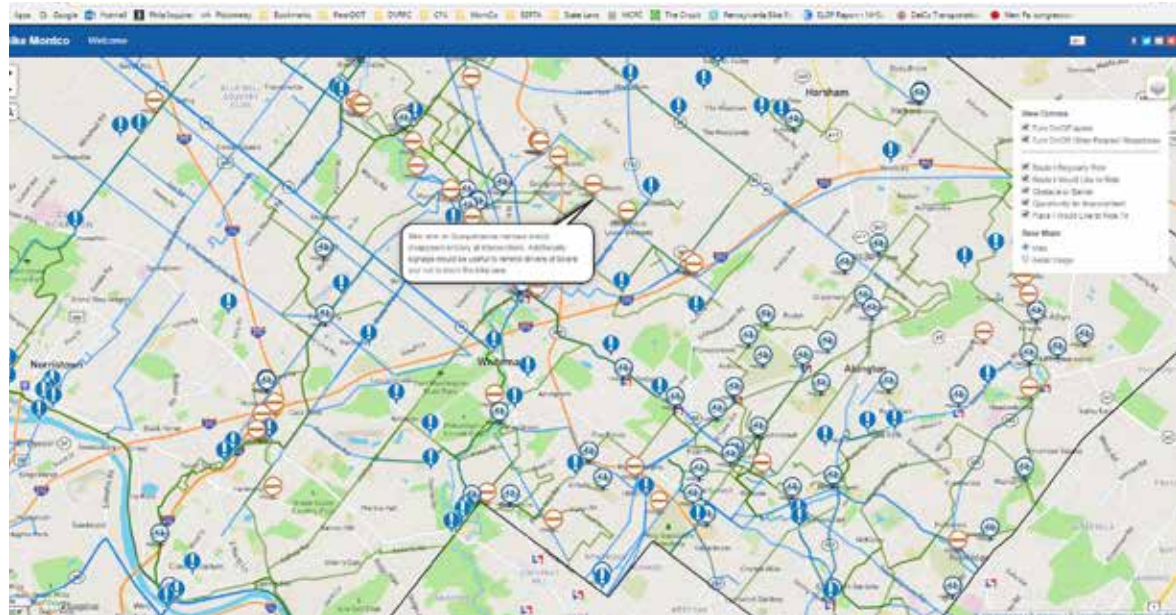
Interactive Mapping

Similar to Wikipedia, a WikiMap is an online open source tool that enables the general public to build a large body of information about multiple topics. It allows visitors to interactively highlight specific areas or issues and to add comments directly to the map.

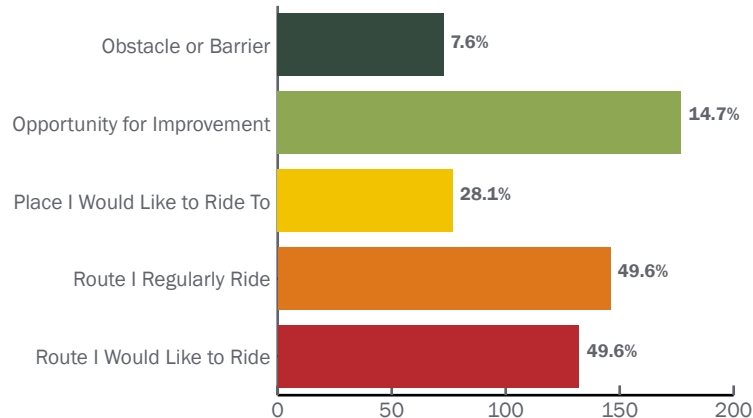
The *Bike Montco* effort created a WikiMap of Montgomery County and promoted it on social media and at public events for nine months as part of the plan’s outreach effort. The public provided more than 600 comments on locations where residents and visitors like to bike, physical obstacles or barriers to riding, opinions on where to improve safety and specific routes they would like to see improved.

The WikiMap tool ultimately had a major influence on the *Bike Montco* plan. It was essential in evaluating the proposed bicycle network found in Chapter 6. Almost 50 percent of this network was identified by WikiMap users as either a “Route I Regularly Ride” or a “Route I Would Like to Ride.”

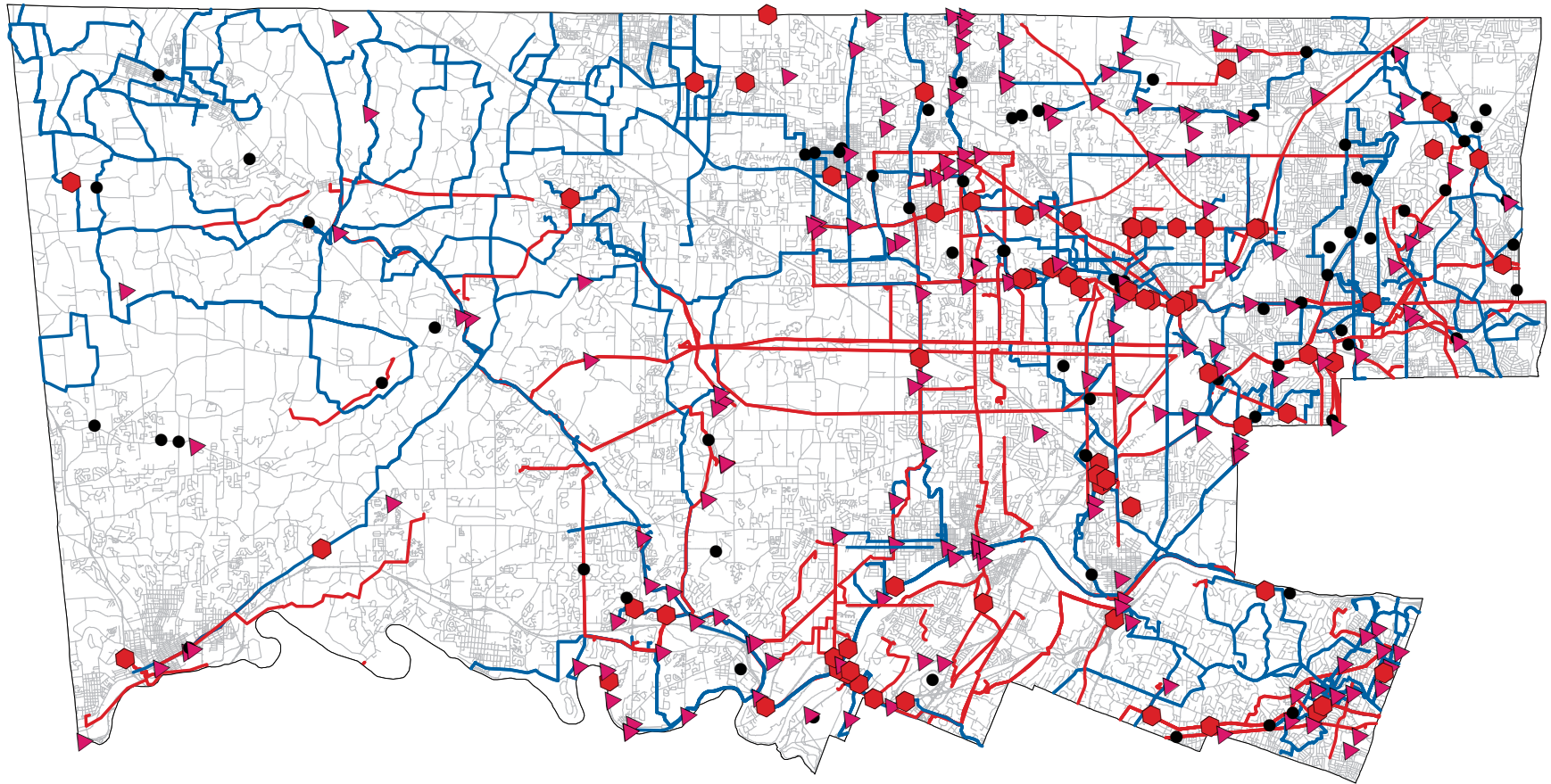
The WikiMap is located on the Internet at www.wikimapping.net/wikimap/Bike-Montco.html.



WikiMap comments by type



Summary of WikiMap data results countywide



- Place I Would Like to Ride to
- ▲ Opportunity for Improvement
- ⬡ Obstacle or Barrier
- Route I Regularly Ride
- Route I Would Like to Ride

The WikiMap tool was popular with citizens, who posted feedback throughout every corner of Montgomery County.



CHAPTER 5

Planned Bicycle Network

The planned bicycle network is the heart of *Bike Montco*. It is comprised of 783 miles of county, state, and local roads, which account for 17 percent of all the roads within the county. This is a sizeable increase from less than 1 percent of roads that currently have bicycle facilities yet is still modest enough to be achievable.

This chapter includes a series of maps that display the planned bicycle network, a table indicating which types of on-street facilities are appropriate for which roadways, and design guidance on the different types of on-street bicycle facilities.

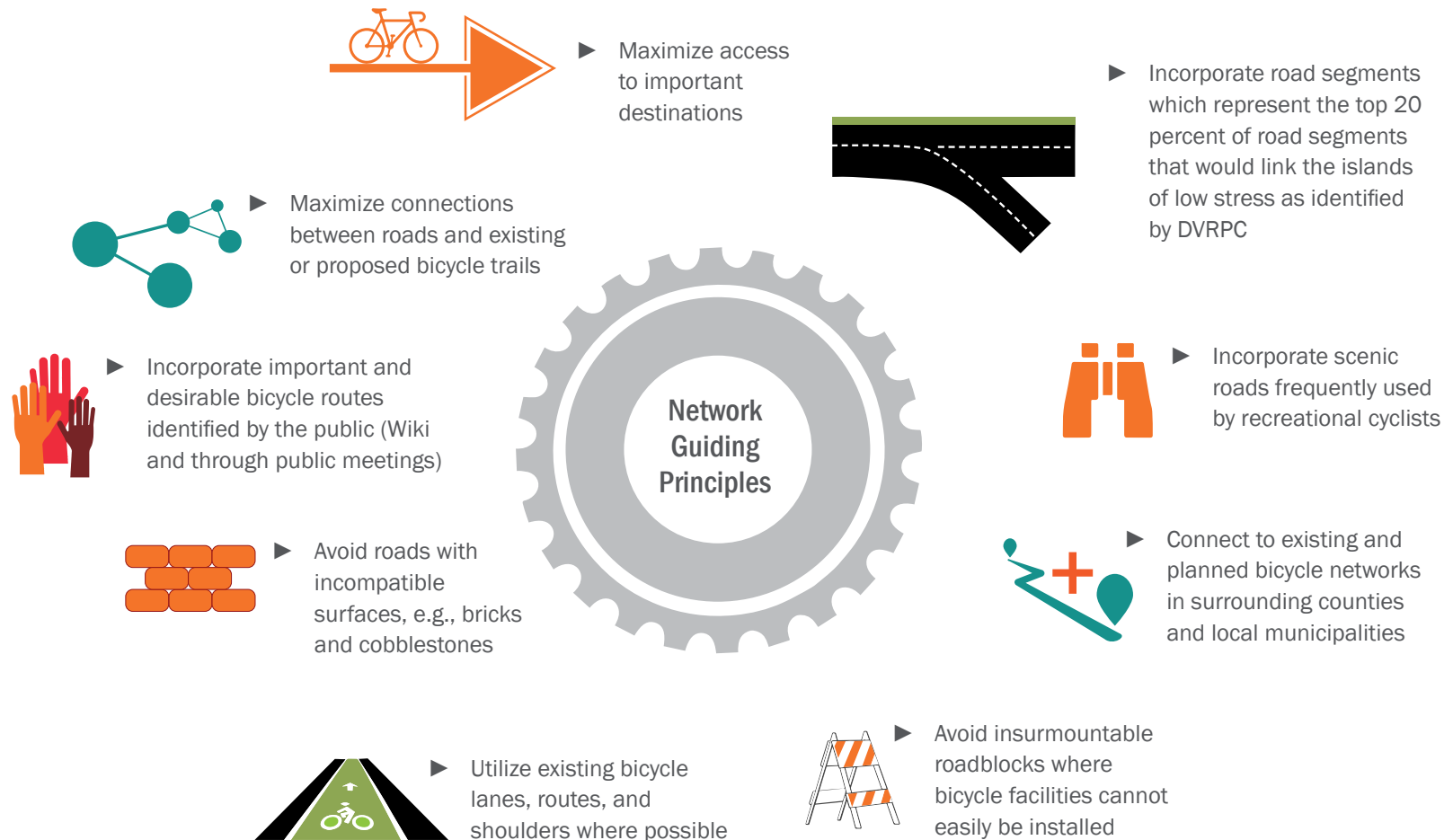
The full development of this network will help fulfill many of the goals outlined in this plan and greatly increase the capacity for riding a bicycle in Montgomery County. Most importantly, it will encourage more riders to venture off of trails and use their bicycles for regular trips in addition to recreation and exercise.



Selecting the Network

Step 1: Establishing Guiding Principles

The planned bicycle network is formed around a set of guiding principles, which were established through an analysis of existing conditions, input from various stakeholders, and the vision and goals contained in Chapter 2.





A guiding principle behind Bike Montco's planned bicycle network is to maximize connections between roads and trails, like this location at Morris and Quarry Roads in Lower Salford Township.

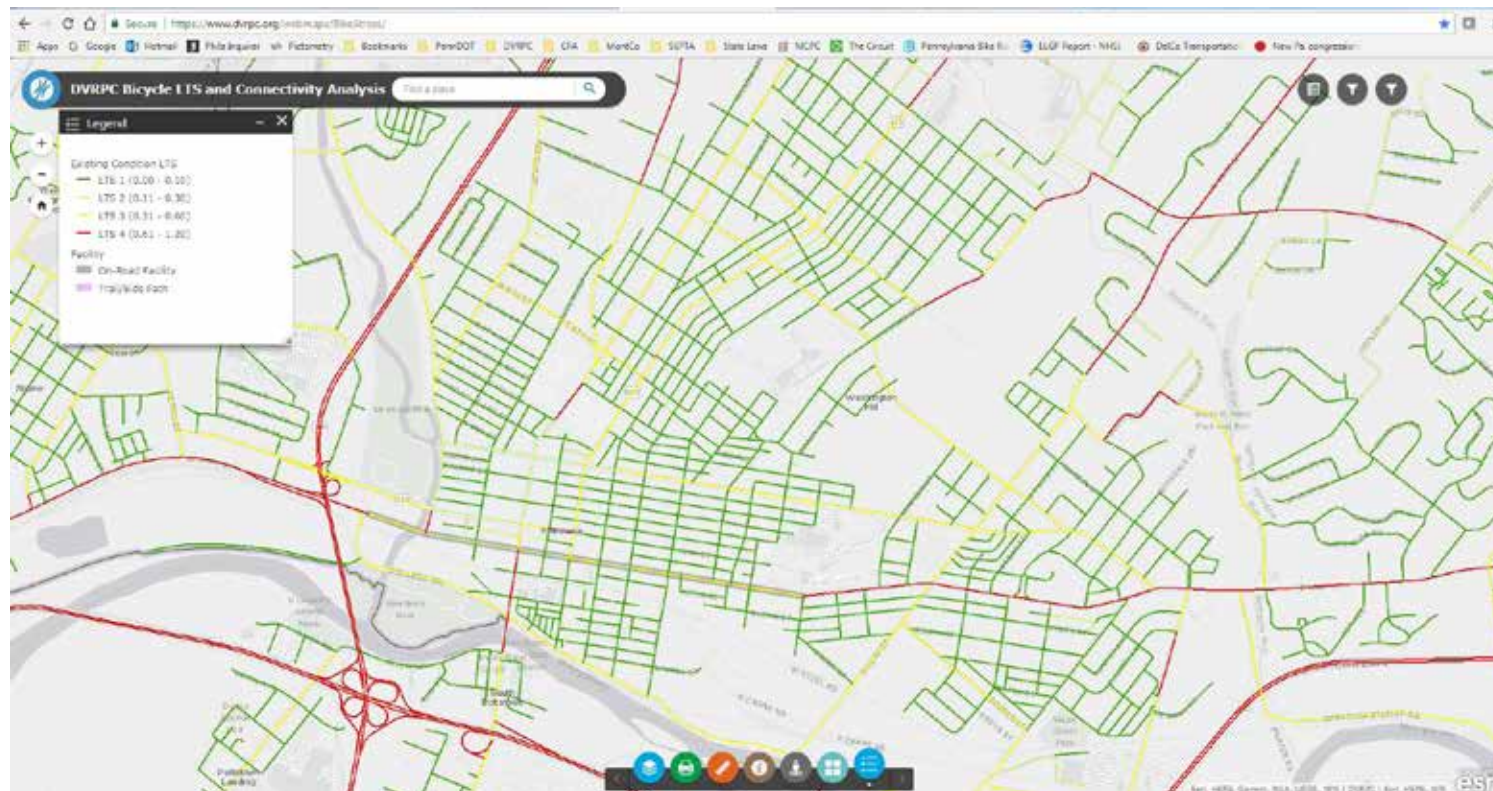
Step 2: Create a New Analytical Tool

Traveling along a roadway causes varying levels of anxiety for a bicyclist depending on a number of conditions. Roadway width, the number of lanes, how many vehicles are on the road, and how fast they are traveling all combine to create feelings of danger. Bicycle planners consider these factors as a way to measure the level of traffic stress (LTS) that a bicyclist may experience on a particular roadway. Generally, as the level of

traffic stress increases, the number of bicyclists that will use the road decreases. Only the most confident riders will use roads with the highest LTS scores.

In support of *Bike Montco*, DVRPC developed a new data-driven tool to determine the level of traffic stress on Montgomery County roads. The LTS Tool developed by DVRPC uses the number of lanes, the typical vehicle speed, and the presence of an on-street bicycle facility to predict the level of traffic stress a bicyclist may experience on any particular roadway.

The tool can be found at <https://www.dvrpc.org/webmaps/BikeStress/>.







DVRPC's new tool, initially begun for the *Bike Montco* plan, measures how dangerous or comfortable a road is to the average bicyclist.

DVRPC used the tool to classify all roads within Montgomery County as either LTS 1, LTS 2, LTS 3, or LTS 4.¹ An LTS 1 classification means the road is suitable (safe and comfortable) for everyone to ride on, including children. LTS 4 roads, on the other hand, are the most stressful to use and are most appropriate for “Strong and Fearless” riders who will bicycle on any roadway in any condition. “Interested but Concerned” (LTS 2) and “Enthusied and Confident” (LTS 3) riders fall in between and present the greatest opportunities to encourage more bike riding where levels of stress can be reduced.²

1 Geller, R. “Four Types of Cyclists,” Portland Bureau of Transportation, Portland, OR, 2006. 20 www.portlandoregon.gov/transportation/article/264746. Accessed Aug, 11, 2016. 21

2 Mekuria, M., Furth, P. and Nixon, H. “Low-stress bicycling and network connectivity”, Mineta Transportation Institute, No. Report 11-19, 2012. Pgs 12-14.

LTS	Comfortable Enough for (Cyclist Type)	Characteristics
1	 EVERYONE	<ul style="list-style-type: none"> • Relaxing • Suitable for children
2	 INTERESTED BUT CONCERNED	<ul style="list-style-type: none"> • Suitable for most adults • Presenting little traffic stress
3	 ENTHUSED AND CONFIDENT	<ul style="list-style-type: none"> • Moderate traffic stress • Comfortable for those already riding bikes in American cities
4	 STRONG AND FEARLESS	<ul style="list-style-type: none"> • High traffic stress • Multilane, fast-moving traffic

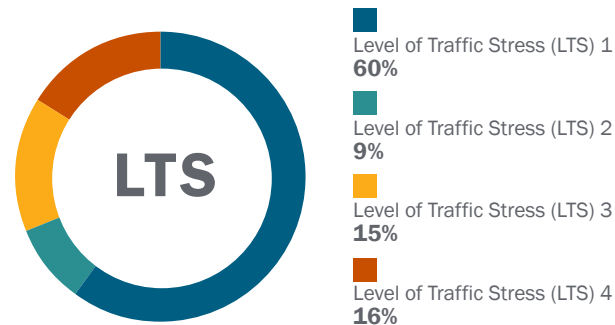
Step 3: Calculate the Level of Traffic Stress

How Stressful Are Montgomery County's Roads?

DVRPC's analysis shows that a majority of Montgomery County's roads are fairly comfortable for bicyclists (either LTS 1 or LTS 2). These roadways are already safe enough for most riders with no additional improvements. However, they are mostly residential streets that do not connect to destinations outside of their immediate neighborhood. The larger and busier major roads, which connect different communities and are used for long-distance travel, tend to have higher LTS levels (3 and 4) that make them unattractive to all but the most confident bicyclists. These higher-stress roadways act as significant barriers to bicycle connectivity.

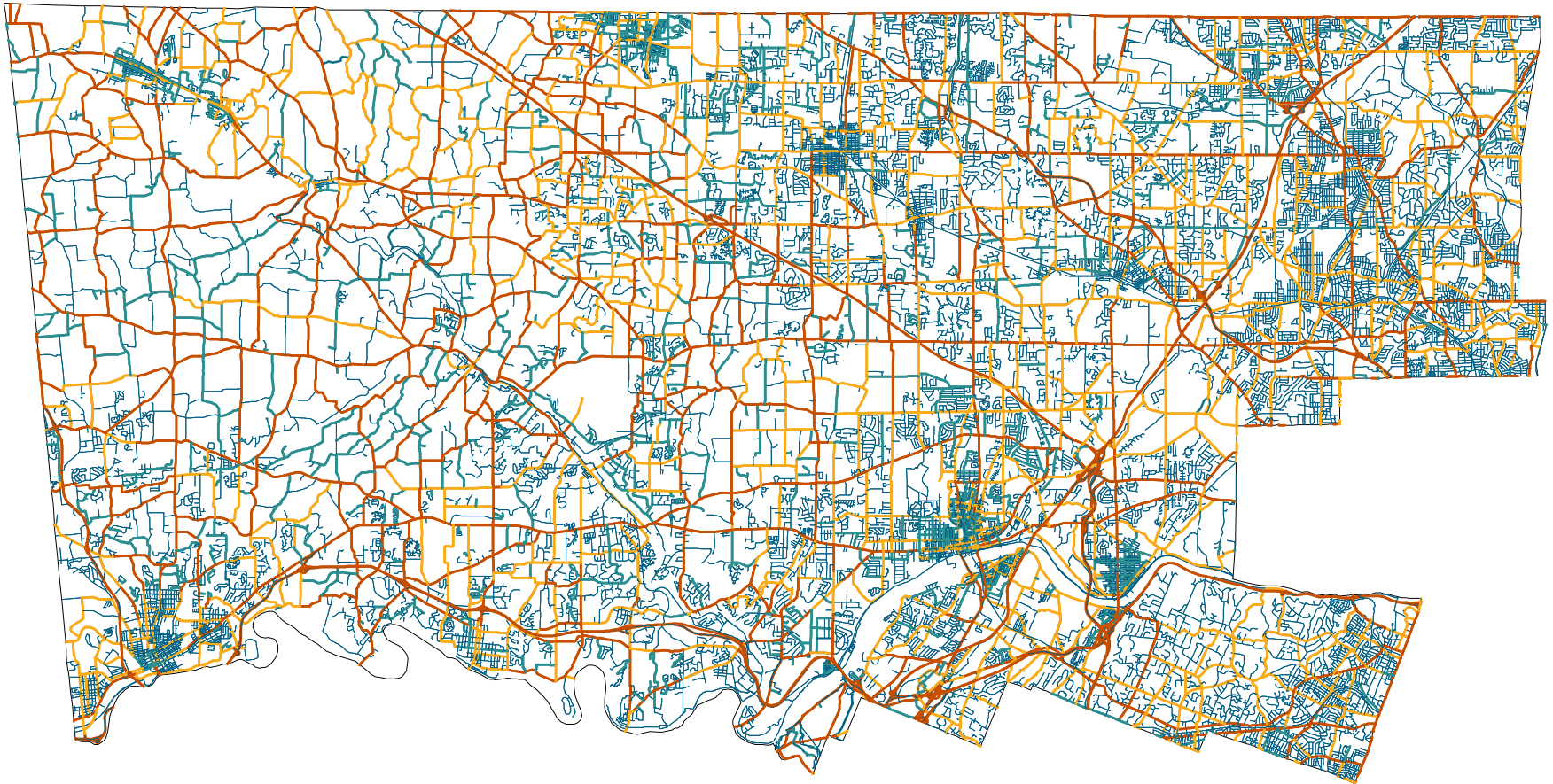
Level of Stress	Length (Miles)	LTS %
LTS1	2711.15	60%
LTS2	399.06	9%
LTS3	670.75	15%
LTS4	718.39	16%
	4499.36	100%

Percentage of roads in Montgomery County by level of traffic stress



Roads, such as Ridge Pike in Lower Providence Township, have a high level of stress (LTS 4) because of high speeds, heavy traffic, and a lack of on- or off-road parallel bicycle lanes.

Level of traffic stress in Montgomery County



Level of Traffic Stress (LTS) Source: DVRPC, 2017

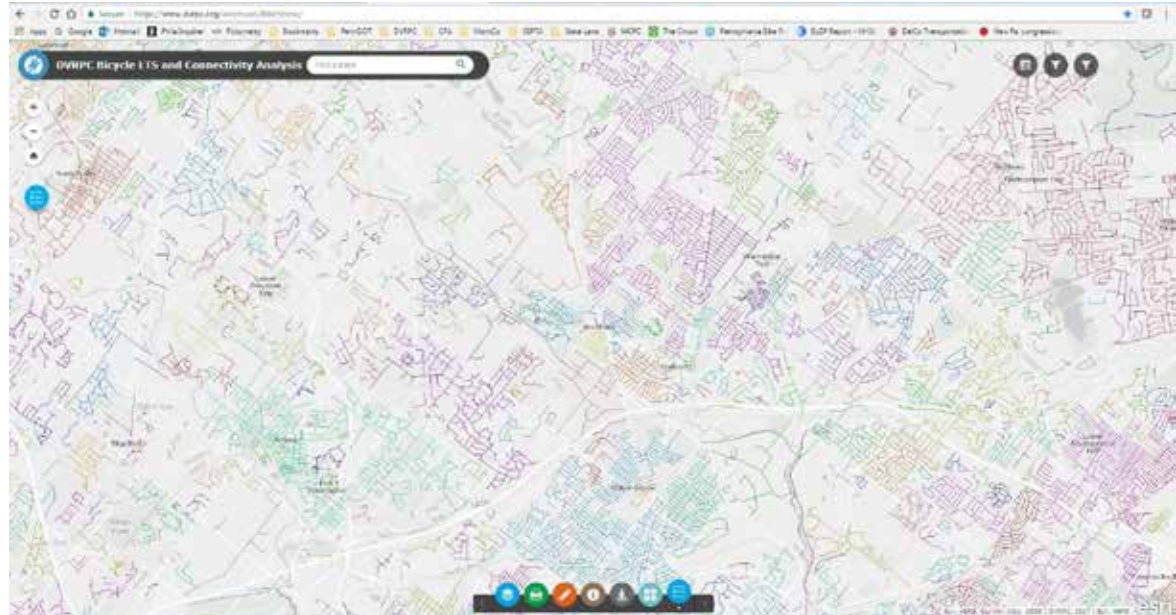
- Level 1
- Level 2
- Level 3
- Level 4

DVRPC's Level of Traffic Stress tool shows that the majority of low-volume streets are comfortable for bicyclists, but the major roadways are not.

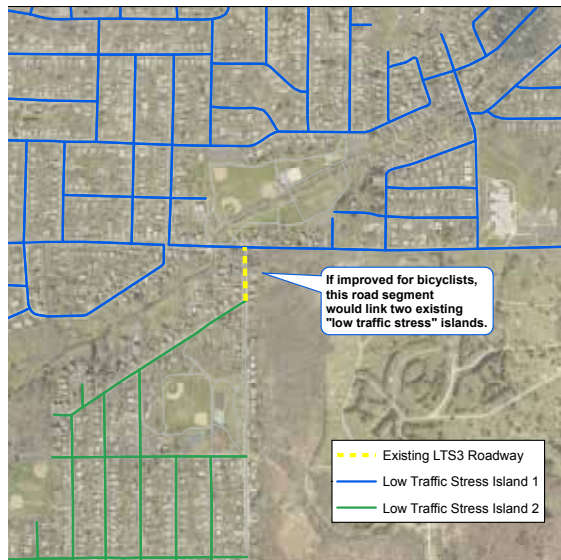
Step 4: Determine the Most Critical Links in the Bicycle Network

Islands of Low Stress

DVRPC's LTS tool was used to identify which roads, if improved with on-street bicycle facilities, would enhance bicycle mobility for the largest number of people. In the map to the right, groups of connected low-stress (LTS 1 and 2) roads are shown as same-colored "islands." Most bicyclists should be able to travel comfortably within these islands. However, reaching a destination on another island would require bicycling on a road with a rating of LTS 3 or 4.



DVRPC's Level of Traffic Stress tool can locate islands of low-stress roads, each shown in a unique color.



This map shows two lower-stress islands in Montgomery County which could be connected with improvements to a short section of higher-stress roadway.

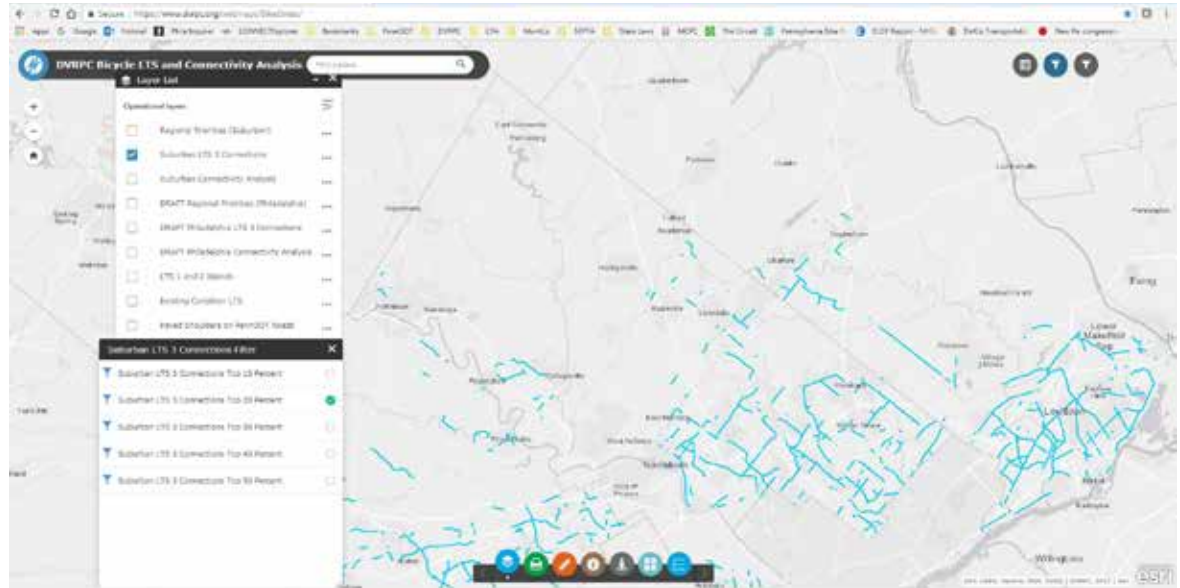


West 3rd Avenue in Trappe is an LTS 3 roadway that, if made more bicycle-friendly, could link several neighborhoods of Low (LTS 1 or 2) Traffic Stress.

Finding the Critical Links

To identify road segments that would offer the most benefit if improved, DVRPC used population estimates to determine which road segments would facilitate the highest number of bicycle trips between islands of low stress. The map to the right displays the top 20 percent of these road segments, which were used as a starting point for developing the planned bicycle network.

Because DVRPC's methodology used population to determine the potential number of trips, the majority of the "critical links" are located in the more populous portions of the county.



After identifying the islands of low-stress networks, the Level of Traffic Stress tool can determine which road segments would give the greatest benefits if improved with bicycle lanes.

Planned Bicycle Network

Network Map

The planned bicycle network is Montgomery County’s future vision of an on-road system of bicycling facilities connecting citizens to places and the county trail system. Most of the routes are uncomfortable to bicycle on today and are targeted for improvements.

The *Bike Montco* plan intentionally selects the 40 percent of roads that are considered LTS 2, 3, or 4 because they are the biggest barriers to connecting the other 60 percent of roads that are LTS 1. A countywide system is almost impossible to achieve without improving them.

Much of the network is also on state-owned roads. PennDOT receives and programs over \$400 million each year for the repair and expansion of roads and bridges. The PennDOT Connects initiative—of which Montgomery County is a partner—has the potential to include bicycle improvements in all of its projects. Working with PennDOT is likely the most effective and sustained way to build a bicycling network over time.

Local municipalities also play a role in the map. As described in the preface, the network is designed around countywide mobility and is meant to provide a framework for municipal bicycle planning. Although the map does not incorporate local bicycle routes, they are supported in this plan. *Bike Montco* supports improvements to any roads not identified on the map as long as they can be supported by sound engineering and meet nationally accepted design standards.

The planned bicycle network was selected using the Level of Traffic Stress data, the top 20 percent connections analysis. Also used were the guiding principles identified earlier in this chapter, comments gathered from the extensive public outreach effort described in chapter 4, and contributions from the *Bike Montco* steering committee, DVRPC planners, PennDOT engineers, and MCPC staff.

The network’s roads are colorcoded based on their official PennDOT functional classification, which was modified to differentiate between “urban” and “rural or scenic” roadways. “Rural or scenic roadways” include those identified as scenic in *Montco 2040* and those which fall outside of Montgomery County’s urbanized areas.

The highest-priority segments of the network are highlighted in yellow. Their identification as “priority” means they should be targeted for improvements as soon as possible. When

completed with bicycle facilities, these routes will connect the county trail system and establish long-distance on-road routes in areas of the county where there are no planned trails.

Enlarged maps of the bicycle network and specific recommendations related to each type of roadway are contained in this chapter.

Planned bicycle network by road type

Roadway Type	Length (miles)
LOCAL RURAL/SCENIC	42.08
LOCAL URBAN	125.58
COLLECTOR RURAL/SCENIC	89.14
COLLECTOR URBAN	152.31
MINOR ARTERIAL	214.73
PRINCIPAL ARTERIAL	159.18
TOTAL	783

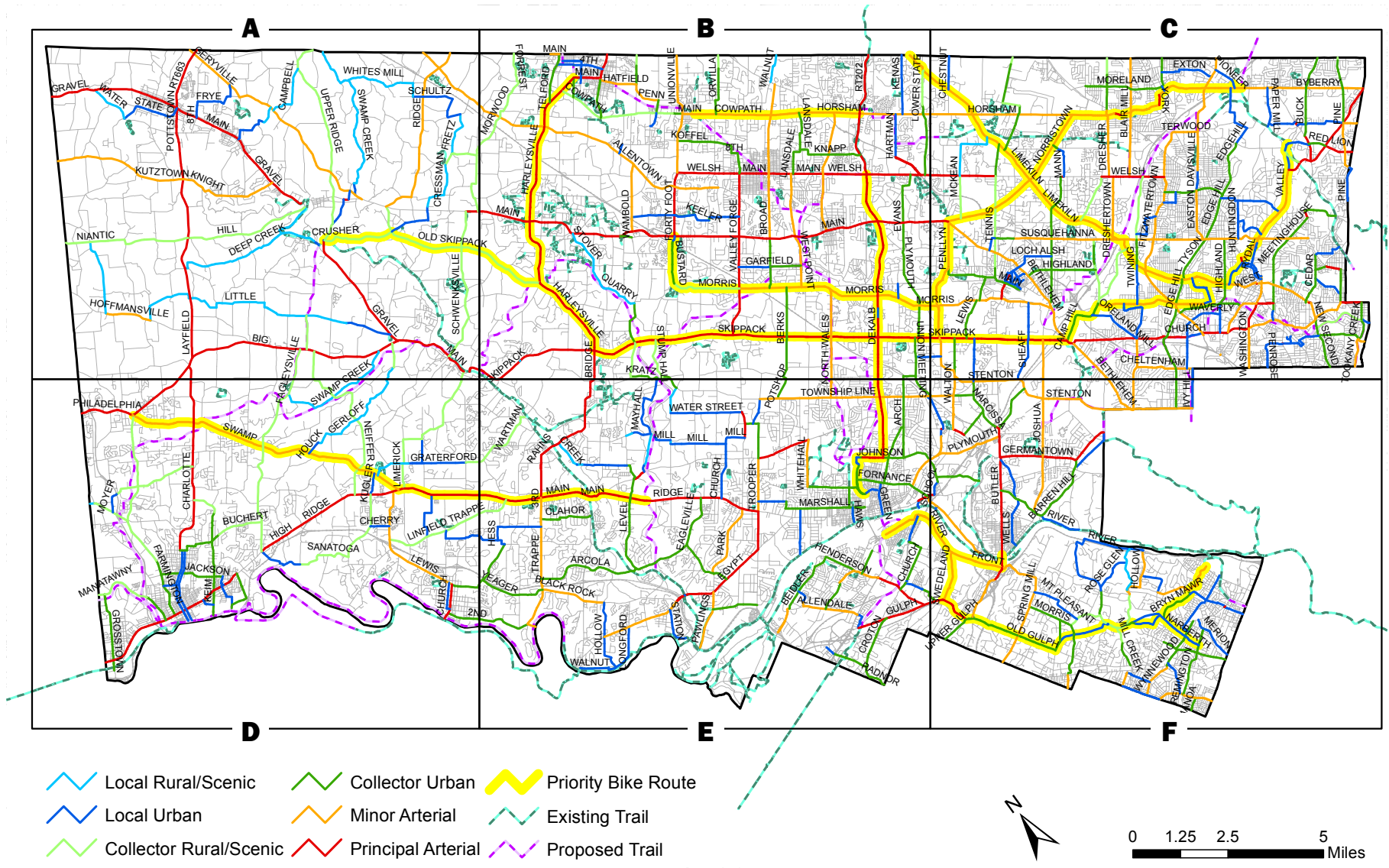
The planned bicycle network is spread evenly among both major and lesser roads.

Planned bicycle network by road ownership

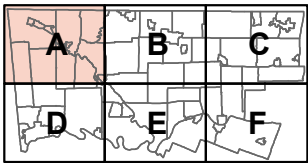
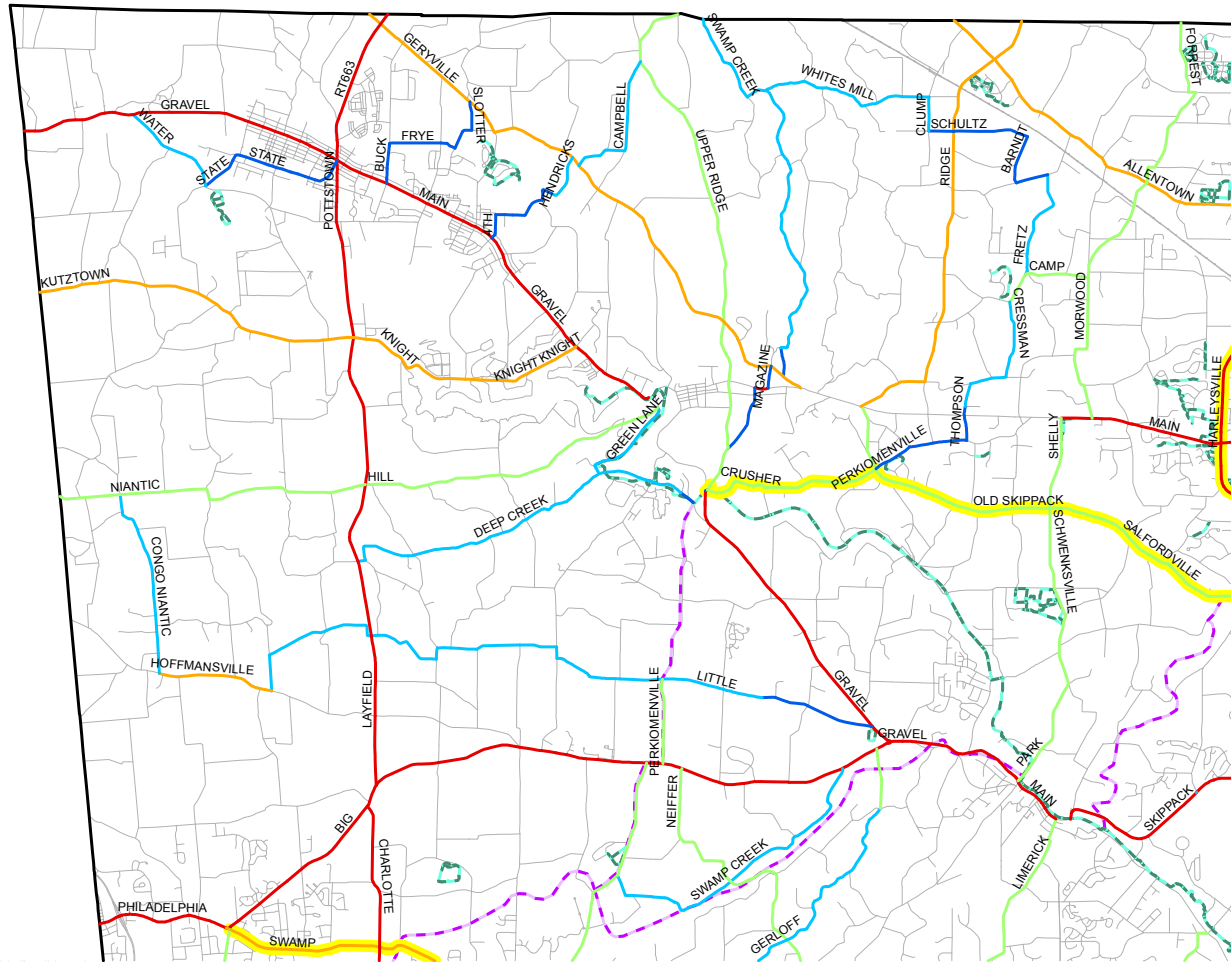


Much of the planned bicycle network is on PennDOT roads because these roads tend to have higher levels of traffic stress and a higher chance of being improved with bicycle facilities.

Planned bicycle network

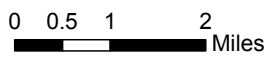


Planned bicycle network - Section A

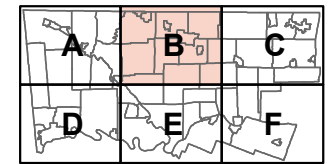
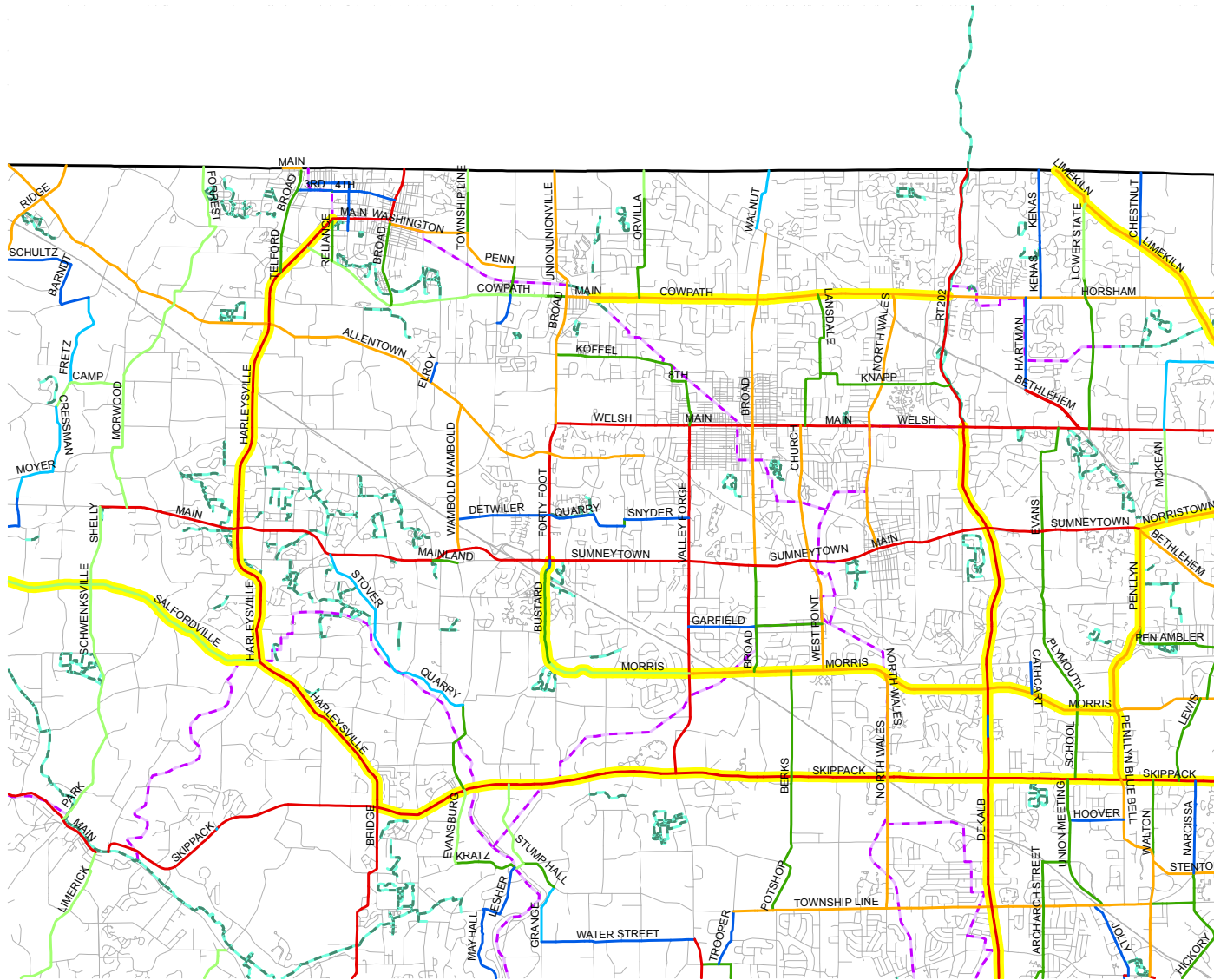


Section A

-  Local Rural/Scenic
-  Local Urban
-  Collector Rural/Scenic
-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail

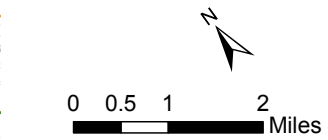


Planned bicycle network - Section B

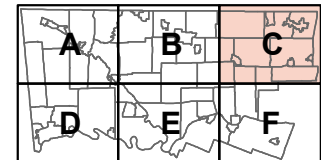
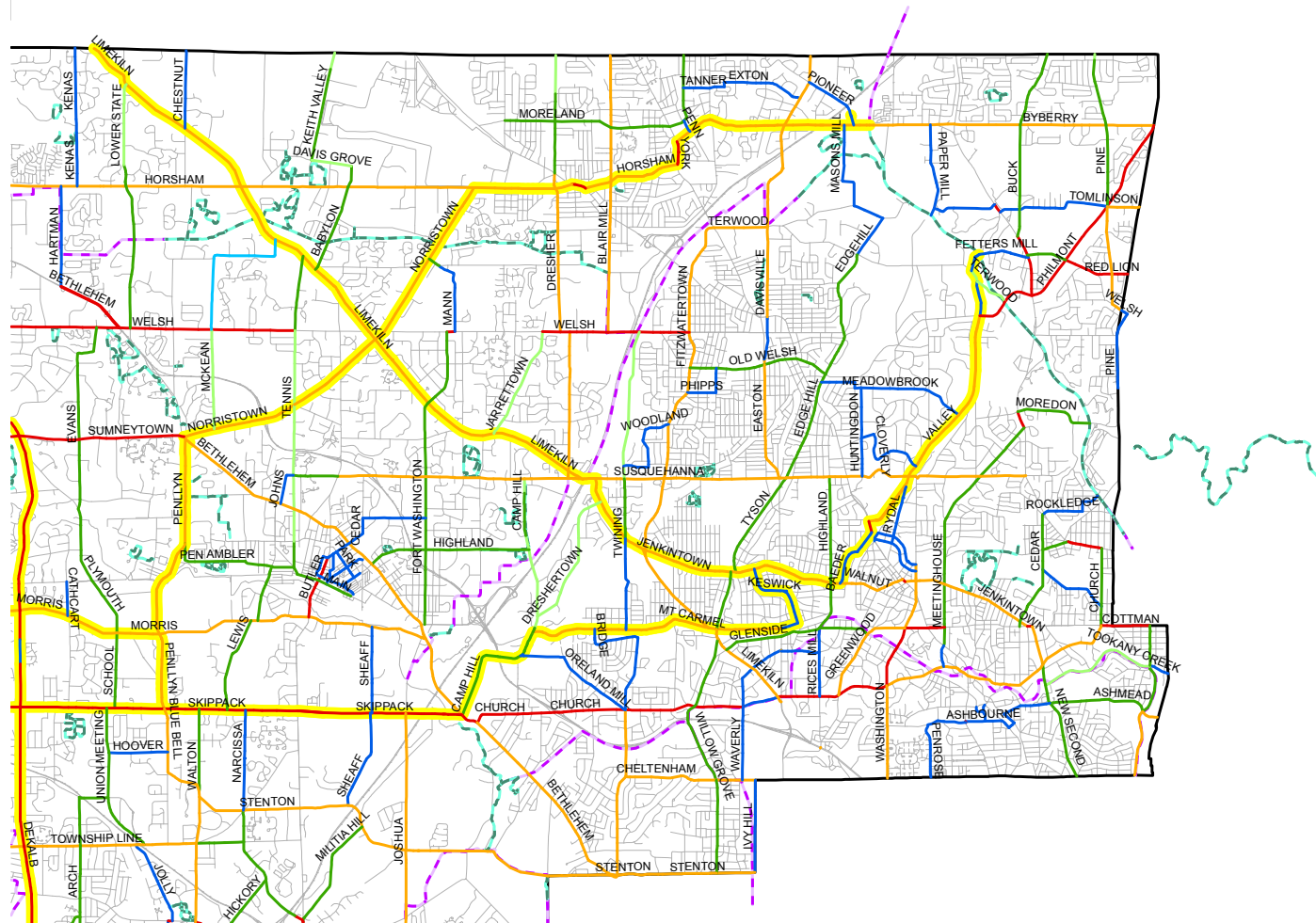


Section B

-  Local Rural/Scenic
-  Local Urban
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-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail

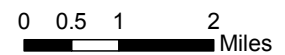


Planned bicycle network - Section C

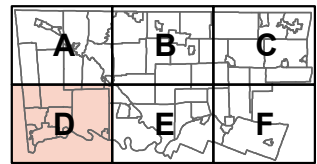
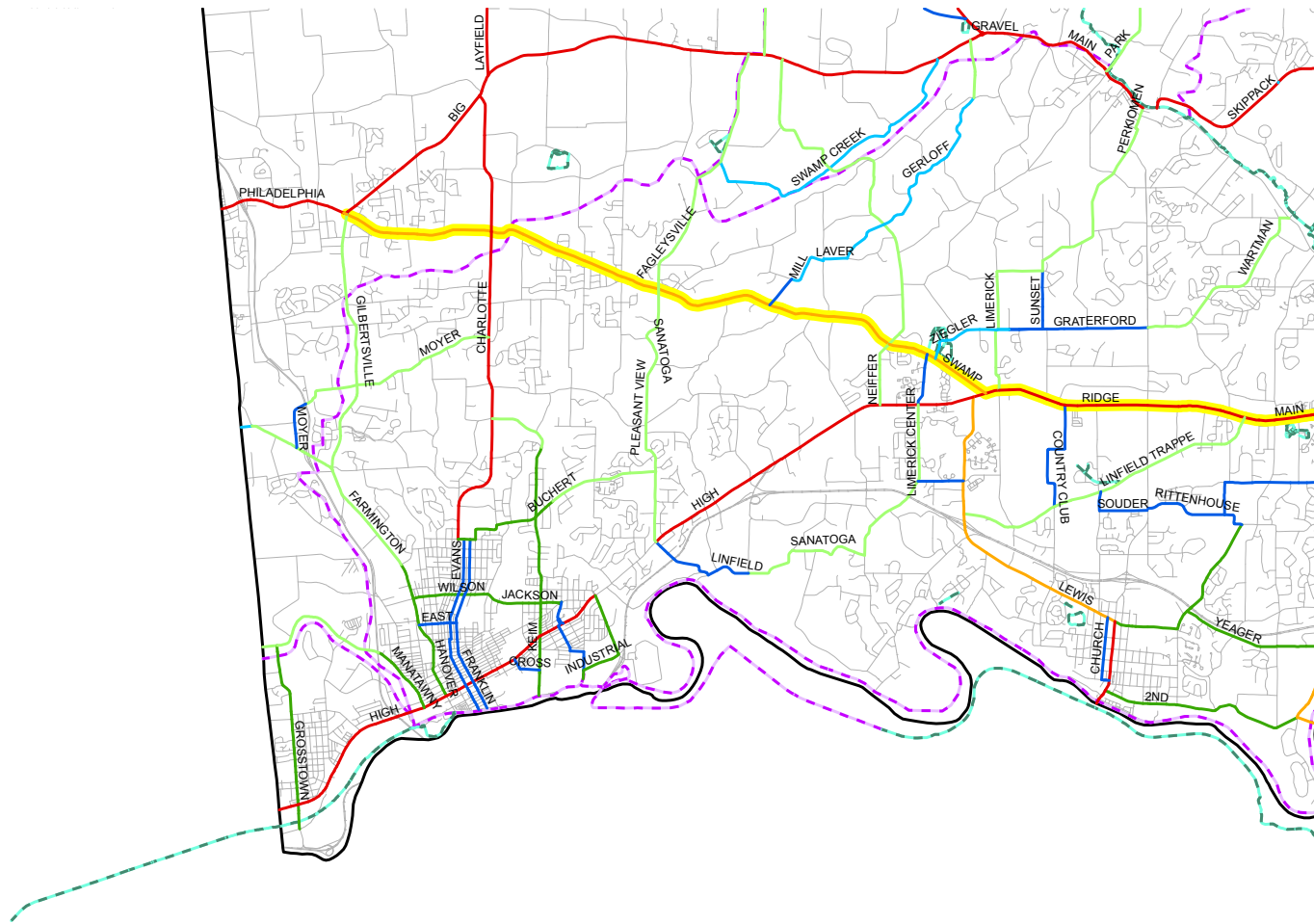


Section C

-  Local Rural/Scenic
-  Local Urban
-  Collector Rural/Scenic
-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail

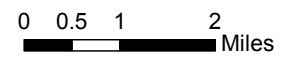


Planned bicycle network - Section D

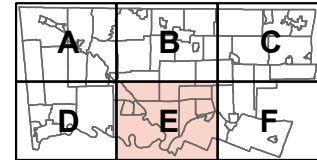
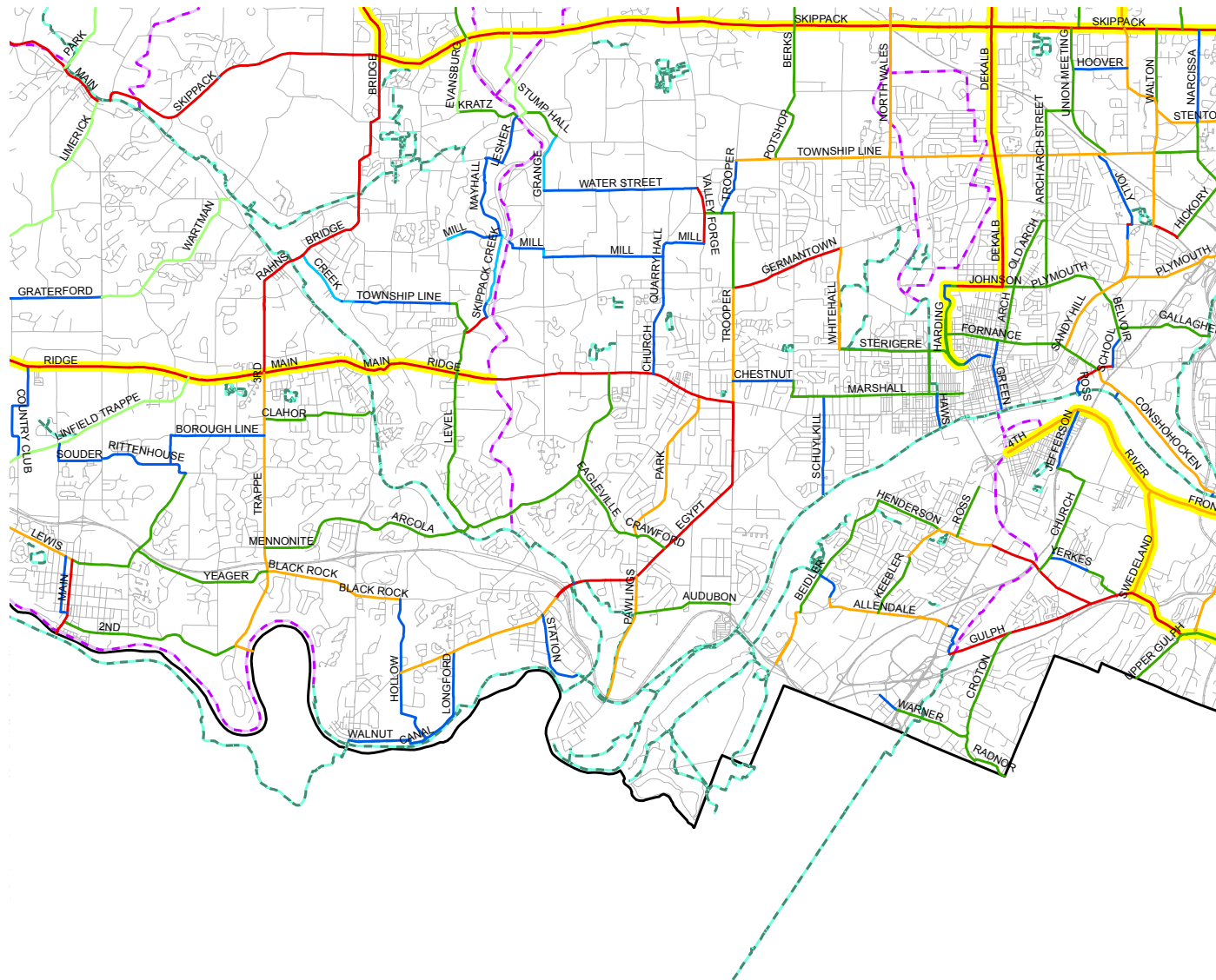


Section D

-  Local Rural/Scenic
-  Local Urban
-  Collector Rural/Scenic
-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail



Planned bicycle network - Section E



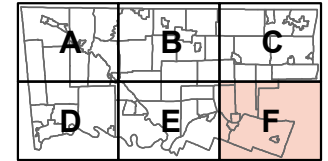
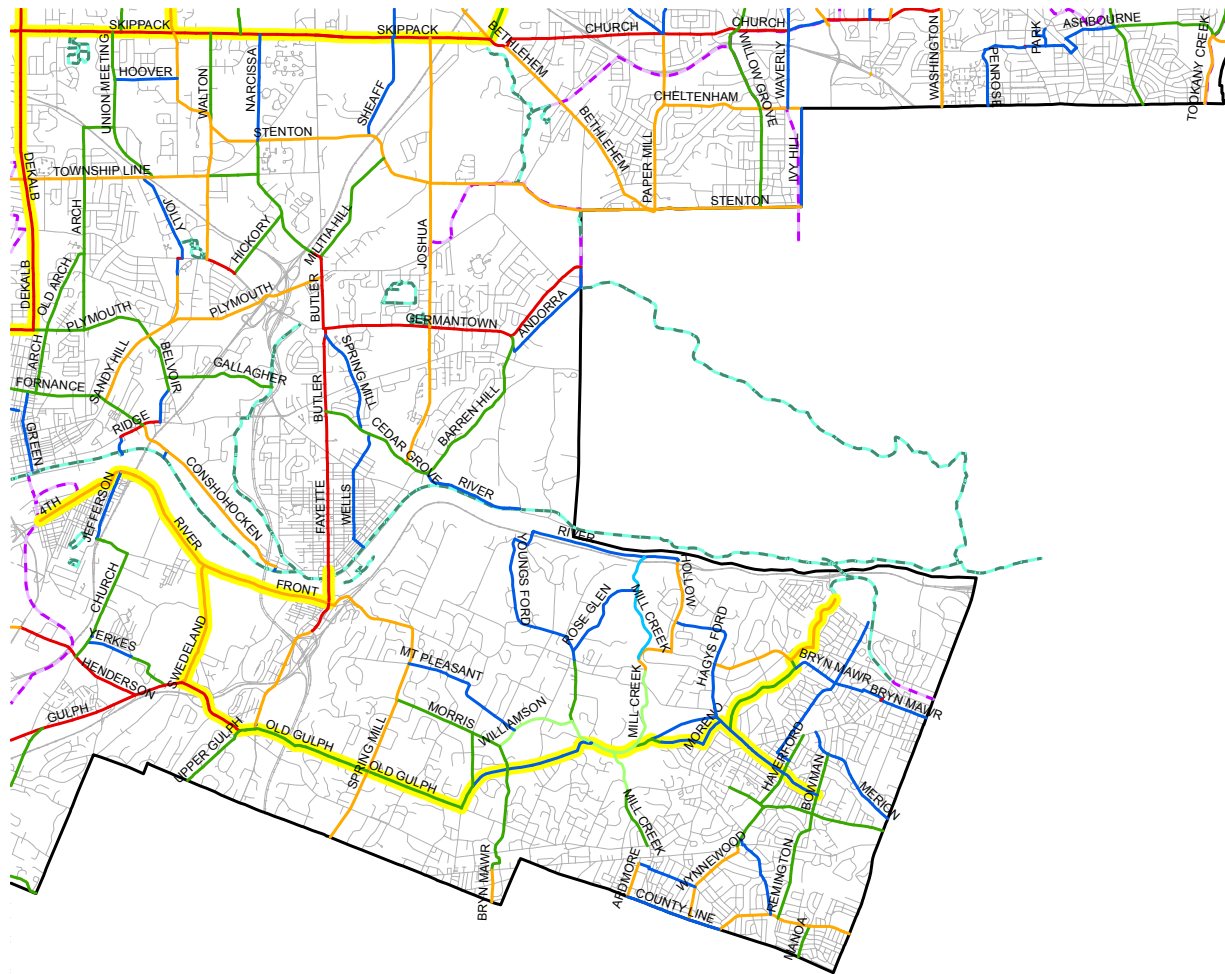
Section E

-  Local Rural/Scenic
-  Local Urban
-  Collector Rural/Scenic
-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail





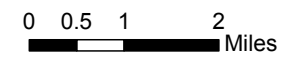
0 0.5 1 2 Miles

Planned bicycle network - Section F



Section F

-  Local Rural/Scenic
-  Local Urban
-  Collector Rural/Scenic
-  Collector Urban
-  Minor Arterial
-  Principal Arterial
-  Priority Bike Route
-  Existing Trail
-  Proposed Trail



Recommended Bicycle Facilities

A variety of options for each situation.

Accompanying the map is a table listing the recommended types of bicycle facilities for each category of roadway. During implementation of this network, the facility that offers the most protection and comfort for bicyclists should be used whenever possible.

This table is not all-inclusive of bicycle facility types and should be used as a guide; not a final determination of which facility is best. Design standards for bicycle facilities are continuously changing based on new research and the cycling community's preferences.

Two important resources provide design standards for on-street bicycle facilities:

- ▶ Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), 2009
- ▶ American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 2012

Technical feasibility studies will be needed to determine the recommended facility types, refine the network to meet local preferences, and overcome problem areas where there is high bicycle and vehicle demand but limited right-of-way.



There are eight types of recommended bicycle facilities within this table:

- ▶ Protected Bicycle Lanes
- ▶ Buffered Bicycle Lanes
- ▶ Bicycle Lanes (Standard)
- ▶ Bicycle Boulevard
- ▶ Paved Shoulder
- ▶ Marked Shared Lanes or Sharrows
- ▶ Wide Outside Lane
- ▶ Shared Use Path or Sidepath
- ▶ Shared Lanes (No Provisions) on Low-Volume Roads

Recommended facility types for the planned bicycle network

Average Daily Trips (ADT)	ROADWAY TYPE	SPEED LIMIT		
		25 MPH	35 MPH	40-55 MPH
Least  Most	LOCAL RURAL / SCENIC	Marked shared lane Shared lane (no provisions)	Paved shoulder Marked shared lane Shared lane (no provisions)	
	LOCAL URBAN	Bicycle lane Bicycle boulevard Marked shared lane	Buffered bicycle lane Bicycle lane Marked shared lane	
	COLLECTOR RURAL / SCENIC	Buffered bicycle lane Bicycle lane Paved shoulder Wide outside lane	Buffered bicycle lane Bicycle lane Paved shoulder Wide outside lane	
	COLLECTOR URBAN	Protected bicycle lane Buffered bicycle lane Bicycle lane Paved shoulder Wide outside lane	Protected bicycle lane Buffered bicycle lane Bicycle lane Paved shoulder Wide outside lane	
	MINOR ARTERIAL	Protected bicycle lane Buffered bicycle lane Bicycle lane Paved shoulder Wide outside lane	Protected bicycle lane Buffered bicycle lane Bicycle lane Paved shoulder* Wide outside lane	Protected bicycle lane Buffered bicycle lane Paved shoulder*
	PRINCIPAL ARTERIAL		Protected bicycle lane Buffered bicycle lane Paved shoulder*	Protected bicycle lane Buffered bicycle lane Paved shoulder*
<p>SHARED USE PATHS are suitable for all roadway types and speeds but need to be considered carefully as they can create other potential conflicts when located adjacent to streets.</p>				

* paved shoulders on arterial roads should be at least 6 feet wide

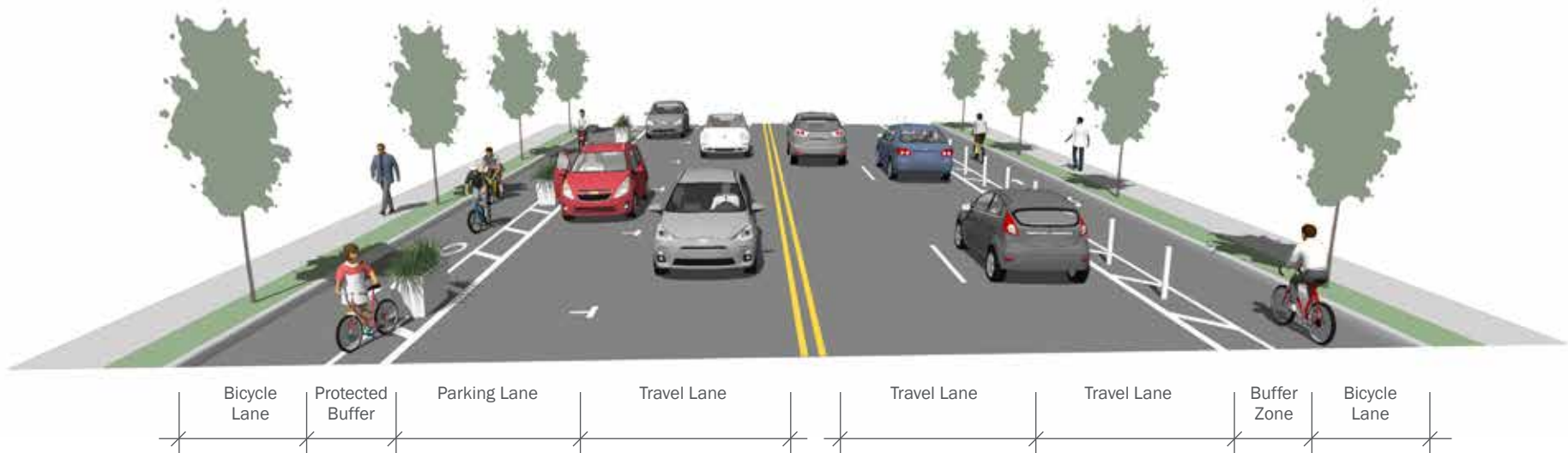
NOTE: This table lists the suggested bicycle facilities in order of most protection to least protection. Whenever possible, the facility that provides the most protection should be utilized.

Protected Bicycle Lanes

Protected bicycle lanes, sometimes referred to as cycle tracks, offer the most protection for bicyclists and provide the highest level of riding comfort. Bicycle lanes are separated from the roadway by physical barriers. These barriers can be flexible plastic posts, curbs, parking lanes, or raised bumps made out of rubber or impact-resistant plastic.

Protected bicycle lanes are best used on wider roads with high traffic volumes, urban roadways with potential for high numbers of bicycle trips, or areas where a non-protected lane is likely to be routinely blocked by double parking or delivery vehicles.

Special design considerations generally need to address transit stops, roadway drainage, snowplowing, street sweeping or repairs, and emergency services.



Buffered Bicycle Lanes

Buffered bicycle lanes use a painted buffer to increase separation between bicyclists and motor vehicles. Buffers are installed on either side of the bike lane to separate it from the travel and parking areas. Crosshatching is often used to delineate the buffer area.

Buffered lanes provide enhanced protection compared to regular bicycle lanes. They provide

additional elbow room and allow for easier passing maneuvers. Buffers installed between the bicycle lane and parked cars can reduce conflicts between bicyclists and opening car doors. This is particularly important in areas with high on-street parking rates/parking turn-over.

Like conventional bicycle lanes, buffered lanes are suited for wider streets with higher traffic volumes, and both types should be considered

simultaneously. The additional buffered area is particularly helpful when truck volumes are high. They should not be installed in areas where a 5-foot conventional bicycle lane cannot be established.



Bicycle Lanes (Standard)

Standard bicycle lanes are adjacent to vehicular travel lanes and marked specifically for bicycle use. Commonly located in the shoulder of the road, a standard bicycle lane is usually identified with striping on one or both sides as well as additional symbols identifying it as a bicycle lane. There are currently 19 miles of bicycle lanes installed in Montgomery County.

Bicycle lanes are suitable for multiple roadway types and should be considered whenever space allows. They are particularly useful along wider streets with higher traffic volumes/high amounts of truck traffic.

Bicycle lanes should be at least 5 feet wide and preferably 6 feet where possible, particularly next to parallel parking where conflicts between open car doors and bicyclists are likely. A 4-foot

lane can be considered but only after the vehicle travel lanes have been reduced in width and only for short distances. The narrower lanes are not recommended immediately adjacent to a raised curb or where there are multiple drainage inlets. In order to discourage riding in the wrong direction, bicycle lanes should only be installed on two-way streets if there is room for a bicycle lane in each direction.

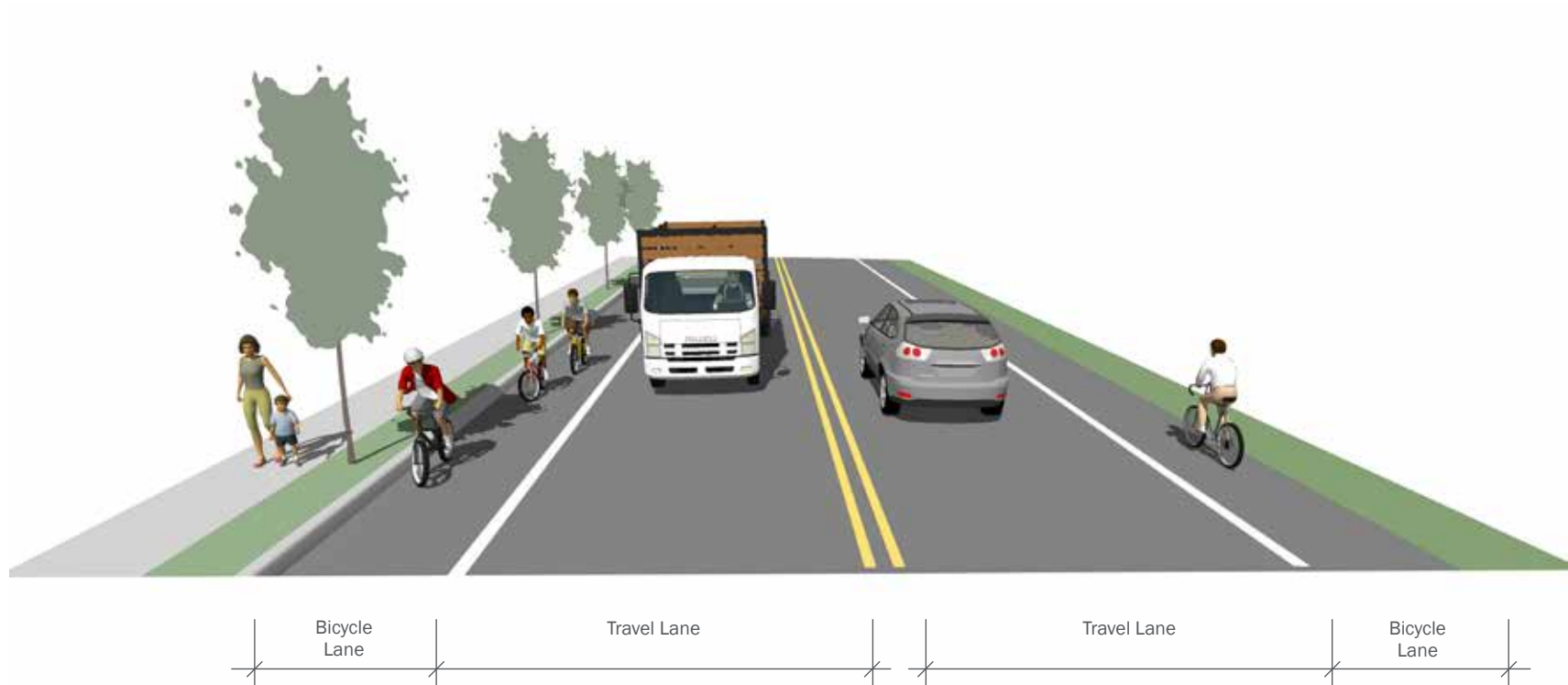


Paved Shoulder

Paved shoulders are areas of the roadway that are outside of the primary travel lane. They are often delineated by a painted line along the outer edge of the travel lane. These areas are not designated for bicycles only and may be used for parking. There are no special accommodations for bicycles at intersections or where right-turn lanes are provided.

Paved shoulders offer varying amounts of comfort and protection depending on their width and the traffic characteristics. *Bike Montco* recommends that paved shoulders be at least 4 feet wide for uncurbed roadways and 5 feet wide or greater where curbs or other obstacles are present.

Paved shoulders are best suited for rural roadways where regular restriping of a bicycle lane may be cost prohibitive or where intermittent parking is expected.



Marked Shared Lanes or Sharrows

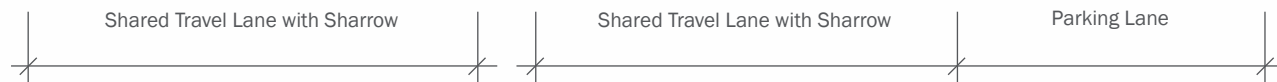
Marked shared lanes, also known as sharrows, include pavement markings and signage that reinforces the right of bicyclists to use the roadway and to remind drivers of the presence of bicyclists. *Bike Montco* strongly recommends that sharrows include both signage and pavement markings to ensure maximum awareness by drivers.

A bicycle symbol with two chevrons in the direction of travel is the most commonly used sharrow designation. To be most effective, pavement markings should be placed in the center or center right of the travel lane where the cyclist is expected to ride.

There are multiple types of roadway signs that can accompany sharrows on the road. Large, fluorescent signs that are easily identifiable by

drivers are the most effective and should be placed at regular intervals along the route.

Sharrows are best used on narrower roads with slower speed limits where additional facilities cannot be installed due to space constraints. They only provide a limited amount of comfort and may not be enough to encourage younger or less confident bicyclists to ride. Additional traffic-calming measures should also be explored.



Wide Outside Lane

Wide outside travel lanes are at least 14 feet wide and allow motor vehicles and bicycles to operate side by side. They are best used on collector and arterial roads with higher traffic volumes where adequate width for the

installation of a full bicycle lane is not available. Moreover, they should only be relied upon for short distances as they will not increase the level of bicycling comfort enough to attract less confident cyclists. Wide outside lanes could also be enhanced with courtesy signage and sharrows if space allows.



Shared Use Path or Sidepath

Shared use paths are areas designated exclusively for non-motorized use and are physically separated from the roadway by a barrier or open space. They are distinct from bike lanes or other types of on-street bicycle facilities in that they almost always are designed to accommodate two-way traffic, are designed to be used by bicyclists and pedestrians, and users only interact with motor vehicles when crossing a driveway or roadway.

The minimum width for a two-way shared use path is 10 feet. Narrower widths of 8 feet are appropriate only in rare circumstances and for

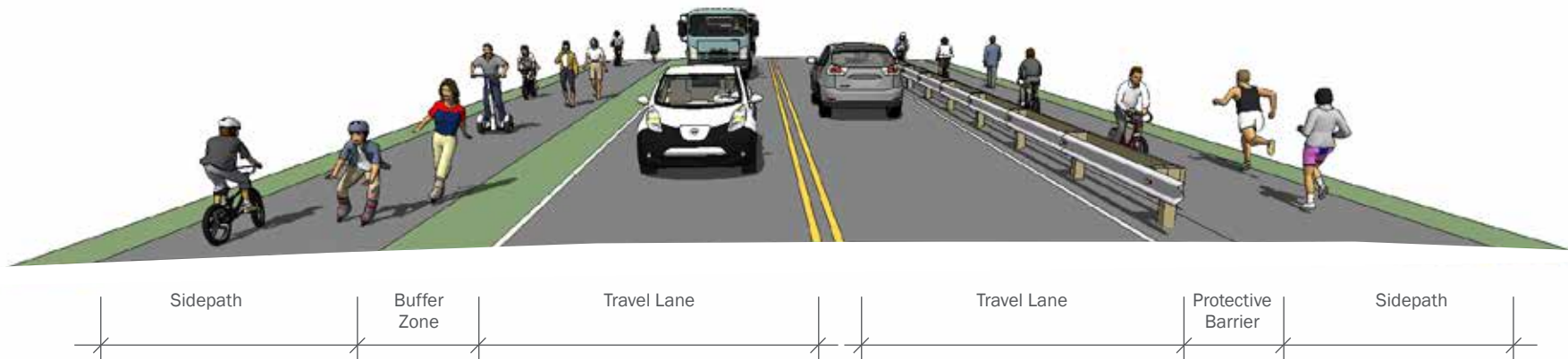
short distances where physical constraints exist. Montgomery County has adopted a 10–12 foot standard for all county-owned paths.

Shared use paths that are installed immediately adjacent to a roadway are referred to as “sidepaths.” While sidepaths do minimize the danger to bicyclists and pedestrians from motor vehicles operating within the roadway, they need to be designed carefully as they can create other potential conflicts.

Sidepaths should be constructed at least 5 feet from the edge of the roadway. If a 5 foot buffer cannot be achieved, the path needs to be protected by a permanent physical barrier. On

state roads, PennDOT will require the barrier to be at least 42 inches in height. Additionally, vehicles crossing the path at a driveway or an intersection may not anticipate bicyclists approaching from the right which can increase the risk of crashes. Sufficient warning should be given to motorists to be on the lookout for two-way bicycle traffic.

Sidepaths are best used on roads with ample rights-of-way and with minimal road and driveway crossings. In some circumstances, the width of existing travel lanes can be reduced to create additional space within the right-of-way to accommodate the installation of a sidepath.



Bicycle Boulevard

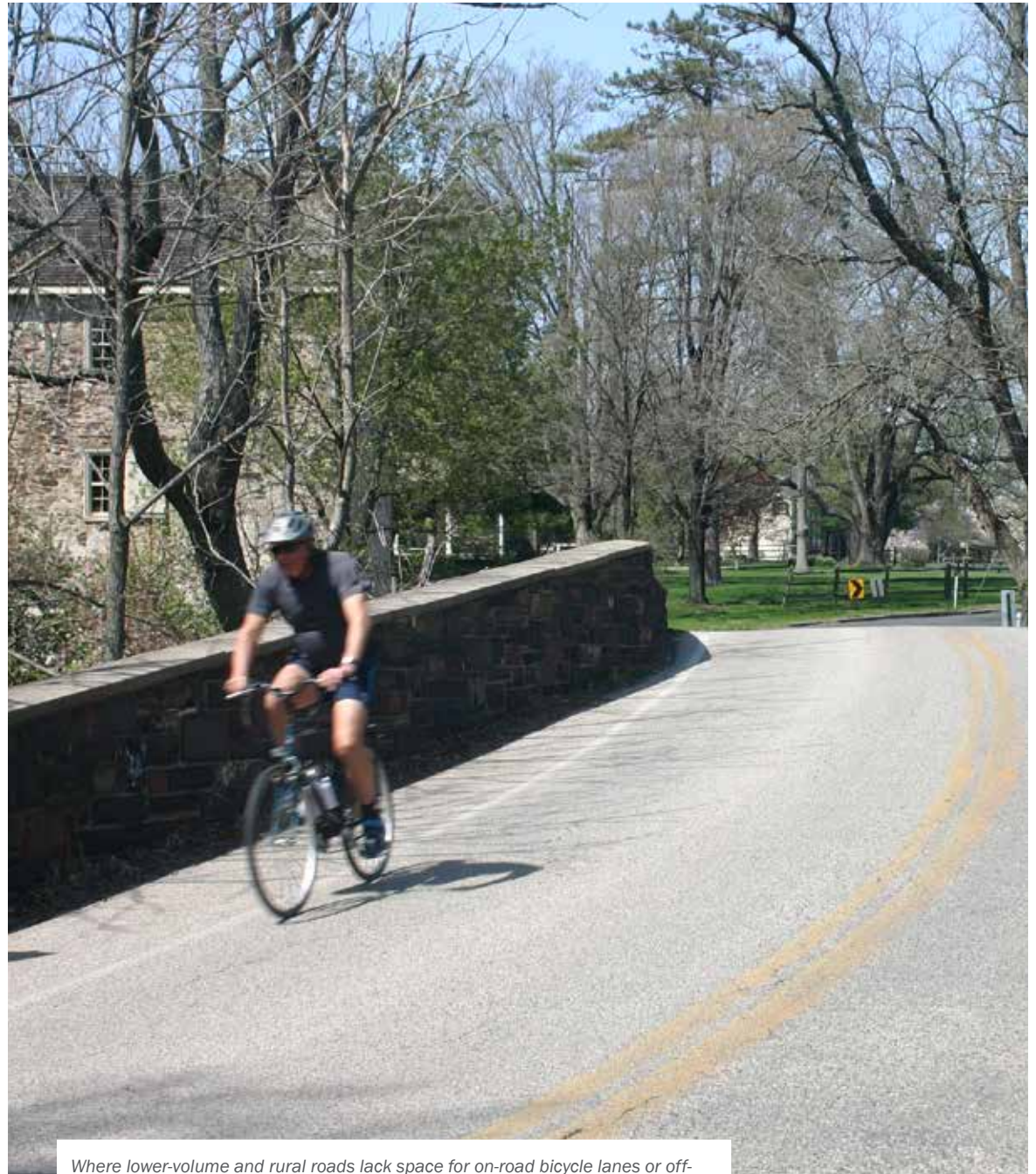
Bicycle boulevards are roadways that include numerous enhancements for bicyclists and are compatible with other traffic-calming techniques. Bicycle boulevards should be designed to reduce frequent stops for bicyclists and to deter motor vehicle traffic from adjacent roadways. Removing stop controls, replacing stop signs with roundabouts, installing speed humps that allow cyclists to pass unrestricted and other traffic-calming measures can be considered.

Bicycle boulevards are often found in residential areas of older towns and cities where traffic volumes and travel speeds are low but bicycle use is expected to be high. Neighborhoods near college campuses or large employment zones may benefit from this type of facility.

Shared Lanes (No Provisions) on Low-Volume Roads

According to DVRPC's Level of Traffic Stress tool, many roadways are already suitable for bicyclists. Local roads with low traffic volumes offer bicyclists a high level of comfort. These roads vary from scenic routes in the western part of the county to roads within residential developments that are used for short trips or serve as critical linkages between trails and other bicycle routes.

Shared lanes offer the least amount of protection to bicyclists. They should only be designated on local roads with low traffic volumes where there is not sufficient width to install a bicycle lane or where regular restriping of a bicycle lane may be cost prohibitive. For these roads, courtesy signage is strongly recommended to remind drivers of the possible presence of bicyclists.



Where lower-volume and rural roads lack space for on-road bicycle lanes or off-road paths, sharing lanes may be appropriate along with ample courtesy signage.

Additional Policies

Bicycle Signage

Wayfinding, advisory, and courtesy signage can increase the utility and safety of a bicycle network. All bicycle signage should follow the standards outlined by the most current version of the Manual of Uniform Transportation Control Devices (MUTCD).

Wayfinding signage can be used to give directions and distances to popular destinations, guide bicyclists where there are gaps in on-street facilities, and designate continuous routes through a variety of conditions. In Pottstown, wayfinding signage is used to designate a business loop from the Schuylkill River Trail through the downtown.

Courtesy signage is used to remind drivers to be on the lookout for bicyclists and that bicycles have the right to use the full lane if necessary. Signs that clearly identify this are considered more effective than traditional “share the road” messaging.

Advisory signage is used to warn cyclists of particular conditions including when on-street bicycle facilities begin or end, potentially dangerous or atypical conditions such as steep grades or a changed roadway surface, or to reinforce other rules of the road like the 4-foot rule, which requires drivers to leave at least 4 feet of space when passing a bicyclist.

Courtesy signage is an important solution for reminding drivers that bicycles have the right to use the full lane.

Intersections

Most bicycle crashes involving motor vehicles occur at intersections. To reduce these conflicts, the following upgrades should be considered for every intersection on the planned bicycle network:

- ▶ Remove parking spots close to the intersection to improve sight lines.

- ▶ Enhance the visibility of on-road bicycle facilities at intersections using colored paint.
- ▶ Upgrade traffic signal equipment to better detect cyclists and trigger the light to change.
- ▶ Ensure that the timing of the signal is long enough to allow bicyclists to clear the intersection.



Stormwater Inlets

Also known as drainage grates, certain inlet grate designs can be very hazardous for bicyclists. Bicycle-safe grates should be considered for all roadway improvement projects but are especially critical on roadways designated as part of the planned bicycle network.



Bicycle-safe drainage grates typically have a matrix pattern that prevents tires from becoming stuck in them, like this one installed along Markley Street in Norristown.

Repaving Scenic/Rural Roads

Many local and low-volume roadways are maintained using a very cost-effective chip seal process. While this is similar to the commonly referred to technique of “tar and chip,” the modern version is a bit different from older techniques. Chip sealing involves application of an asphalt emulsion and aggregate (fine gravel) that extends the life of roadways for several decades. While the relatively low cost of this technique makes it very attractive for long-term maintenance, loose aggregate can be troublesome for bicyclists. All chip sealing paving contracts are recommended to require rolling between layers and final sweeping.



Tar and chip paving is an effective solution for rural roads, but the loose gravel it creates makes it tough to bicycle on.

Rumble Strips

Rumble strips within or adjacent to on-road bicycle facilities can be a major hazard to bicyclists because they are difficult to ride over and can cause damage to tires. *Bike Montco* strongly advises against use of rumble strips on any roadway that is part of the planned bicycle network.

Shoulder Maintenance

Passing vehicles cause road debris to accumulate near the edges of roadways where most bicycle facilities tend to be installed. Regular street sweeping and trash removal will help ensure these facilities remain accessible.



Regular sweeping of a roadway's edge ensures that shoulders and bicycle lanes remain usable.



CHAPTER 6

Focus Areas and Municipal Involvement

It can be a real challenge to build bicycle facilities, but it doesn't have to be. That's why the *Bike Montco* plan identifies focus areas in four specific locations where on-road bicycling improvements are both needed and possible. These focus areas represent bicycling conditions and neighborhoods found throughout Montgomery County, and their real-life solutions are based on design criteria from respected state and national sources such as the PennDOT Design Manual (Publication 13M), the AASHTO *Guide for the Development of Bicycle Facilities*, and the NACTO *Urban Bikeway Design Guide*.

By studying these focus areas in depth, the *Bike Montco* plan intends to demonstrate practical and achievable solutions for the county's bicycle network that local governments and others can pursue.

The four focus areas are:

- **Bicycling in Towns**
Souderton and Telford Boroughs
- **Bicycling to Trails**
Warner Road in Upper Merion Township
- **Bicycling to Transit**
Ambler SEPTA Station in Ambler Borough
- **Bicycling to School**
Montgomery County Community College in Whitpain Township

Four focus areas, Montgomery County



The four focus areas are located throughout Montgomery County, representing different types of communities and bicycling needs.



Methodology

Traffic Planning and Design (TPD) was selected by Montgomery County to lead the effort to study and recommend bicycling improvements in the four focus areas. Each of the locations was chosen with input from the *Bike Montco* steering committee and TPD, and permission to study the communities was given from municipal officials.

The TPD team then helped the MCPC and the steering committee to concentrate each focus area into routes less than 2 miles in length which provide access to several destinations. TPD conducted numerous field observations at each focus area, including a comprehensive site visit with municipal staff, elected officials, local citizens, and steering committee members. The TPD team evaluated numerous alternatives and ultimately chose to recommend improvements for design users in the Interested but Concerned (LTS 2) category wherever possible.

Interested but Concerned bicyclists comprise one of the largest groups in Montgomery County (Chapter 4). These citizens generally find that bicycling accommodations which provide separation from traffic, especially within the roadway, are the most suitable for riding. Where separation is not possible, speeds and average daily traffic (ADT) volumes need to be low for these riders to feel comfortable. Such facilities are also among the easiest to implement in many parts of Montgomery County where ample land for trails or sidepaths is not available. The chart below depicts some characteristics of these kinds of roads.

LTS 2 Street WITH Bike Lane	LTS 2 Street WITHOUT Bike Lane
MAXIMUM OF ONE LANE IN EACH DIRECTION (OR MEDIAN PROVIDED)	MAXIMUM OF ONE LANE IN EACH DIRECTION OR NO CENTER LINE
SPEED LIMIT OF 30 MPH OR LESS	MAXIMUM AVERAGE DAILY TRAFFIC (ADT) OF 3,000 VEHICLES PER DAY
BIKE LANE BLOCKAGES ARE RARE	MAXIMUM PREVAILING SPEED OF 30 MPH
MINIMUM BIKE LANE WIDTH OF 4 OR 5 FEET	

Bicycling in Towns

Souderton and Telford

Montgomery County's 24 boroughs have many qualities that foster bicycling, such as slower speeds, a compact street network, and short distances between places. In these towns, bicycling is not only possible but practical for getting around. The county's towns are friendly toward almost every kind of rider, making them ideal places to add on-road infrastructure.

Souderton and Telford are two large, continuous boroughs in northern Montgomery County that share many civic assets, such as dual main streets, the Souderton Borough Community Park, and the Souderton Community Pool. The goal of this focus area is to provide a model for bicycling through older towns by providing a simple and direct route connecting all of these points of interest.



Study Area

Reliance Road was initially approached as the preferred route since it is an urban collector that best connects these destinations directly. Unfortunately, the road is classified LTS 3 by DVRPC's Level of Traffic Stress tool. It carries too many trucks, contains an at-grade railroad crossing, and is too narrow to provide adequate width for both protected bike lanes and travel lanes that meet national standards. Bike lanes on Reliance Road would also require the elimination of on-street parking, which could be contentious.

Instead, the preferable route uses Summit Street and School Lane. Both are classified LTS 2, and both are local roads that provide Souderton and Telford the maximum autonomy to install bicycle facilities. This route contains approximately half of the traffic volumes of Reliance Road and crosses over the railroad on a grade-separated bridge. This route is not without its challenges. Two uncontrolled street crossings at Main Street and at Reliance Road need to be addressed.



Recommended Improvements

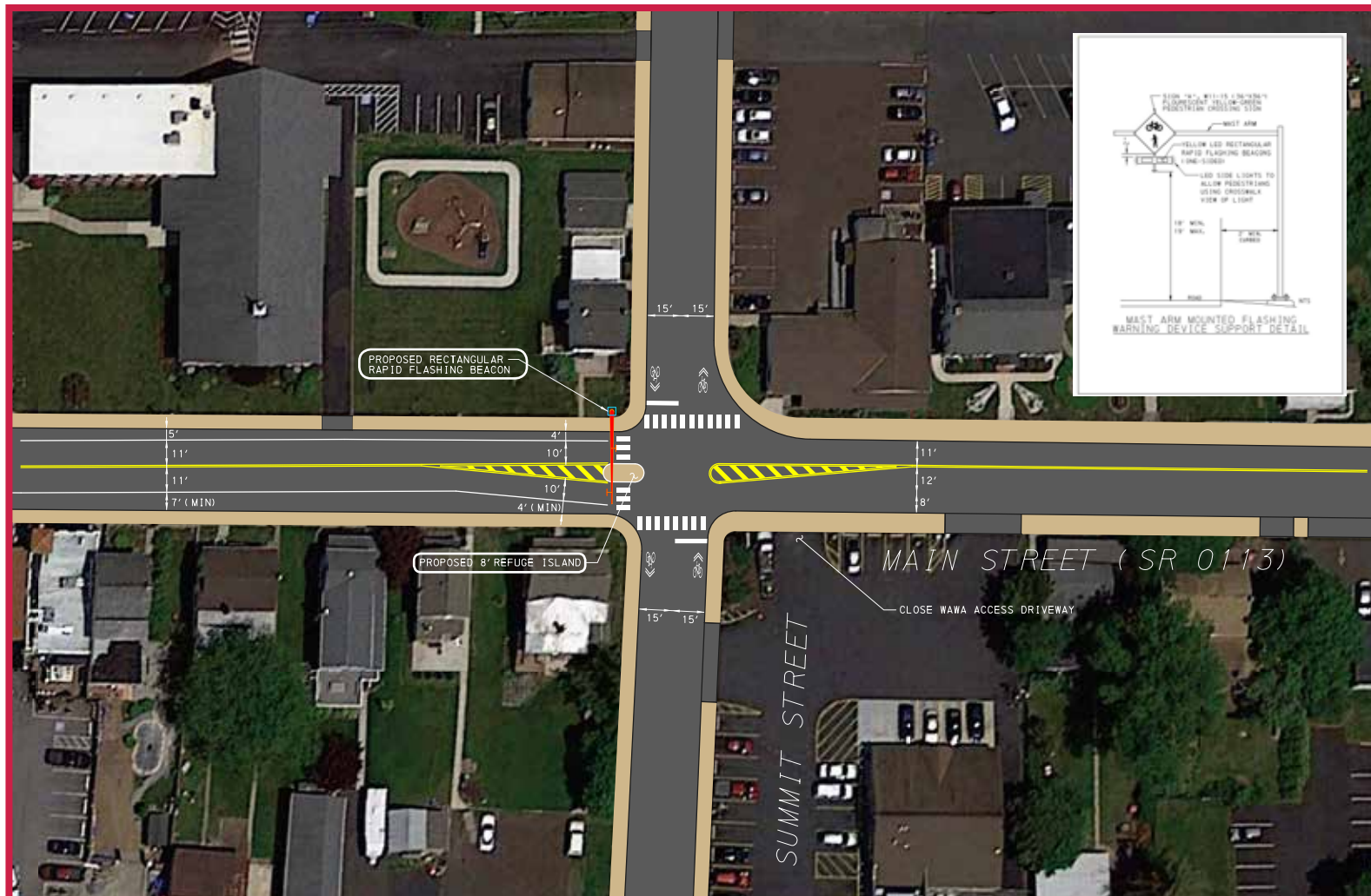
Summit Street and School Lane

A bicycle boulevard is recommended for the length of Summit Street and School Lane with specific crossing enhancements at two key intersections.

PA 113 and Summit Street Intersection

A median island is recommended on Main Street (PA 113) at the Summit Street intersection. The island should be a minimum of 8 feet wide and should include flashing lights/beacons. The island and flashing beacon would benefit both bicyclists and pedestrians. In the adjacent image,

these improvements help to slow down traffic, increase awareness of bicyclists and pedestrians, and reduce conflicts with vehicles.



School Lane and Reliance Road Intersection

Although the recommended bicycle route avoids travel on Reliance Road, cyclists must cross Reliance Road on School Lane. The intersection is currently stop controlled only for School Lane, and has only basic crosswalk striping. High-

visibility crosswalks are recommended for this intersection.

There are two options for improving traffic control. An all-way stop would increase safety for cyclists and pedestrians. An alternative option is to reverse the existing stop control so that Reliance Road traffic must halt while School Lane traffic

would not. This change would be consistent with the *AASHTO Guide for the Development of Bicycle Facilities* and the *NACTO Urban Bikeway Design Guide* and would enhance the corridor for bicyclists.

Estimated cost (in 2018 dollars) for all improvements: \$228,000



A four-way stop and better visibility for bicyclists and pedestrians would improve safety at the School Lane and Reliance Road intersection.

Bicycling to Trails

Upper Merion Township

Trails are an important part of Montgomery County's transportation system. They offer a quality of life that attracts new residents, while the mobility they provide offers commuters an alternative to driving. It is crucial that county citizens be provided the choice to access the extensive trail system from their homes and workplaces by bicycle.

In Upper Merion Township, Warner Road connects the Village at Valley Forge to the Chester Valley Trail near Devon Park Drive less than a half mile away. A safe, convenient bicycle route between the two points would connect a massive new mixed-use town center with one of the Delaware Valley's most heavily used regional trails. However, the only connection existing between the trail and the Village at Valley Forge today is a narrow sidewalk on the west side of Warner Road.



Study Area

Warner Road is an urban collector roadway that serves a growing suburban center. The posted speed limit is 35 mph and the average daily traffic (ADT) is approximately 7,800 vehicles. Warner Road has one travel lane in each direction with turn lanes at each intersection, two signalized intersections, and two bridges. Under existing conditions, Warner Road is classified by DVRPC's Level of Stress tool as an LTS 3 roadway with a short LTS 4 segment. There are no environmental or cultural resources that would be jeopardized by the creation of a side path along Warner Road. The study area could also be a part of a wider trail network being explored by others which connects to Valley Forge National Historical Park.



Recommended Improvements

Warner Road/Market Street/Swedeford Road Intersection

The installation of a 0.25-mile shared use path (sidepath) on the west side of Warner Road between the trailhead and Swedesford Road is the recommended set of improvements, including a new trail bridge over US 202 and modifications to the existing bridge across the I-76 on-ramp.

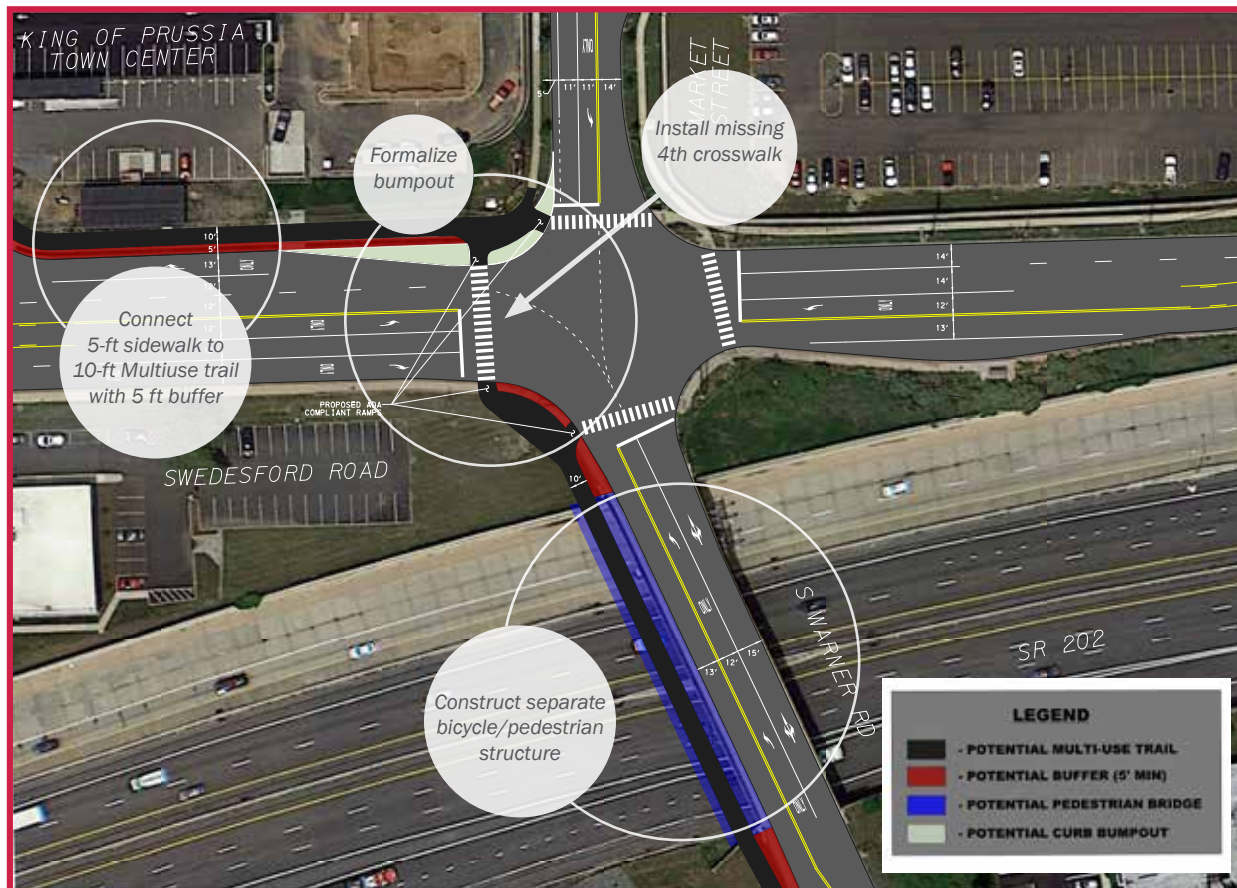
It will not be feasible to eliminate or narrow any of the vehicle lanes on the Warner Road bridge over

US 202 and still provide the minimum standards recommended by AASHTO for both bicycles and cars. Therefore, the best option is to provide a new parallel route next to the existing bridge, either by an attached structure (cantilevered or using the existing abutments) or through a new bridge dedicated for bicycling.

However, it may be possible to convert the 5-foot sidewalk to an 8-foot shared use path by reducing lane widths on the bridge to 12 feet or less. 8-foot shared paths are only recommended for short distances and should include a barrier

between the path and the vehicle lanes, and therefore are considered to be only a short-term solution to building a new bicycle-only structure.

Other improvements in the immediate area include converting striped pavement areas into formal raised bumpouts, upgrading the 5-foot sidewalk to a 10-foot multiuse trail in selected areas, and adding the missing crosswalk at the Market Street/Warner Road/Swedeford Road intersection.



Upper Merion Inset I

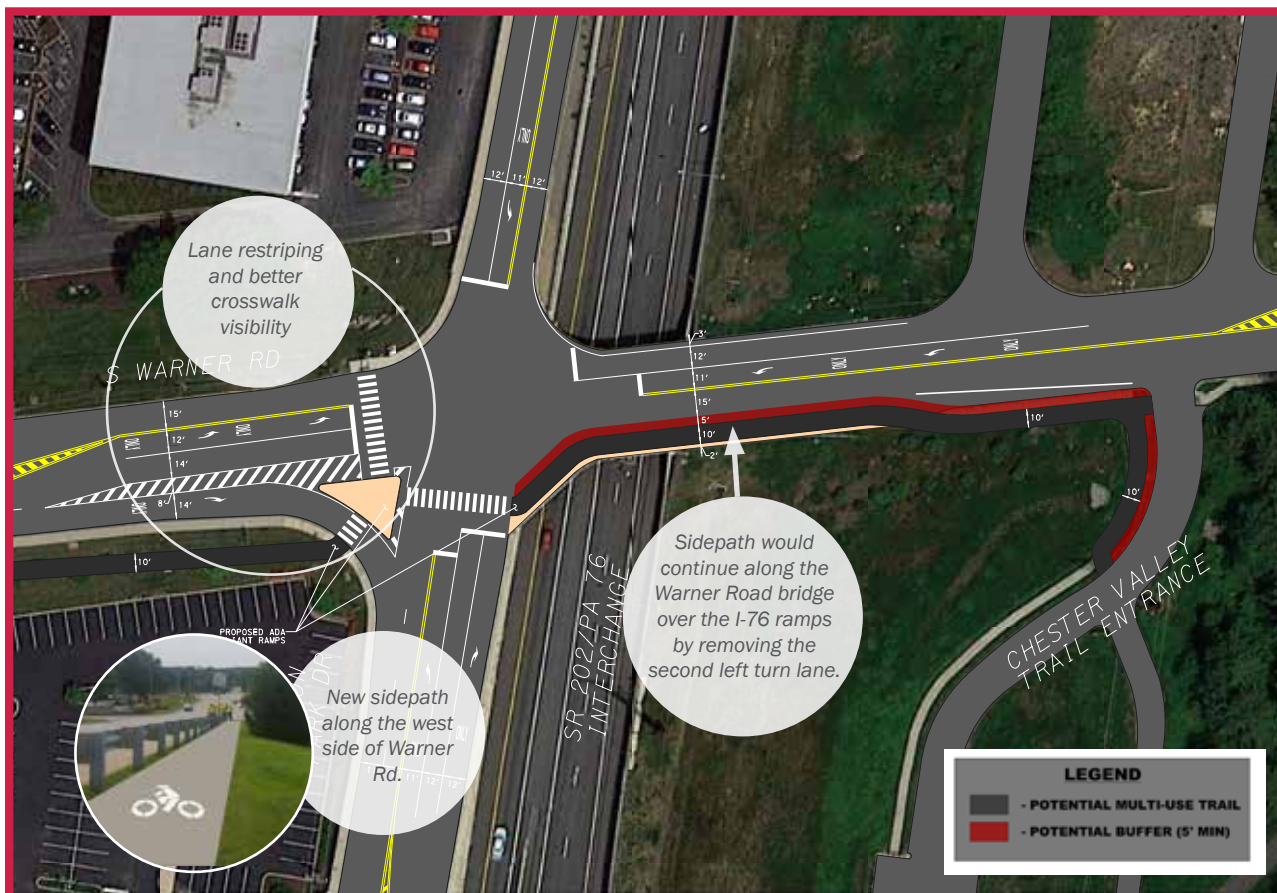
Warner Road and Devon Park Drive Intersection

Sidepaths offer a low-stress (LTS 1) experience for users by providing separation from traffic. Providing a sidepath rather than on-road bike lanes along the remaining length of Warner Road would minimize the impact to the existing roadway. Because the trailhead and the existing sidewalk are both located on the west side of Warner Road, the west side is also the logical location for a sidepath for the entire length of the corridor.

After crossing the bridge over US 202, the recommended sidepath would follow the west side of Warner Road, cross Devon Park Drive, and continue on the Warner Road bridge over the I-76 on-ramp. To create space, the second northbound left-turn lane at the intersection of Warner Road and Devon Park Road can be removed while still providing adequate traffic capacity. After leaving the bridge, the sidepath can extend onto the trailhead property where there is plenty of room.

Other improvements in the immediate area include restriping the roadway lanes and installing highly visible continental crosswalks at the Warner Road/Devon Park Drive intersection.

Estimated cost (in 2018 dollars) for all improvements: \$1.77 million



Upper Merion Inset 2

Bicycling to Transit

Ambler Borough

Bicycling and transit make a good team. When paired together in a single trip, people can go farther and faster than if they used either one alone.

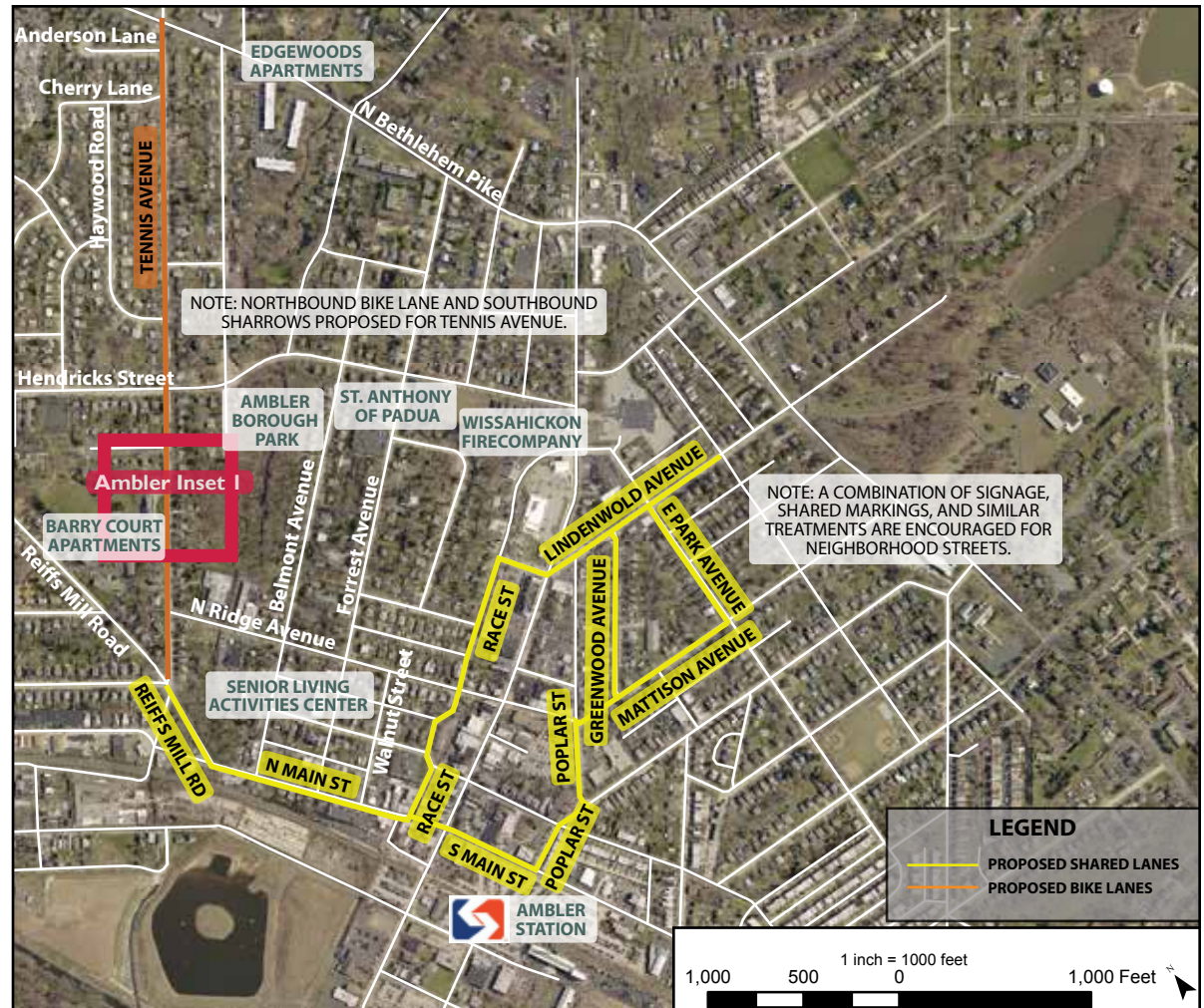
The Borough of Ambler is the classic American town, with quiet streets, moderate density, and a centrally located train station which sees nearly 1,100 riders a day, about half of whom arrive on foot. It is a community that encourages both bicycling and public transit. A broad network of low-impact improvements can enhance connectivity between the SEPTA station and the surrounding neighborhoods. This would encourage an increase in bicycling and in increase in transit usage—which in turn could strengthen the quality of life in this popular town.



Existing Conditions

PennDOT’s Design Manual (Publication 13M) considers Ambler to be a town/village center surrounded by town/village neighborhoods on either side. Ambler has a grid of low-speed and low-volume residential streets with on-street parking on one or both sides. Butler Avenue is an arterial roadway and the town’s main commercial street. The approximately 10,000 cars that use it each day make Butler a barrier to cyclists and a challenge to ride on.

Most of Ambler’s streets are classified by DVRPC’s Level of Traffic Stress Tool as LTS 1. Meanwhile, two collector roadways connect the station area to neighborhoods: Main Street, which runs east-west with an LTS 1 designation, and Tennis Avenue (S.R. 2020), which runs north-south and is considered LTS 3. Main Street has an ADT of approximately 5,200 vehicles per day north of the station and 2,000 vehicles per day south of the station. There are no environmental or cultural resources that would be jeopardized by the creation of bike lanes along roads within Ambler Borough.



Recommended Improvements

Local Streets

Due to the relatively narrow streets and low volumes prevalent throughout town, the suggested improvements for Ambler consist of basic pavement markings and signage in order to create a network of bicycle routes that connects the neighborhoods to the train station. Many streets

already provide an LTS 2 bicycling experience, with only Butler Avenue creating more of an obstacle for casual and less confident riders. The addition of bicycle-oriented wayfinding signage, bicycles may use full lane signage, and shared lane markings would identify specific bicycling routes to the train station. The proposed network of such improvements includes portions of Lindenwold Avenue, East Park Avenue, Greenwood Avenue,

Mattison Avenue, Poplar Street, Race Street, North Main Street, and Reiffs Mill Road, where the bicycle network will eventually direct riders to access the train station at North and South Main Street.

Currently, the majority of bicycle parking at the station is on the north side of Butler Avenue. An additional recommendation is to provide more bicycle stations south of Butler Avenue as well.



The narrow width and low volumes of cars on many residential streets, such as Lindenwold Avenue, make shared lane markings and signage the most practical and cost-effective solution for creating a visible on-road network.

Tennis Avenue

Tennis Avenue is the only other continuous north-south route in Ambler besides Butler Avenue. It is a residential street with a posted speed limit of 25 mph and is owned by PennDOT. It is approximately 25 feet wide and consists of two narrow travel lanes and one parking lane heading northbound.

The project team conducted a field visit along Tennis Avenue with local stakeholders, where participants observed its popularity among bicyclists and witnessed several passing events on the northbound (uphill) direction.

Although there is not adequate space to provide bike lanes on both sides of Tennis Avenue, a designated 5-foot bicycle lane on the uphill (northbound) direction would separate slower

bicyclists from faster moving traffic, while shared lane markings would be sufficient on the downhill (southbound) direction. Provided there is community and PennDOT support, this could be accomplished by restriping the road to substitute a bicycle lane for the on-street parking.

Total cost (in 2018 dollars) for all improvements: \$240,000



Ambler Inset I

Bicycling to School

Montgomery County Community College (Whitpain Township)

The Montgomery County Community College's (MCCC) main campus in Whitpain Township attracts thousands of commuters every day. Located near the heart of the county and served by the SEPTA Route 96 bus and US 202, students and faculty travel from throughout the region to attend classes, making it an ideal opportunity to improve bicycling networks to and from the site.



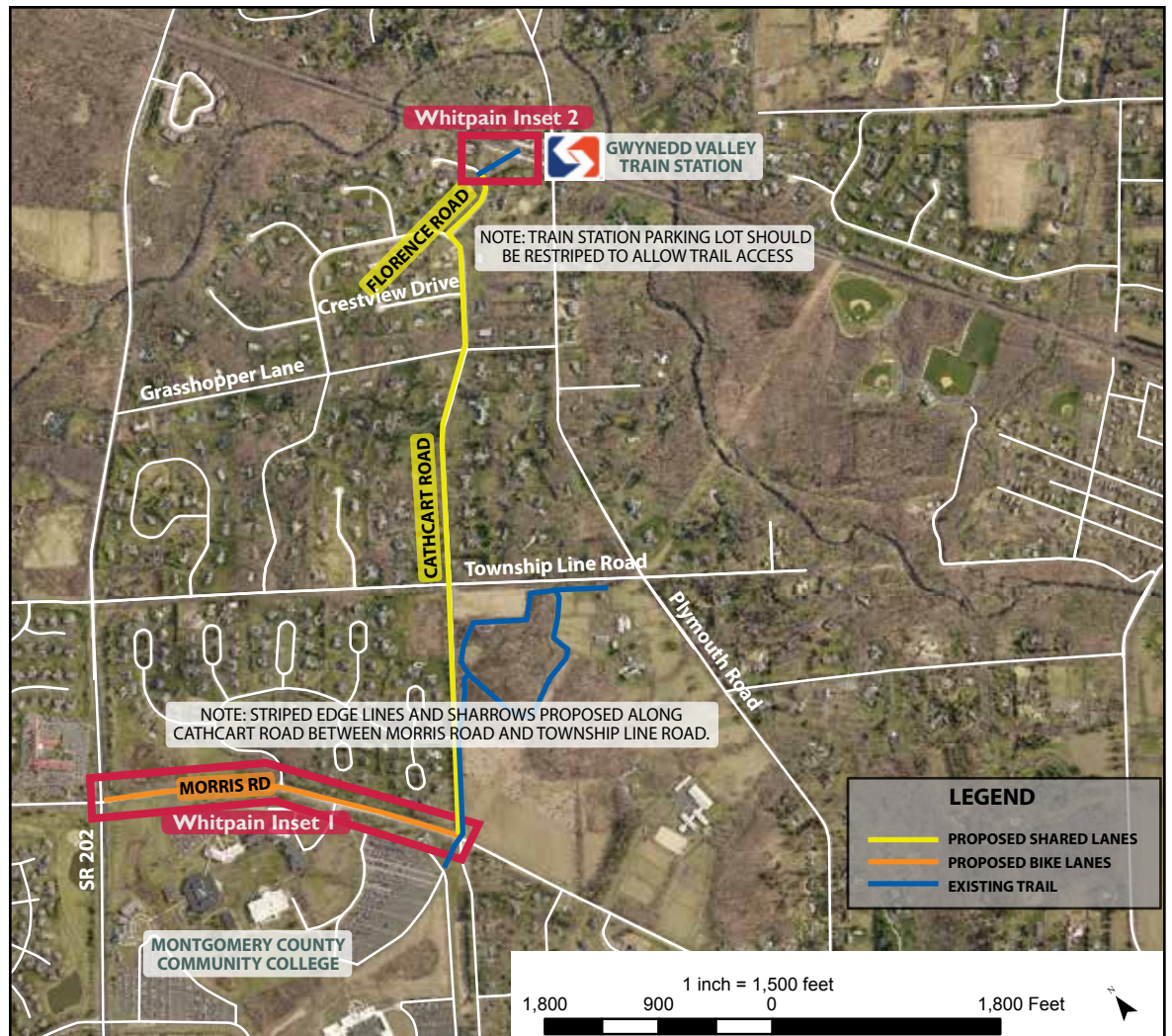
Study Area

The MCCC campus sits on the south side of Morris Road between DeKalb Pike (US 202) and Cathcart Road in Blue Bell. PennDOT's upcoming widening of US 202 in the vicinity of the campus will include the addition of bicycle lanes along the corridor. A previous county planning initiative identified the Morris Road corridor west of US 202 for a bicycle lane pilot program. Concept plans were developed showing bike lanes extending from Valley Forge Road (PA 363) to US 202.

Morris Road is a minor arterial roadway with a posted speed limit of 40 mph, average daily traffic of 13,200 vehicles, and an LTS 3 rating under DVRPC's Level of Traffic Stress Tool. Morris Road has one travel lane in each direction with turn lanes at intersections near the MCCC campus. Cathcart Road is a neighborhood collector roadway with a posted speed of 35 mph near Morris Road.

The college previously constructed a portion of a perimeter trail around the campus and has plans to extend it in the near future. This perimeter trail connects to the Whitpain Township trail network at the intersection of Morris Road and Cathcart Road.

SEPTA's Gwynedd Valley regional rail station is located within 1.5 miles of the campus. To access the station bicyclists can ride north on Cathcart Road (which changes names to Gwynedd Valley Drive) and then turn right on Florence Road. A small trail provides the last connection leading to the station.



Recommended Improvements

Morris Road

Morris Road's generous 40-foot width provides enough room to extend the planned bike lanes on Morris Road east from US 202 to Cathcart Road and still maintain 10-foot-wide vehicle lanes. With the development of the planned bike lanes to the west of and along US 202, a full long-distance network can begin to take shape, despite the higher 40 mph speed limit.

Although buffered bicycle lanes along Morris Road in front of the community college were considered, it was determined that a buffer could be provided in some segments but not consistently. Road widening/right-of-way acquisition would be required to provide a constant buffered bicycle lane between US 202 and Cathcart Road.

The planned campus perimeter trail will travel along Morris Road as a sidepath. The sidepath will provide a low-stress alternative for Casual and Less Confident Riders. The MCCC is expressing

interest in connecting the sidepath to bicycle lanes at intersections while Whitpain Township is already taking steps to improve trail connectivity at Morris Road and Cathcart Road.



Whitpain Inset I

Cathcart Road and Gwynedd Valley Station

Cathcart Road is the most direct route for bicyclists to connect to the Gwynedd Valley train station. Cathcart Road is approximately 26 feet wide between Morris and Township Line roads, with a marked centerline, a posted speed of 35 mph, and a stressful LTS 4 rating. Traffic-calming improvements, such as edge lines, narrower travel lanes, lower speed limits, and shared lane markings, would improve conditions to an LTS 2 rating.

North of Township Line Road, the route is more comfortable: approximately 20 feet wide with no marked centerline, a posted speed of 25 mph, and a more comfortable LTS 2 rating. Only bicycle wayfinding signs guiding users between the SEPTA station and the MCCC campus are needed.

A small trail connects Florence Road to the Gwynedd Valley SEPTA station and is approximately 300 feet long. However, the terminus is blocked by parking spaces in the parking lot, preventing bicyclists from reaching

the station itself. Because there is approximately 4 feet of unused room at the end of the parking row, SEPTA could shift all of the existing spaces and create a clear path to and from the trail without losing any parking.

Total cost (in 2018 dollars) for all improvements: \$92,000



Whitpain Inset 2



CHAPTER 7

Action Items

The goals and objectives of the *Bike Montco* plan are directly tied to the six themes in chapter 2. They challenge the people of Montgomery County to envision communities in new ways that can reduce congestion and air pollution and make traveling safer and more convenient for everyone. They also provide opportunities to simplify trips in every neighborhood and further enrich recreational excursions.

The objectives provide an outline for achieving the goals. They are guideposts along the journey, helping to maintain focus on how proposed bicycling facilities can be incorporated into communities as they grow and redevelop in the coming years.

However, there are many tasks to be accomplished between the planning effort of *Bike Montco* and the countywide creation of a practical, functional, safe, and equitable bicycling network. The action steps are the incremental tasks needed to make this vision become reality.



CONNECTED COMMUNITIES: Bicycling can be a regular activity in communities throughout Montgomery County if the available network connects people to the places they want to visit.

Just as *Montco 2040: A Shared Vision* emphasizes making connections beyond local municipal boundaries, the planned bicycle network will link our communities to each other and to the places that make Montgomery County special. When paired with the county's extensive trail system, the priority network presents an opportunity for longer distance bicycle travel separated from vehicular traffic.

Many of these action steps involve building the physical improvements needed to realize the planned bicycle network. Working with partners, such as PennDOT and SEPTA who also own transportation networks, is vitally important. For instance, PennDOT's annual resurfacing program offers one of the fastest and most cost-effective ways to create on-road bicycle infrastructure. By coordinating through the new PennDOT Connects process, bicycle lanes and shoulders can be created in various locations by simply placing new striping on the freshly paved surface at little or no additional cost.



GOAL #1: Connect communities with a robust network that supports bicycling as a daily transportation option.

Objective 1: Expand the bicycle network to connect important destinations, trails, urban centers, and transportation hubs.

These actions address the need for cooperation between Montgomery County and partner transportation agencies. Building the planned bicycle network will require collaboration with others.

Objective 2: Support bicycling as a legitimate travel mode.

It is not enough to simply assemble the planned bicycle network. Giving the public tools that make bicycling more accessible and ubiquitous give it legitimacy in the eyes of the people.

Objective 3: Integrate the bicycle network with transit and other transportation systems.

The more options bicyclists have to connect to other modes of transportation, the farther they can travel. Public transit is an ideal partner for bicycling as long as the transit system accommodates it.

CONNECTED COMMUNITIES

Goal #1: Connect communities with a robust network that supports bicycling as a daily transportation option.

OBJECTIVE #1: EXPAND THE BICYCLE NETWORK TO CONNECT IMPORTANT DESTINATIONS, TRAILS, URBAN CENTERS, AND TRANSPORTATION HUBS				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Adopt a complete streets policy for county-owned roads.	Planning Commission Roads and Bridges	Medium	Adoption of a policy by the County Commissioners
B	Expand the county trail system and on-street bicycle facilities on county roads.	Planning Commission Roads and Bridges	Long	Number of miles of county-owned on-road bicycle infrastructure & trails
C	Complete the Circuit Trails and other regional bicycling routes.	Planning Commission	Long	Number of miles of Circuit Trails
D	Support community partnerships to create municipal trails and on-street bicycling facilities on locally owned roads.	Planning Commission	Recurring	Number of miles of municipally owned on-road bicycle infrastructure & trails
E	Incorporate on-road bicycling facilities into PennDOT's surface treatment program and through projects on the regional Transportation Improvement Program.	Planning Commission	Recurring	Number of miles of state-owned on-road bicycle infrastructure

OBJECTIVE #2: SUPPORT BICYCLING AS A LEGITIMATE TRAVEL MODE				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Create a printed and electronic countywide map that highlights potential commuter routes, public transportation connections, and destinations via available trails and on-street networks.	Planning Commission	Short	Creation of document
B	Create a county publication of municipal tools on recommended bicycle policies, project funding, and network implementation.	Planning Commission	Short	Creation of document
C	Establish a policy for electric bikes on county trails.	Parks & Heritage Services	Short	Creation of county policy
D	Support the expansion of bike share programs and companies within Montgomery County.	Planning Commission	Medium	Number of available bike share stations and/or bicycles

OBJECTIVE #3: INTEGRATE THE BICYCLE NETWORK WITH TRANSIT AND OTHER TRANSPORTATION SYSTEMS				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Promote bicycling routes using wayfinding signage and social media mapping.	Planning Commission	Short	Number of signs erected
B	Coordinate with SEPTA and PART to accommodate bicycles on transit vehicles and bike facilities at stations.	Planning Commission	Medium	Number of buses and trains with dedicated bicycle storage; Increase in number of bicycle parking spaces, other infrastructure

Short (1-4 yrs) Med. (5-10 yrs) Long (10+ yrs) Recurring

EQUITY: Even in prosperous Montgomery County, residents can struggle to find employment, education, childcare, health services, or housing. Access to bicycling could be a lifeline to securing these needs. Meanwhile, bicycling facilities that accommodate all levels of experience and skill ensure that every citizen has the potential to use these facilities. It is important that the county make every effort to democratize public bicycle infrastructure by making it available to everyone and lowering the barriers to using it.

For instance, encouraging the formation of bicycle groups among various socioeconomic and ethnic communities ensures that bicycle users make up a diverse group of people. It also enlarges the base of bicycle advocates in the county, which creates a virtuous cycle of expansion.



GOAL #2: Expand bicycling opportunities for everyone.

Objective 1: Design bicycle infrastructure to accommodate different skill levels and abilities.

There is no age, licensing, or skill requirement needed to use a bicycle, which is why it provides a sense of independence for many people. The only serious obstacle is our existing transportation infrastructure. If our roads, trails, and public transit system can be used by novice or physically challenged bicyclists, then they can be used by everyone in Montgomery County.

Objective 2: Expand bicycling infrastructure in underserved communities.

The availability of a bicycle and information about how to navigate around a community are invaluable to a person who may be trapped in economic hardship. Bicycles are cheaper to own and operate compared to cars and can be an economic alternative for daily work or school trips. Despite this, bicycle ownership and maintenance may be difficult for some people. It is vital that to ensure that no community is left behind as the county and its partners work to improve the bicycling experience.

EQUITY

Goal #2: Expand bicycling opportunities for everyone.

OBJECTIVE #1: DESIGN BICYCLE INFRASTRUCTURE TO ACCOMMODATE DIFFERENT SKILL LEVELS AND ABILITIES				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Ensure that all county bicycling infrastructure meets the requirements of the federal Americans with Disabilities Act (ADA).	Planning Commission Parks & Heritage Services	Recurring	Reduction in number of non-ADA compliant facilities
B	Consistently advocate for on-street bicycle facilities that provide the highest levels of protection and comfort for the least experienced riders.	Planning Commission	Recurring	Number of protected bicycle lane miles

OBJECTIVE #2: EXPAND BICYCLE INFRASTRUCTURE IN UNDERSERVED COMMUNITIES				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Strategically locate on- and off-road bicycling facilities and related services in underserved communities.	Parks & Heritage Services	Medium	Number of lane miles and facilities located in areas of 3 or more indicators of potential disadvantage as defined by DVRPC
B	Encourage the development of “neighborhood bike works” programs in underserved communities that provide bicycle education, community, and repair facilities.	Workforce Investment Board Health	Medium	Number of programs created
C	Encourage the formation of bicycle advocacy groups among environmental justice communities.	Planning Commission	Medium	Number of advocacy groups created
D	Coordinate with non-profits and social service agencies to provide information to non-English speaking communities about the benefits of bicycling, safety, and traffic laws.	Sheriff Health Office of Children & Youth	Medium	Number of partner agencies
E	Ensure that underserved communities are participants in the expansion of county or regional bike share programs.	Planning Commission Parks & Heritage Services	Long	Number of bicycles/docks located in areas of three or more indicators of potential disadvantage as defined by DVRPC

Short (1-4 yrs)

Med. (5-10 yrs)

Long (10+ yrs)

Recurring

SAFETY: As shown in Chapter 4, personal and family safety is a major concern among the public. If bicycling is to expand in Montgomery County, the safety of all users must be paramount in the planning and implementation of new or expanded bicycling facilities, particularly those sharing the road.

For instance, if the county can work with law enforcement and health care providers improve the rate and accuracy of bicycle crash reporting, the county and its partners can make smart investments to improve the safety of our roads and trails.



GOAL #3: Ensure that bicycling is safe for all.

Objective 1

Reduce bicycle-related injuries and fatalities.

Improving safety starts with accurate data collection, and current reporting for bicycling crashes is inconsistent. A coordinated effort to close these gaps, followed by goal-setting, planning, and capital investment, will tangibly reduce bicycling-related incidents.

Objective 2

Ensure the bicycle network is maintained well.

Even the best facilities need regular maintenance and upkeep to ensure that riding surfaces are not deteriorated and signage is readable. Cracks in the pavement, debris, uneven storm grates, and poor signing are preventable safety hazards. Routine maintenance ensures maximum safety for everyone.

SAFETY

Goal #3: Ensure that bicycling is safe for all.

OBJECTIVE #1: REDUCE BICYCLE-RELATED INJURIES AND FATALITIES				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
3.1.A	Track countywide crash data to work with state and municipal partners to implement safety improvements along roads and trails.	Planning Commission	Short	Decrease in the number of bicycle fatalities
3.1.B	Partner with law enforcement and health care providers to improve bicycle crash reporting.	Public Safety	Short	Improvement in accuracy of crash data
3.1.C	Develop benchmarks, goals, and long-term action items for reducing/eliminating bicycle-related crashes on county-owned roads and trails.	Planning Commission Roads and Bridges Parks & Heritage Services	Long	Creation of plan
3.1.D	Upgrade county road/trail crossings to reflect best practices in safe bicycle facility design.	Parks & Heritage Services Planning Commission	Long	Number of crossings improved

OBJECTIVE #2: ENSURE THE BICYCLE NETWORK IS MAINTAINED WELL				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
3.2.A	Develop maintenance plans for bicycle facilities on county-owned roads and trails.	Parks & Heritage Services Roads and Bridges	Short	Creation of maintenance plans
3.2.B	Advocate for increased municipal liquid fuels funding for maintenance of locally owned roads.	Planning Commission	Recurring	Percentage increase in funding over time

Short (1-4 yrs)

Med. (5-10 yrs)

Long (10+ yrs)

Recurring

EDUCATION AND ENFORCEMENT: A secure bicycling environment requires that all road and trail users follow established laws, regulations, and etiquette. Ensuring that more drivers and bicyclists understand these rules of the road—especially at a young age—is a major factor in improving safety.

Many of these actions can be accomplished through various county departments in conjunction with public and non-profit partners whose missions include public awareness campaigns. For instance, PennDOT has an array of educational materials that the county can cross promote. Montgomery County government also has several departments that can engage in public education efforts on their own.



GOAL #4: Support education and enforcement efforts that increase awareness of bicycling.

Objective 1

Increase acceptance of bicycles by other roadway users.

Widespread public acceptance of bicycling not only encourages people to ride bicycles but to also be courteous of others on the road. The more regularly citizens hear the message of a public awareness campaign or see physical infrastructure, the more respect they will show.

There are many partners who can be essential links to spread information to both adults and youth. Schools, colleges, transportation management associations, and public health advocates all have a role to play.

Objective 2

Educate drivers and bicyclists of their rights and responsibilities.

Conflicts between bicyclists and drivers can be dangerous. Both parties need to be aware of their roadway rights and responsibilities in order to minimize conflicts and keep each other safe.

Institutions and non-profit organizations are not the county's only allies. Law enforcement and major transportation agencies also regularly engage in educational activities. Since public safety is one of the core functions of county government in Pennsylvania, Montgomery County has a strong role to play in educating citizens and mobilizing first responders.

EDUCATION AND ENFORCEMENT

Goal #4: Support education and enforcement efforts that increase awareness of bicycling.

OBJECTIVE #1: INCREASE ACCEPTANCE OF BICYCLES BY OTHER ROADWAY USERS				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Work with partner agencies to provide bicycle training and safety programs to school-age children.	Health	Short	Number of participating schools
B	Encourage school districts to install bicycling amenities at all existing and planned new schools.	Planning Commission	Medium	Number of schools with bicycle amenities
C	Coordinate efforts with area colleges to expand bicycle share programs and biking facilities that connect within their campuses.	Planning	Medium	Number of participating colleges
D	Install bicycle awareness signage along all county-owned roads where feasible.	Roads and Bridges	Medium	Number of signs installed
E	Establish a promotional campaign to the general public about the benefits of bicycling for recreation and travel.	Health Planning Commission	Recurring	Creation of campaign
F	Publicize recent and ongoing projects that expand on-road bicycle facilities.	Planning Commission	Recurring	Creation of campaign

OBJECTIVE #2: EDUCATE DRIVERS AND BICYCLISTS OF THEIR RIGHTS AND RESPONSIBILITIES				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Cross promote PennDOT's public campaigns about bicycle safety and roadway rules.	Health Roads & Bridges Planning Commission Parks & Heritage Services	Short	Inclusion of PennDOT materials in mailers, on websites, and on social media
B	Work with municipal law enforcement, emergency responders, and county park rangers to expand bicycle units.	Public Safety Sheriff	Medium	Number of active bicycle units

Short (1-4 yrs) Med. (5-10 yrs) Long (10+ yrs) Recurring

Health and Environmental Sustainability:

There is little debate that our region suffers from traffic congestion and air pollution caused by millions of cars. Montgomery County residents and businesses alone own more than 685,000 vehicles, the third highest number in Pennsylvania.¹ Expansive parking lots create heat islands and stormwater runoff. All combine to diminish our personal health and well-being. In contrast, bicycling can reduce some of those environmental impacts and give citizens healthier lifestyles.

But in order to entice people to bicycle more, a mix of public awareness and infrastructure improvements are needed. For instance, Montgomery County can install employee amenities such as bicycle racks, showers, and lockers within their county campus, as well as make trail upgrades to create wider paved sections, lighting, bathrooms, snow removal, and repair equipment that make commuting by bicycle a more pragmatic option.

¹ www.dot.state.pa.us/public/dvspubsforms/BMV/Registration%20Reports/ReportofRegistration2017.pdf



Goal #5: Promote bicycling as a healthy and environmentally sustainable way to travel.

Objective 1: Increase bicycle use for health and fitness.

More and more, people are looking for ways to include fitness into their daily routines. Interactive public campaigns that garner press coverage, such as Park(ing) Day and the Montgomery County Trail Challenge, are effective initiatives for the county to undertake.

Objective 2: Increase bicycle use for commuting to work.

Bicycling to work is quite different than biking for pleasure. There are schedules to keep when commuting, and trail or road amenities can be the practical push that convinces a driver to switch to a bicycle. Connections on municipal roads that link major trails and local destinations are also critical.

Objective 3: Increase bicycle use for non-commuting trips.

Good land use planning and development that keeps homes and businesses fairly close to each other are prerequisites to using a bicycle for everyday trips around town. However, Montgomery County's 62 municipalities each control the type and style of development, which means they have a central role to play with this objective.

HEALTH AND ENVIRONMENTAL SUSTAINABILITY

Goal #5: Promote bicycling as a healthy and environmentally sustainable way to travel.

OBJECTIVE #1: INCREASE BICYCLE USE FOR HEALTH AND FITNESS				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Install bicycle amenities at all county-owned buildings and offer incentives for county employees who regularly bicycle to work.	Public Property Human Resources	Short	Number of county employees regularly bicycling to work
B	Establish a promotional campaign aimed at health care patients about the benefits of bicycling for recreation and travel.	Health	Recurring	Number of healthcare industry participants
C	Continue to hold bicycle-themed promotions and special events for the general public.	Planning Commission Parks & Heritage Services Health	Recurring	Number of annual events

OBJECTIVE #2: INCREASE BICYCLE USE FOR COMMUTING TO WORK				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Evaluate improvements to the county trail system that would better enable more citizens to commute by bicycle.	Parks & Heritage Services Planning Commission	Long	Amount of capital funding spent on county-owned trails
B	Ensure that bicycle facilities and connections are addressed through the county's land development review responsibilities when new development or redevelopment is proposed.	Planning Commission	Recurring	Incorporation of review comments in the land development review process
C	Work with municipalities to continue building local trails and on-street bicycle facilities that connect to employment centers.	Planning Commission	Recurring	Number of miles of new municipal trails and on-road bicycle facilities within one mile of office parks

OBJECTIVE #3: INCREASE BICYCLE USE FOR NON-COMMUTING TRIPS				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Promote mixed-use zoning that makes bicycling convenient by reducing the distance between homes, stores, and employment.	Planning Commission	Recurring	Number of acres of mixed-use land development projects

Short (1-4 yrs) Med. (5-10 yrs) Long (10+ yrs) Recurring

Vibrant Economy: As *Montco 2040: A Shared Vision* notes, strong economies allow residents to earn and spend more while allowing governments to have the funds to improve their infrastructure. Bicycling can be part of a vibrant economy. As more American businesses embrace sustainability as a core value, on- and off-road bicycle networks are rapidly gaining acceptance as the public, too, seeks more sustainable lifestyles.

Montgomery County's strong economy can be further diversified by carefully fostering a bicycle industry. Manufacturers, transportation data firms, bicycle-sharing companies, retailers, restauranteurs, and tourism promoters all have a role to play in making the county the economic epicenter of bicycling in Pennsylvania.



Goal #6: Create and nurture a county bicycling industry.

Objective 1

Grow bicycle tourism and spending.

Marketing Montgomery County as a bicycling destination is a major part of crafting a bicycling economy. So, too, is bringing established names and start-up companies in the national bicycling industry to set up shop in the county. Both approaches can create a critical mass of activity.

Objective 2

Improve bicycle access to economic generators and attract new businesses that value bicycling.

Building an economy around bicycling is also about attracting businesses outside of the industry who are interested in giving their employees healthy options for commuting or recreation. Montgomery County has numerous chambers of commerce, a tourism board, and two transportation management associations that can be a critical resource for helping the county to attract and retain forward-thinking employers.

VIBRANT ECONOMY

Goal #6: Create and nurture a county bicycling industry.

OBJECTIVE #1: GROW BICYCLE TOURISM AND SPENDING				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Create, sign, and brand bicycle tourism routes throughout the county.	Planning Commission Valley Forge Tourism and Convention Board	Short	Number of routes created
B	Establish Montgomery County bicycle tourism marketing campaigns aimed at regional and national audiences.	Valley Forge Tourism and Convention Board	Medium	Creation of marketing campaign
C	Pursue the American League of Bicyclists "Bicycle-Friendly Community" designation for the county and other municipalities.	Planning Commission	Medium	Certification achievement
D	Coalesce the county's many competitive bicycle races into an annual series for promotional purposes.	Valley Forge Tourism and Convention Board	Medium	Creation of an umbrella organization or promotional effort
E	Assist and incentivize businesses to locate along trails and major on-road bicycle routes.	Commerce	Long	Number of businesses located adjacent to trails and major routes
F	Attract companies in the bicycling industry to locate to Montgomery County.	Commerce	Long	Number of bicycle industry employees

OBJECTIVE #2: IMPROVE BICYCLE ACCESS TO ECONOMIC GENERATORS AND ATTRACT NEW BUSINESSES THAT VALUE BICYCLING				
Task	Action Item	Lead County Department	Timeframe	Performance Metrics
A	Develop planning tools to quantify the economic benefits of enhancing bicycle access to downtowns and locating homes and businesses near trails and bicycle facilities.	Planning Commission	Short	Creation of tools
B	Create model zoning and land development ordinances that enable bicycling and expand the planned bicycle network.	Planning Commission	Short	Creation of model ordinances
C	Empower businesses to expand bicycle access and amenities at their facilities.	Planning Commission Commerce	Recurring	Number of businesses involved or engaged
D	Assist municipal efforts to improve bicycle infrastructure in commercial and downtown areas.	Planning Commission	Recurring	Number of miles of on-road bicycle markings in commercial districts

Short (1-4 yrs) Med. (5-10 yrs) Long (10+ yrs) Recurring



CHAPTER 8

Implementing *Bike Montco*

Bike Montco's vision is to make bicycling become a fundamental part of daily life where every bicyclist can enjoy a safe, convenient ride every time they put their foot on a pedal. This document undertakes the traditional planning process of establishing goals, collecting data, understanding public opinion, recommending improvements, and providing concrete actions.

Planning is the easy part. Next comes the hard work of implementation.

This chapter provides clear statements about who is responsible to implement the plan and record its progress. It also serves as a declaration of the values that will guide its execution.





Bike Montco is Montgomery County's plan.

Bike Montco is a document written by Montgomery County to guide its own actions. Various county departments will work together to integrate these recommendations into their work and will initiate coordination with outside partners.



Bike Montco will have a champion.

Every successful initiative requires a leader. Montgomery County Planning Commission staff will serve as the central point of contact for implementation and will be responsible for tracking its long-term success.



Bike Montco needs to be effective.

Meaningful change requires considerable time, patience, and persistence over a number of years. The Montgomery County Planning Commission will evaluate the effectiveness of *Bike Montco* by compiling data related to the performance metrics of each objective outlined in Chapter 6 on a regular basis. Ideally, a progress report will be completed annually and a summary of the plan's long-term achievements published every five years.



Bike Montco must remain relevant.

With each update, *Bike Montco* will incorporate the latest trends and data into the planning process to help guarantee that the document remains resilient in the face of rapid social and civic change.



Bike Montco requires investment.

Change takes time, but it also requires funding. Montgomery County will use its resources whenever possible or reasonable to improve on- and off-road bicycle infrastructure throughout the county. Direct capital projects or municipal grant programs are two such tools.



Bike Montco can't go it alone.

In order to be successful, the county government will need help from its many partners. Here are some of the organizations that will help achieve *Bike Montco's* vision and the part each can play.

<p>Pennsylvania Department of Transportation (PennDOT)</p>	<p><i>The Pennsylvania Department of Transportation owns most of the major roadways in the county and is responsible for their upkeep. Coordination regarding PennDOT capital and maintenance projects provides regular opportunities to add appropriate bicycling facilities along state roads.</i></p>
<p>Delaware Valley Regional Planning Commission (DVRPC)</p> <p>Southeastern Pennsylvania Transportation Authority (SEPTA) and Pottstown Area Rapid Transit (PART)</p> <p>Bicycle Coalition of Greater Philadelphia</p> <p>Transportation Management Associations (TMAs)</p>	<p><i>The Delaware Valley Regional Planning Commission is instrumental in creating the regional Transportation Improvement Program (TIP) and distributing grant funding. It is also a valuable source of planning data and assistance that can be used to refine plans to achieve the most effective results.</i></p> <p><i>The two public transit authorities operating in Montgomery County run numerous bus and rail lines. Both organizations are committed to improving accommodations for bicycles at stations and on vehicles.</i></p> <p><i>The BCGP is the Delaware Valley's main bicycling advocacy group. The group works to develop public and government support for building on-road bicycle infrastructure and increasing safety.</i></p> <p><i>GVF Transportation and Partnership TMA are non-profits whose mission is to promote sustainable transportation solutions such as bicycling, transit, and ride-sharing to businesses and governments.</i></p>
<p>PSATC PSATS PSAB</p>	<p>Pennsylvania State Associations of Township Commissioners, Township Supervisors, and Boroughs</p> <p><i>These statewide associations provide regular updates on planning and municipal management issues. They can provide an avenue for reaching many local officials with information and guidance about bicycle-friendly development and maintenance.</i></p>
<p>Local municipalities and school districts</p> <p>Engineering and Planning Firms</p>	<p><i>Achievement of the county's bicycling vision cannot occur without participation by municipal governments and school districts. Their fiscal and political support is essential for connecting the planned bicycle network to neighborhoods, schools, and employment centers.</i></p> <p><i>County agencies and municipalities collaborate with numerous engineering/planning firms as new development and infrastructure is constructed. These firms bring critical experience and expertise to the planning and design of on- and off-road bicycle facilities to create a multimodal infrastructure.</i></p>

The one thing *Bike Montco* cannot do is actually implement itself. That effort belongs to the Montgomery County government, its citizens, its institutions, and its outside allies. Only by working together as partners can *Bike Montco*'s vision become reality to further the goals of the county comprehensive plan and make Montgomery County an even better place to live, work, and visit.



