Walk Montco
Montgomery County Walkability Study
## Introduction and Goal Statement

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INTRODUCTION

Walking should be easy for everyone - it doesn’t take a special skill or fancy equipment, other than a comfortable pair of shoes. But in much of Montgomery County, walking is challenging when there are no sidewalks, development makes walking unappealing, or driving is easier. Many people want to walk but can’t do so safely, conveniently, or comfortably. And for those who can’t walk, accessibility is a challenge every day.

A goal of the county’s comprehensive plan is to improve walkability to provide transportation choices, improve health, create better community connections, make the county more appealing for young workers, and improve the environment.

To address walking issues and the comprehensive plan’s goals, this Walk Montco plan provides guidelines and case studies for improving the ability of people to walk.

We don’t walk as much as we used to.

According to the Safe Routes to School program, in 1969, 48 percent of children ages 5 to 14 walked or bicycled to school. By 2009, that number had dropped to 13 percent. Just as startling is the change in school location in relation to where students live. In 1969, 41 percent of children in grades K-8 lived within one mile of school (and 89 percent of those students walked). Fast forward to 2009 and only 31 percent of the K-8 students lived within one mile of school (35 percent of those students walked or biked).

The decline in walking is not limited to children. The Surgeon General’s just-released call to action to promote walking and walkability states that only one-half of all U.S. adults and only one-quarter of high school students meet the national guidelines for aerobic physical activity. Everyday essentials are procured from shopping centers oriented towards cars rather than pedestrians. Walking to the store for a gallon of milk is just a distant memory for most of us. People live farther away from their jobs—and the everyday realities of pickups, drop-offs, appointments, and obligations means that having a car is not just a convenience but an essential.

Yet not everyone drives. Walking is an important (and for some, the only legal) method of transportation. Walk Montco explores how communities can make walking safer for everyone - and how we can encourage everyone to walk more.
Why don’t we walk as much?

A majority of people express a desire to live in a walkable neighborhood, but land use patterns and a focus on cars created neighborhoods that are less conducive to walking. Our built communities make it more difficult for us to get around on foot.

The map images on this page show the difference between a traditional, walkable neighborhood and a newer suburban neighborhood. The map on the left shows destinations that are less than 500 feet away from each other, yet without trespassing through someone’s yard it would take nearly an hour to walk between the two houses. Alternatively, the image on the right represents a connected street system, with plenty of amenities to walk to. Interconnected streets, with a mix of commercial, residential, and institutional uses—create a more walkable community. In this case, it only takes a few minutes to get from one house to the next.

Walking is hard to do in many newer developments.
Why should we care about walking?

Reason 1

For Your Health

Any type of physical activity, including walking, is important for staying healthy. It lowers the risk of heart disease, cancer, diabetes, and other chronic health conditions. It keeps the pounds off, and it makes you feel good! Today, more than one-third of children are overweight or obese. Among adults, one-third are obese—compared to 15% in 1970.

A study in the New England Journal of Medicine found that walking two miles per day cuts the risk of death due to cancer by almost HALF.

Another study, in Obstetrics and Gynecology, found that women who exercised more than six hours per week were 27% less likely to develop ovarian cancer than their sedentary peers.

Another study, by the National Institutes of Health, found that adults who increased their physical activity reduced the risk of colon cancer by 30% to 40%.

People who live in walkable communities have a natural advantage over those who live in auto-dependent neighborhoods. Short walks to the grocery store, dry cleaners, and other amenities and services can add up and help toward the goal of thirty minutes of physical activity per day!

Research published in Medicine and Science in Sports and Exercise showed that multiple short walks per day were just as effective as one longer period of exercise.

Walking reduces the risks of many diseases.
Why should we care about walking?

**Reason 2**

For the Environment

Vehicle emissions represent a large portion of pollutants in the air. To be exact; 31% of carbon dioxide, 81% of carbon monoxide, and 49% of nitrogen oxides released into the air result from vehicle emissions.

Short vehicle trips are the worst offenders. About 60% of the vehicular pollution happens in the first few minutes of operation. This means that shorter trips are more polluting on a per-mile basis than longer trips. There is no easier way to lower a personal carbon footprint than substituting a short drive with a walk.

Air pollution is linked to asthma - something that many children in Montgomery County face. According to the 2010 PHMC Community Health Database, rates of asthma in the county’s youth went up as high as 29% in the northern end of the county.

Living in a walkable community can cut down on short trips. Studies show that residents of communities with sidewalks and connected streets drive less than residents of communities with an incomplete sidewalk network. It’s also important to make local communities amenable to bicycle transportation. A bikeable community can help cut down on even more short trips, which is great since a four-mile round trip by bicycle keeps about 15 pounds of pollutants out of the air.

While much emphasis is placed on how things look and the interconnectedness of streets, equally important is the placement of different land uses within our communities. Walkable, interconnected streets are useless if there are no destinations to walk to. The infographic above, from the U.S. Department of Transportation, shows that we can eliminate many short driving trips if we design our communities so that churches, shops, workplaces, and recreational facilities are located near residences.
Why should we care about walking?

Reason 3

For Safer Streets

Each year 6,000 pedestrians are killed and 90,000 are injured nationally. Scared of flying? In fact, less than 6% of all Americans’ trips are on foot, yet 13% of all traffic deaths involve pedestrians. In Montgomery County, there were 1,155 crashes involving a pedestrian between 2009 and 2013; 43 crashes involved a fatality.

Walking isn’t dangerous because pedestrians are negligent or frivolous. We can’t blame our motorists either. Most pedestrians and cyclists own cars and use them for longer trips. And drivers walk too, even if its just to their final destination.

Our communities are less safe for pedestrians than we would like because we have designed these communities that way. About 60% of pedestrian deaths occur in places where no crosswalk is available. In Montgomery County, 32 of those 43 crashes took place in the roadway and 7 on the side of the road where there was no sidewalk. Streets are often built to accommodate faster automobile traffic without regard for pedestrians. As a result, we end up with streets that are very difficult for pedestrians to use safely and efficiently; yet some people have to walk or want to walk.
Why should we care about walking?

Reason 4

To Save Money

Driving costs money - whether its gas, automobile insurance, registration or maintenance. The average cost of operating a sedan for a year is between $5,900 and $12,700— and the cost of operating an SUV is between $10,000 and $13,000. Eliminating or reducing that expense could make a big difference for households.

A study in San Francisco showed the average medical costs for treating pedestrian crashes between 2004 and 2008 was between roughly $47,000 and $77,000 for admitted patients and between roughly $3,800 and $6,400 for non-admitted patients. Either way, being a victim in a pedestrian crash is hard on the wallet—not to mention one’s health!

When comparing the economic, environmental, and personal costs of operating a vehicle it becomes obvious that walking and biking for transportation are a great deal! It only costs about $120 per year to operate a bicycle and walking is pretty close to free.

<table>
<thead>
<tr>
<th>Mileage Driven Per Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sedan</td>
</tr>
<tr>
<td></td>
<td>Small</td>
</tr>
<tr>
<td>10,000</td>
<td>$5,952</td>
</tr>
<tr>
<td>15,000</td>
<td>$6,967</td>
</tr>
<tr>
<td>20,000</td>
<td>$7,962</td>
</tr>
</tbody>
</table>

Versus $120 per year for operating a bike or walking.

Each mile driven instead of walked costs money.
Why should we care about walking?

Reason 5

For Better Mobility for All

In Montgomery County, about 40% of all households include someone who is 60 years of age or older. Likewise, nearly one third of households include someone who is 18 years of age or younger. These two groups, children and seniors, are two groups that can greatly benefit from living in a walkable community. At the same time, barriers to a safe pedestrian environment can loom even larger for these two groups.

Studies have shown that older people living in walkable communities have higher levels of social interaction compared with those residing in auto-centric communities. Throughout the country, seniors are growing as a share of the population, making pedestrian safety for this group even more important. Residents ages 65 and older are projected to be 25 percent of the county’s population by 2025.

On the other end of the age spectrum, walking among school children has declined significantly. Building neighborhood schools and making sure they are connected to a sidewalk system would make it easier for children to walk to school and would help reverse the health and safety consequences we’ve seen over the past half century.

40% of all households in Montco include someone 60+ yrs old.

33% have someone school aged.

The school district in Lakewood, Ohio—a desirable suburb of approximately 50,000 residents, near Cleveland—has saved thousands by not providing bus service. Lakewood has made sure that every student lives less than two miles from a neighborhood school and the streets are safe for walking. As a result, school-associated congestion is non-existent and children start their day with some healthy exercise. Studies have shown that students who walk to school perform better on average than students who are driven or who ride the bus.

Source: Lakewood City Schools
Why should we care about walking?

Reason 6

To Support the Economy

Studies have shown that having a walkable downtown encourages a healthy business climate. One California town saw commercial vacancy rates drop from 18% to 6% after revamping its downtown to make it more walkable. It also saw a 30% increase in downtown sales tax revenues, proving that walkability was a great investment!

After installing traffic calming improvements to strengthen walkability as part of an economic development initiative, a city in Florida saw property values more than double along the street where the improvements were installed.

A Silicon Valley think tank found that the new knowledge driven service-oriented economy thrives on walkable commercial areas with a mixture of offices, restaurants, and housing. These areas promote interaction, a key element of the new creative and networked economy.

Certainly, the Millennial generation, the county’s up-and-coming workforce, prefers walkable places, with 76% stating that walkability is important. Many companies have noticed this trend and adjusted their approach for attracting Millennials, either by moving, such as American Eagle Outfitters’ move to a new Pittsburgh mixed use development, or by opening satellite offices in more walkable locations.

A 1999 study by the Urban Land Institute of four new pedestrian-friendly communities found that homebuyers were willing to pay a $20,000 premium for homes in walkable neighborhoods.

More compact walkable communities are often more efficient from a fiscal perspective. One research project, conducted by the Colorado State University Cooperative Extension, showed that connected, walkable development is much more efficient than low-density rural development. Researchers found that low-density rural development cost county governments and schools $1.65 for every dollar of tax revenue generated. On the other hand, taxpayers saw a net gain from compact development.

Walkability has a strong effect on the local economy. Entrepreneurs pick walkable neighborhoods to open new businesses, like downtown Souderton on the near right.

And in downtown Conshohocken (on the far right), new employers are attracting Millennials, the majority of whom feel that walkability is important.
Walk Montco implements the county’s new comprehensive plan, Montco 2040: A Shared Vision, adopted in January, 2015. Specifically, this plan tackles the following goal...

Improve Transportation Quality and Expand Options for County Residents and Workers

...and the action under this goal to...

Advocate for more sidewalks and pedestrian-oriented design of developments.

Our public survey for Montco 2040 drew more than 2,500 responses from across the county—and walkability was a strong component of what people wanted from where they live and from the county, overall. We heard responses like:

“We need more sidewalks to make a more walkable community. I have two shopping centers near me that I could walk to in about 10 to 15 minutes but I don’t because of lack of sidewalks and no crossing signals at busy intersections. If it was just me walking I might consider it, but I have two children and there is no way I would try to take them with me, they would not be safe.”

Walking routes should be provided. Sidewalks in newly developed areas should be required to interconnect with other ones.”

Goal Statement

“...and the action under this goal to...

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Walking routes should be provided. Sidewalks in newly developed areas should be required to interconnect with other ones.”
Montco 2040 Themes

A stronger pedestrian network supports all three Montco 2040 themes:

- **Connected Communities** - sidewalks and walkable neighborhoods directly connect people and neighborhoods.
- **Sustainable Places** - walking improves health and has virtually no negative environmental impact.
- **Vibrant Economy** - a strong sidewalk network connects transit riders to their jobs and appeals to Millennial workers.
CHAPTER 1
Existing Conditions in Montgomery County

This chapter describes the current state of walkability in the county and raises general issues that pedestrians encounter.

This chapter includes information on:
- The location of existing sidewalks and trails
- The walkability score of the county’s various neighborhoods
- The common problems throughout the county’s sidewalk network

To get feedback from more than just the four audit areas that we cover in more detail, we created an online map with the assistance of Wikimapping. We asked people to show us where they walk, and where they’d like to walk. We also asked for feedback on where there are problem spots or there’s room for improvement. This gave us the ability to pinpoint issues, and gave participants a chance to upload photos and give feedback on others’ comments as well.

Although most of our comments came from participants in and around our focus areas, we received a significant amount of feedback from residents elsewhere as well. People want to be able to walk to school, to local amenities, or to their local transit station. People also mentioned maintenance issues - snow that doesn’t get shoveled, sidewalks that are in disrepair, or hedges that need trimming. This is a great way of crowdsourcing information.

Comments included:

“I think better sidewalks and crosswalks around this area would increase accessibility to the train station, and make it safer for people waiting at the bus.”

“Cars sped thru [sic] here to avoid traffic on larger roads. I want a series of speed bumps.”

“All four corners display ‘no pedestrian crossing’ signs. What is a walker supposed to do?”

“The poles make the sidewalks useless if you are in a wheel chair.”
Online Public Feedback (from Wikimapping)
Why People Walk

People walk for many different reasons, sometimes by choice, sometimes because they have no other means of transportation. People walk:

• For exercise
• For fun
• To commute to work
• To walk a pet
• To visit others
• To spend time with family
• To get to the store, library, or place of worship
• To get to a train or bus

Everyone, no matter who they are or where they are going, walks at some point during their trip. Even a person driving to the supermarket or home supply store becomes a pedestrian and needs to walk safely, conveniently, and enjoyably to their final destination.

Local trails often provide shortcuts for pedestrians, such as this example from Harleysville.

<table>
<thead>
<tr>
<th>TOP TEN MUNICIPALITIES FOR RESIDENTS WALKING TO WORK</th>
<th>PERCENT OF COMMUTERS WALKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegeville</td>
<td>25.7%</td>
</tr>
<tr>
<td>Bryn Athyn</td>
<td>16.8%</td>
</tr>
<tr>
<td>Pottstown</td>
<td>8.0%</td>
</tr>
<tr>
<td>Lower Merion</td>
<td>7.8%</td>
</tr>
<tr>
<td>Norristown</td>
<td>7.5%</td>
</tr>
<tr>
<td>Cheltenham</td>
<td>7.0%</td>
</tr>
<tr>
<td>Ambler</td>
<td>6.8%</td>
</tr>
<tr>
<td>Narberth</td>
<td>6.6%</td>
</tr>
<tr>
<td>Pennsburg</td>
<td>5.6%</td>
</tr>
<tr>
<td>Cheltenham</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOP TEN MUNICIPALITIES FOR RESIDENTS TAKING TRANSIT TO WORK</th>
<th>PERCENT OF COMMUTERS TAKING TRANSIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narberth</td>
<td>17.9%</td>
</tr>
<tr>
<td>Jenkintown</td>
<td>16.6%</td>
</tr>
<tr>
<td>Cheltenham</td>
<td>13.5%</td>
</tr>
<tr>
<td>Lower Merion</td>
<td>10.6%</td>
</tr>
<tr>
<td>Norristown</td>
<td>10.6%</td>
</tr>
<tr>
<td>Springfield</td>
<td>8.9%</td>
</tr>
<tr>
<td>Lower Moreland</td>
<td>8.2%</td>
</tr>
<tr>
<td>Abington</td>
<td>7.9%</td>
</tr>
<tr>
<td>Ambler</td>
<td>7.7%</td>
</tr>
<tr>
<td>Upper Dublin</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Source: 2013 U.S. Census American Community Survey 5-year Estimates

Many of these commuters walk to the train or bus.
Sidewalk Networks in Montgomery County

Sidewalks are a basic building block of walkable communities. Although it is possible to walk where there are no sidewalks, this is not ideal, particularly on higher volume and higher speed roads.

More than half of the roads in the county have no sidewalks. Most of the roads with sidewalks are in older, more developed towns and suburbs.

Recently, many suburban municipalities have recognized the need for sidewalks and have begun requiring all new development to have sidewalks. Although this means that sidewalks on a new development may not connect with sidewalks on abutting properties over time, the sidewalk network will be completed. In the meantime, the sidewalks on the new development give pedestrians a safe place to walk.

Source: MCPC and 2010 DVRPC aerials
Trail Networks in Montgomery County

Trails are also used extensively by pedestrians and supplement local sidewalk networks. Some of the trails are used for long distance travel, some for exercise, and some for access to local destinations. The county has over 60 miles of trails it has built, with more than 80 miles constituting part of the county-wide trail system. (Generally, these are longer distance trails connecting communities in and outside of the county and owned by a variety of governments and organizations.) Local trails often connect into this wider county system or provide access to local destinations. Lower Salford Township has created an excellent trail system that supplements sidewalks, provides access to school and parks, and helps define the Harleysville community.

Existing and Proposed Trails

“...I bought my house in this area because of the trail.” Perkiomen Trail User
Walkability of County Neighborhoods

Many of the county’s older neighborhoods, particularly those built around train stations, are the county’s most walkable neighborhoods. Generally, these places have enough destinations, activity, sidewalks, and people to make walking both feasible and enjoyable.

The Walkability Rating looks at a variety of factors to determine the walking character of a neighborhood.

### Countywide Walkability

Source: Montgomery County Planning Commission and Board of Assessment data. (Please note: this analysis includes sidewalks and is an update of the map found in Montgomery County Today.)

### Top Neighborhoods for Walkability

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Walkability Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narberth</td>
<td>90</td>
</tr>
<tr>
<td>Ambler</td>
<td>88</td>
</tr>
<tr>
<td>Jenkintown</td>
<td>88</td>
</tr>
<tr>
<td>Conshohocken</td>
<td>86</td>
</tr>
<tr>
<td>Ardmore</td>
<td>85</td>
</tr>
<tr>
<td>Norristown (1)</td>
<td>80</td>
</tr>
<tr>
<td>Norristown (2)</td>
<td>78</td>
</tr>
<tr>
<td>North Wales</td>
<td>74</td>
</tr>
<tr>
<td>Bridgeport</td>
<td>71</td>
</tr>
</tbody>
</table>

### Walkability Rating

Walkability =  

- **Destinations + Built Environment**
  - Supermarkets
  - Drug Stores
  - Restaurants
  - Public Schools
  - Libraries
  - Post Offices
  - Train Stations and Bus Stops

- **People**
  - Street Grid
  - Mix of Uses
  - Presence of Parking Lots
  - Types of Streets and Sidewalks
Design Concerns with the County’s Sidewalk Network

PennDOT’s Smart Transportation Guidebook states that “pedestrian activity is best accommodated by a connected network of sidewalks, complementary land uses, attractive streetscaping, regular controlled pedestrian crossings, and lower speeds of passing traffic.”

Some of Montgomery County’s streets and neighborhoods meet these general design criteria but many do not. To meet all of these design criteria and create a truly walkable county, there’s much work to do and many improvements to make. Over the past couple of decades, many people and communities have recognized the importance of walkability and have begun retrofitting their streets as new development is proposed.

“It would be wonderful to have sidewalks to walk to the new elementary school.” County Resident

Connected Network of Sidewalks

- Stronger Walkability - sidewalk connects to destinations. This sign was installed by the homebuilder to help sell homes.
- Weaker Walkability - no sidewalk along busy, high-speed road.

Complementary Land Uses

- Stronger Walkability - commercial buildings are close to street, visually appealing to walkers, and directly accessible from the sidewalk.
- Weaker Walkability - pedestrians have to walk through large parking lot to get to stores.
Attractive Streetscaping

**Stronger Walkability** - streetscape makes the walking environment pleasant. This streetscape includes decorative street lights, a grass verge, street trees, landscaping, a historic marker, and a decorative fence.

**Weaker Walkability** - sidewalk is right next to street cartway with no streetscaping.

Lower Speeds of Passing Traffic

**Stronger Walkability** - traffic speeds are lowered through traffic calming that includes bulb-outs, vertical elements on the side of road, and a narrow street cartway.

**Weaker Walkability** - streets are designed for high vehicular speeds, which is often less appealing for pedestrians, particularly if there is no sidewalk or the sidewalks are too close to the road.

Regular Controlled Pedestrian Crossings

**Stronger Walkability** - the crosswalk across the driveway is easy to see and clearly gives pedestrians the right-of-way.

**Weaker Walkability** - cars rather than vehicles have right-of-way for this driveway crossing.
Walk Montco studied the following four focus areas:

- Safe Routes to Schools
- Access to Downtown Areas
- Transit Oriented Development and Access to Train Stations
- Walkability in Suburban Commercial Areas

The four focus areas represent a set of walking conditions and neighborhood types found in Montgomery County. They encompass different land use types and walking destinations.

Methodology

The Montgomery County Planning Commission held an open call for communities interested in a walkability analysis that fit one of our four focus areas. Each prospective municipality was eligible to select two of the four focus area types. 17 municipalities submitted narratives that demonstrated a proven commitment to walkability. Some applications were concerned with how walkability attracts new businesses and jobs, while others saw possibilities to better connect residents to local destinations. Each municipality credited walkability as an enhancement to quality of life and an attraction for new residents.

The four selected partner communities possess unique characteristics specific to their location, yet provide lessons that can be applied to almost any municipality in the county. Cheltenham Elementary School is located in a quiet residential neighborhood that has heavy commuting traffic; Hatfield Borough is an older downtown community with a good sidewalk network but heavy through traffic; Noble Train Station is located in a dense commercial and residential area, and is scheduled to become busier; and Germantown Pike in Whitemarsh Township is a dense, established commercial corridor.

The Audit Process

Walkability audits are formal safety performance examinations of a roadway and sidewalk segment by a multidisciplinary team. Our focus area audits were conducted with the assistance of local stakeholders: local planning staff, school district staff, parents, local business owners, municipal officials, local police, and transportation agency staff lent their expertise. At each Focus Area, MCPC staff conducted a pre-audit location analysis and stakeholder meeting to review site concerns and select an audit route. On the audit day, teams examined a roughly 1/2 mile segment of roadway, and noted safety concerns ranging from crumbling sidewalks to dangerous intersection design. Each audit concluded by sharing observations and discussing specific short-term and long-term recommendations for improvement, which are described in the following pages.
Safe Routes to School
Walkability Focus Areas

Hatfield Borough
Access to Downtown Areas

Germantown Pike, Whitemarsh Twp.
Access to Suburban Commercial Areas

Noble Train Station, Abington and Jenkintown
Transit Oriented Walkability

Cheltenham Elementary School, Cheltenham Twp.
Safe Routes to School
Schools and Walkability

Schools are unique and important places in which to encourage walkability. Walkability to schools is an issue that can unite multiple stakeholders with common issues. Students benefit directly from increased walkability in myriad ways; a growing body of research suggests a positive relationship between physical activity and academic achievement, regardless of socioeconomic factors. Walking to school connects children with nature, teaches independence, and reduces traffic congestion. Walking to school also contributes to the 60 minutes of physical activity recommended for children and adolescents by the Centers for Disease Control.

Challenges of Walking to School

Many things can discourage students, parents and school districts from walking to school or allowing and encouraging walking to school.

- Engineering and Design: Lack of accessible and safe routes to school due to lack of sidewalks or absence of ADA-compliant facilities.
- Vehicles: High traffic speeds and an increasing number of cars near schools can discourage walking even when sidewalks are present.
- Everyday Logistics: Parents and guardians of young children often juggle multiple tasks within a limited timeframe. Transporting children to school or a bus stop via car may be quicker and easier than chaperoning a walk to and from school.

Safe Routes to School

An international movement dedicated to increasing walkability for children and adolescents, called Safe Routes to School (SRTS) has succeeded in enacting legislation, at the state and federal level, to fund local projects to enable and encourage children, including those with disabilities, to walk and bicycle to school. Some Montgomery County school districts, such as Pottstown, have launched their own SRTS campaigns. The SRTS program is built around the Five E’s: Education, Encouragement, Enforcement, Evaluation, and Engineering. This comprehensive approach enables communities to sustain safe walking and bicycling opportunities by involving students, parents, teachers, police, and motorists.
How Walkable Are Our Schools?

The Planning Commission ranked each of the county’s public and private elementary, middle and high schools on a qualitative scale that took into account the following components:

- **Connectivity**—The level at which students and other pedestrians are directly connected to the nearest school.
- **Density**—Indicates whether a school is able to serve enough people within walking distance.
- **Mixed Uses**—Indicates whether there are eyes on the street, and whether a student can access retail or a library on their walk.
- **Foliage**—Street trees enhance the feeling of safety by providing an edge to sidewalks; they also slow drivers’ speeds.
- **Sidewalks**—As the primary vehicle of pedestrians, sidewalks are the most important component of walkability.
- **Crosswalks**—Street crossings within a half-mile walking distance from each school were analyzed to observe the existence and quality of crosswalks.
- **Lane Width**—Wider lane width correlates with higher traffic speeds. It also takes a student longer to cross a wider street.
- **Speed Limits**—Higher speed limits result in more severe crashes.
- **Traffic Flow**—A higher score for traffic flow indicates a school surrounded by roads with fewer lanes, narrower lanes, and lower speed limits—essentially, a network of local roads. Lower scores were given to schools that could only be accessed via wide and fast thoroughfares.

The highest possible score from a range of 0-3 was given to Jenkintown’s Elementary, Middle and High Schools.

**Cheltenham Elementary School**

CES was chosen for the Safe Routes to School Focus Area due to its strong institutional support for improving routes to school, its large base of eligible walkers, and its location at a heavily travelled intersection. Cheltenham Elementary School (CES) received a score of 2.1 in our walkability ranking. MCPC utilized the SRTS audit model by observing pedestrian and motorist behavior and the physical environment during the walkability audit process.

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**Schools and Walkability**

<table>
<thead>
<tr>
<th>Schools</th>
<th>Walkability</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Most Walkable</td>
</tr>
<tr>
<td></td>
<td>Somewhat Walkable</td>
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SRTS audit model by observing pedestrian and motorist behavior and

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- No Sidewalks
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**Base map prepared August 2012**
Focus Area Overview

Cheltenham Elementary School (CES) is home to roughly 400 students in grades 1-4. 199 of these students live within the approximate 1/2 mile radius of the designated Walk Zone. The Walk Zone is the area within which it is deemed safe for students to walk from their home to school. About 20 students walk to school each day, most with the assistance of 3 crossing guards. Many parents choose to drop off their children by car, and traffic congestion at the school is a major concern for CES and local officials.

The evaluation team conducted one morning audit (8:10 - 9:30am) and one afternoon audit (3:15 - 4:30pm), covering 3 routes within the Walk Zone. The routes were selected based on walker volumes and perceived safety hazards. Students tended to walk in small groups and were often chaperoned by an adult until they reached the five-way Front St. and Ashbourne Rd. intersection. With heavy traffic near the school, crossing guards provide necessary assistance to the walking students.
Safe Routes to School
Cheltenham Elementary School Context

Existing Conditions
The neighborhood surrounding Cheltenham Elementary is residential, with single family and twin houses. Public open space is concentrated along the creek corridors, on the edges of the walk zone. Future residential development at Ashbourne Country Club and zoning changes at JC Melrose Country Club will necessitate enhancements to the pedestrian network, such as sidewalk extensions and an additional crossing guard at the five-way Ashbourne Rd. and Front St. intersection.

The School’s emergency evacuation point is located on Front Street at St. Joseph’s School. Stops for SEPTA bus route 70 are located within the walk zone.
Safe Routes to School
Area A: Cheltenham Elementary School Property

1. **SOLUTION:** Establish an easement to allow direct connection to neighborhood via Berwyn Road. Construct a path through the Kerlin Farms Property.
   POTENTIAL COST: $$

2. **SOLUTION:** Install 2 gates to block unauthorized through traffic before and after school drop-off and pick-up periods.
   POTENTIAL COST: $$

3. **SOLUTION:** Repaint directional arrows and replace or relocate signs where necessary. Install speed bumps or raised pedestrian tables.
   POTENTIAL COST: $ - $$

4. **SOLUTION:** Install a fence around this corner of the school with a monitored gate at a safe location to provide a formal boundary. Cautious behavior may be encouraged by a chaperone.
   POTENTIAL COST: $ - $$

**HIGH PRIORITY RECOMMENDATIONS**
Safe Routes to School
Area B: Ashbourne Road at Cheltenham Elementary School

SOLUTION: Update school zone sign to meet current FHWA and MUTCD standards. Sign type should be consistent with newly installed signs on Front Street.
POTENTIAL COST: $$

SOLUTION: A: Paint “no parking zone” stripes on either side of driveway. POTENTIAL COST: $
Solution B: Install tubular delineators on either side of driveway. POTENTIAL COST: $
Solution C: Extend curb line on either side of the driveway to create a bump-out.
POTENTIAL COST: $$$

SOLUTION: Widen Ashbourne Road from Front Street intersection to the school driveway. Create a dedicated westbound left-turn lane into the school driveway and provide space for on-street parking on eastbound side. These improvements could be concurrent with the proposed development.
POTENTIAL COST: $$$$

SOLUTION: Launch an educational campaign highlighting the effects of idling vehicles. Example: Myers Elementary School sign campaign.
POTENTIAL COST: $

SOLUTION: Delineate the bus stop zone with painted pavement and signs. Replace or extend the sidewalk on school property to 5’ or greater width, and install a bus shelter.
POTENTIAL COST: $$

HIGH PRIORITY RECOMMENDATIONS
Safe Routes to School

Area C: 5-Way Intersection

**1. SOLUTION:** Reduce speed limit on Ashbourne Road to 25 mph. Relocate the school zone advance warning sign to appropriate distance from school property on Ashmead Road.

**POTENTIAL COST:** $$

**2. SOLUTION:** Create a formal crosswalk and pedestrian signal when Ashbourne development is underway. Retain an additional crossing guard for this location. Install a bus shelter on northeast corner of Ashbourne.

**POTENTIAL COST:** $$$

**3. SOLUTION:** Re-stripe 4 existing crosswalks with zebra or continental stripes. Consider snowplowable raised pavement markers.

**POTENTIAL COST:** $$

**4. SOLUTION:** Mount overhead pedestrian crossing sign on masthead arm of each traffic signal that is above a crosswalk. To reduce pedestrian confusion, mount new walking person—upraised hand pedestrian signals at each traffic signal support pedestal.

**POTENTIAL COST:** $$$

**5. SOLUTION:** Build an additional length of sidewalk to extend the square footage of this refuge zone. Re-grade this site to allow for positive water drainage.

**POTENTIAL COST:** $$

**HIGH PRIORITY RECOMMENDATIONS**
Safe Routes to School
Area D: Front Street at Cheltenham Elementary School

1. **SOLUTION:** Install a school crossing sign with downward pointing arrow at crosswalk install STOP AHEAD pavement markings in advance of stop sign.
   **POTENTIAL COST:** $

2. **SOLUTION:** Remove sign and install at different location on Front St, north of intersection (see Area G.)
   **POTENTIAL COST:** $$$

3. **SOLUTION:** Upgrade this school zone sign and relocate on Front Street 100 feet from school property. Install an advance warning sign ahead of school zone sign. Location and type of sign must meet current FHWA standards. The sign(s) shall be consistent with other newly installed school zone signs.
   **POTENTIAL COST:** $$$

4. **SOLUTION:** Add 5’ min. sidewalk when this site redevelops.
   **POTENTIAL COST:** $$$$ 

5. **SOLUTION:** Local enforcement. Install a radar driver feedback sign in the southbound direction of Front Street.
   **POTENTIAL COST:** $
Safe Routes to School
Area E: Front Street, Pleasant Hill Road to Hilldale Road

1. **SOLUTION:** Create a 90 degree intersection by decreasing the curb radii. Re-stripe crosswalk and install ADA-compliant curb ramps.
   **POTENTIAL COST:** $$$

2. **SOLUTION:** Install pedestrian advance warning signs ahead of Andrea Road intersection and Hilldale Road intersection. Re-stripe stop bars. Enforcement.
   **POTENTIAL COST:** $5

3. **SOLUTION:** Re-align Andrea Road to create a 90 degree intersection. Re-stripe and relocate 2 existing crosswalks, using zebra or continental striping.
   **POTENTIAL COST:** $$$

4. **SOLUTION:** Re-stripe existing crosswalks with zebra or continental style and install new crosswalk at Hilldale Road to match. Install ADA-compliant curb ramps. Construct 5’ min. sidewalk along length of Hilldale Road to facilitate safe entry to evacuation site.
   **POTENTIAL COST:** $$$$%

5. **SOLUTION:** Until physical improvements are made, follow temporary evacuation route utilizing existing infrastructure from Front Street to Andrea Drive to Waters Road.
   **POTENTIAL COST:** $

**HIGH PRIORITY RECOMMENDATIONS**

- Illegal U-turns, faded crosswalk, no ADA ramps at intersection.
- No warning signs at crossings. Motorists ignore stop sign.
- Dangerous intersection angle; poor visibility.
- Evacuation route does not accommodate disabled students.
- Front Street and Andrea Road are not clear evacuation routes.
Safe Routes to School
Area F: Ashbourne Road and Oak Lane Road

1. **SOLUTION:** Enforce municipal maintenance code.
   **POTENTIAL COST:** $

2. **SOLUTION:** Relocate sidewalk behind the wall, or install a 5’ min. sidewalk with min. 3’ wide verge during land development.
   **POTENTIAL COST:** $$$

3. **SOLUTION:** Install 5’ wide min. sidewalks during land development.
   **POTENTIAL COST:** $$$

4. **SOLUTION:** Redesign all crosswalks using zebra or continental striping.
   **POTENTIAL COST:** $

5. **SOLUTION:** Install advance warning pedestrian crossing signage.
   **POTENTIAL COST:** $

6. **SOLUTION:** Implement a road diet. Include bike lanes and retain on-street parking. Install curb bulb-outs at crosswalks.
   **POTENTIAL COST:** $$$ - $$$$
Safe Routes to School
Area G: Ashbourne Road, Arbor Road to Jenkintown Road

1. **SOLUTION:** Reduce width of existing corner pedestrian island to accommodate a median pedestrian island on Ashbourne Road. Reconstruct right slip lane as a compound curve radius to slow driver speeds.
   
   **POTENTIAL COST:** $$$$

2. **SOLUTION:** Install advance pedestrian crossing sign as well as a flashing pedestrian activated push-button light.
   
   **POTENTIAL COST:** $$$

3. **SOLUTION:** Replace sidewalk when necessary at 5’ width, routing around tree trunks and root zones.
   
   **POTENTIAL COST:** $$$+

4. **SOLUTION:** Install a complete sidewalk on southbound side of Ashbourne Road, and a crosswalk with signage at Jenkintown Road.
   
   **POTENTIAL COST:** $$$$

5. **SOLUTION:** Install a flashing school zone sign and advance warning sign.
   
   **POTENTIAL COST:** $$

**HIGH PRIORITY RECOMMENDATIONS**
Schools are active places, often located in the heart of our communities. They must ensure the safety of students who walk to school and those who do not. Improvements to schools are also investments for the community. Below are considerations to encourage walkability at schools.

Behavior and Design
It is important to remember the special limitations of children when designing for them:
• Because they are shorter than adults, children have a different field of vision than adults.
• Children have one-third narrower side vision than adults and are less able to determine the direction of sounds.
• Children have trouble judging speeds and distances of moving cars.
• Children are sometimes too small to be seen by fast moving or inattentive drivers.
• Children have shorter attention spans and may grow impatient at crossings.
• Children have less experience as pedestrians.
• Children lack the understanding of drivers’ intentions at intersections, crossings, or drop-off points, since they don’t drive.

Signs and Signals
School zones have a unique set of signage. Often the school zone includes the streets along the school and usually the area one to two blocks around it. The school zone should be marked with special signage to alert drivers of the high concentration of children. School zone signs should always be operational and placed in the appropriate location.

Pedestrian crossing signals are timed to the average adult male walking pace. Many signal crossings at schools, therefore, do not allow ample time for a young student to cross without the presence of a crossing guard.

Properly designed accessibility improvements, such as curb ramps and accessible pedestrian signals, benefit children with disabilities, senior citizens and those with other temporary or permanent mobility impairments.

Circulation & Site Design
• Circulation efficiency is a fundamental aspect of school site design. Transportation to and from schools involves pedestrians, bicyclists, buses, and cars – parents who are picking up and dropping off, and school staff. A well-designed school should accommodate buses adjacent to the school while additional drop-offs and pick-ups are taking place.
• School buildings should be accessible to pedestrians from all sides.
• Parking restrictions should be required in areas close to walk routes.
• Areas meant for pedestrians should be clearly delineated from other modes of traffic, through striping, colored pavement, or signage.
• Physical activity should be encouraged. School grounds should accommodate outdoor play through physical education classes, a walking club, or walking contests.

Crossing guards and parents should assist young children while crossing the street.

Wide, clear sidewalks provide safe pedestrian access to schools.
Access to Downtown Areas

Montgomery County is peppered with downtown areas...with businesses that depend upon accessibility, residents who want convenience, and destinations that need visitors. So being able to walk to—and within—these downtowns is vitally important.

Here are some reasons why:

• Not everyone can or wants to drive anymore. Young people can’t or don’t want to drive—but still want to enjoy themselves and spend time with friends. Having nearby, walkable destinations allows them to have things to do (or to get to work) without needing a ride. Even with technology that has made face-to-face interactions unimportant, socializing with one’s friends does require meeting up sometimes. On the opposite end of life’s spectrum, older residents may be reluctant to drive but may need to in order to visit the doctor or purchase groceries (or starters). Having necessary amenities that are a short walk away gives seniors a reason to exercise and allows the independent living that many people desire.

• It’s good for the economy. Being able to walk downtown is important for good businesses. It gives nearby residents the chance to go out for a leisurely meal or a walk to the library. In fact, it gives people the opportunity to spend more time (and hopefully more money) downtown if they’re not hopping in their cars the moment an errand is over. Plus, businesses want to locate in downtowns where there is foot traffic and opportunities for employees to patronize local stores and other amenities.

• It improves quality of life. Perhaps it’s an intangible thing, but livability is an important quality for all of our communities. Walking is good for our overall health, it’s good for the environment, and it’s an important choice for everyone to have.

What issues might people face while trying to walk downtown?

• It doesn’t feel convenient. Perhaps blocks are too big. Or a needed crosswalk isn’t where it should be. Or the traffic lights aren’t timed properly.

• It doesn’t feel safe. Vehicular traffic moves fast. Streets with wide lanes tend to promote faster travel speeds. So, cars which travel more slowly are less likely to be involved in pedestrian injuries and deaths. And streets with cars traveling at higher speeds may deter pedestrians from walking along them altogether.

• It doesn’t seem interesting. In short—people need something to look at. Be it interesting architecture, nice signage, window displays, colorful plantings, or street furniture, a lot of “blank” space at eye level will discourage people from coming out for a walk.
Access to Downtown Areas

New streetscaping, Royersford Borough

New high visibility crosswalks, East Greenville Borough

New street furniture, Souderton Borough

New streetlights, sidewalks, and crosswalks, Bridgeport Borough
Access to Downtown Areas
Hatfield Borough Location

Study Area Overview
Hatfield Borough is a walkable place—with a downtown that has a variety of uses. Home to religious institutions, restaurants, and independent businesses (and the Liberty Bell Trail), catering to pedestrians is important. Also present are two busy roads – Main Street and Broad Street – which attract many vehicles (and large trucks). Without much of a buffer for pedestrians, it can feel unsafe to be here on foot.

The borough’s interest in revitalization and future street and sidewalk improvements made them a good candidate for this study. Recently, the borough has worked to:
• Invest in streetscaping and signage to engage drivers and protect pedestrians.
• Upgrade signals and crosswalks at the intersection of Main and Broad Streets.
• Construct the borough’s portion of the Liberty Bell Trail.
• Construct a pedestrian-friendly plaza and gathering spot in the middle of downtown

The borough is about to make improvements to its sewer lines along North Main Street and will be implementing recommendations from its 2009 Traffic Calming Feasibility Study as the affected roadways are rebuilt.
Access to Downtown Areas
Hatfield Borough Context
Access to Downtown Areas
Area A: Hatfield Borough

1. **SOLUTION:** Add crosswalks at this intersection across southern end of Union Street and western end of North Market Street. Warning lights should be posted at approaches to fire station on Union and North Market Streets that would alert drivers to when a fire truck is departing.
   - **POTENTIAL COST:** $5

2. **SOLUTION:** Long term opportunities exist to narrow the driveway entrances and reconfigure the parking lot, to make this a more pedestrian-friendly stretch. Curb cuts should be made ADA compliant in the long run as well.
   - **POTENTIAL COST:** $5

3. **SOLUTION:** Short term recommendation is to install signage/gates at this rail crossing. Long term recommendation is for the railroad(?) to install permanent crossing infrastructure.
   - **POTENTIAL COST:** $5

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1. Driveway entrance(s) are too wide (and not ADA compliant).
2. Sharp curve is hazardous.
3. Informal rail crossing is illegal and potentially dangerous.
Access to Downtown Areas

Area B: Woodburners and the intersection of East Broad and North Market Streets

1. **SOLUTION:** Move bus stop signage behind the (traffic) stop bar.
   
POTENTIAL COST: $ 

2. **SOLUTION:** Short term recommendation is to shift the location of the existing crosswalk to be in front of the (traffic) stop bar. Add crosswalks on the other legs of the intersection. Long term recommendation is to completely re-align this intersection. The exit from Woodburners is essentially the 4th approach to the intersection and should be treated as such.
   
POTENTIAL COST: $$ - $$$$

3. **SOLUTION:** Install a banner/gateway to increase the visibility of the trail entrance. Additional signage that indicates the parking lot is open to the public (i.e. trail users) should also be considered.
   
POTENTIAL COST: $
Access to Downtown Areas
Area C: Intersection of Broad and Main Streets

1. **SOLUTION:** Fix sign. Consider upgrade to a sign that isn’t battery operated. Additional signage at other high speed spots may also be appropriate.
   
   **POTENTIAL COST:** $ - $$

2. **SOLUTION:** Short term—Additional enforcement, ticketing, and signage at this intersection. Trucks will continue to use this intersection if there are no consequences. Long term—Narrow the cartway on Main Street. Install bump outs, speed table, etc. as necessary.
   
   **POTENTIAL COST:** $ - $$

3. **SOLUTION:** Add on-street parking spot striping on Main Street and Broad Street.
   
   **POTENTIAL COST:** $$
Access to Downtown Areas
Area D: Post Office, North Main Street

1. **SOLUTION:** Remove on-street parking spot from west side of crosswalk.
   - POTENTIAL COST: $

2. **SOLUTION:** Install new crosswalk—in the short term, new striping should be sufficient—but given the truck traffic that comes through here, something that serves to slow traffic may also be appropriate.
   - POTENTIAL COST: $$

On-street parking spot obscures pedestrians crossing the street.

Crosswalk is faded and ADA tactile plates are too small and/or missing.
Access to Downtown Areas
Area E: Chestnut Street, Hatfield Township Pool

SOLUTION: Long term goal/recommendation is to install a pedestrian/bike trail through the wooded parcel to provide a direct connection to the pool. Wooded area appears to be movie lots—land acquisition could be difficult.

POTENTIAL COST: $$$
Access to Downtown Areas
Design and Land Use Considerations

When shopping at the mall - or online - is easy and convenient, making our downtowns easy to access and navigate becomes very important. Some things to keep in mind:

- People want to park once. It’s not counter intuitive to consider parking and walkability. Parking downtown needs to be convenient and easy to pay for. Meter feeding may drive walkers and shoppers away. And visitors unfamiliar with the downtown may want assurance they’re in the right place.

- Locals want to get there on foot! Even if it’s a short walk, most people enjoy leaving their cars behind sometimes. Small improvements, like crosswalks, signage, and accessibility additions do matter.

- People want to feel safe while walking. Most of the county’s downtown areas have major roads passing through them. Car traffic can be buffered with plantings, street trees, outside dining, as well as on-street parking.

![Image of downtown area with signs and people]
It is difficult to be a pedestrian in many suburban commercial corridors. Roads are wide—and vehicles travel quickly—with pedestrian crosswalks that are hard to see or aren’t in the places where pedestrians need them. Sidewalks are frequently adjacent to roadways and aren’t always connected in a meaningful network. Inevitably, the pedestrians who do walk these corridors trudge across overgrown road shoulders where sidewalk is missing or hike over landscaped berms to access stores, businesses, or jobs.

There are a number of reasons to address the walkability of suburban commercial areas. First, of course, is the safety of pedestrians. In addition, walkability increases property values, can increase greater social and economic interaction, and can increase retail sales. Where pedestrian facilities such as wider sidewalks, shorter, more visible crossings, street trees, lighting and other amenities are provided, vacancy rates can decrease and sales revenues can increase.

The main issues impacting walkability of suburban commercial corridors are related to zoning regulations that support cars more than people.

- Large development parcels provide for expanses of parking that all patrons must navigate but they also create long distances between destinations, making walking to various locations a significant chore.
- Suburban zoning regulations generally require buildings to be set far back from the road and potential transit routes. Often the areas adjacent to roads are delineated for vegetated buffers and berms that force pedestrians to use very circuitous routes to move from the street to the front door.
- It is often assumed that “folks just don’t walk around here,” so there is no need to invest in sidewalks. But one reason folks don’t walk is feeling unsafe due to the lack of sidewalks. Many patrons or employees in these suburban commercial corridors have few options but to walk. These populations are often overlooked.
- The main transportation investment in the suburbs has been in support of cars and trucks creating wide roads with long crossing distances at intersections. Without designated areas, pedestrians must walk along busy roadways and cross without crosswalks or pedestrian crossing signals. These are the most dangerous pedestrian actions.

Access to Suburban Commercial Areas
Access to Suburban Commercial Areas
Access to Suburban Commercial Areas
Whitemarsh Township - Germantown Pike Location

Study Area Overview

Germantown Pike is a busy commercial corridor – with 15,000+ vehicles passing through each day.

The township has worked to address pedestrian issues and has a plan for sidewalk improvements between Joshua Road and Church Road. It addresses the engineering for new pedestrian ramps, some revised driveway designs and the utility issues associated with a densely developed corridor. The township has identified right-of-ways needed to complete the plan but acquisition has not yet begun.

The audit for this corridor was conducted on June 9, 2015 and included staff from the Montgomery County Planning Commission, Whitemarsh Township staff, members of the police department, the municipal engineer, residents, local business owners, and staff from PennDOT, SEPTA, and DVRPC.
Access to Suburban Commercial Areas
Whitemarsh Township - Germantown Pike Context

Destinations and Land Use

This stretch has shopping centers on each end, a variety of small shops, a private school, and the township’s offices. Other uses are largely residential - a mix of single family dwellings, townhouses and apartments.

The small businesses here have individual driveways. On-street parking is allowed but is not heavily used most occurs by the two shopping centers here. Sidewalks line most of Germantown Pike.
Access to Suburban Commercial Areas
Area A: Germantown Pike, Joshua Road to Church Road

1. **SOLUTION:** Connect the sidewalk at Germantown and Edmonds Road to the shopping center with a new crosswalk on Edmonds, behind the existing STOP bar to accommodate cars exiting the shopping center. Add a sidewalk along the commercial exit drive and connect it to the shopping center walkway.
   
   **POTENTIAL COST:** $$$

2. **SOLUTION:** The shopping center owner has agreed to designate the covered walkway as the official sidewalk in this section. Items that are currently in the walkway (trash cans, advertising placards, etc.) will need to be moved to provide the full width for pedestrians.
   
   **POTENTIAL COST:** $

3. **SOLUTION:** A new pedestrian crosswalk should be added between the commercial walkway and the intersection. A new pedestrian landing pad will be created in the corner of the parking lot, reducing the parking by two spaces.
   
   **POTENTIAL COST:** $$
These parking lots lack defined driveways and sidewalks.

**SOLUTION:** Create a consolidated driveway and parking plan for these parcels, remove poorly placed and under-utilized utility poles, add sidewalks and a new pedestrian landing area at the intersection.

**POTENTIAL COST:** $$$

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Access to Suburban Commercial Areas
Area B: Germantown and Westover

1 **SOLUTION:** Create bump-outs to better define the pedestrian path; upgrade the crosswalks to continental crosswalks and add flashing pedestrian beacon.

POTENTIAL COST: $5 - $$$

2 **SOLUTION:** Work with property owners to eliminate some driveways and consolidate access to Germantown Pike.

POTENTIAL COST: $$$
Access to Suburban Commercial Areas

Area C: Germantown Pike, Joshua Road to Church Road

1. **SOLUTION:** Use pavement markings to more clearly define travel lanes and add a protected left turn lane to westbound Germantown Pike.
   
POTENTIAL COST: $$

2. **SOLUTION:** Add parking space delineations.
   
POTENTIAL COST: $$

3. **SOLUTION:** Add continental crosswalks and flashing pedestrian beacon.
   
POTENTIAL COST: $$$
Access to Suburban Commercial Areas
Design and Land Use Considerations

There are several factors affecting walkability that are unique to suburban commercial corridors.

• Retail is changing... Our traditional shopping malls have added amenities to look more like main streets. Even though our malls are places that may have once defined “suburbia” - it seems that people want an authentic experience when they shop. A mall with all the same national chains as the next mall up the road is anything but authentic, which means that presentation is everything.

• The suburbs are becoming increasingly more urban. Our suburbs (really, our nation’s suburbs) are quickly becoming places that are embracing aspects of urban life. Transit-oriented development with a mix of uses is taking off at several train stations around the county and several more train stations are adding that possibility as they expand with parking garages and new retail options.

• Millennials want to shop in a walkable environment. The next population boomlet, millennials, are becoming adults and prefer walking over driving. They want to be able to walk to retail and restaurants. They also want to expand public transportation and bicycling options. This generation has a lot of spending power - so retailers and developers may be taking this to heart.
Transit Oriented Walkability

From a transportation standpoint, train stations are incredibly active places, with passengers walking, driving, being dropped off, or taking the bus to the station. Walking is one of the major ways that passengers get to and from the train, yet pedestrians are often an afterthought in train station areas, having to walk across busy roads, around drop-off areas, and through parking lots. The county’s train stations run the gamut from very walkable downtown locations to isolated suburban stations with no sidewalks and little development near the station.

The Narberth train station is one of the most walkable in the county because sidewalks lead directly to the station and there are many walkable buildings next to the station. With low-density suburban development and no sidewalks, the Gwynedd Valley station is not very walkable.

Train Station Walkability = Sidewalks + Connected Streets + Dense Development + Few Parking Lots + Lower Speed Traffic + Good Crosswalks + Street Trees or Streetscaping
Study Area Overview

The Noble Train Station serves the communities of Abington and Jenkintown and is already a busy spot surrounded by many retail uses that line the adjacent Route 611, as well as residential areas to the south and west. The Noble station is slated to expand in the upcoming years: a new train station, a new parking garage and a storage track (scheduled to be built from 2021-2027) are in SEPTA’s budget. Along with these physical upgrades is a proposed expansion in train service to every 30 minutes. Abington has proposed transit-oriented development zoning that would affect this area, and a Transit Revitalization Investment District (TRID) is also being explored. All of this adds up to the potential for major changes in this area. There is strong stakeholder support for improved walkability in the township.

However, this area did not come without concerns. Route 611 is a very busy road, and crossing this street (as well as some other local roads) can be challenging. Much of the retail development surrounding the station is auto-oriented. At the station, there is no easy way to cross from one side of the tracks to the other, with the exception of the deteriorated sidewalk on the Route 611 bridge (the bridge and its sidewalk are slated for replacement).
Transit Oriented Walkability

Noble Train Station Context
Transit Oriented Walkability
Area A: Noble Train Station, Rodman Ave and Old York Road

1. SOLUTION: Add stairs and ramps on north side of the Old York Road bridge that lead directly to the train station platforms. Fix sidewalks on bridge.
   POTENTIAL COST: $$$$  

2. SOLUTION: Add sidewalk along Rodman Avenue leading to station.
   POTENTIAL COST: $$$  

   POTENTIAL COST: $$$  

4. SOLUTION: Add zebra or continental style crosswalks with bulbouts. Improve access ramps. Adjust signal timing for shorter wait time for pedestrians. Reconfigure coffee shop parking, driveway turning movements, and driveway widths, while adding barriers between parking and sidewalks.
   POTENTIAL COST: $$$$  

5. SOLUTION: Modernize roundabout with yield signs, a narrower carriageway, painted directional arrows, and a splitter in the driveway entrance. Trim bushes, add crosswalk and ramps, and redesign splitter islands for pedestrians.
   POTENTIAL COST: $$$

HIGH PRIORITY RECOMMENDATIONS
Transit Oriented Walkability

Area B: Noble Train Station, Rydal Road and Old York Road

1. **SOLUTION:** Extend sidewalk or crosswalk across driveway entrances. Add curb ramps and tighten radii of the driveway entrance from Old York Road.
   - **POTENTIAL COST:** $$$

2. **SOLUTION:** Add sidewalk, landscaping, and crosswalk through the parking lot to the front of the building. When redevelopment occurs, move buildings closer to street with parking to the side or rear. A zoning change may be necessary to facilitate this.
   - **POTENTIAL COST:** $$ - $$$$

3. **SOLUTION:** Add grass or brick verge, street trees, a wider sidewalk, and decorative street lamps, where feasible.
   - **POTENTIAL COST:** $$

4. **SOLUTION:** Add street trees in minimally landscaped area. Extend sidewalk on northern side of Rydal Road into the road to narrow the cartway and to give pedestrians more room to get around the utility poles.
   - **POTENTIAL COST:** $$$

5. **SOLUTION:** Replace pedestrian signals with new count-down signals. Change crosswalk design to continental or zebra styles.
   - **POTENTIAL COST:** $$

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**High traffic speeds along Old York Road make walking uncomfortable.**

**Pedestrians do not clearly have right-of-way across driveways.**

**Poor visibility of pedestrians and malfunctioning pedestrian signals.**

**Difficult to access buildings as a pedestrian.**

**High traffic speeds along Old York Road make walking uncomfortable.**

**High speed on Rydal Road. Utility poles on northern side block sidewalk.**
Transit Oriented Walkability
Area C: Noble Train Station, Rydal Road and Upland Ave

1. **SOLUTION:** Add stop signs at Newbold/Upland and Rydal Road for pedestrian safety. Add bulbouts at intersection of Rydal Road with Vernon Road/Spring Avenue and at intersection of Rydal Road with Newbold Road/Upland Avenue to shorten crossing distance and slow traffic. Add crosswalks. Install sidewalks where missing along Rydal Road and Upland Avenue. Increase enforcement of speed limit on Rydal Road and examine feasibility of extending sidewalks northeast on Rydal Road to The Fairway.

   POTENTIAL COST: $$$$  

2. **SOLUTION:** Add sidewalk along Rodman Avenue leading to station with sidewalk connection through the station’s parking lot to the train station itself. Add crosswalks at Upland Avenue and consider changing one-way direction of Upland if Spring Avenue is changed. Fix sidewalks and trim back overgrown trees and shrubs.

   POTENTIAL COST: $$$

There is no pedestrian crossing of Rodman Avenue in front of the train station and no pedestrian connection from Rodman Avenue to the station and platforms.
Transit Oriented Walkability
Area D: Noble Train Station, Baeder Road and Old York Road

**HIGH PRIORITY RECOMMENDATIONS**

1. **SOLUTION:** If newly redesigned intersection configuration is kept, consider adding a crosswalk across Baeder Road at Hilltop Road with an additional stop bar for cars. Also relocate sidewalk in Baeder road island and crosswalk over Baeder Road right turn lane to be parallel to Old York Road. Consider dedicated pedestrian signal timings across Old York Road without too long a wait between crossing times.
   
   **POTENTIAL COST:** $$$

2. **SOLUTION:** Provide grass or brick verge between sidewalk and road cartway – as should be provided for in the municipal subdivision and land development ordinance. Extend sidewalk or crosswalk across driveway entrances. Provide separated sidewalk connection and crosswalk to buildings.
   
   **POTENTIAL COST:** $$$

3. **SOLUTION:** Provide staircases from both sides of Old York Road as part of bridge replacement project. Add crosswalk and sidewalk connections to train station and abutting office building, with new sidewalk around office building.
   
   **POTENTIAL COST:** $$$
Transit Oriented Walkability
Area E: Noble Train Station, The Fairway and Old York Road

1. **SOLUTION:** Prohibit cars from parking on sidewalks and enforce prohibition. Eliminate parking spaces that back onto Harte Road. Install wall, bollards, or other barriers to block cars from sidewalk.
   
POTENTIAL COST: $$

2. **SOLUTION:** Ensure pedestrian signal timings are coordinated with vehicular signals so as not to confuse pedestrian. Widen refuge island in Old York Road, add bollards and landscaping to protect pedestrians, and make handicapped accessible. Shorten right-turn only lane on Old York Road for Bed, Bath, and Beyond driveway to shorten crosswalk distance. Add continental or zebra style crosswalks. Add sidewalks and crosswalks through parking lots leading to building front doors.
   
POTENTIAL COST: $$$$ 

3. **SOLUTION:** Tighten curb’s turning radius at The Fairway and Old York Road. Narrow width of right turn lane from Old York Road onto The Fairway and consider moving the short crosswalk in this right turn lane closer to The Fairway to improve visibility, or consider removal of right-turn lane and island to reduce the number of steps needed to cross the street. Add a crosswalk across Old York Road on southern side of the Fairway. Use continental or zebra style crosswalks.
   
POTENTIAL COST: $$$$ 

4. **SOLUTION:** Add sidewalk along driveway leading to the train station. Continue sidewalks or crosswalks across driveway entrances. Consider installing crosswalks across The Fairway, ideally in combination with a new traffic signal or stop signs. Add sidewalk connections with crosswalks and landscaping leading to buildings. Consider adding a landscaped island on The Fairway close to the Old York Road intersection while narrowing the east bound lane, which is extra wide.
   
POTENTIAL COST: $$$$ 

**HIGH PRIORITY RECOMMENDATIONS**
Transit Oriented Walkability

SOLUTION: Crossings near Whole Foods need improved crosswalk striping. Consider lower speed limits at 25 mph and more speed signs. Trim trees around flashing pedestrian signage.

POTENTIAL COST: $$$$
Transit Oriented Walkability
Area F: Noble Train Station, Old York Road north of the Fairway

1. **SOLUTION:** Reconfigure parking in consideration of PSU-Abington dorm development. Extend curbs and landscaped areas to better define the roadway and travel lanes. Add pedestrian-scaled directional signs for Penn State Abington, the library, and the township building.
   - **POTENTIAL COST:** $$$

2. **SOLUTION:** Add sidewalk connecting building entrances with the sidewalk along Old York Road.
   - **POTENTIAL COST:** $

3. **SOLUTION:** Extend sidewalk or crosswalk across driveway entrance. Add curb ramps and tighten radii of the driveway entrance from Old York Road. Redesign driveways to provide more stacking and turning movements for cars in the combined driveway area by "T"ing the Raymour and Flanagan driveway into the Bed, Bath, and Beyond driveway.
   - **POTENTIAL COST:** $$$

4. **SOLUTION:** Curb and landscape the island. As an alternative, tighten curb radii of the driveway along Old York Road and consider extending sidewalk across the driveway.
   - **POTENTIAL COST:** $$$

5. **SOLUTION:** Narrow driveway entrances, add decorative street lights, install grass or brick verges where missing, combine driveways, and interconnect parking lots. Landscape the center median to calm traffic.
   - **POTENTIAL COST:** $$$$
Generally, the same design standards that make any place walkable also make train stations walkable; however, there are three unique traits of train stations and walkability:

- **Train stations are active transportation hubs.** There is a lot of transportation activity at train stations, including people driving cars, buses dropping passengers off, bicyclist riding to the station, and people walking to the station. Train station areas have to be designed to accommodate this activity while minimizing conflicts between the various modes of transportation.

- **People catching the train or going home are in a hurry.** Unlike many other types of walkers, people going to the train are on a schedule and need to be at the station at an exact time. This means they are often taking the most direct route possible, whether it involves jaywalking or cutting across private property. Routes to train stations have to be as direct as possible.

- **Train station areas are a unique type of real estate.** Development around train stations often caters to people taking the train, which means it is usually more walkable and denser than typical development. Areas around train stations should accommodate this transit-oriented development.

Both Conshohocken and Ambler have seen new office construction oriented towards the train station and intended to appeal to young Millennial workers.

Ground floor restaurants and retail should be provided in buildings on walking routes to train stations, such as this example from Ardmore.

The Fort Washington train station has multiple sidewalks with painted crosswalks leading to the station platforms.

The station also has a separate area for people transferring to buses.
CHAPTER 3
Design and Land Use Recommendations

Design and Land Use Recommendations is focused on providing real and realistic examples of how design and land use choices can have positive outcomes on walkability and a safe pedestrian experience.

This chapter includes information on the following topics:

- Sidewalk requirements and where sidewalks should go
- Street and street crossing design standards
- Trail design guidelines
- Land use and building design criteria for mixed use, office, retail, and residential areas

Sidewalk and Trail Standards

Creating a more walkable environment is crucial—and making sure that sidewalks and trails are designed well is a big step toward implementing the goals of this plan.

Sidewalk Location

All new developments and redevelopments within the Designated Growth Areas shown in the county’s Growth and Preservation Plan, should have sidewalks installed. Whether or not growth has occurred adjacent to a proposed development, and it seems that the sidewalk might not ‘go anywhere’ yet, if the development is in a growth area it is reasonable to expect that adjacent growth will occur and it needs to be part of a walkable network. There are many suburban and urban parts of the county where sidewalks are missing and development has occurred around that requires retrofitting a sidewalk into an existing developed area.

The map generally shows where sidewalks should exist and be required for any land development. These shaded areas include the majority of the county’s downtown and Main Street areas.

All new developments and redevelopments within the Designated Growth Areas shown in the county’s Growth and Preservation Plan, should have sidewalks installed.
shopping centers, office parks, industrial complexes, apartments, townhouses, and twins—as well as single-family detached homes on lots less than an acre in size. People could make connections on foot in these areas to central business districts, transit stops, schools, parks, libraries, and shopping centers. Sidewalks should also lead to county and local trail systems. Oftentimes developments include trail or sidewalk connections only for pedestrians to connect to adjacent developments or commercial corridors. These can be shortcuts or alternative walking routes that make sense for pedestrians, but not vehicles.

Sidewalk Location Guidelines by Type of Development

<table>
<thead>
<tr>
<th>TYPE OF DEVELOPMENT</th>
<th>SIDEWALK LOCATIONS FOR NEW DEVELOPMENT*</th>
<th>SIDEWALK LOCATION FOR EXISTING DEVELOPMENT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Commercial, Office, and Industrial</td>
<td>Both sides of streets.</td>
<td>Both sides of streets. Every effort should be made to add sidewalks where they do not exist and complete missing links.</td>
</tr>
<tr>
<td>• Residential (along arterial roads)</td>
<td>Both sides of streets.</td>
<td>Apartments, townhouses, or twins—both sides of street. Single family detached homes—prefer both sides of streets; require at least one side.</td>
</tr>
<tr>
<td>• Residential (along collector roads)</td>
<td>Both sides of streets.</td>
<td>Prefer both sides of streets; require at least one side.</td>
</tr>
<tr>
<td>• Residential (along local streets)</td>
<td>Prefer both sides of streets; require at least one side.</td>
<td></td>
</tr>
<tr>
<td>– More than 4 units/acre</td>
<td>Both sides of streets.</td>
<td>Prefer both sides of streets; require at least one side.</td>
</tr>
<tr>
<td>– 1-4 units/acre</td>
<td>Prefer both sides of streets; require at least one side.</td>
<td>Prefer both sides of streets*; require on at least one side or 6 foot shoulders* on both sides.</td>
</tr>
<tr>
<td>– Less than 1 unit/acre</td>
<td>One side of street preferred, shoulder on both sides required.</td>
<td>One side of street preferred, at least 6 foot shoulders on both sides.</td>
</tr>
</tbody>
</table>

Sidewalk Requirements

Sidewalks must be designed to encourage comfortable and frequent walking by all potential users. In most situations pedestrians will feel uncomfortable walking on a sidewalk if there is no buffer from traffic. Most sidewalks should be at least 5 feet wide, which allows for two people to walk side-by-side or to pass each other comfortably. Four-foot sidewalks may be appropriate in low-density residential areas.

Adapted from guidelines published in the Institute of Transportation Engineers’ Design and Safety of Pedestrian Facilities
* Changes made from the guidelines to reflect Montgomery County conditions are noted with an asterisk.
Sidewalks in downtowns and central business districts are unique and need to be designed to make pedestrians—potentially lots of pedestrians—feel at ease. Generally, these areas should have at least an 8-foot area that is free of any obstructions, such as street trees, mailboxes, benches, light poles, or opening doors. Sidewalks should be set back 5-8 feet from the curb when feasible, with a planting strip next to the road. When this amount of space cannot be accommodated, any narrower strip will serve to buffer pedestrians from passing vehicles. In addition, or as an alternative to the buffer, on-street parking, bike lanes, and shoulders can also help to separate pedestrians from nearby traffic.

Street and Street Crossing Design Standards

The local street network influences how and where people walk. A number of factors influence pedestrians, including:

• Block length. Longer blocks make it harder for pedestrians to cross a street or move easily through a neighborhood. Ideally, blocks should be 600 feet or less from street to street. If blocks are longer, a pedestrian cut-through should be provided mid-block.

• Street pattern. Streets should be interconnected, potentially along a grid or a modified grid pattern. Streets that are not connected make it very difficult for pedestrians to walk to nearby destinations. Pedestrian connections should be made where streets are not interconnected, for example at the end of a cul de sac or from a residential neighborhood to adjacent retail areas.

• Speeds on streets. It feels (and is) safer to walk along streets with lower speed limits. Ideally, the speed limit should be 25 mph or less on local streets. Traffic calming techniques, like narrower streets, speed tables, or bulb-outs, can help bring speeds down in areas where speeding is an issue.

Street crossings are just as important. If a street feels unsafe to cross, pedestrians will likely avoid walking or they may try to cross in a risky way. Crossing in the middle of a block is one of the most common ways a pedestrian can be injured. Crosswalks should be located in logical places where drivers would expect to see pedestrians (primarily at street intersections or at traffic signals). Mid-block crosswalks are sometimes necessary if blocks are particularly long and where there are destinations on either side of a road. The following design elements can help improve crosswalk visibility:

• Crosswalk lines painted in a prominent style, such as zebra or ladder styles

• Crosswalks made with different textures or colors, such as pressed concrete or asphalt

• Street lighting at crosswalks

• Signs, advance pavement markings, or flashing lights that warn motorists of an upcoming crosswalk

• Proper sight distance for vehicles at corners

Shorter crosswalks are easier to cross; techniques like narrower streets, bulb-outs, median refuge islands, and center medians effectively shorten that distance. Traffic signals should have automatic pedestrian phases in the signal plan, but where they are necessary, push-button mechanisms that give pedestrians a “walk” signal, should be fast acting so pedestrians don’t cross the street before they should. And all crosswalks must be ADA accessible with ramps leading from the sidewalks to the crosswalk (ideally, with two separate ramps and curb cuts at each corner).

Crosswalks of contrasting colors and textures may increase visibility.

A pressed asphalt sidewalk in a suburban commercial development.

A continental-stripe crosswalk in a parking lot.

Crosswalk including a bulb-out.
Trail Design Guidelines

Trails in Montgomery County get a lot of use—the county trail system alone gets upwards of 1 million users each year. Municipal trails and pathways are also popular with users. These trails get a lot of use from people of all ages, including pedestrians, bicyclists, and horseback riders. Planning for a variety of uses, while keeping everyone safe, is critical to having a vibrant trail system. Some important design considerations to keep in mind include:

- **Width.** Widths typically range from 8 to 12 feet. More specific dimensional standards can be found in the county’s Guidelines for Trail Development within Montgomery County.
- **Preferred trail surface.** Macadam or hard cinder pavement, depending upon the trail.
- **Traffic and Safety.** On trails with heavy peak or seasonal volumes, a centerline stripe on the path can help keep people safe and traffic flowing. A broken yellow line can be used to indicate where passing is permitted. Where trails get very heavy use, it may make sense to separate pedestrian and other bicycle traffic entirely.

### Montgomery County Trail Design Standards

<table>
<thead>
<tr>
<th>STANDARD DESCRIPTION</th>
<th>TRAIL CLASSIFICATION TYPE</th>
<th>RETROFIT SIDEWALK</th>
<th>ON ROAD IMPROVEMENTS FOR BICYCLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA OUTLINE</strong></td>
<td><strong>MULTIUSE</strong></td>
<td><strong>PATHWAY</strong></td>
<td><strong>BIKE LANE</strong></td>
</tr>
<tr>
<td><strong>Trail Width</strong> (75’ trail corridor width minimum)</td>
<td>Desirable</td>
<td>12’</td>
<td>6’</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>8’-10’</td>
<td>4’</td>
</tr>
<tr>
<td><strong>Trail Shoulder Width</strong></td>
<td>Desirable</td>
<td>4-6’</td>
<td>2’</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>2’</td>
<td>2’</td>
</tr>
<tr>
<td><strong>Trail Surface Type</strong>***</td>
<td>Desirable</td>
<td>Macadam</td>
<td>Cinder/Macadam</td>
</tr>
<tr>
<td></td>
<td>Acceptable</td>
<td>Cinder</td>
<td>Cinder</td>
</tr>
<tr>
<td><strong>Trail Grade</strong> (longitudinal slope)</td>
<td>Desirable</td>
<td>1%-3%</td>
<td>1%-3%</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Trail Surface Grade</strong> (cross slope)</td>
<td>Desirable</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Vertical Clearance</strong></td>
<td>Desirable</td>
<td>10’</td>
<td>10’</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>8’</td>
<td>8’</td>
</tr>
<tr>
<td><strong>Horizontal Clearance</strong> (edge of trail vegetation clearance)</td>
<td>Desirable</td>
<td>4-5’</td>
<td>2’</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>2’</td>
<td>2’</td>
</tr>
<tr>
<td><strong>Design Speed (mph)</strong></td>
<td>Desirable Grades</td>
<td>20</td>
<td>3-7</td>
</tr>
<tr>
<td><strong>Viewshed (linear feet)</strong> (line of sight within a corridor)</td>
<td>Desirable</td>
<td>200-175’</td>
<td>75’</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>150’</td>
<td>50’</td>
</tr>
</tbody>
</table>

* 6’ (typical ped. sidewalk)
** 4’ (typical ped. sidewalk)
*** Macadam should be considered for trail grades over 2%

All Trail Surface Depths are assumed @ 2’-4” and Trail Sub-base Depths are assumed @ 4’-8”.

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Montgomery County Trail Design Standards

- **Trail Width (75’ trail corridor width minimum)**
  - Desirable: 12’
  - Minimum: 8’-10’
- **Trail Shoulder Width**
  - Desirable: 4-6’
  - Minimum: 2’
- **Trail Surface Type**
  - Desirable: Macadam
  - Acceptable: Cinder
- **Trail Grade (longitudinal slope)**
  - Desirable: 1%-3%
  - Maximum: 5%
- **Vertical Clearance**
  - Desirable: 10’
  - Minimum: 8’
- **Horizontal Clearance** (edge of trail vegetation clearance)
  - Desirable: 4-5’
  - Minimum: 2’
- **Design Speed (mph)**
  - Desirable Grades: 20
  - Minimum: 150’
Land Use and Building Design Recommendations
Mixed Use, Office and Retail Areas

Encouraging a mix of uses in the same building or in close proximity to one another dramatically increases the number of people walking. When people work or live close to retail, restaurants, schools, daycare, or fitness centers, it reduces the need to get into a car for a trip. How can we design mixed use development to best accommodate pedestrians—where walkability should be encouraged so that one doesn’t have to drive down the street for a cup of coffee?

• An efficient street pattern is a key consideration. A grid or modified grid will allow for efficiency and ease of navigation. All streets should be interconnected and streets should extend to adjacent properties when logical. Blocks should not exceed 800 feet in length; public pedestrian connections should be made between parallel streets at least every 500 feet.

• Building design needs to be attractive to pedestrians. Accentuated building entrances should be located along all existing and proposed streets. Blank walls should not be permitted along a street or adjacent to a transit stop. Building ridgelines or roof planes should be broken up by architectural features like a dormer or gable; large building facades should appear to be broken into smaller sections or smaller buildings. A break in a façade can be created with bay windows, porches, or building recesses.

• Building setbacks should be carefully considered. Setbacks are meant to regulate the mass of buildings and uses in a development so that they do not collectively crowd the street or each other. Too small of a setback will create this effect, but too large of a setback will result in an environment where buildings and uses feel separate from each other. A basic 12 foot setback from the curbline is recommended, except along arterial streets where a twenty foot setback will allow for greater buffering between pedestrians and nearby traffic.

• Building heights need to be sufficiently tall to allow for both a mix of uses and the density that a developer needs to support a pedestrian-oriented design. Building heights, depending upon the community, are appropriate up to six stories (or more). In some situations, a tiered height system may be appropriate, where the core of the building is the tallest.

• In general, single use residential buildings can be utilized as a transitional use between abutting residential uses and non-residential uses. Commercial uses should be located near existing retail areas, transit stops, and any proposed plazas or public spaces. Easy access to public transit, if present, should be a must.
Street furnishings, such as pedestrian scaled lighting and trash receptacles, should be an important feature in any mixed use development.

On the ground level, active uses like cafes, restaurants and retail stores help to animate the street environment.

• Parking garages should not dominate a street. Buildings can be wrapped around a garage so that it’s not visible at all from the street. Structured parking with street frontage should have active uses on the first floor (such as retail).

• Street furnishings should be well-designed but functional—bike racks, pedestrian-scaled lighting, and trash/recycling disposal that is coordinated in design should be a part of any new development.
• Sidewalks or pathways should connect all front entrances, parking areas, plazas, or other destinations with the existing street network. Pedestrian connections between adjacent buildings and properties should be established. Landscaped verges should buffer pedestrians from nearby traffic.

• Driveway access points should have clearly marked crosswalks for pedestrians, and abutting properties should interconnect their parking areas to make it easy to walk from one property to the next. Landscaped islands and medians can funnel traffic into driveways (eliminating cut-through traffic). Walkways can pass through the landscaped islands to provide a safe path for pedestrians. Within parking lots, traffic calming measures (like speed tables or contrasting paving materials for crosswalks) can slow cars and clearly give pedestrians the right-of-way.
Residential Areas

Making residential areas more walkable is important, even though these places may not have major destinations to which one might walk. The way neighborhoods are designed can influence whether or not people will walk. Generally, neighborhoods with smaller lot sizes encourage walking.

- Streets should be as narrow as safety allows. They should be interconnected (both within a development and to adjacent developments/uses) and should have sidewalks on both sides. A width of between 26 and 30 feet is enough for two-way traffic and on-street parking on one or both sides of the street.
- Front yard setbacks should be varied (slightly) to be far enough from the street to allow for pedestrians to feel safe while still close enough to create a sense of community. Front yard setback depths between 20 and 30 feet might seem shallow, but they will allow for a large rear yard.
- Street trees are important for the walking environment – they provide shade, greening, and can buffer pedestrians from vehicles. Planted at about every 40 feet of street frontage, street trees improve a street’s appearance and promote safety, as well as make for a more pleasant walking experience. (RA 03)
- New homes, especially ones on smaller lots, need to be designed well. Homes should be built with porches to promote outdoor socialization. Front facing garages should be located significantly behind a home’s front façade so as not to dominate the street. Alley loaded garages leave more area in the front yard for people to socialize and play. (RA 04)
- Centrally-located open space is an important destination in residential areas. This doesn’t have to be anything more than a pocket park, a small playground, or some strategically placed benches. But it gives pedestrians a destination and a place to take a break when the need arises. (RA 05)

Residential streets should be relatively narrow and properly scaled. Sidewalks should be placed on both sides of the street.

Front yard setbacks should be varied and relatively shallow, to bring the home closer to the street and foster a greater sense of community.

Planting trees along the street can provide shade and create a more pleasant walking experience.

To facilitate outdoor socialization, houses should be built with front porches to create a connection between the public realm along the street and the private.

Open space can be an important amenity in a residential development. It can serve as a community focal point and encourage recreational activities.
Municipal Tools for Walkability

Planning for walkability is often a tough sell, many people drive for their errands and to commute to work and many children take the bus to school. In recent years there is a shift in market demand for walkable places. Home sales in our walkable neighborhoods are going up. Businesses are looking to locate where people can walk or drive. Office parks are looking to install sidewalks and trails to encourage employees to walk and be healthy. At a municipal level, more developers are being required to install sidewalks. Be it new construction or a change in use that triggers the installation, sidewalk construction and other walkability amenities are making it easier for pedestrians to get to where they need to go.

On a municipal level, here are some ways to make walkability a part of the development and planning process:

Municipal Comprehensive Plan—An up-to-date comprehensive plan can be a powerful tool for prioritizing future development. A comprehensive plan is a look back at where a municipality has been and ultimately, a road map to its future. As a county government, Montgomery County is required to update its comprehensive plan every 10 years—which it has just done with Montco 2040, adopted in early 2015. In turn, municipal comprehensive plans are required to be generally consistent with county comprehensive plans.

A municipal comprehensive plan can make walkability a goal in the plan and identify gaps in the existing pedestrian network that should be addressed.

For example:

- One of the goals in Lower Merion Township’s Circulation Element—part of the draft comprehensive plan the township is close to completing is to “Develop a safe, accessible circulation network promoting walking and biking to local destinations including public schools, public transportation, shopping, and recreational and cultural amenities for all members of the community.”

- Upper Dublin Township adopted a new comprehensive plan in 2010. Some of its recommendations include (1) Expand and Enhance the Pedestrian and Bicycle Network and (2) Pursue Development of a Pedestrian Connection under the Norfolk Southern Rail Bridge.

- Lansdale Borough’s comprehensive plan is nearly 10 years old. The borough has worked to implements its goal of “Maintain and improve sidewalks and crosswalks to enhance walkability.” New sidewalks and streetscaping have been installed downtown, and a new streetscaping grant was recently awarded to install improvements along East Main Street.
Municipal Walkability Plan—Several of the county’s municipalities have conducted walk audits and are in the process of implementing their own walkability recommendations. Collegeville and Red Hill, some of the first municipalities to partner with the county for an audit, each have reports with detailed recommendations for improvements throughout their respective boroughs. For municipalities that want their own walkability audits, staff at the Planning Commission can assist you in planning a local audit. Several national organizations have recently announced available assistance for local walkability audits as well. Smart Growth America and America Walks offer technical assistance and funding, respectively.

Zoning Ordinance—A zoning ordinance divides the land within a municipality into different zones, each according to its current or (future) intended character. Another way of looking at a zoning ordinance is that it controls the built environment around us—it specifies permitted uses of land and buildings (as well as what’s not permitted), allowable density, and the size of permitted buildings. Each of our 62 municipalities has a zoning code—designed to promote health and general welfare, among other things—and trails, sidewalks, paths, parks, bike lanes, and other pedestrian amenities are designed to promote the public’s health and general welfare, they can be regulated within a municipal zoning ordinance.

Some examples of how municipalities have addressed walkability through zoning are included in the table on the right. However, making walking easier through a zoning code goes hand in hand with zoning for uses that will bring people to the right places. Zoning for higher density uses, when possible, will bring more pedestrians to downtowns, civic institutions, local schools, and recreational areas.

Zoning ordinances can build walkability provisions into the denser districts where sidewalks are required.

<table>
<thead>
<tr>
<th>MUNICIPALITY</th>
<th>ZONING DISTRICT</th>
<th>PROVISION</th>
<th>SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Salford Township</td>
<td>Mixed Use District</td>
<td>Nonresidential and mixed-use buildings in mixed-use developments shall be laid out to encourage walking along streets by using the following design practices: A. Windows and public doors should be placed in facades facing streets. B. Buildings should be grouped together along streets so it is a short walking distance from one building to the next. C. Buildings should be placed to make the distance between the central green and residential area no greater than 500 feet. D. Drive-through facilities, when permitted, shall be located to the side or rear of the building.</td>
<td>§ 142-126 Overall layout.</td>
</tr>
<tr>
<td>Jenkintown Borough</td>
<td>TC Town Center District</td>
<td>Pedestrian design standards. 1. Sidewalks are required along all street frontages, with a minimum width of eight feet. 2. Sidewalks are required to connect the street frontage to all front building entrances, parking areas, central open space, and any other destination that generates pedestrian traffic. Sidewalks shall connect to existing sidewalks on abutting tracts and other nearby pedestrian destination points and transit stops. 3. The sidewalk pattern shall continue across driveways.</td>
<td>§ 181-46 Design Standards</td>
</tr>
</tbody>
</table>
Subdivision and Land Development Ordinance (SLDO)—The SLDO provides details on how properties themselves (not the buildings upon them) must be utilized for specific land uses. The model subdivision and land development ordinance that the Montgomery County Planning Commission recently published has many recommendations on how to increase walkability, which are summarized below.

- Interconnect trails and sidewalks with municipal and county trail systems.
- Design for a variety of sidewalk and pathway users.
- Trails should connect important community facilities, including parks, schools, retail areas, and houses.
- Pathways should provide both recreation and transportation opportunities.

The model subdivision and land development ordinance also has specific language that any municipality can adapt which covers sidewalks and pathways, as well as amenities like street trees and buffer plantings, which make walking a more enjoyable experience.

Thinking about the other side of walkability in a subdivision ordinance is important too. Parking ratios, for example, can be tweaked to limit on-site parking if sufficient on-street parking exists to support new development.

Plenty of municipalities already support walkability through their subdivision ordinances. Red Hill Borough, for example, requires 5-foot wide sidewalks on all existing and proposed streets.

Official Map—An official map legally establishes the location of existing and proposed public land and utilities, infrastructure, multi-use trails, parks, open space, and roads. This is a planning tool that is authorized by Article IV of the Pennsylvania Municipalities Planning Code.

Don’t mistake this for a zoning map—it’s goal is to implement the goals set forth in a community’s comprehensive plan. With local infrastructure in place (even if its just on paper), residents and developments can visualize where future investments—will exist, even if the actual work to install these improvements won’t take place for years to come.

How does this relate to walkability? The official map can help a municipality connect the local street network, provide sidewalks, or make intersection improvements, all things that aid in making a safer pedestrian environment.

Future roads or sidewalks shown on an official map should not be interpreted as the actual, engineered right-of-way. These should be mapped as general alignments with some amount of flexibility to adapt to future development as it is proposed. In fact, having sidewalks on an official map can aid in connectivity as years pass and land is developed, giving municipalities a tool to provide to developers who might not otherwise have the impetus to interconnect a new development with other surrounding uses.
Construction Implementation

The Subdivision and Land Development Process

Development and redevelopment happens constantly in Montgomery County—which provides an important opportunity for municipalities that want to start building a pedestrian network. Requiring developers to include pedestrian improvements during the plan approval process is an important step that shouldn’t be overlooked. This is a way to do things like expand local trail systems, interconnect new developments with adjacent uses, or construct (or rebuild) sidewalks where they are needed.

Municipal Capital Improvements

Pedestrian improvements can become a part of a municipal capital improvement program. Funding from the county has jump-started these types of projects in the past; many of the county’s municipalities completed pedestrian improvement projects under the county’s Revitalization Program. Souderton and Telford, for example, installed new sidewalks and crosswalks in their downtowns. Norristown installed new decorative sidewalks and crosswalks as well.

Lower Merion Township’s Parks & Recreation plan update, The Greater & Greener Plan 2012-2021, has numerous pedestrian and bicyclist-related projects that have come out of its recommendations. The plan’s implementation plan lists tasks like mapping bike lanes and bike routes and trail extension projects (including the Cynwyd Heritage Trail extension over the Manayunk Bridge) — priorities both for recreational needs and pedestrians.

Working with PennDOT

PennDOT is a willing partner when it comes to walkability improvements. Municipalities can coordinate with PennDOT’s repaving (and other maintenance) programs to potentially include additional road striping or other pavement markings, for example, when repaving a road. This can be a good opportunity to upgrade pedestrian facilities, such as crosswalks or ADA ramps, as well. Whitemarsh Township, for example, had several intersections in our audit area that had ADA ramps installed (since they were in the road right-of-way) while Germantown Pike was being repaved.

Working with the County

The county undertakes major road reconstruction projects as well—the Lafayette Street Corridor project in Norristown is an excellent example of this—which provides an opportunity to incorporate walkability improvements. As shown on the right, new sidewalks are being built during this construction project.
Funding Approaches

There are lots of funding options out there if you know where to look! Here are a few examples of funding sources that communities can utilize for pedestrian-friendly projects:

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) is a federal program authorized under the MAP-21 surface transportation bill. A new round of funding is open for applications as of November 2015. TAP funding can be used for pedestrian and bicycle infrastructure projects, public transportation enhancement projects, safe routes to school projects, walkability audits, and other miscellaneous non-driver oriented projects. Recipients of TAP funds are selected through a competitive application process. More information about TAP funding can be found at: http://www.dvrpc.org/tap/PA.htm. Info about the Safe Routes to Schools program can be found at: http://www.saferroutespa.org/.

Multimodal Transportation Fund

Funds may be used for the development, rehabilitation and enhancement of transportation assets to existing communities, streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development. Grants are available for projects with a total cost of $100,000 or more. Grants shall not exceed $3,000,000 for any project. For more information, visit http://community.newpa.com/programs/multimodal-transportation-fund/.

Congestion Mitigation and Air Quality Funds

The CMAQ program funds projects and programs which reduce transportation-related ozone, carbon monoxide, and particulate emissions. Pennsylvania’s Transportation Management Associations (TMAs) administer programs using CMAQ funds within their regions. Examples of eligible projects can be found here: http://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/cmaq08gtd.pdf.

Municipal Liquid Fuels

The Municipal Liquid Fuels Program funds a range of projects to support municipalities' construction, reconstruction, maintenance and repair of public roads or streets, including curb ramps, lane and crosswalk painting, signs and signals, and removal of debris from roads and shoulders, but not for curbs and sidewalks unless necessary for ADA compliance. Funds are only available to municipalities who submit annual reports. The amount of a municipality’s allocation is based on its population and miles of roads on their approved Liquid Fuels Inventory. More information can be found at: ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/Pub%209.pdf.

Highway Safety Improvement Program

The Highway Safety Improvement Program funds projects that correct or improve a hazardous road location or feature. It was reauthorized under the MAP-21 federal transportation law with the goal of reducing traffic fatalities on all public roads. The legislation lists examples of many projects eligible for this funding, including improvements for pedestrian and bicycle safety, and installation and maintenance of signs at pedestrian and bicycle crossings. Examples of projects utilizing HSIP funds in Pennsylvania include conversions of signalized intersections to roundabouts and the installation of pedestrian signals. More information can be found here: http://safety.fhwa.dot.gov/hsip/.

Community Transportation Grants

This program, administered by the Centers for Disease Control and Prevention, award grants for programs designed to improve community health and prevent chronic diseases such as cancer, diabetes, and heart disease. The grants can be used for a wide array of programs and initiatives, including transportation improvements that promote a healthy and safe physical environment. More information can be found at: http://www.cdc.gov/nccdphp/dch/programs/communitytransformation/.

Community Development Block Grants

The Community Development Block Grant (CDBG) Program provides funding from HUD to promote community revitalization throughout the country. Eligible activities must meet one of the CDBG’s three national objectives:

1. To benefit low- and moderate-income persons (primary objective);
2. To aid in the prevention or elimination of slums or blight; and
3. To meet other community development needs that present a serious and immediate threat to the health and welfare of the community.

Eligible walkability-related projects include the acquisition of property for public purposes, construction or reconstruction of streets, demolition, or planning activities. Also eligible are walkable destination projects like neighborhood centers, recreation facilities, and other public works; the rehabilitation of public and private buildings; public services; assistance to nonprofit entities for community development activities; and assistance to private, for-profit entities to carry out economic development activities. For more information from the state go to: http://www.newpa.com/community/documentspublications/cdbg or call (717) 787-5327. For more information from the county, call: http://www.montcopa.org/index.aspx?nid=1212
Department of Conservation and Natural Resources (DCNR)

DCNR offers several grants that help develop and maintain recreational facilities. The application period is from mid-January to mid-April. For more information go to:
https://www.grants.dcnr.state.pa.us/GrantPrograms.aspx

Community Recreation and Conservation grants are awarded to municipalities and authorized nonprofit organizations for recreation, park, trail and conservation projects. These include planning for feasibility studies, trail studies, conservation plans, master site development plans, and comprehensive recreation, park and open space and greenway plans; land acquisition for active or passive parks, trails and conservation purposes; and new development and rehabilitation of parks, trails and recreation facilities. Most projects require a 50/50 match, which can include a combination of cash and/or non-cash values.

Partnership grants are designed to promote statewide and regional capacity building. Grants are awarded to statewide and regional partners who advance DCNR’s Strategic Plan, Pennsylvania’s Greenway Plan, Pennsylvania’s Statewide Outdoor Recreation Plan, Pennsylvania’s Heritage Areas Program, and the Conservation Landscape Program. Two types of Partnership grants are: Implementation Projects and Mini-Grants Projects. Implementation Projects are non-planning projects that implement recommendations of previously completed special purpose plans or studies. Examples of implementation projects include the construction of interpretive/educational exhibits, programs, signage and materials, and promotional/marketing products.

Statewide and regional partners may request Mini-Grant funding to develop small grant programs that will implement multiple projects through their local partners. These projects should advance priorities identified through previous completed plans. The request can include a combination of project types eligible for funding under the Statewide and Regional category. A 50/50 match requirement applies to all projects funded. Any other proposed match amount will require written justification for review and consideration by DCNR.