



# WALKABILITY AUDIT REPORT

## PENN TOWNSHIP LANCASTER CO.

Reducing chronic disease among  
Lancaster County resident

*Brought to you by:*



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# WALK AUDIT FACT SHEETS

# WALKABILITY FACT SHEET

## HEALTH

Men and women age 50–71 who took a brisk walk nearly every day had a  
**27% reduced death rate** compared to non-exercisers  
[*Arch Internal Medicine*, 2007].

Retired men who walked less than 1 mile/day had nearly  
**twice the mortality rates**  
of those who walked more than 2 miles/day  
[*Harvard University, Brigham & Women's Hospital*, ongoing]

On average, sedentary people who became active later in life  
**improved their life expectancy**  
by about 1.6 years  
[*Harvard Alumni Study*, 2000].

Risks of death from  
**breast and uterine cancer were reduced**  
19% in those who walked 1 – 3 hours/week and by 54% for walking 3 – 5 hours/week  
[*Harvard University Women's Health Study*, 2012].



# WALKABILITY FACT SHEET

## ECONOMICS

A 10-point increase in Walk Score

**increases commercial property values** by 5%-8% [*University of Arizona and Indiana University, 2010*].

In pedestrian friendly neighborhoods,  
**home values commanded a premium**  
of up to \$20,000 over home in non-walkable communities  
[*Urban Land Institute, 1999*].

Homes in walkable urban neighborhoods have

**experienced less than half the average decline**  
in price from the housing peak in the mid-2000's [Brookings Institution, 2011].

On a five-step "ladder" of walkability, each step up the ladder resulted in an additional

**\$9/sf to office space rentals**

**\$7/sf to retail space rentals**

**\$300/month for apartment rentals**

**\$82/sf to home values**

[*Brookings Institution, 2012*].



# WALKABILITY FACT SHEET

## QUALITY OF LIFE

College students showed **increased performance**  
on recognition memory tasks after exercise [*NYU current research*].

People living in walkable neighborhoods  
**watch less TV**  
**participate in community projects**  
**volunteer more**  
**and trust their neighbors more**  
[*University of New Hampshire, 2010*].

Aerobic exercise gives children the capacity to learn and  
**increases their memory, attention,**  
**and decision-making**  
[*Neuroscience, 2011*].



# WALKABILITY FACT SHEET

## ENVIRONMENT

Drivers experience **higher levels of air pollution inside their vehicle** than outside. [*Rank, Folke and Jespersen, 2001*].

Motor vehicles are responsible for more than two-thirds of the **carbon monoxide** in the atmosphere, a third of the **nitrogen oxides** and a quarter of the **hydrocarbons** [*Surface Transportation Policy Project*].

**Parents who drive their kids to school contribute to 20-30% of morning traffic congestion in urban areas.**

[[www.americawalks.org](http://www.americawalks.org)]

**Fewer cars would generate LESS traffic, LESS air and noise pollution, and LESS fuel consumption**

[[www.walksandiego.org](http://www.walksandiego.org)].



# WALK AUDIT BACKGROUND

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## WHAT ARE WALKABILITY AUDITS AND WHY ARE THEY IMPORTANT?

Walkability is important for a community and everyone benefits from walking. Walkable communities are safer for pedestrians and school children walking or biking to school. Walking improves fitness, contributes towards cleaner air, reduces risks of certain health problems, and promotes a greater appreciation for a community. On average, home values are increased in walkable communities. And, with the proper design, communities will see an increase in commerce for local businesses. However, people are unable to walk if an area is unsafe or difficult to utilize.

Walkability audits enable individuals in a community to analyze how walkable their communities are. They are a key planning tool that provides communities with the technical assistance necessary to access walking and biking conditions while creating a plan for improving them.

Successful walk audits require the commitment of municipal leaders and staff to assess the walkability of areas within their communities and make efforts to improve walkability and safety for residents and visitors. The most important part of an audit is having the participation of local residents—people who know the area, who live or work there, and know what it's like to walk around the neighborhood. Community members are encouraged to come along and share their comments and observations. However, it is also important to involve participants who can influence the built environment. This includes: planners, public works staff, engineers, architects, public health and safety staff, school officials, and elected and appointed officials.

The Walkability Checklist is a tool used to provide both a snapshot of current conditions and assess the participant's ability walk to destinations within their neighborhood. The Walkability Checklist provides a way to easily record safety problems along walking and bicycling routes to school. They can also be used to share information with school and community leaders and media. The Checklist enables the individual to determine problems within a community that would benefit from specific improvements.

# WALK AUDIT BACKGROUND

## Location

Penn Township, located between the Boroughs of Manheim and Lititz in Lancaster County, is a municipality of pronounced diversity in density and land use. Land uses range from untouched state game lands to the north of the township to urbanized commercial and mixed use districts to agricultural. The walk audit was performed within one of the mixed use districts that adjoin dense residential districts and the Borough of Manheim.

The walk audit area encompasses residential properties, various retail and commercial establishments as well as the Manheim Shopping Center containing a super market (Weis), pharmacy (CVS) and numerous smaller businesses. The Manheim Central Middle School property abuts the walk audit route to the north while the Manheim Brethren in Christ Church and Penn Township Municipal Complex anchor the eastern end of the route.

## Desired outcomes

Investigate the existing conditions for walkability along the chosen routes. Identify features that contribute to pedestrian use as well as those that need improvement. A goal of the walk audit is also to provide guidance for future planning, development and construction activity that may occur within the walk audit area to provide recommendations for the best use of limited funding resources.

## Participants

The walk audit occurred on March 21, 2014. In attendance were representatives from Penn Township, Lighten Up Lancaster County, LiveWell Lancaster County, Manheim Central School District, the Lancaster County Planning Commission and local engineering firms, Becker Engineering, Traffic Planning & Design and C.S. Davidson.

## Method

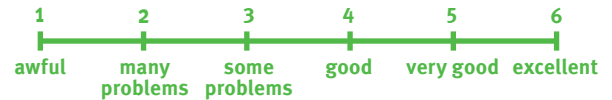
Participants walked each route and evaluated the walkability using the Walkability Checklist provided by the Federal Highway Administration, the National Center for Safe Routes to School and others.

Take a walk and use this checklist to rate your neighborhood's walkability.

# How walkable is your community?

## Location of walk

## Rating Scale:



### 1. Did you have room to walk?

- ☐ Yes ☐ Some problems:
- ☐ Sidewalks or paths started and stopped
  - ☐ Sidewalks were broken or cracked
  - ☐ Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
  - ☐ No sidewalks, paths, or shoulders
  - ☐ Too much traffic
  - ☐ Something else \_\_\_\_\_

Rating: (circle one)

1 2 3 4 5 6

Locations of problems:

\_\_\_\_\_

### 4. Was it easy to follow safety rules? Could you and your child...

- ☐ Yes ☐ No Cross at crosswalks or where you could see and be seen by drivers?
- ☐ Yes ☐ No Stop and look left, right and then left again before crossing streets?
- ☐ Yes ☐ No Walk on sidewalks or shoulders facing traffic where there were no sidewalks?
- ☐ Yes ☐ No Cross with the light?

Rating: (circle one)

1 2 3 4 5 6

Locations of problems:

\_\_\_\_\_

### 2. Was it easy to cross streets?

- ☐ Yes ☐ Some problems:
- ☐ Road was too wide
  - ☐ Traffic signals made us wait too long or did not give us enough time to cross
  - ☐ Needed striped crosswalks or traffic signals
  - ☐ Parked cars blocked our view of traffic
  - ☐ Trees or plants blocked our view of traffic
  - ☐ Needed curb ramps or ramps needed repair
  - ☐ Something else \_\_\_\_\_

Rating: (circle one)

1 2 3 4 5 6

Locations of problems:

\_\_\_\_\_

### 5. Was your walk pleasant?

- ☐ Yes ☐ Some problems:
- ☐ Needed more grass, flowers, or trees
  - ☐ Scary dogs
  - ☐ Scary people
  - ☐ Not well lighted
  - ☐ Dirty, lots of litter or trash
  - ☐ Dirty air due to automobile exhaust
  - ☐ Something else \_\_\_\_\_

Rating: (circle one)

1 2 3 4 5 6

Locations of problems:

\_\_\_\_\_

### 3. Did drivers behave well?

- ☐ Yes ☐ Some problems: Drivers ...
- ☐ Backed out of driveways without looking
  - ☐ Did not yield to people crossing the street
  - ☐ Turned into people crossing the street
  - ☐ Drove too fast
  - ☐ Sped up to make it through traffic lights or drove through traffic lights?
  - ☐ Something else \_\_\_\_\_

Rating: (circle one)

1 2 3 4 5 6

Locations of problems:

\_\_\_\_\_

## How does your neighborhood stack up? Add up your ratings and decide.

1. _____	<b>26-30</b>	Celebrate! You have a great neighborhood for walking.
2. _____	<b>21-25</b>	Celebrate a little. Your neighborhood is pretty good.
3. _____	<b>16-20</b>	Okay, but it needs work.
4. _____	<b>11-15</b>	It needs lots of work. You deserve better than that.
5. _____	<b>5-10</b>	It's a disaster for walking!
Total: _____		

Now that you've identified the problems,  
go to the next page to find out how to fix them.

# WALK AUDIT ROUTE

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The walk audit route was chosen due to the many pedestrian destinations currently located along and near these roadways. Known pedestrian usage confirms that walking is a desirable and useful mode of transportation to these establishments. Starting at the Penn Township Municipal Complex along North Pennryn Road, the walk audit progressed south toward Doe Run Road. The participants then walked approximately 3,000 feet west to the intersection with White Oak Road. Travelling north to Stiegel Valley Road and then east to North Pennryn completed the loop.

# WALK AUDIT CONDITIONS

# N. PENRYN CONDITIONS



Typical concrete sidewalk is present along the eastern side of the roadway.

# N. PENRYN CONDITIONS



Crosswalks and ADA ramps are provided across bank driveway. The location of the crosswalk behind the stop sign is not ideal as it represents a conflict between vehicular and pedestrian movements. No sidewalks are provided south of the bank driveway.

# N. PENRYN CONDITIONS



Pedestrian push buttons are available the intersection of North Penryn and Doe Run Roads; however no crosswalks are provided.

# DOE RUN CONDITIONS



Many existing structures offer resistance to walkway opportunities, forcing pedestrians closer to traffic. Note the school bus crossing the double yellow center line into opposing traffic to give room for pedestrians.

# DOE RUN CONDITIONS



No sidewalks are provided along Doe Run Road.  
Pedestrians use the shoulder for travel

# DOE RUN CONDITIONS



Heavy truck traffic on Doe Run Road makes walking uncomfortable and unsafe. Pedestrians seek safer walking conditions by walking in the grass instead of the shoulder.

# DOE RUN CONDITIONS



An informal trail through the grass along the shoulder is visible. This indicates that pedestrians currently use Doe Run Road for travel.

# DOE RUN CONDITIONS



Wide driveway widths are undesirable for pedestrian traffic as they offer greater opportunity for conflicts with vehicles and do not protect walkers. Crosswalks might be appropriate for heavily used driveway.

# DOE RUN CONDITIONS



No ADA accessible curb ramps or crosswalks are provided at the intersection with West End Drive. Note that a pedestrian signal and associated improvements are planned for this intersection, including the realignment of the access drive for the Manheim Shopping Center (not shown) to be directly opposite West End Drive.

# DOE RUN CONDITIONS



No ADA accessible curb ramps or crosswalks are provided at the intersection of Doe Run Road and White Oak Road.

# WHITE OAK CONDITIONS



No sidewalks are provided along White Oak Road.

# WHITE OAK CONDITIONS



No shoulders are provided. Pedestrians are forced to walk very close to traffic.

# WHITE OAK CONDITIONS



No ADA accessible curb ramps or crosswalks are provided at the intersection of White Oak Road and Stiegel Valley Road.

# STIEGEL VALLEY CONDITIONS



No sidewalks or shoulders are provided along the western portion of White Oak Road. A drainage swale along the north side of the road presents a challenge for the addition of future pedestrian walkways.

# STIEGEL VALLEY CONDITIONS



Starting at the driveway for the Manheim Central Middle School a walking path is provided along the north side of the road.

# STIEGEL VALLEY CONDITIONS



Pedestrian crosswalks and ADA ramps are typically provided along Stiegel Valley Road

# STIEGEL VALLEY CONDITIONS



Some ramps do not meet current ADA standards. No warning mat is provided and there is a vertical separation of several inches between the sidewalk and the rolled curb.

# STIEGEL VALLEY CONDITIONS



Several low hanging tree limbs need trimmed.

# STIEGEL VALLEY CONDITIONS

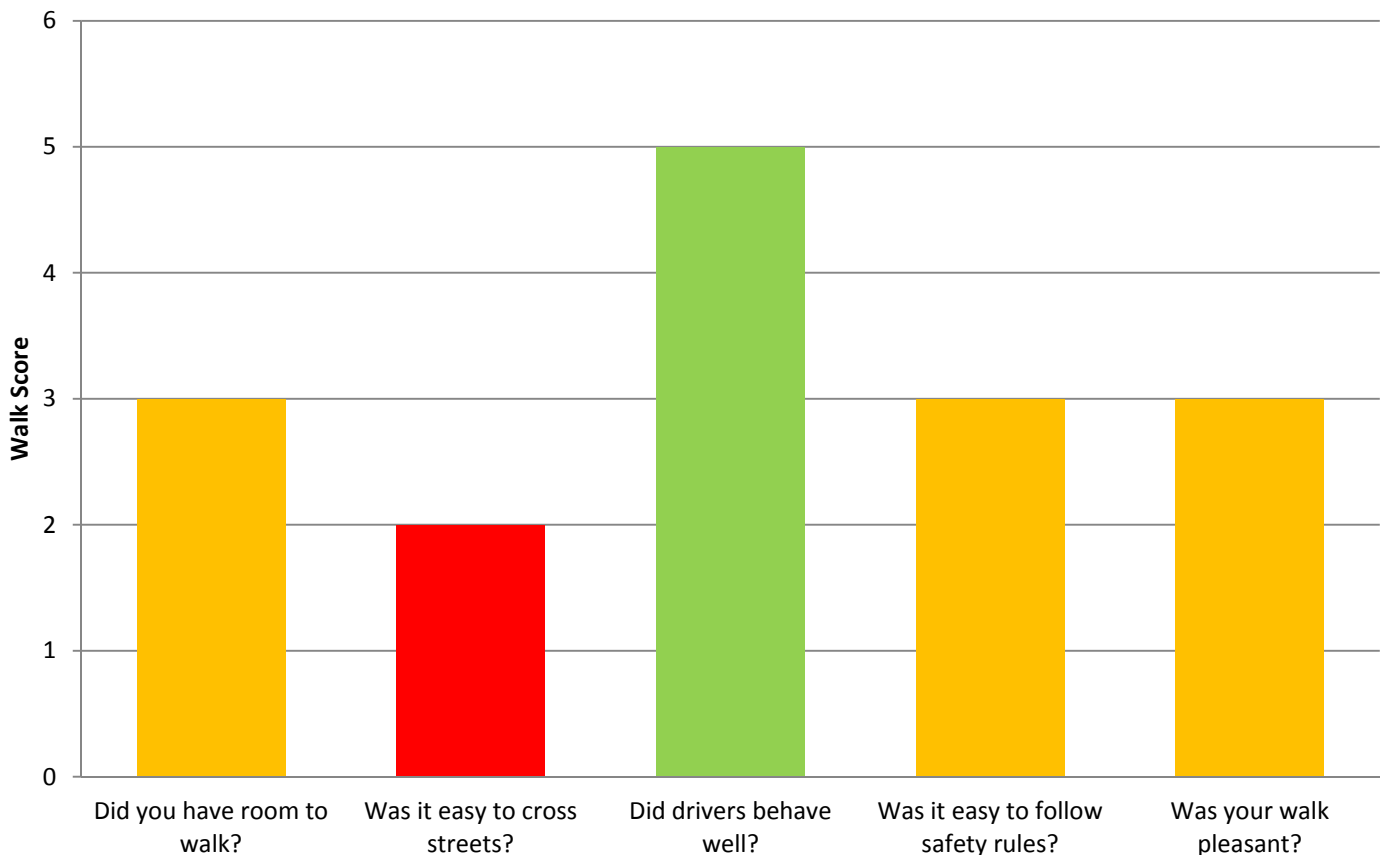


Pedestrian crosswalks and signage are provided at the intersection of Stiegel Valley Road and North Pennryn Road.

# WALK AUDIT RESULTS

# RESULTS

## North Penryn Road Walkability Audit Results



### Participant Comments

Did you have room to walk? Moderately, but there was a gap between sidewalks.

Was it easy to cross streets? There were some problems like traffic signals made us wait too long, and there needed to be curbs ramps or ramps needed repairing.

Did drivers behave well? Yes.

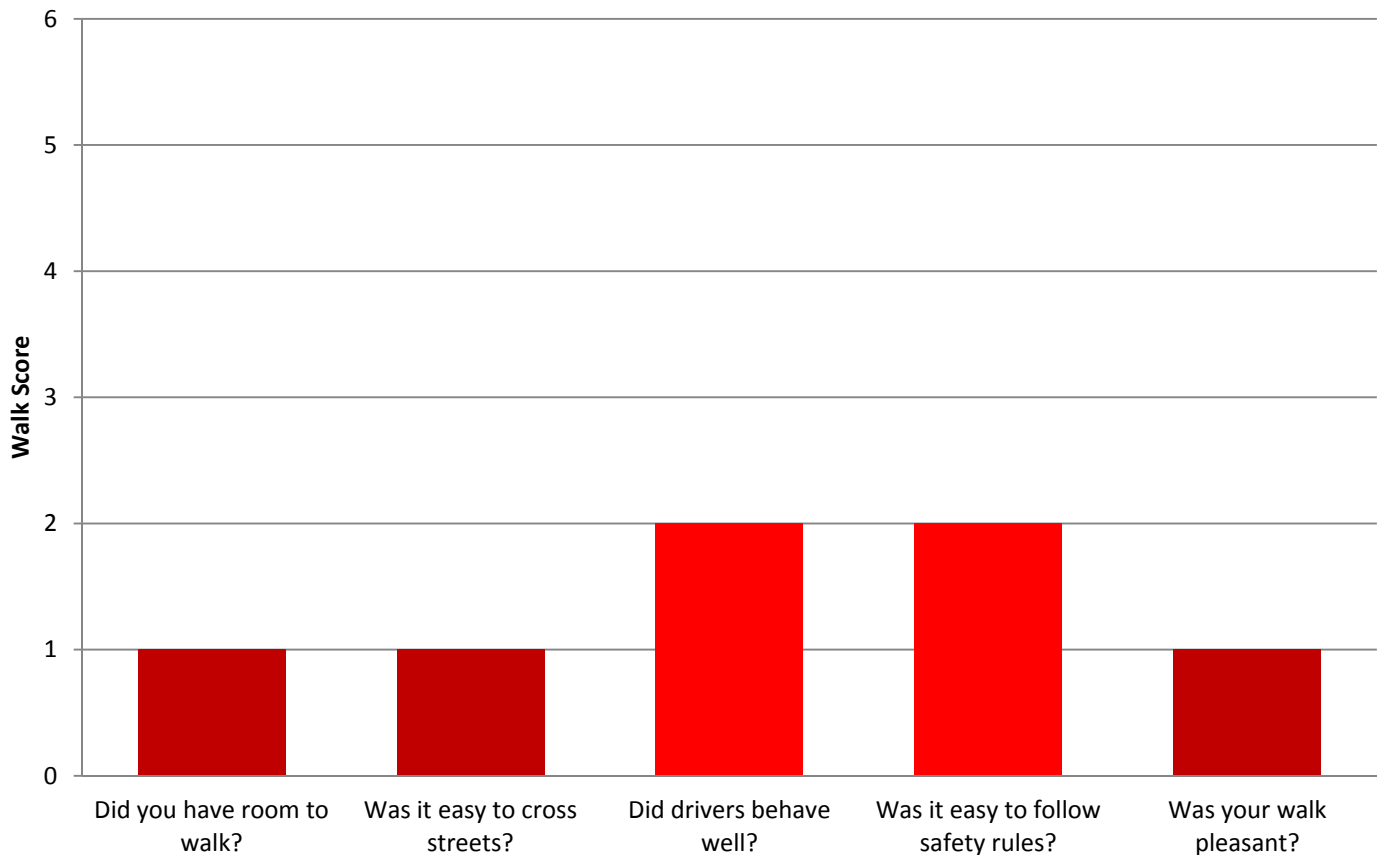
Was it easy to follow safety rules? Sort of but needs work. There were no crosswalks or where you could be seen by drivers.

Was your walk pleasant? Yes, it was fine.

**Total score: 16 = Okay, but it needs work.**

# RESULTS

## Doe Run Road Walkability Audit Results



### Participant Comments

Did you have room to walk? No. Sidewalks or paths started and stopped, but the majority of the time, there were no sidewalks, paths, or shoulders, and there was too much traffic.

Was it easy to cross streets? No. The road was too wide, there were no striped crosswalks or traffic signals, and there needed to be curb ramps or the ramps needed repairing.

Did drivers behave well? No, they drove too fast and they sped up to make it through traffic lights or drove through traffic lights.

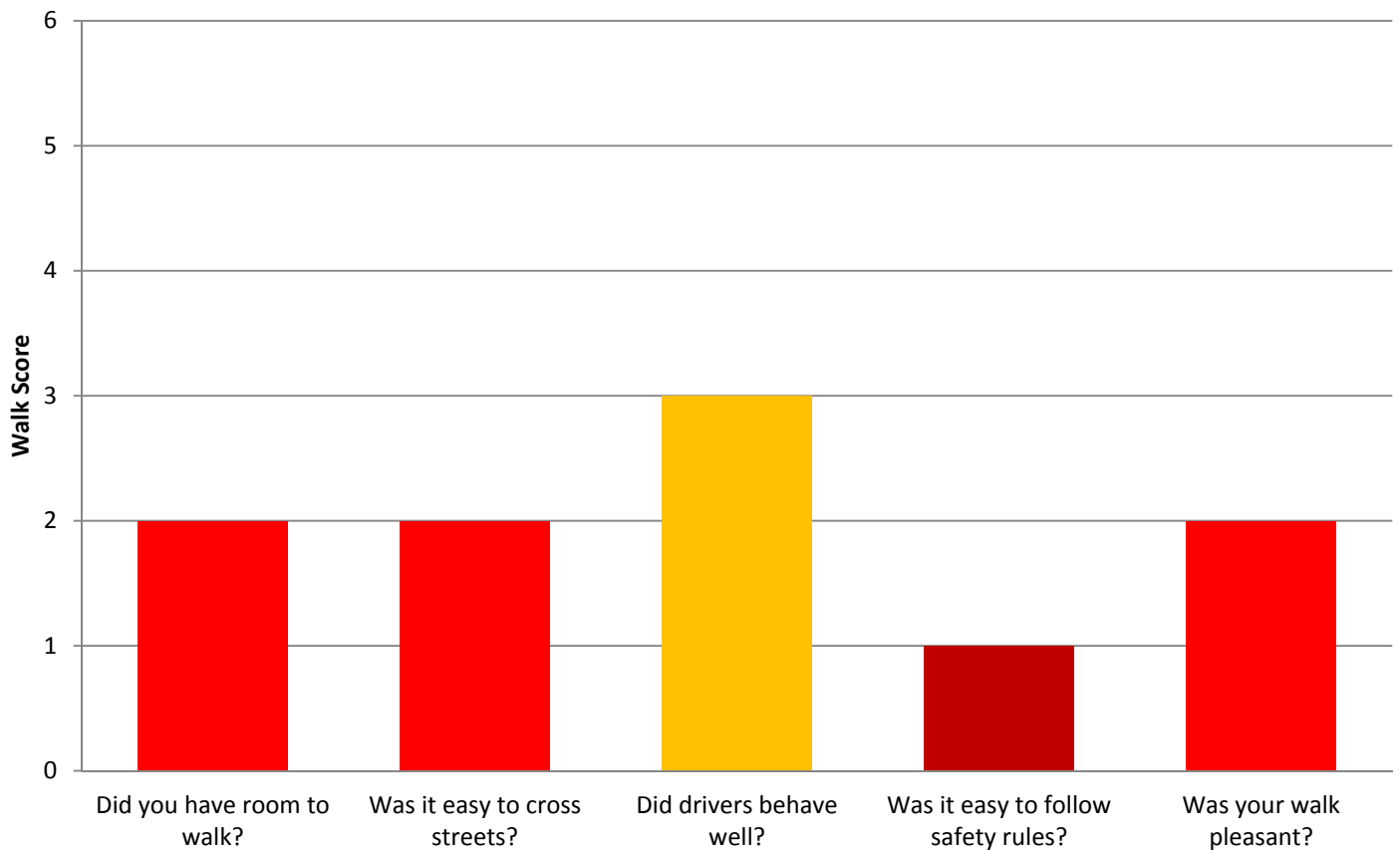
Was it easy to follow safety rules? Not really. There were no crosswalks or where you could be seen by drivers, and you had to walk on sidewalks or shoulders facing traffic where there were no sidewalks.

Was your walk pleasant? No. There needed to be more grass, flowers, or trees, it was not well lighted, and it was dirty with a lot of trash.

**Total score: 7 = It's a disaster for walking!**

# RESULTS

## White Oak Road Walkability Audit Results



## Participant Comments

Did you have room to walk? There were no sidewalks, paths, or shoulders, and there was too much traffic.

Was it easy to cross streets? There were some problems like the road was too wide and there needed to be curb ramps.

Did drivers behave well? Yes.

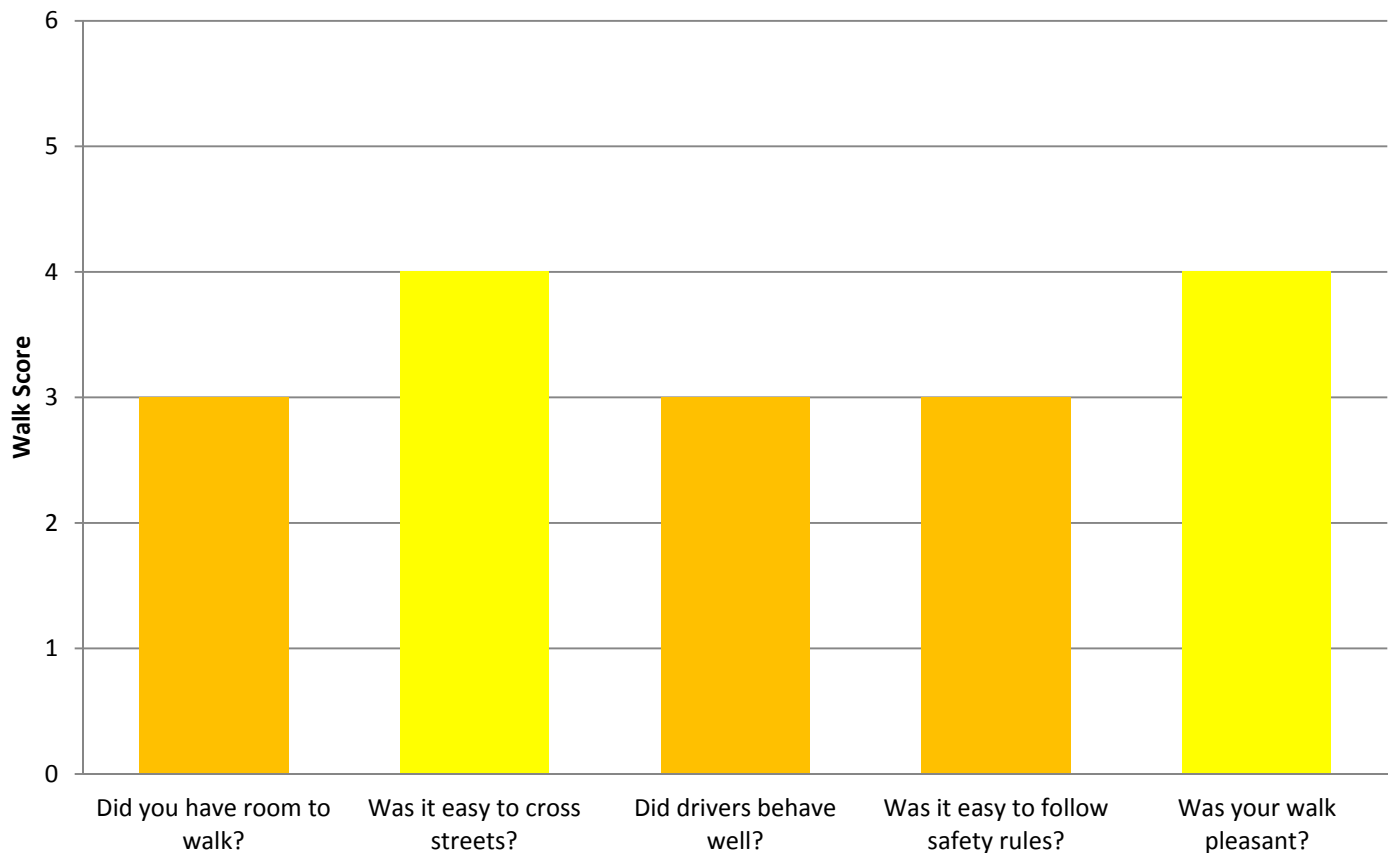
Was it easy to follow safety rules? No. There were no crosswalks or where you could be seen by drivers, you could not walk on sidewalks or shoulders facing traffic where there were no sidewalks, and you could not cross with a light.

Was your walk pleasant? Not really. It was not well lit, there was a lot of litter, and it was hilly.

**Total score: 10 = It's a disaster for walking!**

# RESULTS

## Stiegel Valley Road Walkability Audit Results



### Participant Comments

Did you have room to walk? Not really. There was no shoulder.

Was it easy to cross streets? Yes.

Did drivers behave well? Yes.

Was it easy to follow safety rules? You could not cross at crosswalks or where you could be seen by drivers. And there was no cross with a light.

Was your walk pleasant? It was ok. There were only some problems, such as it not being well lit.

**Total score: 17 = Okay, but it needs work.**

# WALK AUDIT CONCLUSIONS

# WALK AUDIT CONCLUSIONS

## North Penryn Road

1. This roadway scored near the middle of the score range with a walkability rating of 16 out of a possible 30. Generally this means that participants rated the road as good for walkability with some problems noted.
2. One of these problems included the observation that no sidewalks are provided south of the Ephrata National Bank driveway. This forces pedestrians to walk in the grass or on the shoulder.
3. A traffic signal with pedestrian push buttons helps walkers trying to cross the intersection with Doe Run Road however the lack of crosswalks was identified as a concern.

## Doe Run Road

1. This corridor offers the most potential for pedestrian traffic due to the presence of multiple destinations along Doe Run Road. From the Two Cousins Family Restaurant near the east end of the route, to the Manheim Shopping Center, numerous smaller establishments in the center, to Molly's convenience store at the west end of the route, pedestrian destinations are plentiful.
2. The presence of pedestrian destinations does not necessarily produce pedestrian traffic without the presence of populated areas to generate walkers. It is noted that densely populated Manheim Borough is located approximately 750 feet to the west of the walk audit route and the Mallard Ponds residential community located directly to the north. Therefore adequate pedestrian generators also exist. The presence of informal walking paths through the grass along Doe Run Road help us conclude that this area is attractive to walkers.

# WALK AUDIT CONCLUSIONS

## Doe Run Road (cont'd)

3. Unfortunately this section of the walk audit route scored the lowest with a rating of 7 out of a possible 30. This falls within the lowest score range and is described by the walk audit checklist as a “disaster for walking.” Lack of sidewalks, no crosswalks and heavy truck traffic contributed to a walking environment that was objectionable to the walk audit participants.

## White Oak Road

1. This segment of our walk audit route scored the second lowest of the four segments with a rating of 10 out of a possible 30.
2. Lack of sidewalks and extremely narrow shoulders meant that pedestrians were forced to walk close to oncoming traffic. No pedestrian facilities were available at the intersections with Doe Run Road and Stiegel Valley Road.

## Stiegel Valley Road

1. The presence of a dedicated walking trail and/or sidewalks for much of this segment provided suitable room for pedestrians. Crosswalks and ADA accessible curb ramps were provided at most locations as well. The landscaping, vegetation and trees combined with lighter traffic led to this score.
2. This roadway scored the highest of the four walk audit segments with a rating of 17 out of a possible 30. Participants rated this roadway as good with some problems. The biggest problem with this noted with this roadway is a lack of sidewalks from White Oak Road to the school driveway and the challenges presented by the existing drainage facility along that portion.

# **WALK AUDIT RECOMMENDATIONS**

# WALK AUDIT RECOMMENDATIONS

## INTERSECTION IMPROVEMENTS



Provide sidewalks, pedestrian crosswalks, ADA ramps  
pedestrian signals and push buttons at all intersections.

# WALK AUDIT RECOMMENDATIONS

## DOE RUN STREETSCAPE



Walkability improvements to Doe Run Road would include adding curb and sidewalk to provide a dedicated pedestrian travel way. A grass strip (preferably 4-6 feet wide) can provide separation from heavy traffic. Street trees provide shade and a protective barrier from vehicles, as well as add to the visual appeal of the area.

# WALK AUDIT RECOMMENDATIONS

## WHITE OAK CURB AND SIDEWALK



There appears to be adequate space for the installation of curb and sidewalk along the west side of White Oak Road. This would provide a connection from the middle school area to the destinations along Doe Run Road. Alternate routes do exist from the dense residential areas within the Borough, therefore this segment of road is likely a lower priority based upon lower pedestrian demand.

# WALK AUDIT RECOMMENDATIONS

## STIEGEL VALLEY SIDEWALK



Options could be explored for the feasibility of installing sidewalks on Stiegel Valley Road between White Oak Road and the middle school driveway. The existing drainage swale limits options to the north, however it may be feasible to provide a walkway to the south of the roadway in this area. Due to the availability of the middle school walkways as a shortcut from the north and limited demand for a sidewalk from the south, improving walkability for this portion of Stiegel Valley Road is a lower priority item than the Doe Run streetscape and/or intersection improvements.

# WALK AUDIT RECOMMENDATIONS

## STIEGEL VALLEY TREES



Trimming low hanging branches from trees would be a simple and effective way to improve walkability along Stiegel Valley Road.

# WALK AUDIT RECOMMENDATIONS

## ADA ACCESSIBLE IMPROVEMENTS



Retrofitting existing curb ramps to meet current ADA standards would increase walkability for disabled residents. Improvements could include adding truncated dome warning mats as well as eliminating vertical drops from settled curb and rolled curbing.

# WALK AUDIT RESOURCES

# RESOURCES

## EDUCATIONAL

National Center for Safe Routes to School – [www.saferoutesinfo.org](http://www.saferoutesinfo.org)

Pedestrian and Bicycle Information Center - [www.pedbikeinfo.org](http://www.pedbikeinfo.org)

FHWA Office of Safety Bicycle and Pedestrian Safety - [safety.fhwa.dot.gov/ped\\_bike](http://safety.fhwa.dot.gov/ped_bike)

US Access Board – [www.access-board.gov](http://www.access-board.gov)

## FUNDING

Pennsylvania's Transportation Alternatives Program Grants

TAP Coordinator: Chris Metka, PennDOT 717-787-8065, [cmetka@pa.gov](mailto:cmetka@pa.gov)

Department of Conservation and Natural Resources (DCNR) Grants

<http://www.dcnr.state.pa.us/brc/grants/index.aspx>

## LOCAL RESOURCES

Active Transportation Working Group – Beth Schwartz, [bakoser@lghealth.org](mailto:bakoser@lghealth.org)

Citizen's Bicycle and Pedestrian Advisory Committee (BPAC)

<http://pa-lancastercountyplanning.civicplus.com/151/Bicycle-Pedestrian-Planning>

LiveWell Lancaster County – [livewell.org](http://livewell.org)

