APPENDIX A: SUMMARY OF PREVIOUS PLANS

NON-MOTORIZED VEHICLE STUDY (1993)

- Recommended a 215-mile system of safer roads to connect activity centers and serve as the County's the non-motorized network
- Recommendations included paving and widening shoulders, smoothening surfaces, replacing dangerous grates and utility covers, and shifting and narrowing lanes
- 8-foot shoulders on both sides
- Designation of bike routes with highway markers and painted lines
- Recreational trails: Conewago Recreational Trail, Lancaster Junction Recreational Trail
- Municipalities should revise park and recreation and transportation plans to incorporate bike travel
- Bike parking, storage, showers, locker rooms in subdivision and model development requirements
- Bicycle safety education, especially for kids

BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN, PHASE I (2000)

- Need new sidewalks and ADA accommodations, especially in urban and village growth areas
- Traffic calming
- Manage land use to create walkable communities
- Cycle safety education; enforce safe behavior of both bicyclists and drivers
- Improve pedestrian and bicycle facilities on roadways and improve connections to transit and park & ride lots
- Create system that complements greenways
- Better pedestrian and bicycle facilities in tourist areas
- Employer-based incentives for bike commuting (provide parking and showers)
- Emphasized taking advantage of the recommendations of the 1996 Pennsylvania Bicycle and Pedestrian Plan
- Outlined funding methods and accountability for implementation
- Lancaster County Bicycle and Pedestrian Task Force to guide the MPO
- Municipalities should review their master plans and subdivision plans to make sure they incorporate bicycle and pedestrian issues; county should revisit ordinances to make sure they include consideration of pedestrians and bicyclists
- The County should make sure pedestrian and bicycle projects are in the Transportation Improvement Program (TIP) and in the recommendations of the Lancaster County Transportation Authority
- The County should work with the PENNDOT state office and District 8 to ensure pedestrian and bicycle accommodations are included in new construction and retrofit projects

APPENDIX B: PENNDOT BICYCLE AND PEDESTRIAN CHECKLIST

FINAL B/P FACILITIES CHECKLIST - PENNDOT
July 16, 2001

Planning and Programming Checklist

Project_____
SR_____ Segment_____ Offset_____
Team Members_____
Date _____

Item	Considerations	Check	Comments
1.Consistency with Bicycle/Pedestrian Planning Documents	Is the transportation facility included in or related to bicycle and pedestrian facilities identified in a master plan? • MPO/LDD RPO bike/ped plan. • Local planning documents. • BicyclePA Routes. • Statewide Bicycle and Pedestrian Master Plan		
	Will the transportation facility provide continuity and linkages with existing or proposed bicycle/pedestrian facilities?		
	Is the transportation facility included in or related to a regional/local recreational plan? • Rails-to-Trails • Greenways • Local, State, National Parks.		
2. Existing and Future Usage	Do bicycle/pedestrian groups regularly use the transportation facility? • Bike clubs. • Bicycle commuters. • Hiking, walking, or running clubs. • Skateboarding or rollerblading groups. • Bicycle touring groups. • General tourism/sightseeing.		

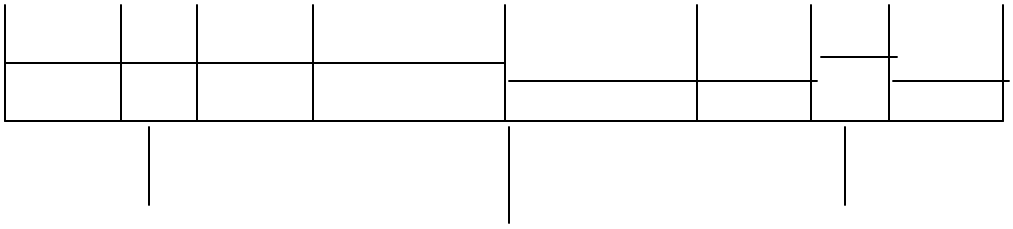
	Does the existing transportation facility provide the only convenient transportation connection/linkage between land uses in the local area or region?		
	Could the transportation facility have favorable or unfavorable impacts upon the bike tourism/economy of an area/region? Consider: • Local businesses • Chamber of Commerce. • Tourism Promotion Agencies.		
Existing and Future Usage (cont'd)	Are there physical or perceived impediments to bicycle or pedestrian use of the transportation facility?		
	Is there a higher than normal incidence of bicycle/pedestrian crashes in the area?		
3. Safety	Is the transportation facility in a high-density land use area that has pedestrian/bike/motor vehicle traffic?		
	Is there a high amount of crossing activity at intersections? • Midblock • Night crossing activity • Adequate lighting		
	Would the transportation facility (and all users) benefit from widened or improved shoulders or improved markings (shoulders, crosswalks)?		
4. Community and Land Use	Is the transportation facility in a city, town, municipality or village?		
	Is the transportation facility within/near a community or neighborhood?		
	Is the transportation facility the "main street" in a community or town?		
	Could bicycle or pedestrian usage impact economic development?		
	Are sidewalks needed in the area? • Presence of worn paths along the facility. • Adjacent land uses generate pedestrian traffic. • Possible linkages/continuity with other pedestrian facilities.		

	Is the transportation facility a link between complementary land uses? • Residential and commercial. • Residential and business.		
	Is the transportation facility in close proximity to hospitals or elderly care facilities, or the residences or businesses of persons with disabilities?		
	Is the transportation facility within or near educational institutions?		
	Is the transportation facility in close proximity to transit stops or multi-modal centers (including airports, rail stations, intercity bus terminals, and water ports)?		
5. Transit	Is the transportation facility on a transit route?		
	Is the transportation facility near park-and-ride lots?		
	Are there existing or proposed bicycle racks, shelters or parking available? Are there bike racks on buses?		
6.Traffic Calming	Is the community considering traffic calming as a possible solution to speeding and cut-through traffic?		

Scoping Checklist
July 16, 2001

Project_____
SR_____ Segment_____ Offset_____
Team Members_____
Date _____

Right-of-Way Needs Diagram



Sidewalks Shoulder/ Bike lane Lane(s) Lane(s) Shoulder/ Bike lane Sidewalk
Planter/Buffer Strips Median Planter/Buffer Strips

Element	Number Required	Width Required	Total Width
Sidewalks			
Buffer Strips			
Shoulders			
Lanes			
Median			
Total Right-of-Way Required			

Pedestrian Facilities

Item	Considerations	Check		Comments
1. Sidewalks	Appropriate width: • 1.5 m – 2.1 m (5'-7') for residential, commercial, and industrial. • 2.5 m (8') minimum for high use areas/CBD. • 2.1 m (7') width for bridges. • 0.6 m (2') shy distance for vertical barriers. • 1.2 m – 2.1m barrier separating traffic from pedestrians on bridges.			
	Applicability of planter or buffer strips.			
Sidewalks (cont'd)	Connectivity with other pedestrian facilities.			
	Proximity to transit bike/ped generators: • Transit stops. • Schools. • Park & rides • Nursing homes • Offices • Business environments • Athletic fields • Recreation facilities			
	Observe pedestrian patterns for special needs such as: • Midblock crossings. • Islands and refuges. • Night crossing activity.			
	ADA needs and concerns.			
2. Signalized Intersections	Crosswalks provided and marked.			
	Intersection bike/ped crash history reviewed.			
	Is there a dedicated pedestrian phase, if so how long?			
	Crossing distance is minimized.			
	Ped heads and ped pushbuttons provided.			
	ADA needs and concerns.	Retirement homes		
		Schools		
		Medical facilities		
3. Traffic Calming	Is the community considering traffic calming as a means to curb speeding and cut-through traffic?			

Bicycle Facilities

Item	Considerations	Check	Comments
1. Bikelanes/Paved Shoulders	Appropriate width of bike lane: • 1.5m (5') adjacent to curb. • 1.8m (6') standard		
	Connectivity with other facilities. • Bike lanes • shared use trails • trail heads/parking areas		
	Maximize width of shoulders and provide appropriate markings as per *AASHTO Green Book*.		
	3 m (10') vertical clearance from fixed obstructions (excluding road signs).		
	Angle and smoothness of railroad crossings. Avoid angles of incidence of <70 degrees or redesign		
	Bridge accesses provided/pinch points avoided.		
	Parking parallel or angled.		
2. Signalized Intersections	Inventory existing bicycle facilities.		
	Intersection bike/ped crash history reviewed.		
	Crossing distance is minimized.		
	Considerations for bikes making turns.		
	Bike detection.		
	Elevated push buttons		
3. Traffic Calming	Is the community considering traffic calming as a means to curb speeding and cut-through traffic?		

Final Design Checklist

July 16, 2001

Project_____
SR_____ Segment_____ Offset_____
Team Members_____
Date _____

Pedestrian Facilities

Item	Considerations	Check	Comments
1. Sidewalks and Signalized Intersections	Crosswalks are at least 3 m (10') wide.		
	Crosswalks are prominently marked using continental style markings.		
	Pedestrian signals are provided.		
	Pushbuttons are provided and accessible.		
	Minimize crossing distance.		
	Maximize pedestrian visibility at crossings.		
	Coordination of turn phases with walk/don't walk signs.		
	Proper lighting type and placement.		
2. ADA Requirements	Pushbuttons accessible.		
	Pushbutton height 1.0 m – 1.1m (3.5'-4.0').		
	Large pushbuttons used.		
	1.5m (5') recommended passage (sidewalks).		
	5% maximum grade recommended (sidewalks).		
	2% cross-slope maximum		
	Curb cuts include "truncated dome" texturing along lower 24 inches.		
	2 curb cuts per corner at intersections.		
	Curb cuts flush with street surface 0.6 cm. (1/4") tolerance		
	Running slope of new curb cuts 1 in 12 max.		
	Longer signal cycles.		
	Audible crossing signals.		
	Level landings on perpendicular curb ramps.		
	Proper head/shoulder clearance for visually impaired.		
	Coordinate utilities with ADA requirements.		
	Proper lighting.		
	Analyze landscaping growth potential for future obstructions.		

ADA Requirements (cont'd)	Any conflicts with minimal distance that should be included in the project.		
	Coordinate and minimize signage conflicts.		
3. Traffic Calming	Consider traffic calming as a means to improve pedestrian and general traffic safety.		

Bicycle Facilities

Item	Considerations	Check	Comments
1. Bikelanes/ Bikeways	Bicycle safe grates, RC-34, Sheet 3 of 9.		
	Manhole covers flush with roadway surface.		
	Inlets flush with roadway surface.		
	Rumble strips type and placement.		
	Driveway aprons.		
	Conflicts eliminated with: • Turns at intersections. • Through movements. • Bicycle and pedestrian conflicts. • Parked cars, angled vs. parallel. • Driveway aprons.		
2. Signage	3 m (10') vertical clearance from signs and structures.		
	"Share the Road Signs".		
	"Wrong Way Signs".		
	Lane stenciling.		
	Bike lane designation signs.		
	No parking signs.		
	Bike lane striped.		
	Transition from bike lane to bikeway.		
	Consistent width on roadways, bridges, and intersections.		
	Overlap bike lane/shoulder stripe over pavement joints.		
	Meet or exceed AASHTO criteria.		
3. Traffic Calming	Consider traffic calming as a means to improve pedestrian and general traffic safety.		

APPENDIX C-1: SUMMARY OF INTERVIEWS

This section summarizes responses that were given in phone interviews with leaders in the Lancaster County pedestrian and bicycle community during June 2003.

BICYCLE SHOP EMPLOYEES

- Willing to post flyers, would like to get involved, "will do whatever it takes"
- Will post flyers and donate items for public meetings
- Biggest issue is lack of wide enough shoulders (not referring to back roads with little traffic). i.e. Rt. 272 has a portion with no shoulder. Need more dedicated bike paths
- Will post flyers and donate items for public meetings
- Shoulders need to be widened
- Better roadway design needed to accommodate bicycles
- Need to connect neighborhoods without forcing bicyclists to go out to main roads
- Need more rail-trails
- Gets customers in riding for recreation and work
- Problem with stones and debris on shoulders in rural areas
- Need to get rid of road rage against bicyclists
- Cyclists need more power, if cars hit bikes the drivers only get a slap on the wrist
- There are not enough shoulders, or shoulders are not wide enough (should be able to fit 2 riders abreast). When there are shoulders they are covered with stones, glass, nails—wind up with flat tires.
- Used to have many road races and triathlons. Only a few still supported locally – have to fight with townships to get roads closed
- Need to make more room for horses. Rt. 23 needs improvements, should be wider

COLLEGES AND UNIVERSITIES

- None of the college or university representatives that were interviewed said that they offered bike safety programs. Most students supposedly do not ride bikes, and many schools are adult/continuing education.
- Just began a 'cops on bikes' program at Millersville, have 3 officers participating (one for each shift). The campus is small with limited vehicle access so do not have to worry about cars not yielding to students. Most students drive from local neighborhoods.
- Will post flyer for public meetings
- Some problems on Millersville campus are that there are no bike lanes, sidewalks are not continuous or are in disrepair, and a lack of ramps
- A trail in Buchanan park would be nice, for kids
- Would like clearly striped lanes for bikes—there is not enough existing roadway width
- Campus and urban areas need designated roadway space for bicyclists and pedestrians
- When there is not enough road width for bikes, their pedals can hit the curb—safety hazard. When there are narrow lanes, vehicles can scare younger/less experienced riders into the curb.
- Drivers don't give bicycles the space that they deserve

- Drivers that are in a hurry cause a problem because they don't yield to pedestrians and cyclists trying to cross in crosswalks (but this is getting a little better)
- If students walk to class instead of driving, they help the parking situation on campus
- Like the idea of flashing crosswalks and better lighting on campus at night

LANCASTER BICYCLE CLUB

- Improve pavement conditions
- Provide signal detectors for bicyclists; bike accessibility should be included in standard / guideline process
- The County has some dangerous sewer grates –some in middle of intersections
- Pavement overlay does not always include shoulder-pavement should be feathered so that there is a smooth transition from lane to shoulder
- Pedestrian "no pedestrian crossing signs" –make those intersections accessible
- Delineation of pedestrian traffic along roadway – segments
- Use ID Asphalt treatment rather than oil + chip (costed out over life)

PENNSYLVANIA COMMONWEALTH OF STATE POLICE - LANCASTER

- Do not themselves have a bike safety program, but work with AAA who runs one for local elementary schools (grades 3-6). Dorie Weik, 717-390-2194
- PA vehicle codes does not make special provision for bikes – they are treated the same as cars.
- Need bigger roadway shoulders and bike lanes. Roads in Lancaster are so old that it is often difficult to make them more conducive to bikes
- PA state does not have a "cops on bikes" program – too rural (they do have motorcycles)

COFFEE SHOPS

- Will post flyers, "anything we can do, just let us know"
- Get a lot of tourists (many Europeans) looking for places to rent bikes to tour the area
- Landlord of their small mall would be willing to donate space for bike facilities / lockers
- Pedestrians don't use crosswalks, dangerous

SCHOOL SAFETY EDUCATION PROGRAMS

- AAA works on safety education in 72 of the 104 schools in all districts of Lancaster County.
- AAA Teaches balance and control, rules of the road, sharing sidewalks with pedestrians, using helmets, etc.
- AAA Program is held once a year (Spring) in each school.
- Greatest priority for plan should be making roads with wider shoulders, especially on rural roads where people have a false sense of security because traffic volume is low.

APPENDIX C-2: SUMMARY OF COMMUNITY WORKSHOP FEEDBACK

Two Community Workshops were held to provide information about the Lancaster County Bicycle and Pedestrian Transportation Plan and to receive initial ideas and recommendations for the plan from the public. Approximately 11 people participated in the June 30, 2003 meeting in Manheim and approximately 27 people participated in the July 1, 2003 meeting in the City of Lancaster. The Community Workshops consisted of an informal drop-in period for attendees to ask questions, a formal presentation about the plan, a question and answer period, a group mapping exercise, and then a group gathering to talk about what had been marked on the maps. Participants provided their comments during the discussion periods and mapping exercise as well as by filling out separate pedestrian surveys and bicycle surveys.

A third Community Workshop was held on January 21, 2004 in the City of Lancaster near the end of the planning process. At least thirty-three people participated in the meeting. Participants were shown maps of the recommended Pedestrian and Bicycle Systems and given a formal presentation on the Draft Plan. Comments were provided before and after the formal presentation and on comment sheets.

SUMMARY OF COMMENTS

The comments received at the three Community Workshops can be generalized into several key themes. Overall themes coming from the discussion periods, map work, comment sheets, and surveys are:

- A "cultural" change is needed in Lancaster County to increase the awareness of the benefits of pedestrian and bicycle transportation and to increase the actual amount of residents who walk and bicycle.
- Better physical pedestrian and bicycle conditions are needed to make more residents feel safe and comfortable enough to choose to walk and bike in the County.
- Pedestrians and bicyclists need more roadway space, including more sidewalks and more wide shoulders.
- Education of drivers, as well as pedestrians and bicyclists, is one of the keys to creating a safe pedestrian and bicycle transportation system, regardless of physical roadway conditions.
- Areas around schools are a top priority for pedestrian and bicycle improvements.
- Better maintenance of roadways and sidewalks is needed to ensure comfort for pedestrians and bicyclists over time.
- Bicyclists of different skill-levels should have a choice to ride on the roadway in the safest and most comfortable place for them.
- Safety of the roadway/roadside and travel time are two of the most significant factors that play a role in whether or not survey respondents walk or bike.

- The land use pattern that has developed outside the older city areas is unfriendly to pedestrians and bicyclists. New developments should be mixed-use so that there are nearby destinations for residents to walk and bike to. There should also be a connected system of roads within and between developments.
- Major roadway arteries leading into and out of Lancaster City should receive special attention for pedestrian and bicycle improvements. These are often commercial strips and shopping center developments that have little, if any, shoulder space and incomplete, poorly maintained sidewalks. Vehicles turn frequently across pedestrian and bicycle travel areas, and many sections have few trees or other features that make the streetscape attractive to any type of roadway user.

OPEN DISCUSSION COMMENTS

The list below summarizes the comments from the community participants during the open discussion periods. Some are general suggestions, and others are specific to a roadway or an area in the county. The general suggestions are categorized into the four goal areas of education, transportation improvements, multimodal access/land use policy, and communications, and a final category was added for comments related to policy.

General Suggestions for Plan

Education

- Education is needed for pedestrians and bicyclists using the transportation system.
- Drivers need to have better awareness of pedestrians and bicyclists and to be educated on how to operate safely near these two types of roadway users.
- Education will help reduce the perception of danger associated with bicycling in the County.
- Lancaster County should embrace a structured program that can make parents less afraid to have their kids walk and bike in their neighborhoods and also teach kids how to walk and bike safely.
- It is dangerous for bicyclists when motorists encroach on shoulders to make right turns.
- Police need to enforce driver yielding to pedestrians and bicyclists.
- "Parents are terrified to let their kids out of the yard." We need to provide both education and physical pedestrian and bicycle improvements to combat this fear.
- Many teachers have the energy to teach pedestrian and bicycle safety education in their classes.
- Bicycle safety and other concepts, such as carpooling, should be taught in school
- It is fairly easy to educate kids about safe bicycling and walking behavior. How do we educate motorists about safe driving behavior near pedestrians and bicyclists?
- Many more roads seem dangerous to inexperienced bicyclists
- Middle school students do not like to wear bike helmets because they are "uncool".
- Do not assume that bicycling skill is equal to safety.
- Mountville Borough Police do a little safety education program at the beginning of each school year.

- Educate the public on the cost of tire and innertube replacement. Debris on shoulders increases the chances a bicyclist will get a flat tire, which costs time and money to replace.
- Educate the public about clipless pedals—extra care should be taken when driving around bicyclists because they are "locked in".

Transportation Improvements

- All skill levels should be accommodated when making pedestrian and bicycle roadway improvements.
- Lancaster County needs a Safe Routes to Schools program.
- School students should be more involved in biking, but parents feel they can't take kids out because roadway facilities are not safe.
- Sidewalks need to be provided near schools.
- Roadways in the urban areas should be designed to send drivers the message: "You come in the city, you slow down."
- Shoulders need better maintenance.
- The Plan should promote development of the Atglen-Susquehanna Trail.
- The Plan should reference the Conewago, Conestoga, Horseshoe, and other trails in the northwest part of Lancaster County.
- Trees and bushes should be trimmed back to provide adequate shoulder space, ensure adequate sight distance, and allow people to use the entire sidewalk.
- Awareness of pedestrians crossing the street can be improved with crossing signs, brightly-painted crosswalks, "Yield to Pedestrians" bollards placed in crosswalks, and better illumination of the crosswalk.
- Pedestrian crossing of multi-lane highways can be improved by adding a raised island refuge in the middle of the multi-lane road, breaking the crossing into two smaller crossing steps.
- Extending the curb into the road area (curb extensions or bulbouts) has been done in areas with parked cars, but in areas where there is no on-street parking, it would take away the cyclist/buggy travel clearance and should be avoided.
- "No Pedestrian Crossing" signs should be removed throughout the County.
- If vehicle traffic is heavy and crossing needs are great, a light which the crosser can press to stop the vehicle traffic is quite effective.
- A raised speed table extending the entire width of the roadway is effective both in slowing the motor traffic and increasing pedestrian crossing visibility when the top of the speed table is a crosswalk. There are limitations on speed tables on PENNDOT roadways, but they can be effective in slowing motorist near parks or schools on side streets where speed limits might otherwise be ignored.
- Wider shoulders or a hill-climbing lane should be provided when driver sight-distance is limited at the tops of hills so that slower traffic has more clearance.
- Abandoned rail lines provide the most cost-effective means of providing recreational open space for walking, jogging, cycling, horseback riding, or cross-country skiing, but many adjacent property owners fear they might be liable if the lines are used for recreational trails and users go off the trail onto their property. The Plan should refer to the findings available through Rails-To-Trails that owners are NOT liable for folks

wandering off the trail, that going off a trail is a rare occurrence, and that nearby recreational trails have increased the quality-of-life and raised property values in many locations (which include the Lititz-Warwick trail neighborhood, and the area near the Conewago Trail north of Elizabethtown.

- Fix drainage grates that have bars that are far enough apart to trap a bicycle wheel. The gaps should be perpendicular to the direction of bicycle travel.
- Rumble strips should not be used.
- Connect the street grid. Suburban areas with dead ends and cal-de-sacs should have cut-through paths for pedestrians and bicyclists. Continue the rectangular grid that was established in Lancaster City and in the downtowns of the older boroughs.
- The County should add more 8-foot shoulders. Narrow roads are dangerous when there is no "escape route" for bicyclists.
- The County needs to provide shoulders that are 2 feet or wider on its roadway.
- Shoulders that are 3 to 4 feet wide are sufficient, but it is nice when the shoulders are wider.
- Shoulders provide benefits to other roadway users besides bicyclists, such as pedestrians, buggies, and motor vehicles.
- Provide bike lanes everywhere.
- Tractor-trailer drivers wave when they see me biking in an 8-foot shoulder because they don't have to worry about passing too closely.
- PENNDOT needs to provide wider, well-maintained shoulders.
- Roads in the northeast part of the county are good for biking, in general.
- County should aim to create places where people want to be. Beautiful buildings and streetscapes will be enjoyed by residents and bring visitors to these places.
- Small malls and strip shopping centers have no pedestrian and bicycle amenities—these are needed.
- Parking lots are very unfriendly for walking and biking; they should have trees, lanes for pedestrians, and connections to adjacent parking lots.
- Lancaster County roadways need more street trees.
- Sidewalk conditions need to be improved.
- The word "facilities" is not the appropriate word to use for bike lanes and paved shoulders.
- There should be less focus on providing bicycle "facilities" in this plan because we already have a system of bike facilities—they are called roads.
- Avoid designing roadways that imply that there is only one appropriate place for bicyclists to ride.
- Are pedestrian facilities needed more than bike facilities in Lancaster County? If so, we should give a significant focus to them in the plan.
- New developments should not encroach on the shoulders of existing roadways.
- Heavy truck traffic can make it much less comfortable to walk and bike.
- People with disabilities must be accommodated on the County's roadways.
- Subdivisions should be designed so that there are nearby destinations for people to walk to.
- Design roads to be wider when traffic volumes are higher.
- Roadway corridors need consistent, good conditions for bicycles, pedestrians, and motor vehicles.

- Pedestrian connections should be provided between parking lots on adjacent properties.
- The new baseball stadium development will provide a great opportunity to make great pedestrian and bicycle connections to a major destination.
- There need to be safe and convenient crossings of the major traffic arteries in the County. "They are like walls."
- The one-way streets in Lancaster City and other downtowns should be converted to two-way streets.

Multimodal Access

- More planning needs to be done to make the transit system serve the needs of county residents—Red Rose Transit is still operating on a hub and spoke system.
- Provide bike access on Amtrak.
- Free delivery services should be available so that people can walk or bike to shop for large items and not have to worry about carrying them home.
- The Red Rose Transit Bike Access policy should be listed on the County website.
- Establish bicycle stations at appropriate locations to provide secure indoor bike parking, scooter and car-sharing rental opportunities, bike repairs, and bike accessory sales (article on bicycle stations was submitted at the third Community Workshop).

Communications

- Lancaster County has reached a tipping point where there is an openness to making pedestrian and bicycle conditions better in general.
- Some of the benefits of walking and biking are that they provide an inexpensive alternative to driving a motor vehicle, reduce motor vehicle congestion, have less of an impact on transportation infrastructure than motor vehicles, produce less pollution, provide exercise and improve health, and are faster then driving (in some cases).
- Bicycle / Pedestrian Map should encourage people to walk and bike for their chores—it should provide the destinations in people's neighborhoods; it should say how long it will take a person to bike / walk from place to place.
- People should be able to complete errands by bicycling and walking, especially when destinations are nearby
- Community action is important—parents need to be motivated to walk their kids to schools.
- Lancaster County is light-years ahead of many other counties in Pennsylvania—we commend you for getting this event done (attendee from PA Bicycle Access Council). Lancaster County's effort can be looked at as a model.
- There is energy in the County to make improvements for pedestrians and bicyclists, but a greater "pedestrian and bicycle presence" needs to be created to overcome tradition and obstacles. Residents need to hear the message that pedestrians and bicyclists are good for the community and to see that there are many people who walk and bike in the County.
- The Bicycle Map will be a great resource for tourists—showing them many destinations that they can reach by bicycle.

- The Bicycle Map should indicate the amount of time it would take a typical bicyclist to travel between destinations and on loop rides at a specific speed.
- Lancaster Bicycle Club has several scenic tours and other ride routes that could be considered as recommended county routes for signage and inclusion in the bike map
- Lancaster residents should be motivated to walk and bike
- The County needs a pedestrian advocacy group
- More outreach and promotion programs are needed in general for bicycling and walking
- Air quality issues must be taken seriously in Lancaster County. Bicyclists and pedestrians breathe in pollutants from motor vehicles. Partnerships with groups like the American Cancer Society are important for addressing this issue.
- Work with the Pennsylvania Department of Conservation and Natural Resources, Lancaster Parks and Recreation Department, and Senior Olympics in Lancaster County and across the State to get seniors out bicycling (same recommendation for kids).

Policy

- PENNDOT can be a great partner for implementing this plan. They are now in the sidewalk business. Use them to get more sidewalks in Lancaster County.
- PENNDOT's new Bicycle and Pedestrian Checklist will change policy so that pedestrian and bicycle facilities do not have to be justified as part of a road improvement project. Instead, there must be justification for NOT including pedestrian and bicycle facilities.
- Emphasize the importance of the Lancaster County Inter-municipal Committee to the success of this Bicycle and Pedestrian Plan.
- Park and Recreation agencies should allow increased bicycle and pedestrian access to gamelands, parks, etc.
- Sidewalks are not mandated by law. Each municipality decides. Manheim Borough can require sidewalks, but there are many exceptions. Why should a property owner / developer build a sidewalk if there are not any others around for it to connect to? The overall system needs to be developed—it must not be piecemeal.
- Borough of New Holland did a comprehensive sidewalk refurbishment—this should be viewed as a leading example for the County.
- The Plan should contain specific, ready-to-implement regulations for developers.
- There should be specific turn-lane requirements in the Plan, with foot-by-foot descriptions of proper designs.
- Existing shoulder space should never be eliminated, even if it is for the purpose of adding a sidewalk.
- The Plan should not recommend using curb extensions or reducing turning radii.
- The Plan should not recommend removing snow from trails or require paved trails.
- The Plan should not recommend that new sidewalks be provided in front of existing homes, except on the highest-priority stretches of roadway.
- While Bicycle Level of Service should be used at the Countywide planning level, LCPC should avoid using by-the-letter Bicycle Level of Service Grades.
- The Plan should recommend ways to reduce motor vehicle speeds in problem areas; however, speed limits should not be lowered arbitrarily to meet a Bicycle Level of Service target.

- The Plan should encourage a connected street pattern and avoiding cul-de-sacs.
- Municipalities should not waive sidewalk requirements for any new developments.
- Sidewalks should be provided any time a property is developed within an Urban / Village Growth Area.
- Driveways should be consolidated to reduce conflicts between turning motor vehicles and pedestrians and bicyclists.
- Additional shoulder width should be added, where possible, any time a roadway is repaved.
- Roadway lanes should be kept to a minimum width, and additional right-of-way space should be given to shoulders and sidewalks.
- It is important to work with the Pennsylvania Turnpike Authority Commission. Their Charter prohibits bicyclists and pedestrians on their facilities; however, overpasses, underpasses, and interchanges should provide connections for non-motorized modes.
- There will be very limited participation from the Mennonite Community in public meetings, but there are many safety issues with Amish and Mennonite community members bicycling, walking, rollerblading, riding scooters, etc. on roadways. It is essential to continue to seek input from the Mennonite Safety Committee.
- Every property owner is responsible for maintenance of sidewalks and is assessed for sidewalk improvements—some people are not able to do this; others are unaware of their responsibility. There should be policies to help people maintain sidewalks. (PENNDOT gives maintenance responsibility to municipalities, which in almost all cases, pass that responsibility to the property owners.)
- Old trees need to be replaced. The City of Lancaster will pay to put a new street tree in, but the property owner must pay to take it out.
- There should be funding programs for pedestrian and bicycle improvements in municipalities that have PENNDOT-owned roads.
- BPAC is now "at the table" as a member of the Transportation Technical Advisory Committee (TTAC).
- Context Sensitive Solutions have the potential to improve the pedestrian and bicycle environment significantly.
- Bicycle licensing could be used to help contribute to roadway construction and maintenance costs. However, this would discourage bicycling. Maybe there should be a competence license instead.
- Engineers should go out and see conditions of roads in the field.
- Incentives should be used to motivate residents to walk and bike.
- The County should provide a best practices report for pedestrian and bicycle design for the municipalities to follow.
- County should help provide funding to townships to create wider rural roads in areas with more traffic.

Location-Specific Recommendations

- Make Harrisburg Pike (and the James Street Improvement District) pedestrian-friendly, especially to serve Franklin and Marshall College, Lancaster Hospital, and the new stadium area.
- Columbia Avenue should be improved between Lancaster and Columbia

- Main roadway "spokes" on the outside of town (Such as Harrisburg Pike, Lititz Pike, Oregon Pike, etc.) need sidewalks and street trees.
- The area around the Lancaster City train station needs to be improved for both bicyclists and pedestrians.
- There should be a detour for the PA Bicycle Route "S" that goes around the south side of Lancaster City—divide Route "S" into a main route and a business route through the city.
- Ridge Road (east of Elizabethtown) is important to improve, since it is heavily traveled
- Driveways should be consolidated on PA 72 to reduce conflicts between pedestrians and bicyclists and turning vehicles.
- PA 272 (Oregon Pike) needs to be improved. It is in the Transportation Improvement Program for repaving
- Kids at Doe Run Elementary (Rapho Township) are not allowed to ride to school—better accommodations for pedestrians and bicyclists should be provided in the area and this policy should be changed.
- Potential locations for Safe Routes To Schools projects include the Lampeter Strasburg School Campus, Manor Middle and High School, and Donegal School District.
- Lancaster City needs to take a stand and say that it will make conditions better for pedestrians.
- South Duke Street in Lancaster City needs bike lanes.
- There is a significant safety issue, especially with kid bicyclists, on Valley Road in Manheim Township between Oregon Pike (PA 272) and Lititz Pike (US 501).

MAP COMMENTS

Community comment maps were provided for the northwest, northeast, and south parts of Lancaster County as well as the Lancaster City area. Meeting participants marked where the best and worst places where they walked and biked and also marked locations where they would like to see physical improvements for pedestrians and bicyclists. The following list summarizes these comments.

- In general, meeting participants wanted better connections between Downtown Lancaster and the surrounding suburbs and countryside.
- The major roadway arteries into Lancaster City were most often marked as areas needing improvement, both for walking and bicycling.
- The most common places that people walked were in Downtown Lancaster or within a suburban subdivision. Few people crossed major roadway arteries.
- Several roadway intersections on the southeast and northwest edges of Lancaster City were marked as particularly difficult for pedestrians.
- People often biked on loop routes in the country and used PA Bike Route S through Lancaster City.
- People noted that the areas to the northwest, northeast, and south of Lancaster City and its suburbs are excellent for bicycle riding.
- Several rural roadways were noted as having inadequate shoulder width for bicycling.
- Participants suggested adding scenic roadways and route numbers to maps.

SURVEY COMMENTS

The comments in the surveys addressed similar topics as were raised during the open discussion periods. However, they provide some initial data about pedestrian and bicycle trip purposes, factors that influence individual decisions to walk and bike, walking and biking to transit, and safety training.

Pedestrian Survey

Nine (9) pedestrian surveys were completed and turned in at the community workshops. The pedestrian survey respondents had the following characteristics:

- Pedestrian trips were made most often to go to a social / recreational activity or to go to work. Though they made fewer trips each week for shopping purposes, seven of the nine respondents also reported walking for this purpose.
- The most common factors that influenced whether or not they walked were travel time (8), the safety of the roadside (6 responses), the need for exercise (5), and the presence of street trees and benches (4).
- None of the respondents had walked to a Red Rose Transit bus in the past week.
- None of the respondents had ever received formal pedestrian safety instruction.

Bicycle Survey

Twenty-one (21) bicycle surveys were completed and submitted. The bicycle survey respondents had the following characteristics:

- Bicycle trips were made most often for touring or training, to go shopping or run errands, to go to social and recreational activities, and to go to work.
- The most common factors that influenced whether or not they bicycled were the safety of the roadside for bicyclists (12 responses), weather (11), travel time (11), the need for exercise (7), and theft / bike security (7).
- The types of bicycle facilities that the respondents would like to use when riding to a destination were paved shoulders (16), shared-use paths (12), wide vehicle travel lanes (11), designated bicycle lanes (11), and vehicle travel lanes (4).
- The most common areas reported as needing more / better bicycle parking were shopping centers, transit stops / stations, and downtown areas.
- Two (2) of the respondents had brought his / her bike on a Red Rose Transit bus.
- Ten (10) of the respondents had received formal bicycle safety instruction. The most common safety instruction course was Effective Cycling.

APPENDIX C-3: PEDESTRIAN AND BICYCLE SURVEY FORMS

PEDESTRIAN SURVEY

1. How many TIMES PER WEEK do you walk for the following purposes? (write number in each blank) To work: ____ To shopping or errands: ____ To school: ____
To social or recreational activities: ____ Touring or training, i.e., non destination walking: ____

2. Which roads in Lancaster County are best for pedestrians? (use back of page if more lines are necessary)

_____From:_____To:_____
_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

3. On which roads in Lancaster County would you like to see physical changes made to improve conditions for pedestrians? (use back of page if more lines are necessary)

_____From:_____To:_____
_____
Road/Street name Intersecting Road/ Street Intersecting Road/Street

_____From:_____To:_____
_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

4. Where are improved pedestrian roadway crossings needed?

_____ _____
_____
Location name Location name Location name

5. Which of the following factors plays a role in whether or not you walk to a destination? (check as many as apply)

☐ Travel Time ☐ Street trees and benches ☐ Safety of roadside for pedestrians ☐ Road crossings
☐ Costs of other travel modes ☐ Need for exercise ☐ Availability of showers/changing facilities ☐ Weather
☐ Hills ☐ Other (please explain)_____

6. Have you walked to take a Red Rose Transit Bus in the past week? ☐ Yes ☐ No

7. Have you ever received formal pedestrian safety instruction? ☐ Yes ☐ No

If yes, briefly describe the class/course:

_____
_____

(8.-11. Optional)

8. Age (Under 10, 10-20, 20-30, etc.): ____ **9. Gender** (F or M): ____

10. Township/Borough (List Name): _____

11. Please provide any other ideas you have for improving pedestrian accommodations in Lancaster County in the space below or on the back of this survey form.

BICYCLE SURVEY

1. How many TIMES PER WEEK do you ride a bicycle for the following purposes? (write number in each blank) To work: ____ To shopping or errands: ____
To school: ____
To social or recreational activities: ____ Touring or training, i.e., non destination riding: ____

2. Which roads in Lancaster County are best for bicyclists? (use back of page if more lines are necessary)

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

3. On which roads in Lancaster County would you like to see physical changes made to improve conditions for bicyclists? (use back of page if more lines are necessary)

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

_____From:_____To:_____
Road/Street name Intersecting Road/Street Intersecting Road/Street

4. Where is more/better bicycle parking needed?

_____ _____
_____
Location name Location name Location name

5. Which types of bicycle facilities would you like to use when riding to a destination in Lancaster County? (check one or many)
☐ Paved Shoulders ☐ Shared-use paths (greenway trails) ☐ Vehicle Travel Lanes
☐ Designated Bicycle Lanes ☐ Wide Vehicle Travel Lanes (wide curb lanes)

6. Which of the following factors plays a role in whether or not you ride your bike to a destination? (check as many as apply)
☐ Travel Time ☐ Availability of bike parking ☐ Safety of route for bicyclists ☐ Traffic
☐ Costs of other travel modes ☐ Need for exercise ☐ Availability of showers/changing facilities ☐ Weather
☐ Hills ☐ Theft/bike security ☐ Other (please explain)_____

7. Have you ever taken your bicycle on a Red Rose Transit Bus? ☐ Yes ☐ No

8. Have you ever received formal bicycle safety instruction (i.e. Bike Rodeo, Effective Cycling Course)? ☐ Yes ☐ No **If yes, briefly describe the class/course:** _____
_____
_____

(9.-12. Optional)

9. Age (Under 10, 10-20, 20-30, etc.): ____ **10. Gender** (F or M): ____

11. Township/Borough (List Name): _____

12. Please provide any other ideas you have for improving bicycle accommodations in Lancaster County in the space below or on the back of this survey form.

APPENDIX D: BICYCLE LEVEL OF SERVICE SUMMARY

Prepared by

Toole Design Group
Washington DC- Baltimore

for the

Lancaster County Bicycle and Pedestrian Plan, Phase II

June 2003

Background

Level of Service (LOS) is a framework that transportation professionals use to describe existing conditions (or suitability) for a mode of travel in a transportation system. The traffic planning and engineering discipline has used LOS models for motor vehicles for several decades. Motor vehicle LOS is based on average speed and travel time for motorists traveling in a particular roadway corridor. In the 1990s, new thinking and research contributed to the development of methodologies for assessing levels of service for other travel modes, including bicycling, walking, and transit. Specific methodologies for bicycle level of service have been developed and used by a number of cities, counties, and states around the U.S. since the mid-1990s. This Plan adopts the Bicycle Level of Service (Bicycle LOS) Model assessment method.

When considering level of service in a multi-modal context, it is important to note that LOS measures for motor vehicles and bicycles are based on different criteria and are calculated on different inputs. Motor vehicle LOS is primarily a measure of speed, travel time, and intersection delay. Bicycle LOS is a more complex calculation, which represents the level of comfort a bicyclist experiences in relation to motor vehicle traffic.

Bicycle Level of Service Model

The *Bicycle Level of Service Model (Bicycle LOS Model)* is an evaluation of bicyclist perceived safety and comfort with respect to motor vehicle traffic while traveling in a roadway corridor. It identifies the quality of service for bicyclists or pedestrians that currently exists within the roadway environment.

The statistically calibrated mathematical equation entitled the *Bicycle LOS Model*[1] *(Version 2.0)* is used for the evaluation of bicycling conditions in shared roadway environments. It uses the same measurable traffic and roadway factors that transportation planners and engineers use for other travel modes. With statistical precision, the *Model* clearly reflects the effect on bicycling suitability or "compatibility" due to factors such as roadway width, bike lane widths and striping combinations, traffic volume, pavement surface condition, motor vehicle speed and type, and on-street parking.

The *Bicycle Level of Service Model* is based on the proven research documented in *Transportation Research Record 1578* published by the Transportation Research Board of the National Academy of Sciences. It was developed with a background of over 150,000 miles of evaluated urban, suburban, and rural roads and streets across North America. Many urban planning agencies and state highway departments are using this established method of evaluating their roadway networks. The Virginia Department of Transportation is using the *Bicycle LOS Model* in both the Richmond and Northern Virginia regions. The model has also been applied in Anchorage AK, Baltimore MD, Birmingham AL, Buffalo NY, Gainesville FL, Houston TX, Lexington KY, Philadelphia PA, Sacramento CA, Springfield MA, Tampa FL, Washington, DC, and by the

[1]Landis, Bruce W. et.al. "Real-Time Human Perceptions: Toward a Bicycle Level of Service" *Transportation Research Record 1578*, Transportation Research Board, Washington, DC 1997.

Delaware Department of Transportation (DelDOT), Florida Department of Transportation (FDOT), New York State Department of Transportation (NYDOT), Maryland Department of Transportation (MDOT) and many others.

Widespread application of the original form of the *Bicycle LOS Model* has provided several refinements. Application of the *Bicycle LOS Model* in the metropolitan area of Philadelphia resulted in the final definition of the three effective width cases for evaluating roadways with on-street parking. Application of the *Bicycle LOS Model* in the rural areas surrounding the greater Buffalo region resulted in refinements to the "low traffic volume roadway width adjustment". A 1997 statistical enhancement to the *Model* (during statewide application in Delaware) resulted in better quantification of the effects of high speed truck traffic [see the $SP_t(1+10.38HV)^2$ term]. As a result, *Version 2.0* has the highest correlation coefficient ($R^2 = 0.77$) of any form of the *Bicycle LOS Model*.

Version 2.0 of the *Bicycle Level of Service Model (Bicycle LOS Model)* has been employed to evaluate collector and arterial roadways within Lancaster County. Its form is shown below:

Bicycle LOS = $a_1 \ln (Vol_{15}/L_n) + a_2 SP_t(1+10.38HV)^2 + a_3(1/PR_5)^2 + a_4(W_e)^2 + C$

Where:

Vol_{15} = Volume of directional traffic in 15 minute time period

$Vol_{15} = (ADT \times D \times K_d) / (4 \times PHF)$

where:

ADT	=	Average Daily Traffic on the segment or link
D	=	Directional Factor (assumed = 0.565)
K_d	=	Peak to Daily Factor (assumed = 0.1)
PHF	=	Peak Hour Factor (assumed = 1.0)

L_n = Total number of directional *through* lanes

SP_t = Effective speed limit

$SP_t = 1.1199 \ln(SP_p - 20) + 0.8103$

where:

SP_p = Posted speed limit (a surrogate for average running speed)

HV = percentage of heavy vehicles (as defined in the 1994 Highway Capacity Manual)

PR_5 = FHWA's five point pavement surface condition rating

W_e = Average effective width of outside through lane:

where:

$W_e = W_v - (10 \text{ ft} \times \% OSPA)$	and $W_l = 0$
$W_e = W_v + W_l(1 - 2 \times \% OSPA)$	and $W_l > 0$ & $W_{ps} = 0$
$W_e = W_v + W_l - 2(10 \times \% OSPA)$	and $W_l > 0$ & $W_{ps} > 0$ and a bikelane exists

where:

W_t	=	total width of outside lane (and shoulder) pavement
OSPA	=	percentage of segment with occupied on-street parking
W_l	=	width of paving between the outside lane stripe and the edge of pavement
W_{ps}	=	width of pavement striped for on-street parking
W_v	=	Effective width as a function of traffic volume

and:

$W_v = W_t$ if ADT > 4,000veh / day

$W_v = W_t(2\text{-}0.00025 \times ADT)$ if ADT ≤ 4,000veh / day,

and if the street / road is undivided and unstriped

a_1: 0.507 a_2: 0.199 a_3: 7.066 a_4: - 0.005 C: 0.760

(a_1 - a_4) are coefficients established by the multi-variate regression analysis.

The Bicycle LOS score resulting from the final equation is pre-stratified into service categories "A", "B", "C", "D", "E", and F" ("A" is best, and "F" is worst), according to the ranges shown in Table 1, reflecting users' perception of the road segments level of service for bicycle travel. This stratification is in accordance with the linear scale established during the referenced research (i.e., the research project bicycle participants' aggregate response to roadway and traffic stimuli). The *Model* is particularly responsive to the factors that are statistically significant. An example of its sensitivity to various roadway and traffic conditions is shown on the following page.

Because the model represents the comfort level of a hypothetical "typical" bicyclist, there are some bicyclists who may feel more comfortable and others who may feel less comfortable than the Bicycle Level of Service calculated for a roadway. A poor Bicycle Level of Service grade does not mean that bikes should be prohibited on a roadway.

Bicycle Level-of-Service Categories

LEVEL-OF-SERVICE	Bicycle LOS Score
A	≤ 1.5
B	> 1.5 and ≤ 2.5
C	> 2.5 and ≤ 3.5
D	> 3.5 and ≤ 4.5
E	> 4.5 and ≤ 5.5
F	> 5.5

The Model represents the comfort level of a hypothetical "typical" bicyclist. Some bicyclists may feel more comfortable and others may feel less comfortable than the Bicycle LOS grade for a roadway. A poor Bicycle LOS grade does not mean that bikes should be prohibited on a roadway. It suggests to a transportation planner that the road may need other improvements (in addition to shoulders) to help more bicyclists feel comfortable using the corridor.

Application

The *Bicycle LOS Model* is used by planners, engineers, and designers throughout the US and Canada in a variety of planning and design applications. Applications include:

1) Conducting a benefits comparison among proposed bikeway / roadway cross-sections
2) Identifying roadway restriping or reconfiguration opportunities to improve bicycling conditions
3) Prioritizing and programming roadway corridors for bicycle improvements
4) Creating bicycle suitability maps
5) Documenting improvements in corridor or system-wide bicycling conditions over time

Bicycle LOS Model Sensitivity Analysis

Bicycle LOS = $a_1 \ln (Vol_{15} / Ln) + a_2 SP_t(1+10.38HV)^2 + a_3(1 / PR_5)^2 + a_4 (W_e)^2 + C$

where:	a_1: 0.507	a_2: 0.199	a_3: 7.066	a_4: -0.005	C: 0.760
T-statistics:	(5.689)	(3.844)	(4.902)	(-9.844)	

Baseline inputs:

ADT	=	12,000 vpd	% HV	=	1	L	= 2 lanes
SP_p	=	40 mph	W_e	=	12 ft	PR_5	= 4 (good pavement)

	BLOS	% Change
Baseline BLOS Score (Bicycle LOS)	3.98	N / A

Lane Width and Lane striping changes

W_t	= 10 ft	4.20	6% increase
W_t	= 11 ft	4.09	3% increase
W_t	= 12 ft -- (baseline average) -------	3.98	- - - - no change
W_t	= 13 ft	3.85	3% reduction
W_t	= 14 ft	3.72	7% reduction
W_t	= 15 ft (W_l = 3 ft)	3.57 (3.08)	10%(23%) reduction
W_t	= 16 ft (W_l = 4 ft)	3.42 (2.70)	14%(32%) reduction
W_t	= 17 ft (W_l = 5 ft)	3.25 (2.28)	18%(43%) reduction

Traffic Volume (ADT) variations

ADT	= 1,000 Very Low	2.75	31% decrease
ADT	= 5,000 Low	3.54	11% decrease
ADT	= 12,000 Average - (baseline average) - -	3.98	- - - - - no change
ADT	= 15,000 High	4.09	3% increase
ADT	= 25,000 Very High	4.35	9% increase

Pavement Surface conditions

PR_5	= 2 Poor	5.30	33% increase
PR_5	= 3 Fair	4.32	9% reduction
PR_5	= 4 -- Good - (baseline average) - - -	3.98	- - - -- no change
PR_5	= 5 Very Good	3.82	4% reduction

Heavy Vehicles in percentages

HV	= 0 No Volume	3.80	5% decrease
HV	= 1 --- Very Low - (baseline average) - -	3.98	- - - - - - no change
HV	= 2 Low	4.18	5% increase
HV	= 5 Moderate	4.88	23% increase[a]
HV	= 10 High	6.42	61% increase[a]
HV	= 15 Very High	8.39	111% increase[a]

[a]Outside the variable's range (see Reference *(1)*)

APPENDIX E: EXAMPLE BICYCLE AND PEDESTRIAN TREATMENTS

Bicycle treatments

Section 4 discusses shared roadways, shoulders, and bike lanes. These facilities can be complemented by other bicycle accommodations to make bicycling safer and more convenient in Lancaster County.

1. Bike-friendly traffic calming

Slowing motor vehicle speeds helps improve the Bicycle LOS of a road. Traffic circles and medians are examples of facilities that can be added to a roadway to slow motor vehicles. Edgelines are another bike-friendly traffic calming technique. Edgelines are pavement stripes that narrow the motor vehicle travel lanes to 10- or 11-feet wide and provide a shoulder or a wide striped parking lane that bikes can use. This defines the space for automobiles, slows traffic, and results in a marginal increase in Bicycle LOS. While this treatment is not an official bikeway type, it is supported by the AASHTO Guide for the Development of Bicycle Facilities (1999), which states, "…where four-foot [paved shoulder] widths cannot be achieved, any additional shoulder width is better than none at all" (p. 16)[20].

2. Bike-friendly traffic signals

Bike-friendly traffic signals can detect bicyclists waiting at a red light. They are used at intersections where the automobile traffic on the minor intersecting street is low and the light does not turn from red to green unless an automobile is waiting at the signal. Bicycles can be detected by loop sensors in the pavement or traffic cameras posted on poles at the intersection. Bike push-buttons may also be provided. These are similar to pedestrian push-buttons at crosswalks, but the buttons are moved closer to the roadway so that they are within reach of a cyclist stopped at the light. These detection systems allow bicyclists to trip the traffic signal so that they can proceed on a green light.

3. High-visibility bicycle warning signs

Advance warning signs can be posted to make drivers more aware of trail and other key bike route crossings. "Share the Road" signs can be posted on roads that bicyclists use regularly. These signs can increase awareness of bicyclists, especially in areas where bicyclists may not be expected or where many drivers are tourists. A new fluorescent yellow / green color has been is approved in the national Manual on Uniform Traffic Control Devices and can be used on these signs. Signs may also be accompanied by flashing lights, in appropriate situations, to grab the attention of drivers. Signs should be used judiciously—too many signs can cause visual clutter and lead to non-compliance.

4. Bicycle racks and bicycle lockers

Bike parking can be provided by bike racks or bike lockers. Secure bicycle parking located close to building entrances and transit entry points can make bicycling more attractive to potential cyclists. It also reduces the risk of bicycle damage or theft. Bike rack design and site location are discussed in the *Bicycle Parking Guidelines*, developed by the Association of Pedestrian and Bicycle Professionals[22]. Bike lockers provide added protection from theft and weather. Bike parking is important at destinations such as town centers, historic sites, transit stations and park-and-ride lots. It is also good to have bike parking available near business entrances and at employment sites. Bike parking reduces the need for vast surface parking lots.

5. Bicycle-in-arrow roadway markings

Bicycle-in-arrow roadway markings can be used to mark bike routes and show the proper direction for cycling on the road and provide a visual cue that bikes are welcome on the road. They can be used on roadways where there is not enough space to provide standard, 5-foot-wide bike lanes. Because they do not require as much paint, these markings are also less expensive than bike lanes. These markings have been used in Denver, CO, Gainesville, FL, and San Francisco, CA.

Pedestrian treatments

Section 4 discusses using sidewalks, crosswalks, and pedestrian-friendly intersection design in Lancaster County. Other facilities can be used to complement these basic facilities and enhance the pedestrian system.

1. Curb extensions

Curb extensions (also known as bulb-outs or neckdowns) extend the curb out into the parking lane, which reduces the effective street width. This reduces the pedestrian crossing distance and makes pedestrians more visible to approaching vehicles. Curb extensions also visually narrow the roadway, which reduces motor vehicle speeds. They are only appropriate when there is an on-street parking lane. Ephrata and Lancaster City have both used this treatment.

2. Raised crosswalks

Raised crosswalks provide a continuous route for pedestrians at the same level as the sidewalk. Approaching vehicles must slow down to go over raised crosswalks comfortably. This encourages motorists to yield and makes crossing the street safer for pedestrians. Pedestrians are also positioned slightly higher than the road surface, which makes them more visible to approaching motorists. Pavement markings on the slope of the raised crosswalk can improve the visibility of the raised crosswalk to motorists.

3. Medians or pedestrian crossing islands

Medians or pedestrian crossing islands can be provided at intersections with high volumes of motor vehicles and/or pedestrians and long pedestrian crossing distances. They should be given strong consideration at locations where crossing distance exceeds 60 feet. The desirable minimum width for medians or crossing islands is eight feet. Twenty feet is the recommended minimum length. All crossing islands must be accessible to persons with disabilities.

4. Pedestrian countdown signals

Pedestrian countdown signals provide pedestrians with amount of time that they have available to complete crossing the street. They can be designed to begin counting down at the beginning of the walk phase or at the beginning of the clearance (flashing "DON'T WALK") interval. Countdown signals will soon be included in the Manual on Uniform Traffic Control Devices (MUTCD).

5. Curb ramps

Curb ramps (wheelchair ramps) are required at all pedestrian crossings. Two curb ramps should be provided per corner at all intersections. Curb ramps provide access between the sidewalk and the street for people using wheelchairs, riding scooters, and pushing strollers. The five basic components of curb ramp design are approach, ramps, gutters, landings, and flares. In most cases, two ramps should be provided on each corner.

6. High-visibility crosswalks

Marked crosswalks indicate pedestrian crossings and help designate where motorists should yield to pedestrians. Crosswalks can be marked at intersections or at mid-block crossings. Crosswalk lines should be at least six inches wide, and they can be marked with a pattern that is visible to approaching vehicles. Thermoplastic and inlay tape should be used to mark crosswalks because they are more visible and less slippery than paint when wet. A crosswalk should be at least as wide as the sidewalk or path leading to it.

7. Flashing crosswalks

Flashing crosswalks have in-pavement lights that flash when a pedestrian is crossing within the crosswalk. The flashing lights make drivers more aware of crossing pedestrians. Lancaster should install these crosswalks in several urban areas and test their effectiveness. Flashing crosswalks will soon be included in the Manual on Uniform Traffic Control Devices (MUTCD).

8. Pedestrian bollards

Pedestrian bollards are bright yellow signs placed in the middle of the road at marked crosswalks. They remind drivers of their responsibility to yield to pedestrians in the crosswalk. Pedestrian bollards are currently being used in Manheim Borough, Ephrata Borough, Lititz

Borough, and Lancaster City, and should be tested in other communities. Pedestrian bollards will soon be included in the Manual on Uniform Traffic Control Devices (MUTCD).

9. High-visibility advance warning signs

Advance warning signs can be posted to make drivers more aware of key pedestrian crossings. These signs can increase awareness of pedestrians, especially in areas where pedestrians may not be expected or where many drivers are tourists. A new fluorescent yellow / green color has been is approved in the national Manual on Uniform Traffic Control Devices and can be used on these signs. Signs may also be accompanied by flashing lights, in appropriate situations, to grab the attention of drivers. Signs should be used judiciously—too many signs can cause visual clutter and lead to non-compliance.

10. Reduced turning radii

The turning radius at the corner of an intersection should be the smallest possible for the circumstances, rather than designed for the largest possible design vehicle. Large corner radii allow high vehicle turning speeds and increase pedestrian crossing distances, both of which negatively impact pedestrians.

11. Midblock HAWK signals

Midblock HAWK signals are pedestrian-activated traffic signals that can be used at key crossing points of major roads, such as a trail crossing or between shopping centers and apartments. The traffic light stays green for roadway traffic until a pedestrian pushes the button. When the button is pushed, the traffic light turns to yellow and red like a typical traffic signal, and the pedestrian signal gives the pedestrian time to cross before roadway traffic is allowed to proceed. LCPC should consult the Manual on Uniform Control Devices to help determine appropriate locations for this treatment.

APPENDIX F: CONSTRUCTION OPPORTUNITIES

Lancaster County roadways are constantly being constructed and upgraded. It is cost-effective to take advantage of these projects and include bicycle and pedestrian facilities during the construction process. The projects in the following list are taken from the 2003-2006 Lancaster County Transportation Improvement Program (TIP). As the TIP is updated in future years, pedestrian and bicycle improvements should be considered in all programmed projects.

- Connections to Transit
  - Lancaster Amtrak Station
  - Downtown Lancaster Transit Center
  - Relocated Mount Joy Amtrak Station
  - Paradise Rail Station near Paradise Village (Paradise)
- Park and Ride Lots
  - PA 283 & Cloverleaf Road (Mount Joy Township)
  - US 222 & I-76 Turnpike Interchange (East Cocalico Township)
- New Construction Roadway Corridors
  - Relocation of PA 441 (Columbia)
  - PA 896 Strasburg Borough Bypass (Strasburg Borough and Twp.)
- Reconstruction Roadway Corridors
  - Irishtown Road and new roads connecting to Ronks and Harvest Roads (Leacock & East Lampeter)
  - PA 23 Corridor from US 30 to US 322 (Manheim, East Lampeter, Upper Leacock, West Earl, Earl, East Earl, New Holland Borough)
  - US 30 from PA 896 to PA 41 (East Lampeter, Paradise, Salisbury)
  - Widening of PA 41 from truck climbing lane to Dutchman's Market (Salisbury)
  - Adding lane to PA 41 from US 30 to Chestnut Street (Salisbury)
  - PA 72 Alternatives Analysis near Manheim Borough and East Petersburg Borough (Manheim Borough, East Petersburg Borough, Penn, East Hempfield, Manheim)
  - US 30 from PA 772 to PA 41 (Salisbury)
  - PA 272 from PA 741 to Smithville (W. Lampeter, Pequea & Providence)
  - PA 272 from Friendly Dr. to Providence Twp. Signalization and connecting roads (Drumore, E. Drumore)
  - Centerville Rd. widening (East Hempfield Twp.)
  - Fruitville Pike widening and adding shoulders from PA 722 to Granite Run Drive (Manheim Twp.)
  - PA 462 design (Mountville)
  - PA 501 from US 30 to Newport Rd. improvements (Elizabeth, Warwick, Manheim Twp., Lititz)
  - Steinmetz Road realignment and reconstruction from Wallups Rd. to W. of Kline Rd. (W. Cocalico)
  - S. Duke Street Traffic calming and road improvements from Church to Chesapeake St. (Lancaster)

    - Stony Battery Rd. widening and shoulder and intersection improvements from Donnerville Rd. to US 30 (W. Hempfield)
- Intersections
    - PA 72 & Fruitville Pike intersection improvements (Manheim)
    - US 222 & PA 272 & PA 772 intersection improvements—Schaums Corner (West Earl)
    - US 222 & Spur Road intersection and ramp improvements (East Cocalico)
    - PA 23 & Snake Hill Road (Upper Leacock)
    - PA 23 & Glenola Dr. (Upper Leacock)
    - PA 23 & Groffdale Rd. (Upper Leacock)
- Bridges
    - Replacement of US 222 bridge over Amtrak rail line (Lancaster)
    - PA 230 bridge over Little Chickies Creek ped walkway (Mount Joy Borough)
    - PA 324 bridge over Peqeua Creek (Conestoga and Martic)
    - 3rd St. Bridge over US 30 (Columbia)
    - PA 272 bridge over Cocalico Creek (E. Cocalico)
    - PA 722 bridge over Lititz Creek (Manheim)
    - PA 772 bridge over PA 283 (Rapho)
    - PA 772 bridge over Amtrak (Mt. Joy Borough)
    - Dillerville Rd. bridges over Amtrak (Lancaster)
    - PA 897 bridge over Pequea Creek (Salisbury)
    - PA 897 bridge over Mill Race (Salisbury)
    - Strasburg Pike bridge over Mill Creek (E. Lampeter)
    - Mount Airy Rd. Bridge over Middle Creek (Clay)
    - Mt. Pleasant Rd. bridge over tributary of Little Chickies Creek (Mt. Joy Twp.)
    - Centerville Rd. bridge widening over US 30 (E. Hempfield Twp.)
    - Eby Chiques Rd. bridge over Big Chickies Creek (Rapho)
    - Newcomer Rd. bridge over Big Chickies Creek (Rapho)
    - Garfield Rd. bridge over Big Chickies Creek (W. Hempfield and Rapho)
    - Conestoga Creek Road bridge (East Earl)
    - Rettew Mill Road bridge (East Earl)
    - Eby Chiques railroad bridge (Rapho)
    - Ridge Road bridge over Little Cocalico Creek (E Cocalico)
    - Old Mill Rd. bridge over Cocalico Creek (Ephrata)
    - Bell Rd. Bridge over Octoraro Creek (Colerain Twp.)

APPENDIX G: TIER 2 BICYCLE, TIER 3 BICYCLE, TIER 2 PEDESTRIAN, AND PEDESTRIAN CROSSING PROJECTS

Tier 2 Bicycle Corridors

#	Road Name	From	To	Municipality
1	Becker Rd.	E. Millport Rd.	Log Cabin Rd.	Warwick & Manheim Twps
2	Bethany Rd.	Akron RD.	E. Main St. (Ephrata)	Ephrata Twp & Borough
3	Main Street	PA 272	Akron RD.	Akron Borough
4	Brubanker Valley Rd.	Newport Rd.	US 322	Elizabeth Twp
5	Brunnerville Rd.	Newport Rd.	Clay Rd.	Warwick & Elizabeth Twps
6	Brushong Rd./Quarry Rd.	PA 272	PA 23	Manheim & Upper Leacock Twps
7	Buch Ave.	Fruitville Pike	PA 501	Manheim Twp
8	Centerville Rd.	PA 23	Harrisburg Pike	East Hempfield Twp
9	Chesapeake St./Broad St.	Queen St.	Orange St.	City of Lancaster
10	Chestnut St.	College Ave.	Shippen St.	City of Lancaster
11	Clay St.	Plum St.	New Holland Ave.	City of Lancaster
12	Colebrook Rd.	Dairy Rd.	Old Harrisburg Pike	East Hempfield Twp
13	College Ave.	PA 462	Harrisburg Ave.	City of Lancaster
14	Dauphin St.	Duke St.	Broad St.	City of Lancaster
15	Dillerville Rd.	Harrisburg Ave.	Fruitville Pike	City of Lancaster
16	Doe Run Rd.	Manheim Borough	Penn Valley Dr	Penn Twp
17	E. High St.	PA 72	Penn Twp	Manheim Boro
18	Lincoln Rd	Penn Valley Rd	Arrowhead Dr.	Warwick Twp
19	W. Lincoln Ave	Arrowhead Dr.	PA 501	Lititz Boro
20	Millport Rd.	PA 501	Becker Rd.	Manheim & Warwick Twps
21	Ephrata Cocalico Creek Trail	Main St. (Ephrata)	Church Rd. (Ephrata)	Ephrata Boro
22	Fordney Rd.	PA 501	Pleasure Rd.	Manheim Twp
23	Fruitville Pike	PA 72	Lititz Rd.	Penn Twp
24	Good Dr.	US 30	PA 462	East Hempfield Twp
25	Graystone Rd.	Sundra Dr.	PA 72	East Petersburg Boro
26	King St. (Lancaster)	Columbia Ave.	Prince St. (Lancaster)	City of Lancaster
27	Lampeter Rd.	Pioneer Rd.	PA 741	West Lampeter Twp
28	Lancaster-New Holland Trail	PA 322	Money Rocks Park	Earl & Caernarvon Twps
29	Lemon St.	Graystone Rd.	PA 722	East Petersburg Boro
30	Lime St.	Church St.	Dauphin St.	City of Lancaster
31	Lime St/Queen St./Highland Ave.	Clay St. (Lancaster)	US 222 Merge S. of Lancaster	Lancaster City, Twp,& West Lampeter Twp
32	Log Cabin Rd.	Becker Rd.	Rose Hill Rd.	Warwick Twp
33	Long Ln.	Stehman Rd.	PA 741	Manor & Pequea Twps
34	Manheim Borough Loop Trail	Around Manheim Borough		Manheim Boro
35	Manheim Central Trail	Manheim Borough	Lebanon County Line	Rapho & Penn Twps
36	Miller Rd./Buch Ave	PA 72	Fruitville Pike	East Petersburg Boro, East Hempfield & Manheim Twps

Tier 2 Bicycle Corridors

#	Road Name	From	To	Municipality
37	Millport Rd.	Lampeter Rd.	Strasburg Pike	West & East Lampeter Twps
38	Millway Rd.	Newport Rd.	Meadow Valley Rd.	Warwick Twp
39	N. Water St. (Lititz)	E. Main St. (Lititz)	Newport Rd.	Lititz Boro
40	New Holland Ave.	Ross St.	US 30	Lancaster City & Manheim Twp
41	Newport Rd.	PA 501	PA 772	Warwick Twp
42	Old Harrisburg Pike	PA 722	PA 741	East Hempfield Twp
43	Orange St. (Lancaster)	Columbia Ave.	Prince St. (Lancaster)	City of Lancaster
44	PA 23	US 30	US 322	Manheim, East Lampeter, Upper Leacock, West Earl, Earl & East Earl Twps & New Holland Boro
45	PA 230	PA 241	Schwanger Rd.	Elizabethtown Boro
46	PA 241	PA 441	Masonic Dr. (Elizabethtown)	Conoy, East Donegal Twps & Elizabethtown Boro
47	PA 272	US 222	E. Clay St. (Lancaster)	City of Lancaster
48	PA 272	US 30	Jake Landis Rd.	Manheim Twp
49	PA 272	W. Church St. (Reamstown)	Jason Ave. (Adamstown)	East Cocalico Twp & Adamstown Boro
50	PA 324	Bridge Valley Rd. (Pequea)	PA 741	Pequea Twp
51	PA 340	PA 462	Greenfield Rd.	East Lampeter Twp
52	PA 462	16th St. (Columbia)	PA 23	Columbia Borough, West Hempfield Twp, Mountville Borough ,Manor Twp, East Hempfield Twp & lancaster City
53	PA 462	Broad St. (Lancaster)	US 30	Lancaster & East Lampeter Twps
54	PA 501	Newport Rd.	Lebanon County Line	Warwick & Elizabeth Twps
55	PA 72	Colebrook St. (Manheim)	Gramby St.	Manheim Boro
56	PA 72	Ferdinand St. (Manheim)	Stiegel St.	Manheim Boro
57	PA 722	Oregon Rd. W.	Kissel Hill Rd.	Manheim Twp
58	PA 741	PA 722	Harrisburg Pike	East Hempfield & Manheim Twps, & East Petersburg Boro
59	PA 741	US 30	PA 896	East Hempfield & Lancaster Twps, Millersville Boro, Pequea, West Lampeter & Strasburg Twps & Strasburg Boro
60	PA 743	Donegal Springs Rd.	PA 230	East Donegal, West Donegal Twps & Elizabethtown Boro
61	PA 772	Breneman Rd.	PA 501	Rapho Twp, Manheim Boro, Penn Twp, Warwick Twp & Lititz Boro

Tier 2 Bicycle Corridors

#	Road Name	From	To	Municipality
62	PA 772	PA 501	PA 23	Lititz Boro, Warwick, West Earl & Upper Leacock Twps
63	PA 999	N. Prince St. (Millersville)	W. King St. (Lancaster)	Millersville Boro, Lancaster Twp & City
64	Penn Grant Rd.	PA 324	PA 741	Pequea, West Lampeter & Strasburg Twps
65	Pleasure Rd./Fountain Ave.	Fordney Rd.	New Holland Ave.	Manheim Twp
66	Prince St.	Clay St. (Lancaster)	US 222 Merge S. of Lancaster	Lancaster City, Twp,& West Lampeter Twp
67	Prospect Rd.	PA 462	Garfield Rd.	West Hempfield Twp
68	Queen St. (Lancaster)	Clay St. (Lancaster)	Chesapeake St.	City of Lancaster
69	Ridge Ave.	US 322	E. Church St. (Reamstown)	Ephrata Boro. Ephrata, & East Cocalico Twps
70	Ridge Rd.	Interstate 76	Berks County Line	Denver Boro, West & East Cocalico Twps
71	Rose Hill Rd.	Log Cabin Rd.	PA 272	West Earl Twp
72	Roseville Rd.	Fruitville Pike	PA 272	Manheim Twp
73	Ruby St. (Lancaster)	PA 999	PA 462	City of Lancaster
74	S. Broad St. (Lititz)	W. Orange St. (Lititz)	Landis Valley Rd.	Lititz Boro, Warwick & Twps
75	Spring Valley Rd.	Centerville Rd.	Sylvan Rd.	East Hempfield Twp
76	State St. (Quarryville)	4th St.	Church St.	Quarryville Boro
77	Stevens Rd./Line Rd./Lancaster Ave.	Grandview Ave. (Ephrata)	Main St. (Denver)	Ephrata & East Cocalico Twps & Denver Boro
78	Stony Battery Rd.	PA 462	PA 23	Mountville Boro & West Hempfield Twp
79	Strasburg Pike	PA 462	PA 741	East Lampeter, West Lampeter, Strasburg Twp & Boro
80	Strawberry St. (Lancaster)	King St.	Water St. (Lancaster)	City of Lancaster
81	Sylvan Rd.	Old Harrisburg Pike	Nolt Rd.	East Hempfield Twp
82	US 222	Bunker Hill Rd.	Buck Rd. (Quarryville)	Quarryville Boro, Providence & Strasburg Twps
83	US 222	MD State Line	PA 272	Fulton Twp
84	US 222	US 222 Merge S. of Lancaster	Village Rd.	West Lampeter Twp
85	US 30	Hensley Ave.	Chester County Line	Paradise, Salisbury & Sadsbury Twps
86	US 30	PA 462	Black Horse Rd.	East Lampeter & Paradise Twps
87	US 322	Clay Rd.	Market St. (Ephrata)	Clay & Ephrata Twps & Ephrata Boro
88	US 322	US 222	Sheep Hill Rd.	Ephrata, West Earl, Earl, East Earl Twps
89	Valley Rd.	Groff Ave.	PA 896	Quarryville Boro, Eden & Bart Twps
90	Vine St. (Lancaster)	Strawberry St.	Church Ave.	City of Lancaster
91	W. Millport Rd.	Woodcrest Ave.	PA 501	Warwick Twp
92	Walnut St. (Lancaster)	Race Ave.	Shippen St.	City of Lancaster
93	West End Ave.	Wabank St.	Walnut St.	City of Lancaster
94	Woodcrest Ave.	Erb's Quarry Rd	W. Second Ave. (Lititz)	Warwick Twp & Lititz Boro

Tier 3 Bicycle Corridors

#	Road Name	From	To	Municipality
1	2nd St. (Bainbridge)	PA 441 (N)	Locust Grove Road	Conoy Township
2	Abbeyville Road	Schoolhouse Road	Wilson Rd	Lancaster Township
3	Apple Alley	Market Street/PA230	Chestnut Street	Elizabethtown Borough
4	Atglen-Susquehanna Rail Trail	Conestoga, Martic, Providence, Eden, Bart, Sadsbury Twps. & Quarryville Borough		
5	Bridge Valley Road	Marietta Ave (PA 23)	Pinkerton Road	West Hempfield & Rapho Townships
6	Buck Rd (PA 372)	Lancaster Pike/PA272	PA 222 (4th Street)	Strasburg & Providence Townships
7	Butter Rd	Euclid Dr	Creek Road	Manheim Township
8	Campus Road	College Ave	Cloverleaf Road	Mount Joy Township
9	Beaver Valley Pike/PA222	Gypsy Hill Road	Bunker Hill Road	West Lampeter & Strasburg Townships
10	Chestnut Grove Rd	River Road	River Road	Manor Township
11	Christiana Pike/PA 372	White Oak Rd	High Street	Sadsbury Township & Christiana Borough
12	Church Street	E. Main Street	N. Stony Battery Rd	East Hempfield Township
13	Church Street	W. 4th Street/PA 222	E State Street/PA 372	Quarryville Borough
14	Clay Road	Lititz Run Rd	E. Newport Rd	Warwick Township
15	Clay Rd	Hopeland/Mt Airy Rd	28th Division Hwy/US322	Clay Township
16	Clay St.	Orkney Road	Stony Battery Rd	Mountville Borough
17	Cocalico Rd.	Mount Airy Rd. (Schoeneck)	Lebanon Co Line	West Cocalico Township
18	Colebrook St	Penn Street	PA 72	Manheim Borough
19	College Avenue	Mount Joy Street	Campus Road	Elizabethtown Borough
20	Concordia Rd	Prospect Rd	Kennel Ave	West Hempfield Township
21	Decatur Street	River Road/PA441	Market Street	East Donegal Township & Marietta Borough
22	Delp Road	Manheim Pike/PA72	Lititz Pike/PA501	Manheim Township
23	Diller Avenue	W. Main St/PA23	King Court	New Holland Borough & Earl Township
24	Druid Hill Rd	Marietta Ave (PA 23)	Orkney Road	West Hempfield Township
25	E Oregon Rd/PA722	Lititz Pike/PA501	Oregon Pike/PA272	Manheim Township
26	E State Street/PA 372	Church Street	Borough Line/Valley Road	Quarryville Borough
27	E. Church St	N. Reading Road/PA272	Ridge Avenue	East Cocalico Township
28	E. High Street	Market Street/PA 230	White Oak Road	Elizabethtown Borough, Mount Joy & Rapho Twps.
29	E. Jackson St.	Railroad Avenue	Ranck Road	New Holland Borough
30	E. Main Street	7th Street/PA272	Farmersville Rd	Akron Borough
31	E. Main Street/PA230	Barbara Street	Eshbenshade Road	Mount Joy Borough & Rapho Township
32	E. Main Street	N. Decatur Street/PA896	PA 741/PA896 split	Strasburg Borough
33	E. Market (Marietta)	Waterford Avenue	River Road/PA441	Marietta Borough
34	East Earl Rd	Ranck Road	28th Division Hwy/US322	East Earl Township
35	Eden Rd	Oregon Pike (PA 272)	New Holland Pike/PA23	Manheim Township
36	Essex St.	Decatur Street	Bridge Street	Marietta Borough
37	Euclid Drive	Eden Rd	Butter Rd	Manheim Township
38	Fairview Ave.	Manor St.	New Danville Pike/PA 324	City of Lancaster

Tier 3 Bicycle Corridors

#	Road Name	From	To	Municipality
39	Farmersville Road E & W	E. Main Street (Brownstown)	28th Division Hwy/US322	West Earl & Earl Townships
40	Farmingdale Road	Marietta Avenue/PA 23	Harrisburg Pike	East Hempfield & Manheim Townships
41	Gap Rd/Strasburg Rd/PA 741	E. Main St.	Rt. 41	Strasburg Borough & Strasburg, Paradise, & Salisbury Twps.
42	Glenola Dr.	Newport Road/PA772	West Main Street/PA23	Upper Leacock Township
43	Graystone Road	Manheim Pk	Fruitville Pike	East Petersburg Borough & Manheim Township
44	Groff Ave	Main Street	River Road	Conestoga Township
45	Gypsy Hill Rd	Eshelman Mill Road	Beaver Valley Pike	West Lampeter Township
46	Hartman Bridge Rd/PA 896	Lincoln Hwy US 30	Valley Road/PA372	East Lampeter, Strasburg, Paradise & Bart Townships
47	Hersey Road/PA743	Conewago Creek	Pike Alley	Mount Joy Township & Elizabethtown Borough
48	Hollander Rd	King Court	Old Philadelphia Pike/PA 340	Earl, Upper Leacock, & Leacock Twps.
49	PA 372/Holtwood Rd/Buck Rd	Susquehanna River	W. 4th Street	Martic, Drumore, & East Drumore Townships
50	Hopeland Rd in Middle Creek	Lebanon Co Line	Kleinfeltersville Road	Clay Township
51	Horseshoe Rd	PA 340	Newport Road/PA772	East Lampeter & Upper Leacock Townships
52	Ironville Pike	N. 12th Street	Marietta Avenue/PA 23	Columbia Borough & West Hempfield Township
53	Kennel Ave	Concordia Rd	Wildflower Lane	West Hempfield Township
54	Kissel Hill Rd	Millport Road	Valley Road	Manheim Township
55	Kleinfeltersville Road	Hopeland Rd in Middle Creek	Sunvalley Road	Clay Township
56	Lampeter Road	Lincoln Hwy/PA 462	Penn Grant Rd	West Lampeter Township
57	Landisville Road/Graystone Rd	Spooky Nook Rd	East Petersburg Borough limit	East Hempfield Township
58	Lititz Run Rd	Rothsville Road/PA772	Clay Road	Warwick Township
59	Little Britain Church Hwy	Fulton Inn Road	Black Barren Road	Fulton Township
60	Locust Street	Third St.	N. 12th street	Columbia Borough
61	Longenecker Rd	Pinkerton Road	E. Main Street/PA230	Rapho Township
62	Main St/New Danville Pike	Prince Street/US222	River Road	Lancaster, Pequea & Conestoga Townships
63	Manheim Borough Loop Trail			Manheim Borough
64	Marietta Avenue/PA23	River Road/PA441	College Ave (Lancaster)	East Donegal, West Hempfield, East Hempfield, & Manheim Townships
65	Meadow Lane	Lititz Pike/PA501	Valley Road	Manheim Township
66	Mount Joy Street	E. High Street	Schwanger Rd	Elizabethtown Borough
67	N. 12th Street	Locust Street	Ironville Pike	Columbia Borough
68	N. Hershey Avenue	W. Farmersville Road	E. Main Street/PA23	Upper Leacock & West Earl Townships
69	President Avenue	Columbia Avenuew/PA462	Harrisburg Avenue	Lancaster & Manheim Townships
70	N. Railroad Ave	28th Division Hwy/US322	E. Jackson Street	Earl Township & New Holland Borough
71	N. Reading Road/PA272	Route 897	Berks Co. Line	East Cocalico Township & Adamstown Borough
72	N. State St/Reamstown Rd	E. Main Street/US322	E. Church St.	Ephrata Borough, Ephrata & East Cocalico Townships

Tier 3 Bicycle Corridors

#	Road Name	From	To	Municipality
73	Stony Battery Road	Main Street	Marietta Avenue/PA 23	East & West Hempfield Townships
74	Nolt Road	Stony Battery Road	Sylvan Rd	East Hempfield Township
75	Old Harrisburg Pike	Eshbenshade Road	State Road/PA722	East Hempfield Township
76	Old Line Pike	Penn Street	N. Colebrook Road	Manheim Borough & Rapho Township
77	Old Philadelphia Pk PA 340	Greenfield Rd	Old Leacock Road	East Lampeter & Leacock Townships
78	Old Philadelphia Pk PA 340	Hatville Road	Chester County line	Leacock & Salisbury Townships
79	Oregon Pike PA 272	Creek Rd	Rothsville Road	Akron & Ephrata Boroughs, Manheim & West Earl Townships
80	Owl Hill Road	S. Broad St. (Lititz)	Pierson Rd	Quarryville Boro, Eden & Bart Twps
81	Petersburg Road/PA722	Fruitville Pike	W. Oregon Road	Manheim Township
82	Robert Fulton Hwy/PA222	W. 4th Street/PA 222	Lancaster Pike/PA272	Quarryville Borough, East Drumore, Little Britain, & Fulton Twps.
83	E. Main Street/PA23	28th Division Hwy/US322	Chester Co. Line	East Earl & Caernarvon Townships
84	N. Market Street/PA 230	Dauphin County Line	High Street	West Donegal Townsip & Elizabethtown Borough
85	S. Market Street/PA 230	Schwanger Road	Manheim Street/PA772	Mount Joy Township & Mount Joy Borough
86	28th Division Hwy/PA322	Clay Road	Lebanon Co Line	Clay & Elizabeth Townships
87	PA 441	Dauphin County Line	Locust St. (Columbia)	Conoy & East Donegal Twps. & Columbia Borough
88	PA 472	W. State Street	Chester County line	Quarryville Borough, Eden & Colerain Townships
89	PA 72	Lebanon Co Line	Colebrook St.(Manheim)	Rapho & Penn Townships & Manheim Borough
90	Mount Joy-Manheim Rd/PA 772	Old Market Street	Breneman Road	Mount Joy Borough & Rapho Township
91	Marietta Mount Joy Pike/Anderson Ferry Road/PA 772	New Haven Street	Front Street	Mount Joy & Marietta Borough, East Donegal Township
92	Maytown Road/PA 743	Donegal Springs Rd.	Essex Street	East Donegal Township & Marietta Borough
93	Blue Rock Road/PA 999	River Road/PA441	N. Prince St	Manor Township & Millersville Borough
94	Pennsy Road	Marticville Road	Main St. in New Providence	Martic & Providence Township
95	Pierson Rd	Owl Hill Rd	Rothsville Road/PA772	Warwick Township
96	Pinetown Rd	Creek Road	Bushong Rd	Manheim Township
97	Pitney Road	Greenfield Rd	King Street/PA462	East Lampeter Township
98	Race Ave	Columbia Ave	Harrisburg Ave	City of Lancaster
99	River Road	Penn Street/Blue Rock Rd/PA999	Lancaster Pike/PA272	Manor,Conestoga, Martic, & Drumore Townships
100	Rothsville Road	Newport Road/PA772	State Street/PA272	Warwick & Ephrata Township
101	Swartzville Road/Route 897	Lebanon Co Line	No. Reading Road/PA272	West & East Cocalico Townships
102	Ruby Street	Manor Street	Columbia Ave	City of Lancaster
103	Running Pump Road	Marietta Avenue/PA 23	Columbia Avenue/PA462	East Hempfield Township
104	S. Decatur Stree/May Post Office Rd	Main Street	Valley Road/PA372	Strasburg Borough & Strasburg Township
105	State Street	S. Reading Road	E. Church St.(Reamstown)	Ephrata Borough, Ephrata & East Cocalico Townships
106	Schoeneck Road	Reading Road/PA 272	Steinmetz Road	West Cocalico Township
107	Schoolhouse Rd	Columbia Ave	Manor Street/PA999	Lancaster Township
108	Schwanger Rd	Mount Joy Street	Market Street/PA 230	Mount Joy Township

Tier 3 Bicycle Corridors

#	Road Name	From	To	Municipality
109	Spencer Ave	Atkins Avenue	Columbia Avenue/PA462	Lancaster Township
110	Spooky Nook Rd	Eby Chiques Road	Shenck Road	West & East Hempfield Townships
111	Spring Valley Road	Sylvan Road	Rohrerstown Road/PA741	East Hempfield Township
112	Stonemill Rd	Millersville Road/PA741	Schoolhouse Road	Manor & Lancaster Townships
113	Old Strasburg Road	Strasburg Road/PA 741	Mine Road	Salisbury Township
114	Sunvalley Road	Kleinfeltersville Road	Mount Airy Rd	Clay Township
115	Upper Valley Rd	Georgetown Road/PA 896	Noble Road	Bart & Sadsbury Townships
116	Landis Valley Road	Kissel Hill Road	Paper Mill Road	Manheim Township
117	Main Street/US322	Market Street	US222	Ephrata Borough & Ephrata Township
118	W. Meadow Valley Rd	Millway Rd	S. Reading Road/PA272	Ephrata & Warwick Townships
119	West Apple	Essex Street	E. Market(Marietta)	Marietta Borough
120	White Oak Rd	Beaver Valley Pike	Upper Valley Rd	West Lampeter Twp
121	Wildflower Lane	Kennel Avenue	Druid Hill Road	West Hempfield Township
122	Willow Rd (Lancaster)	New Holland Pike	Horseshoe Rd	Leacock Township
123	Wilson Avenue	Abbeyville Road	Harrisburg Ave	Lancaster Township

Tier 2 Pedestrian Improvement Areas

#	Road Name	From	To	Municipality
1	13th St.	Ironville Pike	Locust St.	Columbia Borough
2	Anchor Rd./Harrisburg Ave.	PA 230	Nolt Rd	Mount Joy & East Donegal Twps
3	Anchor Rd./Harrisburg Ave.	Nolt Rd	Mill Rd	Mount Joy & West Donegal Twps
4	Angle St./Union School Rd.	PA 230	PA 772	Mount Joy Borough
5	Apple Ave. (Marietta)	Bridge St.	PA 772	Marietta Borough
6	Atkins Ave.	Schoolhouse Rd.	PA 462	Lancaster Township
7	Bowman Rd.	Church St.	PA 230	West Hempfield Township
8	Bridge St. (Marietta)	Market St. (Marietta)	PA 441	Marietta Borough
9	Brunnerville Rd.	Market St. (Lititz)	Lincoln Rd.	Warwick Township
10	Bushong Rd.	PA 272	Snakehill Rd.	Manheim Township
11	Butter Rd.	PA 23	Jake Landis Rd.	Manheim Township
12	Centerville Rd.	PA 23	PA 230	East Hempfield Township
13	Centerville Rd.	PA 462	Charlestown Rd.	Manor Township
14	Charles Rd.	PA 999	Wabank St.	Lancaster City & Lancaster Twp
15	Charlestown Rd.	Ironstone Ridge Rd.	PA 741	Manor Township
16	Chestnut St./Lexington Rd./Pine Hill Rd.	Loop Rd.	Orchard Rd.	Warwick Township
17	Church St.	Stony Battery Rd.	PA 230	East Hempfield Township
18	College Ave./Stony Battery Rd.	Locust Rd.	Church St.	Mountville Borough, West Hempfield & East Hempfield Twps
19	Conard Rd/Windy Hill Rd.	Lampeter Rd.	Strasburg Pike	West Lampeter & Strasburg Twps
20	Dillerville Rd.	Harrisburg Ave.	Fruitville Pike	Lancaster City & Manheim Twp
21	Donegal Springs Rd.	Musser Ave.	S. Angle St.	Mount Joy Township
22	Donnerville Rd.	Hempland Rd.	Weaver Rd.	East Hempfield & ManorTwps
23	E. Airport Rd.	PA 501	PA 722	Warwick Township
24	Eden Rd.	PA 272	PA 23	Manheim Township
25	Ephrata Cocalico Creek Trail	Main St. (Ephrata)	Church Rd. (Ephrata)	Ephrata Borough
26	Farmingdale Rd.	PA 23	Harrisburg Pike	East Hempfield & Manheim Twps
27	Fordney Rd.	US 222/PA 501	Juliette Ave.	Manheim Township
28	Glen Moore Cir.	Maple La.	PA 501	Manheim Township
29	Graystone Rd.	PA 72	Fruitville Pike	East Petersburg Borough & Manheim Twp
30	Greenfield Rd.	Hempstead Rd.	PA 462	East Lampeter Township
31	Groff Ave./Ridge Rd.	PA 230	PA 283	Elizabethtown Borough & Mount Joy Twp
32	Hamaker Rd.	PA 72	Hershey Dr.	Rapho Township
33	Hempstead Rd.	Pitney Rd.	Greenfield Rd.	City of Lancaster

Tier 2 Pedestrian Improvement Areas

#	Road Name	From	To	Municipality
34	High St. (Elizabethtown)	Gerald Dr.	Ridgeview Rd.	Elizabethtown Borough & Mount Joy Twp
35	High St. (Maytown)	Martha Dr.	PA 743	East Donegal Township
36	Ironstone Ridge Rd.	Charlestown Rd.	PA 999	Manor Township
37	Ironville Pike	8th St. (Columbia)	Malleable Rd.	Columbia Borough & West Hempfield Twp
38	Ironville Pike	Prospect Rd.	PA 23	West Hempfield Township
39	Lampeter Rd.	PA 462	PA 741	West Lampeter Township
41	Lefever Rd.	PA 772	PA 230	Mount Joy Borough & Rapho Twp
42	Lincoln Rd.	Brunnerville Rd.	Clay Rd.	Warwick Township
43	Line Rd.	Garden Spot Rd.	Jefferson Ave. (Denver)	Clay & East Cocalico Twps
44	Lititz Run Rd.	PA 772	Clay Rd.	Warwick Township
45	Locust St. (Columbia)	8th St. (Columbia)	13th St. (Columbia)	Columbia Borough
46	Main St. (Akron)	Diamond St.	Akron Rd.	Akron Borough
47	Main St. (Brownstown)	PA 272	PA 772	West Earl Township
48	Manheim Borough Loop Trail	Around Manheim Borough		Manheim Borough
49	Manheim Central Trail	Manheim Borough	Lebanon County Line	Rapho & Penn Twps
50	Maple La.	Fruitville Pike	Glen Moore Cir.	Manheim Township
51	Maple St. (Columbia)	PA 441	6th St. (Columbia)	Columbia Borough
52	Miller Rd./Buch Ave.	PA 72	PA 501	Manheim Township
53	Millport Rd.	Rockford Rd.	Strasburg Pike	Lancaster City, West Lampeter & East Lampeter Twps
54	Millport Rd.	Woodcrest Ave.	PA 501	Warwick Twp
55	Musser Ave.	Donegal Springs Rd.	Wood St.	Mount Joy Twp & Borough
56	N. Duke St.	PA 999	Letort Rd.	Manor Twp & Millersville Borough
57	N. Stony Battery Rd.	PA 230	Nolt Rd.	West & East Hempfield Twps
58	New Charlotte St./Fruitville Pike	Stiegel St.	Bucknoll Rd.	Manheim Borough & Penn Twp
59	New Holland Pike	Lemon St.	Snakehill Rd.	Lancaster City, Manheim, East Lampeter & Upper Leacock Twps
60	Nissley Rd.	Bowman Rd.	Centerville Rd.	East Hempfield Township
61	Nolt Rd.	N. Stony Battery Rd.	Sylvan Rd.	East Hempfield Township
62	Oak St. (Manheim)	PA 72	PA 772	Manheim Borough
63	Oakview Rd.	PA 340	US 30	East Lampeter Township
64	Old Strasburg Rd.	PA 741 (W)	PA 741 (E)	Salisbury Township
65	Owl Hill Rd.	PA 501	Kissel Hill Rd.	Warwick Township
66	PA 23	Bridge Valley Rd.	Wilson Dr.	West Hempfield, East Hempfield & LancasterTwps

Tier 2 Pedestrian Improvement Areas

#	Road Name	From	To	Municipality
67	PA 23	Chestnut St.	Pleasure Rd.	Lancaster City & Twp & Manheim Twp
68	PA 23	Whisper La.	US 322	New Holland Borough, Earl & East Earl Twps
69	PA 230	Camp Meeting Rd.	PA 741	East Hempfield Township
70	PA 230	Lefever Rd.	Eby Chiques Rd.	Mount Joy Borough
71	PA 272	Bunker Hill Rd.	Berks County Line	East Cocalico Twp & Adamstown Borough
72	PA 272	Jake Landis Rd.	Bushong Rd.	Manheim Township
73	PA 272	Main St. (Akron)	Church Rd. (Ephrata)	Akron & Ephrata Boroughs
74	PA 272	Main St. (Brownstown)	Oak St.	West Earl Twp & Akron Borough
75	PA 272	Penn Grant Rd.	Herrville Rd.	Pequea & West Lampeter Twps
76	PA 272	US 30	PA 722	Manheim Township
77	PA 272/US 222	Highland Ave.	Penn Grant Rd.	Pequea, West Lampeter & Lancaster Twps & Lancaster City
78	PA 324	Wildflower La.	US 222	Lancaster & Pequea Twps
79	PA 340	PA 462	PA 896	East Lampeter Township
80	PA 41	US 30	Chester County Line	Salisbury Township
81	PA 441	Klinesville Rd.	US 30	Columbia Borough & West Hempfield Twp
82	PA 441	Vinegar Ferry Rd.	PA 23	Marietta Borough & East Donegal Twp
83	PA 462	College Ave.	Spring St.	Mountville Borough
84	PA 462	Donnerville Rd.	Wilson Dr.	Manor, East Hempfield & Lancaster Twps
85	PA 462	Lampeter Rd.	Strasburg Pike	East Lampeter Township
86	PA 462	Prospect Rd.	Pearl St.	West Hempfield Twp & Mountville Borough
87	PA 472	PA 372	Cloverhill Rd.	Quarryville Borough
88	PA 501	Newport Rd.	Loop Rd.	Warwick Township
89	PA 72	Miller Rd.	Stiegel St	Manheim Borough
90	PA 72	Stiegel St.	Auction Rd.	Penn Twp & Manheim Borough
91	PA 722	PA 501	Kissel Hill Rd.	Manheim & Warwick Twps
92	PA 722	PA 72	Graystone Rd.	East Petersburg Borough
93	PA 722	Shaub Rd.	PA 23	Manheim Township
94	PA 741	Larch Ave.	Harrisburg Pike	Manheim & East Hempfield Twps & East Petersburg Boro
95	PA 741	Old Strasburg Rd. (W)	PA 41	Salisbury Township
96	PA 741	US 30	Wabank Rd.	Millersville Boro, Manor & East Hempfield Twps
97	PA 743	Engles Toll Gate Rd.	PA 441	East Donegal Township
98	PA 743	Spring Garden St.	PA 283	Elizabethtown Borough & Mount Joy Twp

Tier 2 Pedestrian Improvement Areas

#	Road Name	From	To	Municipality
99	PA 772	Apple Ave. (Marietta)	PA 441	Marietta Borough & East Donegal Twp
100	PA 772	Clay Rd.	Pierson Rd.	Warwick Township
101	PA 772	Cocalico Rd.	Main St. (Brownstown)	West Cocalico Township
102	PA 772	Market St.	PA 283	Mount Joy Borough & Rapho Township
103	PA 772	PA 340	Carriage Dr.	Leacock Township
104	PA 772	Union School Rd.	Lumber St.	Mount Joy Boro & Rapho Twp
105	PA 896	Bluegrass La.	PA 741	East Lampeter Twp & Strasburg Twp & Borough
106	PA 896	PA 340	Rockvale Rd.	East Lampeter Township
107	PA 999	Ironstone Ridge Rd.	Prince St. (Millersville)	Manor Twp & Millersville Borough
108	PA 999	PA 441	2nd St. (Washington)	Manor Township
109	PA 999	PA 741	Pilgrim Dr.	Manor Twp & Millersville Borough
110	Parkview Heights Rd.	PA 272	Bethany Rd.	Ephrata Twp & Borough
111	Penn Grant Rd.	Millwood Rd.	Hans Herr Rd.	Pequea & West Lampeter Twps
112	Petersburg Rd.	Fruitville Pike	PA 501	Manheim Township
113	Pierson Rd.	Kissel Hill Rd.	PA 772	Manheim Township
114	Pilgrim Dr.	PA 999	Wabank St.	Millersville Borough
115	Pitney Rd.	PA 462	Hempstead Rd.	Lancaster Twp & Lancaster City
116	Pleasure Rd.	New Holland Ave.	PA 23	Lancaster City & Manheim Twp
117	Prospect Rd.	PA 23	PA 462	West Hempfield Township
119	Roseville Rd.	Fruitville Pike	PA 272	Manheim Township
120	Rothsville Rd.	PA 772	PA 272	Warwick & Ephrata Twps & Akron & Ephrata Boroughs
121	Running Pump Rd.	PA 23	PA 462	East Hempfield Township
122	S. Duke St./Slackwater Rd./Stehman Rd.	PA 999	Long Ln.	Millersville Borough & Manor Twp
123	S. Lime St. (Lancaster)	Church St.	Dauphin St.	City of Lancaster
124	Schoolhouse Rd.	Stone Mill Rd.	PA 999	Lancaster Twp
125	Second Lock Rd.	Hoover Dr.	PA 324	Lancaster Township
126	Simmontown Rd.	Strasburg Rd.	PA 41	Sadsbury Township
127	Spencer Ave.	Schoolhouse Rd.	PA 462	Lancaster Township
128	Spring Valley Rd.	Centerville Rd.	Sylvan Rd.	East Hempfield Township
129	State Rd.	Harrisburg Pike	PA 741	East Hempfield & East Petersburg Boro
130	Stiegel St.	PA 72	Oak St. (Manheim)	Manheim Borough
131	Stone Mill Rd.	PA 741	PA 462	Lancaster Twp
132	Strasburg Pike	Edisonville Rd.	PA 741	Strasburg Twp & Borough

Tier 2 Pedestrian Improvement Areas

#	Road Name	From	To	Municipality
133	Strasburg Pike	PA 462	Windy Hill Rd/Millstream Rd	East Lampeter Twp
134	Sylvan Rd.	Old Harrisburg Pk	Spring Valley Rd.	East Hempfield
135	US 222	PA 272	Hans Herr Rd.	West Lampeter Twp
136	US 222	Pilottown Rd.	Little Britain Rd.	Fulton, Little Britain & East Drumore Twps
137	US 222	Ponderosa La.	Church St. (Quarryville)	Quarryville Borough, East Drumore & Providence Twps
138	US 222	Refton Rd.	Orchard Rd.	Strasburg Twp
139	US 30	La Park Ave.	Black Horse Rd.	Paradise Twp
140	US 30	London Vale Rd.	Chester County Line	Salisbury Twp
141	US 322	Bethany Rd.	US 222	Ephrata Boro
142	US 322	Wood Corner Rd.	Market St. (Ephrata)	Clay & Ephrata Twps & Ephrata Borough
143	W Farmersville Rd.	N. Farmersville Rd.	Fairmount Rd.	West Earl Twp
144	W. Oregon Rd.	Petersburg Rd.	PA 501	Manheim Township
145	Wabank St.	PA 741	Charles Rd.	Lancaster Township
146	White Oak Rd.	Doe Run Rd	Prospect Rd.	Rapho Township
147	Willow Rd.	PA 23	Greenfield Rd.	East Lampeter Township
148	Wilson Dr./Abbyville Rd.	PA 23	Schoolhouse Rd.	Lancaster Township
149	Woodcrest Ave.	Millport Rd.	2nd Ave. (Lititz)	Warwick Twp & Lititz Borough

Pedestrian Crossing Improvements

#	Road Name	From	To	Municipality
1	Duke St. (Lancaster)	Church St.	Delaware St.	City of Lancaster
2	Fruitville Pike	Granite Run Dr.	Dillerville Rd.	Manheim Township
3	Harrisburg Pike	US 30	Prince St.	Manheim Township & Lancaster City
4	King St. (Lancaster)	Prince St.	Broad St.	City of Lancaster
5	New Holland Avenue	Lemon Street	US 30	City of Lancaster
6	Orange St. (Lancaster)	Prince St.	Broad St.	City of Lancaster
7	PA 272	PA 501	Suncrest Rd.	Manheim Township
8	PA 272	Rothsville Rd.	Pleasant View Dr.	Ephrata Borough & Ephrata Township
9	PA 272	Long Lane/Beaver Valley Pike	Boehms Rd.	West Lampeter & Pequea Twps.
10	PA 340	Clearview Rd.	Hatville Rd.	Leacock Township
11	PA 462	Chestnut St. (Columbia)	Locust Grove Rd.	Columbia Borough & West Hempfield Twp.
12	PA 462	PA741/Millersville Rd.	Ruby St.	East Hempfield, Manor & Lancaster Twps. & Lancaster City
13	PA 462	Broad St.	US 30	Lancaster & East Lampeter Twps.
14	PA 501	Newport Rd.	PA772/Orange St.	Warwick Twp. & Lititz Borough
15	PA 501	US 30	Fordney Rd.	Manheim Township
16	PA 72	Colebrook St.	Shimp St.	Manheim Borough & Penn Twp.
17	PA 72	Delp Rd.	Fruitville Pike	Manheim Township
18	PA 772	Groff Ave.	Homestead Dr.	Warwick Township
19	PA 999	PA741/Millersville Rd.	Prospect St.	Manor Township
20	Strasburg Pike	Edisonville Rd.	Main Street	Strasburg Twp. & Strasburg Borough
21	US 222	State St.	Church St.	Quarryville Borough