

..... Transportation and
Public Health

PLANNING TRANSPORTATION SYSTEMS
THAT SUPPORT
HEALTHY COMMUNITIES AND INDIVIDUALS



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I. INTRODUCTION

The investments we make in transportation determine the shape of our communities—whether they are sprawling autocentric places where nearly all trips are made by car or they are more compact communities with a mix of uses and interconnected streets that enable many trips to be made by walking, bicycling and transit. Public policies that heavily favor driving and neglect investment in other modes of transportation contribute to a range of environmental problems such as air pollution, global greenhouse gas emissions and water pollution and, as we are becoming increasingly aware, have adverse impacts on public health.

Until recently, public health was not an explicit consideration in transportation planning or in cost-benefit analyses conducted for transportation projects. Federal and state departments of transportation tended to undervalue policies and investments that could reduce vehicle miles of travel by creating a more interconnected and diversified transportation network. This is changing as the costs to public health of the nation's decades-long focus on automobiles continue to mount. These costs include deaths and injuries from traffic accidents, obesity and the related problems of diabetes, heart disease, strokes and mental health problems such as stress and anxiety.

Smart growth communities that provide a mix of uses and enable many trips to be made by auto alternatives, are not only more energy-efficient and reduce vehicle miles of travel, but they are healthier places to live because they enable people to enjoy more active lifestyles. Transportation policies and investments are critical to achieving this end. Some of the investments that can help communities transition to a more sustainable design are:



- Investments in bicycle and pedestrian infrastructure
- Investments to improve public transportation and bicycle and pedestrian access to it
- Implementation of traffic calming techniques
- Building transit-oriented design (TOD)
- Revitalizing older, walkable neighborhoods
- Educating the public on the benefits of smart growth and “active” transportation.

This Transportation and Public Health booklet discusses the cost that the dominant pattern of autocentric communities in the U.S. is taking on people's health and how new communities and developments can be designed, and older communities retrofit, to support a healthier lifestyle. It looks at the steps that Lancaster County is taking to promote healthy communities that offer residents and visitors a range of mobility options.

II. HOW OUR COMMUNITIES BECAME SO AUTOCENTRIC

Over a period of 50 years, government transportation policies and funding favored construction of freeways, arterials and local roads over public transportation and other modes. Establishment of the Highway Trust Fund in 1956 propelled construction of roads, at the expense of transit, rail and other alternatives. The focus of transportation policy became moving cars, as quickly as possible. When roads got crowded, lanes were widened or new lanes added, often removing sidewalks, crosswalks or other amenities for those who don't drive or prefer not to drive. Government housing policies helped fuel the outward migration of families from more densely populated cities, where many trips had been made by walking, to the auto-dependent suburbs. Local zoning codes favored the separation of uses, with housing in one zoning district and retail stores and businesses in another, requiring residents to get in their cars and drive for nearly all trips.

The result is that Americans choose to travel by car for most local and long-distance trips. In Lancaster County, 88 percent of commute trips are by automobile, with 79 percent of these by solo auto and 9.5 percent by carpool or vanpool. Bicycling and walking together account for 4.3

percent of work trips and transit for 1.4 percent. These commute trends track fairly closely with Pennsylvania statewide commute trends.

America's focus on roads has brought enormous economic and social benefits, but, over time, it has resulted in unanticipated impacts that are damaging and costly to the environment and to public health.

Surveys and public opinion polls in recent years suggest that there is a strong latent demand for a more diversified transportation system, one with increased investment in pedestrian and bicycle facilities and transit. In one national survey, 59% of respondents stated that their preference for reducing congestion was "to improve public transportation, including more trains and buses and to make it easier to walk and bike to reduce traffic congestion." Only 38% preferred building more roads and expanding existing roads to help reduce congestion.

In another survey, 20% of U.S. adults said they would sometimes bicycle commute if they had safer bicycling facilities. They also indicated they would bicycle for shorter trips and some errands if safe bicycling facilities were available. In a recent Lancaster County survey that was part of the Long Range Transportation Plan update, the most frequent comments made by citizens were the desire for improved transit service, improved bicycle and pedestrian facilities and increased road capacity in key locations.

MEANS OF TRANSPORTATION TO WORK, LANCASTER COUNTY, 2010

	# workers	SOV	Carpool	Transit	Bike	Walk	Other	Work at Home
Lancaster County	244,202	78.6%	9.5%	1.4%	.7%	3.6%	1.4%	4.8%
Pennsylvania	5,723,063	77.0%	8.8%	5.4%	.4%	3.8%	.7%	3.7%

III. AUTO DEPENDENCE AND RISING PUBLIC HEALTH COSTS

Obesity and Related Diseases

More than two-thirds of Americans are overweight or obese.¹ Of great concern, is the fact that more than 33% of children and adolescents—approximately 25 million—are overweight or obese.² The costs of obesity account for approximately 9% of total U.S. health care spending and add an estimated \$395 million per year to per-person health care costs.³ A portion of these costs is attributable to auto-oriented land use patterns that have the effect of limiting opportunities for physical activity. The World Health Organization identified sedentary lifestyle as one of the two most important risk factors for non-communicable disease and early mortality in Western populations, a lifestyle that is associated with the use of cars.

A national study, “Relationship Between Urban Sprawl and Physical Activity, Obesity and Morbidity,” found that people living in counties marked by sprawling development are likely to walk less and weigh more than people who live in less sprawling counties. In addition, people in more sprawling counties are more likely to suffer from hypertension (high blood pressure). These results were found to hold true after controlling for factors such as age, education, gender, race and ethnicity.⁴ Other studies, such as the 2010 National Bicycling Benchmark Study, have shown that walking and cycling activity in a region is inversely related to obesity and related illnesses of diabetes and high blood pressure.⁵

Statistics for Lancaster County indicate that 26 percent of the population is obese. When individuals who are overweight are added in, the figure jumps to 59 percent of Lancaster County’s population. With an estimated county adult population of around 373,000, this translates into approximately 223,800 adults in Lancaster County who are obese or overweight.⁶ At an estimated

1 American Public Health Association, “Hidden Health Costs of Transportation,” Washington D.C.
 2 U.S. Centers for Disease Control, “Physical Activity and the Health of Young People,” 2004.
 3 American Public Health Association, Op cit., p. 2.

4 Smart Growth America Coalition, “Measuring the Health Effects of Sprawl,” Washington D.C. 2003.
 5 Littman, Todd, “If Health Matters,” June 4, 2010.
 6 Lancaster County General Hospital’s “Lighten Up” program, written communication.

THE COST OF TRANSPORTATION-RELATED HEALTH PROBLEMS*

	Cost (Billions \$)	Factors in the Estimate
Obesity and overweight	\$142	Health-care costs, lost wages due to illness and disability; future earnings loss from premature death
Air pollution from traffic	\$50–80	Health-care costs, premature deaths
Traffic crashes	\$180	Health-care costs, lost earnings, property damage, travel delays, legal costs, pain and suffering, lost quality of life

* American Public Health Association, “Hidden Health Costs of Transportation,” Washington D.C., Table 2.

combined obesity and overweight cost of \$1,023 per individual per year, the health care cost to Lancaster County from obese and overweight adults is estimated at \$228,947,400 annually.⁷

Traffic Accidents

Traffic crashes are a major health risk in the United States. In Pennsylvania, there were 1,256 fatalities in 2009. While this number is a 14 percent decrease from the prior year and the lowest level in 64 years, the estimated cost to society is still very high--\$13.6 billion. In Lancaster County, traffic crashes resulted in 49 deaths in 2009, down 31 percent from 2005.

Of great concern, is the fact that traffic crashes are the leading cause of death nationwide in people under the age of 33.⁸ This means that the costs are greater when measured in terms of Potential Years of Life Lost, rather than just deaths. As people spend more and more time in their cars, the likelihood of an accident increases. And, traditional road building practices that have been designed to move vehicles quickly, mean that accidents happen at higher speeds than in the past and result in more severe injuries.⁹

For pedestrians and bicyclists, the combination of fast-moving traffic and roads that are often designed without wide shoulders, sidewalks and other accommodations for non-motorized traffic, the safety risk is greater. Pedestrian deaths made up nearly 11 percent of the total deaths on the highways in 2009, a disproportionately high percent given the percentage of total trips that

walking represents.

Other Health Costs

Air pollution:

Another significant health care cost associated with a heavy dependence on driving and autocentric community design is air pollution. The transportation sector accounts for nearly 75 percent of the carbon monoxide emissions, 60 percent of the nitrogen oxide emissions and 40 percent of the emissions of volatile organic chemicals (chemicals that combine in the presence of sunlight to create smog) in the United States. Automobiles and trucks are responsible for the largest share of this. Short-term health problems associated with air pollution include irritation to the eyes, nose and throat, bronchitis and pneumonia. Long-term impacts include chronic respiratory diseases, lung cancer, heart disease and other major ailments. The individuals at highest risk from air pollution are youth, the elderly and people who have respiratory and other health problems. Lancaster County is a non-attainment area for particulates. The county is an attainment area for ozone but revisions to the health-based clean air standards that are under consideration may result in the county being redesignated as a non-attainment area for ozone. Because of its non-attainment status, the county is required to conduct air quality analyses of all major new transportation projects proposed for

7 Tsai, A., Williamson, D. & Glick, H, "Direct Medical Cost of Overweight and Obesity in the USA: A Quantitative Systematic Review," International Association for the Study of Obesity, 12, pp. 50-61, 2010.

8 National Traffic Safety Administration, "Traffic Safety Facts, 2009 Data."

9 Smart Growth B.C., "Promoting Public Health Through Smart Growth."

AIR QUALITY IN LANCASTER COUNTY

Days Measured	306
Days with Good Air Quality	239
Days with Moderate Air Quality	56
Days with Poor Air Quality for Sensitive Persons	11

funding to make sure that they will not result in a deterioration of air quality.

Global greenhouse gas emissions:

Global climate change is one of the most serious public health threats facing our nation¹⁰ and transportation plays a central role in reducing greenhouse gas emissions. Transportation accounts for 28 percent of all global greenhouse gases (GHGs) and 33 percent of all emissions of carbon dioxide (CO₂), the most prevalent global greenhouse gas in the United States. CO₂ is an end product of burning fossil fuels. The only practical way to reduce it is to get vehicles to burn less fuel. Research has shown that emission reductions from technological fixes alone — more fuel-efficient vehicles and cleaner burning fuels — will be overwhelmed by the growth in vehicle miles of travel. An essential strategy to reduce greenhouse gases is to change the design of

10 American Public Health Association.



communities to enable more trips to be made by biking, walking or other alternatives to driving and shortening the length of many trips that are made by car. A guidebook to climate change published by the American Public Health Association and the Centers for Disease Control and Prevention indicates that climate change could lead to numerous adverse public health impacts like heat stress and the spread of infectious diseases. There could also be a longer pollen season which could result in increased respiratory and allergy problems.¹¹

Water pollution:

Sprawling land use patterns also contribute to the degradation of water quality. Lubricants and oils from cars that fall onto the roadway make their way into streams and creeks and auto exhaust contains pollutants that settle into rivers and streams. This pollution impairs the health of aquatic ecosystems, including fish that humans consume. Research also shows that low-density land use patterns have a greater negative impact on water quality than more compact development because sprawl increases the amount of driving, the amount of impervious surface area and presence of lawns and gardens that are treated with fertilizers which contain nitrogen and other chemicals that end up in streams and lakes.

Noise pollution:

Motor vehicle traffic creates noise which can impact health in various ways, including sleep and speech disturbance, increased stress and even reduced productivity at work if the noise includes loud sounds such as engine accelerations, horns and other disturbing noises.

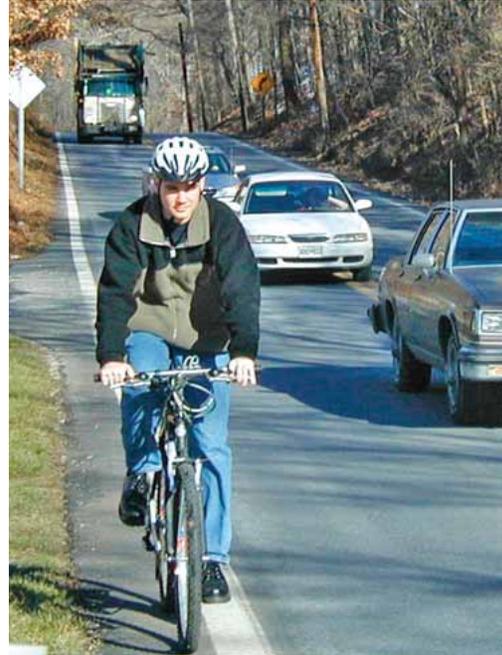
11 American Public Health Association, "Climate Change: Mastering the Public Health Role," Washington D.C., April 25, 2011.

IV. THE NEED FOR A NEW DIRECTION

A new framework for transportation planning and investment is emerging that can reduce the costs to the environment and public health. This framework emphasizes accessibility--designing transportation systems to move people rather than vehicles. The approach gives new priority to linking transportation planning with land use planning and to investments in public transportation and facilities for non-motorized transportation. In a demonstration of the federal government's increased attention to walking and bicycling, the U.S. Department of Transportation issued a "Policy Statement on Bicycle and Pedestrian Accommodation," in March 2010, that stated:

"The United States Department of Transportation (DOT) is providing this Policy Statement to reflect the Department's support for the development of fully integrated active transportation networks. The establishment of well-connected walking and bicycling networks is an important component for livable communities, and their design should be a part of Federal-aid project developments. Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use..."

Data on the length of trips that people make each day suggest that many trips could be shifted to bicycling, walking or transit if land use patterns and transportation investments supported these modes. More than 25 percent of all trips in urbanized areas are a mile or less and 50 percent are under three miles. Yet, today, most of these trips are made by car.



Walking makes up approximately, 8.6 percent of all trips nationwide. The number of trips by non-motorized modes could be significantly increased through better land use patterns and provision of infrastructure to support these modes, particularly in cities and suburbs. This would take millions of auto trips off the roads and represent a cost-effective way to create new road capacity and improve public health at the same time.

Two sets of variables are believed to negatively influence a person's decision to walk or bike: personal barriers and environmental barriers. Personal barriers are the subjective considerations that operate on an individual level, like a person's concern that they might need a car at work to run an errand or that it might rain and they would get wet if they walked or biked to work.¹² Environmental barriers, by contrast, are objective factors that impact on a person's decision-making such as the lack of a bicycle lane or path or lack of a sidewalk to walk on.¹³ Surveys of people who do

¹² Littman, Todd, "If Health Matters," June 4, 2010.

¹³ Smart Growth B.C., "Promoting Public Health Through Smart Growth."

not walk or bike frequently, indicate that both sets of barriers are factors.

More than 25% of all trips in urbanized areas are one mile long or less and fully 50% are under three miles.

Public policy and investments can help remove these barriers, especially the environmental barriers, by creating an environment that supports walking and bicycling. A similar case can be made for transit or ridesharing. Public investments that provide safe, reliable transit service, construct sidewalks that lead to and from transit stops and transit shelters for those waiting for the bus and that provide park-and-ride lots and a guaranteed ride home in the event of an emergency, can have a significant impact on a person's decision to use transit or rideshare, especially for individuals who own a car and have the discretion of driving.

V. DESIGNING BETTER COMMUNITIES AND PROVIDING INFRASTRUCTURE TO SUPPORT ALTERNATIVE MODES

It has taken over 50 years to build our way into the auto dependent land use patterns around us today and it will take time to complete a course correction to establish more sustainable communities with convenient and safe opportunities to travel by modes other than solo driving. Three aspects of the built environment—density, land use mix and connectivity—have been consistently found to be important predictors of travel behavior and walkability.¹⁴ Communities or neighborhoods with higher levels of density, a mix of compatible land uses within a zoning district and interconnected streets support increased use of bicycling, walking and transit. The strategies discussed below have proven to be key elements for communities that want to transition to places where walking, bicycling and transit use become more convenient, safe and popular choices for travel.

1. **Design “Complete Streets” for all users:** The design of a community's street network can either impede or support alternatives to driving. Streets that are wide, smooth and designed to move cars at high speeds, and lack sidewalks, crosswalks or wide shoulders, will discourage people from walking, bicycling and using transit. By contrast, streets that are designed with

14 *Relationship Between Urban Sprawl and Physical Activity.*

sidewalks, pedestrian crosswalks, wide shoulders and incorporate traffic calming measures, such as raised median strips, street narrowing and other measures to slow traffic at key locations, act to encourage walking, bicycling and the use of transit.

2. **Create an interconnected street network:** An interconnected “grid” network of streets, rather than streets that end in cul-de-sacs, reduces the distance that pedestrians, bicyclists and transit users have to walk or bicycle and helps to encourage the use of these modes.

3. **Invest in bicycle and pedestrian infrastructure:**

Experience in communities around the country that have invested in bicycle and pedestrian infrastructure, gives credence to the old adage “if you build it, they will come.” The City of Portland, Oregon, made a decision in 1996 to

begin constructing a citywide network of bicycle lanes and paths in order to boost the share of trips made by bicycle and reduce traffic congestion. Between 1996 and 2008, Portland built 300 miles of bicycle trails and lanes. As a result of this public policy, the bicycle mode share quadrupled, from 2 percent in 1996 to 8 percent in 2008.¹⁵ Portland has the highest bicycle mode share of any major U.S. city. The value of the

city’s 300-mile bicycle network is approximately \$60 million. The same amount of money would construct one mile of urban freeway.¹⁶ Portland’s



commitment to bicycles as well as walking and transit has resulted in city residents driving four miles less per day than the national average. While this may not sound like a lot, the result is that Portland residents spend \$1.2 billion less per year on driving than they would if they drove the national average. Other cities across the U.S. that have also made significant investments in bicycle infrastructure have experienced substantial growth in bicycling.

4. **Build mixed-use developments and communities:**

Another key to creating more sustainable and healthy communities is by designing new communities and developments, and retrofitting existing ones where possible, to include a mix of uses in a single zone. Since the late 1920’s and the landmark *Euclid vs. Ambler Realty* legal decision, zoning codes have generally created distinct zoning areas for different uses, with residential zones separated from commercial and retail zones and from industrial zones and institutions such as schools and health facilities often distant from homes. However, experience has shown that an appropriate mix of commercial and retail uses (coffee shops, local markets, pharmacies, cleaners, etc) with residential uses, as has historically been the case

The value of the City of Portland, Oregon’s 300-mile bicycle network is approximately \$60 million, roughly the equivalent of building one mile of urban freeway.

15 Gotschi and Mills, “Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking,” Rails to Trails Conservancy, 2008.

16 Ibid.



in older cities and neighborhoods, is not only compatible with health but results in improved health by enabling many trips taken by walking and bicycling. The interest in “smart growth” in recent decades has brought about a rethinking of this Euclidian zoning practice. Counties and communities are making revisions to their zoning codes to allow mixed use developments in appropriate locations.

5. **Build Transit-Oriented Development:** Transit-Oriented Development (TOD) shares many of the characteristics of mixed use development. In TOD, a major transportation facility such as a train station or multi-modal station or transit corridor, serves as the focal point around which retail, commercial and residential development is oriented. Streets and walkways are incorporated to enable access to the transportation facility or stops along the corridor by walking, biking or transit.
6. **Update zoning codes:** Many communities are amending their zoning codes that call for a separation of uses and are replacing them, in entirety or part, with zoning codes that permit mixed use developments and transit-oriented developments.
7. **Implement traffic-calming techniques:** Traffic calming refers to a broad range of transportation investments implemented at strategic locations to slow or “calm” traffic and make streets safer and more attractive for pedestrians, bicyclists and other non-auto travelers. Traffic calming originated in the Netherlands in the 1970s where the government was committed to making streets safe for all users. In the decades since then, the concept has spread to cities and communities worldwide. Some popular traffic calming techniques that communities have implemented are: traffic circles, angled parking, narrowing of streets at key locations, curb extensions at intersections, raised median strips to provide pedestrians a safe place in the middle of a wide road they are trying to cross and other methods.
8. **Educate the public on the benefits of “Active” Transportation:** Public education is critical to getting people to change their behavior and to try walking or bicycling for some trips rather than driving. Public education involves informing the public about the health benefits from greater use of bicycling and walking through workshops, programs at schools, local organizations and other means. It also involves

working with the public to demonstrate how to safely use bicycle lanes and other facilities, proper equipment to use, such as helmets, to maximize safety and other helpful information.

VI. PROMOTING HEALTHY COMMUNITIES IN LANCASTER COUNTY

Lancaster County has gained national recognition for its long-standing commitment to smart growth policies that are designed to enable the county to grow while preserving its rich heritage of farmlands, historic towns and buildings, sensitive natural areas and rural landscapes. As a logical extension of its smart growth policies, the county adopted a Smart Growth Transportation Program (SGT Program) on June 27, 2011.

Smart Growth Transportation Program

The SGT Program funds transportation projects that are located in the county's Designated Growth Areas (DGAs) and promote the goals and strategies of the County Comprehensive Plan and plans of the areas where the projects are located. The projects must support economic development, reduce congestion, improve safety for pedestrians, bicyclists and transit users and have the potential to leverage private dollars and create new public-private partnerships. The types of projects that are eligible for funding include:

- Preparation of a master plan for the improvement of a major transportation corridor within a Designated Growth Area;
- Non-motorized transportation facilities that provide a transportation and/or recreational benefit (trails, bike networks)
- Investments that make transit service more viable and convenient to project sites and countywide and provide safe connections to access transit (sidewalks, interconnected streets that reduce walking distances)





- Urban streetscape projects that incorporate traffic calming
- Improved roadway connections that provide a more interconnected transportation network and reduce distances for motorists, transit users, bicyclists and pedestrians
- Redevelopment of existing streets into neighborhood streets that enhance a community's quality of life
- Curb extensions for green infrastructure and ADA accessibility
- Low-cost investments such as retiming and coordination of traffic signals
- Turning lanes that provide crosswalks and median strips to keep pedestrians safe
- Studies that would result in any of the project types listed above.

Each project that seeks funding under the SGT Program is evaluated against a set of criteria that are in addition to the criteria that all projects that seek funds through the county must meet.

Lancaster County committed \$1 million from its FY 2012 TIP to the new SGT program and intends to continue funding the program at the same level in the FY 2013-2016 TIP. This innovative program will serve as a model for other counties and is an integral part of Lancaster County's work to create sustainable, healthier places for Lancaster residents to live.

Mixed Use Developments and Transit-Oriented Developments

Lancaster County encourages the construction of mixed-use and transit-oriented developments, as appropriate, within designated growth areas of the county. Some examples of mixed use developments include Florin Hill in Mount Joy Borough, Brighton in Manheim Township and Newport Commons in Warwick Township. Florin Hill was designed to fit into the surrounding neighborhood through connectivity of the street network and walking and biking paths that link the community to

nearby parks and a community center. Brighton was developed with brick sidewalks that extend throughout the development, bicycle trails and 22,000 square feet of retail space, including a bakery, cleaners, spa, small gym and boutique clothing store, all within easy walking distance of the homes in the community. Sidewalks with brick crosswalks and a multiuse trail as well as some commercial and retail businesses are within easy walking distance of the homes. Newport Commons includes a pedestrian/bicycle path and has a convenience store and gas station in the community.

Traffic Calming in Lancaster County

The boroughs in Lancaster County have implemented various traffic calming techniques to slow traffic and make streets safer for pedestrians, transit users and bicyclists. Angled parking, speed humps and brick crosswalks were implemented on College Avenue in the City of Lancaster, a street that traverses the Franklin and Marshall college campus and on a section of South Duke Street. Angled parking on Main Street in Ephrata Borough serves to slow cars in an area with many shops and walkers. In downtown Lancaster, the city has constructed curb extensions and brick crosswalks on busy streets to shorten the distance for pedestrians crossing the streets.

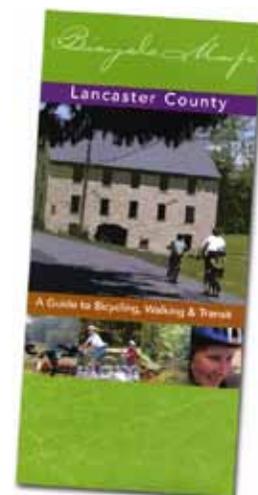
Revise Zoning Codes

Municipalities in the county are updating their zoning codes to include traditional neighborhood design districts and overlay districts that provide for a mix of uses which, through street design, parking and other policies, support greater use of walking, biking and transit. Lititz Borough, in addition to its eleven zoning Base Districts, has four Overlay Districts, including a Traditional Neighborhood Overlay District (TNDO) and a Downtown Overlay District (DOD). The TNDO and DOD are designed

to be supportive of pedestrians and the use of transit. The TNDO allows for higher-density and higher-intensity mixed use developments that are designed according to special Design Guidelines and Form-Based Code Regulations to ensure that the resulting form incorporates design principles compatible with Lititz Borough's traditional character, form and function. The TNDO applies to developments of at least ten acres of land and must have a Residential Neighborhood Area, Central Residential Area and Neighborhood Storefront Area (NSA) and a maximum overall density of eight units/acre. The TNDO specifies the types of businesses that are permitted (cafes, pharmacies, music and video stores for example) and maximum floor area for each permitted use. The district must have an interconnected street system to promote walkability and a shorter distance to access transit.

Construct Infrastructure for Non-Motorized Travel

Planning at a countywide level for bicycle and pedestrian facilities is led by Lancaster County's Bicycle and Pedestrian Advisory Committee (BPAC). The BPAC developed a long-range plan for investment in non-motorized facilities throughout the county. The "Lancaster County Bicycle and Pedestrian Transportation Plan, Phase I" was adopted in September 2000 and began the process of institutionalizing bicycle and pedestrian planning in the county. Phase II of the plan documented the existing bicycle and pedestrian conditions in the county and developed a recommended Priority Bicycle and Pedestrian System. This priority system identifies where improvements are needed and includes 850 miles of bicycle facilities and 360



miles of pedestrian facilities. A major product of the planning effort is the *Lancaster County Bicycle Map: A Guide to Bicycling, Walking, and Transit* which provides a rating of roads that bicyclists may use as principal transportation routes throughout the County. The network of bicycle and pedestrian facilities in the county has been steadily expanding. It includes sidewalks, signed on-street bike routes, shoulder widenings and rail-trail conversions such as the Conewago Recreation Trail in the northwest part of Lancaster County that connects to the Lebanon Valley Trail and the Lancaster Junction Trail in Landisville. Construction of new trails such as the Northwest Trail that will extend 14 miles along the Susquehanna River from Columbia Borough to Conoy Township will add to the non-motorized network. The county also works with its municipalities, local businesses and public institutions such as schools and libraries to install bicycle racks and sponsor bicycle safety education programs and workshops.

Construct and Improve Transit and Passenger Rail Infrastructure

Lancaster County is located along the high-speed Keystone Corridor between Philadelphia and Harrisburg. The state of Pennsylvania and Amtrak made substantial investments in the corridor in

recent years that improved reliability and speed of service on the corridor and resulted in large gains in rail ridership. To add to these improvements, Lancaster County has been working with the Pennsylvania Department of Transportation (PennDOT) to rehabilitate the three Amtrak stations in the county — Lancaster Amtrak Station, Mount Joy Station and Elizabethtown Station. The \$9 million restored Elizabethtown Station was dedicated on May 3, 2011. The \$14 million restoration of the historic Lancaster Amtrak Station, the third busiest Amtrak station in the state, is scheduled for completion by the end of 2011. Construction on the Mount Joy Borough Station will be completed in 2012. All three communities have plans to link the improved stations to economic development plans for their boroughs.

Red Rose Transit Authority (RRTA) is Lancaster County's transit service provider, offering fixed route bus service on 17 routes throughout the county and on-demand Red Rose Access service for elderly and disabled individuals. RRTA is completing construction of a new transit center, Queen Street Station II, in downtown Lancaster, which will expand the capacity of the existing Queen Street Station. The project is structured as a transit-oriented development that includes a 395-space parking garage and 8,500 sq. ft. of leasable street-level commercial and retail space. RRTA celebrated the opening in November 2010 of its restored headquarters and bus maintenance facility which were designed to incorporate state-of-the-art solar panels, geothermal heating and cooling and other energy-saving features.



VII. CONCLUDING REMARKS

element, *Balance*, of the Lancaster County Comprehensive Plan.

A growing body of research points to the relationship between transportation and public health. Decades of transportation policy and investments that focused on highway solutions to mobility and neglected alternatives, has resulted in a pattern of sprawling auto-centric cities and communities and a sedentary lifestyle that is associated with a range of health and environmental problems. An awareness is emerging of the need to redesign and retrofit our communities to support “active” transportation modes and to increase investments in bicycling, walking and other solo driving alternatives. With over half of all trips in urbanized areas less than three miles long, the potential to shift many trips to walking, bicycling and transit is achievable. Public opinion polls nationwide and in Lancaster County reveal a strong latent demand for these alternatives.

Lancaster County is continuing its leadership in the area of smart growth through implementation of a new Smart Growth Transportation Program and through actions by municipalities to update their zoning codes to create more pedestrian and bicycle-friendly environments and investments in the infrastructure to support alternatives to driving.

For further information on the smart growth and smart growth transportation in Lancaster County, contact: Harriet Parcels, Senior Transportation Planner, hparcells@co.lancaster.pa.us. Information can also be found on the Lancaster County Planning Commission’s website at www.co.lancaster.pa.us/planning under the Smart Growth Toolbox, the Transportation Planning section of the website (including its publication, “Smart Transportation in Lancaster County”) and the county’s award-winning Growth Management

TRANSPORTATION AND PUBLIC HEALTH

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