Appendices

UNION COUNTY, PA

CULTIVATING COMMUNITY

A Plan for Union County's Future

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Appendices

A. Public Outreach and Participation

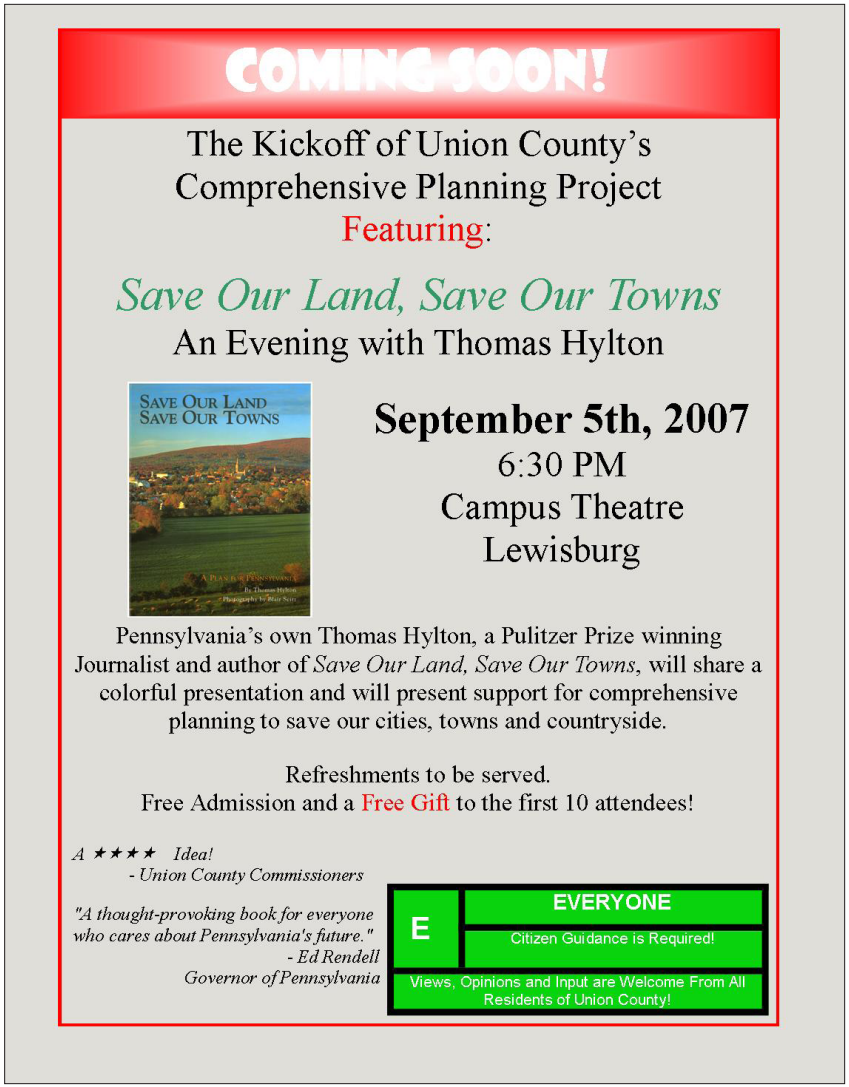
One of the primary goals of *Cultivating Community: A Plan for Union County's Future* was to have a transparent and publicly accessible planning process that involved a broad range of stakeholders and interests. Another goal was to periodically make available informative programs on community planning and development for residents and public officials. The County, and partner municipalities, placed a great deal of emphasis on engaging citizens throughout the development of the plan. Various techniques were used, including but not limited to: advisory teams, press conferences, special events, public forums and meetings, interviews, focus groups, surveys, website, school programs, radio programs, press releases, newspaper articles, open houses, and more. The purpose of this Appendix is to capture the extensive breadth and scope of the public outreach and participation that was integral to *Cultivating Community*. Each involvement and outreach method is summarized to give the reader an appreciation of the time, energy, and commitment that was invested in hearing from the people of Union County. Additionally this documents how the community guided development of the plan.

A1. Public Meetings and Education sessions

Future of Agriculture Let's Talk Sessions. From January through March 2007 the Union County Future of Agriculture leadership team conducted five Let's Talk Sessions around Union County. The purpose of the Let's Talk Sessions was to bring the farm and non-farm community together for dialogue about the future of the County's agriculture industry. These were held as part of a parallel program facilitated by Pennsylvania State University to develop a strategic action plan for the future of agriculture in the county. The information obtained at the sessions was recorded, summarized, and reviewed as part of the public input for the plan.

What's a Comprehensive Plan and What's in it for Me? This public program was held once each in Laurelton, Mifflinburg, and Lewisburg from September 26th through October 4th, 2007. Neal Fogle with the Pennsylvania State University Cooperative Extension Service, Brian Auman with SEDA-Council of Governments, and Shawn McLaughlin of the Union County Planning Commission led these sessions, which were designed to provide citizens and municipal officials more information about *Cultivating Community* and comprehensive planning in general.

Campus Theatre Kickoff Event. The public unveiling of *Cultivating Community* took place on the evening of September 5, 2007 at the Campus Theatre in Lewisburg. The Bucknell University Pep Band greeted attendees under the marquee with lively music. Pulitzer Prize winning journalist Thomas Hylton from Pottstown, PA, author of the book Save our Lands, Save our Towns delivered an informative and motivational presentation to start the program. Hylton encouraged the over 200 attendees to get involved with the plan in order to help shape their future. The event concluded with a brief presentation about *Cultivating Community* and how the comprehensive plan would be developed.



Time to Talk Turkey!

Public Meetings for

CULTIVATING COMMUNITY
A Plan for Union County's Future

YOUR help is needed to identify concerns and build a bright future for Union County.

Now's your chance to tell us what **YOU** think!
Plan to attend one of these "Talk Turkey" sessions on the Comprehensive Plan:

- **November 14th @ 7 PM, Hartley Township Community Center, Laurelton**
- **November 15th @ 8:30 AM, Union County Government Center, Lewisburg**
- **November 15th @ 7 PM, Sun-Tech Cafetorium, New Berlin**

Come to a meeting and enter to win a **FREE** turkey gift certificate (up to $25.00) from Rishel's Meats in Mifflinburg. Four winners drawn at each meeting!

Just in time for Thanksgiving!

Need more info? Visit www.cultivatingcommunity.net or call 524-3840

Talk Turkey Forums. In November 2007, the residents of Union County were invited to attend a series of public forums to openly discuss pressing issues, challenges, and opportunities facing Union County. The intent of the forums was to generate discussion and gather citizen input for the development of a comprehensive long-range plan for the County and municipalities. To encourage participation, three outreach forums were held, one each in the Western, Eastern, and Central planning areas, respectively.

Mifflinburg Middle School Program.

Overview. On February 27th and 29th, 2008 Penn State Cooperative Extension and the Union County Planning Commission conducted an educational program with 175 eighth graders in the Mifflinburg Area School District Middle School. The students were from civics classes taught by Mrs. Lynch and Mr. Johnson. The Mifflinburg Area School District includes the entire Western Multi-Municipal Planning area and all of the Central Multi-Municipal Planning area with the exception of the eastern portion of Union Township.

The first day in the classroom introduced planning and various tools, such as comprehensive plans, zoning, and subdivision and land development ordinances, that citizen and professional planners utilize to guide growth and improve communities. An overview of *Cultivating Community* was provided, as well as a group exercise where the students had to lay out a development site. The second day involved a hands-on activity where groups of students had to choose proper locations to site various land uses in a community. They then had to defend their decisions before a mock planning commission that was made up of their peers and staff and board members of the Union County Planning Commission.

Student Survey. Mrs. Lynch and Mr. Johnson conducted a survey in the classroom that asked the students to prioritize their top concerns for the future of Union County. The students were provided with a simple one-page survey that asked them to review a list of community issues and rank the items in order of importance with regard to the future. The list of issues included but was not limited to: small town/rural atmosphere; availability of shopping to meet local needs; low crime rate; quality of housing; level of taxation; employment opportunities; availability of arts and cultural activities; quality of local government service; local agriculture; appearance, views, and scenic beauty; availability of parks and open spaces; availability of recreational activities; and quality of public education. The top five issues of importance for the future as ranked by the students were the following:

1. Low crime rate
2. Small town/rural atmosphere
3. Quality of public education
4. Quality of housing
5. Employment opportunities

Community Interviews. For an out-of-class assignment the students were required to interview people and record responses to a series of questions. The results of these involvement efforts are summarized below. The 375 persons interviewed had to be from one of the predetermined age ranges of 10 to 25 years old, 26 to 50 years old, and 51 to 75 years old in order to promote multi-generational interaction and to assure that a cross section of citizens would be interviewed. The students asked the questions below.

1. What is something you like about the community?
2. What is something you dislike about the community?
3. What is something you would you like to see changed?

In response to the first question, *"What is something you <u>like</u> about the community?"* the top responses were the small town character, the abundance of open space, the peace and quiet of the country with friendly neighbors, and the ample recreational opportunities.

The second question *"What is something you <u>dislike</u>*

about the community?" drew the following responses: the amount of new growth and development, the loss of farmland and open space, an increase in traffic and a worsening of road conditions, and a lack of shopping opportunities/choices.

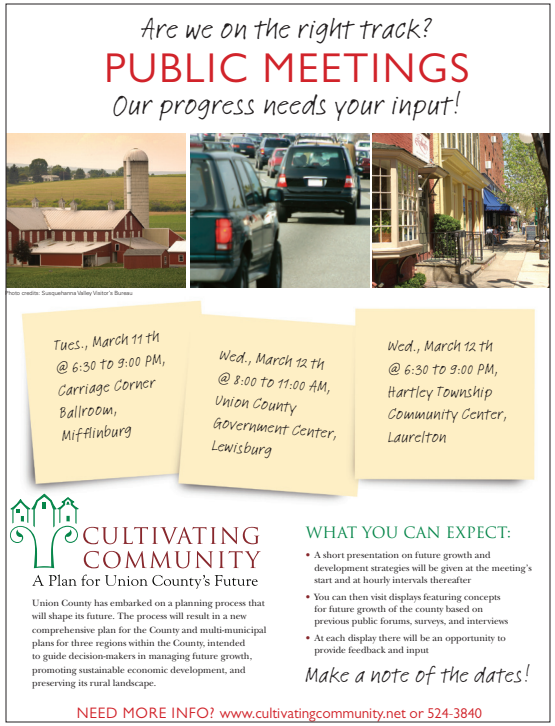
When asked *"What is something you would like to see changed?"* the interviewees replied that an increase in recreation programs, preserved farms, and retail choices were paramount, as well as less growth and reduced traffic/transportation issues.

March 2008 Public Forums.

Overview. The purpose of these meetings was to ascertain what residents preferred in terms of a future growth framework and overall vision statement. The idea was to test several alternatives for future growth prior to advancing development of the various plan elements.

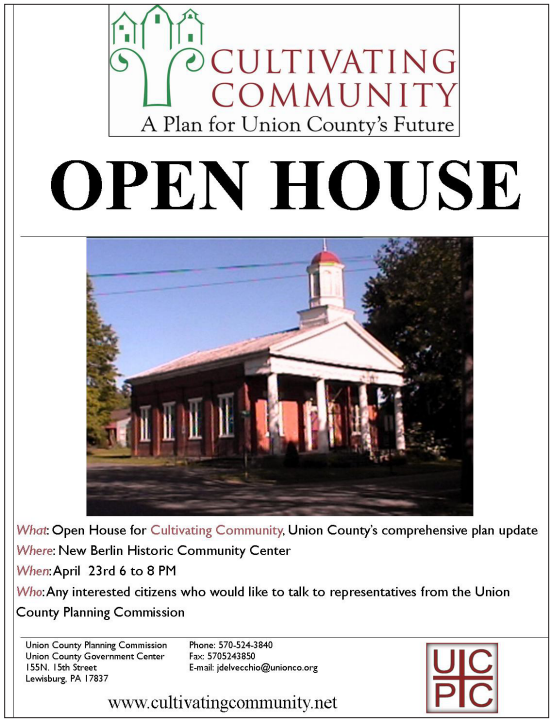
Summary. After a presentation of the draft vision statement and future growth alternatives, attendees had the opportunity to ask questions and to complete a questionnaire. Four questions comprised the questionnaire in which participants were asked to respond using a ranking system of 1 (strongly disagree) to 5 (strongly agree). The forums were held in the central, eastern, and western planning regions of the County and attracted nearly 250 people.

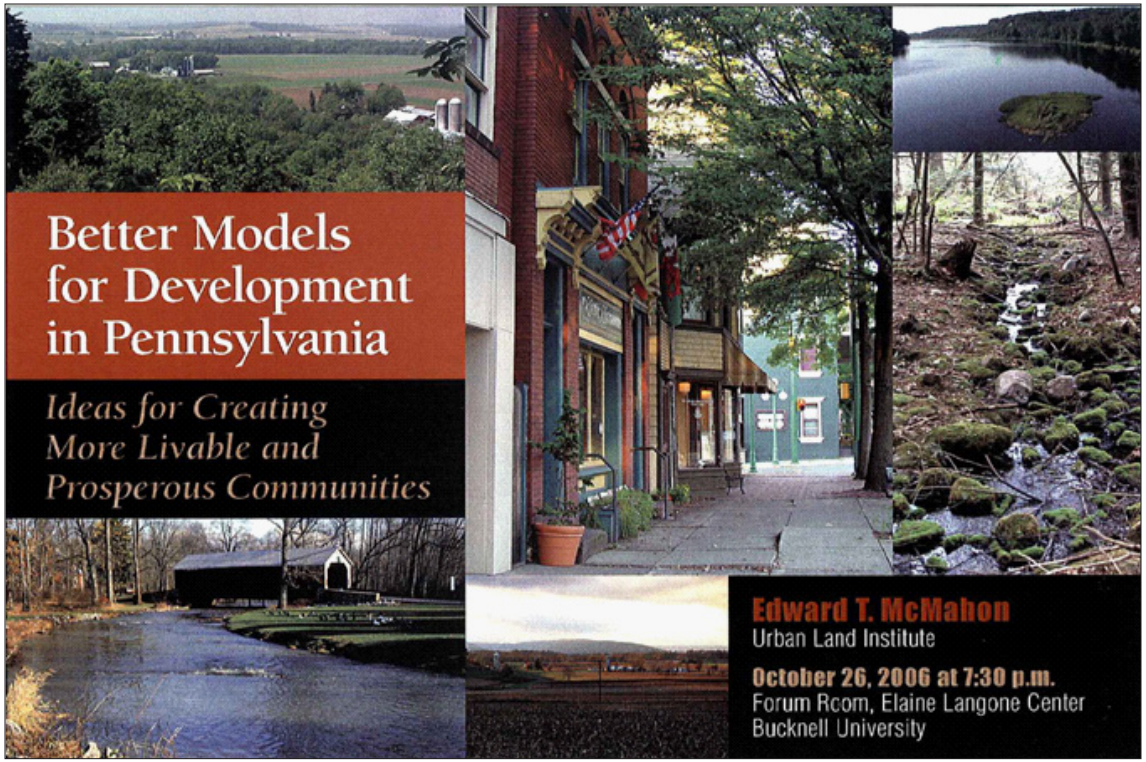
In addition to 156 completed surveys, verbal comments from the large number of Mennonites in attendance provided significant feedback on the draft Vision Statement and the recommended growth management framework.



Question 1, which pertained to the draft of the Vision Statement, is the only question with which the majority of attendees did not "strongly agree" although they did respond positively, giving it a countywide ranking of 4. In response to Questions 2, 3, and 4, 80%+ of each region and the county as a whole "Agreed" or "Strongly Agreed" with the questions posed.

Open Houses. Open houses were held from April through June 2008 to provide residents additional opportunities after the March Forums to learn about and provide input on the plan, draft vision statement, and future growth framework. These open houses were held in East Buffalo Township, New Berlin, New Columbia, and Winfield and were intended to augment the March public forums. Again participants echoed a message consistent with what was heard in March.

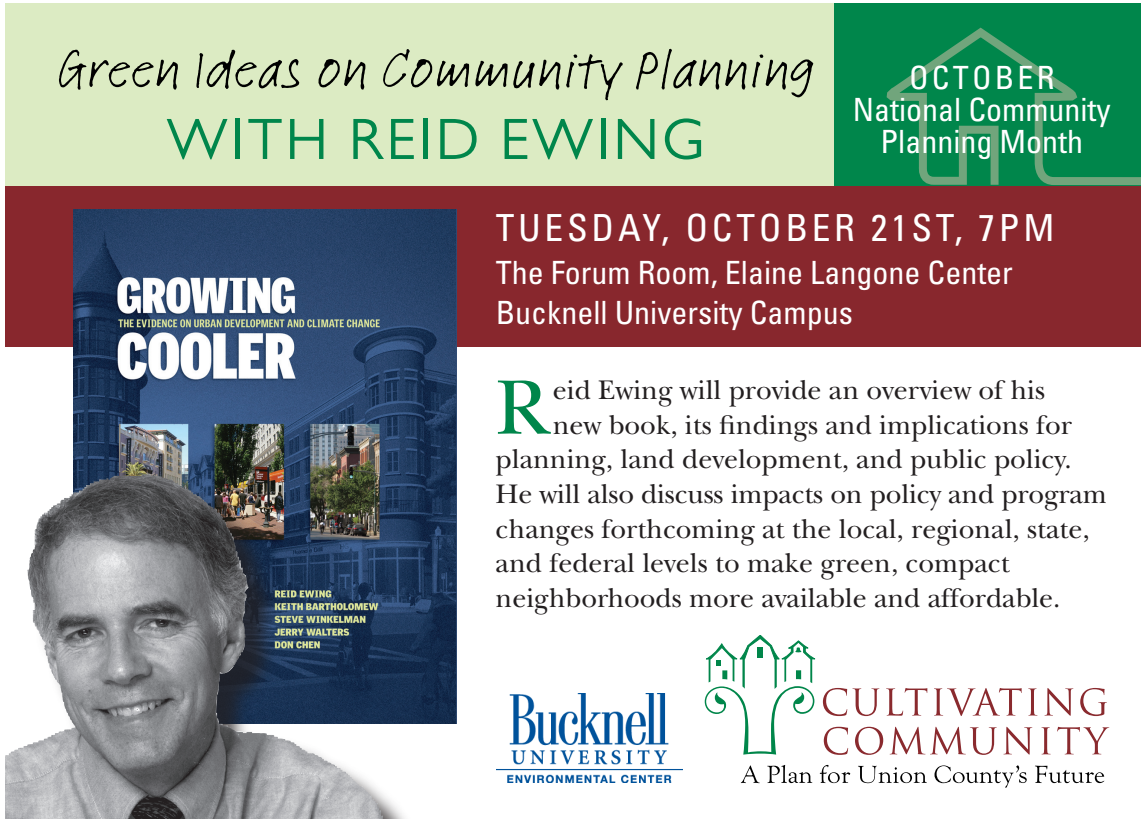




A2. Speakers and Guest Panels

Better Models for Development with Ed McMahon. As a precursor to starting the comprehensive plan update Union County, in partnership with Bucknell University, SEDA Council of Governments, Susquehanna Life Magazine, and the Buffalo Creek Watershed Alliance, sponsored a program on Better Models for Development in Pennsylvania, which featured the book's co-author Ed McMahon of the Urban Land Institute. McMahon delivered an inspiring talk to the standing room only crowd and urged everyone to get involved in planning for the future of the county and its communities. This program generated additional momentum and support that eventually led to the launch of the comprehensive plan.

September 2008 Panel Discussion. On Thursday, September 25th, 2008 at 7:00 PM three Pennsylvanians shared their community planning and development experiences as part of *Cultivating Community: A Plan for Union County's Future*. Held at the Carriage Corner Restaurant in Mifflinburg, the program was open to the public and was attended by 72 residents. The session was moderated and those in attendance had an opportunity to ask questions. Featured on the panel were James Cowhey, AICP, Executive Director of the Lancaster County Planning Commission; Bill Fontana, Executive Director of the Pennsylvania Downtown Center and John Trant, Jr., AICP, Esq., Chief Strategic Planning Officer for Cranberry Township. The intent was to provide access to expertise from around the Commonwealth and to expose residents and municipal officials to plan implementation methods and techniques that have been successful in other areas of the state.



October 2008 Reid Ewing Program. Mr. Ewing's presentation delivered a grim outlook on the environmental impact of continuing our current growth rate and sprawling development patterns. He reviewed impacts of carbon inputs from transportation and development with an emphasis on the damage being done through the use of fossil fuels.

Mr. Ewing reviewed what changes in our commuting patterns, building types, and growth densities can have on carbon footprints on a state, regional and local level. Recommendations included building at higher densities, building walkable communities, reducing the number of vehicle miles traveled on a daily basis, and getting prepared for the explosion of "baby boomer" retirees.

A3. Countywide and Planning Area Teams

Countywide Advisory Team. The PAT included community representatives from across the County with special interest related to issues such as land use, recreation, agriculture, natural resources, and the economy. The PAT's role in the planning process was to act as a sounding board, review and provide comments on the plan text and maps, and ensure that public input was translated into plan concepts. The PAT met on a regular basis with Union County staff and the consultant team to discuss the Plan and provide feedback throughout its development. There were 11 scheduled 3-hour meetings from October 2007 to January 2009.

The Countywide Planning Advisory Team members included:

Countywide Planning Advisory Team

First	Last	Representing
Brian	Auman	SEDA-COG and East Buffalo Township Resident
Martha	Barrick	UCPC, UC Housing Authority
Donald	Bowman	UCPC & Mifflinburg Planning Commission
Harold	Erdley Jr.	Fire and EMS
Lawson	Fetterman	East Buffalo Township Supervisor
Violet	Gallagher	Concerned Citizen - East Buffalo Township
Nada	Gray	Lewisburg Planning Commission
John	Griffith	Developer, Evangelical Hospital Board
Becky	Hagenbaugh	MHRA - Main Street Manager
Ben	Hoskins	Linn Conservancy
Jim	Hostetler	Kelly Twp. P.C., Union County IDC, Bucknell University
Doug	Hovey	Buffalo Township. Planning Commission
Gerald	Kling	Concerned Citizen - Kelly Township
Earl	Martin	Agricultural interests Plain Sect Farmer, West Buffalo Twp.
Margret	Moyer	Concerned Citizen - Hartley Township
Bill	Patton	Eastern Industries, Union County IDC
Samantha	Pearson	Lewisburg Neighborhoods Corp. & Local Action Network
John	Portzline	DCNR Bureau of Forestry
Jeff	Reber	Mifflinburg Bank and Trust
Larry	Seibert	White Deer Twp Super., Ben Franklin Tech. Partnership
Duain	Shaw	PA Forest Stewards - Hartley Township, Concerned Resident
John	Showers	Union County Commissioner
Dennis	Spangler	Dairy Farmer, Ag Choice Farm Credit
Susan	Warner Mills	Realtor, Lewisburg Planning Commission
Don	Wilver	White Deer Township Supervisor
Neal	Woodruff	UCPC & League of Women Voters
Angela	Zimmerman	Lewisburg Area Recreation Authority

Eastern Planning Advisory Team

First	Last	Organization
Lawson	Fetterman	East Buffalo Township Supervisor
Henry	Baylor	East Buffalo Township Supervisor
Jim	Buck	East Buffalo Township Supervisor
Guy	Temple	East Buffalo Township P.C.
Curtis	Barrick	East Buffalo Township P.C.
David	Hassenplug	Kelly Township Supervisor
Jim	Hostetler	Kelly Township P.C.
Donald	Wilver	White Deer Township Supervisor
Larry	Seibert	White Deer Township Supervisor
Ralph	Hess	Planning/Zoning EBT. Kelly, & White Deer
Carroll	Diefenbach	White Deer Township Supervisor
Ted	Strosser	Lewisburg Borough Council
Stacy	Hinck	Lewisburg P.C.
Trey	Casimir	Lewisburg Borough Council

Central Planning Advisory Team

First	Last	Organization
Michael	Snook	Mifflinburg Borough Council
Benjamin	Dietrich	Mifflinburg Borough P.C.
Donald	Bowman	Mifflinburg Borough P.C.
Jim	Schwartz	Limestone Township P.C.
Phares	Horning	Limestone Township. P.C.
William	Zimmerman	Buffalo Township Supervisor
Linda	Wagner	Limestone Township Supervisor
Bruce	Boynton	Union Township P.C
R. Nelson	Poe	Union Twp. Supervisor
Douglas	Hovey	Buffalo Twp. P.C
Alan	Wagner	West Buffalo Township P.C.
Chris	Wysocki	New Berlin Borough Council
Neil	Moyer, Jr.	Limestone Township Supervisor

Multi-Municipal Advisory Teams. The Plan's three planning areas each had an established Planning Advisory Team to complement the Countywide Team. These local officials oversaw the development of aspects of the Plan that particularly addressed their municipalities. The Teams enabled the Planning Commission to not only to present plan details to those responsible for implementation but to also have an established array of representatives from each Planning Commission, Board of Supervisors, and Borough Council involved in the planning process. Each Team met as needed from May 2007 to Febuary 2009.

Western Planning Advisory Team

First	Last	Organization
Donald	Shively	Lewis Township Supervisor
Thomas	Watters	Lewis Township P.C.
Wayne	Klingman	Lewis Township Supervisor
David	Oldt	Lewis Township P.C.
Ralph	Moyer	Hartley Township P.C
Jim	Dorman	Mayor, Hartleton Borough
Gary	Loss	Hartleton Borough Council

A4. Focus Groups, Stakeholder Interviews and Municipal Officials Meetings

Focus Groups and Stakeholder Interviews. Focus groups and stakeholder interviews were held with the following organizations/interests comprised of over 60 individuals. The purpose of these informal discussions was to obtain additional input into the planning process and information on concerns, ideas, and solutions for the future. The following organizations participated in the interviews:

- Bucknell University
- Business/Industry – Playworld, Inc. , Pik Rite, Iddings Quarry, Mountain Valley, Inc. and Union County IDC
- Conservation/Environment – Merrill Linn Conservancy, Buffalo Creek Watershed Alliance, OUE, concerned citizens
- DCNR – Bureaus of Forestry and State Parks
- Commercial and Residential Developers – John Griffith, Robert Hamm
- Downtown/Main Street Concerns – Lewisburg Downtown Partnership, Mifflinburg Heritage and Revitalization Association
- Emergency Services – William Cameron and White Deer Fire Departments, Mifflinburg Hose Company, and Evangelical Hospital
- Historical – UC Bicentennial Committee, UC Historical Society, Lewisburg HARB
- Mennonite Farmers
- Parks and Recreation – Lewisburg Recreation Authority, Youth Sports, Mifflinburg Borough, Hartleton Borough
- Police – East Buffalo, Lewisburg, and Mifflinburg police departments
- Schools – Lewisburg School District, Mifflinburg School District and Sun Career and Technology Center
- Senior Groups – Riverwoods and Lewisburg Senior Center
- Utilities and Infrastructure – Citizens Electric, LAJSA, Buffalo Township Sewer Authority
- In addition UCPC staff interviewed and surveyed all sewer authority operators

Municipal Officials Meetings.

Overview. On January 9, 2008, municipal officials from across Union County were invited to attend a meeting to discuss the issues, challenges, and opportunities facing Union County. The officials also analyzed methods of planning to overcome the challenges and preserve the character of Union County. Information gathered from the meeting was integrated into the development of the comprehensive plan.

Meeting Format. During the meeting, municipal officials met in regional breakout groups and were asked to respond to the following:

1. In the next 5-10 years, what are the planning issues facing your community/region?
2. What policies or methods will you use to address these issues?
3. Identify your planning priorities by municipality.

Findings. Analysis of the planning issues facing the community and/or region in the next 5-10 years revealed an overwhelming concern for the preservation of agriculture, calling for regulations to limit and direct growth in an effort to balance growth with agricultural preservation. This concern was echoed in the top three issues.

Planning Issues Facing the Community/Region in Next 5-10 Years. Listed below are the top five issues facing Union County as per the consensus of municipal officials participating in the meeting:

1. Preservation of agriculture/zoning for agriculture
2. Good planning & zoning/Regulations to limit and direct growth
3. Balancing growth with agricultural preservation
4. Jobs/Business/Economic growth
5. Impacts of new commercial development on core (borough)

Priorities by Planning Area. A closer analysis of these issues by region reiterated the concern for the preservation of agriculture and the need for effective planning to limit, balance, and direct growth, which were the top issues in each region. However, several other concerns also emerged. Listed below are the other issues that rounded out the top five in each region (Note: there were several ties among issues):

West

- Planning/zoning consistency throughout County
- Conflicts between agriculture and residential uses
- Protection of natural resources
- Jobs/business/economic growth
- Reuse of former Laurelton Center

Central

- Jobs/business/economic growth
- Keep development close to existing infrastructure
- Regulations for character of development
- Regional cooperation
- Promote local farms/markets

East

- Impacts of new commercial development on core
- Pedestrian/traffic issues
- Open space preservation
- Transportation issues
- Revitalization/PA House site

Policies or Methods to Address Major Issues. After identifying the challenges facing Union County, each multi-municipal breakout group was asked to identify policies or methods that could be used to address the issues. Outlined below is a summary of the top 5 responses by break-out group (Note: there were several ties among methods):

West

- Consult other areas of the country for successful approaches
- Provide public "issues" education
- Increase municipal cooperation
- Focus growth in/near existing boroughs/villages
- Create business development incentives
- Zoning
- Market resources, tourism, recreation

Central

- Share costs of regional services
- Encourage agricultural preservation
- Provide incentives for rehabilitation/reuse of older structures
- Enhance agricultural zoning

- Establish county development standards – uniformity
- Ensure consistency across lines/enforce zoning at municipal boundaries

East

- Establish a shared County vision on development
- Use smart zoning to provide for open space and agriculture
- Support local businesses
- Renewable energy
- Establish growth boundaries
- Encourage intergovernmental cooperation (share land uses)
- Revise zoning ordinance
- Foster cooperation among agencies/groups/organizations

An analysis of the planning methods proposed reveals a diversity of approaches. Variations of three methods were suggested by each break-out group. These approaches include:

- Increase cooperation between municipalities, agencies, groups and organizations; Share the cost of regional services; develop countywide development standards
- Zoning: Revise zoning ordinances; enhance agricultural zoning; accommodate open space and agriculture through smart zoning
- Economic growth: Create business development incentives; support local businesses

Summer 2008 Follow-up Municipal Officials Meeting. The municipal officials from each of the planning areas reconvened twice in the summer of 2008 to refine the recommended Growth Management Framework into a draft Future Land Use Map.

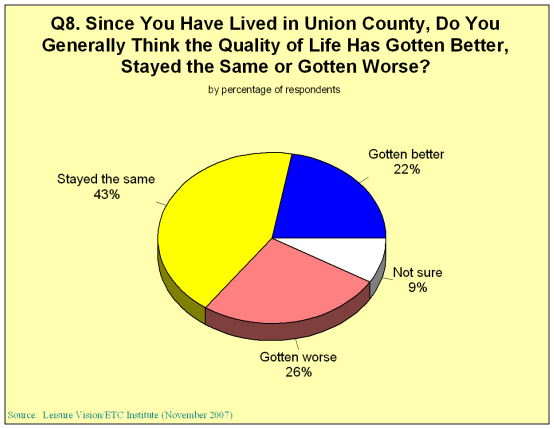
Random Household Survey. A survey was conducted during the fall of 2007 to obtain statistically valid results from households throughout Union County on a number of questions regarding key issues. The survey was administered by a combination of mail and phone.

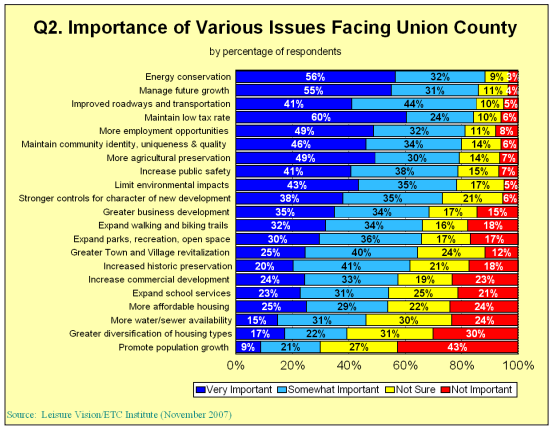
ETC Institute worked with Union County and the WRT project team in the development of the survey questionnaire. This work allowed the survey to be tailored to issues of strategic importance to the County and to effectively address issues of concern.

ETC Institute mailed surveys to a random sample of 3,000 households throughout Union County. Approximately three days after the surveys were mailed, each household that received a survey also received an electronic voice message encouraging them to complete the survey. In addition, about two weeks after the surveys were mailed, households were contacted by phone. Those who indicated they had not returned the survey were given the option of completing it by phone.

Sufficient (601) surveys were returned to provide a 95% level of confidence with a precision of at least +/-4.0%.

Sample Questions:



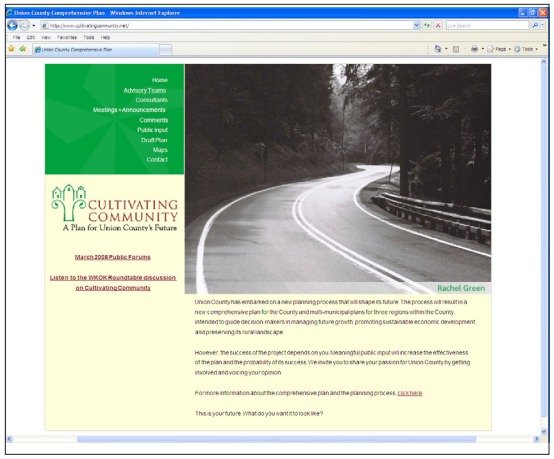


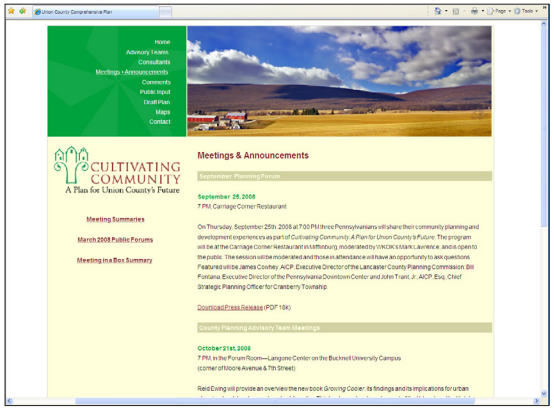
A5. "Passive" Outreach

Passive outreach efforts included press conferences, contests, Meetings-In-A-Box, and other non-direct public interaction activities.

Kickoff Press Conference. One of the first outreach steps was a press conference conducted on September 5th, 2007 for local media outlets. Held at the original Union County Courthouse in New Berlin, this event was attended by print, radio, and television representatives. Information was presented on the planning process, plan schedule, and background data for *Cultivating Community*.

Cultivating Community Website. www.cultivatingcommunity.net The website provided an overview of the planning process, announcements of meetings and programs, draft maps, and other information (e.g., summaries of completed activities). It also provided a vehicle for residents to record comments and provide feedback.





Susquehanna Life Article. The Winter 2007 issue of Susquehanna Life magazine published a four-page article on the Comprehensive Plan as well as featuring the effort on the cover. "County at a Crossroads" provides a glimpse of where the County stood at the outset of the process and projections of housing and population growth as well as the possible effects of that growth. *(Cover used with permission.)*

Billboard. The image below is of the project billboard displayed on PA Route 45, a main arterial west of Lewisburg.

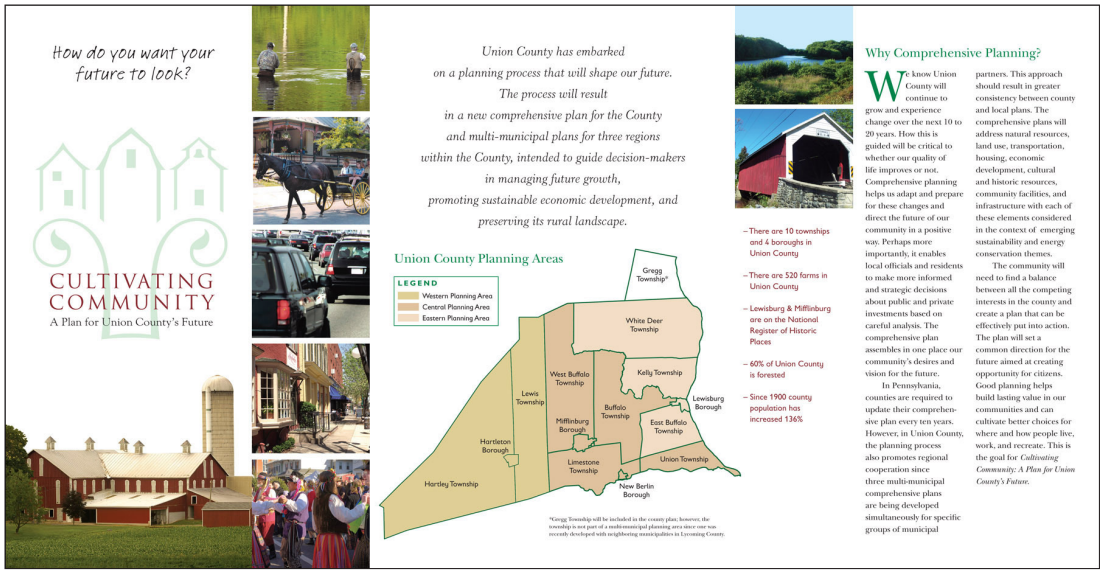
Meeting in a Box Summary. In November following the public forums "Meeting-in-a-Box" kits were made available to citizens so that residents who were unable to attend the public sessions could host their own meeting and provide the results back to the planning team. Each kit contained instructions for the meeting host, handouts, pens, and even popcorn. The handouts included an information sheet describing *Cultivating Community*, maps, and data sheets to record information. Three groups totaling 69 people used the Meeting in a Box kits and provided feedback through this technique from November 2007 through February 2008.

Format. During the meeting the volunteer host asked participants to think about and write down responses to a number of questions. The questions were taken one at a time and discussion followed as people shared their responses with the entire group.

1. What 3 values do you believe reflect the best (strengths) of Union County?
1. What 3 things do you believe reflect the worst (weaknesses) of Union County?
1. What are your top 3 characteristics (ideas for the future) of your ideal Union County within 10-20 years?

After discussing these issues the group was to prioritize the most important ideas for the future. The consensus from each of the three groups centered on enhanced recreation opportunities to promote a healthy community, more emphasis on planned sustainable development that complements the County's rural character and preserves open space, and education. Cooperation of people throughout the County to increase civic engagement/cooperation to attract stable employment and affordable housing was also identified as a high priority.

Information Pamphlet



How do you want your future to look?

CULTIVATING COMMUNITY
A Plan for Union County's Future

Union County has embarked on a planning process that will shape our future. The process will result in a new comprehensive plan for the County and multi-municipal plans for three regions within the County, intended to guide decision-makers in managing future growth, promoting sustainable economic development, and preserving its rural landscape.

Union County Planning Areas

LEGEND
Western Planning Area
Central Planning Area
Eastern Planning Area

Gregg Township*
White Deer Township
West Buffalo Township
Kelly Township
Lewis Township
Lewisburg Borough
Mifflinburg Borough
Buffalo Township
East Buffalo Township
Hartleton Borough
Limestone Township
Union Township
New Berlin Borough
Hartley Township

*Gregg Township will be included in the county plan; however, the township is not part of a multi-municipal planning area since one was recently developed with neighboring municipalities in Lycoming County.

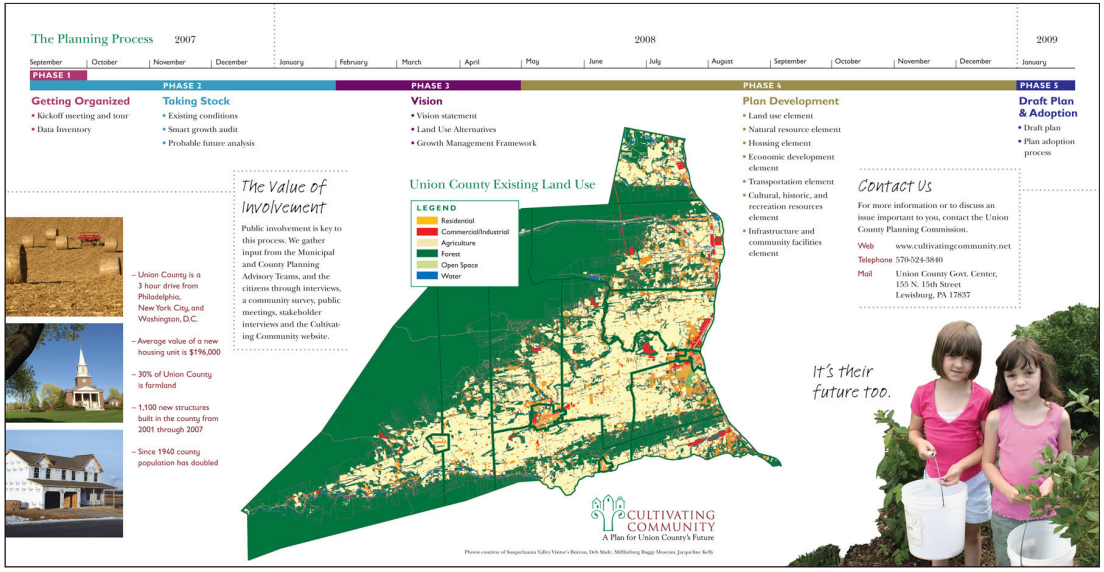
– There are 10 townships and 4 boroughs in Union County
– There are 520 farms in Union County
– Lewisburg & Mifflinburg are on the National Register of Historic Places
– 60% of Union County is forested
– Since 1900 county population has increased 136%

Why Comprehensive Planning?

We know Union County will continue to grow and experience change over the next 10 to 20 years. How this is guided will be critical to whether our quality of life improves or not. Comprehensive planning helps us adapt and prepare for these changes and direct the future of our community in a positive way. Perhaps more importantly, it enables local officials and residents to make more informed and strategic decisions about public and private investments based on careful analysis. The comprehensive plan assembles in one place our community's desires and vision for the future.

In Pennsylvania, counties are required to update their comprehensive plan every ten years. However, in Union County, the planning process also promotes regional cooperation since three multi-municipal comprehensive plans are being developed simultaneously for specific groups of municipal partners. This approach should result in greater consistency between county and local plans. The comprehensive plans will address natural resources, land use, transportation, housing, economic development, cultural and historic resources, community facilities, and infrastructure with each of these elements considered in the context of emerging sustainability and energy conservation themes.

The community will need to find a balance between all the competing interests in the county and create a plan that can be effectively put into action. The plan will set a common direction for the future aimed at creating opportunity for citizens. Good planning helps build lasting value in our communities and can cultivate better choices for where and how people live, work, and recreate. This is the goal for *Cultivating Community: A Plan for Union County's Future.*



The Planning Process 2007 2008 2009

September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December | January

PHASE 1 — Getting Organized
- Kickoff meeting and tour
- Data Inventory

PHASE 2 — Taking Stock
- Existing conditions
- Smart growth audit
- Probable future analysis

PHASE 3 — Vision
- Vision statement
- Land Use Alternatives
- Growth Management Framework

PHASE 4 — Plan Development
- Land use element
- Natural resource element
- Housing element
- Economic development element
- Transportation element
- Cultural, historic, and recreation resources element
- Infrastructure and community facilities element

PHASE 5 — Draft Plan & Adoption
- Draft plan
- Plan adoption process

The Value of Involvement

Public involvement is key to this process. We gather input from the Municipal and County Planning Advisory Teams, and the citizens through interviews, a community survey, public meetings, stakeholder interviews and the Cultivating Community website.

– Union County is a 3 hour drive from Philadelphia, New York City, and Washington, D.C.
– Average value of a new housing unit is $196,000
– 30% of Union County is farmland
– 1,100 new structures built in the county from 2001 through 2007
– Since 1940 county population has doubled

Union County Existing Land Use

LEGEND
Residential
Commercial/Industrial
Agriculture
Forest
Open Space
Water

CULTIVATING COMMUNITY
A Plan for Union County's Future

Photos courtesy of Susquehanna Valley Visitor's Bureau, Deb Slade, Mifflinburg Buggy Museum, Jacqueline Kelly

Contact Us

For more information or to discuss an issue important to you, contact the Union County Planning Commission.

Web www.cultivatingcommunity.net
Telephone 570-524-3840
Mail Union County Govt. Center, 155 N. 15th Street Lewisburg, PA 17837

It's their future too.

Photo Contest. Residents of Union County were invited to submit photographs that reflect what they define as "My Union County." Photographs of people, events, landscapes, architecture, and other subjects were submitted. The entry period for consideration in the contest was from May 15 through October 31st, 2008 and 145 photos were submitted by over 30 individual photographers. These submissions were showcased in various *Cultivating Community* projects, promotions, and publications, as well as on the Plan website.

The winning photos are shown below:

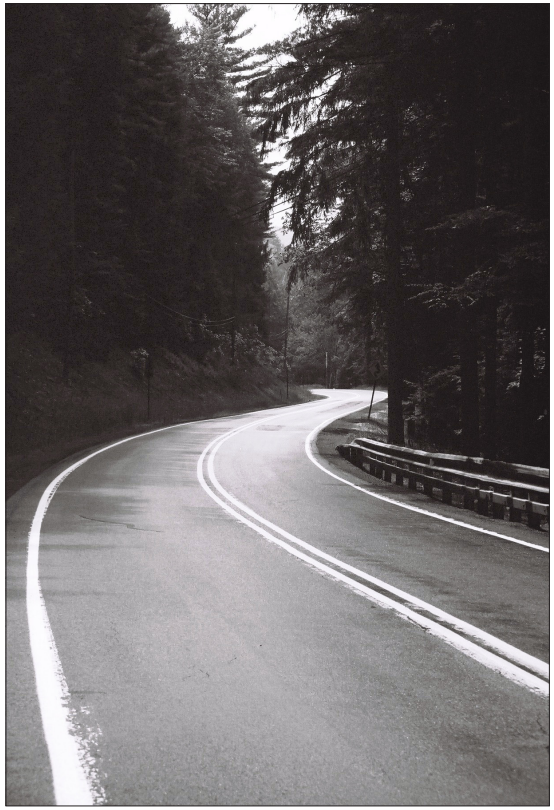


Photo: Rachel Green

Photo: Lou Ditzel

Photo: Phil Wagner

Photo: Owen Anderson

Photo: Amie Miller

Other/Miscellaneous. There were numerous other public outreach activities associated with the Comprehensive Plan, including:

- Planning Director Shawn McLaughlin made several appearances on WKOK radio programs including: WKOK Roundtable, On the Mark, and various radio ads for public meetings.

- The Planning Commission had staffed display tables at the West End Fair for both 2007 and 2008 and the Linn Conservancy "Caring for Communities" Day in April 2008, answering questions and informing the public of upcoming meetings.

- The Planning Commission has archived all news articles, posters, and newsletters with mention of *Cultivating Community*. The archive is available at the Planning Commission office.

- Other activities included: WVIA Radio ads; newspaper ads, stories, and press releases in Daily Item, Lewisburg Journal, and Union County Times, "Union County Today" publication; outreach and notifications through Merrill W. Linn Land and Waterways Conservancy's Linn Log, League of Women Voters newsletter, Local Action Network website, etc.; presentations to service clubs and other organizations: Linn Conservancy Annual Dinner, Kiwanis, Rotary, League of Women Voters Lunch Forum, Farm Bureau Annual Meeting, Union County Farm Advisory Board, Mifflinburg News and Views, Lewisburg Downtown Partnership Website, etc.

B. Agricultural and Woodland Resources Technical Memo

Overview

Agricultural and woodland resources have played an important role in shaping human settlement in Union County. Today, woodlands represent the predominant land use, with 60 percent of the County's land use in public or privately owned forest, including 100 square miles of state forest. With nearly 60,000 acres,[1] farmland represents about 30 percent of the County's total land area, of which 80 percent is cropland. Agriculture and forestry contribute $122 million of economic output to the County each year.

Generations of farmers have sustained a diverse agricultural economy and maintained much of the County's rural character. According to the 2002 Census of Agriculture, livestock and poultry comprise 90 percent of the County's agricultural sales and dairy 39 percent of its agricultural production. Concentrated livestock operations appear to be growing: sales values have increased while farm numbers and land in farms declined.[2] For example, the number of farms raising cattle and calves dropped 15 percent from 1997 to 2002, while the number of animals in inventory increased 10 percent. Hog farms dropped 23 percent, but the number of hogs increased 1 percent. Given the preponderance of livestock agriculture and the County's location in the Chesapeake Bay watershed, there is growing public concern about nutrient management of these operations.

The growth of contract arrangements is changing agricultural practices in the County. Contract arrangements separate livestock and/or poultry production from ownership. Contractors—including processors and packers—own the livestock or poultry and essentially hire the farmer to raise and care for them in his facilities. Contractors typically furnish production inputs, provide technical assistance, and pick up and deliver for slaughter, final processing and marketing.

The majority of the County's working farms (about 70 percent) are operated by the Plain Sect community, predominantly Old Order Mennonites, who provide the County with a distinctive cultural perspective and uphold its agrarian traditions. In addition to the business of farming, commercial opportunities related to the natural environment, such as milling, mineral extraction and food processing, support the economies of the County's historic towns and villages.

The future of these important agricultural and woodland resources depends on the land use decisions being made today. It is important to plan for an integrated system that balances agriculture and resource conservation with sustainable development and growth. This Agricultural and Woodland Resources technical memo identifies strengths and issues and suggests a series of goals and strategies to ensure that the public desire for farmland preservation is achieved, farming and forestry are supported, and environmental quality is protected.

Strengths and Issues

Agricultural Resources

Farming is important to the Union County economy. Based on the most recent economic data, agricultural industries generate more than 700 jobs, $109 million in output and $25 million in value-added activity.[3] In the last U.S. Census of Agriculture, the total market value of products sold in Union County was a little over $55 million, an increase of 15 percent over a 10-year period. Livestock and poultry accounted for 90 percent of sales with the remaining 10 percent from cropland. The leading product in 2002 was milk and other dairy products with almost $22 million in sales, or 39 percent of the total county production.

The Agricultural Resources Map (Figure 4.2) illustrates

[1] Union County GIS Data (2008) and U.S. Department of Agriculture – National Agricultural Statistics Service (USDA–NASS), Census of Agriculture (Washington, D.C.: USDA–NASS, 2002). This includes some woodland managed on farms.

[2] Ibid

[3] 2006 IMPLAN Multiplier Reports. IMPLAN Group, Inc. Stillwater, Minnesota.

the distribution of the region's agricultural assets, including prime agricultural soils and soils of statewide significance, more than 6,000 acres of permanently protected farmland and 49,732 acres in Agricultural Security Areas (ASAs.)

The following strengths and issues have been identified for agricultural resources:

Strengths

- Union County's farmland provides multiple scenic, economic and environmental benefits and was identified during public meetings as one of the County's most valuable assets.
- About 72 percent of agricultural land is enrolled in ASAs, and the County Purchase of Agricultural Conservation Easement (PACE) program has protected more than 6,000 acres of its 2010 goal of 10,000 acres. Its ultimate goal is to protect 40,000 acres by 2020.[4] The program has a strategy to protect large blocks of farmland and applies ranking criteria that emphasize protection of the best soils and best farms.
- The County has an active Conservation District with ample capacity to administer the County's PACE program and help farmers protect agricultural resources. The District has nine staff, including an erosion and sediment technician, nutrient management technician and engineer.
- The farm economy is healthy: overall net farm income grew 115 percent in 10 years from $11.4 million to $24.5 million in 2005.[5]
- Union County is a rural county with access to major metropolitan markets along the Northeast corridor and to Cooperative Extension at Penn State University.
- Given Plain Sect family structure and social order, young people stay on the farm, supplying labor and helping provide stability for agriculture in the future.

Issues

- Scattered development has fragmented the farmland base, caused conflicts between new neighbors and established farmers, and threatens the viability of farming in the future.
- The County has preserved less than 10 percent of its farmland but could preserve more with greater funding. The PACE program currently has a backlog of 40 applications representing 4,363 acres of farmland.
- Confined livestock operations are on the rise as a result of the growth in contract production arrangements. This has created tensions between farmers and non-farm residents. Confinement operations are known to concentrate nutrients on specific sites creating the potential for water pollution. Although federal cost-share funds are available to improve nutrient management, Plain Sect farmers who manage most of these livestock operations often do not participate in federal programs.
- Costs of production inputs are increasing rapidly, especially imported grain and energy, putting a strain on farm operations.
- Given these pressures, some farmers would like to pursue secondary commercial activities on their land, such as feed mills, dog kennels, repair shops, welding, woodworking and other "cottage industries" that may or may not be related to the primary farming operations.

Woodland Resources

About 60 percent of land use in the County is publicly and privately owned forestlands, with most private forestlands owned by private landowners instead of commercial timberland owners. Sawmill production is im-

4 Information provided by phone call to Union County Conservation District, May 2008.

5 Bureau of Economic Analysis. 1995 values were adjusted for inflation to 2005 dollars.

portant to the County economy, and forestlands provide multiple benefits. Bald Eagle State forest is the County's single largest piece of property—providing 64,000 acres of dispersed recreation including popular pastimes of picnicking, hunting and fishing. Penns Creek, for example, is nationally known for its fly-fishing. The forest also has hundreds of miles of trails for hiking, mountain biking, horseback, motorcycle and ATV riding.

The following strengths and issues have been identified for woodland resources:

Strengths

- Forests are important economically. The County's sawmills generated $13 million of economic output and $1.7 million in employment compensation in 2006.
- Forestlands provide multiple environmental benefits,[6] such as wildlife habitat, clean air and water, erosion control and fire suppression.
- Forests also offer a wide range of recreation opportunities that add to the quality of life for residents and attract tourists interested in camping, fishing and hunting.
- Woodlands offer other potential economic benefits, such as alternative biomass energy, and while underutilized today, Union County's forested land could provide renewable and energy-efficient building products in the future.

Issues

- Scattered development within and at the edges of forest resources has divided the County's larger wooded areas into smaller parcels. This fragmentation disrupts proper management of the resource and forest ecosystem and increases recreational impacts.
- Some state forest roads traverse private lands leading to residential demand for maintenance and services on these roads.
- Managing competing public interests for recreational activities is challenging. Conflicts can arise between those who enjoy hiking or mountain biking and those who enjoy dirt bikes and ATVs.
- Forest health is declining for several reasons[7], including unsustainable management practices such as high-grading, pests and diseases—especially of hemlock and ash trees, deer browsing, competing vegetation, and effects on soil chemistry of acid precipitation—that inhibit the growth of native species.[8]

Agricultural and Woodland Resource Goals

The overarching goals for agricultural and woodland resources are to support them economically, keep them healthy, preserve environmental quality and the quality of life for residents of Union County, retain scenic viewsheds along regional highway corridors, and accommodate growth and tourism without threatening natural features such as woodlands, wetlands, stream corridors and steep slopes.

What follows are goals for agricultural and woodland resources and statements about the direction the County could take to sustain these resources over the next 25 years.

Agricultural Resource Goals

- An adequate base of 40,000 acres of productive farmland is preserved to support agriculture in the future.
- Scattered development and conflicts between new neighbors and existing farmers are minimized to sustain quality of life, pastoral landscapes and the

[6] The Forestry Source at http://www.safnet.org/policyandpress/policy/cfm.

[7] In high-grading practices, more valuable species are removed leaving less desirable trees. For more detail see the text box description on page A-40.

[8] USDA Forest Inventory and Analysis Program (FIA), "Pennsylvania – 2007, Forest Health Highlights." According to PA DCNR Bureau of Forestry representatives at October 15, 2007 meeting.

agricultural economy.

- The farm economy is strong, there is adequate agricultural infrastructure and farmers have sufficient support to adapt to changing markets and socio-economic forces.
- Farmers employ conservation practices and sustainable agricultural production to protect and even enhance environmental quality.

Woodland Resource Goals

- Valued private woodland resources are protected from scattered development and fragmentation.
- The County's forests and woodland resources are managed for long-term sustainability and environmental health.
- The quality of the region's water resources, including rivers, streams and groundwater, is improved and protected.

Agricultural and Woodland Resource Strategies

Union County can invest in the future of agriculture in several ways, including increased funding for the PACE program, strengthening zoning and other land use regulations and supporting the business of farming. Since regulatory authority rests at the municipal level, strategies must be employed that engage and have buy in from local officials, especially with regard to zoning and other means to direct incompatible development away from important agricultural and natural resource areas. In addition, there are several ways the County can promote conservation to preserve the integrity of its natural resource systems and protect environmentally sensitive lands from inappropriate uses and impacts.

Agricultural Resource Strategies

The following action strategies provide policy and regulatory direction for the County - often in cooperation with the municipalities - to implement the agricultural and woodland resource goals.

1. Stabilize the agricultural land base with:

- Incentive programs (e.g., PACE and Transfer of Development Rights (TDR);
- Effective agricultural preservation zoning in rural communities with significant agricultural activity that prohibits OR limits non-farm residential development;
- Growth management policies that limit extension of public water and sewer to prevent further expansion into designated agricultural areas to serve new development.

2. Reduce conflicts between agriculture and other land use with:

- Conservation subdivision;
- Buffer requirement;
- Notification requirement, County right-to-farm ordinance;
- Public education materials describing agricultural practices.

3. Support the business of farming by:

- Providing technical and financial assistance to traditional livestock agriculture and developing new markets, processing, packing and distribution infrastructure to take advantage of regional population centers such as Philadelphia, New York and Washington, D.C.
- Encouraging Penn State Cooperative Extension to evaluate opportunities for energy generation on farms, alternative management systems, new products and marketing for dairy, poultry and hogs;
- Creating farm-friendly ordinances to support agricultural infrastructure and traditional agriculture as well

as direct marketing, value-added[9] processing and agritourism;

- Creating distribution chains and reducing barriers to selling Union County milk and farm products to regional school systems.

4. Increase implementation of conservation practices and nutrient management by:

- Working with Extension to receive technical assistance and identify funding to develop regional and/or on-site manure digesters;
- Educating non-farmers about conservation practices currently being used by Union County farmers;
- Educating farmers about alternative livestock production systems;
- Adopting stream buffer requirements and other local measures to protect water resources.

5. Stabilize the Agricultural Land Base

The County PACE program has preserved about 6,000 acres toward its 2010 goal of 10,000 acres. As easement acquisition is expensive, the County could revisit long-term goals, target easement purchases, diversify funding and add tools to its repertoire to meet the program's 2020 goal of 40,000 acres. Tools that would augment the PACE program include accepting donated easements, fee simple acquisition, creating a transfer of development rights (TDR) program and adopting effective agricultural preservation zoning for key farming areas. Specific strategies are outlined below:

a). Fund the PACE program sufficiently ($7 million) to meet short-term (2010) program goals. So far, the program has used a combination of County general fund allocations, federal and state funds, township contributions and a one-time allocation from the Growing Greener II state environmental program. Going forward, it will be important to continue to pursue diversified funding to match the County contribution, especially federal funding, and encouraging townships to contribute a larger share.

The federal Farm and Ranchlands Protection Program (FRPP) provides matching funds for easement acquisitions to eligible entities and is funded at $646 million for the next four years.[10] Townships have additional authority to levy taxes and dedicate funds for PACE. The County could work with key communities to pursue a real-estate transfer tax or sales tax, for example, to create a dedicated farmland preservation fund. At the same time, the County has the authority to float a bond, which given strong public support for farmland preservation, also could be an effective way to substantially increase funding for the program.[11]

b). Create a TDR program. The county's role would be to help local officials designate sending and receiving areas, develop model ordinances and intergovernmental agreements and provide technical assistance to communities as they draft ordinances. The County also could help facilitate transactions between private landowners and developers, for example by maintaining a list of TDR sellers and buyers, buying and auctioning rights (see Warwick Township below), and/or authorizing developers to make payments in lieu of actual transfers.

[9] See "What is Value-added agriculture?" at http://www.agmrc.org/agmrc/business/gettingstarted/valueaddedagriculture.htm

[10] The recently adopted Federal Farm Bill contains more funding than the previous legislation adopted in 2002.

[11] To target funds, the County could be more selective about where and when it purchases easements and potentially refine its ranking criteria to reflect an updated strategy. For example, PACE could be targeted to areas with contiguous blocks of preserved farmland in combination with townships experiencing high development pressure such as Buffalo and East Buffalo, while agricultural protection zoning and TDR could be used in areas with less development pressure (e.g., Hartley Township).

TRANSFER OF DEVELOPMENT RIGHTS (TDR)

A TDR ordinance allows property owners in designated sending areas (e.g., valuable agricultural or woodland resource lands) to transfer development potential to parcels in designated receiving areas (e.g., Growth Areas). Typically, owners purchasing the development rights are allowed to develop at a higher residential density in receiving areas than otherwise would be permitted under existing zoning. Some programs have used TDR to achieve other goals. For example, in Lancaster County, Pennsylvania, officials in Warwick Township created a TDR program that allows development rights to be used in its Campus Industrial Area (permitted uses include medical/dental offices, corporate office space, hotels and motels, catering and food preparation, laboratories and research centers). Each right equals 4,000 square feet of non-residential lot coverage. The program also has an active partnership with the Lancaster Farmland Trust and the County agricultural preservation board. The farmland trust identifies landowners interested in protecting their land and helps complete projects. The Township and County have advanced funds to protect the land and the township holds auctions to sell the severed development rights to the highest bidder. This has effectively created a revolving fund for land protection, and funds from TDR sales have been used to protect additional properties.

The County could designate sending areas in rural communities with important agricultural resources, less development pressure and/or little PACE activity to date (e.g., Hartley, Lewis, West Buffalo and White Deer Townships) that are working to adopt effective agricultural preservation zoning (see below). This strategy would supplement the PACE program by focusing limited funds to areas experiencing the most intense development pressure while providing an incentive for the more rural western communities to strengthen zoning in agricultural areas. If rights are allocated to landowners based on underlying zoning (i.e., what could be done before) the TDR program could address landowners' concerns about a potential loss of equity due to proposed zoning changes.

County planners could work with townships and boroughs to craft receiving area ordinances that encourage development in growth areas and/or support economic development. TDR programs have historically enabled purchasers of development rights to build at higher residential densities in designated receiving areas. The county could limit the application of development rights for residential development to the Primary Growth Areas. The county could also work with the townships to develop receiving area ordinances in Primary and Secondary Growth Areas that allow increases in commercial square footage, increases in lot coverage or impervious surface area.

c). Encourage rural communities with significant agricultural activity to adopt *effective agricultural preservation zoning* (APZ). For the purposes of the plan, effective APZ means either exclusive agricultural zoning that prohibits non-farm residences OR area-based allowance zoning that permits non-farm dwellings as a conditional use not to exceed an overall density of one residence per 50 acres.

Conditions for approval of non-farm residences include siting dwellings on the least productive soils and/or in locations where they would cause the least interference with farming operations and conformance with maximum setbacks from public roads (e.g., 200 feet). This would keep large blocks of important farmland intact. Sending zones for the TDR program could overlay districts subject to

effective agricultural preservation zoning to address landowner concerns about potential equity loss.

Effective APZ ordinances also could:

- Permit by right any and all structures contributing to the production, marketing and storage of agricultural products produced principally on the farm.
- Permit by right rural enterprises/home occupations that are compatible with agriculture and supplement farm income. Definitions should be consistent with the county PACE program's policies related to conducting home occupations/providing services to ensure that agricultural landowners do not unintentionally disqualify themselves from future participation. It also should be consistent with the definition of "rural enterprise" contained in the state's Clean and Green Act to ensure that agricultural landowners remain eligible for differential assessment.
- Treat ag-related businesses that support agricultural activity (e.g., processing facilities and equipment sales and service centers) as a conditional use.
- Prohibit non-farm commercial, industrial and

Table B.1 Proposed Use Restrictions in Effective Agricultural Preservation Zones

Use	Use Allowed	Max. Impervious Coverage	Max. Density	Min. Lot Area	Max. Lot Area
Agriculture	Permitted	10% capped at 10 acres	N/A	25 acres*	N/A
Farm Dwellings	Permitted	20%	N/A	1 acre	2 acres
Single Family Detached**	Not Permitted Or Conditional Use	20%	1 unit/50 ac	1 Acre	2 Acres
Rural Enterprise/ Home Occupations***	Permitted	1% Or 50%	N/A	1 acre	2 acres
Ag-related Businesses	Conditional Use	50%	N/A	1 acre	2 acres
* Twenty-five acres is the recommended minimum. If localities choose to establish a larger minimum, the county would support a minimum lot area as large as 50 acres.					
** Localities could opt to prohibit non-farm residential development or permit as a conditional use. Conditions for approval could include: 1. Siting dwellings on the least productive soils and/or in locations where they would cause the least impact on current agricultural activities and future agricultural viability; and 2. Conformance with a maximum setback from public roads (e.g., 200 feet).					
*** The definition for rural enterprise should be consistent with the county PACE program's policy and the state's definition of a rural enterprise contained in the Clean and Green Act to ensure that agricultural landowners remain eligible for these programs. If the rural enterprise/home occupation is conducted on the farm unit, impervious surface coverage is limited to 1% and capped at 2 acres. If the enterprise is conducted on a separate tract, the maximum lot area is 2 acres and up to 50% may be covered by impervious surfaces.					

public uses that are incompatible with agriculture.

The County could encourage townships to strengthen their agricultural zoning ordinances by offering technical assistance and grants to reimburse local expenses associated with drafting or amending local ordinances. The latter approach was used by Berks County Planning Commission; the county reimbursed local expenses up to $6,000. Penn State Cooperative Extension helped promote the program.

d). Adopt growth management policies that limit extension of public water and sewer to prevent further expansion into designated agricultural areas to serve new development.

2. Reduce conflicts between agriculture and other land use.

Scattered development in rural areas causes fragmentation of agricultural resources and is a key factor contributing to conflicts with neighbors, upward pressures on land prices and taxes, and decreasing profitability for farmers. Conflicts have been exacerbated with the rise of contract arrangements and the increase in confined animal feeding operations (CAFOs) in Union County. Contract arrangements separate livestock and/or poultry production from ownership. The contractor owns the livestock or poultry and engages a farmer to take custody of them, raising and caring for them in the producer's facilities. The farmer is paid for the service provided. Contractors typically furnish production inputs, provide technical assistance and pick up and deliver for slaughter, final processing and marketing. Contractors often sell through their own marketing contracts or other arrangements with packers or processors. Because these arrangements appear to be driving intensification of hog and poultry production in the County and the rise of CAFOs, good neighbor policies are needed to protect both farming operations and neighbors who may not appreciate the odors, dust and flies that can come with them. Also, conservation policies are needed to assure water quality.

Furthermore, while agriculture is a linchpin of the rural economy, business activity unrelated to agriculture exists and is likely to expand in rural Union County. This development may provide commercial and employment opportunities for rural residents, but must be managed to make sure it does not adversely affect agricultural productivity, rural character and resources. As a rule, more intensive employment uses should be located within defined growth areas, while rural employment uses should relate to the agricultural (and woodland) economy and to the needs of rural residents.

The following strategies can reduce the impacts of scattered development, fragmentation of agricultural resources, conflicts with new neighbors — especially as they pertain to contract operations and CAFOs — and rising land values and taxes:

a). Work with townships in strategic agricultural areas to employ exclusive agricultural zoning, limit non-farm uses and ensure that municipal ordinances support agriculture.

b). In transition areas (e.g., between effective APZ and designated growth areas), enact conservation design subdivisions[12] to allow development on smaller lots while maintaining large tracts of open land. This would create a buffer between residential development and agricultural operations. Less intensive agricultural activity could be permitted in these zones. Conservation subdivisions are most effective if open space requirements are mandatory and the open land is protected by a conservation easement.

c). Develop a model buffer ordinance that

[12] For further information, see http://www.dcnr.state.pa.us/growinggreener/growing.pdf.

requires minimum setbacks from farms enrolled in certain agricultural zones and new residential developments. The ordinances could call for a "no-disturb" zone between residential properties and farmland, tied to the subdivision approval process and described in the property deed to alert potential buyers of the need to honor it.

d). Enact ordinances or augment the state's right-to-farm law to make it clear that agriculture is the preferred use in agricultural areas (e.g., ASAs or exclusive agricultural zones). This would inform new neighbors about the consequences of living near agriculture. Limit commercial uses in size and scale to serve rural residents. Larger commercial activities should be located in growth areas and controls placed on expansions of commercial activities in rural areas that are out-of-scale with the rural environment.

e). Allow commercial uses related to agricultural and other rural resources (see Section 3f). Municipalities can use home occupation ordinances to regulate on-farm businesses that do not directly relate to the agricultural use of the land as long as adequate infrastructure is in place or readily available. Impacts to valuable agricultural and natural resources should be avoided or minimized. New development should reflect the scale, form and character of Union County's traditional rural settlement patterns.

f). Require homebuilders to create 200-foot setbacks between new non-farm residences and existing farming operations. Setbacks could also be considered between existing residential development and new structures to house animals. Local officials, however, determined that townships do not have the authority to adopt limits not explicitly outlined in state law. A recent ruling, for example, invalidated a Lewis Township ordinance that established additional setbacks between houses and intensive livestock facilities.

3. Support the Business of Farming

Sustaining farm viability is important to agricultural land use. Increasingly, Union County officials are coming to understand that farmland preservation is intrinsically tied to the economics of agriculture. Economic development opportunities are as important here as in any part of a comprehensive plan. Toward that end, the County can take advantage of resources at Penn State, investigate opportunities for energy production and value-added enterprises, and develop "farm-friendly" local ordinances to support agriculture.

MARYLAND'S FARM SENSE PROGRAM

Farm Sense is a USDA-certified mediation program — a low cost, voluntary and confidential dispute resolution system in which a neutral party assists disputing parties to reach a mutually agreeable solution. The program is funded through matching grants from the USDA Farm Service Agency's (FSA) Agricultural Mediation Program. Farm Sense provides access to mediation to farmers involved in conflicts with other citizens that could affect the profitability of their enterprises, such as a nuisance dispute. Mediation generally resolves disputes faster than traditional litigation. Farm Sense offers farmers a free initial consultation and can partially or in some cases totally waive program fees based on the parties' income.

Elements of an economic development strategy to sustain agriculture include:

a). Increase funding for farmland preservation as an investment in agricultural infrastructure.

b). Freeze property taxes on preserved farms. (This would be up to school districts and townships as well as the County.) Cost of Community Services studies in Pennsylvania have clearly demonstrated that even with reduced assessed value, agricultural properties contribute a surplus of revenue to pay

Contract Farming and its Implications: Hogs, a case in point

Across the country, livestock production has consolidated considerably as fewer and larger farms account for an increasing share of total output. For example, from 1992 to 2004 the number of farms with hogs dropped over 70 percent while the total U.S. hog inventory remained stable at about 60 million head. At the same time, the average size of these operations grew from 945 to 4,646 head! In the past, farrow-to-finish operations managed all phases of hog production from breeding to slaughter. Today, these mostly have been replaced by large operations that specialize in only one phase of the process.

These changes have been aided by the growth of production contracts. While contracts are most common in the poultry industry, they are becoming standard in other livestock operations. For example, production contracts with hog operations grew from 5 percent 1992 to 67 percent in 2004. Production contracts control the relationship between hog growers and owners ("contractors," "integrators," sometimes "processors"), specifying the inputs provided by each party and their compensation. These changes are evident in Union County, as well. In these arrangements, typically the contractor provides feeder pigs (or other young poultry or livestock), feed and other inputs to the producer (or grower) who agrees to specific production methods and delivery schedule. The producer is paid according to a formula established in the contract, which is typically tied to the performance of the animals. Since the contractors also handle the marketing, these arrangements drive growers to specialize in one phase of production

The potential advantages for producers include a guaranteed market, more stable income, technical advice, managerial expertise and access to technological advances provided by the contractor. Also, growers can increase the volume of their production with limited capital since the contractor generally supplies the production inputs. Perhaps this explains why U.S. hog production as a share of total production increased from 46 to 71 percent between 1992 and 2004, while overall these operations produced a much smaller share of their own feed. *(Sources: Amber Waves, USDA, ERS, April 2008, Agricultural Production Contracts, University of Minnesota Extension, St. Cloud, MN, 2008).*

for public services such as schools. Under Pennsylvania's Act 4, if all three entities approve, school districts, counties and municipalities can freeze property tax millage rates on preserved agricultural properties, which can offset the economic burden of increasing property taxes.

c). Support and enhance traditional livestock agriculture with technical and financial assistance from institutions such as Cooperative Extension and Farm Credit, and by developing processing, packing, marketing and distribution infrastructure to take advantage of regional markets such as Philadelphia, New York and Washington, D.C.

d). Bring in experts from around the region to advise farmers on how to take advantage of opportunities for energy production, such as methane power on diary farms. For example, using on-farm methane digesters, Blue Spruce Farm in Bridgeport, Vermont, is expected to produce 1.7 million kilowatt hours of energy per year from the manure of 1,500 cows — enough to supply 300 homes with electricity for one year. Other potential opportunities include bio-fuels and small-scale wind or solar power for use by the farming operation.

e). Work with stakeholders to evaluate opportunities and develop infrastructure to convert manure

into a marketable product. For example, Perdue's Agricycle facility in Laurel, Delaware, annually converts 60,000 to 80,000 tons of chicken manure to a natural fertilizer pellet that is sold to small farmers, gardeners and landscapers.

f). Permit and encourage on-farm businesses that are related to the agricultural industry (e.g., farm stands, methane generation or composting, agricultural support businesses) through local regulations, with provisions to limit impact on productive farmland.

g). Regulate on-farm businesses that do not relate to the agricultural use of the land as an accessory use that is clearly subordinate to the primary agricultural use with performance standards including:

- Locate new buildings so they do not interfere with agricultural operations or impede expansion of agricultural uses.
- Ensure the business is of a nature, intensity, scope, size, appearance and type that conforms to existing agricultural structures and that the use is subordinate to the agricultural operation based on the proportion of land and structures used by the business to those of the farm.
- Regulate the business with home occupation ordinances that restrict activities to those conducted primarily by persons who reside on the farm, members of the farm family or farm employees;
- Set limits on proposed uses so they do not become so much more valuable than existing operations as to hinder subsequent sale of the farm to a bona fide farmer.

h). Work with Penn State to evaluate alternative management systems and marketing of dairy, livestock and poultry and to promote low-risk, profitable alternative business models and technology transfer.

i). Measure the economic impact of the Plain Sect, engage them in economic development activities and support their needs.

j). Create ordinances to support agricultural infrastructure, value-added processing and direct marketing of dairy, meat and poultry as well as fruit and vegetables through on-farm retail, farmers' markets and Community Supported Agriculture.

k). Develop distribution routes and encourage adoption of model food service contracts that support the purchase of Union County milk and other farm products by regional schools and other institutions.

4. Encourage Sound Stewardship of Agricultural Land

Nutrient management is heavily regulated to prevent water pollution in Pennsylvania. The 2006 Nutrient Management Act (Act 38)[13] spells out the types of activities that are regulated, such as high-density farms that "have more than 2,000 lbs of live animal weight per acre of land where manure is applied" and "over 8,000 lbs of animals on the operation." Still, because of the predominance of livestock production and Union County's location in the Chesapeake Bay watershed, nutrient management is an issue of public concern.

The County has an active Conservation District with the expertise and capacity to address environmental issues, especially with federal cost-share programs. However, approximately 70 percent of the County's farmers are members of the Plain Sect who often do not participate in these programs. Most of them are livestock farmers. Thus, there are potential "hot spots," which are challenging to address in traditional ways. Strategies could include:

[13] The Pennsylvania Department of Environmental Protection enforces the provisions of Act 38.

a). Support Conservation District technical assistance and conservation planning. Members of the Plain Sect often will receive technical assistance to help them adopt nutrient management and other conservation practices even when they do not accept federal funding.

b). Expand the Conservation District's program of renting equipment to farmers to implement recommended conservation practices. (It already owns a manure spreader and no-till drill that it rents to farmers.)

c). Hire experts to evaluate the development of regional or on-site manure digesters to produce energy, reduce odors and protect water quality.[14]

d). Educate the public about conservation practices and water quality. A theme among Union County farmers and farm leaders is the need to educate the general public and elected officials about agricultural issues. This is especially true for understanding management of large livestock operations. The County could work with the Conservation District to educate the public about nutrient management issues and describe conservation practices being used by Union County producers. Information could be distributed with property tax bills and made available at township and county offices.

e). Educate producers about alternate livestock production systems. Demand for organic, free-range, non-confinement and grass-fed meat and poultry continues to grow along the Northeast corridor, and Union County farmers are well located to supply this demand. Since these production systems typically have less potential to degrade water quality, the County could work with Pennsylvania State University Extension and the Conservation District to coordinate workshops featuring livestock producers from other counties, states or even countries who are using sustainable practices.

f). County Officials can work with the Conservation District to define performance measures to protect surface and groundwater, including ending the practice of winter spreading of manure on fields, fencing animals out of streams, and reducing the leaching of nutrients from field tile drainage outlets.

g). Municipalities should consider adopting consistent stream buffer and setback requirements from adjacent properties for contract operations and confined animal feeding operations. These should not exceed the state Nutrient Management Act standards. Careful siting of animal facilities and performance standards would achieve desired environmental outcomes without severely limiting farmers' opportunities to expand their operations and develop new ones.

Woodland Resource Strategies

Union County can maintain the environmental and economic health of its forests in several ways. These include regulating residential development, educating landowners and continuing to support ongoing efforts that promote sustainable forestry practices and watershed management. The following action strategies provide policy and regulatory direction for the woodland resource goals:

1. Identify and preserve the best woodlands.

2. Undertake programs and policies that improve the economic and environmental health of private woodland.

3. Emphasize the contribution of forestlands in natural resource inventories and as part of county green infrastructure.

[14] Central Vermont Public Service Corporation (CVPS)—a private utility company—worked with state officials to develop the "Cow Power" program. CVPS ratepayers sign up for an incremental increase per kilowatt hour, which is paid to participating farmers. Farmers also receive 95 percent of the market price of the excess energy they produce. According to CVPS, this provides a significant revenue stream for farmers while lowering their energy costs.

1. Identify and preserve the best woodland resource areas.

a). Consider woodland values when using transfer of development rights (see earlier description of TDRs).

b). Maintain and strengthen effective conservation zoning in natural resource areas.

c). Enact conservation design development options to allow development on smaller lots while maintaining large tracts of open space. In transition areas (e.g., outside of designated growth areas), enact conservation design subdivisions[15] to allow development on smaller lots while maintaining large tracts of open land including significant features such as mature woodlands. An effective conservation design program that protects natural resources includes mapping existing and potential conservation lands and including them in detailed site plans and analysis of special features during subdivision review.

2. Undertake programs and policies that improve the environmental and economic health of forestland.

a). Establish a Cooperative of Woodland Owners. Private woodland owners can come together to form a marketing cooperative that adds value to locally grown forest products and tap into niche markets.[16] A cooperative can start small and build slowly on the basis of successful demonstration projects. Activities of the cooperative might be guided by the following principles:

- Undertake forestry activities based on sound concepts of responsible harvesting and management.
- Market products jointly through local buyers and use local suppliers, operators and services whenever possible.
- Operate as a commercial enterprise, seeking to generate profits for its members so that they can afford to be good stewards of the land.
- Develop collaborative relationships with other groups that have similar interests in sustainable forestry.

b). Undertake a forest certification process for private woodland owners. Forest woodland owners can improve the market value of harvests by having their operation certified. Certified forests are managed in an environmentally responsible manner for long-term sustainability. Certification uses an independent scientific review process that determines if an operation maintains a healthy forest ecosystem. Financial and socioeconomic considerations are also scrutinized during the process. Pennsylvania has over 2 million acres of certified forestland, the largest tract of certified forest in North America.

3. Emphasize the contribution of forestlands in natural resource systems and as part of County green infrastructure.

a). Continue support for watershed management plans[17] to restore and improve the water quality of the region's watersheds.

b). Integrate forestlands into a countywide green infrastructure plan.

[15] For further information, see http://www.dcnr.state.pa.us/growinggreener/growing.pdf

[16] For example, see the Massachusetts Woodland Cooperative at www.masswoodlands.coop

[17] For example, the Buffalo Creek Watershed Alliance completed a watershed management plan for the Buffalo Creek Watershed and used its findings to obtain funding from the Pennsylvania Department of Environmental Protection and the United States Environmental Protection Agency to address non-point source pollution in subwatersheds that have been designated impaired due to agricultural impacts.

HIGH-GRADING

There is concern among all sectors of the forestry community that high-grading—the harvesting of only those trees that will give the highest immediate economic return—may lead to a widespread decline in forest resource quality. Two practices, diameter-limit cutting and selective cutting, generally fall into this category. In diameter-limit cutting, all saleable trees above a certain diameter are harvested. Selective cutting usually removes the largest, most valuable trees and may leave large-diameter, poor-quality, low-value trees. In each case, most of the trees that remain after the harvest are genetically inferior or physically defective. Neither method gives any thought to the composition of the future forest. In even-aged forests such as those in Pennsylvania, smaller diameter trees are not necessarily younger trees. It is more probable that these smaller trees are:

1. slow-growing species of the same ages as different, fast-growing species;

2. the same species of the same age but growing on an inferior microsite; or

3. the same species of the same age but genetically inferior to their larger-diameter counterparts.

Because slower-growing and poor-quality trees are retained, high-grading diminishes the diversity and economic value of the future forest. Landowners may agree to high-grading because of a lack of knowledge about the practice and its undesirable consequences. High-grading also can be driven by short-term economic considerations. Immediate cash flow may be higher with high-grading, but potential environmental degradation and decreased future timber values will more than cancel the immediate cash advantage.

Stewardship requires that landowners consider the future consequences of high-grading when making a decision whether or not to accept the use of the practice on their land. Resource professionals and harvesters also have an obligation to look beyond the present when recommending forest management practices to landowners.

C. Transportation Technical Information

Technical Transportation Information

Existing Traffic Volumes. As part of this Comprehensive Plan, 20 study intersections were selected for evaluation of traffic operations. These intersections were selected based on existing traffic patterns, field observations of current traffic conditions, and discussions with County officials, stakeholders, etc. The selected intersections reflect those in the County which need additional capacity under existing conditions, or are anticipated to require capacity improvements in the future with expected traffic growth. Manual turning movement traffic counts were completed in April 2008 at 15 of the 20 study intersections during the weekday morning peak period from 7:00 AM to 9:00 AM, and during weekday afternoon peak period from 4:00 PM to 6:00 PM, in order to evaluate traffic operations at these intersections during the peak commuter periods. Additionally, recent traffic counts for the same weekday peak time periods were gathered from other sources for the other five study intersections. The four highest consecutive 15-minute peak intervals during these traffic count periods constitute the peak hours that are the basis of the traffic operations analysis. The study intersections are listed below, followed by the count date and the source for the data.

Study Intersections

1. **U.S. Route 15 & Colonel John Kelly Road (S.R. 1002)** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
2. **Colonel John Kelly Road (S.R. 1002) and JPM Road** *(May 22, 2001 by Herbert, Rowland & Grubic for the Kelly Township Comprehensive Traffic Study prepared October 2001)*
3. **U.S. Route 15 & Hospital Drive (S.R. 1005)/River Road** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
4. **Hospital Drive (S.R. 1005) and JPM Road** *(April 17, 2008 McMahon Associates, Inc. for UCPC)*
5. **U.S. Route 15 & William Penn Drive** *(March 27, 2008 by McMahon Associates, Inc. for the PennDOT U.S. Route 15/4th Street Study)*
6. **JPM Road and William Penn Drive** *(April 17, 2008 McMahon Associates, Inc. for UCPC)*
7. **William Penn Drive and Airport Road** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
8. **PA Route 192 and Airport Road** *(April 17, 2008 McMahon Associates, Inc. for UCPC)*
9. **PA Route 192 and Fairground Road (S.R. 2007)** *(April 17, 2008 McMahon Associates, Inc. for UCPC)*
10. **U.S. Route 15 and Buffalo Road (PA Route 192)** *(March 27, 2008 by McMahon Associates, Inc. for the PennDOT U.S. Route 15/4th Street Study)*
11. **PA Route 45 and Fairground Road (S.R. 2007)** *(April 17, 2008McMahon Associates, Inc. for UCPC)*
12. **U.S. Route 15 and Market Street (PA Route 45)** *(March 27, 2008 by McMahon Associates, Inc. for the PennDOT U.S. Route 15/4th Street Study)*
13. **Market Street (PA Route 45) and 7th Street** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
14. **Market Street (PA Route 45) and 4th Street** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
15. **U.S. Route 15 and River Road/Beagle Club Road** *(October 22, 2002 by Traffic Planning and Design, Inc. for the Traffic Impact Study for the Proposed Giant Foodstore/Retail Center prepared April 8, 2003)*
16. **U.S. Route 15 and PA Route 304** *(April 16, 2008 McMahon Associates, Inc. for UCPC)*
17. **Chestnut Street (PA Route 45) and Meadow Green Drive/Mable Street** *(April 16, 2008 McMahon Associates, Inc. for UCPC)*
18. **Chestnut Street (PA Route 45) and Forest Hill Road (S.R. 3007)** *(April 16, 2008 McMahon Associates, Inc. for UCPC)*
19. **Chestnut Street (PA Route 45) and 4th Street (PA Route 304)** *(April 15, 2008 McMahon Associates, Inc. for UCPC)*
20. **Chestnut Street (PA Route 45) and 10th Street (PA Route 104)** *(April 16, 2008 McMahon Associates, Inc. for UCPC)*

Additionally as part of this study, daily traffic volumes were collected along ten roadway segments throughout the County. Extensive recent daily traffic volume information is also available from PennDOT, as illustrated in the Transportation Figures.

Roadway Segments

1. PA Route 304 west of U.S. Route 15
2. River Road east of U.S. Route 15 and south of Lewisburg Borough
3. Fairground Road between PA Route 45 and PA Route 192
4. William Penn Drive west of U.S. Route 15
5. JPM Road between William Penn Drive and Hospital Drive (S.R. 1005)
6. Hospital Drive (S.R. 1005) west of U.S. Route 15
7. River Road east of U.S. Route 15 and north of Lewisburg Borough
8. Colonel John Kelly Road (S.R. 1002) west of U.S. Route 15
9. Broad Street/Crossroads Drive west of U.S. Route 15
10. Old Route 15 north of New Columbia Road

Existing Traffic Conditions. The existing peak hour traffic volumes were analyzed to determine the existing operating conditions in accordance with standard techniques contained in the *Highway Capacity Manual* (2000). Generally, levels of service (LOS) A through D are considered acceptable operating conditions, while LOS E represents conditions approaching capacity and LOS F indicates that traffic volumes have exceeded available capacity. The results of the existing capacity/level-of-service analysis at the 20 study intersections and 10 roadway segments are as follows:

Intersection Capacity. Since traffic volumes do not fully describe traffic conditions or the capacity of the facility to accommodate traffic, operational deficiencies are also analyzed by comparing traffic volumes to the designated capacity of the roadway network. This volume to capacity (v/c) analysis, or the ratio of peak hour traffic volume to roadway/intersection capacity, is an indicator of congestion resulting in a reduction in vehicle speed or an increase in travel delay. Capacities are based on the maximum number of vehicles that can reasonably be expected to pass through a given segment of intersection under normal conditions. Control delay also provides a measure of traffic operation at intersections, which is expressed in terms of seconds of delay per vehicle per lane group and then in terms of levels of service. The standard breakdown of control delay and levels of service are depicted in Tables C.1 and C.2 for unsignalized and signalized intersections.

Level of Service. Level of service is a benchmark that traffic engineers use to describe how well a road or intersection handles traffic. LOS A indicates a road with little or no delay. LOS E indicates there are periods of delay resulting in traffic conditions that are near capacity, and LOS F (a "failing" grade) indicates a road with delay resulting in traffic conditions that are over capacity.

- 17 intersections operate at acceptable LOS D or better conditions for all movements during the weekday morning peak hour
- 13 intersections operate at acceptable LOS D or better conditions for all movements during the weekday afternoon peak hour
- Seven intersections operate with delay (LOS E and F) conditions on one or more movements during the weekday morning and/or weekday afternoon peak hours:
  - » U.S. Route 15 and Market Street (PA Route 45) *(Signalized)* (AM & PM)
  - » U.S. Route 15 and Buffalo Road (PA Route 192) *(Signalized)* (AM & PM)
  - » U.S. Route 15 and Colonel John Kelly Road (S.R. 1002) *(Unsignalized)* (AM & PM)
  - » U.S. Route 15 and River Road/Beagle Club Road *(Unsignalized)* (PM only)
  - » U.S. Route 15 and William Penn Drive *(Signalized)* (PM only)

Table C.1 Unsignalized Intersection Levels of Service

Level of Service	Description	Control Delay Per Vehicle (seconds)
A	Little or no delay	< 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Demand exceeds capacity of the lane or approach	> 50.0

Table C.2 Signalized Intersection Levels of Service

Level of Service	Description	Control Delay Per Vehicle (seconds)
A	Very low delay, high quality flow	< 10.0
B	Low delay, good traffic flow	10.1 to 20.0
C	Average delay, stable traffic flow	20.1 to 35.0
D	Longer delay, approach capacity flow	35.1 to 55.0
E	Limit of acceptable delay, capacity flow	55.1 to 80.0
F	Unacceptable delay, forced flow	> 80.0

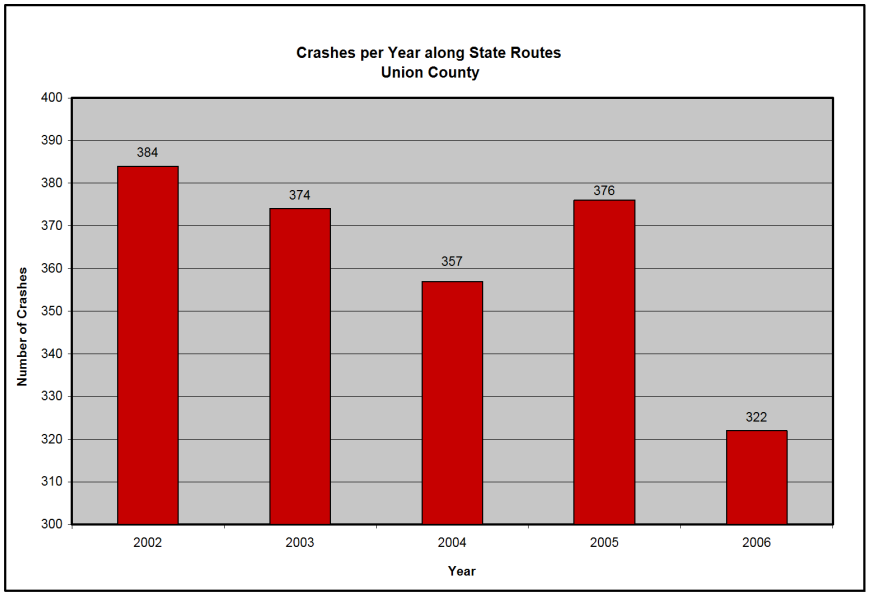
  - » U.S. Route 15 and Hospital Drive (S.R. 1005)/River Road *(Signalized)* (PM only)
  - » Buffalo Road (PA Route 192) and Airport Road *(Unsignalized)* (PM only)
- All 10 roadway segments operate at LOS B or better during the weekday morning and weekday afternoon peak hours

County Planning Advisory Team Meeting. At the County and Multi-Municipal Planning Advisory Team meetings and through public participation, feedback was obtained regarding transportation issues. Local transportation concerns in Union County include the need to safely accommodate non-motorized modes of travel, including horse and buggy, bicycles, and pedestrians (both walking and running). With increasing motorized traffic volumes, wider shoulders are needed, particularly along the routes with concentrated non-motorized users, such as the heavy horse and buggy traffic along PA Route 45, Dreisbach Church Road, and Furnace Road. Pedestrian traffic along JPM Road was also noted. Sidewalks are only provided along a portion of this roadway, which is utilized by local residents for walking. Another roadway that was mentioned as a concern was Stein Lane in East Buffalo Township which is used heavily for walking and running. Additionally, there is interest in creating a public transportation

system available for all users. Vehicular crashes are also of concern throughout the County, and it is important to put the crash data into perspective. Although the overall number of crashes may be lower on low volume rural roads versus urban streets, the crash rate could be higher.

Specific intersections of concern include PA Route 45 with Mable Street/Meadow Green Drive, located on the eastern side of Mifflinburg. Under existing conditions, residents noted that queuing occurs along PA Route 45 eastbound during the weekday morning peak hour and westbound during the weekday afternoon peak hour, and coordination of the area traffic signals may improve this condition. The intersection serves as the primary access for several developments, including Weis Supermarket, Sheetz, and the Mifflinburg Area Schools. Alternate access could be provided to the schools via Furnace Road or Grove Road, which may help to better distribute traffic. It was also noted that a center left-turn lane is needed along PA Route 45 from Mable Street through Buffalo Creek Road to facilitate driveway turning movements, and it It was noted that a PA Route 45 bypass was previously considered to the north of Mifflinburg to alleviate traffic through the Borough.

Crash History. Crash data was obtained from PennDOT for all State routes within Union County for the most recent five years available, from January 2002 through December 2006. PennDOT retains records of all reportable crashes occurring along State roadways. A reportable crash involves either personal injury or requires a vehicle to be towed from the scene. Overall, approximately 1,813 incidents were reported throughout the County during this time period. A sampling of the notable intersection crash history is provided in Table 3. In general, the majority of the incidents involved angle and rear-end collisions, which are common at intersections. A sampling of the roadway segment crash history is provided in Table C.4. The pedestrian incidents that are noted in the tables occurred at locations where pedestrian facilities are currently lacking. Based on the review of the crash data, a high occurrence of incidents were reported along Forest Hill Road north of Mifflinburg Borough, a relatively low-volume roadway, involving fixed objects along the roadside. Poor geometry and motorist behavior, such as traveling above the posted speed limit, contributed to these incidents. PennDOT is completing a safety study at the intersection of U.S. Route 15 and 4th Street, as well as the surrounding area. The goal of the study is to evaluate improvement alternatives to address safety and capacity issues at the intersection.



Existing Geometric Deficiencies. Geometric deficiencies are of concern along roadways within the County, in both urban and rural locations. Narrow cartways, skewed intersections, restricted sight distance, or other geometric (horizontal/vertical alignment) conditions, including sharp curves and steep grades, are typical deficient conditions along Union County roadways. Along many of the rural roadways there is a lack of adequate shoulders to accommodate non-motorized travel, such as bicycles and horse and buggy. The most heavily traveled rural routes for these non-motorized travel methods are Forest Hill Road, Dreisbach Church Road, Buffalo Road (PA Route 192), PA Route 45, and PA Route 304. Based on field observations throughout the County, several intersections and road segments have been identified as possessing deficiencies such as those described above. These locations are illustrated on the Existing Roadway Deficiency Map, with specific attention to those intersections identified as providing limited sight distance. These areas certainly do not constitute all the deficient locations throughout the County, but illustrate a sampling and represent those which are located in more heavily traveled areas. Many of these deficiencies have been identified through previous studies and reports. A list of sources is provided at the end of this appendix.

Table C.3 Sampling of Notable Intersection Crash History (2002 through 2006)

Intersection	No. of Incidents	Trends/Notes
U.S. Route 15 & PA Route 304	13	Angle incidents
U.S. Route 15 & Furnace Road	12	Angle incidents with some hit fixed object and rear-end collisions
U.S. Route 15 & River Road/Beagle Club Road	7	Angle incidents with one pedestrian collision
U.S. Route 15 & Smoketown Rd/Moore Ave	9	Rear-end collisions
U.S. Route 15 & PA Route 45	9	Mix of hit fixed object, angle, and rear-end collisions
U.S. Route 15 & PA Route 192	18	Angle incidents
U.S. Route 15 & 4th Street	10	Angle incidents with one pedestrian collision
U.S. Route 15 & William Penn Drive	10	Even mix of angle and rear-end collisions
U.S. Route 15 & Interstate 80	21	Even mix of hit fixed object, angle, and unknown incidents
Colonel John Kelly Road & JPM Road	9	Angle collisions
PA Route 45 & Fairfield Road	11	Angle and rear-end collisions
PA Route 45 & Dreisbach Church Road	10	Hit fixed object and angle incidents

Table C.4 Sampling of Notable Roadway Segment Crash History (2002 through 2006)

Intersection	No. of Incidents	Trends/Notes
U.S. Route 15		
South of PA Route 304	28	1/3 hit fixed object, 1/5 angle incidents, and 1/5 rear-end collisions
PA Route 304 to Furnace Rd	14	Even mix of hit fixed object and rear-end collisions
Furnace Rd to River Road/Beagle Club Rd	16	Even mix of hit fixed object and rear-end collisions
River Road/Beagle Club Road to Smoketown Rd/Moore Ave	11	Even mix of hit fixed object, angle, and rear-end collisions
Smoketown Rd/Moore Avenue to PA Route 45	11	Rear-end collisions
PA Route 45 to PA Route 192	21	1/2 rear-end,1/4 angle, and 1/7 hit fixed object collisions
4th Street to William Penn Dr	7	Rear-end collisions
Russle Rd to Bartlow Rd	11	Even mix of angle and rear-end collisions
Forest Hill Road		
Red Bank Road to PA Route 192	14	1) Hit fixed object (4 guiderail, 3 utility pole, 3 mailboxes, 1 tree, 1 fence/wall, 1 ditch) with one pedestrian collision 2) Most incidents resulted from driver error (3 over/under compensating for curve, 6 too fast for conditions, 1 driver distracted)

Pennsylvania Department of Transportation Perspective. A meeting was conducted in March 2008 with local PennDOT personnel to discuss the Department's perspective on transportation within Union County, and specifically the State roadway system for which PennDOT is responsible. The following information was discussed:

- With the closing of the Eastern Industries quarry along PA Route 304, and with the opening of the quarry along PA Route 192, the truck traffic patterns have changed significantly. The additional truck traffic along PA Route 192 has caused deterioration in the pavement, and PennDOT plans to pave the roadway from Quarry Road to the east into Lewisburg.
- Due to the increase in truck traffic along PA Route 192, the detector loops for the traffic signal at Fairground Road have been damaged. The Department is considering using video detection to avoid this problem in the future.
- At the intersection of U.S. Route 15 and PA Route 192, traffic is delayed heavily during the weekday afternoon peak period. There is significant traffic volumes traveling eastbound along PA Route 192 to northbound U.S. Route 15. The traffic signal does not provide a left-turn advance phase for this movement, and therefore, vehicles within the PA Route 192 eastbound left-turn lane will queue through the available storage and block the eastbound PA Route 192 through and right-turn traffic. This results in extensive backups along the PA Route 192 corridor west of Lewisburg.
- The Department has studied the intersection of U.S. Route 15 and Colonel John Kelly Road since crashes resulting in fatalities have occurred within the past ten years, and has considered closing the intersection.
- The intersections of Colonel John Kelly Road with Hospital Drive experience crashes due to limited sight distance.
- High travel speeds occur along JPM Road, Crossroads Drive and Colonel John Kelly Road.
- PennDOT provided bypass lanes along westbound PA Route 45 within the past few years at unsignalized intersections where separate left-turn lanes did not exist, including at the intersection of Dreisbach Church Road. This was a relatively low-cost improvement, as no additional right-of-way was needed.
- Based on the recent *Smart Transportation Guidebook*, developed by the New Jersey and Pennsylvania DOTs, It is PennDOT's policy to provide the widest shoulders reasonable, based on right-of-way and environmental constraints and where supported by a transportation or socio-economic need.

In addition, several maintenance, paving, and bridge replacement projects are also ongoing along State roadways throughout the County as part of the Department's regular maintenance schedule.

Known Traffic Improvement Projects. The following developments and/or projects will result in the recommendation of traffic improvements to the transportation network within Union County:

Great Stream Commons. Phase 1 of the site, anticipated to include 1.66 million square feet of distribution warehouse, is proposed to open in approximately 2011 or 2012. Based on the *Traffic Impact Study for Great Stream Commons Industrial Park*, prepared by Grove Miller Engineering, Inc. and dated June 2008, future construction phases associated with this site will require traffic improvements and are recommended at the intersection of U.S. Route 15 and PA Route 44, located in Gregg Township. With future development of this site beyond Phase 1, it is recommended to provide a second through lane in both the northbound and southbound directions along U.S. Route 15, provide a separate

westbound PA Route 44 right-turn lane, and modify the traffic signal timings.

U.S. Route 15 Safety Study. PennDOT is completing a safety study of the intersection of U.S. Route 15 and 4th Street, as well as the immediate surrounding area, in Lewisburg Borough. The goal of the study is to evaluate improvement alternatives to address safety and capacity issues at the intersection. This study is currently ongoing, and it is anticipated to be completed in 2009.

Bucknell University Campus Entrance. Herbert, Rowland & Grubic, Inc. is currently completing a feasibility study of the Bucknell University campus entrance at U.S. Route 15 and Smoketown Road/Moore Avenue in East Buffalo Township. The purpose of the study is to evaluate improvement alternatives to increase safety, improve traffic operations, enhance pedestrian mobility, and create gateway entrance to the University.

Traffic Impacts Due to Growth & Preservation Framework. In order to evaluate traffic conditions in the future, the existing peak hour traffic volumes described previously were projected to a future year of 2030 utilizing the growth and preservation framework, as described in Chapter 6. Based on the growth and preservation framework, the following annual growth rates were applied to the existing (2008) peak hour traffic volumes for 22 years, resulting in future 2030 peak hour traffic volumes:

- Lewisburg & Winfield Growth Areas: 1 percent per year
- Mifflinburg Growth Area: 2 percent per year

The future 2030 peak hour traffic volumes were analyzed to determine the future operating conditions. Delay will increase in the future, particularly in the primary growth areas, including key intersections along the U.S. Route 15, PA Route 45, and PA Route 192 corridors. The traffic demands along U.S. Route 15 will cause further delays along the major intersecting streets of Market Street (PA Route 45) and Buffalo Road (PA Route 192). Due to traffic congestion along U.S. Route 15, motorists are currently and will continue using alternate cut-through routes, which are designed to serve local and residential traffic. These routes include roadways along the west side of U.S. Route 15 north of Lewisburg (PA Route 192 to Airport Road to William Penn Drive to JPM Road to Hospital Drive or Colonel John Kelly Road to U.S. Route 15), as well as River Road on the east side of U.S. Route 15. Heavy truck traffic along Buffalo Road (PA Route 192) west of Lewisburg, mainly from quarry operations, will continue to cause deterioration of pavement conditions and traffic operations, adding to congestion along the corridor. Based on the results of the future capacity/level-of-service analyses at the 20 study intersections, many of the intersections operate over capacity with delay (LOS E and F conditions), and therefore, the following specific roadway improvements are recommended to address motorized traffic operations:

Lewisburg Area

- Install a traffic signal at the intersection of U.S Route 15 and Beagle Club Road/River Road.
- Consider the installation of single-lane roundabouts at the intersections of PA Route 192/Airport Road, JPM Road, Hospital Drive and William Penn Drive/Airport Road to address both traffic operations and to reduce vehicular speeds.
- If a single-lane roundabout can not be implemented, consider all-way stop control at the intersection of William Penn Drive and Airport Road.
- Optimize the traffic signal timings at the intersections of U.S. Route 15 with PA Route 304, PA Route 192, and Hospital Drive/River Road, as well as the intersection of PA Route 192 and Fairground Road.

- At the intersection of U.S. Route 15 and PA Route 45, additional left-turn capacity is needed on the eastbound and westbound PA Route 45 approaches. At minimum, the existing PA Route 45 left-turn lanes should be lengthened to reduce left-turning vehicles blocking the through lanes. However, ultimately dual left-turn lanes are needed on both PA Route 45 approaches in order to provide adequate capacity for left-turning vehicles in the future.
- Provide separate right-turn lanes on the northbound U.S. Route 15 approach and both PA Route 45 approaches.
- At the intersection of U.S. Route 15 and PA Route 192, advanced left-turn signal phasing should be added to the eastbound and westbound PA Route 192 approaches to alleviate PA Route 192 left-turning vehicles from blocking the PA Route 192 through traffic.

Mifflinburg Area

- Modify the traffic signal phasing at the intersection of PA Route 45 and Meadow Green Drive/Mable Street to provide an advanced phase for the southbound Meadow Green Drive approach. Additionally, provide a separate eastbound PA Route 45 right-turn lane.
- Optimize the traffic signal timings at the intersection of PA Route 45 and Forest Hill Road. There is a need to provide a separate eastbound PA Route 45 left-turn lane to prevent left-turning vehicles from blocking the through lane; however, in this downtown area buildings and sidewalks constrict widening of the roadway. Additionally, provide storage for the southbound Forest Hill Road left-turn lane.
- Construct a single-lane roundabout at the intersection of PA Route 45 and 10th Street, or install a traffic signal.

Parking in Downtown Areas. Parking utilization data was provided by both Lewisburg and Mifflinburg Borough officials. An inventory of the available parking spaces in Mifflinburg was completed in May 2006, as illustrated in Table C.6. In the downtown business district of Mifflinburg Borough along Chestnut Street (PA Route 45), between 3rd Street and 5th Street within one block to the north and south, there are currently 167 parking spaces available for public use. Based on the survey that was completed in 2006, the available parking is underutilized; however, the current parking is poorly signed and much of it is located off the main Chestnut Street (PA Route 45) corridor behind various buildings.

An inventory of the available parking spaces and utilization in the Borough of Lewisburg was completed and published in the *Initial Parking Report*, dated January 2008 and prepared by the Parking Task Group of the Lewisburg Downtown Partnership, as summarized in Tables C.7 and C.8. In the downtown core area along Market Street (PA Route 45), between 7th Street and Front Street within one block to the north (St. John Street) and one block to the south (St. Louis Street), there are currently 349 on-street and 213 lot parking spaces available for public use. In this same area, there are approximately 382 private spaces available for businesses and residential use. Based on a survey of the Market Street (PA Route 45) businesses as part of the parking report, it was determined that there are currently 340 full-time and 283 part-time employees within this downtown core area. Nearly half of these employees, about 41 percent, utilize the free parking lots, while the other half uses private parking spaces and free on-street parking spaces equally. Parking meter receipts were also noted for the past four years, from 2001 through 2007. The meter receipts increased by 8.2% and 35.2% from 2004 to 2005 and from 2005 to 2006, respectively. The increase from 2005 to 2006 was greatly influenced by an increased parking meter rate. From 2006 to 2007, the meter receipts decreased by 1.0%, which could indicate (1) that the metered parking spaces are at or reaching full capacity, or (2) that other spaces are being utilized in lieu of the metered spaces. Further evaluation

of the parking data is needed.

In addition to the downtown core area, the parking report included data regarding the Union County Courthouse which has a significant influence on parking. The courthouse staff includes 109 full-time employees and 11 part-time employees. There are 76 lot parking spaces and 38 free on-street parking spaces in the vicinity of the courthouse. The employees could be accommodated within these existing spaces; however, since usage of the spaces is not enforced, it is utilized by residents overnight and by Market Street (PA Route 45) businesses during the day. In addition to employees, parking usage at the courthouse reaches a maximum during jury selection, which occurs on Monday and Tuesday four times annually for 125 to 150 people. On Monday, the potential jurors are given placards to park around the courthouse since this is the time scheduled for street sweeping when parking is prohibited. On Tuesdays, the potential jurors vie for parking spaces with the employees. The parking report indicated that construction of the new Government Center has helped to improve parking conditions around the courthouse.

Table C.6 Inventory of Parking Spaces – Mifflinburg Borough

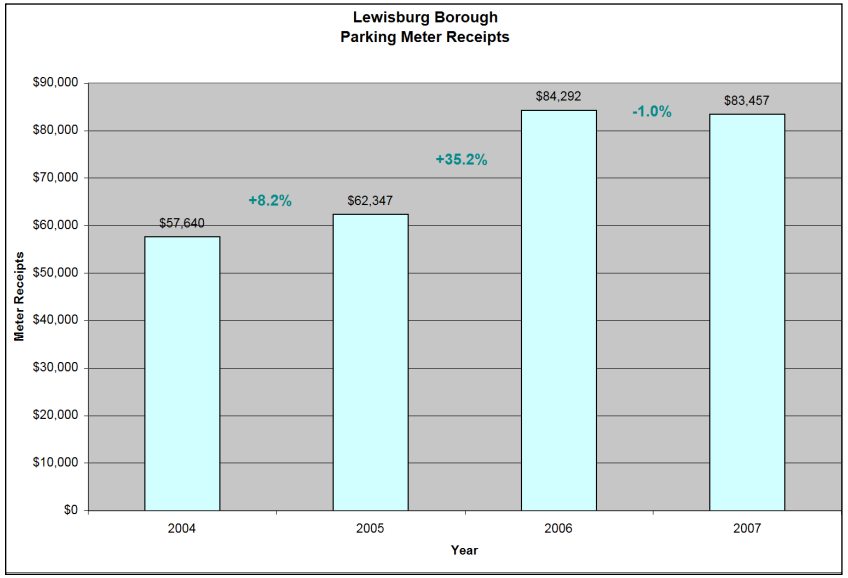
Location of Parking	Number of Parking Spaces	Notes
Bank Parking Lot	14	May be 5 more spaces behind adjacent house. No signage is provided.
Borough Building	2	Restricted 5-minute spaces.
Little Log House	14	None
Lutheran Church	22	Church offered to make the lot available to the public during the week. Limited signage in the adjacent alley.
Municipal Parking Lot at 5th Street & Walnut Street	62	Only one small sign is provided.
Buffalo Valley Phone Company	12	No signage is provided.
Municipal Parking Lot at 3rd Street and Walnut Street	21	No signage is provided.
American Legion	20	Home Association of the American Legion is willing to make these spaces available to the public during normal business hours
TOTAL SPACES	167	

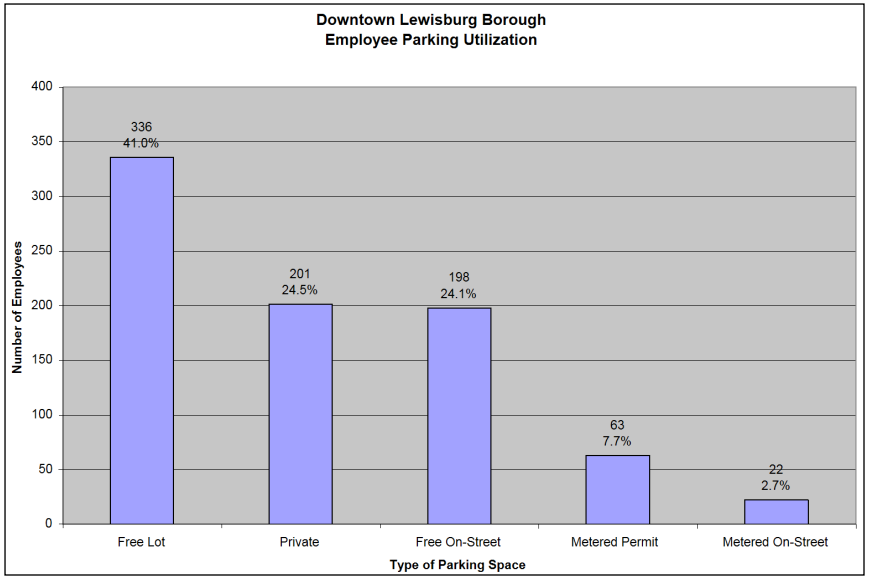
Table C.7 Inventory of Public Parking Spaces Lewisburg Borough Downtown Core

Type of Parking	Number of Parking Spaces
On-Street Metered	240
On-Street Non-Metered	109
Lot Metered	142
Lot Non-Metered	71
TOTAL	562

Table C. 8 Inventory of Private Parking Spaces Lewisburg Borough Downtown Core

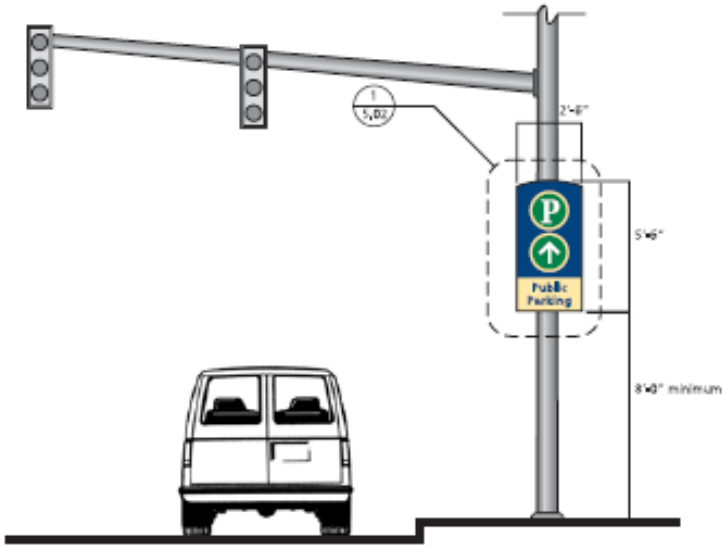
Type of Parking	Number of Parking Spaces
Business	309
Residential	73
TOTAL	382





Parking Directional Signage Examples.

Adequate signage has been identified as a need within the County to direct drivers to available parking, particularly in Lewisburg and Mifflinburg Boroughs. Aesthetic parking signage that is in keeping with the context of the Lewisburg and Mifflinburg downtown areas should be pursued. Below are some examples of aesthetic parking directional signage.



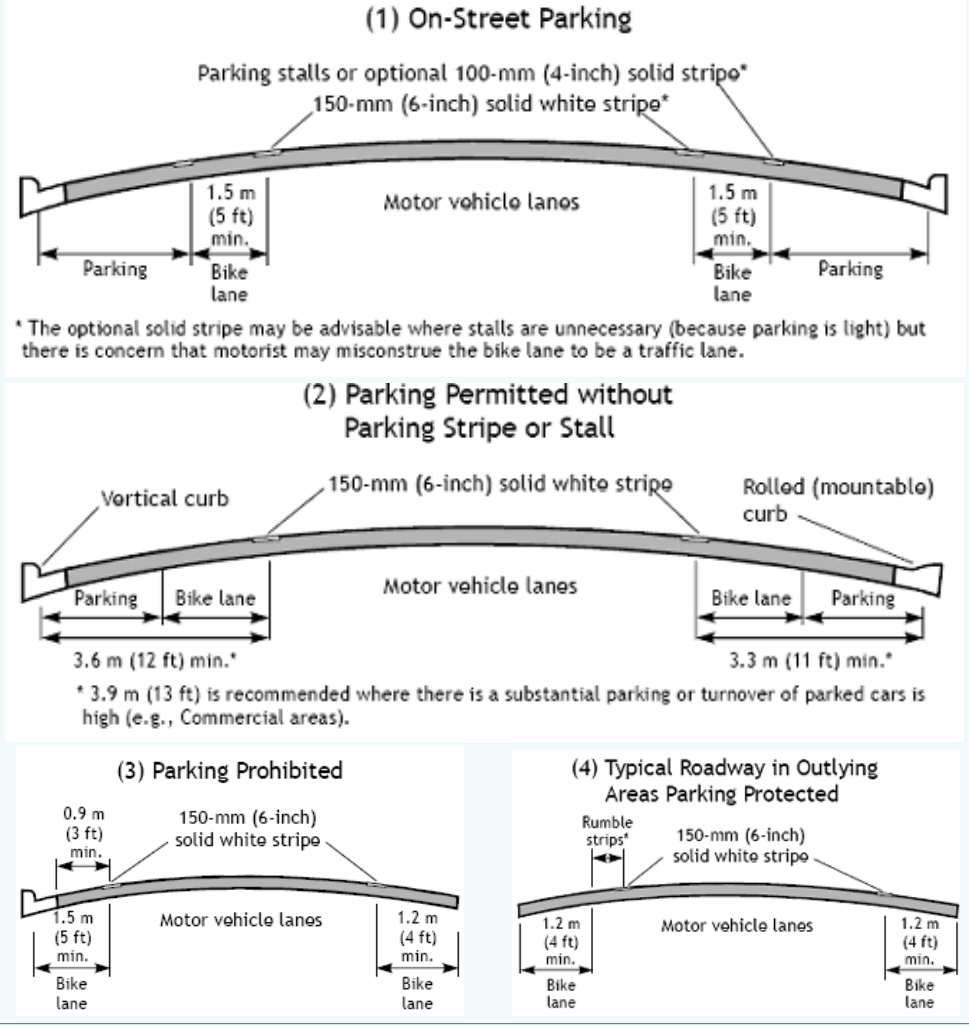
Walkability Audit by Dan Burden

On May 6-7th, 2009, more than 40 residents, borough and county leaders and community advocates from Lewisburg, Mifflinburg and New Berlin walked the streets with walkability expert Dan Burden, a principal and senior urban designer with Glatting Jackson Kercher Anglin, Inc. and co-founder of Walkable Communities.

The purpose of the audit to was provide insights on what improvements and adjustments are needed to make these truly walkable communities. The resulting report from Dan Burden informed the plan recommendations and is available at the Union County Planning office.

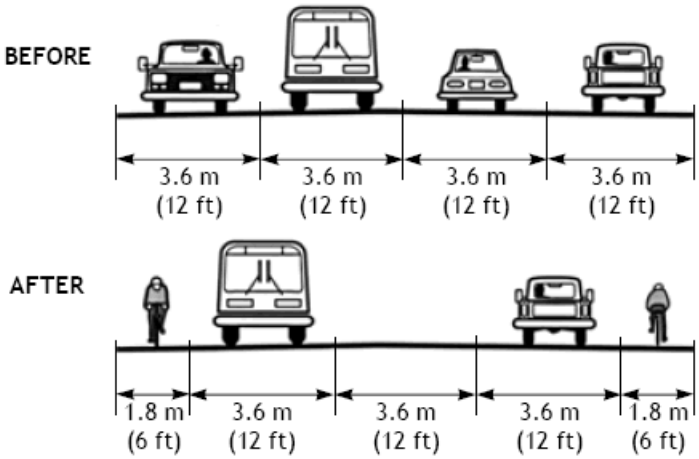
Accommodating Bicycle/Multi-Use Lanes. Various methods can be utilized to accommodate bicycle/multi-use lanes within an existing cartway where roadway widening is restricted, including reducing existing travel lane and/or parking aisle widths, eliminating areas of on-street parking, or reducing the number of travel lanes. Cross section examples from the American Association of State Highway and Transportation Officials publication, Guide for the Development of Bicycle Facilities are provided.

Cross section examples from the AASHTO Guide for the Development of Bicycle Facilities:

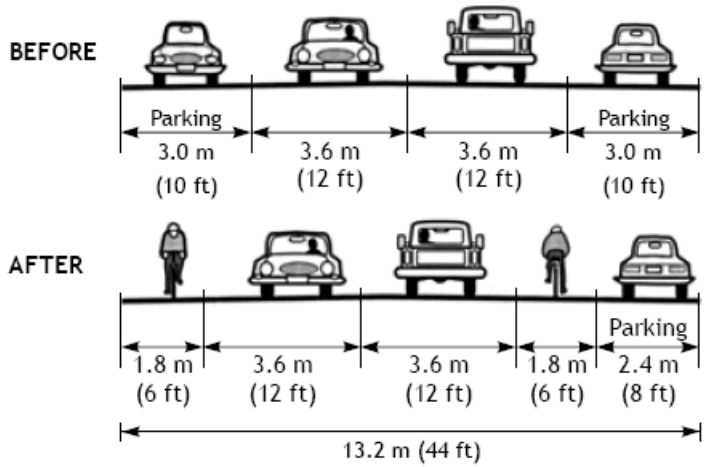


Cross section examples illustrating various modifications within the same overall cartway width are provided below from the Oregon Bicycle and Pedestrian Plan:

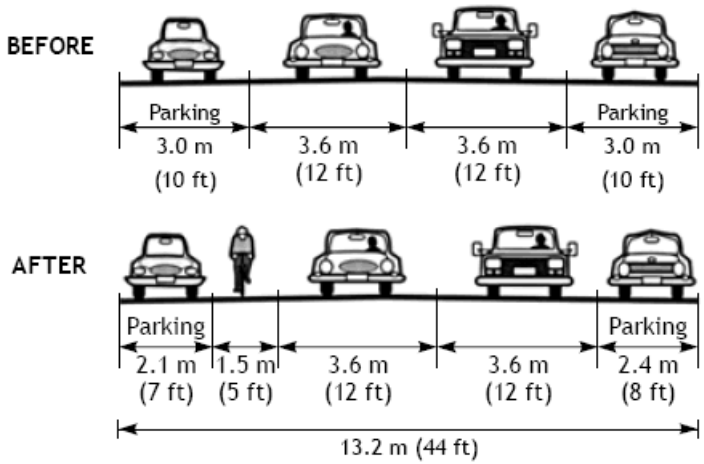
Reducing the Number of Travel Lanes



Eliminating Parking on One Side of the Street



Reducing Parking Width



Example of Bicycle/Multi-Use Path Accommodation – High Street in Pottstown, PA. As part of a traffic calming plan, Pottstown Borough modified the cross section along High Street in the downtown area to promote pedestrian/bicycle travel and to increase parking downtown.

Previous cross section:

- Two 8-foot parallel parking lanes
- Four 10.5-foot travel lanes (two lanes per direction)
- 10-foot turning lane

Modified cross section:

- Two 11-foot travel lanes (one lane per direction)
- 10-foot turning lane
- Two 6-foot bike lanes (one lane per direction)
- 8-foot parallel parking along south side
- 18-foot angle back-in only parking along north side

Inventory of Previously Completed Studies and Sources

Findings and Recommendations of The Central Susquehanna Valley Thruway Interchange Study, authored by SEDA-Council of Governments and assisted by Mackin Engineering Company, dated July 2005.

Central Susquehanna Valley Thruway Gateway Project Final Report, prepared by SEDA-Council of Governments and dated March 2007.

US Route 15 Corridor Study Existing Conditions Memorandum for Lycoming and Union Counties, prepared by Orth-Rodgers & Associates, Inc. and dated January 13, 2004.

PA Route 45 Corridor Study Existing Conditions Memorandum for Union County, prepared by Orth-Rodgers & Associates, Inc. and dated January 19, 2004.

Union and Snyder Counties Fixed Route Public Transportation Feasibility Study, prepared by Abrams-Cherwony & Associates and dated November 2004.

Kelly Township Comprehensive Traffic Study, prepared by Herbert, Rowland & Grubic, Inc. and dated August 2001, revised October 2001.

Traffic Impact Study for the Great Stream Commons Industrial Park located in Gregg Township, Union County, prepared by Grove Miller Engineering Inc. and dated December 2007.

Traffic Impact Study for Great Stream Commons Internal Traffic located in Gregg Township, Union County, prepared by Mid-Penn Engineering Corporation and dated March 27, 2008.

Proposed Giant Food Store/Retail Center Traffic Impact Study located in East Buffalo Township, prepared by Traffic Planning & Design, Inc. and dated January 4, 2003, revised April 8, 2003.

Traffic Impact Study for the Moore Residential Development located in East Buffalo Township, Union County, prepared by Mid-Penn Engineering Corporation and dated July 6, 2005, revised January 4, 2006.
Traffic Impact Study for Bucknell University "University Relations Building" located in East Buffalo Township, Union County, prepared by Mid-Penn Engineering Corporation and dated April 5, 2006.

Traffic Impact Study for Windsor Properties located in East Buffalo Township, Union County, prepared by Herbert, Rowland & Grubic, Inc. and dated January 2007.

Traffic Impact Study for Art Keister Site located in Kelly Township, Union County, prepared by Grove Mill Engineering, Inc. and dated October 2003, revised January 2004.

Lewisburg Initial Parking Report, prepared by the Parking Task Group of the Business Source & Development Committee of the Lewisburg Downtown Partnership and dated January 2008.

Parking Spaces Surrounding the Mifflinburg Downtown Business District, prepared by the Mifflinburg Heritage & Revitalization Association and dated May 2006.

Level of Service Summary Tables for Study Intersections

Level of Service Summary
U.S. Route 15 & Colonel John Kelly Road (S.R. 1002)

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
U.S. Route 15 & Colonel John Kelly Road (S.R. 1002)	Colonel John Kelly Road (S.R. 1002) EB	Left	F	F	F	F
		Right				
	U.S. Route 15 NB	Left	B	B	B	B
		Thru	A	A	A	A
	U.S. Route 15 SB	Thru	A	A	A	A
		Right	A	A	A	A

Colonel John Kelly Road (S.R. 1002) & JPM Road

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
Colonel John Kelly Road (S.R. 1002) & JPM Road	Colonel John Kelly Road (S.R. 1002) EB	Left	A	A	A	A
		Thru				
		Right				
	Colonel John Kelly Road (S.R. 1002) WB	Left	A	A	A	A
		Thru				
		Right				
	JPM Road NB	Left	B	B	B	B
		Thru				
		Right				
	JPM Road SB	Left	B	B	B	B
		Thru				
		Right				

Note: The *Highway Capacity Manual* methodology does not calculate overall levels of service for unsignalized intersections, and therefore, overall levels of service are only shown for signalized and roundabout intersections.

Levels of Service Summary
U.S. Route 15 & Hospital Drive (S.R. 1005)/River Road

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/Impvts
U.S. Route 15 & Hospital Drive (S.R. 1005)/River Road	Hospital Drive (S.R. 1005) EB	Left	C	C	C	C	D	D
		Thru	C	C	C	C	C	C
		Right	C	C	C	C	C	C
	River Road (S.R. 1005) WB	Left	D	E	D	E	F	D
		Thru						
		Right						
	U.S. Route 15 NB	Left	D	D	D	D	D	D
		Thru	B	C	C	C	D	C
		Right	B	B	B	B	B	B
	U.S. Route 15 SB	Left	D	D	D	D	D	D
		Thru	C	C	C	C	C	C
		Right	B	B	B	B	B	B
	Overall		C	C	C	C	D	D

Hospital Drive (S.R. 1005) & JPM Road

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
Hospital Drive (S.R. 1005) & JPM Road	Hospital Drive (S.R. 1005) EB	Left	B	C	B	B
		Thru				
		Right				
	Hospital Drive (S.R. 1005) WB	Left	B	C	B	C
		Thru				
		Right				
	JPM Road NB	Left	B	B	B	C
		Thru				
		Right				
	JPM Road SB	Left	B	B	A	B
		Thru				
		Right				
	Overall		B	C	B	C

Levels of Service Summary
U.S. Route 15 & William Penn Drive

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
U.S. Route 15 & William Penn Drive	William Penn Drive EB	Left	D	D	D	D
		Right	D	D	D	D
	U.S. Route 15 NB	Left	A	A	A	B
		Thru	A	A	A	A
	U.S. Route 15 SB	Thru	A	A	A	A
		Right	A	A	A	A
	Overall		A	A	A	A

JPM Road & William Penn Drive

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
JPM Road & William Penn Drive	William Penn Drive EB	Left	A	A	A	A
		Right				
	JPM Road NB	Left	A	A	A	A
		Thru				
		Right				
	JPM Road SB	Left	B	C	C	D
		Thru				
		Right				

Levels of Service Summary
William Penn Drive & Airport Road

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/ Impvts
William Penn Drive & Airport Road	William Penn Drive EB	Thru	B	C	A	C	D	B
		Right						
	William Penn Drive WB	Left	A	A	B	A	A	D
		Thru						
	Airport Road NB	Left	B	B	B	C	D	C
		Right						
	Overall		-	-	B	-	-	C

PA Route 192 & Airport Road

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/ Impvts
PA Route 192 & Airport Road	PA Route 192 EB	Left	A	A	C	A	A	C
		Thru						
		Right						
	PA Route 192 WB	Left	A	A	A	A	A	A
		Thru						
		Right						
	Airport Road NB	Left	D	E	D	F	F	D
		Thru						
		Right						
	Airport Road SB	Left	D	F	D	E	F	D
		Thru						
		Right						
	Overall		-	-	C	-	-	C

Levels of Service Summary
PA Route 192 & Fairground Road (S.R. 2007)

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/Impvts	Existing	2030	2030 W/Impvts
PA Route 192 & Fairground Road (S.R. 2007)	PA Route 192 EB	Left	B	B	B	B	B	B
		Thru	B	C	C	B	C	C
		Right						
	PA Route 192 WB	Left	A	B	B	A	B	B
		Thru	B	B	B	A	B	A
		Right	A	B	A	A	A	A
	Fairground Road (S.R. 2007) NB	Left	C	C	C	C	C	C
		Thru						
		Right	D	D	D	D	D	C
	Fairground Road (S.R. 2007) SB	Left	C	C	C	D	D	D
		Thru						
		Right						
	Overall		C	C	C	C	C	C

U.S. Route 15 & Buffalo Road (PA Route 192)

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/Impvts	Existing	2030	2030 W/Impvts
U.S. Route 15 & Buffalo Road (PA Route 192)	PA Route 192 EB	Left	E	E	C	F	F	D
		Thru	D	D	C	D	D	D
		Right						
	PA Route 192 WB	Left	D	C	D	D	D	C
		Thru	D	C	D	D	D	D
		Right						
	U.S. Route 15 NB	Left	E	E	D	E	E	D
		Thru	B	B	C	B	C	B
		Right						
	U.S. Route 15 SB	Left	F	E	D	E	E	D
		Thru	B	B	C	B	C	D
		Right						
	Overall		C	C	C	C	C	C

Levels of Service Summary
PA Route 45 & Fairground Road (S.R. 2007)

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
PA Route 45 & Fairground Road (S.R. 2007)	PA Route 45 EB	Left	A		B	D
		Thru	A	B	B	B
		Right				
	PA Route 45 WB	Left	B	B	B	C
		Thru	B	C	C	D
		Right				
	Fairground Road (S.R. 2007) NB	Left	C	C	C	C
		Thru				
		Right				
	Fairground Road (S.R. 2007) SB	Left	C	C	C	D
		Thru				
		Right				
	Overall		B	B	C	D

U.S. Route 15 & Market Street (PA Route 45)

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/Impvts
U.S. Route 15 & Market Street (PA Route 45)	Market Street (PA Route 45) EB	Left	E	D	D	E	E	D
		Thru	F	F	D	F	F	D
		Right			C			C
	Market Street (PA Route 45) WB	Left	E	F	D	F	F	D
		Thru	F	F	D	E	F	C
		Right			C			C
	U.S. Route 15 NB	Left	D	D	D	D	D	D
		Thru	C	C	D	C	D	D
		Right			C			C
	U.S. Route 15 SB	Left	E	F	D	E	F	D
		Thru	C	C	D	C	C	C
		Right						
	Overall		F	F	D	E	F	D

Levels of Service Summary
Market Street (PA Route 45) & 7th Street

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
Market Street (PA Route 45) & 7th Street	Market Street (PA Route 45) EB	Left	A	A	A	A
		Thru				
		Right				
	Market Street (PA Route 45) WB	Left	A	A	A	A
		Thru				
		Right				
	7th Street NB	Left	C	C	B	B
		Thru				
		Right				
	7th Street SB	Left	C	C	C	C
		Thru				
		Right				
	Overall		A	A	A	

Market Street (PA Route 45) & 4th Street

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
Market Street (PA Route 45) & 4th Street	Market Street (PA Route 45) EB	Thru	A	A	A	B
		Right				
	Market Street (PA Route 45) WB	Left	A	A	A	A
		Thru				
	4th Street NB	Left	C	C	C	C
		Right				
	4th Street SB	Left	C	C	C	D
		Thru				
		Right				
	Overall		A	A	B	B

Levels of Service Summary
U.S. Route 15 & River Road/Beagle Club Road

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/ Impvts
U.S. Route 15 & River Road/Beagle Club Road	Beagle Club Road EB	Left	C	C	C	C	E	C
		Thru						
		Right						
	River Road WB	Left	C	D	C	E	F	D
		Thru						
		Right						
	U.S. Route 15 NB	Left	A	A	A	B	B	A
		Thru	A	A	A	A	A	A
		Right	A	A	A	A	A	A
	U.S. Route 15 SB	Left	B	B	A	B	B	A
		Thru	A	A	A	A	A	A
		Right	A	A	A	A	A	A
	Overall		-	-	A	-	-	A

U.S. Route 15 & PA Route 304

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/ Impvts
U.S. Route 15 & PA Route 304	PA Route 304 EB	Left	C	E	D	C	E	D
		Right	B	C	C	C	D	D
	U.S. Route 15 NB	Left	A	A	B	A	A	A
	U.S. Route 15 SB	Thru	B	B	C	B	B	B
		Right	B	B	B	B	B	B
	Overall		B	C	C	B	C	C

Levels of Service Summary
Chestnut Street (PA Route 45) & 4th Street (PA Route 304)

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
			Existing	2030	Existing	2030
Chestnut Street (PA Route 45) & 4th Street (PA Route 304)	Chestnut Street (PA Route 45) EB	Left	A	A	A	B
		Thru				
		Right				
	Chestnut Street (PA Route 45) WB	Left	A	A	A	A
		Thru				
		Right				
	S.4th Street NB	Left	C	C	C	C
		Thru				
		Right				
	N.4th Street SB	Left	C	C	C	D
		Thru				
		Right				
	Overall		A	A	B	B

Chestnut Street (PA Route 45) & 10th Street (PA Route 104)

			Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			Existing	2030	2030 W/ Impvts	Existing	2030	2030 W/Impvts
Chestnut Street (PA Route 45) & 10th Street (PA Route 104)	Chestnut Street (PA Route 45) EB	Thru	A	A	A	A	A	A
		Right						
	Chestnut Street (PA Route 45) WB	Left	A	A	A	A	A	A
		Thru						
	S. 10th Street NB	Left	C	E	A	C	F	A
		Right						

D. Comprehensive Plan Case Studies

Notable Plan for Rural Preservation

Chesterfield Township TDR Program and Village

Chesterfield Township, New Jersey

While Chesterfield is a place of two-lane roads and quaint vistas, easy access to major highways, including the N.J. Turnpike, I-295, I-195, and U.S. 130, places the Township within easy commuting distance of Manhattan and Philadelphia, inciting development pressures felt in neighboring counties. To preserve its agricultural past while accommodating a less pastoral, more populous future, this 22-square mile municipality in southern New Jersey developed an ambitious, comprehensive strategy.

Chesterfield's Transfer of Development Rights Program (TDR) and Old York Village Plan require developments within the 560-acre Old York Village receiving area to be built using TDR credits from surrounding farmland. The Old York Village Plan provides the framework for a new community of 1,300 housing units that will complement the three existing hamlets as well as surrounding farms, woodlands, and streams.

The proposed street system, architectural and design standards, and public amenities (green space, bike paths, a central square) of Old York Village will reflect traditional neighborhood development, smart growth, and green strategies. Developments in Old York Village will collectively help the township meet state affordable housing requirements. Transportation and recreation improvement districts in the Village will enable the Township and developers to share the costs of some recreational facilities and other public amenities.[1]

APA 2004 Outstanding Planning Award for a Program

Website
http://www.chesterfieldtwp.com

Successful Implementation
State, county, and local farmland preservation programs have collectively protected 4,261 acres, and 90 percent of the land in the receiving area has been bought or optioned by developers.

Awards
- The Environmental Excellence Award for Open Space Protection and Preservation
- 2004 APA Planning Award for a Program
- 2004 New Jersey Planning Officials Achievement in Planning Award

[1] Kevin Riordan, "Chesterfield Township TDR Program and Village Plan," (April 2004), <http://www.planning.org/planning/member/2004apr/chesterfield.htm> (8 August 2007).

Notable Plan for Rural Preservation

Farmersville General Plan

Farmersville, California

A small community in California's San Joaquin Valley, Farmersville is considered by the American Farmland Trust as the most threatened agricultural region in the country. Against a backdrop of high unemployment, low incomes, and distrust between various segments of the community, the Farmersville City Council undertook its General Plan update through the year 2025.

Growth and Open Space
The new plan addresses growth and open space conservation. Development controls aim to improve design and produce livable, walkable communities. Multifamily housing (once opposed by residents and members of the city council) is now set close to the street with front porches for individual units and parking at the back. Narrower streets, from 36 to 32 feet wide, are a priority in single-family neighborhoods. New developments also sport street trees, paved crossing lanes, and bulbed out sidewalks at intersections.[1]

John Miller [the San Joaquin Valley field representative of the American Farmland Trust] and the Farmland Trust hope that Farmersville will become an example for other communities in the valley. "Nationally, we are hoping that others will look at it and say, 'Hey, this town did it, we can too,'" says Miller.[2]

APA 2004 Outstanding Planning Award for a Small Town or Rural Community

Agricultural Preservation
The San Joaquin Valley grows more than 250 commodities and stores water from the Sierra Nevadas. In order to maintain parcels large enough for profitable farming, the new plan opposes dividing agricultural land into less than 20 acres. A development impact fee is designed to help preserve farmland.

Website
http://www.planning.org/awards/2004winners.htm
http://www.allbusiness.com/professional-scientific/architectural-engineering/142055-1.html

The general plan update uses innovative features and smart growth planning techniques, including an industrial area specific plan that addresses the community's high unemployment rate. The plan also calls for establishing a farmland impact fee that will be assessed against new development. Funds will be used to purchase agricultural easements on prime farmland outside the city's borders.[3]

[1] Sherrie Voss Mathews, "The general plan for Farmersville, California: Farmersville, California, adopted a progressive planning document that emphasizes…," *Planning*, 1 April 2004, <http://www.allbusiness.com/professional-scientific/architectural-engineering/142055-1.html> (1 August 2007).
[2] Ibid.
[3] American Planning Association, <http://www.planning.org/awards/2004winners.htm> (1 August 2007).

Outstanding Comprehensive Plan

Balance: The Growth Management Element

Lancaster County, Pennsylvania

APA Pennsylvania 2006 Outstanding Planning Award for a Plan

The Growth Management Element of the Lancaster County Comprehensive Plan called *Balance,* is one of three major components. The other two include the Policy Element (ReVisions), adopted in 1999, and six Functional Elements:

- Cultural Heritage
- Housing
- Regional Open Space
- Strategic Tourism Develop.
- Transportation
- Water Resources

Balance is an update of the County's growth strategy, the need for which became evident in the Lancaster County Planning Commission (LCPC) Growth Tracking Report, 1993-2003, which indicated that a significant amount of development continued to occur outside of Growth Areas.

Balance builds on two previous plans (1993, 1997) while setting significant new directions to manage growth in Lancaster County over the next 25 years:

- It reaffirms the Urban Growth Area (UGA) concept while setting new targets for increased density.
- It proposes designation of Rural Areas within which significant agricultural, natural, historic, architectural, and scenic resources are to be protected.
- It includes targets to reduce growth in rural Lancaster County while designating Rural Centers (villages and other existing developed areas) to which development that would otherwise occur as scattered sprawl in Designated Rural Areas is to be directed.
- It provides a comprehensive action strategy, including a Smart Growth Toolbox comprised of policy, regulatory, and investment tools that can be applied by municipalities, with support from the County, to implement the Growth Management Element Update.

Website
http://www.co.lancaster.pa.us/planning/cwp/view.asp?a=2&q=550973

Balance contains goals, objectives, and strategies designed to guide more of the County's new growth to Growth Areas; strengthen infrastructure within those areas; and create opportunities for redevelopment of those areas through mixed-use, through adaptive reuse of vacant and underutilized buildings, and through infill; and, further, Balance contains goals, objectives, and strategies designed to enhance the preservation and protection of the natural and cultural resources of the County.

Notable Plan for Rural Preservation

Manheim Central Region Comprehensive Plan

Lancaster County, PA

In 1993, Manheim Borough, Penn Township, and Rapho Township adopted the Manheim Central Region Comprehensive Plan, which was the first regional comprehensive plan in Lancaster County to incorporate urban growth boundaries.

Strategic Update 2000
Strategic Update 2000 is intended to be used as an addition to the Comprehensive Plan with actionable strategies that the region can use to further the policies adopted in 1993. A Strategy or Policy Statement and Components (action items) accompany each strategy. The strategies include:

- Urban Growth Boundaries Reassessment
- Turnpike Interchange Growth Area
- Agriculture Preserv. / Industry Promotion Dialogue
- Industrial Redevelopment
- Economic Development
- Main Street Area Enhancement/Preservation
- Open Space Subdivision and Land Development

Website
http://www.raphotownship.com/rapho/cwp/view.asp?a=611&Q=507853&raphoNav=|6945|

It is important that the proper balance of farming/development be sought and continually maintained. Such determinations will require local officials to periodically "take the pulse" of the Region at large.

Exerpt from Manheim Central Region Comprehensive Plan

Strategy: Agriculture Preservation / Industry Promotion Dialogue
This strategy focuses on sustaining the agricultural heritage and industry in the Manheim Central Region. It recognizes agriculture as consisting of three systems: economic (farm profitability), ecological (environmental stewardship) and social (quality of life for farm families and rural communities). The strategy focuses on the initiation of a community dialogue for sustaining agriculture that is economically viable, environmentally sound and socially just.

Outstanding Implementation

New Kent County Subdivision Ordinance

New Kent County, Virginia

About New Kent County

New Kent County is located in Central Virginia, along Interstate 64, between Richmond and Tidewater. The County encompasses 221 square miles of land and water with an estimated population of 16,852 (2006). Agriculture and forestry were once mainstays of the County economy but continue to decline.

Comprehensive Plan, Vision 2020

The New Kent County Comprehensive Plan, Vision 2020, adopted in 2003, reflects the widely-held desire of citizens to maintain the County's rural character while providing opportunities for the creation of income and wealth in the community. Among the objectives of Vision 2020 was the development of a comprehensively rewritten Subdivision Ordinance.

The Subdivision Ordinance is a further attempt to protect the rural character of the County, despite the extreme growth pressures. Unanimously adopted in 2005, the new Subdivision Ordinance has provisions for the preservation of open space through the promotion of cluster subdivisions, as well as requirements for recreational space. The implementation of this Ordinance has allowed for positive growth throughout the County in an attempt to prevent uncontrolled development throughout the area.

Virginia Chapter APA 2006 Award for Planning Implementation

Website

http://www.co.new-kent.va.us/planning

Outstanding Comprehensive Plan

PlanCheyenne

Cheyenne, Wyoming

PlanCheyenne contains three major plan components:

- The Community Plan
- The Parks and Recreation Master Plan
- The Transportation Master Plan

Building Blocks

The master plan for the Cheyenne Area follows a four-step building block approach – Snapshot, Structure, Shape, and Build, which is common to all three plan components.

Snapshot captures the existing conditions of the community with information and analysis about the state of the community today, including the community's population, economy and employment, parks and recreation, transportation, and other data.

Structure is the form-giving and design-based part of the larger planning effort and includes the Community Design Handbook.

Shape establishes the guiding principles for how and where the community should grow in the future.

Build establishes strategies to implement the plan.

APA 2007 Daniel Burnham Award for a Comprehensive Plan

Highlights

- Extensive use of interactive technology and the internet
- Cutting edge public participation strategies
- Case studies from other communities
- Tools ranging from incentive-based options to ordinances, to help implement the plan

Website

http://www.plancheyenne.com

Outstanding for Public Outreach

PlanCheyenne was created with the extensive involvement of citizens, city and county officials, and planners. It represents a complete revamping of the city's approach to growing as a "community of choice." Throughout the document, PlanCheyenne stresses the importance of creating a "People's Plan."

Outstanding Implementation

South Livermore Valley Specific Plan

Livermore, California

Faced with the potential loss of thousands of acres of prime agricultural land in the heart of an active wine-producing region, the City of Livermore created an innovative conservation mechanism to curb sprawl and permanently protect the community's vineyards.

The plan sets forth a vision and regulatory framework for a 1,700-acre area along the city's southern edge that links land development with conservation.[1] For every acre developed, one acre of planted vineyard is preserved in permanent easement; and for every unit developed, another acre of planted vineyard is placed in permanent easement.

The plan has the effect of allowing for economic development, represented by home development; integrating new development with agriculture; and reinforcing the area's character and its viticultural heritage through a planting program. Design guidelines ensure that the new development is compact, and that new home design is consistent with the rural vernacular. The plan has resulted in the development of nearly 1,500 homes in five neighborhoods, preservation of nearly 5,000 acres, increased regional parkland, and substantial new investment in wine country economic development and visitor amenities.

APA 2006 Outstanding Planning Award for Implementation Plan

About Livermore

Livermore is situated in the Livermore Valley, in eastern Alameda County. Up until the second half of the 20th century, Livermore's economy was predominantly agriculture and natural resource based.

Website

http://www.ci.livermore.ca.us/CDD/Planning/planning.html
http://www.codepublishing.com/ca/Livermore/zoning/lpzc02/lpzc0282.html

"This plan ensures that land critical to the valley's future as a wine-producing region is placed under permanent conservation easements and planted with vineyards or other intensive agricultural crops at the same time it allows development to continue," said Carol Rhea, AICP, chair of the APA Awards Committee. "The guiding principle is that development in the valley should be directly related to the region's rural heritage and its future as a center of viticulture," she said. [2]

[1] American Planning Association, "California Wine Country Plan Receives National Planning Award," 12 January 2006, <http://www.planning.org/newsreleases/2006/ftp01120610.htm> (8 August 2007).
[2] Ibid.