

Jefferson County, Ohio Land Use Plan

October, 2013



Prepared for Jefferson County Board of Commissioners and
Jefferson County Regional Planning Commission
By Ohio Rural Community Assistance Program



**Ohio Rural Community Assistance Program
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Jefferson County Land Use Plan

October 2013



Jefferson County Board of Commissioners

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Introduction



Jefferson County is an amalgamation of many forces and factors. The impact of a largely abandoned steel industry is being tempered somewhat by the promise of natural gas exploration and extraction. The urban character of the City of Steubenville is balanced by the extremely rural nature of the County's outward regions to the north, south, and west. Development patterns have carved business corridors from Steubenville westward into Wintersville and beyond, aided by improvements to U.S. Route 22, and along the Ohio River valley via State Route 7, commensurate with a rich history of steel and energy production. Other portions of the County retain an agrarian character, with a local interest in the preservation of their prime farmland and natural resources.

In 2010, officials from the Jefferson County Regional Planning Commission expressed an interest in developing a new land use plan for the County. Within the next year, a funding opportunity was identified by the Ohio Rural Community Assistance Program (Ohio RCAP) to develop such a plan. The funding source was the Rural Community Development Initiative (RCDI) program from the U.S. Department of Agriculture.

Work was initiated in 2011, and the Planning Commission appointed a Core Committee to oversee the planning process and plan content. The Committee met over the course of the approximately two-year planning process to provide input from a variety of disciplines, review completed work, and offer input regarding the plan and the process. In addition to the committee, planning staff from Ohio RCAP interviewed over thirty individuals who represented a broad variety of public and private interests.

The Core Committee included the following individuals:

Ed Looman	Progress Alliance (succeeded by Port Authority members)
Donna Hrezo	Jefferson County Port Authority
Kim Cline	Jefferson County Port Authority
Dave Maple	Jefferson County Commissioner
Brandon Andresen	Jefferson County Soil and Water Conservation District
Joy Howell	Jefferson County Education Service Center
Terry Bell	Jefferson County Township Association
Jim Branagan	Jefferson County Engineer
John Brown	Brooke Hancock Jefferson Metropolitan Planning Commission
Domenick Mucci	Jefferson County Regional Planning Commission
Rich Fender	Jefferson County Regional Planning Commission
Bruce Misselwitz	Jefferson County Health District
Chris Petrossi	City of Steubenville, Planning and Development
Shannon Gosbin	Jefferson County Water and Sewer District
Joe Boni	Jefferson County Data Processing Department
Michele Specht	Jefferson County Farm Bureau
John Parker	Jefferson County Emergency Management Agency
Tom Hartwig	Malcolm Pirnie Water Division of ARCADIS

Background: The Jefferson County Community Investment Plan

An over-arching plan for Jefferson County, the “Community Investment Plan – A Partnership for Growth” - was developed in 2008, prepared by an appointed fifteen-member Jefferson County Advisory Group of public and private agencies and local businesses. The overall vision of the Plan is expressed as follows: *“Jefferson County, Ohio, will be the center of a prosperous, attractive region flourishing together to provide an enviable living and working environment, quality education, vibrant communities, a thriving economy, with diverse recreational and cultural opportunities.”*

The general purpose of the plan was “to identify a practical and up-to-date vision with strategies designed to help Jefferson County move into the future. The resulting document sets forth key strategies to improve and enhance quality of life, infrastructure, and workforce and economic growth for the entire County. The primary aim of the Plan is to “help all communities in the County – cities, towns, and rural areas – to build on their rich assets, capitalize on opportunities, and address current and projected needs” – a county-wide vision and framework for change and growth.

Because its scope is so close to that of this land use plan, and because it has covered many of the topics of interest often discussed in a comprehensive plan, the intended outcomes and related short- and long-term strategies are summarized on the table beginning on the next page:

Goal Area 1: Enhance the Quality of Community and Family Life	
<p>Outcome 1: Retain and Attract Young People. Retaining and attracting a stronger youth cohort would reverberate positively throughout the regional economy.</p>	<p>S1: Create a diverse program of internships and/or apprenticeships S2: Web-based entertainment guide that includes surrounding counties, states L1: Atmosphere of support for entrepreneurship through small business opportunities, trainings, incentives, and mentoring programs L2: Structured county-wide communications program to build community empowerment and pride, favorable public relations, and positive perception of the county. (Chamber could lead the effort) L3: Increased commuter access to the Pittsburgh employment market through transportation enhancements such as the ride-share program.</p>
<p>Outcome 2: Enhance Living Options for Retirees and Active Seniors – Retention and Attraction Maintain ability to stay in their home towns and transition to age-appropriate facilities with grace.</p>	<p>S1: enhance volunteer and mentoring jobs and opportunities. S2: Educational institutions create specialized retiree and senior-specific programs S3: Build/organize affordable recreation facilities/activities for retirees and active seniors. (cultural events, golf) L1: Additional condominiums with amenities for retirees and active seniors L2: Neighborhood community centers to provide for multi-dimensional needs of the retired and active senior population (example: wellness center, daycare, nutrition program, social programming) L3: Expand local transit locations L4: Implement a retiree and active senior-friendly traffic sign initiative.</p>
<p>Outcome 3: Improve the Overall Health of Jefferson County Citizens. Central to a better quality of community life is the improved health of all County citizens.</p>	<p>S1: Incentives in the workplace and community for healthier lifestyles (smoking cessation, weight loss incentive programs) S2: Support and enhance effort of Jefferson County’s recognized programs in family services, jobs and medical assistance. L1: Create bike/walking/running trails linking communities L2: Effective drug intervention programs L3: Neighborhood community centers providing for diverse needs of population (wellness center, daycare, nutrition program, social programming) L4: Partner with state programs (Ohio Green Communities) to provide information and incentives to make environmentally sustainable, healthier, affordable housing L5: increase law enforcement and fire safety services throughout the County</p>
<p>Outcome 4: Improve Educational Resources. This will improve the overall quality of life for County residents, and also result in dividends for the County’s cultural and economic sectors.</p>	<p>S1: Enhance after-school programs L1: Conduct a study to maximize the use of existing Jefferson County educational resources L2: Encourage the concept of environmental management systems in Jefferson County schools, e.g. Green Schools Program L3: Increase the percentage of Jefferson County residents holding associate, baccalaureate, and graduate degrees through programs of study at Jefferson Community College and Franciscan University of Steubenville.</p>
Goal Area 2: Improve and Expand Infrastructure	
<p>Outcome 1: Improve Transportation. Maintain and enhance road, rail, river and air access; utilize the transportation infrastructure in place that met the needs of the once-thriving manufacturing sector.</p>	<p>S1: Expand the Steubenville Port Authority into a Jefferson County Port Authority, a sister to the Progress Alliance, and creating a bond revenue stream. S2: Coordinate port/container site development with Columbiana County Port Authority. L1: Finalize plans and design studies for US 22 Columbus-to-Pittsburgh Corridor. L2: Finalize plans and design and complete a new Ohio River bridge. L3: Expand the runway at the Jefferson County Airpark. L4: Improve the ODOT Red-Flagged Crash Zone at the University Blvd./Route 7 intersection. Encourage research into future railroad expansion.</p>

<p>Outcome 2: Develop Vacant and Underutilized Land. Flat developable property adjacent to existing water, sewer and transportation infrastructure is a top priority.</p>	<p>S1: Submit/obtain a Brownfields Environmental Assessment grant to prioritize and assess underutilized commercial/industrial properties. S2: Apply for Brownfields clean-up grant for a publicly controlled property. S3: Participate in Ohio’s Job Ready Site Program. L1: Plan and develop a second Jefferson County industrial park.</p>
<p>Outcome 3: Enhance and Sustain Water, Sewer, and Other Utility Infrastructure. Work to bring access to affordable and potable water and sewer to every business and household; recognize parallel need for communications/broadband.</p>	<p>S1: Act on mandated water and sewer improvements throughout the County. S2: Continue, expand and coordinate the County’s GIS program. S3: Document overall County broadband needs, S4: Implement priority County broadband projects, L1: Prepare/communicate a coordinated long-range water/sewer plan for Jefferson County.</p>
<p>Goal Area 3: Stimulate Workforce and Economic Growth</p>	
<p>Outcome 1: Increase the Number of Successful Small Businesses in Jefferson County by Providing Entrepreneurial Services. To help small business succeed, there must be coordinated services that help entrepreneurs.</p>	<p>S1: Establish a responsible party for coordination of business support organizations; eliminate duplication and streamline the process. S2: Continue to work with the SBDC to encourage business ownership. S3: Better identify funding opportunities and eligibility criteria for entrepreneurs. Ensure that supporting organizations are well versed on funding options for entrepreneurs (county loan pool). Develop channels for funding business investment. Ensure recipients have proper business plans. L1: Restore full-time SBDC services to Jefferson County. L2: Develop a Jefferson County business incubator.</p>
<p>Outcome 2: Enhance Marketing Efforts to Attract Investments to Jefferson County. Jefferson County is able to offer businesses an affordable place to conduct operations within an easy daily commute to Pittsburgh and convenient access to Pittsburgh Int’l. Airport.</p>	<p>S1: Continue Progress Alliance marketing effort in Pittsburgh area. S2: Cultivate relationships with Pittsburgh businesses, associations, media and networks to identify Jefferson County as part of the Pittsburgh region. S3: Work with Pittsburgh Business Times on regional real estate initiatives. S4: Showcase the advantages of Jefferson Co. through multiple media venues. L1: Evaluate the listing of labor force advantages/disadvantages in BHJ Cluster Analysis, and further define synergies to create quality jobs. L2: Identify funding for a study of business needs to help the County succeed in the competition to attract business. L3: Develop, coordinate and promote the availability of economic incentive programs.</p>
<p>Outcome 3: Increase the Employed Workforce by Focusing on the Retention and Expansion of Existing Businesses. With a declining manufacturing sector, Jefferson County sees the need to focus on business expansion and retention efforts as a vehicle to address the high</p>	<p>S1: further define and expand upon a business retention program. S2: Look for opportunities to publicize the importance of small business to the local economy. S3: Work with the Chamber of Commerce to inventory programs available through local, state, and federal agencies and higher ed. Institutions to assist business development and expansion. S4: Support monthly networking programs to promote existing small business. S5: Set up a quick response unit including the Chamber and partner agencies, to assist businesses in crisis. S6: Work with the CIC, Progress Alliance, and other area organizations to develop a comprehensive inventory of available buildings and sites. L1: Build alliances with regional and County economic development groups. L2: Continue to work with Franciscan University’s Students in Free Enterprise</p>

<p>unemployment rate.</p>	<p>and other organizations on a mentoring program, supported by “expert” volunteers from established businesses and professions. L3: Ensure that businesses considering expansion have access to a consortium of financial institutions and agencies to assist them in finding access to funding sources. L4: Bring small businesses together to explore cooperative marketing, purchasing, and other joint efforts. <i>Ongoing:</i> (1) Communicate/emphasize the personal business investment needed to participate in available incentive packages. (2) Keep an up-to-date inventory of available buildings or space for businesses considering expansion.</p>
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The land Use Planning Process

The groundwork for the development of this Jefferson County Land Use Plan was laid in 2011 when the Ohio Rural Community Assistance program received a Rural Community Development Initiative grant from USDA Rural Development. Included within the work program for this RCAP grant was the completion of a land use plan for Jefferson County. This need had been expressed by staff from the Jefferson County Regional Planning Commission.

After meeting with the RPC staff, RCAP included the land use plan in the scope of work, and the grant was approved by USDA. Upon notification that the grant was approved, RCAP and the Regional Planning Commission scheduled a process that would involve a series of meetings by a Land Use Core Committee, comprised of members of a number of county agencies and offices, as well as local officials, who could each bring their unique perspective and expertise to the discussion.

The Core Committee discussed strengths, weaknesses, opportunities, and threats regarding Jefferson County and its development. They also helped shape the outline of the planning document, and in a series of meetings during the first half of 2013, they reviewed each chapter of the plan as it was drafted.

In addition to working with the Core Committee, the plan consultant met with over twenty-five individuals throughout the county, representing county and local government, as well as private business (including the shale oil and gas industry), Realtors, economic development and tourism officials, and other planning offices. A structured series of questions was used during these key informant interviews, in order to gain understanding of trends in thinking among local officials. Those trends are woven into the text of this plan.

Public input was sought as well, in order to make the plan reflect the thought of concerned residents as well. A public survey was conducted, with paper copies made available in a number of venues and an on-line survey was publicized as well. Over 120 responses were received to this survey, and those responses were recorded and tallied in order to understand trends in thinking.

In addition to the surveys, public meetings were held to provide opportunity for local residents to voice their thoughts and concerns and identify their priorities for land use and development. Hearings were held in geographically dispersed locations, in Tiltonsville, Richmond, and Stratton.

The resulting plan is the culmination of the information gathered from the above means, as well as research from a number of sources ranging from the Census to the Ohio Department of Natural Resources and the Jefferson County Auditor's office. Attempts were made to provide the most current information available, as well as current consensus on priorities and preferences. It is recommended that a committee review the plan every two years or so to gauge progress in achieving the plan's goals, and in ensuring that goals and priorities are either still representative of current preferences or can be changed to reflect current reality. (The Core Committee would provide an excellent mix of expertise in this regard.)

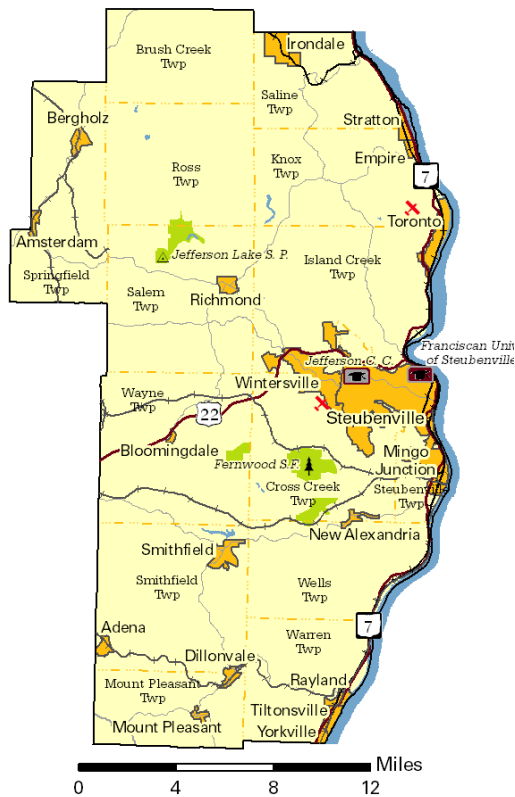
This plan was developed by Community Development staff of the Ohio Rural Community Assistance Program, administered by WSOS Community Action Commission, Inc. in Fremont, Ohio. Grateful acknowledgement is made to the Jefferson County Regional Planning Commission, and their staff members: Director Dominick Mucci, Planner Rich Fender, and Administrative Assistant Betty Lou Tarr. Their assistance in coordinating meetings and interviews, and the assistance of Rich Fender in designing and developing the GIS mapping for this document, researching several of the topics covered in the plan and assisting with editing is greatly appreciated. The support of the Board of Jefferson County Commissioners (Tom Gentile, Dave Maple, and Tom Graham) is also appreciated.

The Core Committee members invested considerable hours in attending and contributing to a number of meetings, and in reading and reviewing the draft document. Their individual and collective input has been invaluable. Finally, the input of those who agreed to interviews, and of those citizens who offered comment on surveys or elsewhere has also helped this document reflect the reality of Jefferson County and its residents' hopes, values, and vision to the greatest extent possible.



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Demographics and the Local Economy



Demographic Summary (from the five-year 2007-2011 American Community Survey, unless noted otherwise):

- Total population, at 69,709 in 2010, has been falling since peaking at 99,201 in 1960 (2010 Census).
- Population is split with 34 percent living in the two cities, 23 percent in its seventeen village, and 44 percent in its fourteen townships (2010 Census).
- The County population is relatively aged, with its median age at 43.7 (vs. 38.5 for all of Ohio).
- Median household income is relatively low at \$39,453 (vs. \$48,071 statewide).
- Per capita income, likewise, is relatively low in Jefferson County, at \$21,587 (vs. \$25,618 statewide).
- Median owner occupied housing costs are also low, at \$85,000 (vs. the State median of \$135,600).
- Of 32,892 housing units counted, 73.5 percent are owner-occupied and 26.5 percent are renter occupied.
- The County’s most common ancestries, in order (2010 Census), are German, Irish, Italian, English, and Polish.

Jefferson County has continuously lost population since 1960, when its population peaked at 99,201. By 1980, that population was just around 91,500, by 1990 it dropped by over 10,000 to 80,298, and in the 2000 Census it was 73,894. The 2010 Census total population is 69,709, indicating a slower but continued decline in population.

New population projections by the Ohio Development Services Agency call for a modest population loss over the following twenty years, to 65,330 by 2030, followed by an increase to 65,820 in 2035 and 67,410 in 2040. This is an increase over previous estimates anticipating a decrease to 55,850 by 2030. Projections now use 2010 population as their base line, and assumptions are made from that point by modeling births, deaths, and migration based on experience. The base population precedes shale gas activity, however, and thus the resulting boost to business is likely to positively impact population levels in the region including Jefferson County.

Table 2-1: Jefferson County Population over Time (U.S. Census of Population)

1850	29,133	1970	96,193	2010	69,709
1900	44,357	1980	91,564	2020 proj.	65,330
1950	96,495	1990	80,298	2030 proj.	65,820
1960	99,201	2000	73,894	2040 proj.	67,410

The decrease in population over the past five decades noted above affected virtually every community in Jefferson County. Table 2-2, immediately below, provides 2010 Census totals for population of the County's local governmental subdivisions, and data from the 2006-2010 American Community Survey (a five-year survey sample which replaces the more detailed information from the former decennial Census) for the number of households.

Table 2-2: Population of County Subdivisions, 2010 Census (population) and 2006-2010 ACS (households)

Township	Pop	Households	City/Village	Pop	Households
Jefferson County	69,709	29,109	Adena (part)	636	264
Brush Creek Twp.	438	178	Amsterdam	511	204
Cross Creek Twp.	5,214	2,233	Bergholz	664	266
Island Creek Twp.	6,477	2,688	Bloomingtondale	202	80
Knox Twp.	2,048	813	Dillonvale	665	294
Mt. Pleasant Twp	1,374	592	Empire	299	119
Ross Twp.	721	250	Irondale	387	142
Salem Twp.	2,667	1,045	Mingo Junction	3,454	1,488
Saline Twp.	933	378	Mt. Pleasant	478	192
Smithfield Twp.	1,819	754	New Alexandria	272	107
Springfield Twp.	1,192	518	Rayland	417	173
Steubenville Twp.	865	358	Richmond	481	213
Warren Twp.	1,828	754	Smithfield	869	362
Wayne Twp.	2,030	845	Steubenville City	18,659	7,548
Wells Twp.	2,835	1,202	Stratton	294	145
2 Cities			Tiltsville	1,372	605
17 Villages			Toronto City	5,091	2,278
14 Townships			Wintersville	3,924	1,740
			Yorkville (part)	615	289
			Unincorporated	30,419	12,600
			Areas Total		

Jefferson County has two cities (Steubenville and Toronto), all or part of seventeen villages, and fourteen townships. It should be noted that portions of the villages of Yorkville and Adena are located in Jefferson County. Fourteen of the villages have small populations of fewer than 500. On the other hand, ten townships have populations of over 1,000.

In total, the two cities hold 23,750 people (approximately 34 percent of the County's population), villages are home to 15,843 (23 percent), and Townships 30,419 (44 percent).

Table 2-3: City and Village Population over Time: 1990, 2000, and 2010

City/Village	1990	2000	2010	Change 1990-2010
Adena (part)	692	676	636	-56
Amsterdam	669	568	511	-158
Bergholz	713	769	664	-49
Bloomington	227	221	202	-25
Dillonvale	857	781	665	-192
Empire	364	300	299	-65
Irondale	382	418	387	+5
Mingo Junction	4,297	3,631	3,454	-843
Mt. Pleasant	498	535	478	-20
New Alexandria	257	222	272	+15
Rayland	490	434	417	-73
Richmond	446	471	481	+35
Smithfield	722	867	869	+147
Steubenville City	22,125	19,015	18,659	-3,466
Stratton	278	277	294	+16
Tiltonsville	1,517	1,329	1,372	-145
Toronto City	6,127	5,676	5,091	-1,036
Wintersville	4,102	4,067	3,924	-178
Yorkville (part)	758	692	615	-143
Total	45,521	40,949	39,593	-5,928

Table 2-3 shows that every village decreased in population between 1990 and 2010, with the exceptions of Irondale, New Alexandria, Richmond, Smithfield, and Stratton. Overall, municipalities lost 5,928 people in the twenty years between 1990 and 2010. It should also be noted that the Village of Brilliant was disincorporated around 1993.

Table 2-4: Township Population over Time: 1990, 2000, and 2010

Township	1990	2000	2010	Change 1990-2010
Brush Creek Twp.	461	467	438	-23
Cross Creek Twp.	6,109	5,643	5,214	-895
Island Creek Twp.	6,870	7,513	6,477	-393
Knox Twp.	2,402	2,179	2,048	-354
Mt. Pleasant Twp.	1,556	1,503	1,374	-182
Ross Twp.	595	655	721	+126
Salem Twp.	3,293	2,691	2,667	-626
Saline Twp.	1,061	1,011	933	-128
Smithfield Twp.	2,180	1,804	1,819	-361
Springfield Twp.	1,262	1,231	1,192	-70
Steubenville Twp.	1,216	1,064	865	-351
Warren Twp.	2,199	2,044	1,828	-371
Wayne Twp.	2,349	2,012	2,030	-319
Wells Twp.	3,320	3,128	2,813	-507
Total Unincorporated	34,873	32,945	30,419	-4,454

Townships experienced a population loss between 2000 and 2010, with a decrease of 2,526 over the

decade. All townships except Ross experienced population losses between 1990 and 2010. Smithfield and Wayne had small gains between 2000 and 2010. It was noted that the stated 2000 Steubenville City population of 19,015 should be increased by 994, and Island Creek's should be decreased by that amount, because of an annexation that was not recorded properly by the Census information.

Table 2-5: Other Demographic Characteristics (2010 Census, 2007-2011 American Community Survey)

Characteristic	Jefferson County	Ohio
Median Age	43.7	38.5
Average Household Size	2.35	2.46
% Owner Occupied	73.5	68.7%
% HS Grad (25+)	87.3	87.8%
% Bachelors or higher	14.2	24.5%
Mean travel time to work	23.0	22.9 min.
Med Household income	\$39,453	\$48,071
Per Capita income	\$21,587	\$25,618
Families below poverty level	11.8	10.8%
Median Value Housing	\$85,700	\$135,600
Median mo. owner costs	\$963	\$1,308

Table 2-5 presents some additional information concerning Jefferson County's population. The County's median age, 43.7 years, is considerably older than the Ohio median, and concern has been expressed about the "aging" nature of its population. The lack of local employment opportunities in recent decades has contributed to younger people leaving the County, causing the remaining population as a whole to trend older.

Average household size in Jefferson County, at 2.35, is somewhat below the statewide average. This may be reflective of a larger percentage of older, "empty nest" households in the County. The owner occupied housing proportion is higher in Jefferson County than in the state as a whole, reflecting a possible lack of rental properties and, again, perhaps a more aged and "settled" population.

While the percentage of high school graduates among the population age 25 and older is similar to the Ohio average (87.3 vs. 87.8 percent), the percentage of people with a Bachelors Degree or higher among that same group, at 14.2 percent, is more than ten percent below the Statewide average of 24.5 percent. This points toward a need to provide more access to college and university programming for Jefferson County students and graduates, as well as retaining people who have already achieved Bachelor's Degrees or higher.

Income figures show a wide disparity between the County and the State. Median household income in the 2007-2011 ACS sample, at \$39,453, was less than eighty percent of the Ohio median of \$48,071. Similarly, per capita income was \$4,031 below the State's per capita figure. And the incidence of poverty, with 11.8 percent of County families in poverty, was one percentage point greater than for the state as a whole.

On the positive side, the cost of living was less in Jefferson County, with a median housing value of \$85,700 being less than two-thirds the Ohio median of \$135,600. As a result of this disparity, median

monthly owner costs, at \$963, were less than three-quarters of the State median.¹

Table 2-6: Age Ranges, 2010 (U.S. Census)

Age Bracket	Jefferson Co. #	Jefferson Co. %	Ohio %
Total	69,709	100.0	100.0
0-4	3,543	5.1	6.2
5-14	7,844	11.2	13.2
15-19	4,795	6.9	7.1
20-29	7,996	11.4	12.8
30-39	7,452	10.7	12.2
40-64	25,303	36.3	34.3
65-84	10,981	15.8	12.1
85 and over	1,775	2.5	2.0
16 and over	57,418	82.4	79.2
65 and over	12,756	18.3	14.1

Table 2-6 indicates that Jefferson County's population is skewed toward the elderly brackets relative to the State's, with smaller percentages of the total population in the age brackets up to age 39, a slightly larger percentage in the 40-64 bracket, and larger proportions for 65-84. It is notable that 18.3 percent are in the retired age range of 65 and over, which is 4.2 percentage points greater than the State's proportion.

Table 2-7: Occupation (2007-2011 American Community Survey data)

Occupation	Number	Percentage	Percentage (OH)
Management, Professional, related	7,665	26.6	33.8
Service occupations	5,737	19.9	17.4
Sales and office occupations	7,046	24.5	25.0
Nat. Resources, Construction, maintenance	3,407	11.8	8.1
Production, transportation, material moving	4,953	17.2	15.7
Total	28,808	100.0	100.0

Table 2-7 presents data on the occupations of Jefferson County residents from the recent ACS data, and a comparison with State-level data. There is a 7.2 percentage point difference, with the average State proportion being considerably higher, for management and professional workers. This reflects Jefferson County's history as a home of blue-collar jobs. As can be expected, the proportion of production, transportation, and material moving personnel slightly exceeds the State's as a whole, while service occupations show a 2.5-point higher incidence of workers, perhaps owing in part to the presence of three hospital facilities, educational institutions, and a number of retail establishments. Construction, extraction, and maintenance have a significantly higher (by 3.7 points) percentage of workers, likely due to the number of mining jobs within the county. This percentage is expected to rise

¹ Selected monthly owner costs are the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property (including payments for the first mortgage, second mortgages, home equity loans, and other junior mortgages); real estate taxes; fire, hazard, and flood insurance on the property; utilities (electricity, gas, and water and sewer); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fee for condominiums and mobile home costs (installment loan payments, personal property taxes, site rent, registration fees, and license fees).

considerably with the advent of the regional shale plays in Eastern Ohio. Finally, sales and office occupations are close to the State average, within half a percent.

Table 2-8 presents some data, now somewhat old, on commuter patterns and the journey to work. The table indicates that Jefferson County is a net exporter of workers, with out-commuters exceeding inbound ones by 2,871. The most common job sites for those working elsewhere are in Brooke (WV), Belmont (OH), and Allegheny (PA) Counties.

Table 2-8: Commuter Statistics (2000 Census)

Top Ten Counties where Jefferson County Residents Commute to Work			Top Ten Counties of Residence for Those who Work in Jefferson County		
# workers 16+ living in Jefferson Co.		28,793	# Workers 16+ working in Jefferson		25,922
Commute out to	Number	Percentage	Commute in from	Number	Percentage
Brooke Co. WV	2,377	8.3	Brooke Co. WV	1,296	5.0
Belmont Co. OH	1,236	4.3	Belmont Co. OH	1,129	4.4
Allegheny Co, PA	1,094	3.8	Hancock Co. WV	1,007	3.9
Hancock Co. WV	784	2.7	Harrison Co. OH	593	2.3
Ohio Co. WV	706	2.5	Columbiana Co. OH	517	2.0
Columbiana Co. OH	632	2.2	Ohio Co. WV	436	1.7
Harrison Co. OH	383	1.3	Carroll Co. OH	178	0.7
Carroll Co. OH	265	0.9	Allegheny Co. PA	175	0.7
Stark Co. OH	195	0.7	Washington Co. PA	171	0.7
Beaver Co. PA	154	0.5	Marshall Co. WV	147	0.6

As shown previously in Table 2-5, the average commuting time of 23.0 minutes is very close to the Statewide Average of 22.9 minutes. Of the 28,482 workers age 16 and over in Jefferson County, the 2007-2011 ACS counted 23,387 who drove alone in a car or truck, 2,627 who carpooled, 264 who took public transportation, 1,107 who walked, 116 who used other means, and 981 who worked at home. The Ohio Development Services Agency, which gathered the above data, reported that 31.3 percent, or nearly one-third, of the County's workers were employed outside Jefferson County.

Population Stability

It is informative to measure how mobile a population is, and to discern the degree to which households relocate within the county or from outside. Table 2-9 shows the previous residence, one year past, of those living in Jefferson County during the period surveyed.

Because of the conversion to a "rolling" population sampled over a five year period, surveyors now only ask about residence one year ago, rather than the previous question about five years prior. This survey covering 2007 through 2011 found that 62,932 people, or 91.1 percent, had not moved in the previous year. Of those who did, 3,574 (5.2 percent) moved within Jefferson County, 2,444 (3.5 percent) moved from another Ohio county, and 1,231 (1.8 percent) moved to the County from outside Ohio. Of the native population of 69,004 in Jefferson County, 49,142 (70.5 percent) were born in Ohio, and 19,578 were born in another state.

Table 2-9: Residence 1 year ago (2007-2011 ACS)

	Number in County	Percentage
Total age 1 and over	69,083	100.0
Same house	62,932	91.1
Different house in U.S.	6,018	8.7
Same County	3,574	5.2
Different County	2,444	3.5
Same State (Ohio)	1,213	1.8
Different State	1,231	1.8
Native Population	69,004	99.0
Born in U.S.	68,720	98.6
Born in Ohio	49,142	70.5
Born in different state	19,578	28.1
Born in U.S. possession or abroad to American parents	284	0.4
Foreign born	668	1.0

School Enrollment and Attainment

According to the 2007-2011 ACS, there were 16,170 Jefferson County residents age 3 and over enrolled in school, including 1,185 in nursery school or preschool, 743 in kindergarten, 6,080 in grades 1-8, 3,702 in grades 9-12, and 4,460 in college or graduate school. With regard to educational attainment, of the population aged 25 or older, 1,824 (3.7%) had less than a ninth grade education, 4,382 (8.9%) achieved 9th to 12th grade with no diploma, 21,677 (44.2%) were high school graduates, 9,150 (18.7%) had some college education but no diploma, 5,027 (10.3%) had an associate's degree, 4,282 (8.7%) had a bachelor's degree, and 2,668 (5.4%) had a graduate or professional degree. High school graduates made up 87.3 percent of the 25+ population, and college graduates were 14.2 percent.

Table 2-10: School Districts in Jefferson County (Ohio Department of Education)

District	2010-2011 Report Card Designation	Avg. Daily Enrollment 2010-2011	2010-2011 % of economically disadvantaged	2010-2011 % of seniors who graduated
Buckeye Local (Brilliant, Rayland Yorkville, Adena)	Excellent	1,944	54.7	94.5
Edison Local (Bergholz, Hammondsville, Richmond)	Excellent	1,949	42.5	>95%
Indian Creek Local (Wintersville, Mingo Junction, Bloomingdale)	Effective	2,215	52.0	93.1
Steubenville City	Excellent	2,252	66.0	>95%
Toronto City	Effective	781	57.4	91.9%

There are five major school districts in Jefferson County. Table 2-10 summarizes those districts and their average daily enrollment in the 2010-2011 school years. Additionally, the table summarizes the 2010-2011 "report card" grade based on achievements over thirty criteria. All districts were designated excellent or effective, both of which are positive designations. Table 2-10 also provides

average daily enrollment totals for the 2010-2011 school year. There are two other school districts serving portions of Jefferson County: Harrison Hills, to the west, which mostly serves Harrison County, and Southern Local, to the north, which mostly serves Columbiana County.

Housing

The 2007-2011 ACS reported on a number of housing characteristics. Table 2-11 summarizes this information. Of Jefferson's 32,892 housing units counted for the ACS, 28,741 were occupied and 4,151 (12.6 percent) were vacant. Of the occupied units, 21,214 (73.5 percent) were owner occupied and 7,627 (26.5 percent) were renter occupied.

Recent data provided by the Ohio Development Services Agency show that 11 units were constructed in 2005, nine in 2006, 124 in 2007 (including 106 units in multi-unit buildings), 52 (all single units) in 2008, 11 in 2009, four in 2010, three in 2011, and seven in 2012. Of these 221 units constructed over seven years, 107 were single unit buildings, and 114 were in multi-unit buildings (with 106 of those units in multi-unit buildings constructed in 2007).

Table 2-11: Housing Data for Jefferson County (2007-2011 ACS)

Units in Structure		Value of specific owner-occupied units	
1 unit-detached	25,364 77.1%	Less than \$50,000	4,626 21.9%
1 unit attached	528 1.6	\$50,000-99,999	8,131 38.5
2 units	1,644 5.0	\$100,000-149,999	4,615 21.9
3 or 4 units	1,100 3.3	\$150,000-199,999	2,057 9.7
5 to 9 units	726 2.2	\$200,000-299,999	1,112 5.3
10-19 units	375 1.1	\$300,000-499,999	367 1.7
20 or more units	942 2.9	\$500,000-999,999	107 0.5
Mobile home	2,191 6.7	\$1,000,000 or more	99 0.5
Boat, RV, van, etc.	22 0.1	House Heating Fuel	
Year Structure Built		Utility gas	14,296 49.7
Built 2005 or later	408 1.2	Bottled tank/LP gas	1,340 4.7
Built 2000-2004	869 2.6	Electricity	7,279 25.3
Built 1990-1999	2,028 6.2	Fuel oil, kerosene	4,526 15.7
Built 1980-1989	1,813 5.5	Coal or coke	119 0.4
Built 1970-1979	5,080 15.4	Wood	1,022 3.6
Built 1960-1969	4,978 15.1	Solar energy	0 0.0
Built 1940-1959	9,235 28.0	Other fuel	115 0.4
Built 1939 or earlier	8,481 25.8	No fuel used	44 0.2

Source: 2007-2011 American Community Survey, U.S. Census

Table 2-11 indicates that the great majority of housing units, over three-fourths, are single detached units. The table also depicts a relatively aging housing stock, with over half the units constructed before 1960. The table also indicates housing affordability, with 60.4 percent of the units valued at less than \$100,000. Further, utility gas heats nearly half the homes, and electricity heats one-fourth.

Race, Ethnicity, and Ancestry

Jefferson County celebrates a variety of ethnic heritages. The 2007-2011 ACS found the most common ancestries, with at least 1,000 people claiming them, to be: German (13,360), Irish (11,853), Italian (9,368), English (6,472), Polish (5,565), American (3,426), Hungarian (1,901), Slovak (1,798), Scotch-Irish (1,754), Scottish (1,439), Dutch (1,162), French (1,037), and Welsh (1,013).

With regard to race, the 2010 Census counted 64,077 White (91.9 percent of total population), 3,879 Black (5.6 percent), 96 American Indian (0.1 percent), 288 Asian (0.4 percent), 9 Native Hawaiian or Pacific Islander (0.0 percent), and 1,210 persons claiming two or more races (1.7 percent). The County also had 773 persons of Hispanic/Latino ethnicity (1.1 percent).

Unemployment and Workforce

Jefferson County has experienced chronically high unemployment for many years. Much of this chronic unemployment has followed the decline of the steel and related industries in the Ohio River Valley. Table 2-12 compares the County unemployment rate with the Ohio rate over the past few decades, and over a recent twelve-month period to depict the degree of “seasonality” of unemployment.

Unemployment wavered between five to six percent in 1970, 1990, and 2000, and experienced a spike to 10.2 percent during the recession of 1980. Most recently, unemployment reached 13.4 percent on average in 2005 and 2010, with the number of unemployed reaching an average of 4,300 people in 2010. The County’s unemployment rate has consistently exceeded the State of Ohio’s average rate. The number of unemployed has increased over time, aside from a peak during the 1980 recession, and this number has been over 3,000 for a year.

Table 2-12: Unemployment, Jefferson County and Ohio

Time Period	Labor Force	Employed	Unemployed	Rate	Ohio
1970	35,500	33,600	1,900	5.4	5.4
1980	38,600	34,700	3,900	10.2	8.5
1990	32,400	30,400	2,000	6.1	5.7
2000	31,700	29,900	1,800	5.7	4.0
2005	31,600	29,200	2,300	13.4	10.1
2010	32,200	27,900	4,300	13.4	10.1
2011	31,000	27,500	3,500	11.2	10.0
2012	30,800	27,600	3,200	10.3	7.2
Jan 2013	30,200	26,600	3,600	12.0	8.4
Feb 2013	30,300	2,700	3,300	10.8	7.8
Mar 2013	30,300	27,200	3,100	10.1	7.3
Apr 2013	30,000	27,200	2,800	9.4	6.7
May 2013	30,200	27,100	3,100	10.3	6.9

Source: Ohio DJFS Labor Market Information

Jefferson County's Economy

Table 2-13 presents a view of the County's economy by sector, as depicted in the Census Bureau's "County Business Patterns." The most recent year for which information is presented is 2011. The Jefferson County Auditor's office annually lists the County's largest employers. In the most recent report (2011), the following were listed as largest: Trinity Health Care System (2,186 employees), Arcelor Mittal Steel (988), Wal-Mart Distribution Center (728), Titanium Metals Corporation (692), Jefferson County (658), Franciscan University (450), First Energy (450), Eastern Gateway Community College (410), Steubenville City School District (408), and Wal-Mart (376). This differs greatly from the employer list from 2002, which listed, in order, Weirton Steel (3,500 employees), Wheeling-Pittsburgh Steel Corp. (2,480), Trinity Health System (1,900), Jefferson County (865), Titanium Metals Corporation (500), First Energy (440), Franciscan University (306), American Electric Power (253), Jefferson Community College (220), and Ogden Newspapers (189).

The Business Pattern data provide a good summary of the makeup of a local economy, in terms of the number of establishments and employees. In 2011, the largest sector in terms of employment was health care and social assistance, (owing in large part to the County's hospitals) followed by retail trade. Next were accommodation and food services, education services (with five public school systems, a private university, and a community college, as well as parochial schools), manufacturing, and transportation and warehousing (helped in large part by the Wal-Mart distribution center).

Table 2-13: 2011 County Business Patterns, Jefferson County

Sector	Employees	Estabs	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1,000 +
Total	19,353	1,301	634	308	199	94	41	17	4	2	2
Forestry fishing hunting ag	0-19	1	1	0	0	0	0	0	0	0	0
Mining	20-99	11	9	1	0	0	1	0	0	0	0
Utilities	500-999	9	4	0	0	0	3	0	2	0	0
Construction	521	103	68	19	12	3	1	0	0	0	0
Manufacturing	1,417	34	10	7	7	6	1	2	0	1	0
Wholesale Trade	662	52	18	13	10	9	2	0	0	0	0
Retail Trade	3,273	223	66	73	52	22	6	3	1	0	0
Transp. and Warehousing	1000-2499	39	17	7	8	5	0	1	0	1	0
Information	422	23	10	2	6	1	4	0	0	0	0
Finance and Insurance	521	83	45	28	8	1	0	1	0	0	0
Real Estate, rental, leasing	170	34	20	11	3	0	0	0	0	0	0
Prof, scientific, Technical	330	83	54	22	7	0	0	0	0	0	0
Mgt of companies	20-99	7	4	2	1	0	0	0	0	0	0
Admin, support, waste mgt	990	69	34	11	8	10	5	1	0	0	0
Educational Services	1,532	9	0	3	3	2	0	0	0	0	1
Health Care & social assist	4,343	159	63	42	24	10	10	8	1	0	1
Arts, entertain, recreation	114	24	18	3	2	1	0	0	0	0	0
Accommodation, food	1,793	132	54	27	23	20	7	1	0	0	0
Other services (not public)	1,039	205	138	37	25	4	1	0	0	0	0
Unclassified	0-19	1	1	0	0	0	0	0	0	0	0

Source: U.S. Census, 2011 County Business Patterns

In terms of the number of businesses in each sector, retail trade had by far the largest number, with 223 establishments, followed by “other services” with 205, health care and social assistance with 159, accommodation and food services with 132, and construction with 103. The Census only counted 34 manufacturing enterprises, employing 1,417. The above sectors are examined over time to note changes, and some specific sectors are broken out in more detail in some tables that follow.

Table 2-14 examines the makeup of the private sector in the decade between 2000 and 2010, and there were some significant changes over the ten-year period covered. Overall, employment declined by nearly 3,000, or 13.4 percent. The number of establishments decreased by 219, or 14 percent, with these numbers reflecting a significant loss in employers and employees. There was some notable movement between the sectors. Manufacturing dropped by a very significant 2,496 jobs, or nearly two-thirds of that sector’s jobs. This steep loss parallels the decline in the steel industry. And, as typically occurs, a precipitous drop in manufacturing will have shattering effects upon the supportive sectors as well. In this case, retail trade lost 696 jobs, a drop of 18 percent. The construction trades lost 344 jobs, a nearly 40 percent loss. On the plus side, some service sectors witnessed increases. Educational services increased by 394 jobs, health care and social services gained 153, and accommodations and food services gained 99 jobs.

Table 2-14: County Business Patterns over Time

Sector	2010		2000		Change 2000-2010	
	Employees	Establishments	Employees	Establishments	Employees	Establishments
Total	19,328	1,344	22,326	1,563	-2,998	-219
Forest/fish/hunt/ag	1-19	1	1-19	3	---	-2
Mining	20-99	11	66	8	---	+3
Utilities	500-999	10	806	10	---	0
Construction	518	98	862	154	-344	-56
Manufacturing	1,428	37	3,924	40	-2,496	-3
Wholesale Trade	648	55	796	61	-148	-6
Retail Trade	3,136	230	3,832	306	-696	-76
Transport/Warehouse	1000-2499	45	312	49	---	-4
Information	447	24	503	26	-56	-2
Finance & Insurance	647	87	693	96	-46	-9
R.E. and rental	205	37	234	49	-39	-12
Prof, scientific, Tech	340	86	419	96	-79	-10
Mgmt of companies	100-249	6	50	4	---	+2
Admin, support	978	70	1,068	56	-90	+14
Educational Services	1,586	10	1,192	19	+394	-9
Health Care/Social	4,034	158	3,881	144	+153	+14
Arts, entertain, rec	117	26	222	26	-105	0
Accomm/food services	1,822	139	1,723	148	+99	-9
Other services	1,035	211	1,716	251	-41	-40
Unclassified	3	3	20-99	17	---	-14

Source: U.S. Census, 2000 and 2010 County Business Patterns

Manufacturing

A quick look at the breakdown of the manufacturing sector helps identify which industries and products predominate in Jefferson County. Table 2-15 presents those specific product lines that made up the County's 34 manufacturing enterprises in 2011.

Jefferson County was home to just four manufacturing firms with fifty or more employees in 2011, three of which specialized in primary metal manufacturing; the fourth specialized in wood product manufacturing.

The greatest concentrations of establishments were in fabricated metal products (with five firms and 20-99 employees), nonmetallic mineral products (three firms and 20-99 employees), wood product manufacturing (3 firms and 100-249 employees), and printing and related activities (four firms but only 20-99 employees). Food manufacturing has four firms but fewer than 20 employees. Certainly, the relatively small size and impact of the manufacturing sector does not lead to the identification of any specific and significant cluster of similar businesses. However, the presence of five metal fabricating plants, three wood product plants, three nonmetallic mineral products plants, and a variety of other small and diverse shops provides at least a basic starting point for support to the nascent natural gas extraction industry.

Table 2-15: Manufacturing in Jefferson County, 2011

Manufacturing Products (2010 CBP)	Estabs	1-4	5-9	10-19	20-49	50-99	100- 249	250- 499	500- 999	Paid Emp's
Manufacturing (total)	34	10	7	7	6	1	2	0	1	1,417
Food manufacturing	4	3	0	1	0	0	0	0	0	0-19
Wood Product manufacturing	3	1	0	1	0	0	1	0	0	100-249
Paper manufacturing	1	0	0	0	1	0	0	0	0	20-99
Printing & related support activities	4	2	0	1	1	0	0	0	0	20-99
Chemical Manufacturing	2	0	0	0	2	0	0	0	0	20-99
Plastics and rubber products	1	1	0	0	0	0	0	0	0	0-19
Nonmetallic mineral product mfg	3	0	1	2	0	0	0	0	0	20-99
Primary metal manufacturing	3	0	0	0	0	1	1	0	1	500-999
Fabricated metal product mfg	5	2	2	1	0	0	0	0	0	20-99
Machinery manufacturing	1	0	0	0	1	0	0	0	0	20-99
Computer and electronic product	1	0	1	0	0	0	0	0	0	0-19
Transportation equipment mfg	2	0	1	1	0	0	0	0	0	0-19
Furniture and related product mfg	1	1	0	0	0	0	0	0	0	0-19
Miscellaneous manufacturing	3	0	2	0	1	0	0	0	0	20-99

Source: 2011 County Business Patterns

It can be instructive to similarly break down other sectors to note where concentrations of employees and of establishments are, to note any cluster or areas of specialization where Jefferson County has become predominant. The following table examines some of those sectors in more detail, as table 2-15 examined manufacturing.

Other Significant Sectors

Table 2-16 provides some detail in selected economic sectors with significant employment in Jefferson County. Coal mining accounts for nine establishments, with eight small surface mining businesses and one underground firm employing 20-99. Utilities account for nine enterprises hiring between 500 and 999 employees. The “other services” sector had 205 establishments, such as religious, grant making, civic, professional, and similar organizations. Retail trade had 223 establishments, with the largest number of employees (840) working in general merchandise, followed by food and beverage stores (with 682), motor vehicles and parts (417), gasoline stations (336), and building materials and garden supplies (301).

Health care and social assistance (with most of the employment in health care) has become another large segment of the County’s employment picture, as it has in many rural counties with regional hospitals, and with employment in health care split fairly evenly between ambulatory health care services, hospitals, and nursing and residential care. Another somewhat sizeable sector was accommodations and food services, which was largely comprised of food services and drinking places (including restaurants and bars, accounting for 1,689 of the 1,793 jobs in this sector).

Table 2-16: Other Significant Sectors and Lines of Business in Jefferson County (County Business Patterns 2011)

	Estabs	1-4	5-9	10-19	20-49	50-99	100-249	250-499	1000+	Paid Emp's
Other Services	205	138	37	25	4	1	0	0	0	1,039
Repair and maintenance	37	27	8	2	0	0	0	0	0	125
Personal and Laundry services	41	18	12	9	2	0	0	0	0	302
Religious, grant making, civic, professional, and similar organizations	127	93	17	14	2	1	0	0	0	612
Utilities	9	4	0	0	0	3	0	2	0	500-999
Electric power gen, trans, dist	8	4	0	0	0	2	0	2	0	500-999
Natural gas distribution	1	0	0	0	0	1	0	0	0	20-99
Retail Trade	223	66	73	52	22	6	3	1	0	3,273
Motor Vehicles and Parts	30	8	8	8	5	1	0	0	0	417
Furniture and Home Furnishings	7	3	2	2	0	0	0	0	0	59
Electronics and Appliances	4	2	2	0	0	0	0	0	0	0-19
Building Materials and Garden	18	6	8	1	2	0	1	0	0	301
Food and Beverage	29	6	7	7	6	1	2	0	0	682
Health and Personal Care	23	4	9	12	4	0	0	0	0	203
Gasoline Stations	29	4	9	12	4	0	0	0	0	336
Clothing and Clothing Accessories	20	9	9	2	0	0	0	0	0	103
Sporting Goods/Hobby/Book/Music	8	1	3	2	2	0	0	0	0	97
General Merchandise	19	2	8	2	2	4	0	1	0	840
Miscellaneous Stores	26	11	9	6	0	0	0	0	0	174
Health Care/Social Assistance	159	63	42	24	10	10	8	1	1	4,343
Ambulatory health care services	113	47	36	17	8	3	2	0	0	1,204
Hospitals	4	0	0	0	0	0	2	1	1	1,988
Nursing and residential care	24	9	2	4	1	6	2	0	0	759
Social assistance	18	7	4	3	1	1	2	0	0	392
Accommodation, Food Services	132	54	27	23	20	7	1	0	0	1,793
Accommodations	5	2	0	1	1	1	0	0	0	104
Food services and drinking places	127	52	27	22	19	6	1	0	0	1,689

Regional Context

Jefferson County and its county seat, Steubenville, are situated on the eastern border of Ohio, just west of the city of Weirton, West Virginia. It is part of the three-county Steubenville-Weirton Standard Metropolitan Statistical Area, which includes Brooke and Hancock Counties in West Virginia in addition to Jefferson County. It is Jefferson County's proximity to Pittsburgh and its western suburbs that make it take on a "suburban" role to some extent. As noted in Table 8, 1,094 people commute from Jefferson County to Allegheny County (Pittsburgh), Pennsylvania. And many respondents in interviews conducted in the preparation of this plan have cited Robinson Township in Pennsylvania as a destination for shopping and entertainment.

Jefferson County is adjacent to seven other counties (four in Ohio, three across the river in West Virginia), which are mostly rural in character. Table 2-17 provides some basic comparative information on Jefferson County and its neighbors. Jefferson County has the third largest population of these eight counties. Many of the adjacent counties do not have a significant population and activity center like Steubenville. For example, nearby Harrison County has a total population of only 15,850, and people from nearby counties like Harrison will often come to Jefferson County to shop. The Fort Steuben Mall and surrounding area including shopping plazas and outlots is a regional shopping destination.

Table 2-17: Jefferson and Adjacent Counties (2010 Census, economic census, and 2007-2011 ACS data)

County	2011 Population Estimate	Median housing value ACS	Median Household Income ACS	Private '07 nonfarm employment	Manufactur. Shipment 2007 (000)	Retail sales '07 (000) and sales per capita	Persons per Sq. Mi. 2000
Jefferson	68,828	\$85,700	\$39,453	20,685	D ²	\$721,472 \$10,525	170.7
Belmont OH	70,151	\$86,500	\$39,712	19,314	\$500,855	\$888,815 \$12,993	132.3
Carroll OH	28,782	\$112,000	\$43,323	4,815	\$344,597	\$163,596 \$5,687	73.1
Columbiana OH	107,570	\$97,700	\$41,003	25,689	\$1,572,135	\$1,064,159 \$9,782	202.7
Harrison OH	15,850	\$84,200	\$36,920	2,564	\$165,163	\$52,855 \$3,418	39.4
Brooke WV	23,844	\$85,000	\$41,441	7,531	\$2,645,118	\$158,111 \$6,673	269.8
Hancock WV	30,571	\$87,400	\$38,369	10,127	D	\$238,492 \$7,934	371.3
Ohio WV	44,246	\$95,800	\$41,188	27,574	D	\$649,939 \$14,665	420.0
State of Ohio	11,544,951	\$135,600	\$48,071	4,460,553	\$295,890,890	\$138,816,008 \$12,049	282.3

Source: U.S. Census, State and County Quickfacts

² "D" indicates that the exact number was not disclosed.

Population density is a rough measure of the relative urban or rural nature of a county, and at 170.7 people per square mile, Jefferson County appears to be somewhat in the middle between the more rural counties such as Harrison, and the more urban or suburban counties east of the Ohio River and within the Pittsburgh-to-Wheeling corridor. Seems like urban would make more sense above

Housing values in Jefferson County as reported in the ACS were somewhat low for the region, and higher than only Harrison and Brooke Counties. Household income was also the third lowest. Unfortunately, manufacturing shipment amounts were not disclosed for Jefferson County. Retail sales were somewhat robust, and the sales per capita figure was higher than all but Belmont (which has a regional shopping destination along I-70 in St. Clairsville) and Ohio County WV, in which the Highlands development and others are located.

Location Quotients

One measure of the relative importance of differing sectors in a local economy is the calculation of location quotients. This quotient is the ratio of the percentage of the local workforce in a specific sector to the percentage of the total workforce in that sector in the nation, state, or other larger area with which to be compared. Thus, a location quotient in a particular sector that is over 1.0 indicates that this sector is of greater relative importance in the local economy, and that this sector involves a “basic” industry or sector that is likely exporting its products and services out of the county, which brings in money to support non-basic sectors. The U.S. Bureau of Labor Statistics provides location quotients at a county level for the broad economic sectors, and Table 18 includes location quotients comparing the County to both the State of Ohio and the nation.

The following table provides those location quotients based on the Bureau of Labor Statistics’ December 2011 data. Other sectors with ratios exceeding 1.0, when compared with Ohio, were information (1.74), transportation and warehousing (1.68), construction (1.50), retail trade (1.24), real estate, rental, and leasing (1.02) and other services (also 1.02).

Table 2-18: Location Quotients, December 2011 (Bureau of Labor Statistics)

Sector	% Employment 2011	Location Quotient, Ohio	Location Quotient, U.S.
Utilities	4.99	10.99	9.82
Construction	6.20	1.50	1.23
Manufacturing	8.42	0.56	0.78
Wholesale Trade	3.31	0.65	0.65
Retail Trade	16.26	1.24	1.20
Professional and Technical	1.88	0.33	0.26
Management of Companies	0.16	0.06	0.09
Admin and Waste Services	4.40	0.64	0.62
Transportation/warehousing	6.25	1.68	1.67
Information	3.12	1.74	1.26
Finance and Insurance	2.12	0.43	0.42
Real Estate, Rental, Leasing	1.38	1.02	0.78
Arts, Entertain, Recreation	1.23	0.83	0.69
Accommodation/Food serv.	8.89	0.90	0.85
Other services except public	3.60	1.02	0.88
Unclassified	0.10	1.85	0.58

Note: Data on educational services and on health care/social assistance were not disclosed.

Unfortunately, some sectors with few employers, such as educational services, agriculture, mining and quarrying, and health care and social assistance, were not disclosed. Manufacturing was a relatively low 0.56, indicating that the manufacturing sector in Jefferson County had just more than half the relative employment that it does state-wide.

The national location quotients are somewhat different, since Ohio's mix of employment by sector diverges from the national average. Highest location quotients, indicating the highest percentage of workers above the national norm in a given sector, were found in these sectors: transportation/warehousing (1.67), information (1.26), construction (1.23), and retail trade (1.20). It is expected that employment changes brought about by a future increase in the shale gas segment may alter some of these ratios in the coming years.

Tax Base

Table 2-19 shows the relative changes in the taxable value of real property by use in Jefferson County between 2002 and 2010, the last year for which information is available at the Ohio Development Services Agency, Policy Research and Strategic Planning Office. This provides a comparative analysis of the relative value and change in value of real estate.

This table indicates the relative importance of residential real property to the County, accounting for over seventy percent of taxable real property throughout this period. All property classifications increased over the time period covered, but their proportionate size in the County varied, with commercial holding even, residential losing slightly over time (by 0.8 percent), industrial value dropping by 0.1%, and agriculture increasing somewhat, from 7.5 to 8.1 percent. Mineral taxable value was relatively small, but roughly doubled in 2010, an indicator of things to come with the growth of the Utica and Marcellus shale plays and some resulting surges in property values.

Table 2-19: Taxable Value of Real Property, in millions of dollars, 2005-2010, Jefferson County

Category	2005	2006	2007	2008	2009	2010
Total tax value	792.3	904.5	913.2	919.3	895.9	901.0
Agricultural	59.3	73.3	73.6	73.3	72.4	73.1
% of Total	7.5	8.1	8.1	8.0	8.1	8.1
Commercial	110.6	114.2	119.4	121.8	122.8	126.2
% of Total	14.0	12.6	13.1	13.2	13.7	14.0
Industrial	61.4	69.7	69.9	69.6	69.6	69.8
% of Total	7.8	7.7	7.6	7.6	7.8	7.7
Mineral	1.3	1.4	1.4	1.9	1.5	2.9
% of Total	0.2	0.2	0.2	0.2	0.2	0.3
Residential	599.6	645.9	649.0	652.8	629.7	629.1
% of Total	70.6	71.4	71.1	71.0	70.3	69.8

Table 2-20 presents data from the U.S. Census of Agriculture which is conducted every five years.

Interestingly, the data show that, counter to the national trend toward fewer but larger farms, the number of farms in Jefferson County actually grew from 461 to 475 between 1992 and 2007, with the average size holding steady at 146 acres. The total cropland acreage shrank from 35,396 acres to only 31,688, but the acreage that was actually harvested increased, from 22,727 to 24,523 acres.

Table 2-20: Agriculture in Jefferson County

Characteristic	2007	2002
Number of Farms	475	461
Land in Farms (acres)	69,468	67,231
Average Size of Farm (acres)	146	146
Median Size of Farm (acres)	91	115
Total Cropland (acres)	31,688	35,396
Total Cropland Harvested (acres)	24,523	22,727
Market Value of Agricultural Products Sold	9,309,000	6,765,000
Crop Sales	3,525,000	2,651,000
Livestock Sales	5,784,000	4,114,000
Average Market Values of Sales per Farm	19,599	14,674
Farms by Value of Sales: Less than \$2,500	207	216
\$2,500-4,999	59	74
\$5,000-9,999	62	54
\$10,000-24,999	76	53
\$25,000-49,999	19	24
\$50,000-99,999	28	23
\$100,000 or More	24	17
Operator's Primary Occupation: Farming	216	230
Other	259	231
Cattle Inventory: Beef Cows	4,433; 242 farms	3,891; 214 farms
Cattle Inventory: Milk Cows	1,819; 31 farms	1,262; 31 farms
Hogs and Pigs sold	1,140; 25 farms	1120; 24 farms
Sheep and Lambs Inventory	4,310; 249 farms	816; 23 farms
Layers (Chickens) Inventory	507; 31 farms	511; 29 farms
Selected Crops Harvested: Corn for Grain	1,597 acres; 57 farms	727 acres; 49 farms
Corn for Silage and Greenchop	1,007 acres; 27 farms	987 acres; 22 farms
Wheat for Grain	229 acres; 12 farms	238; 21 farms
Oats for Grain	425 acres; 33 farms	565; 47 farms
Soybeans for beans	624 acres; 7 farms	97; 3 farms
Forage – land for hay and hayage, grass silage, greenchop	20,397 acres; 333 farms	20,124; 326 farms

Source: 2002 and 2007 Census of Agriculture.

The market value of agricultural products grew slowly and steadily, with livestock outselling crops, \$5.8 million to \$3.5 million, respectively. Both segments enjoyed growth between 2002 and 2007. Average market sales increased one-third, rising from \$14,674 to \$19,599 per farm.

Of the 475 farms counted in 2007, 59 farms, or 12 percent, sold less than \$2,500 in farm products; these could be characterized more as “hobby farms” that supplement other more prominent sources of income. At the other end of the scale, the number of farms with sales of \$100,000 or more did grow, from 17 in 2002 to 24 in 2007, and the number selling \$50,000 to \$99,000 also grew slightly,

from 23 to 28.

The number of farm operators whose primary occupation is farming stayed about steady during the period covered, decreasing slightly from 230 to 216; operators whose primary source of income was some other means grew from 231 to 259 over the same period.

In terms of trends and the relative importance of specific livestock and crops, the bottom portion of Table 23 shows that beef cattle and milk cattle increased, by 542 and 557 respectively, as did sheep and lambs (by 3,494), while hogs and pigs and layer chickens remained level.

Crops have continued to be of relatively less importance than livestock, although the acreage devoted to corn for grain increased significantly. Soybeans also grew proportionately, although the total acreage for 2007 was only 624 acres. In all, agriculture remained (and remains) a major land use and economic force within Jefferson County.

3

Natural Features and Agricultural Preservation



Jefferson County is situated within the Appalachian Foothills region of Eastern Ohio. The County borders the Ohio River and is connected to Weirton, West Virginia and other easterly destinations by two vehicular bridges and rail crossings. Jefferson County is adjacent to six other counties: Hancock and Brooke Counties, to the east across the Ohio River in West Virginia, and in Ohio, Columbiana to the north, Carroll and Harrison to the west, and Belmont to the south.

The most significant natural resources in the county are soil, various bedrock layers that crop out on hillsides, forest timber, sand, gravel, water, oil, and natural gas. Coal mining has been a very important part of the local economy in the past, since deep mining activity started in the mid-1800's. Surface mining activity began after World War I and expanded during World War II. Deposits of Pittsburgh coal north of State Route 151 were extracted mostly by surface mining, and the rest of the deposits were mostly deep mined. Surface mining activities for Waynesburg coal were active in Mt. Pleasant, Warren, and Wells Townships. Lower and Middle Kittanning and Lower and Upper Freeport coals have been mined underground and in the valleys of the northern part of the county, and Harlem coal was mined in Salem Township.

Altogether, strip mining was conducted on 48,221 acres in Jefferson County. Additionally, sand and gravel have been extracted from several locations along the Ohio River.

Shale Oil and Gas Extraction

Prior to the recent interest in shale oil and gas extraction, most of the oil and natural gas produced in the county was from wells in the Berea sands of the Mississippian System. The approximate depth of these wells was generally 1,300 to 1,800 feet, although the wells in the Yellow Creek valley were only 600 to 900 feet deep. There were about 400 wells in the county in 1930, but few remained active in the 1980's.

Shale oil and gas extraction by horizontal hydraulic fracturing in Jefferson County is in a relatively early stage as this plan is being completed. Current data through July 18, 2013 from the Ohio Department of Natural Resources indicate that there have been 36 Utica well permits and 2 Marcellus well permits issued in Jefferson County¹. The Utica permits include 12 in Springfield Township, six each in Ross and Salem three in Brush Creek, two apiece in Wayne and Cross Creek, and one each in Saline, Island Creek, Wells, Warren, and Smithfield. The two Marcellus permits are in Cross Creek and Wayne Townships.

The process of hydraulic fracturing has enabled the oil and gas industry to access gas and oil present in Marcellus and Utica deposits within a region that includes Jefferson County. Shale gas wells are typically drilled 5,000 to 8,000 feet underground, beneath the freshwater aquifers, and a mixture of 98 percent sand and water with chemical additives is injected at high pressure to fracture the shale. The sand keeps the fractured shale open and serves as a conduit for extracting the natural gas. It can take up to four million gallons of fresh water to fracture a single well. This water usually comes from a stream, river, reservoir, or lake near the drill site, or in some cases, from a local municipal water plant. This process can thus constrain the local supply of fresh water and its existence in local rivers or streams. In 2011, more than 73 billion cubic feet of natural gas was produced in Ohio; this is expected to increase dramatically as more wells come on line and pipelines are constructed to deliver the product.

A single well pad will typically have a four to six acre footprint, to account for the substantial amounts of water and chemicals required during the fracturing process. However, horizontal drilling techniques allow for the drilling of numerous wells at a single well site, reducing the number of total well sites considerably.

¹ Current and cumulative Utica and Marcellus permitting activity can be viewed at <http://oilandgas.ohiodnr.gov/shale#SHALE>.

The Ohio Department of Natural Resources, Division of Oil and Gas Resource Management has primary regulatory authority over oil and gas drilling activity in Ohio, including regulations for well construction, siting, design, and operation. ODNR also regulates the disposal of brine and drilling fluids from oil and gas drilling and production. Further, Ohio EPA water quality certification requirements help reduce impacts to wetlands, streams, rivers, and other waters. EPA also regulates sources of air emissions, and may require air permits for some of the equipment at the drill site. The volume of truck traffic created by the construction and development of a well site is not covered under EPA's or ODNR's regulations; however, road maintenance agreements have often been worked out between the oil and gas developer and affected local governments (typically townships) to improve roadways to be able to handle the increased heavy truck traffic.

Map 4 presents the location of Utica well permit locations in Jefferson County. Further discussion of the potential and multi-faceted impact of the shale oil and gas industry upon Jefferson County is included in the land use chapter.

Coal Mining and Resources

Jefferson County is located within the coal mining region of Ohio. (See Map 5, "Abandoned Underground Mines in Jefferson County", and Map 6, "Surface Mined Areas of Jefferson County".) Coal mining figured heavily in the history of a large portion of the County's land surface. There were two major coal fields that included portions of the County. The Amsterdam-Salineville field in the northern part of the county included the villages of Amsterdam, Bergholz, and East Springfield, and facilities to support the industry included a mine at Wolf Run, company houses in Amsterdam and Bergholz, the Jessie Mine near East Springfield, and a rail yard in Bergholz. One mine, the Sterling Mining Corporation, located between Bergholz and Salineville to the north, is still in operation. There were numerous other mines in this area, and a historical account of the Bergholz area noted that "The development of the coal industry appears to be the single most important factor in the growth of Bergholz and the surrounding area and continues to be an important economic factor today."²

The Pittsburgh #8 field covered the southwest corner of the County, including the villages of Dillonvale and Adena. A company-built town named Glen Robbins existed on the Jefferson-Belmont County line. This field was the site of significant strip mining, and much of the land in this region is reclaimed former strip mining land.

² Marianne W. Featheringham, "The Bergholz Story: A History of Bergholz and the Surrounding Area 1805-1976", published by the Bergholz Junior Women's Club.

The 2011 report on coal mining in Ohio, compiled by the Ohio Department of Natural Resources, noted that in 2011, two mines, reporting out of a total of seven coal mines in Jefferson County, produced 1,602,298 tons of coal, with 421,726 produced underground by two coal mines, and the remaining 1,180,572 tons produced by surface methods, including strip (319,840 short tons), auger (39,913), and highwall (820,819). Jefferson County ranked fifth among Ohio counties in coal production in 2011. The coal extracted from Jefferson County was exclusively disposed by truck (1,106,001 of 1,367,374 tons) and conveyor (261,373 tons). A small amount (1,239) was stored. Total value mined was \$56,208,280.

The 2011 ODNR report provided an alphabetical directory of producing coal mine operators. The list included these Jefferson County mines:

- F&M Coal Co., 3925 County Road 56, Toronto; Grabbit Pit (9,200 tons in 2011).
- Ohio American Energy, Inc., 34 Kelley Way, Brilliant; Salt Run (462,395 tons) and North Star Mine (617,152 tons).
- Oxford Mining co. LLC, based on Coshocton, OH; Ellis mine (2,991 tons).
- Rosebud Mining, based in Kittanning, Pa; Kirk mine (88,834 tons) and Bergholz mine (161,592 tons).
- Sterling Mining Co., based in North Lima, OH; SMC-Shinn Hill (260,134 tons).

Topography

The County is characterized by extremely steep bluffs along the Ohio River Valley forming a series of low terraces running north to south. (See Map 7, "Jefferson County Steep Slopes"). Much of the urban population and industrial development occurred within these low-level valleys. The natural features of the interior land to the west create a natural environmental beauty. This primarily wooded and rugged terrain is mostly unsuitable for intensive urban development. The accompanying map, "Jefferson County Steep Slopes", as well as the Jefferson County Air Photo (Map 2), depict the extent of the severe topography throughout the county.

Relief is generally greatest in the eastern part of the county; the average difference in elevation between the hilltops and the valleys along the Ohio River is 520 feet, while local relief averages 360 feet in the central part of the county and 250 feet at the western border. The highest elevation in the county, at 1,388 feet, is about one-quarter mile south of Monroeville near the northwest corner of the county, and the lowest point, at Yorkville, is about 644 feet above sea level.

Topographically, nearly sixty percent of the county's area has a slope range greater than sixteen percent, which is incompatible for intense residential, industrial, or commercial development. A classification of Jefferson County's land by slope range found the 263,040 acres making up Jefferson County's land to include 40,590 acres (just 15.43 percent) of between 0 and 8 percent slope, 87,100 acres (33.11 percent) between 8 and 16 percent, 83,120 acres (31.60 percent) between 16 and 24 percent, and 52,230 acres (19.86 percent) over 24 percent.

Indeed, the eastern portion of the County was the most urbanized because of the advantages of the Ohio River and the limited but flat and developable land adjacent to it. The steel and pottery industries were the historic backbone of the local economy, and with most of the steel plants and electric power plants along the Ohio River, about half the people in the county resided in Steubenville or one of the nine other cities and villages along that river.

Climate

Jefferson County has a humid, continental climate with wide ranges in annual and daily temperatures. As reported in the Jefferson County Soil Survey, winters are cold, snowy, and cloudy. Summers are fairly warm and humid, with occasional days being very hot. Rainfall is well distributed throughout the year. Fall is the driest season. Normal annual precipitation is adequate for all of the crops commonly grown in the county, but periods of moisture stress and the potential for drought occur in some years. Summer temperatures and the length of the growing season in the valleys differ slightly from those at the higher elevations. The last freeze in the spring and the first freeze in the fall generally occur in the valleys because the cool air flows down the slopes into the valleys on nights with clear skies and light winds.

In winter, the average temperature is 30 degrees and the average daily minimum temperature is 22 degrees. In summer, the average temperature is 71 degrees and the average daily maximum temperature is 82 degrees. The total annual precipitation is about 38 inches. Of this, about 22 inches, or 58 percent, usually falls between April and September. Thunderstorms occur on about 35 days each year.

The average seasonal snowfall is 33.5 inches, and the greatest snow depth at any one time during the period of record was eight inches. The average relative humidity in mid-afternoon is 60 percent; humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 65 percent of the time in summer and 35 percent in winter. The prevailing wind is from the southwest; average wind speed, at 12 miles per hour, is highest in the spring.

Soils

The Soil Survey for Jefferson County identified the following as the major soil groups within the county.

1. **Lowell-Morristown-Brookside Association:** Deep, moderately steep to very steep, well drained and moderately well drained soils formed in residuum³ and colluviums⁴ derived from limestone, shale, siltstone, and sandstone and in material mixed by surface mining, on uplands. This association appears in deeply dissected areas along and near larger streams, mostly along hillsides, and most areas are in woodland. This association makes up about 7 percent of the county.
2. **Westmoreland-Lowell Association:** Deep, very steep, well drained soils formed in colluvium and material weathered from shale, siltstone, limestone, and sandstone; on uplands. This association appears mostly along or near larger streams, mostly on long hillsides, and covering about 13 percent of the county. Most areas are in woodlands.
3. **Westmoreland-Hazleton-Berks Association:** Deep and moderately deep, strongly sloping to very steep, well drained soils formed in residuum and colluviums derived from shale, siltstone, and sandstone; on uplands. This association is also along streams on long hillsides; it makes up about 13 percent of the county. Most areas are in woodlands.
4. **Gilpin-Berks-Steinsburg Association:** Moderately deep, gently sloping to very steep, well drained soils formed in material weathered from shale, siltstone, and sandstone; on uplands. This association is on gently undulating to very hilly ridgetops and on side slopes, and makes up about 6 percent of the county. Most of the gently sloping and strongly sloping areas are used as cropland, pasture, or woodland; the steeper areas are used as woodland.
5. **Gilpin-Steinsburg-Hazleton Association:** Moderately deep and deep, gently sloping to steep, well drained soils formed in colluviums and material weathered from siltstone, sandstone, and shale, on uplands. This association is found on gently undulating to very hilly ridgetops and on side slopes, and only makes up about 3 percent of the county. The more gently sloping areas are used as cropland, pasture, or woodland, and the steeper areas as woodland.

³ Residuum refers to a substance or thing that remains or is left behind, in particular, a chemical residue.

⁴ Colluvium refers to material that accumulates at the foot of a steep slope.

6. ***Gilpin-Lowell-Morristown Association***: Moderately deep and deep, nearly level to very steep, well drained soils formed in residuum and colluviums derived from siltstone, shale, limestone, and sandstone and in material mixed by surface mining; on uplands. This group is also consisting of gently undulating to very steep soils on ridgetops and on side slopes dissected by intermittent drainageways, and it makes up about 50 percent of the county. Most of the nearly level to strongly sloping areas are used as cropland, pasture, or woodland. Buildings or roads are generally constructed on the nearly level to strongly sloping ridgetops. The nearly level to strongly sloping areas that have not been surface mined for coal are well to moderately well suited to row crops, pasture, and to most urban uses.
7. ***Morristown-Gilpin Association***: Deep and moderately deep, nearly level to very steep, well drained soils formed in material mixed by surface mining and in material weathered from siltstone, shale, and sandstone; on uplands. This association is in and around extensive areas that have been surface mined for coal. In places it consists of steep and very steep banks of spoil material that have been deposited parallel to a highwall⁵, below a remnant of the original landscape. Sometimes, regarding the spoil material has eliminated the highwall. This association makes up about 6 percent of the county, and most of its regraded surface mined areas are used for hay or pasture; the rest is mostly woodland. Depending on slope, these areas may be suited to urban uses.
8. ***Urban Land*** – Brookside-Omulga Association: Urban land and deep, nearly level to moderately steep, moderately well drained soils formed in colluviums, old alluvium⁶, and loess⁷; on uplands and terraces along stream. This association is on terraces and foot slopes that border the Ohio River. Most areas are long and narrow and generally are less than one half mile wide. The association makes up about 2 percent of the county, and is about 50 percent urban land. Urban land is covered with pavement, buildings, or other structures.

Prime soils for agricultural use are scattered in small groupings throughout the County. See Map 8, “Prime Soils of Jefferson County”. Similarly hydric soils are similarly scattered, and are depicted on Map 9, “Hydric Soils of Jefferson County”.

⁵ Highwall refers to the unexcavated face of exposed overburden and coal or ore in an opencast mine or the face or bank of the uphill side of a contour strip-mine excavation.

⁶ Alluvium refers to a deposit of clay, silt, sand, and gravel left by flowing streams in a river valley or delta, typically producing fertile soil.

⁷ Loess refers to a loosely compacted yellowish-gray deposit of windblown sediment of which extensive deposits occur.

Flood Plains and Wetlands

Flood plains are those high hazard areas identified by the Federal Emergency Management Agency (FEMA) as areas with at least a one percent chance annually of flooding. FEMA Flood Insurance Rate Maps are predicated on detailed reports compiled by the U.S. Army Corps of Engineers and the United States Department of Agriculture's Soil Conservation Service. Flood plains are generally located in Jefferson County along its riparian corridors and along the County's major rivers and their tributaries. There are 9,904 acres of flood plain area within Jefferson County. Flood plains are largely located along the rivers, streams, and tributaries throughout the County, and are depicted on Map 10.

The Jefferson County Pre-Disaster Mitigation Plan developed by a core committee under the auspices of the Jefferson County Regional Planning Commission noted that "Of all the natural hazards present in Jefferson County, none are more damaging than floods - both river and tributary - and none have the same potential for effective mitigation. Floods are an annual occurrence in the county and fall into three categories: (1) Spring flooding of the Ohio River caused by rainfall combined with the runoff from melting snow in the mountains of Pennsylvania and West Virginia; (2) Spring flooding in the major tributaries caused by snowmelt runoff and ice jams; and (3) Flash flooding in streams as a result of torrential rains that accompany thunderstorms and aggravated by debris in the streams and structures in the floodplains."

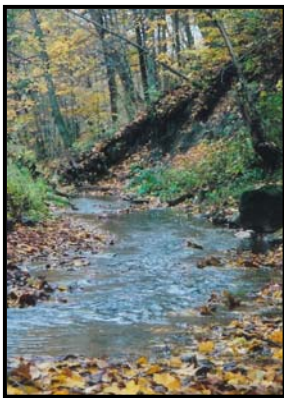
The Mitigation Plan continued: "Due to the limited amount of buildable land in the county, over the year considerable construction has taken place in areas that are below the base flood level established by the National Flood Insurance Program (NFIP) but prior to the beginning of that program...A serious impediment to enforcement is the lack of building codes and comprehensive land use planning in the county which has permitted the erection of many sub-standard structures in high risk areas...The net result is a substantial number of structures in recognized flood zones that existed prior to the NFIP regulations and are, therefore, 'grandfathered'." The plan cited a report counting 1,339 structures in flood zones, including 15 public structures such as schools. Among the communities with the largest number of structures at risk were Dillonvale with 204 structures, Adena with 145, Warren with 133, Mount Pleasant with 107, and Empire with 102.

Wetlands are lands that are flooded and saturated at or near the ground surface for varying periods of time during the year. Wetlands are formally delineated by the United States Department of Interior and the National Wetlands Inventory. Mapped results of the USDA Wetlands Inventory are based on survey work conducted by the U.S. Fish and Wildlife Service

(FWS) using remote sensing and information obtained from the U.S. Geological Survey quadrangle maps. The FWS considers wetlands to be lands that are transitional between terrestrial and aquatic systems where (a) hydrophytes (plants that can exist with the periodic flooding and anaerobic soil conditions) exist, (b) hydric soils are located, and/or (c) non-soil substrate is saturated or covered with water at some time during the growing season. Wetlands take up relatively little land area of Jefferson County, and account for 24 acres of land within the County.

The Jefferson County Regional Planning Commission is the flood plain administrator for the County, and they administer flood permits and flood plain regulations for the County. Flood plains are found throughout the county along rivers, streams, and waterways, and are also scattered throughout the county. Both factors have to be taken into consideration when planning a new development, in order for federally funded projects to comply with the National Environmental Policy Act.

Watersheds and Drainage Areas



Jefferson County is in the unglaciated Allegheny Plateau region. The area is extensively dissected by drainage ways that empty into the Ohio River. The three main tributaries to the Ohio River in Jefferson County are Yellow Creek in the northern part of the County, Short Creek in the southern portion, and Cross Creek in the central part. Map 11, “Principal Watersheds of Jefferson County”, identifies three such watersheds, each covering a large portion of the county: The Yellow Creek watershed in the northern portion of the County, Cross Creek, which covers the middle section, and Short Creek, roughly covering the southern third of the county.

Yellow Creek drains 239 square miles (including 126.22 square miles in Jefferson County) and Little Yellow Creek drains 45 square miles. Land use in these watersheds is predominantly (70 percent) forest, with interspersed pasture (13 percent) and cropland (6 percent). Only about ten percent of the watershed is in an urbanized area, and that is outside Jefferson County. There is very little new land development in the northern Jefferson County portion of the watershed, with very modest projections for any anticipated growth. The villages of Amsterdam, Bergholz, and Irondale are situated in the watershed.

The Yellow Creek Watershed Restoration Coalition is the most active watershed-oriented organization in Jefferson County. Its mission is to protect and improve the environment in the

Yellow Creek watershed located in Carroll, Columbiana, Harrison, and Jefferson Counties, by researching water quality history, informing and involving the public, developing water monitoring programs, identifying resources to implement water quality improvement practices, and assisting in the balance of the needs of the community and the stewardship of the resource.

One issue with which the Coalition and its coordinator have been working is acid mine drainage, which can result in acidic and metal-laden waters, damaging aquatic life and its sources within the watershed. Other issues addressed by the coalition include illegal dumping, agricultural issues to minimize nonpoint source pollution, forestry practices, and failing and nonexistent septic systems.

A TMDL (total maximum daily load) report was researched and developed in 2005 and 2006 for this watershed, in which water quality was measured, finding some of the highest water quality in the state and aquatic life that was generally very healthy and, in some locations, exceptionally diverse. The greatest impairment was found outside Jefferson County, in the Little Yellow Creek watershed.

Problems with high concentrations of bacteria were found in scattered locations, caused by areas where treatment of human waste was lacking, as well as manure from livestock. Other sources of pollution were a number of historic mines that produce acidic runoff and high concentrations of dissolved metals. The “most important fixes in the watershed” listed in the report were:

- Eliminate pervasive bacteria problems: reduce home sewage treatment system failures (addressed by county health departments) and improve manure management at livestock operations (through improved manure and residual nutrient management on the production area of their operations);
- Address acid mine drainage at certain locations in the watershed; and
- Manage storm water quantity and quality in suburban areas: preserve natural stream function through channel protection, and store or detain storm water on the land where the rain falls rather than concentrating it into centralized systems.

Another watershed area is grouped as “Ohio River Tributaries: East”, and in Jefferson County, consists of Cross and Short Creeks. Cross Creek flows into the Ohio River near Steubenville, and Short Creek flows into the Ohio near Rayland. The majority of the TMDL area is in Jefferson,

Belmont, and Harrison Counties, with smaller proportions in Columbiana and Monroe Counties. Fifty-eight percent of the area is forested; pasture accounts for eighteen percent and cropland for eight percent of the area.

The total eastern watershed drains some 2,454 square miles and flows through all or part of eleven counties and communities from Steubenville to Cadiz, Marietta, and Belpre. There are some 28 dischargers with NPDES permits in Jefferson County within the Cross and Short Creek basin, including municipal treatment plants in Wintersville, Mingo Junction, Toronto, Empire, Steubenville, Smithfield, Adena, Dillonvale/Mt. Pleasant, a plant for the Jefferson County system, and a number of industries, landfills, and subdivisions with treatment plants.

The valleys of the watersheds, which include about three-fourths of the county, are winding but generally run in an east-west direction, with tributaries more numerous in the northern part of the county than in the south. The watersheds of other streams that empty directly into the Ohio River are found in the eastern half of the County, and include Island Creek, Wills Creek, and Rush Run. The elevation of drainage divides is highest in the western part of the County and gradually descends to the east; many areas on the ridges in the northwestern part of the County have elevations of more than 1,300 feet above sea level. The ridges bordering the Ohio River are generally more than 1,200 feet in elevation along the northern one-third of the County, and 1,100 to 1,200 feet along the rest of the border with the river.

Water Sources, Aquifers, and Pollution Potential

A review of the water resources of Carroll, Harrison, and Jefferson County conducted by The Ohio State University Extension found that, in Jefferson County, 41 percent of the population lived in urban areas. Some fifty percent of Jefferson County residents relied on surface water for their water supply. That surface water, in turn, relied upon the average of about 39 inches of rainfall annually. As noted previously in this section, Jefferson County benefits mainly from three drainage basins, or watersheds. Among these watersheds, Yellow Creek provides drainage for some 126.22 square miles in northern Jefferson County, as well as southeast Carroll County; Cross Creek provides water to 128 square miles of central Jefferson and northeast Harrison Counties, and Short Creek provides surface water for 147 square miles in southern Jefferson County and southeast Harrison County. The largest of the 18 lakes, ponds, and bodies of water counted in Jefferson County include Friendship Park (85 acres), Cardinal Fly Ash Retention Dam (77 acres), and Austin Lake (70 acres).

The primary source of ground water in Jefferson County is the shale sandstone aquifer composed of fine-to medium-grained sandstone, imbedded with shale, coal, clay, siltstone, and thin limestone. Groundwater supplies are meager in most parts of the county. Wells located in

nearly ninety percent of the total land area of Jefferson County seldom yield more than three gallons per minute. However, in areas bordering the Ohio River, well yields of 25 to more than 100 gallons per minute (gpm) and greater have been developed from permeable sand and gravel deposits. Large industrial and municipal wells in the area supply much of the county through regional water systems. Yields in excess of 1,000 gpm may be developed from horizontal collector wells. Areas bordering Short and Cross Creeks yield adequate domestic supplies of 5 to 25 gpm from up to 50-foot thick deposits of sand and gravel. The area bordering Yellow Creek in the northern part of the county, where limited domestic supplies are obtained from thin lenses of sand and gravel imbedded with silt and clay. Aquifers of Jefferson County are depicted on Map 12.

Jefferson County depends heavily on surface water for public water supplies and, as noted previously, half of the population relies on surface water. The remaining 50 percent of the county's population relies on ground water as a source of water, with 20 percent from public water systems and 30 percent from private wells.

Ground water in Jefferson County is often hard, requiring softening before it is used for human consumption. Also, a majority of the area's ground water supply is high in iron, sometimes to the extent that iron oxide forms as a precipitate, causing "red water".

The Ohio EPA Division of Water adopted the DRASTIC mapping process to identify vulnerable aquifer areas. This system identifies areas that are vulnerable to contamination, and can display it graphically on maps, which can be helpful in prioritizing local resources and making land use decisions. The factors identified under the DRASTIC system (which make up the acronym) include Depth to water, net Recharge, Aquifer media, Soil media, Topography, Impact of the Vadose⁸ zone media, and Conductivity (hydraulic) of the aquifer. Five hydrogeological settings were identified within the county, with varying scores and indexes.

6Da: Alternating Sandstone, Limestone and Shale – Thin Regolith: This setting is widespread, encompassing the upland areas in Jefferson County, with broad, steep slopes and narrow ridge tops. Depth to water is generally deep. Soils are thin to absent on steeper slopes, and they vary with bedrock lithology⁹ on gentler slopes. Small supplies of ground water are obtained, with yields averaging less than 5 gpm and limited recharge. GWPP (or Groundwater Pollution Potential) index values range from 55 to 93, and the total number of GWPP index calculations equals 48.

⁸ Vadose relates to water or solutions in the earth's crust above the permanent groundwater level.

⁹ Lithology is the general physical characteristics of rocks in a particular area.

6Fa: River Alluvium with Overbank Deposits: This is limited to small tributary valleys in the uplands of Jefferson County. Narrow relatively flat-bottomed stream valleys flanked by steep bedrock ridges characterize this setting. Depth to water is usually shallow, averaging less than 30 feet. Soils are generally silt loams. Groundwater yields average less than 5 gpm, and recharge is moderate. GWPP index values range from 55 to 93, with index calculations equaling 48.

7D: Buried Valleys: These are the comparatively flat Ohio River terraces located along most of the eastern border of Jefferson County. Depth to water is typically less than 30 feet. Soils are typically sandy loams derived from outwash. Recharge is typically relatively high due to flat topography shallow depth to water, and the high permeability of the soils, vadose¹⁰ zone materials, and aquifer. GWPP index value range from 170 to 174, and GWPP index calculations equal 2.

7Ea: River Alluvium with Overbank Deposits: This setting is associated with the terraces flanking the Ohio River in the northeastern corner of the County, Relatively broad, flat-lying floodplains and low terraces characterize this setting. Soils are generally silt loams. Depth to water is typically shallow, averaging less than 30 feet, and ground water yields average less than gpm, recharge is typically moderate due to shallow depth to water, flat topography, presence of nearby streams and low to moderate permeability soils and vadose zone materials. GWPP index value is 168, with index calculations equaling 1.

7Fa Glacial Lakes and Slackwater Terraces: These are flat-lying areas that were formed in low velocity water of glacial and slackwater lakes that filled pre-existing drainage systems. These areas are typically dissected by modern streams and contain remnant low-lying terraces. Depth to water is commonly shallow due to the presence of streams found within this setting, Soils are silt loams, and recharge is moderate due to the relatively shallow depth to water, flat topography, and the moderate to low permeability of soils, vadose, and underlying bedrock. GWPP Index values range from 124 to 139, with the total index calculations equaling 8.

Map 13 depicts the groundwater pollution potential of Jefferson County soils as calculated through the DRASTIC process. It is noteworthy that the highest-scoring areas, which are the areas with the greatest groundwater pollution potential, are also located in close proximity to the Ohio River, and which may be considered prime locations for development or redevelopment.

¹⁰ Vadose relates to water or solutions in the earth's crust above the permanent groundwater level.

Agriculture and Prime Farmland



About 29 percent of the land in Jefferson County is farmland, but only about 16 percent is used as cropland or pasture. The rest is used for woodlots or is idle. Some of the idle land has been affected by surface mining or strip mining and has never been reclaimed.

The 2007 (most recent) Census of Agriculture found 69,468 acres within the county to be categorized as farmland. There were 475 farms in 2007, with an average of 146 acres per farm. Farm products were valued at a total of \$9,309,000.

Nearly one-third of this farmland, 20,397 acres, was used for forage, hay, grass, and the like. Other crops included corn for grain (1,597 acres) and for silage (1,007 acres), soybeans (624 acres), and oats (425 acres). Hay is commonly grown in contour strips alternating with corn, oats, and wheat. Among the livestock in the county, there were 10,305 cattle, 913 horses and ponies, 511 sheep, 507 chicken layers, and 404 goats counted in the 2007 Census. Most of the farms are managed by their owner, who typically resides on the farm.

Prime farmland is defined as the land that is best suited for food, feed, forage, fiber, and oilseed crops. It may be cultivated land, pasture, woodland, or other land, but it is not urban or built-up land or water areas. It is used for food or fiber crops, or it is made available for those crops. The soil qualities, growing season, and water supply are those needed for a well managed soil to produce a sustained high yield of crops in an economic manner. Prime farmland produces the highest yields with minimal expenditure of energy and economic resources, and farming that land results in the least damage to the environment. A map locating prime soils for farmland is included as Map 8.

About 20,170 acres in the county, or about eight percent of total acreage, meets the soil requirements for prime farmland. Scattered areas of this land exist throughout the county. About 10,000 acres of this prime farmland is used for crops. More than 8,000 acres consist of well-drained and moderately well drained soils on ridge tops and benches on uplands, and nearly 12,000 acres consist of somewhat poorly drained, moderately well drained and well drained soils on terraces, on flood plains, and on slopes or fans at the base of hillsides, as detailed earlier.

The Jefferson County Soil Survey issued in 1995 noted that “a recent trend in land use in some parts of the county has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.”

In 1986, about 50,000 acres of land in Jefferson County had been affected by surface mining. About 78 percent of this land was mined prior to the 1972 Ohio reclamation law. Under the 1972 law, land must be restored to the approximate original contour and blanketed with topsoil and subsoil from natural soils. Reclaimed soils made up about 10,930 acres in Jefferson County, and were better suited to agricultural production than unreclaimed mined land.

A **Farmland Preservation Plan** was developed for Carroll, Harrison, and Jefferson Counties in 2000, by the Tri-County Farmland Preservation Task Force. The resulting document presented recommendations for preserving farmland, with an emphasis on strategies for retaining farm businesses, rather than the land alone.

Those recommendations that require local action, which would have the most impact on this County-level land use plan, are listed below. Later recommendations in the plan address state and federal action, and recommendations to make agriculture more profitable. Only the local recommendations are listed below, however, since they represent those actions that could be taken by local leadership.

1.0: Economic development professionals, chambers of commerce, and local government leaders should work with agricultural leaders in all three counties to **incorporate agriculture into existing economic development strategies**.

2.0: Carroll and Jefferson Counties should engage in a **comprehensive planning process** for those communities, and such plans should be formally adopted and implemented by County Commissioners in these two counties. The development and updating of these comprehensive plans should include significant citizen input throughout the process, and should contain a strong agriculture and natural resources component.

2.1: As part of a comprehensive planning process, **agricultural security areas** should be designated for areas of paramount agricultural importance because of one of the following: They contain soils of local importance, they consist of prime farmland, or they contain a large number of acres which are currently being used for agricultural purposes and are important to the local agricultural industry.

2.2: Water and sewage disposal system operators, utility companies, and county commissioners should be aware that development typically follows the expansion of public water and sewage disposal systems, utility improvements, and road improvement, often at the expense of farm business retention. Because of this, it is recommended that **utility expansion and road improvements be included in the comprehensive planning process**, and that planned improvements be evaluated for the potential impact which they may have on farmland loss.

2.3: County Commissioners, Township Trustees, and other local governmental units should expand their use of **GIS data** to track land use changes in their communities. Local governmental units should work together to jointly purchase and use GIS data management systems.

3.0: Local leaders should work with groups such as Soil and Water Conservation Districts, OSU Extension, and others to facilitate a process to explore the possibility of developing **a local land trust** to preserve farmland in the three counties.

4.0: Farm owners wishing to voluntarily protect their farms through some type **of Transfer of Development Rights**¹¹ should be encouraged to do so, and should be educated about their options.

4.1: County Commissioners should investigate the possibility of instituting and funding **a voluntary transfer of development rights program** in the three counties to purchase and/or lease the development rights of farmland.

5.0: Local government leaders, chambers of commerce, economic development professionals, and leaders of business and industry groups should actively seek **to include farmers and agriculture and natural resources professionals on committees and boards** in order to develop **collaborations for rural-urban partnerships** on planning commissions, chamber of commerce committees, community improvement corporations, economic development committees, and other community improvement and planning projects.

5.1: County Farm Bureau Boards, agricultural agencies, and other agriculture and natural resources groups should actively seek to include local government officials, economic development professionals, and other business and industry leaders on agriculture and natural resources committees and projects as appropriate.

¹¹ A type of ordinance that allows owners of property with low-density *development* or conservation use to sell *development rights* to other property.

6.0: County Commissioners should work with Township Trustees, planning commissions, and other local officials and citizens to explore the feasibility of placing the issue of **rural zoning** before the voters, as a tool to implement countywide comprehensive plans (as recommended at 2.0).

6.1: Rural zoning resolutions should be developed to include areas which are designated solely for **agricultural use**, as well as **agricultural security areas** which would be comprised of prime farmland or soils of local importance.

6.2: In the absence of rural zoning, County Commissioners should work with Township Trustees, planning officials, agricultural agencies, and other local leaders to enact **agricultural zoning to protect agriculture and natural resources-based businesses** in areas of the three counties which contain one of the following: prime farmland, soils of local importance, or large tracts of land currently being utilized for agricultural purposes.

Forests and Woodland



The total acreage of woodland in Jefferson County, including woodlots, makes up some 172,469 acres, or about 70 percent of the County's land area. Jefferson County's woodlands and timber are abundant, and they support a timber industry that provides raw materials for at least one significant county employer, DeNoon Lumber in Bergholz. Map 14 depicts forested areas in Jefferson County, demonstrating the predominance of forests among County land uses.

Soil and water conservation districts (SWCDs) in Ohio, in agreement with the Ohio Department of Natural Resources, are responsible for addressing silvicultural¹² pollution and abatement issues in their respective counties. The Jefferson SWCD has initiated an aggressive forestry program that includes landowner timber management and harvest information and outreach through workshops, mailings, site visits and resource packets; continued sponsorship and certification training coordination for the Steel Valley Loggers Chapter (Ohio Master Loggers

¹² Silvicultural refers to the care and cultivation of forest trees, or forestry.

Program); and timber harvest best management practice trainings for loggers and township trustees.

There is a voluntary program to assist woodland landowners, foresters, and loggers with the pre-planning of logging activity. The program is designed to help the responsible parties select Best Management Practices that will reduce soil erosion and maintain the harvest site to state standards found in Agricultural Pollution Abatement Rules and Standards.

Natural Heritage

The Ohio Department of Natural Resources maintains data on rare and endangered plants and animals, geologic features, high quality plant communities, and animal assemblages. Perhaps of greatest note, there are several records in Jefferson County of the endangered Eastern Hellbender (*Cryptobranchus alleganiensis*) in Yellow Creek and Cross Creek. The Natural Heritage Data map at the end of this chapter indicates the location of plant communities, vascular plants, and vertebrate animals of note throughout the County (see Map 15).

Open Space, Greenways, and Trails



Interest in the development of trail and greenways in Jefferson County led to the development of the ***Jefferson County Trails and Greenways Plan***. The plan was developed under the auspices of a six-member working group and a larger, seventeen-member steering committee representing a variety of public and private sector entities. The plan was an outgrowth of the 2008 Jefferson County Community Investment Plan, and a sub-committee of that plan

with representatives from the Jefferson County Chamber of Commerce, Soil and Water Conservation District, and Brooke, Hancock, Jefferson Metropolitan Planning Commission began exploring the strategy. Additional assistance was sought from the Crossroads Resource Conservation and Development Council and the National Park Service – Rivers, Trails, and Conservation Assistance Program. Public participation through meetings and survey tools also generated new ideas and identified opportunities for implementation. Additionally, key considerations include organizing to involve local residents, a local support network focusing on intra-county trail and greenway connectivity, and maintaining the energy generated during the planning process.

The plan defines a greenway as “a linear connection along a natural or manmade feature connecting people to places. Greenways offer recreational, ecological, and positive economic benefits for the communities they serve. They preserve important natural habitats and provide wildlife migration routes.” Further, a green space is defined as “an uninterrupted tract of forest and field important for environmental and wildlife reasons, as well as aesthetic and scenic appeal”. A description of the goals and objectives of the plan is included in chapter 4, “Transportation”.

Indeed, open space and green space is abundant in Jefferson County, where the topography and lack of infrastructure helps preserve the wilderness. In addition to privately owned open space, the state and local governments have worked to assure the preservation of wild areas with public access. Public access areas include these:

- **Brush Creek Wildlife Area**, a rugged, 4,131 acre wildlife area located six miles south of Salineville in northern Jefferson County. Terrain consists of broad ridges with steep slopes which descend to the narrow valley floor of Brush Creek. Purchase of land began in 1944 and additional land was acquired as land became available. The area is used for hunting and limited fishing, as well as sightseeing.
- **Jefferson Lake Park**, a State park which is being transitioned to ownership by Jefferson County, consists of 945 acres located north of Richmond. The park provides for camping, boating, swimming, picnicking, fishing, trail hiking, and hunting. Yellow Creek offers a water source for the 117-acre lake, which was filled in 1946 after a dam was constructed in 1934.
- **Fernwod State Forest** consists of 3,023 acres located three miles south of Wintersville. The park was created in 1961, and some of its property was strip mined for coal, but limestone deposits in the area neutralized the acid effects. Hidden Hollow Campground and a Land Lab promoting natural resources and environmental education are located nearby.
- **Friendship Park**, a county park located near Smithfield in the west-central portion of the county, is a 1,320 acre park and home of the county fairgrounds. It has recently been improved with new hiking trails, including a Rehabilitation Trail designed for those who have recently had surgery, illness, or injury, and are beginning a therapy that includes walking. The trails, forming an inner and outer loop, have been developed in conjunction with the Jefferson County Trails and Greenways Plan. Facilities are provided for picnics, fishing, boating, bird watching, hiking, mountain biking, and horseback

riding. There is an 89 acre main lake, as well as other lakes, wetlands, and undeveloped property.

In addition to the publicly owned property, there are private facilities for the enjoyment of the outdoors as well. One notable facility is **Austin Lake Park**, located northeast of Richmond, consisting of 1,300 acres in a lake valley setting, with a full range of campsites, cabins, and outdoor activities.

Historic Preservation



Historic properties need to be protected, just like the natural features that make a county unique. Demolition, renovation, and simple neglect can often compromise the integrity of a property and render it much less valuable as a resource and a connection to the past. Historic preservation can often run counter to the goals of development and growth. Yet, preserving and rehabilitating these treasures can often assist communities by stabilizing

neighborhoods, providing focal points, improving property values, stimulating private investment, attracting tourism, and strengthening community pride. The overall goal of historic preservation can often be assisted by developing a historic preservation ordinance or resolution, developing architectural review standards and an architectural review procedure within historic districts, developing a downtown revitalization program, offering local economic incentives, promoting the federal rehabilitation tax credit, and local education programs bringing historic preservation topics to interested audiences.

Jefferson County is rich in history, and a number of historic artifacts and structures remain to connect the present-day county to its past. Recent improvements to Fort Steuben at 120 S. Third Street in Steubenville have resulted in an historic and cultural center for the community and county. Historic Fort Steuben was built in 1786 by the First American Regiment for the protection of surveyors who had been sent by the Continental Congress to map the Northwest Territory. The recent construction of an amphitheater has presented opportunities for musical and other events for the community. Also, the refurbished Fort and visitor's center across from Steubenville's City Hall has become the County's tourism and visitor center.

Steubenville is also home to the Jefferson County Historical Association and Museum, located in the Emma Carter and Alexander Beatty Sharpe Mansion at 426 Franklin Avenue in Steubenville.

In addition to these important cultural and historical centers, the Ohio Historic Preservation Office includes a database of properties located on the National Register of Historic Properties. The following 23 properties appear on that list. They are included here as a reminder to preserve them, as well as other locally significant properties, as the County develops.

1. Ann E. Lewis Bernhard House, 42 E. Main St, Adena
2. Hamilton-Ickes House, N of Adena on SR 10, Adena
3. Central High School, 110 Steuben Ave., Mingo Junction
4. Central Public School, 109 St. Clair Avenue, Mingo Junction
5. Commercial Street Historic District, Roughly Commercial St. between McLister and Highland Aves., May, and railroad tracks, Mingo Junction
6. North Hill Historic District, Bounded by Logan, George, Western, and Alley west of Logan Ave., Mingo Junction
7. Friends Meeting House, Near SR 150, Mt. Pleasant
8. Benjamin Lundy House, Union and 3rd Sts., Mt. Pleasant
9. Mount Pleasant Historic District, roughly bounded by 3rd, North, High, and South Sts., Mt. Pleasant
10. Stringer Stone House 224 Warren St., Rayland
11. Carnegie Library of Steubenville, 407 S. 4th St., Steubenville
12. First Methodist Episcopal-Holy Trinity Greek Orthodox Church, 300 S. 4th St., Steubenville
13. Independent School District No. 2 Building, 64520 SR 213,, Steubenville
14. Market Street Section, retaining wall and water trough, Old Market St., between Market St. off ramp and Lawson Avenue, Steubenville
15. North End Historic District, roughly N. 4th St. from Dock St. to Franklin Ave. and E. side of junction of Franklin and N. 5th St., Steubenville
16. Steubenville Commercial Historic District, Washington, Court and 3rd, Market, and Eighth and Commercial Streets, Steubenville
17. Steubenville Pottery Company Buildings, CR 44 southwest of junction with SR 7, Steubenville
18. Steubenville YMCA Building, 214 N. 4th St., Steubenville
19. Union Cemetery – Beatty Park, 1720 W. Market St. and Lincoln Avenue, Steubenville
20. Hodgen’s Cemetery Mound, Tiltonsville
21. Toronto World War I Monument, 208 Market St. and 3rd St., Toronto
22. Speedway Mound, Warrenton
23. Bantam Ridge School, Bantam Ridge Road, Wintersville

This is by no means an exhaustive list of the historically significant properties and features in the County. For example, there are cemeteries and Civil War related features on private property. Inquiries can be made at historical societies to learn of possible accessibility to such features, many of which can be accessed upon request.

It is important for planners to protect the historic and cultural artifacts, structures, and sites that provide reminders of the County and region's past. Goals are included within this chapter to apply the important principles of historic preservation.

The goals under which natural resource, cultural, and historic preservation should be carried out throughout Jefferson County are as follows:

Natural Features Goals

3.1 Provide strong support for retaining and protecting scenic and natural areas such as streams, creeks, woodlands, wetlands, open space, and historic sites.

3.2 Continue to use the County's Gas and Oil Committee ("GO Jefferson County") and other networks to monitor impacts of shale oil and gas extraction and related activities on the County's natural features.

3.3 Balance the need for environmental integrity with the economic importance of the oil, gas, and mineral extraction industries in Jefferson County.

3.4 Encourage development on sites with features (soil characteristics, topography, drainage, groundwater pollution potential, lack of sensitive environmental factors) that support the specific proposed development.

3.5 Encourage site design that protects the natural terrain and groundwater, and preserves or restores significant vegetation and scenic views. Specific methods could include cluster development to preserve open space within a development or subdivision, minimum disturbance site development practices, natural drainage measures, minimization of pervious surfaces, filter strips, and stream buffers.

3.6 Use flood plain regulations to prohibit development within flood-prone areas.

- 3.7 Support the mission and work program of the Yellow Creek Watershed Restoration Coalition to protect and improve the environment in the Yellow Creek watershed. Help initiate and support similar efforts on behalf of Short Creek and Cross Creek.
- 3.8 Review the recommendations presented in the 2000 Farmland Preservation Plan for Carroll, Harrison, and Jefferson Counties, and renew efforts to support those recommendations that are determined to be relevant today.
- 3.9 Similarly, publicize and support the goals of the Jefferson County Trails and Greenways Plan. Through the implementation of this plan, promote and support public access to and enjoyment of the bountiful natural resources present throughout Jefferson County.
- 3.10 Support the efforts of County-wide organizations to preserve and protect historic artifacts, structures, and sites throughout the County, and to publicize them when they can be included within the context of heritage and cultural tourism. Promote private and public partnerships that seek to conserve the significant historic and cultural resources in the County.
- 3.11 Incorporate awareness of Jefferson County's mix of natural features and accessible open space in tourism and economic development outreach efforts.
- 3.12 Encourage growth that focuses upon existing urban areas and respects the intrinsic values of the land.

4

Transportation



Transportation systems and facilities can have a major impact on land use decisions. Many manufacturing, retail and distribution businesses base location decisions on the presence or proximity of reliable, efficient, and safe transportation routes. Prospects from other land uses consider the size of the market within a specific drive time when siting a new facility.

Jefferson County is served by a number of State highways and rail systems. The Jefferson County Airpark in Wintersville is another important transportation asset, and it is undergoing improvements to increase its capacity to handle increased air traffic and larger aircraft brought about in part by the regional growth of the shale oil and gas industry. The Ohio River presents an additional mode of freight transportation and an opportunity for the transshipment of goods via “road, rail, and river”. In addition, there is a growing interest to link communities, traffic generators, and points of interest with biking, walking, and running trails, and a plan for the development of those trails was recently completed.

Jefferson County’s population centers are fortunate to have an effective highway system in place. Some of the more remote and lower-density regions of the county are less easily accessible than the urban centers, most of which are located along the State Route 7 corridor, which parallels the Ohio River. Portions of the county are served by public transit through a provider known as Steel Valley Regional Transit Authority, and the 2008 Community Investment Plan included a long-term strategy to “expand rural transit locations”.

Transportation has emerged as a major asset and springboard for opportunity in Jefferson County. The Core Committee overseeing this plan noted among the County's major assets its location and proximity to Pittsburgh, Wheeling, and Ohio cities, as well as its one day reach to the East Coast and other major markets. Coupled with this was the presence of the "three R's" – road, river, and rail, for transportation. The Committee also cited the presence of the Jefferson County Airpark, and the close proximity to Pittsburgh International Airport.

Receiving specific mention are the two major highway corridors spanning the county: State Route 7, which follows the Ohio River and provides four-lane accessibility to a number of population centers, power generation plants, and active and vacant industrial sites along the Ohio Valley; and U.S. Route 22, which was upgraded to a four lane expressway serving as a bypass for the Steubenville-Winterville population center, and providing ready connectivity to Weirton and Pittsburgh to the east, as well as I-75, New Philadelphia, Cambridge, Columbus, and eastern Ohio destinations to the west. Both SR 7 and US 22 were mentioned frequently as important assets in the community survey and interviews with community leaders. Also mentioned was the presence of viable transportation for moving freight by rail, air, and water.

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) required every metropolitan area to create a Metropolitan Planning Organization (MPO) in order to qualify for federal transportation funds. ISTEA gave states and MPOs a major say in new federally funded transportation projects, and also targeted improving connections between different modes of transportation and reducing air pollution. An MPO receives public input regarding transportation, sets transportation priorities, drafts transportation plans, and identifies specific investment projects. It also drafts a twenty-year regional transportation plan as well as a three-to five- year transportation improvement plan listing specific highway projects. All MPO plans are then submitted to the appropriate State Department(s) of Transportation to become integrated into the statewide planning process.

Highway and roadway transportation planning for the three-county metropolitan area that includes Jefferson County, and coordination with State and federal funding sources, is conducted by the BHJ (Brooke-Hancock-Jefferson) Metropolitan Planning Commission, located in Steubenville, which also gathers information on airport, rail, and water-based transportation. Much of the information provided in this chapter originated with planning documents developed by BHJ. Map 16 depicts roadways by jurisdiction in Jefferson County.

The Jefferson County Engineer is responsible for the County road and bridge system, and provides an inventory and needs analysis of those assets. The content of the most recent (2010) inventory is also summarized in this chapter.

This chapter will continue with an inventory of existing transportation systems in the county, then summarize some important factors that should be considered in planning for optimal service to emerging and projected land uses throughout the county. A summary of needs, deficiencies, areas of concern, and priorities as identified by engineers and transportation planners is offered, and the chapter concludes with recommended goals and objectives, many of which echo the priorities of the plans produced by BHI and the County Engineer. These recommendations also include discussion of some universal transportation planning concepts which are becoming more commonplace, such as access management and complete streets.

The Existing Highway Transportation System

There are two highways classified as freeways or expressways in Jefferson County: U.S. Route 22 and Ohio State Route 7. US 22 bisects Jefferson County and directs travel west to east, from Harrison County and Cadiz to the west, bypassing Wintersville and Steubenville and crossing the Ohio River to the city of Weirton, WV. Ohio 7 follows the Ohio River north to south along the length of Jefferson County. Both are part of the National Highway System, which serves major population centers, international border crossings, and primary Intermodal transportation terminals, as well as providing a means of a secure national defense and enhancing interstate and interregional travel. According to the BHI Metropolitan Planning Commission, the area's National Highway System, which also includes WV State Route 2 in Brooke and Hancock Counties and US Route 30 in Columbiana County, accounts for less than six percent of the region's total highway miles, but carries nearly half of the region's average daily traffic.

Major Corridors



State Route 7 follows the west side of the Ohio River valley, linking to I-70 and communities to the south including Martins Ferry and Bellaire in Belmont County, and communities to the north including East Liverpool in Columbiana County and, indirectly, the Ohio Turnpike, I-76 and I-80. Ohio 7 was reconstructed between the 1950's and 1980's as a four lane, limited access highway from Bridgeport in Belmont County at I-70 to Route 30 in East Liverpool. Average daily traffic ranges from 6,260 vehicles at Old SR 822 (University Boulevard) to 18,260 vehicles per day at Logan Avenue in Steubenville. A number of Jefferson County river communities with an industrial past, and many containing sites with redevelopment potential, are served by Ohio 7, including (north to south) Stratton, Empire, Toronto, Steubenville, Mingo Junction, Brilliant, Rayland, Tiltonsville, and Yorkville. Route 7 is part of the much larger Ohio River National Scenic Byway, a 943 mile route stretching from Cairo, IL to Conneaut, OH in Ashtabula County.

Route 7 has been damaged in recent years by rockslides, and \$50 million has been spent by the Ohio Department of Transportation in a major effort to remove the danger.



Ohio and West Virginia completed construction of **US Route 22**, which ultimately extends as far as Cincinnati and New York City, as a four-lane Interstate-type highway through Jefferson County, in 1993. This route enters the western border of Jefferson County from Harrison County east of Hopedale, OH, connecting the municipalities of Bloomingdale, Wintersville, and Steubenville, and crossing the Ohio River

into West Virginia via the Veterans Memorial Bridge at Steubenville. US 22 connects the Steubenville-Weirton metropolitan area to Pittsburgh, PA to the east, and via US Routes 250/36 and Ohio Route 161, to Columbus, Ohio to the west. Daily traffic along US 22 in Jefferson County ranges from 7,050 vehicles at the Harrison County line to 36,820 at Route 7 in Steubenville. This route accommodates traffic bypassing Steubenville and Wintersville, as well as traffic connecting Steubenville with Weirton, WV, and with communities and traffic generators along SR 43 toward Richmond.



State Route 43 forms another important corridor in Jefferson County. SR 43 begins at Route 7 in Steubenville, then supports traffic east to west through the county, then traveling northward through Carroll County and the Canton/Akron Metropolitan Area, terminating in Cleveland. Ohio 43 serves as the principal arterial through Steubenville and Wintersville, where it begins as Washington Street in downtown Steubenville, then

running westerly to the Washington Street hill, where it is known from that point west as Sunset Boulevard, and in Wintersville as Frank Layman Boulevard and Canton Road. Average Daily Traffic ranges from 1,520 vehicles daily at Amsterdam, near the Carroll County border, to 24,400 vehicles daily at the Lawson Avenue connector in Steubenville.

Other State Highways

The County and its communities are served by a number of other State highways, which are very important for those residing in the County's smaller communities. These include:

- Ohio Route 150, skirting the southern end of the county from Rayland to Dillonvale and Mt. Pleasant.
- Ohio Route 151, north of 150, from Mingo Junction west to Smithfield, and west to Hopedale in Harrison County.
- Ohio Route 152, heading north from Dillonvale to US 22 east of Bloomingdale, then north to Richmond and, eventually, SR 7 at Empire.
- Ohio Route 164, from Amsterdam north to Bergholz and into the Yellow Creek State Forest in Columbiana County
- Ohio Route 213, from Steubenville north to Knoxville and Irondale, then joining Route 7.

The State of Ohio maintains 203 Priority System lane miles, 18.2 urban system lane miles, 129 bridges, and 238 general system lane miles in Jefferson County, for a total of 477 lane miles.

County Roads



The Jefferson County Engineer's office is responsible for maintaining county roads and bridges. Funding is derived largely from gas taxes, license plate fees, and sales tax, supplemented with federal and state grants. The County road system includes 110 miles of hot mix asphalt pavement, 153 miles of chip seal, and 7 miles of gravel. The Engineer follows a twelve-year paving program, as well as an eight year chip seal program.

In addition to roadways, the Engineer's Department maintains 233 bridges along county and township roads, varying from ten foot culverts to multi span structures. The most current inspection revealed 38 percent of the bridges to be in good condition, 52 percent to be fair, and 10 percent to be poor. After rating and prioritizing structures, the Engineer's office in 2010 had funding in place for ten replacement or repair projects totaling over \$5 million, and sought funding for another fourteen projects totaling over \$2.5 million.

Another responsibility is the removal of water from road surfaces, necessitating ditches, culverts, and other means of removal. The number of culverts under county roads increased from 1,968 in 2004 to 2,023 in 2010, with pipe sizes from one to ten feet in diameter.

A recent challenge facing a number of County and Township roads in rural Jefferson County is the truck traffic generated by the growing shale oil and gas extraction industry. As new wells are permitted and constructed, there is a need for considerable truck traffic to access the well

site. The horizontal fracturing process, or fracking, requires large quantities of water and sand, both of which are typically trucked to the location.

Fortunately, the major oil and gas extraction companies have been cooperative in signing road use maintenance agreements with impacted local governments, which are usually Townships. Under those agreements, a shale extraction company underwrites the cost of rebuilding access roads to a specification that can withstand the heavy truck traffic, and a number of County and Township roads have been reconstructed to fairly rigorous standards prior to the actual occurrence of the projected truck traffic.

Local Jurisdictions

A large number of local roadways throughout the County are not in the Federal, State, or County system, and their maintenance and upkeep are the responsibility of the County's cities, villages, and townships. There are 447 miles of Township roads and 165 miles of municipal roads in the county.

Functional Classifications explained

The functional classification system was developed by the Federal Highway Administration in 1962, and is widely used to define the traffic-carrying function of streets. In 1974, the Federal Highway Administration published a manual entitled "Highway Functional Classification- Concepts, Criteria, and Procedures." The manual still today remains the definitive guide to the functional classification process and how transportation funding gets allocated to political subdivisions. A functional classification system and map are also primarily components of an access management plan.

Functional classification is divided into rural and urban systems. The urban functional classification system covers all streets, roads, and highways located within urban boundaries designated by the U.S. Census Bureau.

The Bureau defines two types of urban areas based on population. Small urban areas are urban places with a population of 5,000 or more and not located within any urbanized area. An urbanized area is an area with a population of 50,000 or more. The rural functional classification system covers all other streets, roads, and highways not located within the boundaries of small urban or urbanized areas. The same general functional concepts apply to both systems, as streets and roads are both ranked according to their purpose or function in meeting the demands for mobility and land access. The principal difference between the two systems is the length of trips in both time and distance.

Rural Functional Classification Systems

The rural functional classification system consists of all roadways located outside urban and urbanized area boundaries. There are four classes of roadways in rural systems: principal arterials, minor arterials, major and minor collectors, and locals. The characteristics of each class are as follows:

Rural Roadway Class	Characteristic
Rural Principal Arterial	a. Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel; b. Connect all or nearly all urban areas with a population of 50,000 or more, and a majority of urban areas with a population of 25,000 or more; c. Provide an integrated network of continuous routes.
Rural Minor Arterial	a. Connect cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service; b. Spaced at intervals so that all developed areas are within a reasonable distance of an arterial; c. Provide service to corridors with trip lengths and travel density greater than those served by rural collected and local roads and with relatively high travel speeds and minimum interference to through movement.
Rural Collectors	a. Serve primarily intra-county rather than statewide travel; b. Serve more moderate travel speeds and distances than those on arterial routes.
<i>Rural Major Collector</i>	1. Provide service to any county seat, larger towns, and other county destinations such as consolidated schools, parks, or important mining and agricultural area not served by an arterial; 2. Connect these places with nearby larger towns and cities or with arterial routes; 3. Serve the most important intra-county travel corridors.
<i>Rural Minor Collector</i>	1. Are spaced at intervals to collect traffic from local roads and bring all developed areas within reasonable distance of a collector; 2. Provide service to smaller communities not served by a higher class facility; 3. Connect locally important traffic generators with rural hinterlands.
Rural Locals	a. Serve primarily intra-county rather than statewide travel; b. Serve more moderate travel speeds and distances than those on arterial routes.

Urban Functional Classification System

The urban functional classification system consists of all roads, streets, and highways located inside the urban/urbanized area boundary. There are four classes of roadways in the urban system: urban principal arterials, urban minor arterials, collector streets, and local streets. Because of the greater concentration of population, more intense land use, and higher traffic volumes in the urban areas compared to rural ones, some characteristics of urban classes differ slightly from their rural counterparts. Roadways by functional class are depicted on Map 17.

Urban Roadway Class	Characteristic
Urban Principal Arterial¹	<ul style="list-style-type: none"> a. Serve major activity centers, highest volume corridors, and longest trip demands; b. Carry high proportion of total urban travel on minimum of mileage; c. Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area;
Urban Minor Arterial	<ul style="list-style-type: none"> a. Interconnect with and augment the principal arterials; b. Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials; c. Distribute traffic to smaller geographic areas than those served by principal arterials; d. Provide more land access than principal arterials without penetrating identifiable neighborhoods; e. Provide urban connections for rural collectors.
Urban Collectors	<ul style="list-style-type: none"> a. Serve both land access and traffic circulation in residential, commercial, and industrial areas; b. Penetrate residential neighborhoods; c. Distribute and channel trips between local streets and arterials.
Urban Locals	<ul style="list-style-type: none"> a. Provide direct access to adjacent land; b. Provide access to higher systems; c. Carry no through traffic movement.

It should be noted, for purposes of future planning, that the above coding system is only in place into the summer of 2013. FHWA implemented a new functional classification coding system in 2010 that was not reflected in the current codes as of early 2013. ODOT updated the statewide codes in the summer of 2013 to comply with the new coding system. This new system reduces the number of classifications from 12 to 7 and removes the urban/rural designations, which will now be determined by a separate data field which includes a distinct 5 digit urban code for each urban area. The new coding system will be as follows: 01 – Interstate; 02 – Other Freeways and Expressways; 03 – Principal Arterial; 04 – Minor Arterial; 05 – Major Collector; 06 – Minor Collector; and 07 – Local.

Vehicle Miles per Day Data

The Ohio Department of Transportation gathers County-level data on estimated vehicle miles traveled per day, broken down by functional classification. This information can be useful in detecting travel trends over time. Table 4-1 on the following page provides a summary of VMT over time in Jefferson County, by functional classification.

¹ The urban principal arterial system is further divided into the following subclasses: (a) Urban Interstate, consisting of principal arterials designated as part of the Interstate system; (b) Urban Other Freeways/Expressways, consisting of non-Interstate principal arterials with controlled access; and (c) Urban Other Principal Arterials without controlled access.

Table 4-1: Daily Vehicle Miles Traveled (x 1,000) by Functional Classification, Jefferson County

RURAL							
Year	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	Total Rural
2011	0	134.28	45.28	189.44	69.37	205.79	644.15
2010	0	170.81	43.72	218.11	74.72	205.79	713.14
2005	0	144.44	47.26	207.83	82.27	226.56	708.36
2000	0	239.19	52.14	247.01	83.55	241.58	863.47
URBAN							
Year	Freeway	Principal Arterial	Minor Arterial	Collector	Local	Total Urban	Total VMT R+U (000)
2011	528.19	141.02	131.02	75.75	178.21	1054.20	1698.36
2010	604.09	166.67	139.30	71.29	178.21	1159.56	1872.70
2005	541.98	157.14	158.90	52.33	182.55	1092.90	1801.26
2000	475.44	150.25	159.16	39.48	164.24	988.57	1852.04

Source: Ohio Department of Transportation

The data in table 4-1 indicate a general decrease in travel over rural roads of all classifications since 2000, and a subsequent increase or steady use of the urban roadways. Total daily vehicle miles were roughly level, with a drop in 2011. This drop was most evident on principal arterials and urban freeways (which are included within the urban principal arterial category).

Crash/Accident Data

Another source of information which can be compared over time is traffic crash data compiled by the Ohio Department of Public Safety. The following table presents information extracted from their website regarding crashes for 2009, 2010, and 2011.

Table 4-2: Ohio Crash Statistics for Jefferson County and Population Centers, 2009-2011

Place	Year	Fatal crashes	Injury Crashes	PDO ² Crashes	Unknown Crashes	Total Crashes	Deaths	Injuries
Jefferson County	2009	4	393	1,284	25	1,706	4	544
<i>Population 73,894</i>	2010	7	385	1,157	18	1,567	7	531
	2011	3	371	1,138	--	1,512	3	521
Cross Creek Twp.	2009	0	21	58	2	81	0	29
<i>Population 8,761</i>	2010	1	37	56	0	94	1	48
	2011	0	27	64	---	91	0	41
Island Creek Twp.	2009	0	61	146	0	207	0	90
<i>Population 12,078</i>	2010	3	62	162	3	230	3	89
	2011	0	64	158	---	222	0	87

² Property Damage Only

Mingo Junction	2009	0	3	33	0	36	0	4
Population 3,631	2010	0	4	26	0	38	0	7
	2011	0	5	26	---	31	0	10
Salem Twp.	2009	0	11	35	1	47	0	13
Population 3,162	2010	0	13	34	0	47	0	24
	2011	0	12	47	---	59	0	15
Steubenville	2009	2	133	542	17	694	2	184
Population 19,015	2010	1	125	540	10	676	1	175
	2011	0	126	500	---	626	0	190
Toronto	2009	0	10	32	0	42	0	11
Population 5,676	2010	0	15	36	0	51	0	24
	2011	0	9	36	---	45	0	10
Wells Twp.	2009	2	12	51	1	66	2	15
Population 3,130	2010	1	25	70	1	97	1	32
	2011	0	14	51	---	65	0	17
Wintersville	2009	0	22	94	0	116	0	31
Population 4,067	2010	0	1	3	0	4	0	1
	2011	0	0	1	---	1	0	0

Source: Ohio Department of Public Safety

There has been a slight decrease in the total number of crashes, injury crashes, and property damage crashes over the three years covered in this table. In 2011, about two in five crashes occurred in Steubenville. The second highest incidence occurred in Island Creek Township, and the remainder of crashes appears to be dispersed throughout the County's subdivisions.

Commuting in Jefferson County

The U.S. Census, in its 2007-2011 American Community Survey, presents a picture of the characteristics of commuting for the Jefferson County workforce. The commute to work accounts for a major portion of total vehicular traffic on the county's roads. Table 4-3 presents information for Jefferson County between 2000 and the 2007-2011 reporting period.

The table indicates that the vast majority of workers drive alone to work, as they do throughout Ohio and the nation. A small percentage have found alternative means to commute since 2000, with a more people able to walk to work, carpool, work at home, or take public transportation. Also, a larger number are able to work at home.

Table 4-3: How the Jefferson County Workforce Commutes to Work

	2007-2011 ACS			2000 Census	
	Jefferson Co. #	Jefferson Co. %	Ohio %	Jefferson Co. #	Jefferson Co. %
Workers 16+	28,482	100.0		28,794	100.0
Drove Alone	23,387	82.1	82.1	24,419	84.8
Carpooled	2,627	9.2	8.3	2,460	8.5
Public Transport	264	0.9	1.8	82	0.3
Walked	1,107	3.9	2.3	1,045	3.6
Other	116	0.4	1.1	149	0.5
Worked at Home	981	3.4	3.5	638	2.2
Mean Travel Time	23.0 min.	---	22.9 min.	22.2 min.	---

Of the 28,482 workers aged 16 or older, the 2007-2011 ACS found that 78.7 percent worked in Ohio, and just over two-thirds (68.0 percent) worked in Jefferson County. One in ten (10.6 percent) worked in another Ohio county, and 21.3 percent worked in another state (the large percentage, compared to Ohio's overall average of 2.8 percent, owing to the proximity of Pennsylvania and West Virginia just across the river).

A further breakdown of travel times of Jefferson County commuters found 20.1 percent took less than ten minutes, 15.7% took 10 to 14 minutes, 13.5% took 15 to 19 minutes, 14.1% took 20 to 24 minutes, 5.3 percent took 25 to 29 minutes, 12.7% took 30 to 34 minutes, 5.3% took 35 to 44 minutes, 5.9% took 45 to 59 minutes, and 7.4% took an hour or more to commute to work. The ACS also gauged the time people left for work, and found that 5.2% left between midnight and 4:59 a.m., 9.9% between 5 and 5:59 a.m., 20.4% between 6 and 6:59 a.m., 21.1% between 7 and 7:59 a.m., 14.7% between 8 and 8:59 a.m., and the remaining 28.8 percent between 9:00 a.m. and 11:59 p.m.

The ACS also inquires about the number of cars available in a household, and in Jefferson County, 2.9 percent of respondents had no vehicle available, 18.7 percent had one, 41.2 percent has two, and 37.2 percent had three or more vehicles available. These percentages closely reflected the corresponding percentages statewide.

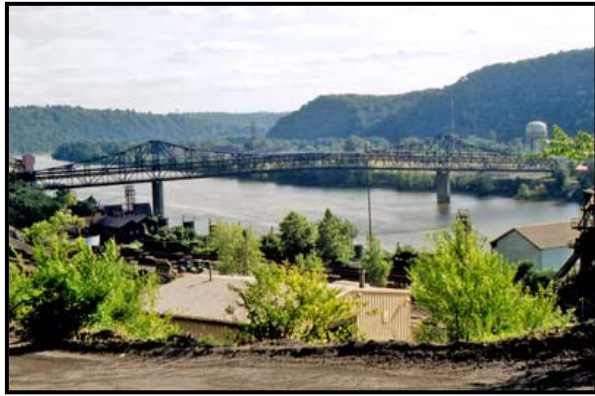
Bridging the Ohio River

Highway bridges over the Ohio River are a critical element of interstate and inter-region travel, and their presence can help determine land use decisions. Bridges exist to the north (including the Jennings Randolph Bridge, connecting East Liverpool to Chester, WV, and the Newell Toll Bridge, connecting to Newell, WV. To East Liverpool). To the south, the Fort Henry Bridge



connects Wheeling, WV to a point near Bridgeport, Ohio, some 22 river miles south of Market Street in Steubenville, and I-70 and I-470 cross the Ohio to Wheeling as well.

Within Jefferson County, a river crossing is available at the Veterans Memorial Bridge, the largest Ohio River bridge in the region, carrying US 22 traffic to Weirton and other destinations. This is also the newest bridge, having been completed in 1990 at a cost of more than \$70 million, with the rare construction design of cable-stayed steel girder trusses. The bridge is owned by the West Virginia Department of Transportation.



The Market Street Bridge is 1.5 miles downstream from the US 22 Veterans Memorial Bridge, and is the oldest bridge in the region, having been constructed in 1904, with the shortest expected lifespan (set to expire in 2021). This bridge connects the Steubenville Central Business District to Brooke County, WV, north of Follansbee, WV. An additional bridge, the Fort Steuben Bridge located near the

northeastern limits of Steubenville and Weirton, WV, was demolished in 2011, leaving just two roadway crossings in Jefferson County.

A new bridge has been planned that will be located south of Steubenville, from Brilliant in Ohio to a section of Route 2 south of Wellsburg in West Virginia. An interchange on the Ohio side will lead drivers to State Route 7. Funding is in place for engineering and the purchase of the necessary right of way, and significant funds and bonding have been committed to the bridge construction, which is projected to be underway in 2016-2017.

Access Management

The purpose of access management is to balance the competing demands for traffic mobility and access to adjacent and nearby land uses. An access management plan, when administered properly, can help to prolong the service life of the county's roads and reduce public maintenance costs. Most importantly, access management also assists in promoting orderly development while preserving traffic mobility. Access management strategies include standards for the frequency, location, and design of driveways, access and egress points,

intersections, medians, turn lanes, and other features, and these standards vary with the functional classification of the road. Some of the reasons to employ an access management policy, as specified on ODOT’s website, are:

- ✓ Poor access management can reduce highway capacity up to 20 percent of its design.
- ✓ Travel delay is as much as 74 percent greater on highways without access management than on those utilizing access techniques.
- ✓ Nearly 52 percent of all accidents are driveway related.
- ✓ Studies have shown as much as a 50% decrease in accidents on access-managed roads.
- ✓ A typical 4-lane roadway with high access management can handle 10,000 more vehicles per day
- ✓ Travel speed can increase an average of 42 percent on access-managed highways.

The Ohio Department of Transportation developed a “State Highway Access Management Manual”³ to guide such planning along state routes. The Manual guides local authorities in developing access management plans for a designated state highway or section of state highway to improve traffic flow, reduce congestion and travel delay, maintain highway capacity, reduce accidents, and protect public health, safety, and welfare. The plan should help bring the highway into conformance with its assigned access category and its functional purpose to the greatest extent possible. Further, the plan should identify existing and future access locations along with their related design elements, including traffic signal locations.

The State recognizes five access categories. The table below summarizes their functions and design standards. In Jefferson County, ODOT recognizes State Route 22 as Category I. Category II highways include nearly all of SR 7 outside municipalities (excepting Tiltonsville to Rayland and Empire through Stratton), SR 150 from Rayland to SR 7, SR 152 from Bloomingdale to CR 22A, and SR 822 from Steubenville to the location of the former Ft. Steuben Bridge. Category III roads include SR 43 from Wintersville to Richmond and Richmond to Amsterdam, SR 150 from Dillonvale to Rayland, and all of SR 151 and US 250 throughout the County. Category IV roadways include SR 150 within Rayland, from US 250 to Mt. Pleasant, and Mt. Pleasant to Dillonvale, SR 152 from Dillonvale to Smithfield, from CR 22A to Richmond, and Richmond to Empire, most of SR 164 outside municipalities, and portions of SR’s 213, 524, 646, and 647.

Ohio State Highway Access Category Table		
Cat	Traffic Function	Design Standards
I	High speed, high volume, long distance through traffic for interstate, intrastate,	Multi-lane; median; access at interchange; no direct private access allowed.

³ This manual can be found at <http://www.dot.state.oh.us/Divisions/Engineering/Roadway/AccessManagement/Documents/State%20Highway%20Access%20Management%20Manual%20March%202008.pdf>

	intercity travel; all Interstate and Freeway type facilities are included in this category.	
II	Relatively high speed. High volume, long distance through traffic for interstate, interregional, intercity, and some intra-city travel. Typically includes Expressways and facilities in an early stage of design, intended to become Category I as funding and priorities allow.	Access at interchange or public street intersection; no direct private access allowed unless property retains deeded rights and then for RT. LT may be allowed if (1) the access does not have potential for signal, and (2) travel circuitry exceeds two miles, and (3) ODOT determines that the LT can meet all safety, design and operational standards. This is the highest category allowing at-grade intersections.
III	Moderate to high speeds, volumes, and distances for interregional, intercity, and intra-city travel. Typically includes rural arterials, high speed urban arterials, and some urban collectors.	No direct private access if property has other reasonable alternative access or opportunity to obtain such access; when allowed, generally for RT only. LT may be allowed if (1) the LT does not have potential for signal, and if (2) ODOT determines that the LT does not cause congestion or safety problem or lower the level of service, and (3) alternatives to the LT would cause roadway and intersection operation and safety problems, and (4) the LT does not interfere with operation of street system or access to adjacent properties.
IV	Balanced service for access and mobility at moderate to high speeds and volumes in rural areas for moderate to short distances and low to moderate speeds and volumes in urban areas providing intercity, intra-city and intra-community travel. Typically includes rural collectors, low to moderate speed.	One direct access allowed per parcel; additional access may be allowed if ODOT determines it meets access safety, design, and operational standards. All turn movements may be allowed if ODOT determines they meet safety, design, and operational standards.
V	Low volume rural highways, rural and urban streets and roads. Typically includes routes providing local land access, including frontage roads.	All turning movements allowed subject only to safety considerations.

Source: Ohio Department of Transportation, "State Highway Access Management Manual", 8-15-03.



Public Transportation in Jefferson County

The Steel Valley Regional Transit Authority receives Federal Transit Administration funds for public transportation in Jefferson County, and is the designated recipient and program manager for FTA funds. Local funds are received through a levy that pays for remaining operating and capital expenses, and some funds are received from the Ohio

Department of Transportation. Modest fares of 50 cents for adults and students and 25 cents for seniors are collected, and \$30.00 annual passes are also available.

SVRTA operates fixed route and paratransit⁴ services in the areas of Steubenville, Mingo Junction, and Wintersville; the Wintersville service is a three-year demonstration project. SVRTA operates three fixed bus routes, one flexible service route, and a demand response Paratransit service. Two fixed routes operate within Steubenville, and the third provides service to Mingo Junction with connections to Steubenville and to Weirton, WV.

A flexible service route operates in Wintersville with connections to Steubenville at the Fort Steuben Mall. Under this route, a rider must contact SVRTA 24 hours in advance to schedule a pick-up. The bus follows a scheduled departure time and if necessary along the route, the bus will deviate from the basic route to accommodate passenger needs and continue along to the next departure location. The basic route from Steubenville travels Route 43 to Springdale, Cadiz Road to Main/Sunset Blvd., John Scott Highway, and Mall Drive to the Fort Steuben Mall.

The paratransit service is provided in Steubenville and Mingo Junction, and scheduling is required on a first come-first served basis. More information concerning all services available from SVRTA, including fixed route schedules, is available on the SVRTA website, <http://www.svrta.com>.

In addition to SVRTA, other sources of public or specialized transportation include Checker Cab (including services under contract with Prime Time and Jefferson County DJFS); Prime Time (transportation for residents over 60 years old); Jefferson County Department of Developmental Disabilities (for DD clients, bringing crews to work sites); Jefferson County CAC (Head Start transportation); Veterans Services Commission (transportation for veterans); Jefferson Behavioral Health (transportation to clients with behavioral health issues for appointments and treatments); and SPC (with which the Pittsburgh Metropolitan Planning Organization provides van pools for commuters to the Pittsburgh area).

A Public Transit-Human Service Coordinated Plan for Jefferson County was drafted in 2007, in which stakeholders expressed a high level of agreement that there was a current and growing need for public transportation services.

⁴ Paratransit is a specialized, door-to-door transport service for people with disabilities who are not able to ride fixed-route public transportation. The service operates for qualified individuals under ADA guidelines.

Airports and Air Transportation



The advent of increased gas and oil industry activity has led to a renewed focus on the Jefferson County Airpark as a growing transportation asset serving the region. The Airpark is open to the public and owned and

operated by the Airport Authority for the Jefferson County Commissioners, with parking, hangars, and tie downs, as well as available jet fuel (Jet A and 100LL Avgas). The runway is currently 4,400 by 60 feet, with asphalt paving in fair condition. The airpark website can be accessed at www.jeffersoncountyairpark.org. Airports, as well as barge ports, are indicated on Map 19.

The airport reference website, www.airnav.com, counted 26 aircraft based on the field, including 21 single engine airplanes, two helicopters, and three ultra light aircraft. The airport averaged 44 aircraft operations per day, with 74 percent being transient general aviation, 22 percent being local general aviation, three percent air taxi, and less than one percent being military operations. Airport officials have noted a recent increase in activity at the airport, with some if it likely related to the shale oil and gas industry. A new heated hangar measures 60 by 60 feet, with a 20 foot height; nestled t-hangars are also available. The Airpark is currently operated daily from 9:00 a.m. until 5:00 p.m.; a terminal building includes a pilot's lounge, wireless internet, rental car services, a flight planning room, and a conference room. The Airpark is adjacent to an industrial park, and the newly created Jefferson County Port Authority is planning to base their operations at the airport. Further, the airport is now the base for two Medevac helicopters, and a new air charter service, Air Bleu Aviation Services, has also been opened at the airport.

Plans are underway for an extension of the runway by 500 feet, in order to safely land jets, meet insurance requirements, and earn a designation as a "regional" airpark. The upgrades would cost an estimated \$2 million. Additional needs noted by the Airport Authority include a reliable snow plow and an Automated Weather Observation System.

A second, smaller airport located in Jefferson County is the Eddie Dew Memorial Airpark located west of the City of Toronto. This airport has a turf runway measuring 2,268 by 145 feet,

in good condition. There are 22 aircraft based on the field, including 21 single engine airplanes and one ultra light. The airport generally serves local pilots and owners of private aircraft. Operations average 68 per week, of which 81 percent are general aviation, 19 percent are transient general aviation, and less than one percent are military.

Rail Transportation in Jefferson County



Rail transportation has a rich history of being an important contributor to the shipment of goods and resources in Jefferson County. Railroads have served the coal and steel industries, and now present an opportunity for the transshipment of goods from river transportation and from truck traffic. The emerging oil and gas industry has brought a new use for rail transport, with the need to deliver sand for the fracking process. This new need is leading to upgrades in local rail lines and the development of a docking facility north of Toronto, including the Wheeling and Lake Erie along the southern portion of the county. It is also likely that petroleum and gas products may be shipped by rail and truck. Rail lines in Jefferson County are depicted on Map 20.

This potential for new activity is a change from the previously common history of few investments in line preservation and track maintenance due to reduced traffic. Rail lines within the county include a Norfolk Southern line that parallels the Ohio River and SR 7, a Wheeling and Lake Erie line crossing east to west from Mingo Junction, a State owned Panhandle rail line (operated under a lease by the Columbus and Ohio River Railroad) branching from the W&LE line and running north of it, westward to Cadiz, and a small section of Ohi-Rail (the Piney Fork Line between Minerva and Amsterdam) track in the Bergholz-Amsterdam area in the northwest portion of the county. The W&LE line is classified as signalized, Level of Service A track. The Ohio Panhandle and Ohi-Rail tracks are unsignalized Level of Service A, and the Norfolk Southern line is classified unsignalized Level of Service B track. A 2011 Freight Study conducted for BHJ Metropolitan Planning Organization by Cambridge Systematics found no major congestion problems in the region, although a small unsignalized portion of the Norfolk Southern line in the most southern portion of the county was classified as Level of Service C.⁵

⁵ “Level of Service” is comparable to Highway Level of Service and is calculated by dividing the volume of trains per day by the maximum capacity in trains per day a rail is capable of handling. Capacity is based on number of tracks, type and spacing of signal control system, number, spacing, and length of sidings, mix of train types, and operating and maintenance plans. Levels A, B, and C have low to moderate train flows with capacity to accommodate maintenance and recover from incidents; all three are operating below capacity, with volume/capacity ratios of 0.0 to 0.2 for LOS A, 0.2 to 0.4 for LOS B, and 0.4 to 0.7 for LOS C.

In the 2011 freight study, it was noted that steel industry shipments made up only about 30 percent of the region's rail tonnage, while the remaining 70 percent was predominantly coal and municipal waste. Coal is still shipped to the two coal-fired power plants in the County, the Cardinal plant in Brilliant and William H. Sammis in Stratton.

The BHI 2035 Transportation plan noted that routes south of Steubenville on the Wheeling and Lake Erie operate at a lower density than the routes north of Steubenville, on the Norfolk Southern. The Norfolk Southern line running along the west side of the Ohio River has the highest densities within the BHI area, although there are no rail segments in the area operating in the high-density category, which may indicate corridors with excess capacity and room for future growth. The rail segments run by non-Class I railroads, W&LE, CUOH, and Ohi-Rail, all operate at low densities, with less than five trains per day, except on segments overlapping with Norfolk Southern. Along the northern side of the Ohio River and into Columbiana County along the NS corridor, there are a large number of at-grade crossings handling up to sixteen trains per day, presenting some safety concerns.

Waterborne Freight Serving Jefferson County



Jefferson County is well positioned to accommodate waterborne freight along the Ohio River, which forms its eastern

border. However, the 2011 freight study noted that “commodity flow records and interviews with stakeholders in the region indicate that waterborne carriers are picking up or dropping off very little freight tonnage on the river between these two locks (the New Cumberland Dam on the north and Pike Island Lock and Dam on the south). The locks are operating at approximately half capacity in handling freight and as a result, the river is currently underutilized.” Coal, lignite, and coal coke shipments dominate Ohio River freight, making up 75 percent of the tonnage passing through the Jefferson County region. Waterborne freight is of relatively low cost, but it is generally slower than other modes, thus it is optimal for carrying heavy, high-volume, bulk goods of lower value.

The freight study noted that, in addition to the cluster of properties available for industrial development along SR 43 in Wintersville and surrounding areas, there are Brownfield sites, superfund sites, and properties for sale or lease along the Ohio River. These latter sites are

located along a rail line and a highway (SR 7 in particular), and they have easy access to the Ohio River. With these features, it is anticipated that such sites should be attractive to businesses in freight-intensive industries that are looking to expand facilities. Further, the 2011 freight study observed that “Promoting brownfield and superfund redevelopment is an opportunity to create investment in areas already integrated into the transportation network, utilities, and the community”.

The BHJ Metropolitan Planning Organization “2035 Transportation Plan” included an inventory of Ohio River port locations within its three-county region, and cited the following locations along the Jefferson County shoreline:

Table 4-4: River Port Locations in Jefferson County

Owner/Operator	Location	Status	Railway Connection
First Energy Corp.	Stratton, River Mile 53.1	Operational	One surface track
First Energy Corp.	Toronto, R.M. 57.5	Not used	None
L & J Bowers, Inc.	Steubenville, R.M. 65.6	Operational	None
City of Steubenville	Steubenville, R.M. 66.2	Operational	None
Wheeling-Pittsburgh Steel Corp.	Mingo Junction, R.M. 70.7	Operational	None
Wheeling-Pittsburgh	Mingo Junction, R.M. 70.9	Operational	Two surface tracks
Wheeling-Pittsburgh	Mingo Junction, R.M. 71.5	Operational	None
Ohio Power Company	Brilliant, R.M. 76.9	Operational	One surface track
Warrenton River Terminal	Rayland, R.M. 80.9	Operational	One surface track
Shelly & Sands, Inc.	Rayland, R.M. 81.1	Operational	None
Walden industries, Inc.	Tiltonsville, R.M. 82.8	Operational	None
Wheeling-Pittsburgh	Yorkville, R.M. 83.4	Not used	One surface track

Source: U.S. Army Corps of Engineers, U.S. Waterway Data

The recent realignment of economic development functions in Jefferson County under the banner of a newly-formed Port Authority will provide new opportunities for the development of the rail and waterborne freight services in the County, as well as enhancing intermodal opportunities, due to the capabilities and structure of port authorities as development entities in Ohio.

Summary of Transportation Plans and Priorities

As noted previously, the BHJ Metropolitan Planning Organization has authored a long term transportation plan for their three-county region, as well as a short term Transportation Improvement Program that outlines priority projects. Also relevant is a 2011 Freight Study that was commissioned by BHJ. The following is a summary of the goals and priorities emerging from those documents.

BHJ 2035 Transportation Plan

The long range objectives of the regional plan developed by BHJ involve preparation of a financially responsible plan, encouraging regional industrial centers through promotion of an intermodal transportation network, maintaining and constructing a safe, secure, and flexible Ohio River bridge System, constructing a modern WV Route 2 corridor, and creating a pedestrian and recreational trail network that bridges the Ohio River. The planning effort also promotes a healthy quality of life, discourages auto dependence, and supports a growing tourism industry.

The 2035 plan includes an identification of the priority projects in its current Transportation Improvement Program (TIP) for Fiscal Years 2012-2015. Jefferson County projects for FY '12-'15 include these:

- John Scott Highway in Steubenville from Sinclair Ave to SR 43 (Sunset Blvd.): asphalt resurface, guardrail and sign replacement, improvement of John Scott and Mall Drive intersection, and traffic signal improvements.
- SR 7 Dean Martin Blvd., Steubenville South Corp. line to North Corp. line: major reconstruction of roadway by replacing base and subsurface, installing new guardrail, and signage.
- Titanium Way Bridge, Toronto: remove and replace existing bridge over Jeddo Run on the existing alignment.
- Brady Ave./University Blvd. in Steubenville from SR 43 (Sunset) to Seventh St.: Improve access to Veterans Memorial Bridge by capacity additions at SR 7 and University Blvd. intersection, redesign of SR 7/SR 22 interchange ramping, and relocation of marina access road.
- Lovers Lane Connector from SR 43 (Sunset) to CR 43: resurface Lovers Lane Connector from SR 43 to County Highway 43/US 22 interchange in Steubenville.
- CR22A (Cadiz Rd.) from US 22 Reeds Mill to Wintersville West Corp. Limit: Remove and replace 2-inch asphalt wearing course pavement at existing grade, and replace traffic signal at Springdale Road.
- Improve intersection at Lovers lane and Ft. Steuben Dr. in Steubenville: Reconstruct intersection for left turn movements by either adding third lane or roundabout. Project includes full-depth pavement, curb ramps, and walkways.
- Veterans Memorial Bridge Access Improvements: Improve access to Veterans Memorial Bridge by capacity additions at SR 7 and University Blvd. intersection, redesign of SR7/US22 interchange ramping, and relocation of marina access road.

- Public Transportation – Steel Valley Transit Authority: annual capital, operating, and/or planning assistance; land acquisition for transit center expansion; countywide public transit/human service coordination plan; and replacement of three light transit vehicles.

The plan also specifies the need to address deficiencies in the current bridge system in the Steubenville-Weirton metropolitan area by reconfiguring the existing system, including access improvements to the Ohio side approaches of the Veterans Memorial Bridge and the construction of a new bridge across the Ohio River south of Wellsburg, WV, connecting to Brilliant and Wells Township, on the Jefferson County side. The BHJ Regional Bridge System Study recommended that the project proceed with a Phase 3 report to identify alternative bridge locations, initiate a design report, and begin environmental studies for a preferred alternative scenario. Significant funds have been identified and secured for construction.

Another area of emphasis, based on the growing number of single occupancy commuters starting in the Steubenville/Weirton area and ending in southwest Pennsylvania, is to provide commuter information and services for persons who desire commuter travel alternatives, rather than driving alone to their jobs or school destinations in southwestern Pennsylvania. In response, BHJ proposes to continue its Vanpool/Rideshare program and consider developing additional locations on which to site new Park and Ride facilities for ridesharing. In the 2035 plan, locations under review included Toronto at SR 7 and Franklin Street, and north of Steubenville adjacent to an existing Park and Ride lot at SR 7 and SR 213.

Within the framework of the over-arching goals listed previously in this section, the 2035 plan lists long-range transportation needs and projects, based on data collection, technical analysis, and input from a number of public meetings. The following are those projects listed in the 2035 plan, some of which already appeared as projects or programs in the 2012-2015 Transportation Improvement Program. The first set is of prioritized **bridge projects**.

- Veterans Memorial Bridge Access Improvements at SR 7 and University Blvd.
- Wellsburg Bridge over the Ohio River connecting WV-2 south of Wellsburg, Brooke County, WV to OH-7, Brilliant, Wells Twp., Jefferson County OH.
- New Ohio River bridge from OH-43 (Washington St.) in Steubenville, OH, to WV-2 in Brooke County, WV.
- New Ohio River bridge from OH-7 Jefferson/Columbiana County to WV-2, Hancock County, south of Chester, WV.
- Veterans Memorial Bridge decorative lighting (to enhance the unique structural characteristics of the bridge and accentuate its structural aesthetics).

Major new highway projects included these:

- Improvements to Lovers Lane from Sinclair Avenue to SR 43 (Sunset Blvd.), Steubenville. This will resolve the problem of Lovers Lane's insufficient roadway capacity. Project recommendations include widening to permit two 12-foot lanes from Sinclair to Ft. Steuben Drive, and installing a roundabout in lieu of traffic signals at Lovers Lane and Ft. Steuben Drive.
- Lovers Lane from Fernwood Rd. to Sinclair Ave., Steubenville; widening to permit two twelve-foot lanes, curbs, walkways, and curb ramps.
- Ft. Steuben Drive/Mall Drive reconstruction, Steubenville, from Lovers lane to John Scott highway, possibly widening from 40 feet to 48 feet, delineating median turn lanes at commercial driveways, and formulating a pedestrian and traffic calming plan.
- County Highway 34 (Two Ridge Road) from County Highway 22A (Cadiz Road) to State Route 43 (Canton Road), west of Wintersville. Widening to 24 feet with adequate shoulder, and improving overall alignment and grade, to accommodate increase in its use since completion of the SR 22 bypass in 1994.
- County Road 77 (Sinclair Avenue) from Lincoln Avenue to Lovers Lane, Steubenville; improve curves, widen to 24 feet, add paved shoulders, replace culverts, replace guardrail, and install new traffic control signs.
- SR 7 from Mingo Junction north corporation limit to Steubenville southern limit. Address rock fall conditions by cutting back the slope of the rock face and providing a rock-fall recovery area.

Highway system preservation projects are those which preserve and maintain the current operation and safety standards of an existing transportation facility. These projects do not add capacity to the existing network, and responsibility for them typically falls upon the local jurisdiction in which they are located.

- Brady Avenue/University Boulevard from SR 43 (Sunset Blvd.) to Seventh St., Steubenville. Minimally, this project includes milling and replacing asphalt, as well as pavement markings and replacement of traffic control signs. Other proposed improvements include pedestrian crossing treatments, reconfiguring the lane use at Franciscan East intersection, and reconfiguring lane markings to provide two way left turn lanes and exclusive left lanes at various intersections. Responsibility of City of Steubenville.
- County Highway 22A (Cadiz Road/Old US 22) west of Wintersville, OH; resurfacing. Milling and replacing asphalt, as well as pavement markings and replacement of a traffic signal. Consideration also should include redesign of Cadiz Road and Two Ridge Road (CR 34)

intersection to provide an inside left turn option to address safety concerns. Responsibility of the Jefferson County Highway Engineer.

- South Commercial Avenue, Mingo Junction; resurfacing. Approximately 1.6 miles from south corporate limits to a bridge over Cross Creek. Includes milling and replacing asphalt, replacement of curb, sidewalk and catch basins where needed, and pavement markings and traffic control devices. Responsibility of Village of Mingo Junction.
- Franklin Avenue from Franklin Ave. extension to Trenton St., Toronto. Includes milling and replacing asphalt concrete, replacement of curb and sidewalk where needed, pavement markings, and replacement of traffic control signs. Responsibility of the City of Toronto.
- Old SR7 from Belmont County Line to SR150A; Rayland, Tiltonsville and Yorkville. Milling and replacing asphalt concrete, replacement of curb where needed, replacement of sidewalk where needed, pavement markings and replacement of traffic control signs. Responsibility of the Jefferson County Engineer.
- John Scott Highway from Sinclair Avenue to SR 43 (Sunset Blvd.), Steubenville. The proposed work will resurface the entire length of the project with an asphalt overlay, replace portions of the guardrail that are in very poor condition, and installation of long life pavement markings. Also, the work will improve the intersection of John Scott Highway and Mall Drive. The project will involve the widening of the northwest corner turn radius, overhead guide signs on the southbound approach, changing on lane use function on the north and southbound approaches, rebuilding the traffic signal, lighting improvements, and installing video detection at five signals in the mall area. The intersection improvement will address the heavy southbound right turn traffic and a lane utilization issue on the southbound John Scott Highway approach.

Congestion Management/Safety Highway Projects include planned hazard interruption projects that resolve safety problems at roadway hazardous locations and sections, and other transportation elements that present a danger to motorists, pedestrians, or bicyclists.

- SR traffic signal renovations, Steubenville (responsibility of City of Steubenville).
- Central Business District traffic signal system, Steubenville (responsibility of City of Steubenville): Signals in the central business district use a single timing plan and outdated interconnection cabling, and are in need of replacement.

Bridge Projects: In Ohio, the County Engineers Association administers a local bridge program for structures that are not on the Interstate, U.S., or State Route Federal-Aid system; the Ohio Department of Transportation is responsible for all other bridge structures in Ohio.

- Trenton Avenue Bridge, Toronto (responsibility of the City of Toronto): This is a Bridge System Preservation project programmed to address normal repair and rehabilitation concerns.
- Titanium Way Bridge, Toronto (responsibility of City of Toronto): This 40 foot bridge was erected in 1920 and is structurally deficient today. It is a vital link in the area economy, as part of the only access to Timet Corporation. Replacement of the existing bridge with a single span precast concrete box beam super structure on cast-in-place reinforced concrete abutments.

Regional Rails/Trails Development projects are also included in the 2035 plan. Trails listed in Ohio include the Ohio River Front Trail, and converted rail trails from the Jefferson/Harrison County line to Dillonvale, from Dillonvale to Rayland, a rail trail and an on-road trail from Yorkville to Toronto.

Jefferson County Trails and Greenways Plan

A separate Jefferson County Trails and Greenways Plan was completed with a final report in October 2012. That plan identified four regions of the county: north, central, south, and river. A fifth region, Urban, encompassed Mingo Junction, Wintersville, Steubenville, and Toronto. For each region, the plan identified greenways and green spaces, points of pride, and potential connections. The plan concluded with implementation goals and strategies that recommended creation of a county-wide Jefferson Trails and Greenways Task Force, promotion of the Trails and Greenways Plan with a public information campaign to increase citizens' awareness, and development of financial resources to promote and assist the trails and greenways effort.

The plan is further detailed in the Quality of Life/Community Facilities chapter. In general, the regional goals of the plan involve connecting communities, recreational destinations and access points, and other activity generators. In addition to the ongoing work of a steering committee, the trail development process will involve local communities and townships, the Ohio Department of Natural Resources, the Yellow Creek Watershed Restoration Coalition, the County Engineer, neighboring counties (to build regional trail connections), the Park District Board, the Airport authority Board, Pennsylvania and West Virginia representatives (for regional, interstate connectivity), and railroads (for acquisition of rights of way to create rails-to-trails projects), and advisory committees and volunteers. The features described in the Trails and Greenways Plan are summarized on Map 18.

Brooke-Hancock-Jefferson MPO Freight Study

Cambridge Systematics was engaged by BHJ MPO to conduct a freight study of the three-county MPO region that includes Jefferson County. Some of the findings of that study have already been discussed. The recommendations, many of which are especially pertinent to this land use plan, are as follows:

- Identify potential locations and funding sources for expanded truck parking/rest areas with appropriate amenities to enable compatibility with surrounding land uses.
- Address the higher wear and tear on freight-impacted road surfaces with increased maintenance efforts.
- Develop regional freight planning Geodatabase, including such items as truck restrictions, clearance issues, weight restrictions, parking, and rest areas. Disseminate information to trucking companies, trucking associations, etc.
- Support the development of an additional Ohio River highway crossing, in particular the Wellsburg Bridge that is currently under study.
- Develop a process for ensuring rail corridor service and right-of-way preservation.
- Identify investment options that encourage expanded use of rail mode.
- Explore opportunities to enhance intermodal connectivity between rail/water and highway/water modes.
- Explore development opportunities with the Jefferson County Airpark.
- Develop a process for identifying freight-related development opportunities within the region, including Brownfield re-use and the identification and marketing of designated “logistics corridors” which would encourage the ‘clustering’ of freight-dependent industries.
- Develop a regional marketing strategy to promote the region’s freight-related assets to potential freight-dependent industries.
- Include freight-related performance measures in any project evaluation and prioritization process to ensure the consideration of freight enhancing projects in any resulting programming process.
- Identify innovative strategies to better match new and available funds with freight system needs.
- Establish governance structure, such as a Bi-State Port Authority, to identify issues, guide investments and advocate on behalf of the region through public outreach and education, promoting the BHJ region’s economy and protecting the public interest.
- Monitor logistics workforce needs and educational supply; work with educational institutions and employers to ensure compatibility.
- Educate the community (regional stakeholders) regarding the logistics industry.

- Establish a freight point-of-contact/technical lead for the BHJ region.

A final recommendation of the 2035 Transportation Plan addressed one specific port facility in Jefferson County. The final recommendation of that plan involved the recommended development of the Warrenton River Port in Rayland, owned by FirstEnergy Corporation. This wharf receives coal, steel, fertilizer, and heavy metals, and the terminal has one railway track connection with the Wheeling and Lake Erie Railway, as well as a truck-receiving hopper. Up to sixteen barges in four tiers, each four barges wide, can moor at the wharf. This is one example of a port facility in Jefferson County that can help move freight.

Transportation Goals

4.1 Promote and facilitate transportation projects that enhance vehicular and pedestrian safety, as well as the safety and well-being of anyone on property adjacent to transportation corridors and facilities.

4.2 Promote and facilitate transportation projects that improve circulation and the efficient movement of vehicles, people, and goods.

4.3 Support and advocate for projects judged to be of high priority in the BHJ 2035 Transportation Plan and current (2012-2015) and future Transportation Improvement Plans. (see pages 19-23 of this chapter). Among those projects currently are improvements to the John Scott Highway, Lovers Lane and the Ft. Steuben Mall Avenue, State Route 7, University Blvd./Brady Ave./Route 43 and improved access to the Veterans Memorial Bridge, CR22A west of Wintersville, replacement of the Titanium Way bridge providing access to Timet in Toronto, County Highways 34 and 77, and the listed preservation and congestion management projects.

4.4 Provide support and leadership in the design, funding, and construction of a new Ohio River bridge connecting Wellsburg in West Virginia with Brilliant and Wells Township in Jefferson County, and advocate for the development of an access roadway and intersection connecting the bridge to State Route 7.

4.5 Advocate for and assist in support for projects enumerated in the County Engineer's most recent Inventory and Needs analysis, which details a multi-year paving and chip seal program, prioritizes bridge projects, guides the implementation of guardrail, sign, and culvert projects, and produces a ten-year plan for the allocation of the resources of the County Engineer's department.

4.6 Assist in the advancement of projects that promote the growth of waterborne transportation using Jefferson County ports and terminals. Facilitate the use and development of facilities to accommodate intermodal transportation, linking transportation modes in any combination of roadway, river, and railroad. Engage the newly created Jefferson County Port Authority and its allowable tools to play a major role in such development.

4.7 Further develop the Jefferson County Airpark as a regional airport with the capability to handle corporate and small jet craft. Included in this goal is continued advocacy for and implementation of the planned expansion of the airport's runway and related features to accommodate such aircraft. Publicize the Airpark as a regional asset and transportation link, and further develop the airport and compatible adjacent land uses to best serve the growing shale oil and gas sector and other emerging industries.

4.8 Ensure the continued operation and maintenance of tracks and facilities by the railroads serving Jefferson County, and encourage the railroads' continued investment in their operations throughout the County. Emphasize the importance of rail access and the railroads' importance in intermodal transportation to existing and prospective business.

4.9 Promote bicycle, pedestrian, and other alternative modes of transportation, particularly if outside funding can be identified to pursue the reconstruction of roadways to accommodate diverse modes of transportation, by:

- Supporting the goals, objectives, and specified projects within the Jefferson County Trails and Greenways Plan; and
- Advocating for the development of the "complete streets" approach to road development, wherever feasible. Ensure that any planning that follows the themes of Complete Streets is also consistent with County and local jurisdiction subdivision regulations.

Complete Streets are designed to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete streets make it easy to cross the street, walk to multiple destinations, and bicycle to work. Complete streets may include such features as sidewalks, bike lanes or wide paved shoulders, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, and roundabouts, as appropriate to the locality.

4.10 Within Jefferson County's communities, promote the concept of Traditional Neighborhood Design outside the arterials which accommodate most through traffic, including a dense network of narrow streets with reduced curb radii, helping to slow and disperse vehicular traffic and provide a pedestrian friendly atmosphere. Traditional Neighborhood Design promotes "walkability", with short blocks, interconnected streets, sidewalks, and paths, moderate to high residential densities, and a mixed use core. While broad-based adoption of these features is unlikely in new subdivisions or smaller rural communities, it should be considered when undertaking revitalization of existing, higher-density neighborhoods.

4.11 Promote, design, and implement projects that incorporate access management, where appropriate, which can reduce traffic congestion, minimize turning movements on through streets, and improve traffic flow. Boards of County Commissioners can adopt access management regulations, as specified in Ohio Revised Code chapter 5552, and an advisory committee reviews the proposed regulations.

4.12 Continue to monitor the condition of roads frequently used to supply shale oil and gas extraction well sites, and use the County's Gas and Oil Committee to ensure accountability and road preparation or reconstruction as appropriate by the gas and oil industries.

4.13 Provide continuous support to public transportation, commuter alternative projects, and greater access to public transit, including the operation of the Steel Valley Regional Transit Authority, as well as commuter van, carpooling, and park and ride options. Advocate for expansion of services to rural areas and unserved communities.

As the population in outlying communities and rural areas ages, the availability of reliable transportation can become a key factor allowing elderly residents to continue to age in place. Monitor the demand for public transportation and plan new fixed or demand-response routes when demand is considered sufficient. Seek resources for transportation that can serve populations with special needs throughout the County, including transportation that can help the elderly to age in place even when they do not drive.

4.14 Make certain that environmental development constraints such as flood plains and steep slopes are taken into account when transportation investments are planned.

5

Utilities



Land use is inevitably impacted by the availability of basic utilities, including drinking water, sanitary sewerage, energy sources, and communications infrastructure. The provision of safe drinking water and wastewater treatment facilities is necessary to ensure the health, safety, and quality of life in any community. As in most rural counties, centralized water distribution and wastewater collection systems have existed within the larger municipalities for decades, and are typically operated by those jurisdictions. Additionally, Jefferson County has a county-wide water and sewer district, which provides drinking water and, on a more limited basis, sanitary sewer service, to growing portions of the county.

Energy distribution can also be considered as an important part of the local infrastructure. Increasingly, communications infrastructure has taken a major role in facilitating development, as Internet accessibility, capacity, and speed have become critical locational factors for many businesses.

It is important for water and sewer services to be planned in a manner that can accommodate projected growth. While Jefferson County has experienced a population decline in recent years, some of the county's major water users (such as steel mills) have curtailed their operations, and further population decline through 2030 was forecast by the former Ohio

Department of Development, spatial patterns of development and redevelopment, as well as the needs of existing residential areas without service, are expected to continue to create a demand for new distribution lines and service areas. Further, the shale extraction industry is creating a new demand for large quantities of raw water in locations not served by water distribution lines, resulting in extensive trucking of water to well sites, and a demand for large quantities of raw water from affordable sources. Also, for economic development purposes, local governments and utilities must be prepared to furnish water to those former industrial sites, including Brownfields, that may be redeveloped and returned to productive industrial use. These sites typically have infrastructure of sufficient capacity already in place.

Jefferson County is challenged by a large portion of its land area being low density and rural countryside, and in many areas of the county, it will not be economically feasible to serve the residents with regional water or sewer lines. In such cases, private systems are often created to serve individual properties, and the intensity of development must be consistent with the capacity of the area's aquifers to provide water and of the soils to accommodate septic systems. In addition to ensuring that an adequate supply of water is available, Jefferson County must protect ground and surface water resources from pollution and degradation, as noted elsewhere in this plan. This requires monitoring and coordination of land use activities, particularly in the urbanizing areas of the county.

In all cases, it is important to weigh the balance between the new growth, development, and conversion of land that follows the extension of public utilities with the costs imposed by inefficient growth, or "sprawl" along the corridors served with water distribution lines and/or sewer collection lines, well beyond the existing boundaries of development and municipal corporate limits. Other planning concerns include residential clusters in unincorporated areas with failing septic systems or other environmental concerns; new development in areas with physical constraints to proper health and safety; issues with combined sewer overflows (CSO's) typically caused by municipal systems with combined sanitary and storm sewers; and the need to locate telecommunications towers and broadband Internet distribution systems to reach the more remote locations in the County.

Public Input

Input gathered at the public meetings held for this plan included comments that the lack of county-wide water and sewer service was a notable liability. There was also concern over whether adequate water was available to accommodate the shale extraction industry without any cost to the environment. The resulting vision for the future of the County included the provision of countywide water and sewer, since "development is held up without it". The lack of water and sewer in outlying areas was also mentioned as a challenge in the Core

Committee's analysis of county strengths and weaknesses. The need for a push toward countywide water and sewer service was also noted in the public survey. Infrastructure items deemed in the survey as needing attention included sewer systems for the growth of rural areas and faster Internet service.

Several items were identified during the course of the key informant interviews. It was noted that the smaller communities struggle to maintain small water and wastewater systems, and areas with individual septic systems are subject to EPA findings and orders because of raw sewage. Fear of contamination of well water from increased oil and gas drilling could lead others to an increased demand for county water service. Cooperation is viewed as preferable to competing small systems.

Extension of county water and sewer is also seen by many of those interviewed as a necessary economic development tool, in an era where developers want property where water and sewer is already available, rather than having to pay for extensions. However, water and wastewater extensions are needed in targeted new areas of planned economic activity (such as the need for sanitary sewer facilities serving the county industrial park and environs) while former manufacturing sites may now be served by oversized and over capacity infrastructure.

One specific area with a notable deficiency in infrastructure is Brush Creek Township, in the northern and relatively remote portion of the county, with no public water, no cell phone service, and no Internet service (the only alternative is a satellite service). In lieu of a centralized water system, the area has a cistern, good springs as a source of water, and some wells. There is a notable lack of water north toward Bergholz, and in this area there are a number of septic systems not working well. It is hoped that portions of the County, like Brush Creek Township, with inadequate Internet service, can benefit from the Appalachian regional broadband efforts now underway, such as the project now underway and managed by Horizon.

Public Water Systems

The regional supplier of drinking water in Jefferson County is the Jefferson County Water and Sewer District (JCWSD). The District is strictly a distribution system, and does not own a treatment plant. The JCWSD purchases water from five providers with source entry points along the Ohio River, and over time this county-wide District has come to serve a number of villages and rural homes throughout the County. In addition to the sources mentioned previously, water for service areas B-1, M, and PHKE comes from the City of Toronto. For the Piney Fork and State Route 152 service area it comes from Brilliant and the Village of Tiltonsville's Water and Sewer Department, and for areas G1 and G2 it comes from the Village

of Tiltonsville. Map 21 depicts the location of water lines and the extent of the County water distribution system.

The County's water distribution system serves some 7,350 customers. It maintains an estimated 400 miles of waterlines with pipe diameters ranging from $\frac{3}{4}$ inch to 20 inches, and with eight booster stations enabling the district to pump to all regions in the county. The District produced a Needs Analysis Report in March 2012, which outlined seventeen possible water line extension projects ranging from 1,600 feet to 48,000 feet, the latter serving a potential 186 customers on Unionport County Road 39/Annapolis. Total estimated cost of the seventeen projects is \$22.5 million.

The District is also responsible for maintaining sixteen water storage tanks ranging from 100,000 to 1,000,000 gallons. These include tanks at Bergholz, East Springfield, Pleasant Hills, Hammondsville, Bloomingdale, Brilliant, Amsterdam, Knoxville, Empire, Norton Hill, and five other locations.

The County water district serves and has water lines in the villages of Richmond, Amsterdam, Bergholz, New Alexandria, and Irondale, and has recently assumed management of water distribution in Smithfield. The service area is varied, depending on need and feasibility. For example, as noted previously, the village of Richmond has a mixture of roughly half well water and half water provided by Jefferson County; the village's comprehensive plan notes treated water is stored in a 100,000 gallon elevated tank.

A similar comprehensive plan for Wintersville noted that the Village has a 250,000 gallon elevated tank that stores water for approximately 1,900 customers through a gravity feed system and several booster stations. The Village purchases its treated water supply, originating in Steubenville, through the county water district. This system also serves the tenants of the Jefferson County Industrial Park located just north of the Village limits.

As noted above, in 2012 the County water system also assumed management and operation of the Village of Smithfield's water distribution system. With this acquisition has come planning for a water line to connect the County system with the Village and to improve water flow in the southern portion of the county.

Jefferson County's largest public water system is the one operated by the City of Steubenville, which supplies water to more than 24,000 people and relies on surface water from the Ohio River. Wintersville and the Jefferson County Sanitary District, both of which purchase water from Steubenville, as well as the City of Toronto, also rely on surface water from the Ohio River.

A review of public water systems conducted in the 1990's by the Ohio State University Extension listed individual systems at the time serving Amsterdam, Bergholz, Brilliant, Dillonvale, Mingo Junction, Mount Pleasant, Richmond, Smithfield, Steubenville, Stratton, Tiltonsville, Toronto, Wintersville, and Yorkville. Of these municipal systems, all but Steubenville, Toronto, and Wintersville used ground water as a primary source. Other communities with their own water systems besides Steubenville, Wintersville, and Toronto include Brilliant, Mingo Junction, Dillonvale, and Tiltonsville.

The OSU Extension report noted that water was supplied to Adena by the Tri County Water Authority, to County Districts A and G by the villages of Brilliant and Tiltonsville, and to County Districts J and O, as well as Wintersville, by the City of Steubenville. Further, water is supplied to Rayland by Tiltonsville. Water in Richmond is obtained both from a village well and from a connection with the Jefferson County Water District's distribution system. The village has three wells, one of which is pumping water to supplement the county system.

The Village of Brilliant's water comes from two wells located at their water treatment plant. A new pumping station and 24,000 feet of ten-inch water transmission lines have been constructed for the Brilliant water plant, at a cost of \$4.2 million. The water source for Tiltonsville is a pair of wells located close to their water treatment plant. Toronto's water source is the Ohio River at mile marker 59.2. Steubenville also intakes surface water drawn from the Ohio River; their raw water pumping station and intakes are located at mile marker 65.3 in the northern part of the City. Improvements to Steubenville's filtration plant have been ongoing since its improvement and enlargement in 1954. Because of the instability of the former facilities, in 1997 the City approved a study of their water system with the consensus that many parts needed replacement. A new raw water pump station was designed to replace the original one constructed in 1894, and a new water filtration plant was designed in 2000 north of the city's raw water reservoir.

One plan of action recommended by the District's consulting engineer is to consider developing some wells in the more remote areas of the County that clearly need water but where it may never be affordable to develop County water distribution lines. Economically, a well site, booster station, bolted steel above ground water storage tank, and distribution lines may be the best and most affordable alternative for these remote areas.

Wastewater and Sanitary Sewerage

The JCWSD wastewater collection and treatment system currently services approximately 2,100 customers throughout the county. This system consists of one large treatment plant, known as Barbers Hollow Waste Water Treatment Plant, located off Bantam Ridge Road, which

services about 1,500, and four smaller package treatment plants. The Barbers Hollow plant is currently running over its maximum capacity. The District has initiated a study to expand the project and plant capacity, but they cannot move forward until funding is acquired to undertake the project.

The smaller plants are scattered across the county, and located in the subdivisions of Maplewood, Mellwood Acres, Ridgeland, and Century Hills. They were built to serve these specific subdivisions, and all four plants are now operating beyond their design life, requiring major repair or replacement; all are also operating beyond their designed capacity. No existing plant within the County system can effectively treat additional wastewater without upgrades, which places constraints on development. The District's consulting engineer has noted that existing treatment facilities within the District need to be expanded or upgraded in the near future, including the Barbers Hollow treatment plant, and funding needs to be sought and procured to proceed with these needed projects.

The District also maintains twelve lift stations in locations where gravity flows are not possible, and it owns and operates ninety grinder pumps. The cost of upgrades for a relatively small but geographically widespread system can become prohibitive. It has been noted that major repairs are difficult when costs can only be spread among 2,100 customers. The estimated cost of outstanding wastewater treatment projects is estimated at \$10,700,000, including \$5 million for capacity upgrades and inflow/infiltration removal at the Barbers Hollow plant.

The District is also the responsible entity to comply with any mandates for unsewered problem areas in Jefferson County. The County is currently under findings and orders for areas of Crestview/Belvedere/Highlands, Pottery Addition, and Sunshine Park, and steps have been taken to come into compliance. Also, there are parts of the county where Ohio EPA is aware of raw sewage problems and has indicated that they will be sampling and further investigating the issue. Previously or currently unsewered areas requiring possible attention resulted in the following projects, which are in various stages of planning, construction, or completion:

- Sunshine Park Subdivision: New sewers to Steubenville, findings and orders in place, estimated cost \$4,247,232.
- Crestview-Belvedere-Highlands; new sewers to Barbers: Construction was completed in 2012, estimated cost \$11,000,000.
- Pottery Addition, new sewers to Steubenville: Construction completed 2012, estimated cost \$2,300,000. This project involved 9,800 lineal feet of gravity sewer lines, serving about 110 houses and businesses.
- Permars Run, new sewers to Steubenville and pump: OEPA is requesting action, estimated cost \$1,000,000.

The City of Steubenville's wastewater treatment plant is an activated sludge operation with a design average daily flow of 6 million gallons per day, and an actual dry weather flow of 4 MGD. The plant is capable of treating up to 36 MGD with all flows up to 13.5 MGD receiving both

primary and secondary treatment and flows from 13.5 to 36 MGD receiving primary treatment only. The Village of Wintersville's sewer division has a daily capacity of 0.54 MGD supported by 13 lift stations and an additional 105,000 feet of underground pipe. Wintersville is addressing an infiltration and inflow problem. Stratton's sewer system was installed in the 1960's and collection is in good operating condition, with a treatment plant constructed in the 1960's and updated in the following decade. Adena's sewer system is in great need of repair.

Based on current Jefferson County NPDES municipal wastewater permits issued by the Ohio EPA, effluent loadings are based on the following design flows at the following municipal wastewater treatment plants:

Adena: 0.128 MGD	Maplewood subdivision:	Smithfield: 0.110 MGD
Barbers Hollow Plant: 0.42 MGD	0.030 MGD	Steubenville: 6.0 MGD
Brilliant: 0.20 MGD	Mellwood Acres subdivision: 0.030 MGD	Stratton: 0.0657 MGD
Dillonvale-Mt. Pleasant: 0.34 MGD	Mingo Junction: 0.60 MGD	Tiltonsville: 0.40 MGD
Empire: 0.0657 MGD	Ridgeland subdivision: 0.035 MGD	Toronto: 1.0 MGD
		Wintersville: 0.54 MGD

Among the other communities in Jefferson County, Richmond and Irondale operate with individual septic systems, many of which may not be well maintained. According to the Village's comprehensive plan, they were researching the feasibility of a centralized sewage treatment system. According to a consulting engineer for the county water and sewer district, there are smaller communities such as Amsterdam and Bergholz that need to look toward the eventual installation of gravity sewer systems with package type treatment plants that could be turned over to the County Water and Sewer District to own and operate.

In addition to the residential needs for drinking water and/or sanitary sewers, it has been noted that the County's economic development efforts to recruit new businesses often suffer because industrial sites being marketed around the County often do not have the necessary infrastructure in place.

Shale Oil and Gas Demands on Local Infrastructure

Water is a necessary component in the oil and gas drilling process, particularly in hydraulic fracturing, and it is also used for equipment cleaning, dust control, and manufacturing cement for drill pads and other elements. Hydraulic fracturing uses an injection mixture that is 98 percent sand and water, with small amounts of chemical additives. This fluid is injected at a very high pressure to fracture the shale, allowing more oil and gas to flow up the well bore.

On average, it takes from two to six million gallons of water to complete hydraulic fracturing on a shale well. After the fracturing is completed, about fifteen to twenty percent of the fluid returns as "flow back". Operators are currently recycling these waste fluids about four to five times before disposal, and this number is expected to increase.

At the maximum of 6 million gallons per well, if thirty wells were drilled in Jefferson County, the demand could be as high as 180 million gallons of water. Water sources can vary from private landowners to municipal sources, and water can also be withdrawn from streams, rivers, and lakes. In the northern part of the county, water has been withdrawn for this purpose from Yellow Creek, with some concern has been expressed for the impact of significant withdrawal upon the local ecology of the stream. In addition to stream water withdrawal, the City of Steubenville contracted to provide water to a gas drilling operation. While raw water appears to be sufficiently plentiful to supply the shale extraction activity in Jefferson County, care must be taken not to drastically alter flows in area rivers, streams, and other waterways, and the supply of raw water for public drinking systems should not be compromised.

Another infrastructure component linked to the shale extraction industry is the construction of new pipelines to transport the gas, oil, and byproducts from the site of extraction to processing facilities and end users. Map 22 depicts the location of oil and gas pipelines in the County. However, new pipelines are being designed and constructed as this plan is being completed. Pipeline routing should be coordinated with future land use planning in order that pipeline routes do not constrain development on key development sites.

Other Utility Services in Jefferson County

Telephone service is provided along the northeastern section of the county and in the Steubenville and Wintersville area by AT&T Ohio. The area west of Winterville is served by Windstream Western Reserve, and the remainder of the county is served by Frontier North.

Natural gas is provided throughout Jefferson County except Brush Creek, Smithfield, Mount Pleasant, and Ross Townships by Columbia Gas. Electric distribution is provided in the majority of Jefferson County by Ohio Power (a division of AEP). A large portion of the northwest corner of the County, and adjacent areas reaching into Saline, Knox, Island Creek, Brush Creek, Ross, Springfield, and a small portion of northern Salem Township obtain electric power from Carrol Electric Cooperative (through the Rural Electric Administration, or REA). Additionally, a very small portion of Warren and Mount Pleasant Townships are served by South Central Cooperative (REA).

Communications Infrastructure

Cell phone communication capability varies across Jefferson County, with compromised service in some areas owing to low population density areas, topographical challenges, and the pattern of placement of cell towers along the more well-traveled highway corridors. Wireless infrastructure includes the towers, antennas, radio equipment, and related structures that form the physical basis of a wireless communications network. Demand for better and more complete wireless service has been on the increase for many years. The major expense in the expansion of a cell network is the construction of a base station, which is a transmission facility in a fixed location designed to communicate with the wired telephone network and with mobile telephones. Base stations generally consist of an antenna and an antenna support structure (typically a tower, monopole, or an existing vertical structure intended for another purpose but which can also support the wireless telecommunications equipment).

The design, siting, and construction of wireless infrastructure is regulated on the federal, state, and local levels. Regulations generally apply to tower height, lighting and marking, placement, frequencies and power levels, types and size of associated equipment structures, fencing, signage, and landscape planting.

Applicants hoping to site a new base station should select sites that are safe, effective, and as visually unobtrusive as possible. Those involved in site selection usually search within a specific area, or “search ring”, for the carrier to meet the desired coverage objective while integrating the structure among neighboring land uses. Carriers’ siting objectives include meeting federal, state, and local requirements, meeting with acceptance in the local community, providing the highest quality wireless service, and resulting in the minimum number of sites needed to satisfy the service needs of the market.

Impacts of a new base station can be minimized when planning incorporates the following strategies, as identified in Planning and Urban Design Standards:

- Reduce visual impact by locating facilities in or around areas of mature vegetation that screen all or part of the facilities.
- When allowable, color the structure to blend in with the surrounding vegetation or skyline.
- Plant vegetative cover or construct fencing at the base of the facility to screen the ground equipment.
- Pursue “stealth” options, such as designing the tower or monopole to look like a tree, silo, or flagpole.
- Require low-profile or slim-lined structures where the antennas are installed more closely to the tower, thereby reducing the physical profile of the facility.
- Pursue opportunities to co-locate wireless transmission and receiving antennas on existing structures such as water towers, other existing towers, silos, smokestacks, church bell towers, buildings, high tension utility towers, utility poles and light standards along highway rights-of-way, and athletic field light standards. The applicability of an existing structure as a support for antennas and related equipment is subject to proximity to market and demand; the structure’s location, height, and surrounding geography; potential for signal interference; size and quality of physical space available on the support structure; access to sufficient land lines and electric power; and accessibility for maintenance and the ability to limit public access.
- Many local jurisdictions require towers to have the capacity to co-locate more than one carrier, in order to minimize the number of towers in a community.

On the federal level, the location and construction of cellular telephone towers, as well as broadband personal communications (PCS) and narrowband PCS, is governed by the Telecommunications Act of 1996. This Act provides that cities and counties may not:

- Unreasonably discriminate among service providers;
- Prohibit wireless facilities or have the effect of prohibiting wireless facilities;

- Regulate on the basis of electromagnetic radiation if the facility complies with FCC standards;
- Make land use decisions without substantial evidence to support the decision, and a written record of the proceedings; and
- Unreasonably delay decision making on proposed applications.

The best practice is to work with existing, adopted, and objective standards for CMRS (commercial mobile radio service) towers, and to make decisions on CMRS locations based on adopted standards, while compiling a record of evidence to support the decision.

Broadband Internet Infrastructure

In 2010, federal funding was secured for a new fiber optic broadband network connecting Ohio's Appalachian counties, including Jefferson County. The project was designated the Connecting Appalachian Ohio Middle Mile Consortium (CAOMMC), and when completed will provide high-capacity broadband services with speeds of up to ten gigabits per second over a 1,960 mile network. This network will include 600 regional community anchor institutions, including 212 healthcare facilities, 25 community colleges, fifteen universities, 231 K-12 schools, 34 county public safety answering points, 32 MARCS towers, and 34 industrial parks. More than 80 percent of these identified facilities have lacked fiber-based broadband access or the necessary minimum speeds to match their internet needs.

Construction began in early 2011, and Horizon Telecom, a Chillicothe-based broadband provider, is building and supplying partial funding for the new network. CAOMMC is part of a comprehensive statewide public-private partnership called the "Ohio Middle Mile Consortium", which is facilitated by the Ohio Academic Resources Network, the technology operations arm of the University System of Ohio. At the present time, the Point of Presence (where communication devices interface) for the system is located near the Jefferson County Airport. Construction of the overall network is approaching Jefferson County but not fully started at the time of this plan's initial completion. Estimates have Horizon building approximately 50 miles of fiber backbone through the area. The system holds promise for future benefits, which should be publicized as the system comes on line.

Utilities Goals

5.1 Support the goals of the Jefferson County Water and Sewer District to bring affordable and safe drinking water of sufficient capacity and pressure to those throughout the County who do not currently have access to such water. Assist the District in obtaining funding through outside sources, as well as projected income streams from water rates and fees, to support the construction and maintenance of high priority projects. Similarly, support efforts to obtain necessary funding to make needed improvements to existing distribution facilities, including pipelines, storage towers, and other facilities. Support should be given for those projects identified in the District's most recent Needs Analysis Report (March 2012), including:

Waterline extensions: Trails End Road off 213; Springfield Twp. Road 266; Efts lane extension; Island Creek Twp. Explorer Rd.; Bradley/CR 20; Unionport CR 39/Annapolis; CR 46 Toronto End; CR 43 and Laurel Hills; SR 152 South; Plum Run Wells Twp. Road 152; Wolf Run CR 75; Rysinger Rd. Richmond Twp.; Twp. Rd. 244; CR 1 Paradise Hills; Warren Twp. Rd. 117; SR 213 TR 68 to Dando; and Jackson Heights. Total estimated construction cost: \$22,518,000.

Water Storage Tank Rehabilitation projects: Bergholz Tank; East Springfield; Tank "J"; Pleasant Hills; Hammondsville; Tank "A"; and Bloomingdale. (There are additional projects listed beyond these).

Waterline replacement: it is known that replacement projects are needed in Bergholz and Amsterdam, although the total length in need of replacement is not yet calculated, and other projects include Santucci booster station pumps and Brilliant Booster Station and transmission.

5.2 Similarly, support the efforts of the Jefferson County Water and Sewer District to make needed improvements to existing wastewater treatment plants and other wastewater collection facilities owned and operated by the District. Every facility is facing capacity issues and is in need of improvements, and the District must prioritize these needs and address the most critical ones.

Wastewater treatment plant projects include:

- Barber's Hollow WWTP (capacity upgrades and Inflow/infiltration removal, cost \$5,000,000, study phase complete, moving forward with design phase).
- Mellwood Acres WWTP (Plant upgrades/replacement, estimated cost \$1,900,000; plant is in poor condition)
- Ridgeland WWTP (plant upgrade/replacement, estimated cost \$1,900,000, plant is in poor condition; OEPA requesting action. Study needs to be completed.)
- Maplewood WWTP (Plant upgrade/replacement, estimated cost \$1,900,000, plant is in poor condition.)

Priority projects for unsewered areas in the planning stage include these:

- Sunshine Park Subdivision (new sewers to Steubenville, cost \$4,247,232, findings and orders in place; no design has been completed.)
- Permars Run (New sewers/pump to Steubenville, cost \$1,000,000, OEPA requesting action.)

5.3 Establish a long range Capital Improvements Plan and a Capital Improvements Fund to replace existing infrastructure based on the anticipated useful life of each asset within the system. Incorporate redevelopment, replacement, and rehabilitation projects within overall capital improvements planning. The plan could reasonably have a 20 year planning horizon, and can incorporate financing and rate adjustments to raise sufficient capital to finance the priority projects.

5.4 Promote the development of new water and sewer infrastructure in designated growth areas, while discouraging extensions of utilities outside existing population centers that encourage sprawl. Coordinate planned extensions of utilities with the growth planning and targeting of growth areas included in this Land Use Plan, and with the land use and growth planning of any political subdivisions within the County, to provide for consistency with long range planning.

5.5 Include provision for water and sewer infrastructure as a critical factor when planning industrial and other business sites. Industrial sites should receive highest priority when located in close proximity to adequate existing utility lines. Planning should minimize the potential for urban sprawl, loss of farmland, and leap-frog development. Those involved in planning and development of new sites for economic activity should coordinate the development of such sites so that adequate infrastructure is furnished to that site concurrent with the site's development and marketing, and prior to the anticipated sale and development of such sites.

5.6 Encourage development in infill areas, including Brownfields and other sites of former economic activity, where infrastructure capacity and availability is already present.

5.7 Promote and advocate for the development of cellular communication towers and equipment to facilitate clear cell telephone use in those areas of the County where cell coverage is weak or nonexistent. Propose cellular tower siting requirements that follow the guidance offered previously in this chapter. Work to minimize their visual impact, other impacts on adjacent and nearby land uses, and safety concerns, when locating cell towers and other communications infrastructure.

5.8 Advocate for the continued development of broadband Internet service of adequate speed and capacity to accommodate new businesses, many of which rely increasingly on Internet communications, and which serve residents in all areas of the County.

6

Housing



Jefferson County's housing stock is characterized by its age and the history of employment sources that caused its creation. The booming steel mills of the past led to the construction of relatively high-density "company" housing within close proximity of those mills in towns like Mingo Junction and Yorkville. The predominance of coal mining led to housing construction in some of the more westerly communities, such as Bergholz and Amsterdam. More recently, housing growth has been witnessed near the County's employment, retail, and service centers, along the western edge of Steubenville and into Wintersville and Bloomingdale.

Housing Profile

The U.S. Census provides a wealth of information concerning housing in Jefferson County. For the most recent period, which is covered by the 2007-2011 American Community Survey, the Census Bureau counted 32,892 housing units in Jefferson County, of which 28,741 (87.4 percent) were occupied and 4,151 (12.6 percent) vacant. The statewide vacancy rate was somewhat less, with 11.0 percent over the same time period.

Of the 28,741 occupied housing units, 21,114 (or 73.5 percent) were owner-occupied, and 7,627 (26.5 percent) were renter occupied. This reflects a relatively high degree of owner occupancy, as the statewide percentage was 68.7 percent owner-occupied.

With regard to housing size, the median number of rooms, 5.8, was identical to the State median. Average household sizes in Jefferson County, at 2.40 persons for owner-occupied units and 2.22 persons for renter-occupied units, were somewhat smaller than the statewide averages of 2.56 and 2.24 persons respectively, owing in part to the County's relatively large elderly household segment. In terms of the cost and value of housing, the median housing value, at \$85,700, was significantly less than the State median of \$135,600. For renters as well, median gross rent, at \$559, was much less than the State median of \$697.

Table 6-1: Comparisons, 2000 and 2007-2011

Factor	2000 Census	2007-'11 ACS
Occupied Housing Units	30,417	32,892
Owner Occupied	22,599 (74.3%)	28,741 (73.5)
Renter Occupied	7,818 (25.7%)	7,627(26.5)
1-unit detached units	23,346 (76.8%)	25,364(77.1)
20 or more units in structure	919 (3.0%)	942(2.9)
Mobile homes	2,506 (8.2%)	2,191(6.7)
Median number of rooms	5.7	5.8
Heating fuel: utility gas	15,763 (51.8%)	14,296(49.7)
Electricity	6,216 (20.4%)	7,279(25.3)
Fuel oil, kerosene	6,465 (21.3%)	4,526(15.7)
Median value, owner-occupied	\$65,400	\$85,700
Median gross rent, renter-occ.	\$378	\$559

Some changes were observed between the 2000 Census and the newer 2007-2011 data. The number of occupied units increased by 2,475, with owner-occupied units (+6,142) more than accounting for that increase, while rental housing units witnessed a drop (-191). The greatest increase in housing was also in single detached units, while larger rental structures only

accounted for an increase of 23 units. The number of mobile homes decreased by 315.

Housing size appears to have increased somewhat, with the median number of rooms increasing from 5.7 to 5.8. Electricity made gains as the heating fuel of choice, while utility gas decreased and fuel oil or kerosene saw an even greater drop. Housing cost increased greatly over the decade, with median value climbing by over \$20,000 and monthly rent climbing by \$181.

Table 6-2: Units in Structure, 2007-2011 ACS

Units	Jefferson County, #	Jefferson County, %	Ohio, %
1 unit, detached	25,364	77.1	68.5
1 unit, attached	528	1.6	4.6
2 units	1,644	5.0	4.5
3 or 4 units	1,100	3.3	4.5
5 to 9 units	726	2.2	4.7
10 to 19 units	375	1.1	4.0
20 or more	942	2.9	5.2
Mobile Home	2,191	6.7	4.0
Boat, RV, van, etc.	22	0.1	0.0

Jefferson County has a somewhat higher proportion of single family detached housing units than the state average, which is expected for a rural county. Also, it is not surprising that there is a larger proportion of mobile homes, and a smaller proportion of larger multi-unit structures.

Table 6-3: Year Structure Built, 2007-2011 ACS

Year	Jefferson County, #	Jefferson County, %	Ohio, %
Built 2005 or later	408	1.2	3.0
Built 2000 to 2004	869	2.6	6.5
Built 1990 to 1999	2,028	6.2	11.6
Built 1980 to 1989	1,813	5.5	9.0
Built 1970 to 1979	5,080	15.4	14.3
Built 1960 to 1969	4,978	15.1	12.4
Built 1950 to 1959	5,933	18.0	14.7
Built 1940 to 1949	3,302	10.0	6.9
Built 1939 or earlier	8,481	25.8	21.5

Table 6-3 shows the Jefferson County housing stock to be relatively aged, compared to Ohio percentages. Only ten percent of the County's housing was constructed between 1990 and the present, compared with 21.1 percent of the statewide housing stock. Conversely, 35.8 percent of the county's housing was built prior to 1950, while the statewide proportion was only 28.4 percent. Older housing units such as these are more prone to having issues with asbestos and lead paint.

Table 6-4: Rooms, 2007-2011 ACS

Number of Rooms	Jefferson County, #	Jefferson County, %	Ohio, %
1 room	147	0.4	1.1
2 rooms	334	1.0	1.5
3 rooms	1,630	5.0	6.7
4 rooms	4,380	13.3	13.8
5 rooms	7,069	21.5	20.0
6 rooms	8,423	25.6	20.5
7 rooms	5,313	16.2	14.5
8 rooms	2,868	8.7	10.2
9 rooms or more	2,728	8.3	11.6
Median Rooms	5.8	---	5.8

The median size of a housing unit is essentially the same, 5.8 rooms, for both the county and the State. The percentage of housing units by category fluctuates back and forth, with smaller percentages of the largest categories (8 and 9+ rooms), and fewer of the smaller categories as well.

With regard to bedrooms, Jefferson County's housing stock includes 147 units with no bedroom, 2,815 with one bedroom, 9,428 with two bedrooms, 15,980 with three bedrooms, 3,927 with four, and 595 with five or more bedrooms. Paralleling the findings for the total number of rooms, the County's stock has a smaller percentage of housing units with a large number of bedrooms than the State, and also a smaller percentage of housing units with zero

or one bedroom. Greater percentages exist in the County for only two (28.7% County vs. 26.5% State) and three (48.6% County vs. 42.6% State) bedrooms.

Table 6-5: Year Householder Moved Into Unit, 2007-2011 ACS

	Jefferson County, #	Jefferson County, %	Ohio, %
Moved in 2005 or later	7,583	26.4	37.0
Moved in 2000-2004	4,819	16.8	19.5
Moved in 1990-1999	5,558	19.3	19.8
Moved in 1980-1989	3,528	12.3	9.5
Moved in 1970-1979	3,008	10.5	7.2
Moved in 1969 or earlier	4,245	14.8	6.9

Jefferson County has a more stable population than Ohio as a whole, with a smaller percentage moving in recent years (three ranges, from 1990 to the present) and a larger percentage moving in the longer range (the three remaining ranges, from 1989 back to 1969 and earlier.)

Table 6-6: Value of Owner-Occupied Units, 2007-2011 ACS

Value	Jefferson County, #	Jefferson County, %	Ohio, %
Less than \$50,000	4,626	21.9	8.0
\$50,000-\$99,999	8,131	38.5	23.1
\$100,000-\$149,999	4,615	21.9	25.8
\$150,000-\$199,999	2,057	9.7	18.6
\$200,000-\$299,999	1,112	5.3	15.1
\$300,000-\$499,999	367	1.7	6.9
\$500,000-\$999,999	107	0.5	1.9
\$1,000,000 or more	99	0.5	0.5
Median Value	\$85,700	---	\$135,600

It may come as no surprise that the incidence of lower-valued homes is much greater in Jefferson County than in the State as a whole for the time period covered. Similarly, Jefferson County's rent structure indicates a higher percentage of units in the lower rent categories, and fewer in the upper ranges. In the case of both owner-occupied and rental housing, in addition to indicating relative affordability of housing, it also points to a potential for a lack of upper-level, executive housing.

Table 6-7: Gross Rent, 2007-2011 ACS

Monthly Rent	Jefferson County, #	Jefferson County, %	Ohio, %
Less than \$200	474	7.3	3.7
\$200-\$299	476	7.3	3.5
\$300-\$499	1,493	22.9	13.6
\$500-\$749	2,878	44.2	36.9
\$750-\$999	957	14.7	25.6
\$1,000-\$1,499	234	3.6	13.5
\$1,500 or more	4	0.1	3.1
Median Rent	\$559	---	\$697

The Census also looks at several characteristics that indicate deficiencies in housing. The 2007-2011 ACS found 91 housing units that lacked complete plumbing facilities (0.3 percent, or less than the State average of 0.5 percent). Complete kitchen facilities were lacking in 231 units (0.8 percent, slightly less than the State's 0.9 percent), and no telephone service was available in 797 units (3.3 percent, somewhat more than the State's 2.8 percent. However, with the growing use of cell phones as sole telephone connections, this figure can be a misleading indicator).

In terms of affordability, the Census tracks selected monthly owner costs and gross rent as a percentage of household income. Those paying more than 35 percent of income on housing costs are generally considered burdened. The following table provides relative housing burden data for the County and State.

Table 6-8: Selected Monthly Owner Costs and Gross Rent as Percentage of Income, 2007-'11 ACS

Percentage of Income	Jefferson County, #	Jefferson County, %	Ohio, %
Selected monthly owner costs as a percentage of household income			
Less than 20.0%	4,805	46.7	38.6
20.0-24.9%	1,498	14.5	17.7
25.0-29.9%	1,269	12.3	12.7
30.0-34.9%	826	8.0	8.3
35.0% or more	1,898	18.4	22.7
Gross rent as a percentage of household income			
Less than 20.0%	1,926	30.1	25.9
20.0-24.9%	607	9.5	12.4
25.0-29.9%	611	9.5	11.4
30.0-34.9%	512	8.0	8.7
35.0% or more	2,745	42.9	41.5

The above table substantiates the relative affordability of housing in Jefferson County, despite the relatively low median income level in the county. In the case of both owner costs and rents, larger portions of the County's households are paying relatively smaller percentages of income. However, while a smaller percentage of County homeowners are in the cost-burdened "35.0% or more" category, a slightly higher percentage of renters within the County are in the 35%+ category as well.

Table 6-9, on the following page, presents some housing characteristics for the County's five most populous municipalities, as a means of comparison, and to determine whether there is much variation among the communities in any of these factors. Indeed, the table shows some diversity in the characteristics of the county's largest municipalities. Occupancy rates varied from a low 86.3 percent in Mingo Junction, where the effects of a shuttered steel plant are still being reflected, to a high 93.8 percent in the largely "bedroom" community of Wintersville. The balance between owner and renter-occupied housing also shifts among communities, with a high of 43.4 percent renter-occupied in Steubenville, the largest community in the county, to a high of 70.6 percent owner occupied housing in Mingo Junction.

Table 6-9: Housing Characteristics for Six Largest Municipalities, 2007-2011 ACS

Housing Factor	Steubenville	Toronto	Wintersville	Mingo Jct	Tiltonsville	Smithfield
Housing Units	9,550	2,437	1,834	1,646	689	387
Occupied Housing Units	82.5%	89.8%	93.8%	86.3%	89.3%	89.9%
Owner Occupied	56.6%	68.7%	60.0%	70.6%	64.2%	66.7%
Renter Occupied	43.4%	31.1%	40.0%	29.4%	35.8%	33.3%
One Unit, detached	68.6%	70.7%	72.6%	79.4%	78.5%	78.6%
Built 2000 or later	97	9	144	5	3	10
Built 1939 or earlier	2,724	955	110	505	289	110
Median number of rooms	6.0	5.7	5.6	5.8	5.5	5.4
Avg. household size, owner	2.28	2.37	2.52	2.42	2.34	2.35
Avg. household size, renter	2.13	2.09	1.88	2.19	2.42	2.54
Median Value	\$92,700	\$77,600	\$99,200	\$78,800	\$75,000	\$71,100
Median gross rent	\$536	\$584	\$614	\$519	\$595	\$402
Moved since 2005	35.8%	36.6%	32.6%	24.1%	31.2%	35.1%

The proportion of housing that is single and detached is greatest in Mingo Junction, Tiltonsville, and Smithfield, and lowest in Steubenville, where rental housing complexes are in greater supply. There is not much newly constructed housing, as the number of units built from 2000 to the time of the survey's end in 2011 ranged from 3 units in Tiltonsville to 144 in Wintersville, which has a relatively young housing stock when compared to many other communities. Conversely, the percentage of housing built in 1939 or earlier ranged from only 6.0 percent (110 units) in Wintersville to 41.9 percent in Tiltonsville.

Median values also varied, from \$71,100 in Smithfield to \$99,200 in Wintersville, with Steubenville second highest at \$92,700. Rent was correspondingly highest in Wintersville and lowest in Smithfield. Finally, as a measure of relative population stability, the percentage of households moving since 2005 was lowest in Mingo Junction, where presumably few households moved in following the closure of the steel mill, and was highest in Toronto. Percentages ranged from 36.6 percent (Toronto) to a low 24.1 percent (Mingo Junction).

Occupancy rates in the remaining thirteen municipalities exceeded 90 percent in Bloomingdale (95.6), Stratton (94.2), Rayland (91.4), and Amsterdam (90.0). Lowest occupancy rates (and thus highest vacancy rates) were found in Richmond (80.3), Adena (83.4) and Mt. Pleasant (83.6). Ownership percentages ranged from only 64.3 percent in Yorkville, 70.2 in Empire, and 73.4 in Amsterdam, to 89.4 percent in Irondale, 87.1 in Rayland, and 85.7 in Mt. Pleasant. There has been no new housing constructed in Adena, Amsterdam, Bergholz, Bloomingdale, Dillonvale, and Mount Pleasant since 2000, and only 44 units in total in the other seven communities combined. Median housing values ranged from \$97,500 in Bloomingdale, \$83,600 in Richmond, \$82,500 in Empire, and \$82,000 in Mt. Pleasant to \$48,500 in Amsterdam, \$52,400 in Irondale, \$53,400 in Dillonvale, and \$56,300 in Stratton. This represents a significant range, with Amsterdam's median value being only half (49.7 percent) of Bloomingdale's median. Rents also varied from \$394 in Stratton and \$450 in Mount Pleasant to \$725 in Richmond and \$675 in New Alexandria. Finally, communities showed varying degrees of household stability, with the percentage of households moving over the past five years ranging

from 13.5 percent in Rayland and 18.5 percent in Adena and Bloomingdale to 38.5 percent in Irondale and 31.3 percent in Yorkville.

Data from the same 2007-2011 American Community Survey were also collected for the County's fourteen townships. Their information is presented below.

Table 6-10: Township Housing Indicators, 2007-2011 ACS

Township	Total units	Built 2005 to present	Built 2000-'04	% Owner occupied	Moved 2005 or later	Median housing value	Median gross rent
Brush Creek	196	0	19	78.8	15.1	\$102,100	\$---
Cross Creek	3,825	154	147	75.1	25.1	\$99,200	\$603
Island Creek	4,438	48	168	81.2	25.1	\$92,800	\$620
Knox	2,103	0	61	71.6	32.2	\$71,300	\$502
Mount Pleasant	1,222	10	25	90.4	16.9	\$78,500	\$569
Ross	346	9	40	100.0	14.8	\$69,200	\$---
Salem	1,455	116	58	83.3	24.8	\$104,200	\$773
Saline	595	6	9	86.9	26.9	\$63,100	\$612
Smithfield	1,537	0	83	83.6	19.9	\$62,000	\$461
Springfield	1,173	0	34	78.7	18.2	\$71,000	\$494
Steubenville	2,113	0	5	73.4	23.0	\$71,800	\$532
Warren	1,961	5	46	76.1	23.2	\$76,000	\$549
Wayne	887	8	29	81.5	8.8	\$116,500	\$595
Wells	1,491	28	72	83.7	14.3	\$70,100	\$511

The housing stock located in these unincorporated townships represents a large portion of the County's total housing. Two townships (Cross Creek and Island Creek) have more housing units than every municipality except Steubenville, and ten of the fourteen townships have over 1,000 housing units.

Of this large number of housing units, very few were built in the 21st century, but of those that were, the largest increases were made in Cross Creek, Island Creek, Salem, and Wells Township. Housing construction was clearly more active during the pre-recession first half of the decade than between 2005 and the end of the Census period in 2011.

As expected, owner-occupied housing is more prevalent in the rural townships, although the percent of owner occupancy was as low as 71.6 percent in Knox Township, and 73.4 percent in Steubenville Township. For the most part, mobility was not as common in the townships as in the larger municipalities; the percentage of households having moved since 2005 only exceeded 30 percent in one township (Knox), was in the teens in Mount Pleasant, Ross, Smithfield, Springfield, and Wells Townships, and was only 8.8 percent in Wayne Township.

Among the highest housing values among owner-occupied units, the median for Wayne Township was \$116,500, for Salem Township was \$104,200, and for Brush Creek Township was

\$102,100. At the lower end, median values were less than \$75,000 in Knox, Ross, Saline, Smithfield, Springfield, Steubenville, and Wells Townships.

Housing Development Patterns

The Jefferson County Health District maintains records of all septic system installations in the county, which provides a rough record of the number of new housing units constructed in unincorporated areas that do not tie into regional sanitary sewers. The following is a summary of the records for 2010, 2011, and 2012. Minimally, this provides an estimate of new housing activity in the unincorporated portion of the county.

Table 6-11: Septic Systems by year of Plan Approval

Township	2010	2011	2012	Totals
Brush Creek	0	0	1	1
Cross Creek	0	2	1	3
Island Creek	6	3	9	18
Knox	1	2	4	7
Mount Pleasant	0	2	4	6
Ross	1	0	1	2
Salem	4	1	4	9
Saline	2	0	0	2
Smithfield	2	0	6	8
Springfield	4	0	1	5
Steubenville	0	0	1	1
Warren	1	4	3	8
Wayne	2	3	3	8
Wells	0	1	2	3
Total	23	18	40	81

Source; Jefferson County General Health District

New septic system permits were rather infrequent over the three years covered, totaling 81, and averaging 27 annually. The largest number of permits was issued for island Creek Township, followed by Salem, Smithfield, Warren, and Wayne.

The Ohio Development Services Agency also compiles residential construction information. In a statistical summary of the County, DSA counted 124 housing units (18 single, 106 multi-unit) in 2007, 52 units (all single) in 2008, 11 units (all single) in 2009, four units (all single) in 2010, and three units (all single) in 2011. Total valuation of the new housing went from \$7,343,000 in 2007 and \$8,367,000 in 2008 to \$2,058,000 in 2009, \$904,000 in 2010, and \$479,000 in 2011. Average cost for single units was \$150,512 in 2007, \$160,906 in 2008, \$187,097 in 2009, \$226,000 in 2010, and \$159,667 in 2011. This slight increase in the available housing stock does not approach the historical decrease in housing stock as reported by the DSA: from a peak of 35,668 housing units in 1980 to 33,911 in 1990, 33,286 in 2000, and 32,826 in 2010. However, despite this downward trend, the taxable value of residential property in Jefferson County has remained at approximately 70 percent of total real property value for the past decade.

In general, housing development has spread away from the historic older neighborhoods in the older river communities. Many of the initial, close-in areas surrounding Steubenville's downtown, or other communities like Toronto and Mingo Junction, have been largely built out. Some larger tracts in Steubenville were assembled for apartment complexes, several of which are subsidized for multifamily or elderly occupancy. Farther west, some of the County's more remote villages, such as Bergholz and Amsterdam, boosted their housing stock with employee housing for the coal mines that were once predominant. More recently, housing growth has followed Route 43 westerly through Wintersville, and larger lot housing has developed along the 43 corridor through Richmond and beyond. Potential also appears to exist at intersections along the Route 22 corridor to the west, through Bloomingdale. In general, housing growth has followed relatively major highway corridors, as well as county water distribution lines.

The Jefferson County Port Authority has identified three sites with potential for future housing development. These include over 14 acres along Bantam Ridge Road, south of Cadiz Road, in Wintersville. The site has water and sewer available, furnished by the Village. Natural gas is on site, provided by Columbia Gas, and electric power is available from AEP.

A second potential location involves a former Brownfield site (phase I is completed) along Stanton Boulevard in Steubenville. Seven acres are available for mixed use, which could include a residential component. City water and sewer are available, with AEP electric power and natural gas from Columbia gas.

A third site includes nearly six acres of land west of John Scott Highway and south of Sunset Boulevard in Steubenville. The property can be easily served with municipal water and sewer, as well as by utilities from AEP and Columbia Gas.



Meridian Greene development in Wintersville

located within the County's population centers, and are close to amenities such as shopping and services. They are also, in many cases, accessible to the transit services offered by Steel Valley Transit.

The Ohio Housing Finance Agency maintains a data base of subsidized apartment houses and developments on a county-wide basis. The following table identifies the apartment complexes listed on that site. This list fairly accurately represents the larger apartment complexes in the county. They are

Housing initiatives in 2013 in Jefferson County appear to be responsive to market demands. Mission Pointe is a condominium subdivision in Steubenville close to the Route 22 corridor. The initial subdivision consists of 28 units. The condominiums are in single-story duplex structures.

Units are constructed as they are purchased. Condominiums represent a functional option for older households that want to minimize their maintenance and upkeep needs.

Table 6-12: Larger Apartment Buildings/Complexes Listed on Ohiohousinglocator.org

Name	Location	Units	Building Type
Briarwood Apartments	Wintersville	8-1BR,26-2BR,43-3+BR	1-3 story apt. building
Fort Steuben Apts.	Steubenville	23-SRO,64-1BR	Historic building
Heritage Place	Steubenville	20-1BR,60-2BR,20-3+BR	1-3 story apt. building
Heritage Village	Steubenville	76-1BR	1-3 story apt. building
Jefferson Place	Steubenville	4-studio,4-1BR,31-2BR	Historic building
King Frederick Apts.	Steubenville	18-1BR	1-3 story apt. building
Meridian Greene Apts.	Wintersville	50-2BR,16-3+BR	Mid-high rise
Meridian Greene II Apts.	Wintersville	4-1BR,24-2BR,12-3+BR	1-3 story apt. building
North Heights	Steubenville	6-3BR	Single family home
Ridgewood Place	Wintersville	8-1BR,96-2BR,16-3+BR	1-3 story apt. building
Whispering Hills Apts.	Toronto	6-1BR,40-2BR,20-3+BR	Townhouse
Wick Homes	Steubenville	10-3+BR	Single family house

Another subdivision which has been developed in recent years is a single family subdivision of ten lots in Wintersville known as Morningside Woods, with many of the lots under construction or completed with a new home.

Impact of Shale Oil Development

Much has been observed and written about the impact upon housing of the shale oil and gas industry. It is commonly observed that the initial development of shale oil rigs and wells brings a relatively itinerant workforce, often from out of state, which will remain in the area for a short period of time, then return to their permanent homes or move on to the next developing shale play opportunity. One example has been the development of “man camps” in the Dakotas. In Jefferson County, the magnitude of need has not led to the significant construction of such camps, although some existing buildings have been adapted to accommodate worker housing. It is more likely that the existing rental housing base, with a significant degree of vacancy that followed unemployment and a declining population, has accommodated many of these temporary workers. Camper and RV sites are also being used to some extent by temporary workers.

Dr. Timothy Kelsey from Penn State University notes that workers will seek housing close to their place of work, and that having workers live locally is best for the economic development of the community because workers will spend their salaries locally. He notes that in areas with very limited housing capacity, companies will rent motel rooms for their workers, which can result in a shortage of rooms. Indeed, construction is underway for a new hotel in Steubenville, owing in part to the demand created by Utica shale and spinoff business. Other nearby counties are also seeing an upsurge in hotel room demand and in the development of new facilities. Dr. Kelsey also warns of the potential for landlords to not renew leases with existing

low income tenants in order to charge higher rents for incoming gas workers, resulting in crowding out long-term residents who are no longer able to afford to live in these communities.

While Dr. Kelsey observes some increase in home sales to incoming transplants with families, this growth has been slower than the rising demand for rental housing. He also points out that the demand for labor, and thus housing, is highest during the development phase, when wells are drilled and pipelines are laid. Demand for housing will later decline as those workers leave the area. The challenge, according to Dr. Kelsey, is thus “ensuring that sufficient housing exists during these ‘boom’ years without creating a large housing surplus after the activity ends, and making sure that new infrastructure adds value to the community in the long run”. In other words, both long- and short-term needs should be addressed simultaneously. Any hotel development in Jefferson County, for example, should be undertaken to accommodate the short-run shale play needs, but should be sustained by a longer term market in tourism, or related to the nearby University and other businesses.

A fact sheet authored by Mike Lloyd of the Ohio State Extension, entitled “Natural Gas Drilling: Questions Residents and Local Leaders Should Be Asking”, posed the following questions regarding housing:

- Will the increase in the temporary and permanent population create a strain on the availability and affordability of housing?
- Are there sufficient temporary housing facilities such as hotels/motels, trailer parks, campgrounds and RV parks, and rental units?
- Are there sufficient permanent housing options for workers who want to settle into the community?
- How can the community prepare to meet the needs of those families and individuals who will not be able to find or afford a home?
- If additional housing is needed, how will the community absorb unoccupied units when temporary workers leave?
- Are there effective land use planning procedures in place to manage the potentially rapid addition of housing developments?

With the increased demand for rental housing throughout the county can come an increase in rental rates, which may pose an affordability questions as increasing rents drive some lower income tenants out of their housing units. A research study on the impact of Marcellus shale in Pennsylvania¹ found that housing costs rose more than income, and greater increases in housing costs in areas with very active drilling. The Pennsylvania study also found that counties with significant development did not have an adequate number of affordable properties, exacerbated by the influx of gas workers in need of places to live. In four counties studied, median household incomes increased 14 to 23 percent and average household incomes from

¹ Institute for Public Policy and Economic Development, “Impact of Housing on Appalachian Pennsylvania as a result of Marcellus Shale”, November 2011.

25 to 54 percent between 2000 and the 2005-2009 American Community Survey, while median mortgages rose 26 to 63 percent and median rents from 31 to 66 percent.

Housing issues identified in the Pennsylvania study (page 186) included the following:

- Rising rental costs in counties in rapid drilling phases;
- Limited or no new building;
- Local housing agencies have no financial or human capacity to address new stock redevelopment or other support issues;
- Questionable evictions – no tenant protections;
- Local construction industry capacity is questionable, regional picture brighter;
- Redevelopment/infill opportunities; and
- Limited or no planning, land use, or zoning regulations

Jefferson County's experience is likely to follow many of these patterns. No significant new housing construction has been observed to date, some increase in rental housing cost has been experienced, the danger of questionable evictions in order to raise rent and accept gas workers as tenants who can afford a higher rent structure is present, and indeed the potential pressure for new worker housing presents possibilities for infill and redevelopment projects. It is apparent, however, that hotel and campground occupancy has increased throughout Jefferson County and its surrounding counties, spurring some hotel development in the region.

The demand for the purchase of more permanent housing for those who intend to remain in the area has not been felt to a significant degree, but the County and its political subdivisions and development agencies should be prepared to assist developers in the construction of new housing to meet any stepped-up demand. Subdivisions should be guided to areas that can be easily served by adequate water distribution and sanitary sewer lines, on sites that pose no environmental constraints. Economic development officials should convey to area Realtors and housing developers any input they receive from business prospects that are directly or indirectly related to the shale industry regarding interest in housing for company officials, professionals, engineers, managers, and others whose occupation is most likely to result in a long-term stay in the region.

Housing Priorities cited in the Jefferson County Community Investment Plan

The 2008 Jefferson County Community Investment Plan laid out some priorities concerning housing. Specifically, one intended outcome within the general goal of "Enhance the Quality of Community and Family Life" was "Enhance living options for retirees and active seniors". The plan noted the county's rapidly aging population and unusually high proportion of elderly. The focus was on allowing seniors to age in place within their home towns, and to provide "age-appropriate facilities" and essential services including transportation, residential accommodations and health and social services. One long-term strategy was to construct additional condominiums with amenities for retirees and active seniors.

Another outcome under the “quality of life” goal was to “improve the overall health of Jefferson County Citizens”. One long term strategy listed under this outcome was to “partner with such state programs as the Ohio Green Communities program to provide information and incentives to make environmentally sustainable, healthier, and affordable housing.”

These two areas of emphasis, creating housing and amenities that allow elderly residents to age in place without barriers to their wellbeing, and creating housing that is environmentally sustainable, healthier, and affordable, are carried forth in the goals section of this chapter.

A third area of emphasis related to housing evolves from the 2000 Carroll, Harrison, and Jefferson County Farmland Preservation Plan. Under this plan, prime farmland should be preserved and new housing development should be guided to alternative sites. Recommendations that help preserve such farmland include the establishment of agricultural security areas of paramount agricultural importance, development of local land trusts, acquisition of development rights, and rural zoning that could help communities protect the economic viability of agriculture.

Finally, housing location decisions in Jefferson County must be made with sensitivity to the environmental constraints in the county, including steep slopes, soil suitability, and flood plains.

Other Planning

Steubenville’s new comprehensive plan notes that suggestions to “activate” neighborhood streets are the focus of the residential suggestions in this plan: “Providing quality housing choices in a safe and comfortable environment is what the City needs to retain and attract residents.” Opportunities and recommendations in the Steubenville plan include these:

- Infill development strategies, including land banking for future use, pocket parks, balancing housing types to provide diversity and accommodate seniors and students.
- Strategies to provide code enforcement and blight removal, including training in home repair skills, regular rental inspections, and community clean-up and neighborhood pride days.
- Prioritize “first ring” neighborhoods close to downtown and work with employers to offer incentives for market rate employee housing in selected areas.

Housing Goals

6.1 Support the goal from the 2008 Community Investment Plan that addresses enhancing living options for retirees and active seniors. Further, ensure that housing, services, and amenities are also in place for seniors who need to transition to assisted housing or other options. Senior housing should be located with access to public transportation, and preferably within close and, ideally, walkable distance of shopping (particularly convenience shopping), entertainment, open space, and other amenities. Site the housing in settings that provide for door-to-door automotive access, as well as walking trails and sidewalks. Support developers in providing housing options for the older population segments, including development of condominiums.

The Housing Assistance Council reports that 89 percent of rural seniors own their own homes and that most of this housing is in reasonably good condition. However, rural housing stock is much older than urban housing and is overall more deficient. Fewer rural seniors rent, but those who do are more likely to live in poverty and face greater housing challenges.² Options can be scarce as rural areas have fewer multi-family apartments and assisted living facilities are limited and often costly.

6.2 Advocate steps that promote and lead to environmentally sustainable and healthier housing. Housing should be sited in areas that provide opportunities for walking and nearby outdoor activities. Guide new housing away from environmentally sensitive areas and prime farm land. Encourage housing location and design that follows principles of compact development (creating higher revenue generation per acre, infrastructure and service delivery cost savings, and increased redevelopment and reuse opportunities), walkability, and a diverse range of housing choices (which can help meet changing and diverse market demand and respond effectively to changing demographics).

6.3 Promote a variety of housing that can be achieved by developing “infill” property within existing communities. Practicing infill strategies can include, among other things, the development of loft apartments over downtown storefronts, re-use of property through construction of new units on vacant property (some of which may have been created through recent demolition activities), or rehabilitating foreclosed properties. Rental of upper floor apartments as loft spaces to college students, young professionals, and entrepreneurs can help support building costs while building owners concentrate on targeting business prospects to fill ground-level storefronts.

When pursuing a policy of infill, developers should be mindful of the benefit of helping create enduring neighborhoods that people, especially young people, do not want to leave. While it is unlikely that vast new developments will be created that employ principles of compact

² From “Planning for the Aging Population: Rural responses to the Challenge”, by Lydia Morken and Mildred Warner, Dept. of City and Regional Planning, Cornell University, October 2012.

development, walkability, and traditional neighborhood development, these principles are already embedded in existing downtowns in the county's larger municipalities, and the revitalization and adaptive reuse of the existing building stock, as well as the possible development of vacant properties within target neighborhoods, presents a potential for a return of many buildings, block, and neighborhoods to vitality. A major component of this goal of compact, walkable, and mixed use development is the re-establishment of attractive and desirable residences, possibly in upper stories of downtown structures. Local governments can help catalyze this movement through accelerated design review and zoning codes that do not restrict housing development. Technical assistance could also be offered into best practices to overcome the significant barriers presented by building codes for upper story housing.

6.4 Continue to promote Jefferson County's competitive advantage of relatively affordable housing costs; market the county's housing stock as a low-cost alternative within commuting distance of the Pittsburgh and Wheeling metropolitan areas.

6.5 Monitor the need for housing of varying types to accommodate any influx of households resulting from the growth of the shale oil and gas industry, and any spinoff industries or employers locating in the area as a result. Housing needs may entail short-term rental housing for labor assisting in oil rig and well construction, or more permanent, owner-occupied housing for professionals and others employed on a more permanent basis to oversee the continued development and maintenance of oil and gas extraction industries, as well as ancillary industries that utilize the natural resources that are available. Encourage both long- and short-term planning in accommodating short term housing needs during the shale development stage, while sustaining demand for existing housing and related facilities during the ensuing decline in shale-related housing demand.

6.6 Support the development of executive-level housing as an economic development incentive to draw new businesses, and their management, to Jefferson County. Promote the relatively low cost of living in Jefferson County, in contrast to housing and related costs in Pittsburgh suburbs and other locations.

6.7 Maintain housing affordability to allow local residents to maintain their home ownership or afford the costs associated with rental units. Consider the continued use of Community Development Block Grant, Comprehensive Housing Improvement Program, home weatherization, and other programs to assist in the improvement and availability of low and moderate income housing. Methods of assistance may include down payment assistance coupled with homebuyer counseling, housing rehabilitation grants and loan assistance, home repair grants that help homeowners in eliminating emergency health and safety problems, rental rehabilitation assistance for landlords, promotion of the use of low income housing tax credits in the development of affordable housing, partnership with Habitat for Humanity and other affordable housing providers, and affordable elderly housing with financial assistance from federal or state programs targeted to elderly housing. Most activities associated with CHIP or other programming should be located in target areas where local impact can be maximized.

6.8 Encourage new homeownership. Jefferson County and its municipalities have a large stock of available and affordable housing. CHIP program funds can be programmed in part to first time homeownership activities including the aforementioned down payment assistance and home ownership counseling.

6.9 Work through the county's Developmental Disabilities Board and associated housing development and management organizations to ensure a supply of accessible housing designed for disabled residents. Work to develop sufficient housing for disabled residents in accessible locations in close proximity to amenities and needs. Cooperatively work to access funding for housing specifically targeted to and designed for the disabled.

6.10 When new housing subdivisions are proposed, encourage designs that incorporate the use of accessible green space for active or passive recreational use, walkability through the inclusion of sidewalks, access to existing infrastructure, and linkages and proximity to shopping, employment, and other destinations within close proximity.

6.11 Monitor the County's and its municipalities' plan review, permitting, and inspections processes to ensure that they are efficient and timely, while serving the public need for safety and conformity with land use regulations. Publicize the housing permitting process for new home construction to make it as "user friendly" as possible. Code enforcement can be used as a portion of the overall strategy to gain ownership of vacant properties by owners who plan for the productive reuse of the property.

6.12 Safeguard the condition of the existing housing stock through housing rehabilitation and emergency repair programs identified earlier, as well as through more rigid and uniform enforcement of property maintenance codes (see Chapter 9), and the review and revision of such codes as deemed necessary.

7

Public Facilities and Institutions



This chapter will present a survey of many of the public facilities and larger institutions that serve the many public and civic needs of the residents of Jefferson County and its communities. While major County-level facilities may be included, it is not within the scope of this plan to undertake a rigorous review of the seventeen City and Village halls and the fourteen Township halls that serve the county's many political subdivisions.

Within the context of a land use plan, it is important to be aware of proximity to these institutions and facilities. Residential neighborhoods should be planned with consideration to their proximity to schools; elderly housing can be of greatest benefit when located close to health care facilities and shopping.

Jefferson County is enriched by the many public facilities and institutions that have been developed within its borders. This includes educational institutions ranging from the five public school districts (in addition to a Catholic school system and countywide Christian school) to a

vocational career center, a Community College, and a private university. Health care institutions include the Trinity health care system, which maintains an expanding array of services on two campuses, an acute care hospital constructed in Wintersville, and a number of other facilities to address specific health care needs. County government operations are managed from a centrally located Courthouse in downtown Steubenville, as well as departmental facilities on Route 43 north of the US 22 corridor, among other locations.

This chapter also includes a brief summary of the larger park and recreational facilities within the County, focusing on those with county-wide and regional impact.

Schools

Jefferson County is primarily served by five public school systems. Buckeye Local serves the southern portion of the county, including Brilliant, Rayland, Yorkville, and Adena. Edison Local covers a broad expanse of the northern portion of the county, including Bergholz, Hammondsville, and Richmond. Indian Creek Local cuts across the center of the county, covering from Mingo Junction to Wintersville and Bloomingdale. The county also has two City school districts, in Steubenville and Toronto. Very small portions of the county also fall into the Southern School District (based to the north in Columbiana County, in Salineville) and the Harrison Hills School District, located to the west in Harrison County, in Cadiz. Map 24 delineates school districts.

The following table presents a list of all the operational public school district buildings in the County.

Table 7-1 Public School Facilities in Jefferson County

District	School	Location	Grades	Enrollment
Buckeye	Buckeye Local High School	Rayland	9-12	657
	Buckeye Local Junior High School	Rayland	7-8	303
	Buckeye West Elementary	Adena	PK-6	286
	Buckeye North Elementary	Brilliant	PK-6	372
	Buckeye South Elementary	Tiltonsville	PK-6	366
Edison	Edison High School	Richmond	9-12	657
	Edison Middle School	Richmond	7-8	305
	Stanton Elementary	Hammondsville	PK-6	243
	John E Gregg Elementary	Bergholz	PK-6	368
	Pleasant Hill Elementary (<i>closing 2014</i>)	Steubenville	PK-6	354
Indian Creek	Indian Creek High School	Wintersville	9-12	703
	Indian Creek Junior High School	Mingo Junction	7-8	311
	Hills Elementary	Mingo Junction	K-6	423
	Wintersville Elementary	Wintersville	1-6	487
	Wayne Elementary (<i>closing 2014</i>)	Bloomingdale	K-6	210
	Bantam Ridge School (<i>closing 2014</i>)	Wintersville	PK-K	98
Steubenville	Steubenville High School	Steubenville	8-12	660
	Harding Middle School	Steubenville	5-9	664
	East Garfield Elementary	Steubenville	PK-5	358

	Pugliese Elementary	Steubenville	PK-5	356
	Wells Academy	Steubenville	PK-7	239
Toronto	Toronto High School	Toronto	6-12	430
	J T Karaffa School	Toronto	PK-5	351

Source: Ohio Department of Education, 2011-2012 data

Recent school construction projects include the development of a new middle school for the Indian Creek district in Mingo Junction. This 85,000 square foot facility includes three wings, a cafetorium (combined cafeteria and auditorium), two technology labs, and a large library. A 2008 levy spurred the construction of the \$17 million school.

Another major project involves the construction of a new building in the Toronto district to house grades 6 through 12. This high school contains new labs for science, technology for wireless Internet and meeting rooms, and room-to-room broadcasting and intercom communication. This project was made possible through a bond approval in 2010, and was completed in 2013.

Private Schools

The Steubenville Diocese has a very active presence in local education as well as the public schools. Steubenville Catholic Central High School, located at 320 West View in Steubenville, serves grades 9 through 12. Students attend this school from parishes in Mingo Junction, Richmond, Toronto, and Wintersville, as well as Steubenville. Total enrollment is 263 students.

Also in Steubenville is the Bishop John King Mussio Central Junior High School, at 320 West View, which serves grades 7 and 8. Total enrollment is 132. Bishop John King Mussio Central Elementary School, at 100 Etta Avenue, serves grades pre-K to 6 in Steubenville, with an enrollment of 393.

Another option is the Jefferson County Christian School, located at 125 Fernwood Road in Wintersville. This private school includes grades Pre-K through 12, and was founded in 1978 as a non-denominational Christian school. The school offers a range of extracurricular activities and high school sports, in addition to providing a college preparatory program.

Jefferson County Educational Service Center

The public school systems in Jefferson County are supported by the Jefferson County Educational Service Center (ESC), located at 2023 Sunset Blvd. in Steubenville. The center provides instructional support to teachers, services to gifted children, mentoring programs, and a principal's leadership academy and other professional development activities. The Service Center employs an occupational therapist shared by five school districts, and also has five early childhood education special education teachers, who prepare children for kindergarten. Other services include speech and language pathology, school psychological services, and transition services for children with disabilities. On-line and distance learning courses are also offered through the ESC, including a Virtual Learning Academy that teaches required subjects for

graduation and fulfills the needs of students and families with a curriculum that is fully aligned to the Ohio Academic Content Standards. Those standards are clearly defined statements regarding what all students, teachers, schools, and districts are expected to know and be able to do.

Collaboratives with which the ESC is involved include the Alternative School operated in collaboration with the Jefferson County Juvenile Court, and the Spectrum Center, which supports students clinically diagnosed with Autism Spectrum Disorder. The ESC completed a strategic planning process in 2010, and developed strategies around four goals which include setting high expectations for what all students should know and be able to do; providing leadership and support to school districts and other stakeholders in their efforts to build capacity; building a credible accountability system that holds all educators, students, and families responsible for high academic achievement, and becoming a high performance organization that effectively and efficiently supports customers.

Jefferson County Joint Vocational School

As an alternative to the standard high school curriculum, the Jefferson County Joint Vocational School provides high school students from throughout the County with specialized career-oriented education options. The school facility is centrally located in the county, at 1509 Highway 22A in Bloomingdale. The school has developed curricula in fifteen areas of study, including the following: auto body repair, auto service, early childhood education, culinary, carpentry, cosmetology, criminal justice, interactive technology, health technology, electrical, networking technology, multi-media, power mechanics, transition to work, and welding. Adult education courses are also offered covering computers, trade and industrial programs, and special interests.

Eastern Gateway Community College



Eastern Gateway Community College was founded in 1966 as the Jefferson County Technical Institute. It became a Community College in 1995, and its service area expanded in 2009 to include Columbiana, Mahoning, and Trumbull Counties, with satellite facilities in Youngstown and Warren, as well as Lisbon and Canfield. Several construction phases have brought the college's size to about 160,000 square feet of classrooms, laboratories, lounges, and offices as well as outdoor facilities. The Jefferson County campus is very centrally located and accessible at 4000 Sunset Boulevard in Steubenville.

The college offers sixty majors in the areas of business technologies, information technologies, engineering technologies, health, and public services. Some of the programs offered include accounting technology, building and construction trades technology, electric utilities

technician, EMT-Paramedic, Horticulture, Medical coding specialist, paralegal, practical nursing, and real estate management. Degrees offered include Associate of Arts, Associate of Science, Associate of Applied Business, Associate of Applied Science, Associate of Technical Studies, and Associate of Individualized Studies. Enrollment was 2,466 students for the fall 2011 semester, and expected to exceed 2,500 in subsequent years. In 2011, 57 percent of those enrolled in EGCC resided in Jefferson County, at least one-third of students were enrolled in at least one on-line class, average student age was 26, and 64 percent of students were female.

The college has proactively addressed the career training needs emerging from the growth of the shale gas and oil industry in their service region. The drilling of a single well requires 400 people working in nearly 150 occupations, and 47 percent of a well's workforce does not require a four-year degree. In response to the demand for training, Eastern Gateway has developed curricula addressing drilling operations, environmental science, engineering and surveying, health and safety, and water transport and management. The college has partnered with ShaleNET, which offers a federal grant to train workers for these targeted jobs in the shale gas industry. Instruction includes intensive training and hands-on experience as well as required safety training. To date, placement rates from this targeted training have been high. Additional courses being prepared include environmental science, welding, and safety. As a result of this focus and other responses to the needs of industry, Eastern Gateway has been listed by Community College Week among the top five percent of the fastest growing community colleges in the nation.

Eastern Gateway is following a strategic plan that was developed for 2010-2015. The plan includes seven goals: increase college participation and attainment, engage and support business and industry to foster economic leadership, maximize college access and success, grow program opportunities tailored to current and future market needs, use technology to build support service capacity, strengthen educational partnership and concurrent enrollment through affordability and efficiency, and build community college resources to promote quality learning. This plan was adopted by the college's Board of Trustees on July 7, 2010.

Franciscan University of Steubenville



Franciscan College came into being in 1946 with 258 students, including seven women. A main campus and north campus were established, and were replaced in 1959 with six new buildings on the hilltop where the campus is located today adjacent to University Boulevard. The college achieved designation as a University in 1980 when several graduate programs were added, including an MBA, MS in Education, and MA in Theology. It took its current name in 1985. The campus now encompasses 239 acres, allowing for the beautification of the lower campus along University Boulevard, and reserving adequate space for future growth.

Recent improvements have included a new 48,000 square foot residence hall in 2007 and the addition of apartment-style housing for seniors and graduate students with the purchase of an apartment complex from the Jefferson Metropolitan Housing Authority. Additionally, Antonian Hall (incorporating a dining room, Board room, and other facilities), Egan/Stafford Hall (classrooms, academic administrative offices, and a theater), Trinity Hall (a residence hall), and Assisi Heights (student apartments) were renovated in 2011. Other key buildings on campus include the John Paul II Library, Saints Cosmas and Damian Science Hall (an \$11 million science facility), Finnegan Field house and Wellness Center, the Portiuncula Chapel, and the J.C. Williams Center, which is the social hub of the campus.

The current enrollment of over 2,400 consists of students from all fifty states and twelve countries. The university offers 35 Bachelor degree majors and seven master degree programs. In 2012, the University awarded 43 associate degrees, 496 Bachelors degrees, and 189 Masters degrees. Fall 2012 enrollment included 2,090 undergraduates and 376 graduate students. There were 108 full-time and 134 part-time faculty.

The University has a major impact on Steubenville and Jefferson County. An economic impact study was conducted in by Dr. Michael Welker and Prof. Joseph Zoric, both on Franciscan's faculty, focusing on the reach of the university in 2009 and 2010. It found that the University accounted for over \$71 million in spending in the region, and taking multiplier effects into account, the impact reached \$279 million annually, generating jobs for nearly 8,100 persons. The study found that students, faculty, and staff received over 10,400 visitors in a one-year period, spending nearly \$3 million per year. Further, summer conference participants generated another \$2 million per year in purchases. In terms of community assets, the value of the 242 acres and seventy buildings on campus was determined to be \$139 million.

Qualitative impacts are also considerable, with the presence of the University improving the local and regional environment with cultural and intellectual activities. Spinoff benefits accrue to those attending lectures and concerts, to vendors for whom the University is a customer, to organizations who tap University experts to speak at meetings and who benefit from student and faculty volunteerism, to local hotels, motels, and restaurants, businesses and non profits that obtain interns and businesses who hire graduates.

The University is also reaching out as a community member with emerging plans to help develop a University-owned strip of land along the southern edge of University Boulevard. The eventual mixed-use development will significantly enhance the redevelopment of the north end of the City of Steubenville, and further expand the University area's status as a destination.



Health Care

The major health care facility and largest employer in the County is the Trinity Health System. The system includes Trinity East and Trinity West

campuses, with a combined capacity of over 471 beds and more than 1,800 employees. **Trinity Medical Center East** is located at 380 Summit Avenue in Steubenville, and offers a variety of services including skilled care, long-term care, inpatient physical rehabilitation, and behavioral medicine services (mental health and addiction recovery). Outpatient services include physical rehabilitation, cardiac rehabilitation, and associated diagnostic services.



Trinity Medical Center West is located at 4000 Johnson Road in Steubenville, and is a full-service acute care facility with a 24-hour emergency room, kidney dialysis, lithotripsy, endoscopy and related services, surgery and medical surgical inpatient units, and all other diagnostic departments. A third location in the Trinity system is the Tony Teramana Cancer Center located at 1805 Sinclair Avenue in Steubenville. This center provides chemotherapy and surgical consultations.

The Trinity Professional Groups offers a network of family physicians with locations in Steubenville, Toronto, and Follansbee, WV. There is also an outpatient center in Toronto (1800 Franklin Street Extension), which provides internal medicine, Trinity Home Health, pediatrics, physical rehabilitation, laboratory testing, and X-Rays.

Trinity is working to build its women's health services, adding obstetricians to staff to complement its obstetrics unit and Birth Center. Other improvements have included a three-dimensional mammography unit, a new bone density scanner, and improved record-keeping to comply with health care reform. Further improvements have recently been made to the emergency room and procedures followed there, as well as to upgrade their post-acute care.

Trinity also operates a school of nursing, affiliated with the Trinity East and Trinity West campuses. The school is located on the campus of Trinity East, and both campuses provide clinical learning experiences for students in most major services.



A newer hospital, **Life Line Hospital**, was developed in Wintersville by a group of physicians. They achieved this goal by creating a new facility with advanced capabilities, able to provide the best medical treatment to area residents with severe medical problems, who will need constant monitoring for an extended period of time. Life Line is a 36 bed acute care

hospital. Services include a high acuity unit and cardiac monitored beds, respiratory therapists with 24 hour respiratory care, on-site dialysis service, IV management and therapies, and case management and social service counseling. The hospital also manages a wound care program.

Public Library of Steubenville and Jefferson County



In 1902, the Carnegie Library opened in Steubenville, and was the third Carnegie public library built in Ohio. In 1936, this library merged with another public library, formed county branches, and established bookmobile services. It became known as the Public Library of Steubenville and Jefferson County.

The library taps into a database of more than six million items in 77 libraries. The bookmobile makes stops throughout the county to residential areas, day care centers, and nursing homes. Other services include wireless Internet access, delivery of books to homebound, fax and copy machines, tax forms, programming for children and adults, and a partial depository of government documents. Library branches sponsor book clubs, and there are media for use by the blind and physically handicapped. Online services allow for reservation of library materials, databases, downloads of books, music, audio books, and videos, a searchable online historical scrapbook, and online library bill paying. The library houses a Local History and Genealogy room with more than 6,000 items covering Jefferson County history, newspapers from 1806 to present, books on military records, and Steubenville directories.

In addition to the Main Library which is located at 407 S. Fourth Street in Steubenville, there are branches in Adena (167 Hanna Avenue), Brilliant (103 Steuben Street), Dillonvale-Mt. Pleasant (192 Cole St. in Dillonvale), Tiltonsville (702 Walden Avenue), and Toronto (607 Daniels Street). In addition, the most active location is the Schiappa Branch, a modern facility located at 4141 Mall Drive in Steubenville, close to the area's commercial and restaurant center.

State and County Parks and Green Space



Because of its rural nature, with thousands of acres of undeveloped forest and green space, Jefferson County is a very suitable location for public outdoor recreation areas. It is home to several of them. The County owns **Friendship Park**, located on County Road 23 off U.S. Highway 22 and near Smithfield. The park is equipped with RV and camping facilities and also provides opportunities for picnicking, fishing, boating, bird watching,

hiking, mountain biking, horseback riding, and other self-directed outdoor activities. An 89 acre main lake holds catfish, bluegill, carp, and trout. There are several small lakes, wetlands, and undeveloped property near the main lake.

The park has added 26 campsites in 2012 and another 25 in 2013. A \$435,000 wastewater treatment system was constructed at the park, to serve the campground effectively. New sites are expected to be used by gas well workers, who often live in RVs at local campgrounds while in the area. There are three shelter sites with electricity, and a gazebo at the fairgrounds site, which is located within Friendship Park. The Jefferson County Fair is held at this location every year in mid-August. A newer event is the Friendship Park Wine and Food Festival.

Three trails were extended at the park in 2012. The rehabilitation trail is a short, paved trail for those recovering from surgery, illness, or injury. The other trails now begin at the MidWay Pavilion and loop around the fairgrounds. An inner trail is about a mile in length, and the outer Overlook MidWay Trail stretches about 1.5 miles. The 1,320 acre park was initially envisioned by the Hanna Coal Company as a reclamation project. Board members are considering adding water sports, as well as skiing and sledding in the winter.

Brush Creek Wildlife Area, owned and managed by the Ohio Department of Natural Resources, is a rugged 4,131 acre wildlife area six miles southeast of Salineville in northern Jefferson County. Access is provided from County Road 55. Elevations in the wildlife area range from 760 to 1,360 feet. Thousands of conifer trees have been planted in this area. Hunting is the major recreational use of the area. Two tracts totaling 783 acres provide hunters with quality habitat for turkey hunting. The rugged, scenic beauty of the area attracts many sightseers. There are a number of varied plant communities and a diversity of songbirds and other wildlife.



The State of Ohio, Department of Natural Resources (ODNR), owns and operates **Jefferson Lake State Park**, a 945 acre park with oak and hickory wooded hills and a 17 acre lake. Camping facilities are available with 5 electric sites and 92 non electric sites. Swimming is allowed at the visitors' risk. There are picnic facilities and a 200 foot beach, and the lake is stocked with largemouth bass, catfish, bluegill, and redear sunfish. There are also hiking and bridle trails. Winter activities include ice skating, cross country skiing, and ice fishing. The park is located on County

Road 54 northeast of Richmond.

Another ODNR-owned property is the 3,023 acre Fernwood State Forest, much of which was previously strip mined for coal but which has been reforested, and recreational facilities have been installed. The forest is accessible from Township Road 181, off of County Road 26, and is three miles south of Wintersville. Hidden Hollow campground has 22 family campsites, and a three-mile trail loops around most of Fernwood's largest tract. There are provisions for fishing

and hunting, and there are three shooting ranges. A land lab is located outside the Hidden Hollow campground, and is used by ODNR and the Jefferson County Soil and Water Conservation District to promote natural resource and environmental education.



Other recreational space is maintained and developed by private enterprises. Perhaps the largest and best known among them is **Austin Lake Park**, first built as a recreation park in 1944 which has grown to 1,300 acres with camping, picnics, swimming, fishing, and other outdoor activities. In addition, many of the County's municipalities have extensive, well-maintained, and well-used parks. Steubenville's park system is especially notable, with over 170 acres of park space, including Belleview and Beatty Parks and the MLK Recreation Center.

The City of Toronto has also witnessed increased interest in developing bike and walking trails and upgrading recreational opportunities in that city. A survey of the extensive list of municipal parks and recreational facilities throughout the county is beyond the scope of this county plan, however.

Other Amenities

The 60,000 square foot former St. John Arena in Steubenville has been transformed into a state of the art **YMCA facility and wellness center**, through a partnership between the YMCA and Trinity health System. YMCA and Trinity have invested more than \$2 million in building renovations and fitness equipment, creating 40 jobs. There are now more than 4,000 members. The centerpiece of the facility is a new multi-functional sports court. There is also a partnership with Eastern Gateway Community College to serve their students, families, and the community. The wellness center includes cardio and strength training equipment, fitness classes, and a child watch program.



Historic Fort Steuben is prominently located at the foot of the Market Street Bridge, and visible from State Route 7. The Fort was originally built in 1786 to protect surveyors who were sent by the Continental Congress to map the

Northwest Territory. The Fort and the adjacent First Federal land Office of the Northwest Territory are open to the public and guided tours are provided. A modern structure on site houses a museum and gift shop, and has become the center of the county's convention, visitor, and tourism activities.

Another new cultural opportunity in the community has been made possible with the creation of the **Louis and Sandra Berkman Amphitheater** at the Fort Steuben Park. A Thursdays in the Park summer series has been very popular and has brought crowds back to downtown



Steubenville. Additionally, an effort is underway to restore the **Grand Theater** for the Performing Arts in Steubenville.

Significant funding has been raised by an organization focused on the theater, and phased improvements are underway for the eventual reopening of the historic landmark.

Additional cultural and historical points of interest throughout the county include the murals located throughout Steubenville, the Jefferson County Historical Museum and Genealogical Society at 426 Franklin Avenue in Steubenville, the Richmond Community Historical Society at 34 W. Main

Street in Richmond, the Center of Music and Art at 264 Main Street in Wintersville, Seven Creeks Spring in Island Creek Township and Union Cemetery in Steubenville, and the historic Village of Mount Pleasant and the Mount Pleasant Quaker Meeting House.

County Buildings and Services



the offices of the County Prosecutor.

The center of Jefferson County government is its Courthouse, which is home to a number of County departments and offices, including the office of Commissioners, the Auditor, Treasurer, and the Common Pleas and Probate courts. Several other functions of the justice system are housed at the Jefferson County Justice Center at 16001 State Route 7 in Steubenville. This facility houses the County Sheriff and the county jail over which the Sheriff presides. Other offices include the county's Juvenile Court and



Smithfield to serve the south end of the county.

The County Engineer shares a building on SR 43 north of US 22 just outside of Wintersville with the County Water and Sewer department. This complex houses the Engineer's offices and is attached to a garage for county vehicles. The Engineer also has a garage and office in Irondale to serve the northern end of the county, a garage and office in Wolf Run in the western part of the county, and a garage and office in

Other major county departments and agencies operate from single-purpose sites. This includes the County Department of Job and Family Services located at 125 South Street in Steubenville,

and the Board of Developmental Disabilities, at 256 John Scott Highway in Steubenville. The newly created Jefferson County Port Authority, which is emerging as the county's preeminent economic development agency, has located at the Jefferson County Airpark in Wintersville.

A recent example of consolidation in one single address to better serve similar customer groups is the location of the Jefferson County Soil and Water Conservation District, the county office of Ohio State Extension, and the county office of the Ohio Farm Bureau in adjoining suites in one location at 587 Bantam Ridge Road in Wintersville.

County offices also lease space in a former bank office building known as The Towers, at 500 Market Street in Steubenville. This structure currently houses the county's Regional Planning Commission and Health Board offices, and is now under County ownership, with plans underway for occupancy by County departments and agencies. The building is centrally located in town, within two blocks of the Courthouse, and there is surface lot parking on site and in the area.

Emergency Services

As noted previously, the County Sheriff operates from the Jefferson County Justice Center in Steubenville. The Sheriff's department is staffed with some 35 personnel, and the jail operation accounts for another 52 personnel. A 911 emergency facility employs sixteen and is located at the Jefferson County Airpark in Wintersville.

The County also has a number of municipal and Township police departments, including departments in Adena, Amsterdam, Bergholz, Dillonvale, Mingo Junction, Mt. Pleasant, Steubenville, Tiltonsville, Toronto, Wintersville, and Yorkville. A map of Police stations throughout the county is appended to this chapter, along with a map locating fire stations.

Fire Department and EMS facilities abound throughout the county. While it is beneficial to have numerous departments which can minimize response times to any location within the county, it can also become difficult to staff and adequately equip smaller departments, and it becomes important to have working mutual aid agreements in place to back up adjoining departments.

A listing of fire departments in the area identified the following departments and services in Jefferson County: Adena Volunteer FD, Amsterdam EMS, Amsterdam Volunteer FD, Belvedere Volunteer FD (Bloomingdale), Bergholz EMS, Bergholz Volunteer FD, Bloomingdale FD, Brilliant Volunteer FD, Dillonvale EMS, Dillonvale Volunteer FD, East Springfield Volunteer FD (Bloomingdale), Empire Volunteer FD, Hilldale Volunteer FD (Mingo Junction), Irondale Fire and Rescue Dept., Knoxville Volunteer FD (Toronto), Mingo Junction FD, Mount Pleasant Volunteer FD, New Alexandria Volunteer FD, Pleasant Hill Volunteer FD, Pottery Addition Volunteer FD (Steubenville), Rayland Volunteer FD, Richmond Volunteer FD, Saline Twp. EMS, Smithfield EMS, Smithfield Volunteer FD, Steubenville FD, Stratton Volunteer FD, Tiltonsville Volunteer FD,

TEMS Joint Ambulance District (Toronto), Toronto FD, Unionport Volunteer FD, Wayne Twp. EMS, Wintersville FD, and Yorkville Volunteer FD.

Impact of Shale Oil Industry on Public Facilities and Services

At the time of publication of this plan, no significant impact on public facilities or services has been reported by any local jurisdiction. However, the rapid increase in economic activity and employment in this sector, accompanied by an influx of temporary workers from outside the county, presents some challenges and opportunities. The following are some impacts that should be monitored as shale oil and gas activity becomes more prevalent in Jefferson County. The list of “Questions Residents and Local Leaders Should be Asking”, compiled by Mike Lloyd of Ohio State University Extension, includes these questions pertaining to services and education:

Emergency and Community Service:

- How will communities handle the increased demand for emergency services such as police, fire, medical, and hazardous materials teams?
- How can first responders prepare for a new set of potential injuries associated with drilling and pipeline construction? What additional training or information is needed by first responders to be prepared for the types of situations they might encounter related to natural gas drilling and extraction (including hazardous materials and injuries)? Do first responders have the communications operations necessary to find and get to well and pipeline sites in the event of an emergency?
- Do emergency services personnel have enough of the right equipment for gas-related situations?
- How can emergency preparedness committees and organizations plan for the potential increase in service runs and equipment needs?
- Can police services and the judicial system prepare for a potential increase in criminal activity?
- How can medical providers prepare for the increased demand for both emergency and preventative services?

Schools, Community Agencies, and Organizations:

- How will local schools respond to the potential population and enrollment increases with regard to both personnel and infrastructure?
- Does the school system have the capacity to address new children’s needs, especially the particular needs of children whose families are temporary residents?
- How can the school systems and other organizations prepare for the possibility of a more diverse ethnic and socioeconomic community?

- How can local service agencies plan for increases in the number of preschool-aged children (such as day care, preschools, early intervention, and special needs)? How can community leaders take advantage of the growth in the energy industry to create economic and social opportunities for young adults that will keep them in the community?
- How will community organizations and local governments assess and address the needs of both long-term and new residents (transient, temporary, and permanent)?

According to the Penn State College of Agricultural Sciences, Agricultural Research and Cooperative Extension, their observations in Pennsylvania have been that communities experiencing natural gas development and extraction are likely to see most labor increases occur in the early phases of development; laborers associated with the early phases are a combination of temporary and resident workers, and the majority of workers will be transient crews skilled in specific stages of exploration or drilling, including engineers, landmen, and roughnecks. These workers tend to be male, between twenty and forty years old, with a mix of ethnic backgrounds. There tends to be a spike as transient, temporary and permanent workers arrive to work in the industry. Over time, as the transient and temporary workers leave, there is an overall increase in population related to permanent settlement and economic growth stemming from the energy industry.

During the short-term spike, many communities in other states have experienced a modest increase in crime, particularly nonviolent crimes such as driving under the influence or drug violations. Some tension or animosity has been observed between the “newcomers” and the “old timers”, or between residents benefitting personally from natural gas and others in the community who feel they are not gaining. Rapid growth of temporary housing or the occupation of previously neglected properties can stress existing fire departments and their inspectors. Additionally, a study guide prepared by the League of Women Voters of Pennsylvania in 2009-2010 found that in all cases studied, as the number of wells increased, the number of emergency runs directly increased, pointing to a need for more emergency vehicles and crews. Municipalities that operate their own fire and EMS services have seen a direct increase in costs. In areas where private services and volunteer fire departments operate, costs accrue to those services that are, in turn, passed on to local citizens and service users. Small rural medical centers have also reported increased demands for medical care, sometimes exceeding their ability to provide services in the case of smaller facilities. A neighboring County Commissioner has noted that every well site needs to have an emergency plan detailing how the community and the appropriate authorities will respond to an emergency.

A fifteen-member Oil and Gas Committee was formed in 2011 to respond to the need for cooperation and communication throughout Jefferson County. Renamed GO Jefferson County, this committee represents a cross-section of service providers and public interests, and provides a forum and communications platform for all entities to receive and share information of interest to county entities. The items shared among committee members range from public service information to educational opportunities and employment.

The experience in Jefferson County has been largely positive with regard to public safety. The initial presence of smaller and less experienced outside shale industry businesses has been replaced over time by the larger and more reputable firms such as Chesapeake and Hess, and actual well sites are well regulated and monitored. The County Emergency Management Agency has not experienced any significant incidents; their primary concern has been the risk associated with the transport of hazardous materials throughout the county by truck (although they have not witnessed any hazardous material spills).

Preparatory training has been conducted for county firefighters, including HazMat training, in which seventeen districts participated. Plans call for training on pipeline safety, including downstream notifications for emergency cutoffs, as the network of pipelines through Jefferson County expands. Other preparation has involved purchase of additional foam for gas-related firefighting, and arrangements for sharing equipment between local jurisdictions and the State of Ohio.

The influx of additional workers has not brought any reported significant issues or challenges to public safety forces, aside from a likely uptick in some crimes. This increase has been significantly less than the previous presence of 2,500 to 3,000 construction workers to address electrical power plant upgrades.

Alignment with Other Plans

The 2008 Community Investment Plan included the following as its first goal: enhance the quality of community and family life. Within that goal were four desired outcomes, two of which address the provision of public services and facilities surveyed in this chapter:

- Improve the overall health of Jefferson County citizens (strategies include programs in family services, jobs, medical assistance, drug intervention, community centers, and law enforcement and safety services).
- Improve education resources (strategies include enhancing after school programs, conducting a study to maximize the use of existing educational resources, encouraging environmental management, and increasing the percentage of residents holding college degrees).

The 2013 Steubenville comprehensive plan includes among its “big ideas” promoting a healthier lifestyle, celebrating the city’s history and culture, and promoting partnership and encouraging a collaborative environment to establish sustainable growth. Within the promotion of partnerships is collaborating with economic development agencies, the Chamber of Commerce, and with Eastern Gateway Community College and Franciscan University, as well as other non governmental agencies and entities.

Public Facility and Community Institution Goals

With regard to public facilities and public provisions for major institutions within Jefferson County, the following planning considerations are recommended to guide future actions.

7.1 With thirty-three local jurisdictions and five public school systems, local entities are encouraged to seek opportunities for collaboration to more efficiently share and utilize resources. The Educational Service Center is a good example of an entity that can provide a specialized service or staff member that can be shared among the districts. Other opportunities may exist in joint purchasing or jointly owned equipment, and for sharing operations such as dispatching or vehicle maintenance. Consider the use of the State Innovation Grant program to help fund collaborative projects. (This program has been used in the County; the Board of County Commissioners received a grant to improve technology through networking).

7.2 Collaboration is also encouraged in future planning projects. Partnering organization should be sought in future projects where the perspective and resources of multiple entities can enrich the outcome of the project. The County has set an excellent record for collaboration, and examples abound, including the Core Committee that helped guide the development of this plan. Other recent example is the Oil and Gas Committee appointed by the County Commissioners to address all emerging aspects of the growing shale extraction industry and to provide a forum for communication.

7.3 Promote and facilitate the co-location of offices and agencies that serve overlapping populations. The recent co-location of OSU Extension, the Soil and Water Conservation District, and the Ohio Farm Bureau office is a good example. The County's purchase of the Towers building should be followed by careful consideration to the strategic mix of tenants.

7.4 Create and periodically update a county-wide Capital Improvement Plan (CIP) to identify and prioritize capital improvement needs regarding county-owned assets.

7.5 Maintain the integrity of the County's public and private school systems by supporting needed improvements, including building construction and renovation, equipment needs, and new technology. Advocate for broadband upgrades and opportunities through the Connect Ohio program to provide maximum benefit to the County's schools, colleges/Universities, and institutions including health care facilities.

7.6 Utilize the Oil and Gas Committee as a forum to discuss any current or projected impacts of the shale extraction industry upon area governmental facilities and institutions (including education and health care).

7.7 Support the County's major institutions in their strategic planning. In the short term, support Franciscan University to help realize a positive and compatible outcome for their mixed-use development plans for the University Boulevard area.

Capital Improvements Plans (CIPs)

A CIP can ensure that the selected projects best serve the needs of a majority of citizens. Further, during the CIP process, it is important to coordinate the community's needs with its ability to pay.

A County-level CIP will improve inter- and intra-governmental cooperation and communication. Opportunities may exist to schedule projects from different departments and offices in a coordinated manner to ensure an effective use of resources, to reduce duplication of programs between departments and units of government, and to share in joint efforts that could reduce the costs to all residents. The multi-year focus of the CIP process allows for scheduling of phases of projects that can be coordinated to ensure the projects are finished on time. When capital projects are prioritized and scheduled to fit within expected funding, the planning will reduce the occurrence of dramatic tax increases or user fees to fund capital projects. Suggested steps in the formalized capital improvements planning process include the following:

1. Establish the administrative structure and identify all participating departments and individuals, as well as a central coordinating office or individual.
2. Establish the policy framework for the CIP (such as a desired level of service).
3. Formulate evaluation criteria to determine capital spending levels and to guide capital project selection. Criteria to evaluate projects should be clearly defined and agreed upon before the selection of capital projects begins. Criteria may include fiscal impact, health and safety effects, community economic effects, and environmental and social effects.
4. Prepare a capital needs assessment, taking into account the maintenance of existing infrastructure as well as the construction of new infrastructure. It is helpful to develop an inventory of assets, including the age, condition, maintenance history and replacement cost of the asset. Also, it is important to identify future needs by reviewing and forecasting demographic information, land use patterns, and other relevant information.
5. Determine the status of previously approved projects and identify new projects.
6. Assess the financial capacity of the County to undertake new capital projects. Look at past, present, and future trends in revenue generation, debt levels and ratios, changing regulations, and shifting demographics, to determine the amount of funds available from existing revenue sources to pay for capital projects.
7. Evaluate funding options. It is important that the County look at all possible financing options.
8. Compile, evaluate and rank project requests and undertake financial programming. This is where project requests are evaluated and prioritized, and projects are ranked. Once the ranking is completed, funding sources are identified and the year the project will be undertaken will be determined.

9. Adopt a capital program and a capital budget.
10. Implement and monitor the capital budget and projects, and evaluate the CIP process.

7.8 Publicize the extraordinary amenities that do exist throughout Jefferson County, including its schools and colleges/universities, health care facilities, and recreational and cultural opportunities. Provide expanded communications to residents and visitors through linked websites and social media, as well as through more traditional means.

7.9 State, County, and local government officials should collaborate in the provision of outdoor recreation and park facilities, to maximize the recreational and wellness benefits of these amenities. Recreational areas should be linked through the growing trail and greenway program envisioned in the county-wide plan addressing those improvements.

7.10 Consider the added responsibilities and needed capacity of fire and rescue stations in closest proximity to new shale oil and gas wells. Response time is critical in those stations where the apparatus may be predominantly related to hazardous materials handling equipment, or to paramedic/EMS service. Provide for the security of remote rural stations that are often unattended for considerable periods of time. Plan fire and rescue stations to accommodate anticipated new equipment, which may change in dimension. Also, additional vehicle types may become required as shale oil wells become more predominant.

7.11 Coordinate and collaborate with medical care facilities and programs, and with recreational facilities, to further the position of Jefferson County as a “healthy community” leading to wellness and longevity for its aging population. Support the Community Investment Plan goal of improving the overall health of Jefferson County citizens by supporting strategic plans throughout the county that facilitate exercise, nutrition, and education.

8

Economic Development



Jefferson County has a rich history as the home of heavy economic development activity. The over-riding sense within the County is that this is a time of transition and opportunity. The County benefits from a location within close proximity of the Pittsburgh metropolitan area, short travel times to Cleveland and Columbus, and one-day travel to most East Coast population centers and Midwestern markets such as Chicago, Detroit, and Indianapolis. Certainly, the historic stalwart industries of pottery and steelmaking have dwindled to virtual nonexistence in the case of pottery, and a fraction of past activity in steelmaking¹. Much of the rural countryside once lent itself to extraction of coal, either in underground mines or through surface extraction. While mining continues in a couple of locations, it has dwindled as a source of employment for the County's workforce.

The waning of these once formidable industries has been replaced in part by the hope that the emerging oil and gas extraction industry, and the midstream and downstream activities, including industries that can use oil and gas byproducts in chemical manufacturing and related business, will locate within the County, which is strategically positioned near the heart of the emerging Utica shale play. The uptick in oil and gas activity has produced increased wealth for property owners in potentially productive locations who sign mineral rights agreements, and has led to spillover business for area business services, hotels, restaurants, and other

¹ There are signs of a smaller but notable comeback in the steel industry, with plans to reopen a portion of the former RG Steel facility in Yorkville, and with ongoing pipeline construction throughout the Utica play region.

businesses. Energy in another form provides the basis for another highly significant sector in Jefferson County, as the County is home to two major electric generation plants, in Brilliant and in Stratton.

A review of the Jefferson County Auditor's list of major employers over time reveals the changing nature of the County's primary economic engines:

Table 8.1: Top Ten Jefferson County Employers – 2002 and 2011

2002		2011	
Employer	Employees	Employer	Employees
Weirton Steel (steel)	3,500	Trinity (acute care hospital)	2,186
Wheeling-Pittsburgh Steel (steel)	2,480	Arcelor Mittal Steel (steel)	988
Trinity Health Care (hospital)	1,900	Wal-Mart Distribution (retail dist.)	728
Jefferson County (government)	865	Titanium Metals Corp.	692
Titanium Metals Corp. (titanium)	500	Jefferson County	658
First Energy (utility)	440	Franciscan University	450
Franciscan University of Steubenville	306	First Energy	450
American Electric Power (utility)	253	Eastern Gateway Community College	410
Jefferson Community College	220	Steubenville City School District	408
Ogden Newspapers	189	Wal-Mart (retail)	376

Source: Jefferson County Auditor

The above table indicates some change in sectoral employment, as the steel industry, in which two entities employed nearly 6,000 people in 2004, now employed less than 1,000 in one enterprise, and that number has declined since 2011. Major employers now include two industries, but also a hospital, distributor and retailer, county government, one utility, and three educational institutions.

Chapter 2 of this Plan presented County Business Patterns data that showed the relative size of each economic sector, in terms of the number of establishments and employees. The largest single sector in employment was health care and social assistance, with 4,034 employees, followed by retail trade, which had 3,136. Other large sectors included transportation and warehousing (1,000-2,499), educational services (1,586), accommodation and food service (1,822), manufacturing (1,428), other services (1,035), administration and waste management (978), and utilities (500-999). Over the time period examined (2000 to 2010), the number of employees had fallen by nearly 3,000, and the largest drop by far was in the manufacturing sector (-2,496), followed by retail trade (-696). Gains were made in educational services (+394), health care and social services (+153), and accommodations and food service (+99). Clearly, the total number of jobs had shrunk, and changes within sectors were occurring, with manufacturing falling from its former prominence (especially in a time when steel mills were in

full operation), and other sectors (such as health care and educational services) overcoming a portion of the loss.

Another sector that should not be understated in importance is agriculture. As reported in the 2007 Census of Agriculture, the market value of agricultural products sold in 2007 was \$9,309,000, a great increase over the comparable sales in 2002 of \$6,765,000. More recent estimates provided by the Ohio Department of Agriculture show Jefferson County to have 480 farms averaging 146 acres in 2010, for a total of 70,000 acres in farms. Among specific data provided the county had 2,100 acres planted in corn in 2012, 6,600 acres harvested in hay in 2011, 800 acres in oats in 2012, and 10,000 cattle including 1,800 milk cows as of January 1, 2013.

Another way to analyze the County's employment and economy is to compare the relative size and strength of independent sectors within the County with the "norm" for that sector across the State or country. A useful measure is the "location quotient", or the ratio of the size of a sector within the county to its size within the State or country.

Table 8.2: Workers, Percentage, and Location Quotients, Jefferson County, Ohio, and U.S., 2011

NAICS Number/Industry	Jefferson #	Jefferson %	Ohio %	U.S. %	LQ: Ohio	LQ US
Total, All Industries	18,558	100.0	100.0	100.0	1.00	1.00
11 Ag, Forestry, Fishing and Hunting	--	--	0.32	1.07	--	--
21 Mining, Quarrying, Oil Gas Extract	--	--	0.27	0.67	--	--
22 Utilities	928	5.00	0.45	0.51	11.00	9.84
23 Construction	1,125	6.06	4.15	5.06	1.46	1.20
31-33 Manufacturing	1,565	8.43	15.01	10.82	0.56	0.78
42 Wholesale Trade	616	3.32	5.13	5.13	0.65	0.65
44-45 Retail Trade	3,022	16.28	13.07	13.56	1.25	1.20
54-Professional & Technical Services	349	1.88	5.77	7.09	0.33	0.27
55 Management of Companies	30	0.16	2.67	1.77	0.06	0.09
56 Administrative and Waste Services	815	4.39	6.87	7.13	0.64	0.62
61 Educational services	--	--	2.24	2.35	--	--
62 Health Care and Social Assistance	--	--	17.33	15.24	--	--
48-49 Transportation & Warehousing	1,162	6.26	3.72	3.75	1.68	1.67
51 Information	586	3.16	1.79	2.47	1.77	1.28
52 Finance and Insurance	394	2.12	4.88	5.09	0.44	0.42
53 Real Estate and rental and leasing	256	1.38	1.36	1.77	1.02	0.78
71 Arts, Entertainment & Recreation	229	1.23	1.48	1.78	0.83	0.69
72 Accommodation and Food Svcs	1,652	8.90	9.89	10.51	0.90	0.85
81 Other Services except public adm.	669	3.60	3.53	4.08	1.02	0.88
99 Unclassified	10	0.05	0.05	0.16	1.07	0.34

Source: U.S. Bureau of Labor Statistics

A location quotient over 1.00 for a sector indicates that it is relatively significant within the county, and the higher the location quotient, the more significant that sector is in the county, in relation to other areas. The preceding Table 8.2 presents employment data and location quotient information provided by the U.S. Bureau of Labor Statistics for 2011.

The above table points toward a significantly greater proportion of workers in the utilities sector (Location Quotient relative to the U.S. = 9.84; relative to Ohio = 11.0), which is not unusual for a county that houses two electric power generation plants. Other sectors with location quotients in relation to the U.S. exceeding 1.0 are transportation and warehousing (1.67), information (1.28), construction (1.20), and retail trade (1.20). Comparing the County with Ohio employment percentages, sectors with location quotients exceeding 1.0 include information (1.77), transportation and warehousing (1.68), construction (1.46), retail trade (1.25), real estate and rental and leasing of property (1.02), and other services (1.02).

A review of areas which lag behind the country or state in percentage of total employment reveal the following:

- Manufacturing location quotients of 0.56 (Ohio) and 0.78 (U.S.) indicate that this sector has fallen behind state and national norms.
- Wholesale trade has a ratio of 0.65 compared with state and national employment.
- The more “white collar” sectors of professional and technical services (0.33, 0.27) and management of companies (.06, .09) are significantly less evident in Jefferson County. The latter category indicates management of many County business establishments from outside the County.
- Two other sectors appear to be significantly smaller overall than on the national or state level. Administrative and waste services have location quotients of 0.64 and 0.62, and the Finance and Insurance sector has location quotients of 0.44 and 0.42, indicating possible reliance of County residents and businesses on outside entities in these sectors.

One more method to analyze the makeup of the local economy is to look at the business community by size or “stage” of businesses. The Edward Lowe Foundation, based in Michigan and which focuses on entrepreneurship programs and research, breaks the number of businesses down by stages at the county level; businesses with a single employee are considered self-employment, businesses with two to nine employees are considered “stage one”, or start up businesses, and further stages are marked by higher employment numbers. The conclusion of the Lowe Foundation, on their website, www.youreconomy.org, is that, nation-wide, most new job creation comes through the growth of stage 2 businesses with 10 to 99 employees, particularly those with a culture of product innovation.

The following table presents data on Jefferson County businesses by size or stage level, comparing 2000 with 2010. It is important to remember the context, with the nation coming out of a recession in 2010. The table shows the impact of the end-of-decade recession, coupled with the structural changes and decrease in the predominance of heavy manufacturing (and its spinoff boost for other business sectors) in the Ohio Valley and Jefferson County in particular. Interestingly, the increase in both establishments and employment came with self-employment and the very smallest, Stage I, businesses. It is likely that unemployment from shrinking manufacturers resulted in many former employees starting new ventures, many of which began with self-employment.

Table 8.3: Jefferson County Businesses by Business Stage, 2000-2010

	Establishments			Jobs		
	2000	2010	Change	2000	2010	Change
Total	3,131	3,936	805	37,725	31,939	-5,788
Noncommercial	406	435	29	3,834	4,436	602
Nonresident	205	164	-41	10,524	5,883	-4,641
Resident Businesses	2,520	3,337	817	23,367	21,620	-1,747
Self-employed (1)	607	1,100	493	607	1,100	493
Stage I (2-9)	1,493	1,884	391	5,591	6,014	423
Stage II (10-99)	393	332	-61	9,328	8,037	-1,291
Stage III (100-499)	21	18	-3	3,471	3,444	-27
Stage IV (500+)	6	3	-3	4,370	3,025	-1,345

Development Priorities in the Community Investment Plan

The 2008 Community Investment Plan for Jefferson County included considerable discussion of economic development: its three critical goal areas were: ***enhance the quality of community and family life, improve and expand infrastructure, and stimulate workforce and economic growth***. While all three goal areas have a link to economic development, the third one is directly related. The quality of life goal included outcomes that pertain to retaining and attracting younger people, retaining and attracting seniors and retirees, and improving education resources. The infrastructure goal included outcomes addressing improving transportation, developing vacant and underutilized land, and enhancing and sustaining water, sewer, and other utility infrastructure. The land development outcome included strategies to obtain Brownfields Assessment and clean-up grants, participate in the Ohio Job Ready Site Program, and plan and develop a second Jefferson County Industrial Park beyond the existing 88-acre site, of which fifty acres are available.

The third goal area addresses ***stimulating the workforce and economic growth***. The first outcome under this heading is ***to increase the number of successful small businesses in***

Jefferson County by providing entrepreneurial services, including coordination of business support organizations, working with the regional Small Business Development Center (a state funded entity that provides free business consultations, presentations, and business planning assistance) and establishing one based in the county, identification of funding opportunities and eligibility criteria for entrepreneurs, and developing a Jefferson County business incubator.

The second outcome addressed **enhancing marketing efforts to attract investments to Jefferson County**. Recommended strategies included continued establishment of Jefferson County's position within the Pittsburgh region; cultivating relationships with Pittsburgh businesses, associations, media, and networks; working with Pittsburgh Business Times; and showcasing the County's advantages through multiple media venues. Longer term strategies include following up on a recent cluster analysis commissioned by the BHJ Metropolitan Planning Commission to evaluate labor force advantages and disadvantages, and further define synergies to create quality jobs; identify funding for a study of business needs to help the county succeed in attracting business, and develop and provide coordinated economic incentive programs.

The third outcome involved **increasing the employed workforce by focusing on business retention and expansion**. Short term strategies included expanding the business retention program, publicizing the importance of small business to the local economy, inventorying programs available through local, state and federal agencies as well as educational institutions, supporting monthly networking programs to promote small businesses, initiating a quick response unit to assist businesses in crisis, and working with economic development entities to develop a comprehensive inventory of buildings and sites

Long term strategies included building alliances with regional and county economic development groups, continuing to work with organizations on a mentoring program for small businesses supported by "expert" volunteers, ensuring that businesses considering expansion have access to a consortium of financial institutions and economic development agencies to assist them in accessing funding sources, and bringing small businesses together to explore cooperative marketing, purchasing, and other joint efforts.

Review of Public Input

A large portion of the input gathered in a public survey conducted to support and inform this plan pertains to economic development. Among the County's assets named by multiple respondents were the people of the county and its workforce, the existence of developable land for growth, transportation options, the Ohio River (which was mentioned more than any

other single asset), the locational advantage of Jefferson County and its proximity to Pittsburgh, and the county's excellent schools, including Franciscan University and Eastern Gateway Community College. These same assets were identified by the Core Committee during their analysis of the County.

Planning concerns related to economic development included creating blue- and white-collar jobs, sustaining economic growth after the oil and gas boom, conversion from a steel-based economy, the ability to power business and industry with natural gas, cleaning up industrial sites for re-use, enlarging the industrial park, making regulations favorable for business, and spreading new business geographically throughout the county.

The most common response, when respondents were asked for a vision of a preferred future for Jefferson County, related to good jobs and sustainable employment. Other related recommendations or visions expressed in the survey included creating a central depot for big business to establish a presence during the gas and oil expansion, a job placement bureau, becoming more competitive for outside investment, increasing business incentives, attracting more small businesses, and looking at opportunities for high technology businesses and "green" business. In the retail sector, respondents mentioned clean, safe, and attractive shopping areas, a facelift for the mall, and a revamped downtown Steubenville. Further concepts included a rail spur and trucking hub, exposing the riverfront, and maximizing use of the railroad, river, and highways to link the County to the whole country's economy.

Key informant interviews elicited a number of comments relating to economic development. Most common among them were statements concerning utilizing existing buildings and infrastructure, opportunities along the River and the Route 22 corridor, the importance of the health care sector to the economy, the growth of commercial business, and the importance of the impact of shale oil and gas to the county and region.

Several sources identified the County's relatively low cost of living as an important asset, and also noted access and availability of all modes of transportation, a willing workforce, and a number of specific natural and man-made attributes as assets. The core committee noted two particularly strong areas for economic opportunity. First was the shale oil and gas activity in the area, with its "downstream" opportunities, development of industry that benefits from access to plentiful and low-cost energy, the potential for a steel industry comeback, and spillover benefits to retail and service businesses due to the increase in disposable income. The second area of opportunity related to riverfront development opportunities for industry, shipping, and entertainment.

The public hearings yielded a number of elements to a comprehensive vision for the economic future of the county, including a more solid base of jobs and careers, a more diverse economy, new water and sewer lines, and river access and development.

A New Platform for Economic Development: The Jefferson County Port Authority

Over the past year, County officials and stakeholders have changed the face of economic development in Jefferson County by dissolving the former Progress Alliance and its associated Community Improvement Corporation, and replacing them with a new Jefferson County Port Authority. The creation of a Port Authority allows this new economic development entity to use tools and methods that were not available to the Progress Alliance.

The mission of the Jefferson County Port Authority is as follows:

The Jefferson County Port Authority is the economic development engine serving Jefferson County. We facilitate innovation and implement economic development initiatives that will

- *strengthen and diversify the economy,*
- *provide employment opportunities,*
- *enhance the quality of life, including education, cultural activities, and recreation opportunities for all county residents.*

We effectively utilize the river, roadways, rail, air facilities, and natural resources inherent to Jefferson County. Our development process is accountable, comprehensive, responsive, and inclusive.

A Port Authority is a governmental entity for all purposes, empowered by provisions in chapter 4582 of the Ohio Revised Code. A Port Authority must be created by local governments, and is governed by a board of directors appointed by elected officials, with the responsibilities of a governmental entity, including holding public meetings, having state audits, and making its records available for public inspection.

The enabling statute for Port Authorities was passed in 1955 to promote the development of port facilities that could take advantage of the new St. Lawrence Seaway. Airport activities were added in the 1970's, and new economic development activities and powers have been added since 1982. Ohio law defines the "authorized purposes" of a port authority, with the provision of various powers to further them, as:

- Activities that enhance, foster, aid, provide, or promote transportation, economic development, housing, recreation, education, governmental operations, culture, or research within the jurisdiction of the port authority; and
- Activities authorized under Sections 13 and 16 of Article VIII, Ohio Constitution (permitting aid to private enterprises to promote economic development and housing in Ohio).

The broad powers of a port authority as a legal and governmental entity in Ohio make it an attractive and useful vehicle for conducting economic development activities. Port authorities in Ohio are authorized to do the following, among other things:

- Acquire real and personal property;
- Own, lease, sell, and construct improvements to real property;
- Issue revenue bonds for port authority facilities;
- Issue voted general obligation bonds for port authority facilities and other permanent improvements;
- Levy voted taxes for all purposes of the port authority;
- Receive federal and state grants and loans and other public funds;
- Operate transportation, recreation, governmental or cultural facilities and set rates and charges for use of port authority facilities;
- Cooperate broadly with other governmental agencies and exercise powers delegated for such agencies;
- Accept assignments of TIF (tax increment financing) service payments and special assessments;
- Maintain confidentiality within statutory limits for private enterprises;
- Establish and operate foreign trade zones;
- Appropriate property for public use, convey or lease property to (and accept or lease from and exchange with) other governmental units; and
- Straighten, deepen and improve channels, rivers, streams, or other water courses.

A Port Authority may levy up to one mill of property tax, with a term of up to five years, subject to renewal, on property within its territorial jurisdiction for port authority purposes, with the approval of voters. Also, a port authority can issue debt instruments in several forms:

- Port Authority revenue bonds that are limited special obligations payable only from specified revenues and funds pledged for their repayment;
- Voted general obligation bonds payable from the tax levy (limited to one mill) approved as part of the election on the bond issue;

- Notes issued in anticipation of authorized bonds; and
- Tax anticipation notes issued in anticipation of, and payable only from, a fraction of the proceeds of a voter-approved levy.

Additionally, a Port Authority can, subject to various limitations, exercise the right of eminent domain to appropriate property or property rights necessary or proper for an authorized purpose. Because of their tax-exempt status (unlike CIC's), Port Authorities can pass savings on to economic development projects, making those projects financially feasible where they may not otherwise occur. Thus a Port Authority can facilitate economic development projects that loan money at competitive rates and terms, acquire and sell property to economic development projects, and provide security for an economic development project by facilitating structured financing such as a synthetic lease². While Port Authorities can be involved in a wide range of economic development projects, their core activity is usually focused on the development of water ports, airports, intermodal rail and truck facilities, industrial parks, and creative financing to attract and retain business. There is great potential in Jefferson County for many of these types of projects to become critical to future economic development and success.

Economic Development Strategies

Jefferson County is positioned to take advantage of a number of opportunities related to its natural and man-made assets. A list of these assets was included in Chapter 1, where input from public meetings, key informant interviews, and core committee meetings is summarized. Each of the following six areas of opportunity can be addressed through specific strategies:

1. The foremost opportunity currently derives from ***shale oil and gas development***, which is a result of the relatively competitive price of natural gas, demand for low cost energy, and advancements in the application of hydraulic fracturing (“fracking”) technology. The discovery of the Marcellus and, more pertinent to eastern Ohio, the Utica shale play, has positioned eastern Ohio as a likely center for oil and gas extraction activity. This development brings a number of related, spillover opportunities as well.
2. Another opportunity is created by the large number of former business and industrial sites that are now labeled as “brownfields”. Local agencies have been active in acquiring

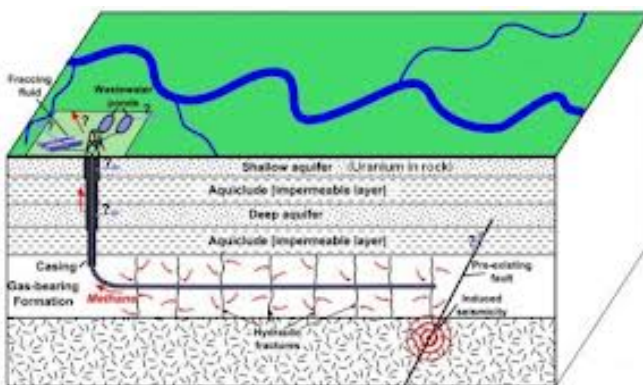
² A synthetic lease is an off-balance sheet transaction where companies lease assets, including buildings or equipment, from the port authority. Companies can improve the appearance of their balance sheet because the financing will not be reflected as a debt of the company, but simply as an operating lease. This helps companies keep credit lines open for working capital to create and retain jobs or buy equipment.

resources to mitigate the environmental issues leading to **brownfield** status, and in positioning the properties for redevelopment.

3. Another opportunity concerns marketing a number of **business-ready sites** throughout Jefferson County, with a focus on businesses most likely to be interested in a Jefferson County location because of proximity to their market or cost-saving benefits from a cluster of similar businesses or supply chain businesses within close proximity.
4. Opportunities exist from the provision of **comprehensive assistance to entrepreneurs** and their business enterprises within the County.
5. Economic potential exists in the County's **central business districts** and other commercial and mixed use districts, which can grow as retail, service, and tourism centers.
6. Finally, there is potential throughout Jefferson County to attract **tourist** dollars and boost **tourism** as a significant economic sector.

Oil and Gas Development

Jefferson County has relied in part on a long history of natural resource extraction and production for its economic well-being. Coal has been mined by surface and underground means, and energy has been produced from coal in two power plants along the County's border



with the Ohio River. The river itself has been a natural resource asset, providing a drinking water source, a means of low-cost freight transportation, and a source of recreation.

Extraction of oil and gas, and the byproducts that can be produced from this process, has become the new wave of

activity in the region of the Utica shale play, which is centered in eastern Ohio and includes Jefferson County. Utica shale actually extends across most of Ohio, with several thick pockets of recoverable oil and natural gas trapped in the reservoir rocks. Utica shale ranges in thickness from 87 feet to 350 feet. Further, the Utica play is believed to be a “liquids” play, holding more crude oil and wet gas, which is valued by the industry, and the estimated extent of the resources within the Utica play would allow Ohio to become a major oil producing state. The existence of “wet gas” in the Utica play leads to the recovery of ethane, which is used to

produce ethylene, a common material in a number of consumer products. Thus the presence of a large supply of ethylene could draw the chemical industry (and associated manufacturing) to the area, attracted by the large source of this natural gas byproduct. Aside from ethane, Utica shale may produce propane, butane, and natural gasoline.

Shale gas extraction has become more feasible and active through the development of horizontal or directional drilling technology. Horizontal drilling involves drilling a well vertically from the surface to a subsurface location just above the target oil or natural gas reservoir, at which point the well bore is turned horizontally to intersect the reservoir at a specific entry point. Using this method, the flow of oil or natural gas is increased. A horizontal lateral can go a mile or more into a reservoir rock formation, reaching more oil and gas reserves. Horizontal drilling can thus reduce the overall footprint of oil and natural gas activity, whereby one horizontal well can produce the energy of 32 traditional vertical wells. It is not a new technology; the first patent was granted in 1891 to place a horizontal hole from a vertical well.

Coupled with horizontal drilling is the use of hydraulic fracturing, commonly referred to as “fracking”. Hydraulic fracturing involves applying high-pressure hydraulic force into an oil or gas well to fracture the underground shale rock formations. Pressure is applied by using a mixture of approximately 98 percent sand and water, along with small portions of chemical additives. The sand serves as a propping agent, holding the fractured shale open and allowing the natural gas and oil to flow up the well.

An Ohio State University Extension fact sheet describes “shale gas opportunities” as follows: *“Oil and gas development in the Marcellus and Utica shale stimulates community tax revenue, wealth for leaseholders, potential for job creation, and the retention and expansion of existing businesses. In addition, natural gas promotes the diversification of Ohio’s utility electric generation, as it is cleaner than coal and currently less expensive...The natural gas boom has the potential for significant benefits, enhancing economic growth throughout the state. However, it should also be noted that economists have a long history of examining energy economies and the boom-bust cycle associated with the rise and fall of energy prices. The most important element in avoiding the bust is having a highly diversified economy, which is still possible for Ohio to achieve. Community leaders should establish a strategic plan to ensure that the energy boom gains of today are leveraged as building blocks to promote diversified economic growth for years to come.”*

This summary of related opportunities includes useful advice in preparing for the long-term “bust” that follows the intensive activity involved in drilling and constructing wells and the pipelines and infrastructure to distribute the gas and oil products to their destinations, which

are often out of the region where they are extracted. Indeed, a rapid increase occurs when drilling crews and other gas-related businesses move into the region, and population increases along with some rise in the number of jobs outside the drilling industry where spillover benefits (e.g. increased patronage at restaurants and hotels) are realized. However, population and jobs depart the area when drilling ceases.

Dr. Tim Kelsey has authored several papers on the potential impact of the shale energy industry in Pennsylvania, where its Marcellus play preceded the current Utica activity in Ohio. Dr. Kelsey notes that there are three phases of shale energy commercialization and the potential impacts on a community are different in each. The first is the **Development** phase, which is relatively short-lived (though it could be years) and labor intensive, involving the construction of the well pad, access road, and collection pipeline, and the drilling of the well, fracturing of the shale and reclamation of some of the ground disturbance. During this phase, a single well can involve over 400 people across 150 different occupations on a part time basis. This translates to roughly 13 full-time equivalent jobs annually per well during the course of the drilling phase.

The second is the **Production** phase, which tends to be long-lived but requires only a small and steady workforce. Activities include trucking water and condensate from the well site, monitoring production and occasionally a partial re-drilling of the well or re-fracturing of the shale. During this phase, the required FTEs per well drop to 0.18. The third and final phase is **Reclamation**, where the well is dismantled and the well site reclaimed. The boom-bust cycle results from a community reacting to the impacts of the Development phase created by a dramatic increase in population and demand for services, and not being prepared to adjust quickly enough for the decline associated with transition to the Production phase.

It is impossible to accurately project the impact of shale oil and gas extraction over time in Jefferson County. To date, the initial rush by drilling companies to secure land and mineral rights, which produced an influx of wealth for many landowners, has been followed in Jefferson County by limited well development and drilling. The level of activity has been significantly less than the experience of adjacent Carroll County. An ODNR table of wells drilled and completions through July 2013 indicate six producing Utica wells in Jefferson County, compared with sixty-one in Carroll and eleven in Harrison County. However, the geography of drilling is constantly changing with energy prices and new findings regarding areas with rich deposits. Jefferson County now has 36 Utica permits and two Marcellus permits. It is feasible that Jefferson County will indeed see increased drilling activity in future years.

Despite the current status of well permitting and construction, several economic impacts have been experienced in Jefferson County that are directly related to the regional movement into

Utica shale oil and gas extraction. These impacts and economic activities are numerous and varied, and they include the following:

- Over the past year, Jefferson County has become home to field offices for Hess Energy, and eleven new businesses have relocated to the county to be in close proximity to the Utica shale play.
- Economic development officials have noted that there were fully 1,000 more local residents employed in Jefferson County in 2012 than in 2011.
- Sales tax revenues increased from \$6,572,959 in 2011 to \$7,322,110 in 2012, an increase of ten percent in one year.
- A number of shale oil and gas related companies have already located in Jefferson County.
 - Power Torque Services, which runs casings on oil wells, is operating out of a portion of the former DiNovo building on North Third Street in downtown Steubenville and creating more than a dozen jobs.
 - Heavy Duty Industrial Services, which is involved in hauling water, rig washing, tank cleaning, and other cleaning projects on site, is located in Empire and employs approximately 100 people.
 - EMS, a professional environmental contractor specializing in environmental cleanup and site remediation, emergency spill response, and environmental construction, **is** expected to hire fifteen people to start.
 - Express Energy, located in Toronto, has planned to start with 30 to 35 people hired.
- In mid-2012, it was reported that the inventory of available properties in the county was shrinking, with fourteen buildings leased and eight others sold, and another seven sales or leases pending at the time.
- The oil and gas activity has led to a successful effort to acquire funding to extend the Jefferson County Airpark runway from 4,400 to 6,000 feet long and from 60 to 75 feet wide. A large impetus for this project is the ability to accommodate corporate jets for businesses involved in the oil and gas industry. The Jefferson County Airpark is positioning itself to serve as a regional air transportation hub for the region.
- Railroads are also experiencing an increase in business as a result of the Utica shale play. Railroads are positioned to handle the heavy loads of materials and products to and from

well sites, and materials for pipelines can also be shipped by rail. Rail may also find a role with midstream and eventual downstream business as well.

- The process of energy exploration and energy leasing has driven land values upwards, where land once selling for \$300 to \$500 an acre is valued at \$2,000 to \$3,000 or more, depending on whether the land has mineral rights.
- The demand for high volumes of water has led energy companies to purchase bulk quantities of water from local sources. In one case, Chesapeake Exploration requested up to 700,000 gallons of raw water per day from the City of Steubenville.
- In addition to the “upstream” development of shale wells, there are also “midstream” services such as gathering, processing, and transportation of natural gas, transportation, fractionalization, storage and marketing of Natural Gas Liquids, and the gathering and transportation of crude oil.
- The shale boom in the region has led to the development of new worker training courses at Eastern Gateway Community College. Classes have been conducted for entry-level jobs like roustabouts and floorhands, and most trainees have secured jobs in the oil and gas industry or related fields.
- It is important to recognize the multiplier effects of oil and gas employment. A study by Wichita State University noted that the employment multiplier for the oil and gas extraction industry in Kansas was 3.2774; in other words, each oil and gas extraction job supports another 2.2774 jobs statewide. (A multiplier of 1.0 means one direct job is created, with no multiplier effect.)
- In order to keep lines of communication open throughout the county and its interest groups, an Oil and Gas Committee was formed (renamed “GO Jefferson County”) to bring differing interests together, and to provide information to county residents and businesses.

The Shale Boom: Planning for an Ideal Future

The oil and gas boom presents opportunities beyond the drilling and extraction processes, and these opportunities are likely to be more significant in the long run, if they can be effectively capitalized upon. One recommended strategy during the “boom” cycle is to refuse to overbuild, and to temper projections of high demand during the development phase with more moderate demand as the region settles into a production phase. One example given by Dr.

Kelsey is to build a hotel that a company can rent out for employees to live in that can be later converted to support travel and tourism in the area. Indeed, a new hotel is being constructed in Steubenville that will capitalize upon short term oil and gas development, but will eventually rely upon proximity to US 22 and SR 7, Franciscan University, and other attractors within the greater Steubenville-Weirton area.

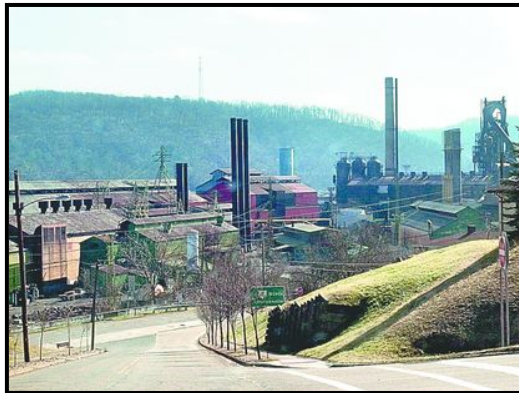
Another long-term economic strategy is to find ways for existing businesses to create a competitive advantage from having access to a low-cost and plentiful supply of energy, as well as using this asset to attract targeted, energy-intensive prospects. One example cited is the attraction of companies involved in natural gas powered vehicle manufacturing; also, the chemical industry may be a good fit. Industry experts find that the new abundance of low-cost shale natural gas and wet byproducts such as ethylene can potentially bring new “downstream” industry to the area, including chemical industries that rely on ethylene as an input. On the national level, one American Chemistry Council study focused on the projected supply response among eight natural gas-intensive manufacturing industries, and forecast an increased output of about \$120 billion, supporting over 1 million direct, indirect (such as suppliers), and induced (where income from direct and indirect jobs is spent in the local economy) jobs. Aside from this major impact on one primary industry, many other linked businesses benefit from gas and oil extraction, including railroads and other transportation and distribution means, and the steel industry, which is being called upon to produce drilling-related products.

A report on “The Fracking Conundrum” by Geneva Analytics, which provides economic development data and research, notes that while each community is unique, there are objectives that are common to virtually all of them. The first objective is capturing as much wealth as possible from the extraction of natural resources, and putting it to the use of varied opportunities presented by the rapid influx of new companies, customers, and dollars. The second is developing and initiating a long term total development model that utilizes new revenues to provide support, training, and assistance to the community’s core business. The third is the identification of companies that are doing well, those that may be ready to expand and those who are “at risk” and need assistance. Fourth is to start a program designed to identify and assist entrepreneurs in starting new business ventures, which would be of the highest value to the community in the long run, based on the quality of education received and skills already possessed by the local workforce. It is also important to encourage businesses, workers, and royalty receiving landowners to spend their new dollars locally and not out of town.

This plan cannot accurately project the spatial development of hydraulic fracturing wells, pipelines, and other facilities directly related to the well sites. Well site locations are based on

seismic and other geological research that reveals the presence of significant oil and/or gas in the subject location. Other factors include the environmental conditions of the well site (such as presence of wetlands, flood plains, land topography, distance to a roadway, and willingness of landowner to sign a mineral rights lease or agreement). However, there are certain physical parameters that contribute to the feasibility of a well site. Many aspects of well construction and design are regulated by the Ohio Department of Natural Resources, Division Oil and Gas Resource Management. These include oil and gas drilling, production and reclamation operations, brine disposal operations, salt solution mining operations, and underground injection well operations. Also under regulatory control of ODNR are well construction (ensuring that casing is properly placed as permitted), well control (testing of blow-out prevention devices, which control pressure), and fluid control (monitoring handling of fluid).

Brownfield Development



The steel mill property in Mingo Junction

Many of Ohio's riverfront counties have a rich history securing heavy industry on riverfront sites. The Ohio River was used as a means of transportation and energy, and much of the bottom land adjacent to the river was flat and relatively developable.

Transportation access was also a key asset for these sites, with the presence of railroad main lines paralleling the River, as well as State Route 7, an important north-south highway.

A number of these former heavy industrial sites have been abandoned and present redevelopment opportunities. However, former industrial processes and byproducts have left these sites environmentally suspect to varying degrees, and subject to being labeled "Brownfields". Brownfield sites often face significant site assessment and remediation costs, but they often hold competitive advantages over other "Greenfield" sites. Infrastructure, including water, sewer, access roads, and electric power, is usually in place for Brownfield locations, and the capacity to handle industrial scale activity frequently exists at these sites.

The Jefferson County Regional Planning Commission (RPC) has been active in identifying Brownfields and taking action to assess and remediate these sites, in order to prepare them for redevelopment. Many of these sites are considered well-suited to development related to oil and gas extraction and related activities. In addition because many of these sites have transportation access they are well suited to such uses as the distribution and logistics. The environmental effects of once-robust steel, mining, and pottery industries contributed to a

March 2007 Toxic Pollution and Health Report from the U.S. PIRG Education Fund that named Jefferson County as the worst county in the United States for air and water releases of suspected respiratory toxicants. Overcoming these effects has been recognized as of vital importance to the economic potential of the County and the health of its residents.

In 2009, the RPC was first awarded a three year, \$1 million US EPA Brownfield Coalition Assessment grant to inventory, characterize, assess properties in target areas, and conduct planning and community involvement activities to encourage revitalization and redevelopment of key Brownfield sites within Jefferson County. The Brownfield coalition includes representation from the RPC, Cities of Toronto and Steubenville, and Village of Mingo Junction. With this grant, the coalition was able to complete twenty-one Phase I Property Assessments, eleven Phase II Property Assessments, and three Asbestos surveys across the County; assist in returning five Brownfield properties to beneficial reuse; and leverage \$570,241 for property assessment and redevelopment from the State of Ohio's Clean Ohio fund, and in excess of \$5,000,000 in redevelopment funds from private redevelopment partners.

After an initial inventory of sites by coalition members, public input meetings were held and properties were identified that had those characteristics that potential redevelopers were most actively seeking. Properties were prioritized by size, transportation access, and potential for job creation. The Coalition made a concerted effort to identify properties and opportunities across the County to support small and large businesses, as well as some non-industrial or commercial land uses, such as the Grand Theater in downtown Steubenville and the former Ice Plant which has been restored as green space at the entrance to the Franciscan University of Steubenville.

Resulting projects have included:

- A portion of the DiNovo property in Steubenville which is now leased to Power Torque Services, which has created at least twelve jobs;
- Leasing of the former J&J dealership property in Toronto to Express Energy, with creation of at least 30 jobs;
- Redevelopment of a former Hardees property to a commercial loan institution;
- Leasing of the former Standard Carbon property to Blind Horse Knives; and
- Redevelopment of a portion of the former RG Steel property as a metal recycling center and bimodal transportation hub and industrial park to support the shale gas industry, housing 40 temporary jobs, 50 full-time jobs, and a projected additional 100 jobs, minimally, when redevelopment is complete.

The U.S. EPA grant has leveraged a State of Ohio Brownfield grant for Phase II property assessment activities at the Kaul Clay property in Toronto, a Neighborhood Stabilization Grant for a former nursing home property in Steubenville which included asbestos abatement, and another State grant with private matching funds for asbestos abatement at the Grand Theater in Steubenville.

The following table summarizes twenty-six Brownfield sites, all on private land, that have been assisted to date. Nearly 80 acres of additional sites have been identified that would benefit from future assessments.

Table 8.4: USEPA Brownfield Program Sites in Jefferson County

Site Name	Community Location	Status	Acres
Kaul Clay	Toronto	RAP done	43.0
Standard Carbon	Wintersville	Phase II complete	5.2
Auto repair shop, older industrial property	Steubenville	Phase II complete	0.5
Former boat landing site	Pottery Addition	Phase I complete	5.0
George's Run – former gas station	Mingo Junction	Phase II complete	0.2
Dinovo former car dealership	Steubenville	Phase II complete	1.9
Federal Paper Board	Steubenville	Phase I complete	5.0
Former gas station	Steubenville	Phase I complete	0.2
Site near Hollywood shopping center	Steubenville	Phase I complete	7.2
601 Commercial area	Mingo Junction	Phase I complete	0.1
T-Town Cleaners	Toronto	Phase II complete	0.2
J&J	Toronto	Phase II complete	6.3
Grand Theater	Steubenville	Phase I, asbestos survey	0.2
Former Hardees	Steubenville	Phase II complete	0.9
Scrap yard	Pottery Addition	Phase II complete	6.0
Former bus garage	Steubenville	Phase II complete	0.4
Exchange Realty	Steubenville	Phase I complete	0.2
1313 Maryland Avenue	Steubenville	Phase 1, asbestos survey	0.3
1102 S. Franklin Ave.	Toronto	Phase I complete	0.2
Ice Plant	Steubenville	Phase II complete	2.0
Dando Brick	Irondale	Phase I complete	16.5
McKittrick-Harms	Steubenville	Phase I complete	0.2
Staffilino	Steubenville	Phase II complete	2.6
Former RG Steel site	Steubenville	Phase I complete	112.0
Former Woods and Water Marina	Steubenville	Phase I complete	0.7
Former repair center	Wintersville	Phase I complete	0.3

Source: Jefferson County Brownfield Coalition

A 2013 U.S. EPA Brownfield grant application addressed another potential 15 to 20 Brownfield sites, ranging from one acre to over 300 acres. This application focused mostly on sites connected and adjacent to the Ohio River, considered the County's most valuable asset. These sites extended from Toronto at the north end to Yorkville on the southern county line. Other

sites under consideration included mine scarred lands in the western reaches of the County, particularly in the Yellow Creek watershed in the northwestern quadrant, but not necessarily excluding sites within the Cross Creek and Short Creek watersheds to the south, which have experienced acid mine drainage. Unfortunately, this proposal was not funded, but the needs and priorities expressed in its narrative will continue to be pursued by other means. It should be noted that the County intends to reapply for another U.S. EPA Brownfield grant after finding even more sites in need of assessment.

This EPA Brownfield proposal tied the benefits of its proposed program to economic development: *“In the last two years with the Utica shale industry emerging in Jefferson County, the County plans to evaluate, clean up and redevelop Brownfield properties as it markets to companies and suppliers in that industry. Now we need to develop resources above ground in our properties and infrastructure to allow for this emerging market of oil and gas exploration to invest in Jefferson County...Jefferson County has experienced a \$2.7 billion investment in local drilling capital ventures (Ohio Shale Coalition). In 2012, eight new businesses have been opened that are tied to the oil and gas industry, amounting to approximately 500 new jobs, and sales tax revenues for the County increased 12% in 2012 over 2011. Another partner, Eastern Gateway Community College, has established training courses and certificates in the oil and gas industry. By using the grant, employment opportunities will be increased, businesses expanded, the breadth of businesses broadened (i.e. addition of oil and gas companies and suppliers), and the tax base will be increased.”*

A brownfield of particular significance is the former RG Steel property in Steubenville, where the City of Steubenville, State of Ohio, and River Rail Development are trying to expedite the cleanup and demolition of portions of the property, in order to develop an industrial park on the 130 acre site. The State of Ohio has approved the release of \$1 million for asbestos abatement and demolition. This property will be redeveloped with a multimodal transfer and processing facility to support midstream shale gas operations. The site has many positive attributes for development, including two railroad lines, access to S.R. 7, and access to the Ohio River.

Redevelopment of the River Rail property alone is expected to generate approximately fifty new jobs, with additional jobs to follow as more property is developed. Additional Brownfield funding will assist with continued remediation and development of many of the County's Brownfield sites, with a concentration on sites within proximity of the Ohio River. This is because of the existence of adequate infrastructure for redevelopment, the sites' accessibility to as many as three modes of transportation, site suitability for uses such as the oil and gas industry as well the distribution and logistics sector, the compatibility of these sites with

neighboring properties, and other assets which make them highly desirable locations for industrial and commercial development.

The continued remediation and preparation of choice Brownfield sites for development should be continued, since many of these sites, particularly (but not limited to) those with access to the Ohio River, represent some of the best potential locations for new business in the County and region.

Marketing Sites



Taramana property in Steubenville the following:

Table 8.5: Available Properties in Jefferson County

Name	Location	Acres	Other Characteristics
Industrial Sites			
New Horizons	N. of Steubenville off 43	3,800	Reclaimed strip mine
Site near 22/152 interchange	Bloomington	180	Jeff. Co water, no sewer
Spahn Farm/back acreage	Canton Road, Wintersville	133	Zoned B-1, Vlg. Utilities
Jefferson County Industrial Park	N. of Steubenville off 43	88	50 available; no rail
KD Pauley property	Luray Dr., Wintersville	67	Village utilities
Near industrial park - Woodview	22 and 43, Wintersville	37	Village utilities
Kragel Rd. Driving Range	Wintersville	28	Well and septic system
Winter Drive-In	Luray Dr., Wintersville	16.5	Zoned Industrial; Vlg. Utils
Industrial Sites with Rail			
Land with rail, SR 213	Irondale	498	Some mining, no water/sewer to site; needs work to access RR
Satro Alloy, CH 74	Mingo Junction	326	Zoned Ind, village utils, RR
Jensie Mine, CR 75	E. Springfield	160	Well and septic, RR restorable
River Rail Complex	S. 3 rd St. Steubenville	112	Total 410K sq. ft.; bldgs from 38,000-60,000 sf.; city utils, RR
Kaul Clay - brownfield	SR 7, Toronto	41	SR7, zoned ind.; RR; install septic or tie into Toronto

Dandos Brick - brownfield	SR 213 Hammondsville	32	Brick refractory, Jeff Co water, septic system, RR
Barium & Chemicals, Parcel B	Steubenville	22	Zoned ind., JeffCo water
Taramana site, Pottery Addition	Steubenville	15.3	Zoned commercial; Jefferson County water
Sugar Property	S. High St. Steubenville	8	Was Weirton Steel; city utils, RR
Vukelic River Road & Rail	SR 7 & Ross, Steubenville	5	Zoned I-1 and I-3; city utils, RR
Potential Retail and/or Hotel			
Spahn Farm – Canton Rd	Wintersville	133	Zoned B-1 business
Stanton Heights, Stanton Blvd	Steubenville	8.5	Zoned comm., city utilities; brownfield
Tiltonsville Lot, Walden Ave.	Tiltonsville	6	Zoned comm., Village utils, RR
Land Behind Lowe's	Steubenville, J Scott Hwy	5.9	Available for residential
Vukelic River Road & Rail	SR 7 & Ross, Steubenville	5	Zoned commercial; city utils, RR
Site at Elm, 22/7 interchange	Steubenville	2.5	City Utils, zoned Res, no sewer
Sabina Drive (plus area around it near 22/43 interchange)	Wintersville	1.3	Zoned residential, village utilities
Residential			
Bantam Ridge	Wintersville	14.6	Mostly flat, all utilities
Stanton Heights, Stanton Blvd	Steubenville	8.5	Zoned commercial., city utilities; brownfield
Land Behind Lowe's	Steubenville, J Scott Hwy	5.9	Available for residential
South End Development Project	South St., Steubenville	2.3	Several land banked parcels; could be mixed use

The above table summarizes the sites most prominently marketed to industrial, commercial, and residential developers and prospects. These sites are widespread throughout the eastern portion of the county. A number of the sites (the first seven listed) are clustered around the U.S. 22/SR 43 interchange. Many others are located along the Ohio River/SR 7 corridor that forms the eastern border of the county. Much of this corridor is also served by rail, which increases the attractiveness of these sites.

Recent activities have focused on attracting businesses that are directly or indirectly related to the oil and gas extraction industry. Because of the intensity of activity in that sector, most marketing time and resources have been spent working with such businesses, a number of which have chosen to locate in Jefferson County. This influx of manufacturing and service businesses is changing, to some degree, the fabric of the Jefferson County business community.

Aside from the oil and gas (and related) industries, the State of Ohio through their private development arm, JobsOhio, has developed a list of key businesses to target as prospects in Ohio. Those business sectors include: advanced manufacturing, aerospace and aviation, agribusiness and food processing, automotive, biohealth, energy, financial services, information technology, and polymers and chemicals.

Industry clusters are geographic concentrations of interconnected businesses and institutions that enhance the productivity of the core industries through the growth of complementary goods and services, supplier and buyer networks, specialized local labor markets, exchanges of information and knowledge, and competitive and collaborative relationships among firms and institutions. Clustering of like or complementary businesses can improve competitive potential by enhancing productivity, spurring innovation, increasing export potential, and stimulating business formation. Businesses can enjoy economies of scale from the region's shared assets and relationships. Further, the growth in business income and demand for subsidiary services can reinforce the value and assets of a cluster.

An Appalachian Regional Commission study identified clusters in Appalachian Ohio to include automobiles, auto parts, and related products, and the wood products industry. Other regional clusters included chemicals and plastics (especially in Pennsylvania, Ohio, and West Virginia); this sector is likely to be enhanced in eastern Ohio through natural gas and byproduct extraction within close proximity; those byproducts are often components used in plastics manufacturing. The ARC study noted that Appalachia has 100 major science and technology clusters of businesses, universities and colleges and labs in related fields. Appalachia's high-tech industry clusters included chemicals and plastics, motor vehicles and related products, industrial machinery, information technology and instruments, aerospace, communications services software, and pharmaceuticals and medical technologies.

Suggested strategies for Appalachia to promote and assist these clusters include:

- Business formation in the producer services sector (those services needed by businesses, including finance, insurance, real estate, legal, engineering, research and testing, accounting, advertising, and computer and data processing, among others);
- Promotion of technological, supplier, and customer links among industries in the region;
- Strategic investment to improve educational attainment rates at all levels;
- Focused diversification strategies for distressed and at-risk counties; and
- Investments in IT services and training.

A cluster analysis for neighboring Brooke and Hancock Counties reported by BHJ Metropolitan Planning Organization found the following to be the leading subsectors with scale and growth potential to foster future economic development (this list is included because of the proximity and similarity of Jefferson County to the two targeted in this analysis): health care and social assistance; energy; manufacturing; education and knowledge creation; transportation and logistics; and business and financial services. Jefferson County contains many of the assets and opportunities held by its similar easterly neighbors, including large health care and educational

institutions, as well as energy production and a manufacturing tradition, and these sectors appear to have similar potential in Jefferson County.

Clearly, the newest cluster to appear in eastern Ohio is oil and gas hydraulic fracturing, and as this industry and its activity becomes more extensive within the region that includes Jefferson County, the need for supply chains and delivery of inputs will increase as well. The materials and products needed to construct well sites, pads, and other structures and storage facilities is being augmented by a need for pipeline construction, which has presented opportunities to the relatively dormant steel industry. It is hoped that “midstream” (in which oil and gas are gathered and transmitted, and byproducts of gas and oil are created) and “downstream” (in which products and byproducts are used in manufacturing) business opportunities will follow, with benefits realized from the Jefferson County’s proximity to accessible natural gas and byproducts.

Supporting Entrepreneurship

Nurturing entrepreneurship has grown in importance as an economic development strategy, and new business development has been recognized as critical to economic success since most research shows that firms with fewer than 20 employees were the main source of job creation in the economy.

Entrepreneurs are generally focused on creating new, innovative products or services that will lead to further investment and growth. There are several distinct types of entrepreneurs. Of particular interest are “survival entrepreneurs”, who resort to creating enterprises because there are few other options. There are potentially many such entrepreneurs in Jefferson County who may have lost employment in declining industries such as steel, but who have no desire to move from their home. Creating a new enterprise has become a new career option for many of them.

It is good policy to focus on increasing the number of individuals who start up businesses with growth potential, and toward helping such growth entrepreneurs to survive and expand their business. Also important, entrepreneurship does not just create wages and jobs, but it creates wealth that remains in the community through reinvestment. It also taps and retains local talent, and local entrepreneurs are more likely to become community leaders, contribute to civic ventures, and reinvest through philanthropy and volunteer work.

Creating a positive environment for entrepreneurship typically involves the presence of four important factors³, and community organizations, agencies, and individuals can assist in providing these factors that lead to a positive climate for business success:

- Talent, which belongs to individuals who “recognize market opportunities and then create organizations to take advantage of those opportunities”;
- Opportunity, or the ability to fill a need in the community;
- Capital, the financial resources to fill such a need; and
- Know-how, or the opportunity to network in order to gain expertise and technical knowledge.

The pieces are in place in Jefferson County to enhance each of these factors. Talent and know-how can be assisted through curricula at Eastern Gateway Community College, and Franciscan University has produced graduates who become entrepreneurs within the community. Further assistance is available through the region’s Small Business Development Center and through such networks as the Jefferson County Chamber of Commerce. Technical assistance specific to individual business needs can be provided through State programs as well as through Economic Gardening, which brings the resources of a national team of marketing, Geographic Information Systems (computer mapping of data), search engine optimization, and social media experts to address a smaller company’s specific needs for information and access to national data bases. Capital can be addressed through local and regional revolving loan funds, state financing programs, the array of local lending institutions, and the capacity of the newly-formed Port Authority to obtain business capital.

From a land use standpoint, local communities can support entrepreneurship through the availability of relatively low-cost buildings and sites, especially within central business districts where vacant or underutilized properties can be adapted for reuse. The Port Authority should be aware of available properties for small start-up enterprises, as well as parcels and buildings suitable for larger industrial prospects.

Some localities develop a business incubator as a low-cost site for new and emerging businesses. Creation of an incubator was mentioned in the 2008 Community Investment Plan. Development of an incubator requires start-up funding and careful planning, but if a community entity wishes to develop one, existing vacant properties could be evaluated for their potential use.

³ From Richard Smilor’s “Entrepreneurship and Community Development”, Kauffman Center for Entrepreneurial Leadership, 1997.

Downtown Revitalization



Jefferson County is home to a number of diverse central business districts.

Downtowns in smaller communities can be centers for convenience businesses such as bank branches, auto service centers, grocery or convenience markets, and doctors' or attorneys' offices. In larger communities, their past role as a commercial center for the community and region has most likely given

way to a more niche-oriented role, with low-cost rental space leased for locally-owned specialty shops, as well as personal and business services. Other downtowns with historic structures and significance (such as Mt. Pleasant) may become tourist destinations, and may house museums and restaurants.

Downtown programs are encouraged to follow the National Main Street Center's four-point approach to downtown revitalization. Under this comprehensive approach, emphasis is placed on the following:



Top: downtown Toronto. Above: Steubenville

characteristics of the downtown district to a number of targets, including shoppers, investors, new businesses, and visitors. The goal of promotion is to forge a positive image through advertising, promotional activity, special events, and marketing campaigns carried out mainly by local volunteers.

- **Organization**, or getting everyone working toward the same goal, with consensus on objectives and cooperation among stakeholders. A voluntary board typically oversees Main Street activities.
- **Promotion**, involving "selling the image and promise of Main Street to all prospects". It is important to market the unique and positive

- **Design**, which involves getting the downtown into “top physical shape” by capitalizing on its best physical assets, such as historic buildings, traditional downtown layouts, and memorable public places.
- **Economic Restructuring**, meaning “finding a new purpose for Main Street’s enterprises”. This approach encompasses assistance to help existing businesses expand and recruiting new businesses. One goal is to convert unused or underused space into productive property to sharpen the competitiveness of business enterprises.

The Main Street Center also lists eight important principles for the revitalization approach. According to the Center, the effort should be **comprehensive** (and multi-faceted), **incremental** (leading to tackling more complex problems and ambitious projects over time), involving **self-help** (with mobilization of local time and money), involving **partnerships** (with all stakeholders contributing time, money, and expertise), capitalizing on **assets** (such as distinctive buildings, neighborly shop owners, and “a human scale that can’t be copied elsewhere”), incorporating a high standard of **quality** for every aspect of the commercial district, supportive of consistent **change** (by which, over time, skeptics become believers, with slow but definite changes in attitude and practice, and a sum of the small, incremental changes that becomes noticeable and even significant over time), and leading to **implementation** (Main Street’s focus is to simultaneously plan for the future while creating visible change and activity now.)

One long range concept involves creating a county-wide “team” with representatives from individual communities’ downtowns. The county-wide “team” could attend meetings held by Heritage Ohio or other statewide organizations of interest, and bring resources such as the Ohio Historic Preservation Office’s “Building Doctor Clinic” (which has visited Jefferson County before) to the county. County wide meetings could include discussions of ideas, challenges, best practices, and possibilities for collaborative projects.



Mount Pleasant historic downtown area

From the perspective of land use, attention to the revitalization of central business districts is a top priority. The downtown typically exists at the convergence of a number of highways, and its location is central within a community. In addition to existing roadways that radiate out from the downtown, infrastructure and building stock are also already in place, and vacancies represent a potential for redevelopment

and new economic activity. In an area that has witnessed a decline in population, infrastructure, provision for parking, and the building stock already in place may represent excess capacity, able to serve more than just the existing uses within the downtown.

This excess capacity represents a potential for new development downtown, including such possibilities as new niche retailers and services, new oil and gas related businesses requiring office or storage space, and conversion of upper stories to loft apartments (possibly marketed to young professionals and college students, among others). With the restoration of Steubenville's Grand Theater and the increased use of the amphitheater at Fort Steuben's site, that area may become established as an entertainment district.

Tourism



Tourism has not always been viewed as a major component of Jefferson County's economy. However, a recent study⁴ on the economic impact of tourism in Jefferson County found the total tourism impact in 2011 to include \$132.4 million in sales, \$35.4 million in wages, \$17.1 million in tax revenues, and some 1,764 jobs, or 8.0 percent of salaried employment. It is important to understand that tourism is a diverse composite of economic activities, including transportation, recreation, retail,

lodging, and food and beverage sectors.

The study explains that travelers create direct economic value within a discreet group of sectors (recreation, transportation), which supports a relative proportion of jobs, wages, taxes, and GDP within each sector. Each directly affected sector in turn also purchases goods and services as inputs (food wholesalers, utilities) into production. These are indirect impacts. Third, the induced impact is generated when employees whose incomes are generated either directly or indirectly by tourism spend those incomes within the local economy.

Jefferson County's natural features, access to the outdoors through State and County parks and wildlife area, and rich historical significance points toward increased opportunity for tourism.

⁴ "The Economic Impact of Tourism in Jefferson County, Ohio, July, 2012. Tourism Economics (an Oxford Economics Company)

For example, Mount Pleasant has great potential as a tourist destination given its rich history in the abolitionist movement. The Quaker Meeting House in Mount Pleasant is owned by the Ohio Historical Society and is one of six museums that can be toured in the village's historic district.



In Jefferson County in particular, there was a trend toward an increase in tourism sales, from \$118.2 million in 2009 to \$132.4 million in 2011. Those sales are spread among nearly all sectors, since in addition to direct tourism industries, the manufacturing sector and business services sectors are important beneficiaries as suppliers. Within the \$132 million total, retail trade

realized \$32.4 million in sales, food and beverage businesses realized \$24.2 million, recreation and entertainment gained by \$15.9 million, and transportation realized \$13.9 million. Lodging took in \$8.1 million. The 1,764 jobs attributed directly or indirectly to tourism included 625 in the food and beverage sector, 288 in retail trade, 257 in recreation and entertainment, 163 in transportation, and 132 in lodging, among other sectors. Among the \$17 million in taxes generated by tourism, \$5 million were in state taxes, and another \$3 million were in local taxes.



Jefferson County offers amenities for outdoor experiences such as hiking or hunting; the natural beauty of the county is appealing and there are ample state, local, and privately owned facilities and park lands. There are also landmarks of historic significance in the County, such as Fort Steuben. These points of interest are fairly well dispersed throughout the county, leading to opportunities for motor tours or self-guided trips through the county. The clustering

of hotels in Steubenville near Routes 7 and 22 provides a central "staging area" from which to explore the county, from north to south.

Economic Development Goals**8.1 Support a coordinated, organized and unified economic development program for Jefferson County.**

- Support the Jefferson County Port Authority as the primary County-wide economic development entity. Explore and develop tools that can be used by the Port Authority to provide a competitive advantage for Jefferson County.
- Coordinate and collaborate with other entities within the County, including the Chamber of Commerce, Historic Fort Steuben, Regional Planning Commission, local governments, educational institutions including Eastern Gateway Community College, Franciscan University of Steubenville, and Jefferson County Joint Vocational School, and community-level development offices and entities.
- Coordinate and actively collaborate with regional economic, community, and business development entities, including Pittsburgh-area organizations (such as the “Power of 32” coalition), BHJ Metropolitan Planning Organization, JobsOhio and the Appalachian Partnership for Economic Growth (APEG), Ohio Mid-Eastern Government Association (OMEGA), and the Eastern Ohio Development Alliance (EODA).
- Undertake a robust “Business Retention and Expansion” visitation program which is attentive and responsive to the needs of existing local business. Involve and engage economic development partners in the process.

8.2 Maximize the benefits of the evolving shale gas and oil industry and activity within Jefferson County and the surrounding region.

- Explore methods to transform the short term gains in wealth resulting from the shale play into long term and sustainable investments in the County’s future.
- Recognize the “boom and bust” nature of the industry, and plan new infrastructure and facilities accordingly: do not overbuild, and plan new facilities with long-term sustainability or conversion to long-term productive use in mind.
- Continue to use the County’s successful collaborative approach (through use of the Oil and Gas Committee, “GO Jefferson County”) to mitigate and avoid environmental, safety, and infrastructure issues.
- Support placement of drilling sites in locations with no significant environmental constraints (including flood plains or wetlands on site, danger of water contamination, and inadequate water supply) and with a mitigation plan for damage and wear on local infrastructure (especially roads, where Road Maintenance Agreements with the County Engineer should be in place.)
- Promote and advocate for access to locally produced gas and oil as a local energy source for business within Jefferson County.

- Promote and advocate for Jefferson County as a location for midstream economic activity (including production of oil and gas byproducts) and downstream use of oil and gas products by compatible industries such as plastics manufacturing. Target efforts to the long-term (beyond the drilling “boom”) development of compatible and complementary industries and services.
- Continue to market Jefferson County’s assets of particular interest to oil, gas, and related industries. These assets include highway access, location of a regional airport with corporate jet craft capabilities, workforce availability, educational institutions that can adapt curriculum to industry needs, housing availability, and infrastructure capacity.

8.3 Continue to survey, prepare, and redevelop targeted Brownfields as prime economic development sites.

- Support continued efforts to bring federal, state, and private resources to Jefferson County to identify, analyze, remediate, and redevelop the County’s Brownfield sites that are suitable for industrial and economic redevelopment. Sources for such funding include the U.S. Environmental Protection Agency and the Ohio Development Services Agency.
- Work with private developers and industry to bring economic activity and job creation to Brownfield sites. Promote those activities that are compatible with surrounding land uses and with no deleterious spillover effects on neighboring properties (such as air or water contamination, noise, or vibration).

8.4 Market Jefferson County’s available sites and buildings to appropriate prospects.

- Establish additional “shovel-ready” industrial park acreage, either adjacent to the existing Jefferson County industrial park near SR 43 north of US 22, or along the Ohio River/ SR 7 corridor.
- Promote sites that meet industrial site selection criteria, such as:
 - Minimal impact on adjoining properties, which are ideally industrial, agricultural, or open space.
 - Access or minimal distance to a four-lane highway (US 22 or SR 7).
 - Fairly level to gently sloping topography, and suitable soil for development.
 - Accessible owners who are willing to sell at an established and fair market price.
 - Adequate utilities and energy to the site: minimally three-phase, 12kVa electricity, water with pressure of at least 50-55 psi and preferably a 12-inch line, broadband Internet capability, clear and unobstructed cell phone service, sanitary sewerage with an eight inch line and sufficient treatment capacity, an engineered plan for storm drainage, and natural gas service of intermediate or higher pressure.

- Completion of a phase one environmental site assessment, and flood plain and wetland determinations, as well as Ohio Historic Preservation Office archaeological clearance when required by a funding source.
 - Zoning for industrial use, if zoning is in effect at the site.
 - Suitable size and configuration (typically rectangular) for construction and future expansion.
- Promote sites that are within or close to municipal jurisdictions, or accessible to adequate County water and sewer systems.
 - Target prospective businesses that are linked to the gas and oil supply chain or will use gas and oil byproducts (if made available) in their manufacturing process. Also emphasize industries identified as target sectors by the State of Ohio, or businesses falling within identified business clusters within the region that includes Jefferson County.

8.5 Establish and grow an environment which is conducive to entrepreneurship and the establishment of new and innovative business enterprises.

- Work with business assistance providers to develop a “one stop shop” for entrepreneurs, including the region’s Small Business Development Center, DJFS office, Chamber of Commerce, and education providers. Consider development of a mentoring program. Involve emerging young entrepreneurs in countywide leadership programming, such as Leadership Jefferson County.
- Promote and bring Economic Gardening and other technical assistance to growing, innovative businesses needing more sophisticated and industry-specific marketing, social network, GIS , and related information.
- Promote the development of entrepreneurship curricula at all levels of schooling, from the K-12 systems (where Junior Achievement programs can be employed) and vocational school to Franciscan University and Eastern Gateway Community College.
- Take steps to attract and retain young professionals and entrepreneurs. Market those amenities that attract them, such as proximity to Pittsburgh metro area, existence of restaurants, coffee shops, entertainment, and other “third places” for gathering within the county, and career opportunities within the area.
- Promote existing and available commercial, industrial, and mixed-use space throughout the County to emerging entrepreneurs as competitively priced, affordable space in which to start or grow a small business. Cluster businesses in central business districts and other commercial areas where they can benefit from co-location.
- Consider development of a business incubator, but proceed only after feasibility has been documented by a market study to determine demand and interest, competing

nearby facilities, experience within those facilities, budgeting of the facility, services, and staffing, and best practices employed elsewhere. If it is determined that an incubator should be developed, consider adaptive reuse of an existing building. Also explore partnerships with Franciscan University, Eastern Gateway, and other entities to strengthen the overall guidance and management of the facility.

8.6 Support and enhance the revitalization of Jefferson County's Central Business Districts as economic activity centers. Similarly, promote and assist in the planned development of other commercial centers.

- Inventory and market available and suitable commercial and office space within the County's downtowns.
- Market appropriate downtown sites to shale-related businesses requiring office space.
- Promote compatible mixed use development of central business districts.
- Explore the potential for use of upper story space, including development of loft apartments.
- Develop a network or association of Jefferson County's downtowns. Share information on historic preservation, available resources, promotional best practices, and new trends and opportunities. Consider joint promotions, highlighting the unique assets and businesses found in each downtown district.
- Promote the use of incentives and tools to spur downtown development, including the creation of Community Reinvestment Areas (such as those already in operation in Steubenville) and historic preservation tax credits.
- Take advantage of the design elements of downtowns to market its competitive advantages: connectivity between businesses, short blocks, historic architecture, walkability, and proximity to services, restaurants, and other destinations.
- Incorporate the Main Street elements and principles in downtown revitalization efforts within the County, with an emphasis on historic preservation.
- Ensure that new construction generally matches and is compatible with the patterns, color, scale and proportions, storefronts, and appearance of surrounding buildings.
- Promote orderly development of other commercial centers such as the Fort Steuben Mall and surrounding property, Hollywood City Center and surrounding area, University Drive within proximity of Franciscan University, and other portions of the Sunset Boulevard corridor. Support plans for traffic control and access management in intensive commercial areas.

8.7 Promote tourism, convention, and visitor activities as an important component of economic development.

- Establish a strong working relationship between the countywide Convention and Visitors activities of Historic Fort Steuben, the Chamber of Commerce, and the Port Authority.
- Establish joint promotion of county-wide points of interest, to build a “critical mass” of activities for visitors to spend additional time in the County.
- Preserve the County’s outdoor recreation destinations and their natural attributes. This includes state parks and green space, county facilities including Friendship Park, and private camps and outdoor facilities. Promote and help implement the countywide trail and green space plan that helps connect these destinations.
- Similarly preserve and help develop other tourism generators and venues for entertainment, meetings and conventions, and dining. Plan for integration of these venues with their surroundings.

9

Land Use



Land uses evolve over time, and are impacted by a number of factors. Today's land use patterns are the result of a series of discrete location decisions throughout the history of the County, beginning with the construction of a fort to protect government surveyors stationed in the area, and followed by the establishment of the first federal land office in 1800. Further development along the Ohio River was aided by the construction of rail lines, and by flourishing riverboat traffic. The River and the proximity to Pittsburgh and Wheeling brought the steel industry, and the clay soil brought pottery manufacturing. Inexpensive river transport of coal extracted in nearby mines made the County a natural location for coal-fired electric power plants. Farther west into the County, the presence of rich coal seams brought coal mines and, later, extensive surface mining of coal.

Two highways have become predominant in Jefferson County's development. First, U.S. Route 22 provides quick access to Weirton, West Virginia, and to Robinson Township, Pittsburgh's International Airport, and the rest of the Pittsburgh metropolitan area. Route 22 also offers access to Columbus and other destinations to the west. Second, State Route 7 parallels the Ohio River and connects the numerous cities and villages along the River, as well as providing access to Interstate 70 to the south, and Cleveland and Interstate 76 and 80 (the Ohio and Pennsylvania Turnpikes) to the north. At the crossroads of these two primary highways is the county's population, service, commercial, and governmental center, Steubenville.

With the decline of the steel and pottery industries came an inevitable “hollowing out” of Steubenville’s City Center, and natural patterns of outward development have evolved to the west, tracing new commercial and related development along the busy State Route 43 corridor through Steubenville and to Wintersville and beyond. This corridor has remained a major arterial, linking a number of major traffic generators such as Eastern Gateway State Community College, the Fort Steuben Mall, other commercial destinations such as Hollywood Center, the two campuses of Trinity Health System, and other schools, offices, restaurants, and commercial centers.

While much of the County’s population is centered in the Steubenville/Wintersville area and in neighboring Townships, the State Route 7 corridor is home to a large segment of the county’s population as well, with the communities of Stratton, Empire, Toronto, Steubenville, Mingo Junction, Brilliant, Rayland, Tiltonsville, and Yorkville all accessible by Route 7.

The remainder of the county is dotted by smaller communities with locally-oriented central business districts, businesses serving largely local clientele with convenience needs, and small services and employers. Residential development on large lots is evident along many of the County’s more well-traveled highways, such as State Route 43 from U.S. Route 22 north through Richmond to Amsterdam, and State Route 152 in the southern portion of the county. However, aside from the swath of development cut through the center of the county, through Wintersville and into Wayne Township, the vast majority of the County west of the developed River corridor remains rural, and much of this area, which was largely surface mined for coal, is undeveloped forest land.

Previous Land Use and Comprehensive Plans

This is the first land use plan for Jefferson County, although several communities in the County have undertaken land use or comprehensive plans. Most recently, officials with the City of Steubenville are finalizing a new comprehensive plan for their city. Other communities have plans, some of which date back to the 1960’s. The following narrative provides a summary of the land use-related findings and major directions of those planning efforts.

City of Steubenville Comprehensive Plan (1964, Candeub, Cabot & Associates)

This plan was written nearly fifty years ago, and provides historical background into the priorities for guided growth and development a half-century in the past. The plan projected a 1985 population of 40,000 for the City (an increase of 5,200 over the 1962 estimate of 34,750), based on a moderately growing economy, and sufficient vacant land to support 3,400 to 4,000 residential building lots. Aspirations for the future included the establishment of desirable

residential areas providing a variety of housing types and an adequate system of community facilities, modernization of the Central Business District, with adequate parking and an “aesthetic revitalization”, provision of neighborhood shopping centers, setting aside suitable land for new industries and expansion of existing ones, and elimination of conflicting land uses which have a negative effect on future growth and development.

Emerging land use problems at the time were cited to be the deterioration of the Central Business District; excessive strip commercial development along Sunset Boulevard; lack of land in the lower part of the city for growth in the industrial and commercial sector due to high density of development in the City’s early stages; and the existence of a number of residential areas that are no longer functional, due to their isolation from the greater community, a high degree of physical deterioration, and proximity to various seriously conflicting land uses.

The plan recommended high density housing near the Central Business District, with medium density housing abutting it and low density housing continuing from Brady Avenue to the City’s western boundary. The plan also recommended commercial activities within the Central Business District with heavy commercial uses engaged in wholesaling and warehousing abutting it, and auto-oriented commercial “highway shopping” areas along several arteries, predominantly along Sunset Boulevard at specified intersections. Industrial use was proposed for areas with relatively flat land, access to major traffic arteries, and compatibility with surrounding land uses. Heavy industry was directed to an area between the High Street Throughway and the River, with light industry targeted to several specific sites. Vacant land was most predominant in the southwest section of town and along bluff slopes that are unsuitable for development.

Steubenville Comprehensive Plan (2013, MKSK, LSL Planning, and Benjamin D. Rickey)

Steubenville’s new comprehensive plan had not been formally adopted at the time this plan was finalized, and it is thus still subject to amendment. However, it is built on a series of guiding principles adopted by City Council in 2010, which include: implementation of a long term infrastructure plan; a clean and safe, healthy and cost effective environment; a strong and diverse economy; promotion of “clean up our community”; creation of a well trained and diverse workforce; and creation of an atmosphere of fiscal and regulatory responsibility. Additionally, seven “big ideas” emerged during the planning process, which were: improve the image of Steubenville; promote a healthier lifestyle in Steubenville; reinvest in first ring neighborhoods (support central core redevelopment); celebrate Steubenville’s history and culture; enhance community connectivity and mobility; leverage Steubenville’s natural resources and environmental qualities; and promote partnerships.

Land use issues that have emerged include disconnection between downtown and hilltop neighborhoods, strip development along Sunset, lack of entranceways into the City, vacancies in the downtown, and blight in some residential neighborhoods. Recommended improvement strategies included: allowing mixed uses in the City's office and commercial districts, with mixed uses within the same building; infill within already developed areas; and designing neighborhoods and their improvements with safety in mind ("safescaping").

City of Toronto Planning Program (1971, BHI Metro Planning Commission)

A series of documents was prepared for Toronto by BHI over forty years ago, in 1971. The land use portion of the plan included eight recommended policies: direct highest density development to selected points on plateaus, interchanges on Route 7, and the Central Business District; restrict tributary valleys to open space, recreation, and resources production; expand industrial concentration along the river near the southern and northern city limits and expand light industry within the city; capitalize on the recreation and natural resource potential of the Ohio River waterfront between those two industrial concentrations; concentrate low density housing and planned development on the plateau area and fill in development; redevelop existing deteriorating housing areas to provide an expanded housing choice; publicly acquire lands in the valleys and at key locations in outlying areas to control and guide urban form; and adopt zoning and subdivision ordinances which are consistent with the plan's goals and objectives. An overall theme was increased density of development and mixing of activities or uses, by the use of planned unit developments and other means.

Village of Wintersville Comprehensive Plan (2007, Jefferson County Regional Planning Comm.)

The Wintersville Comprehensive Plan noted that recent development initiatives were targeted to facilities for healthcare and senior citizens, with expansion of the Meridian Green senior citizen community and construction of the Sienna Woods assisted care facility. As with the similar Richmond plan, the Wintersville plan listed a number of sites available for development. Seven sites were listed and all were zoned commercial except the Jefferson County Airpark, which was zoned for mixed use, and which may include industrial or commercial.

The land use section described Wintersville as "predominantly a residential/suburban community supported by light industrial, commercial and retail businesses located in the central portion of Jefferson County." The Village encompasses four square miles in area, with zoning classified as commercial, industrial, residential, and public land. The plan counted 1,743 residences, 184 commercial properties, and over 250 acres of undeveloped land.

Wintersville has a Planning Commission appointed by the Mayor, a Code Enforcement Officer, Village Administrator, and Village Engineer, and the Commission is charged with “maintaining a long-range general plan to guide and facilitate the orderly and beneficial growth of the community ...”

Mingo Junction Comprehensive Plan (1968, Jefferson County Regional Planning Commission)

A few years after the initial Steubenville plan, the Mingo Junction plan was developed. The community consisted of 940 acres, and the surrounding planning area contained 9,175 acres. The plan noted a “very erratic pattern” of land use, primarily due to hilly topography and steep slopes. Newer built up areas were found along roads that follow broad ridgelines. Another disruptive aspect, which is true of much of the county, was the presence of extensive areas of former strip mining activities, with ungraded spoil banks and deep ravines. It was noted that industry had appropriated most of the limited flat land available.

The plan recommended higher density housing, in order to lower the utility construction costs per unit, and to compensate for the large amount of necessarily open space due to topology. The plan did not foresee a need for significant new residential development, and the commercial space within the existing commercial area was considered adequate to accommodate future needs. At the time of the plan, zoning was not in force in Mingo Junction, and the plan advocated its enactment in order to control and encourage positive development of the village. The plan also recommended the development of a capital improvements program to present the community with a “framework for sound development”.

The plan foresaw development of lower density residential land uses, and limited development of commercial and retail activity, which would largely be housed in existing vacant buildings due to a shortage of suitable land and the existence of extensive retail facilities in nearby Steubenville. Primary consideration was recommended for industrial uses owing to the severe limitations of topography and the scarcity of extensive level land; outside the Village, the Cross Creek Valley, with some 500 acres of available land, was recommended to be reserved for industry.

Village of Richmond Comprehensive Plan (2007, Jefferson Co. RPC)

This comprehensive plan for the Village noted that it would welcome “limited” economic development, but emphasized a need, during the recession experienced at the time, to support and retain existing businesses, along with keeping the small town atmosphere of the village.

A number of sites for new economic activity were identified and depicted on GIS maps. Many of the developable parcels were noted to be owned by a local coal company. A later section observed that existing land use was mainly residential, and that the village contained only one square mile of land area. One goal was to obtain a small family restaurant, possibly on a parcel adjacent to the post office. The plan noted that there was no zoning in the village, and that this may be addressed in the future, coupled with the need for some form of control of the upkeep of properties; the plan outlined the need for more in-depth analysis before any action would be taken.

Riverfront Development Strategy (1992, Woolpert Consultants)

The Riverfront Development Strategy examined the development potential of a study area that is linear in nature, extending approximately four miles along the river in the Steubenville area, with a width ranging from 500 to 1,000 feet, and including a diversity of uses ranging from industrial and commercial to residential. The plan noted the importance of the river, the highway network, and railroads that serve this area, and recommended three specific areas for development: the Steubenville Marina; Blum Park and the Dock Street Neighborhood; and the Weirton Steel Steubenville works.

The plan advised “to enhance existing uses while taking advantage of unique assets. Basically, the existing situation, primarily with industry in the southern and northern portions of the study area, and commercial, recreational, and residential uses found in the central portion of the study area, is recommended to continue with some slight modifications.” The Weirton plant, in the southern end of the study area, was recommended to remain industrial, as was the industrial portion of the Pottery Addition to the north. Light industrial use was recommended for the central portion of this area, and commercial activities were suggested for the Blum Park area, which should be the commercial center of the riverfront, according to the strategy, with restaurants, museums, and entertainment. Steubenville Marina was also recommended for commercial use. A linear recreation area was proposed between the Marina and Blum Park areas, offering improved river access for area residents and visitors. Finally, the Dock Street neighborhood was suggested for future residential uses.

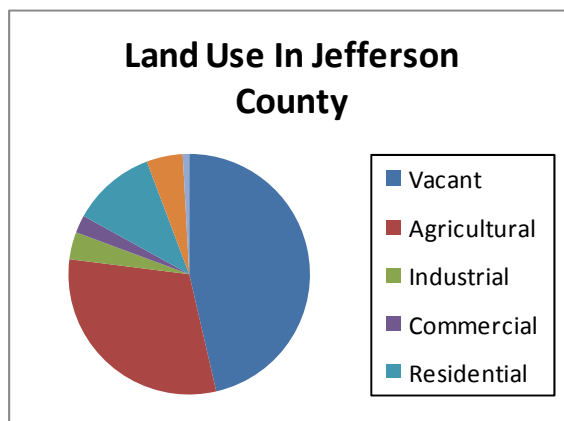
Community Investment Plan – A Partnership for Growth (2008)

This guidance document, which has been cited throughout this plan, was not oriented toward land use, and thus contains few recommendations directly related to land use. However, recommendations with some connection to land use included these:

- Build and organize affordable recreation facilities/activities for retirees and active seniors, for example cultural events and golf.

- Construct additional condominiums with amenities for retirees and active seniors.
- Create neighborhood community centers to provide for the multi-dimensional needs of the retired and active senior populations, and for the diverse needs of the total population.
- Create bike/walking/running trails linking communities.
- Conduct a study to maximize the use of existing Jefferson County educational resources.
- Coordinate port/container site development with the Columbiana County Port Authority. Apply for a Brownfield clean-up grant for a publically controlled property in Jefferson County.
- Plan and develop a second Jefferson County industrial park beyond the existing site.
- Prepare and communicate a coordinated long-range water/sewer infrastructure plan, and carry priority projects within the infrastructure plan.
- Develop a Jefferson County business incubator.

Current Land Use



Of the County's 259,809 acres of total land area, based on data in the County Auditor's office, 118,594 acres, or 45.6 percent, is vacant. Another 78,406 acres (30.2 percent) is used for agricultural purposes. Of the remaining 24.2 percent, 28,832 acres are residential, 12,436 acres are government owned, 9,418 acres are industrial, 6,098 acres are commercial, and 2,199 acres are used by private nonprofit organizations. A current land use map is

included as Map 26.

Projected Future Land Use

Land use plans are often based on a population projection, which in turn is developed based on an extrapolation of past population growth trends. In the case of Jefferson County, past trends have been toward significant population loss. As noted in Chapter 2, the county's population has steadily declined since reaching 99,201 persons in 1960, most recently dropping to 69,709 in 2010, down from 73,894 in 2000 and 80,298 in 1990. A subsequent population estimate for 2012 continues the trend toward population loss, with Jefferson County's total falling to 68,389, a 1.9 percent decrease over two years.

The County lost 5,928 persons between 1990 and 2010. Major components of this loss included a drop of 3,466 in Steubenville, 1,036 in Toronto, 843 in Mingo Junction, and 4,454 within the County's townships (with only one township, Ross, posting a gain of 126.)

Based on this history, coupled with the County's relatively elderly population, with a median age of 43.7, well above the State median of 38.5 years, the State of Ohio now projects a further population drops, to 66,540 in 2020 and 65,330 in 2030, with an upturn to 67,410 in 2040.

A comparison of the 2000 and 2010 Census shows the following changes:

Total Population dropped from 73,894 in 2000 to 69,709 in 2010 (-5.7%)
 Number of **total households** dropped from 30,417 to 29,109 (-4.3%)
 Number of **family households** dropped from 20,596 to 18,713 (-9.1%)
 Number of **occupied housing units** dropped from 30,417 to 29,109 (-4.3%)
 Number of **owner-occupied units** dropped from 22,614 to 20,979 (-7.2%) and **median household size** from 2.43 to 2.38
 Number of **renter-occupied units** *increased* from 7,803 to 8,130, (+4.2%) and **median household size** from 2.15 to 2.17

Most trends point to decreasing population, households, and household size, which in turn leads to a presumption that communities now have excess capacity and can accommodate growth without further build out or new utilities, roadways, classrooms, and other public facilities. However, this downward trend is mitigated by several factors that will create demand for additional use of land. A primary factor, discussed throughout this plan and later in this chapter, is the impact of the shale extraction industry and related development on the County's land use patterns.

Land use in the County is also subject to regional influences. Jefferson County can be easily reached from the Pittsburgh area, and a number of survey and interview respondents have noted that it serves as a relatively low-cost location for those who commute into Pittsburgh. Further, the County's location in the most active portion of Ohio's Utica shale play region positions it well to serve regional functions for businesses interested in reaching well pad, pipeline, and midstream and downstream facilities associated with shale extraction. Both regional influences point to potential for future growth in Jefferson County.

Focus Areas

Some areas have undergone changing and diversified land uses, with vacant properties and a potential for growth, and they have become the focus of planning and development efforts.

These special planning areas require analysis highlighting their optimal development over the coming decades. Each area has its own set of characteristics and constraints, and thus is analyzed separately. These areas bearing a more intensive focus include the following:

- A. The Riverfront;
- B. The Steubenville-Wintersville corridor ;
- C. The Route 22 corridor, with a focus on the Route 22/Route 43 area; and
- D. Outlying villages and open space.

The Riverfront

The land between the Ohio River and the higher elevations separated by steep slopes presents a diversity of development opportunities and constraints. The constraints include flood plains, dissecting of the land by State Route 7 and by railroad lines, and the narrow configuration of much of the available land along the river.



the AEP Cardinal plant at Brilliant

Opportunities include the presence of the “three R’s” of transportation: roadway, railroad, and river transportation. Many sites in this area are ideal for logistics, and for trans-shipment opportunities between differing modes of transportation. The Riverfront has been the site of intensive and heavy manufacturing, with a number of steel mills locating there to receive and make shipments by all three modes of transport. For similar reasons, notably the availability of coal by river barge, electric utilities located two major power generation plants along the river in Jefferson County: American Electric Power’s Cardinal plant at Brilliant, with 1,880 megawatt capacity, and First Energy’s W. H. Sammis plant at Stratton, the largest plant owned by that utility, with 2,223 megawatt capacity. Because of this concentration of industry along the river, sufficient infrastructure to meet the needs of new industrial activity (water, sanitary sewer, and power grid) is in place and available for new uses.

The riverfront also is home to a large portion of the county’s population, and population density declines greatly as one moves west, away from the river. Route 7 connects a large portion of the county’s communities and population centers, including four of the county’s five largest: Steubenville, Toronto, Mingo Junction, and Tiltonsville.

Many of the most optimal sites for new development are vacated former industrial sites now classified as Brownfields. While the cost of environmental assessment and mitigation can be great, the potential benefit from developing those sites is expected to exceed them, and

County and local officials are working to obtain funding to assist with their redevelopment. Specific sites will be discussed later. Additional development opportunities in the southern portion of the riverfront will evolve with the construction of a proposed new bridge crossing the Ohio River from the Wellsville, WV region into Brilliant, connecting to Route 7.

In contrast to the history of heavy industry, the river also presents opportunities for recreation and entertainment. Interspersed with the numerous industrial uses east of Route 7 are recreational facilities including parks, golf courses, and marinas. Allowing industrial and recreational/entertainment uses to coexist within nearby riverfront locations presents challenges, but indeed there are good reasons to promote both uses. Creation of a bicycle/walking path to connect recreational activities and riverfront access while bypassing the industrial areas is a challenging task, but worthy of creative exploration.

Waterfront land use planning is complicated by the variety and intensity of previous uses, and by the potential for incompatibility between uses such as heavy industry or power generation and passive recreation. However, this can be built into an overall design whose strategies include continuity, sequence (a sequence of open spaces at significant points along the water), variety (multiple uses creating successful synergies, accommodating differing users), and visual and physical connection between the waterfront and nearby communities. Infill and adaptive use can create new destinations and recreate the waterfront's past with new combinations of activities.

The Steubenville-Wintersville Corridor



The City of Steubenville and the adjacent Village of Wintersville are centrally located on Jefferson County's north-south axis, and form the county's center for many activities. As the County's seat, Steubenville is the governmental and legal center, and is home to a number of related business and personal service enterprises.

The “backbone” of the Steubenville-Wintersville corridor is the roadway that begins in downtown Steubenville as Washington Street, climbs to higher elevations as a recently reconstructed highway, and traverses the hills and ridges to the west as Sunset Boulevard and, farther west in Wintersville, as Main Street, splitting farther west into Canton Road (the continuation of State Route 43 northward toward Richmond) and Cadiz Road (reaching farther west toward U.S. 22). This corridor provides access to many of the County’s greatest traffic and business generators. These include the Fort Steuben Mall, nearby “big box” and strip mall stores and restaurants, the Hollywood Center shopping center, the campus of Eastern Gateway Community College, a campus of Trinity Health Systems and the Life Lines hospital in Wintersville, and countless individual retail, service, dining, and office land uses. This corridor has been linked to Route 22 by two “connectors”, enhancing the utility of Route 22 as a bypass, and easing access to many area destinations. The corridor will continue to witness a variety of mixed uses, with housing interspersed among the small businesses, stores, restaurants, and offices. Property adjacent to the arterial roadway is essentially fully developed, and developmental pressure will likely lead to demolition and replacement of obsolete structures adjacent to the arterial, and new development of sites within several blocks of it.

The Route 22 Corridor



Route 22 presents development opportunities for uses that rely upon logistics and highway access. The potential value of locations near the 22 corridor was demonstrated with Wal Mart’s investment in a large distribution

center on SR 43 north of Route 22, now one of the largest employers in the county.

This Route 22 corridor has great potential for highway-oriented business such as truck stops, travel-oriented convenience stores, and hotels and restaurants. Other logistics and distribution businesses could follow Wal Mart’s example. Constraints at specific interchanges are presented by topography, and in some instances such as the Lovers Lane and Scott connectors, level to nearly level acreage is practically nonexistent. Other limiting factors at the more westerly interchanges include a lack of water or sewer access. However, the 22/43 intersection and

surrounding properties present some potential for a variety of commercial and industrial uses, including expansion of the county's industrial park and other sites.

Outlying Villages and Open Space



As noted previously, much of Jefferson County's most rural acreage was previously surface mined for coal, and suitability for development is constrained by a variety of factors, including soil suitability, topography, utility accessibility, and roadway suitability for increased traffic.

Nearly half of the County's land area, especially outside the previously described focus areas, is vacant. The most likely use of this land, if not agricultural and forestry, is in natural resource extraction (shale gas, and coal). The villages of outlying Jefferson County will most likely retain their roles as local population centers and as home to convenience businesses, with some resource-based (such as Denoon Lumber) and recreation/tourism related businesses (such as the Mt. Pleasant historical district) as well.

Outlying Jefferson County holds significant potential in outdoor recreation and tourism. Survey and interview input received for this plan indicates a high regard for retaining and preserving the rural nature of the county. The presence of a number of state and county parks and wildlife areas present an opportunity for continued and increasing use of the land for hunting, fishing, hiking, bicycling, camping, and other passive recreational pursuits. Another component of tourism which could grow is historically related, "experiential" tourism.

A number of households will continue to seek the "rural life", and there will likely be a continued but somewhat limited demand for new homes on relatively large lots, primarily along state and county highways with water distribution lines and, optimally, sewer lines as well. These corridors, such as State Route 43 north through Richmond, or State Route 152 south to Smithfield and Dillonvale, will support increased residential development on large lots.

Land Use Impacts of the Shale Extraction Industry

Land use throughout the County is subject to a number of impacts from the rise of the shale extraction industry and the numerous related activities that accompany it. Shale plays are relatively unpredictable with regard to areas of concentrated drilling, and the Utica region has

already witnessed an ebb and flow of activity depending in part on the relative and fluctuating costs of differing energy sources. However, a net increase in several activities is anticipated, with land use implications. Among them:

1. **The shale well sites themselves.** These sites change the local landscape, and access roadways become busier with sand and water trucks, employees, and other traffic. Impacts can be felt by private land owners, residents along truck routes, forests, parks, streams and rivers, and any area with resulting new economic activity. Current locations of Utica well site permits are depicted on Map 4 in this plan.
2. A need for **housing of new and temporary employees.** Discussions with County officials have led to a general assessment that, to date, the local housing stock and mix of rental and owner-occupied housing, as well as sites for temporary accommodations such as RVs, is meeting the needs of this inflow.
3. Demand for **related suppliers, vendors, and “downstream” business and industry** to locate central or satellite facilities within reasonable proximity of the shale play region. This has led to dramatically increased activity among the county’s economic development practitioners, and has resulted in new economic activity within the county’s industrial park, as well as sites along the Sunset Blvd. commercial corridor and downtown Steubenville. The Jefferson County Airpark has taken steps to position itself to handle increased corporate aircraft activity as a central access point. Eastern Gateway Community College and the Jefferson County Joint Vocational School have adopted curricula in response to the workforce needs of the burgeoning shale extraction industry. A new hotel is under construction (however, while the shale boom has boosted local occupancy rates, its construction is not a likely direct result of the shale industry, and marketing projections likely support sustainability beyond the shale “boom” years).
4. The potential exists for **larger shale-related business** to consider a location in Jefferson County. The shale play has brought a natural gas processing facility to the nearby Cadiz area, and the location of a polyethylene plant with a natural gas cracker is being considered for a location south of Wheeling.
5. Ripple effects beyond direct suppliers and down-line supply chain industries will reach and support **a variety of existing business**, and could lead to expansion for some. Spillover benefits accrue to railroad and trucking business, restaurants and

entertainment business, retail outlets selling needed supplies and equipment, consultants, attorneys, tax accountants, and other business and personal services.

Because of the likely demand placed on land use by the shale extraction industry as it moves through its growth phase, and a need to offer finished sites for prospective new industry, accessible locations for new commercial business, and a minimal supply of suitable sites for new housing as demands and preferences change, it is reasonable to project a limited need for limited new acreage for all the above land use classifications despite downward population projections. Indeed, existing population projections cannot be used to forecast growth. Thus, the concluding section of this chapter is dedicated to suggested growth areas for new industrial, commercial, and residential activity as it occurs over the following twenty years. The accompanying narrative discusses each use in turn. Map 28 provides a summary of growth areas, including highway corridors served by County water.

Planning Framework

The overall goal of this land use plan is to help guide growth in a responsible manner that is beneficial to Jefferson County as a whole. To be effective, the plan should follow a series of concepts and principles. A number of such goals has been developed over the past couple of decades. Some are more applicable to urban areas, and others to more rapidly developing regions that need to curb runaway sprawl. However, many concepts can be applied to smaller, more rural areas that have seen declines in population and, subsequently, in the degree of demand for services and facilities. The following is an abbreviated list of some of the concepts and principles.

Three “Smart Growth” goals were proposed in an International City Managers Association publication¹ to help a community pursue its vision for accommodating and attracting sensible growth in the future, while maintaining its rural character and quality of life:

- Support the rural landscape by creating an economic climate that enhances the viability of working lands and conserves natural lands.
- Help existing places thrive by taking care of assets and investments such as downtowns, main Streets, existing infrastructure, and places that the community values.
- Create great new places by building vibrant, enduring neighborhoods and communities that people, especially young people, don’t want to leave.

¹ “Putting Smart Growth to Work in Rural Communities, ICMA, 2010.

The “**Principles of Smart Growth**” developed by the Smart Growth Network often have an urban flavor. However, some of their principles are applicable to efficient development that enhances quality of life and helps preserve rural character. These include:

- Mix land uses; integrating mixed land uses into communities is a critical component of achieving better places to live. Conventional land use regulations, including conventional “Euclidian” zoning practiced in several of the County’s municipalities, can tend to unnecessarily segregate land uses, which can lengthen trips from home to shopping, employment, and other destinations. Such practices should be reconsidered when their cost exceeds the benefits to the community and its residents. Some localities have begun looking at alternative, “form based” zoning that regulates physical aspects and impacts of land uses rather than the uses themselves.
- Practice compact building design, as an alternative to conventional, land consumptive development.
- Create a range of housing opportunities and choices, providing quality housing for people of all income levels.
- Create walkable neighborhoods, which are desirable places to live, work, learn, worship and play.
- Foster distinctive, attractive communities with a strong sense of place; craft a vision and set standards for development and construction which respond to community values of architectural beauty and distinctiveness, as well as expanded choices in housing and transportation. Sense of place is often bolstered by such actions as constructing attractive gateways where major roadways enter a community or county, and by preserving recognized community landmarks.
- Preserve open space, farmland, natural beauty, and critical environmental areas; open space preservation supports smart growth goals by bolstering local economies, preserving critical environmental areas, improving quality of life, and guiding new growth into existing communities.
- Strengthen and direct development toward existing communities; these areas are already served by infrastructure, seeking to utilize the resources that existing neighborhoods offer, and conserving open space and irreplaceable natural resources on the urban fringe. Implicit within this principle is the practice of *infill*, where developers and communities direct development to vacant, abandoned, or underutilized property already served by adequate utilities and roadway access within existing communities. Infill can encompass the *adaptive reuse* of an abandoned building such as a school or commercial structure.
- Provide a variety of transportation choices. This typically incorporates consideration of a pedestrian friendly design wherever possible, to encourage greater use of bicycles and walking in higher-density areas as daily transportation.
- Make development decisions predictable, fair, and cost effective; this leads the private sector to support these efforts.

These principles have evolved from the original **Ahwahnee Principles for Resource-Efficient Communities** written in 1991 by the Local Government Commission, a nonprofit membership organization for local government officials. The original Ahwahnee Principles were very similar to the smart growth principles listed above. They stressed that all planning should be in the form of complete and integrated communities containing housing, jobs, work places, schools, parks, and civic facilities essential to the daily life of the residents. Also listed were diversity of housing types, walkability, a range of job types, and communities with a center focus that combines commercial, civic, cultural and recreational uses.

A current land use plan should also be influenced by changing “mega” trends within the study area and its region. Jefferson County is a county in transition. Its past has been heavily marked by the steel industry, which employed as many as 25,000 workers along the riverfront. Much of its land mass west of the river, at higher elevations, underwent intensive surface mining for bituminous coal, and private and public reforestation has followed, incorporated in the initiation of State responsibility for mine reclamation areas in Perry, Jefferson, and Harrison County in 1965. Specific to Jefferson County was the management of the 3,023 acre Fernwood State Forest. However, much of the County’s forests are under private ownership; some 87 percent of Ohio’s forests are owned by private woodland owners.

The development of the Marcellus and Utica shale plays represents another transition for Jefferson County, with the promise of a rejuvenated industry and source of public revenues, wealth generation, and employment opportunities. Experience indicates that the industry is subject to some volatility as the price of natural gas fluctuates, and that geographic areas of greatest interest and investment are subject to change as well. While the ultimate impact of shale gas extraction and its numerous byproducts and potentials for downstream industry cannot be accurately projected, it is vital for the County to consider the land use implications and potential needs of this growing sector.

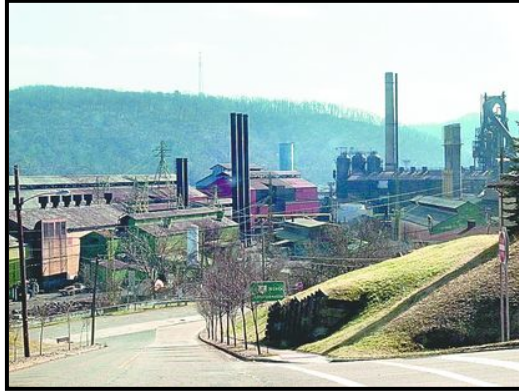
Land Use Strategy by Classification

This section provides guidance in land use planning and development by general land use classification – industrial, commercial, residential, and agricultural. This is based on best practices and planning principles, as well as by input and recommendations offered through extensive interviews, the survey of local residents, core group input, and public meetings.

Industrial Uses

Jefferson County has a strong history of industrial development, although in the past this sector was concentrated in a small number of products, notably steel, with pottery manufacturing also

once holding importance. Because of the severe decline in the steel sector, the County now has a number of former steelmaking sites that are vacant or greatly downsized, with infrastructure in place to accommodate new industries of any size.



Heavy industry is concentrated along the State Route 7 and Ohio River corridor. Many of the available sites contain buildings that are obsolete or ill suited to new manufacturing processes, and demolition and new construction may be the best, most efficient option. Further, many properties along this corridor are listed as Brownfields that may require significant remediation. Despite this hindrance, the excellent location of many of these sites, coupled with highway,

utility, and energy access, could make them prime locations for “downstream” chemical or plastics manufacturing if local natural gas and byproduct production can be tapped as a competitive advantage.

The County has worked to develop suitable sites for light industry with smaller site requirements as well. Efforts are underway at the county industrial park near US 22 and SR 43 to acquire additional property to expand the park and its available sites. There are also efforts to establish or expand industrial parks and smaller sites along the SR 7 corridor as well, or to subdivide larger industrial properties. These efforts are important in order to attract shale gas and oil related businesses and other enterprises with smaller site requirements.

The following list presents some of the planning criteria to follow when developing or promoting local sites for industry:

- It is advantageous for industrial parks to develop **design standards** covering construction materials, building design, setbacks, parking and approach roadways, fencing, storm water drainage and control, and even landscaping, in order to provide a degree of quality and uniformity, but without impeding the plans or inflating the development costs of industrial prospects or occupants too adversely.
- **Proximity to highways:** An industrial site is most effective when located adjacent to a state or U.S. highway, and within close range (ten miles or so) of a four-lane highway. State highways meet standards that allow for the operation of tractor trailers. While the state or federal highway may require limited access, it is ideal for an industrial park to have two points of access to the highway, in case one is blocked. The existing County industrial park has ready access to US 22 via a short stretch of SR 43, and route 22 provides access to all directions through its intersection with SR 7. Other locations along the riverfront offer similar highway access to SR 7 and US 22, as well as a direct route to I-70 to the south via SR 7.

Other transportation modes: The County's airport is located within 7.5 miles of the Riverfront, and even closer to the County's industrial park, and its planned improved runway will make it even more attractive for corporate aircraft. Rail service is available to most Riverfront locations, and could be extended to the industrial park if warranted.

- The **size, dimensions, and shape of available land parcels** within the park have implications regarding the type and scale of building projects and tenants. For a business park, it is important to be able to subdivide into smaller parcels. Square or rectangular sites offer the greatest flexibility and satisfy most uses. Care should be taken when subdividing new acreage to ensure functional sites.
- **Topography and soil conditions** are critical to the viability of an industrial park location. Sites should be fairly level or gently sloping (which rules out a large portion of Jefferson County) with adequate drainage and no ponding. Test boring information should then be provided to determine the suitability of prospective sites' soil for building. Overall, the rolling topography of the area offers an attractive setting in which to locate businesses.
- Another important factor relating to the suitability of a site for development is the **ownership of the site**. The owners must be accessible, willing to sell their property, and able to establish a fixed selling price that approximates the fair market value for the land in question and comparable properties. This has presented a challenge in marketing some properties in the past. The Jefferson County Port Authority has the ability to own and market property for sale or rent, and may be able to catalyze future industrial park development from a stronger position.
- The availability of **adequate utilities** will determine the level and characteristics of the occupants of any industrial site or park. Jefferson County is fortunate in having a number of sites with readily available utilities of adequate capacity to accommodate manufacturing processes. Coupled with the **availability** of these utility components is the competitive **cost** of the utilities, relative to costs at other sites. These utilities include:
 - Appropriate **electric service** is minimally three phase with 12 kVA (kilovolt amperes). Service should be uninterrupted with a high probability of continued uninterrupted service. Consider the ranges of distribution and transmission line sizes.
 - **Water** should be made available to the industrial park's parcels or sites with adequate pressure and flow for the type of industry being pursued. As a rule of thumb for an industrial park, there should be 50-55 pounds per square inch (psi) pressure, with a twelve inch line. For the light manufacturing, office, and other operations that are also likely to locate in Jefferson County, this requirement may be somewhat less. The water main and elevated storage associated with it should meet Highly Productive Risk insurance standards, and the water should be served by a water treatment plant of sufficient excess capacity to serve new industry. Consider the ranges from sanitary use to heavy production uses. Ohio's Job Ready Site Program required water capacity of 0.5 MGD (million gallons per day; sanitary sewer of 0.3 MGD) for manufacturing, 0.25 MGD for smart office (also 0.25 MGD sewer), and 0.5 MGD for technical center/research lab facilities (0.3 for sewer).

- **Sanitary sewerage** should be available, with minimally an eight inch line serving an industrial park (or perhaps smaller for less intensive uses). The line should flow to a wastewater treatment plant, either a centralized facility or a package plant, which has sufficient excess treatment capacity to handle the projected needs of the fully operational industrial park or site.
- The industrial park site plan should include engineered plans for **storm drainage**, including the use of natural drainage processes, catch basins, drainage channels, ditches, or pipes, and plans for retention or detention as necessary.
- Ideally, **natural gas** service of intermediate or higher pressure should be available at the site. Consider high pressure ranges from heat only to heavy production use may be required. The Ohio Job Ready Site program required 300,000 Cfh (cubic feet per hour) for gas for manufacturing, and simply availability of gas for smart office and technical center/lab.
- Industrial sites should have the capacity to provide for adequate **telecommunications**. This requirement now includes broadband Internet capability, clear and unobstructed cell phone service, and the ability to host conference calls and video communications. Telecom capabilities: consider the desired range, from basic long distance to broad data capabilities. This is a common concern in more remote locations in southeastern Ohio, but those concerns are being addressed through the Connect Ohio program and other efforts, and prime industrial areas should be included in any telecommunications upgrade effort.
- Any prospective industrial site should have completed a **phase one environmental site assessment**, so that potential occupants have some assurance that there are no outstanding environmental issues. This is especially significant among the Brownfield sites along the Riverfront. Other environmental factors, such as flood plain and wetlands determinations, should be completed as well. An archaeological study may be necessary, but minimally, the State Historic Preservation Office should be consulted to determine whether further study is necessary, especially if federal funding is to be sought for infrastructure construction.
- In general, industrial sites should impose **minimal impacts on adjoining properties**. Industrial firms will seek sites that do not bother neighbors. Thus, it is best for adjacent and neighboring sites to be similarly industrial, agricultural, or open space. The County Industrial Park site is advantageous, as are many of the Riverfront properties, since the former is in a relatively remote area, with sufficient room and landscape to buffer businesses from one another, and from neighboring uses, and the Riverfront locations have developed in areas where surrounding uses are compatible.
- **Regulatory restrictions**: Relatively fewer restrictions and expedited regulatory processes allow management greater flexibility in preparing the site, constructing the facility, and managing the business. The relative regulatory ease of a smaller, rural local authority such as those in Jefferson County can often help speed such processes. Further, the lack of zoning in much of Jefferson County eliminates one hurdle that may exist for competing sites. However, the lack of zoning should be overcome at industrial sites in unincorporated areas by building and property maintenance standards that guarantee visual quality and protection from adjoining land uses.

- **Fewer construction challenges** to overcome (e.g. topography, tree clearing, etc.) increase speed to market and decrease construction costs. Site preparation and clearance can overcome this issue in many cases.
- **Amenities and Services:** Nearby amenities such as restaurants, shopping, fitness centers, daycare, and recreation facilities add to the competitive advantages of a business park. To the extent that it is feasible, developers can include amenities such as on-site walking/fitness trails within the site plan.

A Deloitte & Touche Fantus study presented to Nebraska's Department of Economic Development included some **standards for rural industrial and business parks**, where it was noted that key site factors will often determine whether a location makes a prospect's first cut; these factors include size, configuration, zoning, type of park, infrastructure in place, prior use, general physical condition, regulatory restrictions, surrounding uses, image and visual appeal, and compatibility issues. Many of these standards can apply to any region of the country, including Jefferson County. The authors recommended these rural development strategies.

- A general industrial park is probably most appropriate for the region.
- For communities looking to attract both office and industrial functions, a combined industrial/business park is recommended.
- Park size will tend to be small (50-100 acres); it may be most practical for the existing park to be expanded in phases along this scale. This phased and conservative development may attract funding sources more readily than a larger, speculative plan.
- White collar office opportunities will tend to be more limited in the rural region, but they should not necessarily be ruled out.
- Communities need to know their strengths and weaknesses; strengths need to include available, ready-to-go locations for prospects (i.e. sites and buildings). Community strengths and weaknesses have been discussed elsewhere in this plan.
- Because of today's speed to market requirement by site seekers, site infrastructure needs to be in place for sites to be immediately ready for building.
- More than three-quarters of manufacturing site seekers and nearly 100 percent of back office site seekers initially seek available facilities. Available buildings can greatly enhance the community's attractiveness during a site search. It would be helpful if one or more investors would commit to the construction of an adaptable, expandable "spec" buildings, which can attract businesses that have a short timetable to ramp up operations, and also helps create the appearance of a tangible business park with existing structures.
- Rural regions' facilities are most likely to house small to mid-sized operations that need "shovel-ready" and pre-permitted sites to develop. These small to mid-sized companies lack specialized internal skills such as property management, engineering and attorneys. For the company, time

spent on facility preparation is time away from the core business. The Port Authority is able to help small businesses minimize time lost to regulatory processes, and should be prepared to assist those businesses in clearing regulatory hurdles.

Other industrial park and site factors mentioned in the report included adequate parking, expansion potential, absence of abandoned mines under property, absence of archaeological significance, aesthetically attractive property, a favorable labor management relations environment, adjacent property descriptions, geology/soils report, lack of rock outcroppings, wetlands or floodplains, site plan and land survey, size of property and/or building, topographic maps, watershed or wetland survey, ample distance from residential areas and schools, crime-safe area or appropriate security, proximity to business amenities (hotels, restaurants, overnight carriers, staffing agencies, child care), covenants, design guidelines, and restrictions affecting development, easements, green or open space, permitting in place, reasonable building permit process and expected timeframe, solid waste disposal, map of highway/ transportation network, rail accessibility review, ready access for cars and trucks, readily available and proximate fire protection and emergency services, digital switching and fiber optic availability, existing utilities, utility rates, and reliability of electric and gas service.

The Jefferson County Port Authority is marketing a variety of sites, ranging from the 3,800 acre New Horizons property to sites of five acres and less for smaller industry. Many of those sites are incorporated in the growth area/future use map included in this plan (Map 28).

Commercial Uses



It is more important than ever to support a successful mix of commercial and retail business in Jefferson County. “Buy Local” campaigns are to be encouraged, and residents should be informed of the high transportation costs to distant destinations in an age where four-dollar gasoline is nearly

a reality, and where County government relies upon the collection of sales taxes from County retailers.

Commercial land use decisions are driven by specific market, visibility, and accessibility requirements, and can also be influenced by the location of competitors. Municipalities can control commercial areas through their zoning ordinances. Commercial activity in Jefferson County tends to fall into three separate types: (1) regional and community-wide destinations

such as the Fort Steuben Mall area, Hollywood Center and the Sunset Blvd. corridor, and locations along the SR 7 corridor; (2) community-based convenience and basic-needs stores in central business districts of large and small communities or in commercial areas such as the southern edge of Toronto; and (3) travel-oriented activities along major corridors and at major intersections along limited access highways.

The largest regional destination is the Fort Steuben Mall area, where strip mall development and individual out lot development has also occurred. Accessibility improvements are underway, improving traffic movement and direction at its entryway, and further improvements have increased accessibility from Route 22 via Lovers Lane.

Opportunities for new retail and commercial activity exist in a number of suitable locations, including property close to the Fort Steuben Mall and behind Lowe's, land immediately south of (behind) the Hollywood Center commercial development, the route 43 and 22 interchange (as well as other interchanges along Route 22 that could be developed if utilities were provided), and properties within or touching central business districts of many of the County's cities and villages. Another emerging area for potential planned mixed-use development is the University Boulevard corridor adjacent to Franciscan University.

The following are recommendations and planning considerations with regard to commercial land uses and development in Jefferson County.

- Nearly every individual interviewed for this plan cited steep regional competition from Robinson Township in Pennsylvania and, to a lesser extent, the Highlands in West Virginia. Jefferson County commercial centers cannot compete on the same scale or deliver the market of these other sites, but can benefit from their location within their surrounding market, and can discover unique complementary activities and destinations that will make shopping in the county a unique experience.
- In older downtowns, newer development should be consistent with existing patterns, with lot sizes and, as much as practicable, building design and construction materials that are consistent with existing buildings. Special consideration must be given to parking adequacy for new commercial business in downtown areas, including a mix of on-street and off-street space.
- Mixed uses should be considered for neighborhood commercial. The long history of the corner store in Steubenville's ethnic neighborhoods should be supported as part of the community's culture. Such businesses support "new urbanist" principles of walkability and a central location within a residential neighborhood.
- The Sunset Boulevard arterial has grown as a commercial corridor serving the entire County. Ideally, such corridors can serve vehicular and pedestrian traffic with the placement of businesses, civic uses, open spaces, evenly spaced intersections, streets and sidewalks, and adequate and convenient parking. Sunset has evolved as a largely automotive-oriented corridor,

but efforts should be encouraged to enhance its appeal to pedestrians and bicyclists, with parking relegated (when feasible) to the side or rear, buildings immediately adjacent to sidewalks with display windows oriented toward the sidewalk, and intentional public gathering opportunities with planned open space (pocket parks, or small plazas). Access management planning is being undertaken for portions of this corridor, and should be extended, to minimize points of conflict between vehicles, pedestrians, and bicycles. A more extensive, multi-jurisdictional corridor plan encompassing Steubenville and Winterville could help develop an overall design, provide a basis for uniformity, provide for the compatibility of land uses and their intensity along the corridor, accommodate traffic flow, and encourage more consistent design elements.

- Infill strategies involving the underutilized commercial space in downtown Steubenville should be supported. Incentives should be considered, including rent subsidies (especially during start-up phases), shared business services and marketing opportunities, and investment incentives such as the Community Reinvestment Area property tax incentive program.

Residential Uses



While this plan has noted that population throughout the County is projected to decrease, as it has done for several decades since the height of the steel and coal industries, the median household size has decreased, and thus the number of households (and therefore the demand for individual housing units) is not decreasing to the extent of the overall population. Further, preferred housing types and characteristics change with the population. An increasingly elderly

population will generally prefer accessible, single story housing designs, maintenance-free condominiums, and locations close to shopping, medical facilities, and community centers. Younger adults often prefer a more urban setting, perhaps with loft apartments, and with walkable access to gathering places and other amenities.

Housing site selection factors often involve location and proximity to commercial, employment, and activity centers, schools, and community parks. Residential parcels should be near other existing residential uses, to reinforce the feeling of “neighborhood”. Other site selection criteria include these:

- Sites should not display any significant environmental influences which cannot be corrected or mitigated, such as excessive noise, physical hazards from railroad, vehicular, or air traffic, high tension power lines or high pressure gas transmission lines, sanitary landfills or salvage yards, sewage treatment plants, stored hazardous materials, buried or spilled hazardous wastes,

operating oil wells, mine shafts, gravel pits, wetlands or 100 year flood plain designation, or prime agricultural soils.

- Parcels must have all the necessary utilities, with a central water supply, as well as a storm and sanitary sewer system, available and adequate for the number of units proposed. A rural location with access to a municipal or county water distribution line should be preferred; being also adjacent to a district sanitary sewer line is even better. Storm water detention or retention basins may be required for adequate storm drainage, depending on site characteristics. The need for extensive on-site or off-site utility infrastructure improvements should be avoided.
- Sites must be of reasonable size and configuration to permit acceptable site planning with adequate open space, circulation, and parking. Sufficient space must be available to accommodate fire safety equipment, solid waste removal trucks, and school buses.
- Sites should be on parcels with sufficient frontage on a dedicated thoroughfare, allowing for adequate ingress and egress, avoiding difficult turning movements or inadequate sight lines.
- Adjacent and nearby uses should be well maintained, aesthetically pleasing, and compatible with residential uses.
- Overall, the County's stock of available housing should present a mix and diversity of housing types, ranging from safe and clean urban settings to low-density rural homes. The market for housing is fragmented, and several important segments are looking for differing characteristics in their housing.
- Residential development should be sensitive to regional issues, including climate, materials and methods, and to regional styles and tradition. Residential style often reflects the region in which it is constructed.
- Mixed-use development, often designed into a "Planned Unit Development" concept, includes a variety of uses within a project. Neighborhood commercial retail can be incorporated in a residential project. Mixed-use development helps provide basic services to residents, increases design options, and creates opportunities for pedestrian-oriented design.
- Development should preserve any areas of ecological value on the site, including streams, lakes, wetlands, mature trees, and known habitat areas. Developers can be compensated for lost development by allowing higher density on some portions of the project site.

Agricultural Uses and Natural Resources

Although agriculture and natural resources are addressed extensively in other portions of this plan, the extraordinarily high proportion of County land that is vacant, forested, or devoted to



agriculture must be mentioned in this land use chapter. This undeveloped land encompasses important watersheds and rare or endangered species’ habitats, as well as tens of thousands of acres of reclaimed strip mined territory. Two documents should be consulted as efforts are targeted to preserve prime farmland

and natural green space; both have been extensively cited elsewhere in the plan. They are:

- The **Farmland Preservation Plan** for Carroll, Harrison, and Jefferson Counties, developed in 2000 by the Tri-County Farmland Preservation Task Force. Recommended local actions include utilizing agriculture as an economic development tool, comprehensive planning, local land trusts to protect land that has agricultural, recreational, scenic, historic, or productive value, acquisition of development rights of farmland, establishment of a rural-urban partnership for planning, and rural zoning.
- The Jefferson County **Trails and Greenways Plan**, developed by a working group and steering committee with a stated mission “to develop trails and protect our greenways while enhancing the quality of life by providing healthy outdoor recreation and economic opportunities linking and strengthening our communities.” A greenway is defined in this plan as a linear connection along a natural or manmade feature connecting people to places. A green space is defined as an uninterrupted tract of forest and field important for environmental and wildlife reasons, as well as aesthetic and scenic appeal.

Important greenways and green spaces were listed in the plan:

Austin Lake	Foxes Bottom wetlands	Ohio River waterfront
Brush Creek riparian corridor	Friendship Park	Reclaimed strip mine areas
Brush Creek Wildlife Area	Fernwood State Forest	Short Creek riparian corridor
Cross Creek riparian corridor	Jefferson Lake State Park	Yellow Creek riparian corridor

Special Land Use Considerations

Some of the distinctive characteristics of Jefferson County point toward specific areas of consideration in land use planning. This section examines several of them.

Infill Development

Jefferson County's communities, from the cities of Steubenville and Toronto to the smaller villages, have witnessed an outmigration of residents and jobs, and changing consumer patterns have emptied many of their downtown storefronts. Industrial, office, and school facilities have also been vacated over time, leaving a stock of vacant and underutilized properties that lend themselves to a concerted infill strategy. Infill strategies can bring properties into more productive use, increase property values and the local tax base, provide opportunities to improve and revitalize a neighborhood, preserve open space and agricultural land by reducing development pressure on "Greenfield" development, and make efficient use of existing community amenities and infrastructure.

Infill strategies must take into account the condition of any aging infrastructure serving the property, existing zoning ordinances that may stifle the creative mixture of land uses, compliance with fire, safety, and building codes when reusing upper stories, and parking demands of residents, customers, and employees.

Infill development strategies promote diversity through the incorporation of a mix of uses, as well as increased and more efficient density of development and promotion of walkable retail districts. Infill planning should incorporate phasing to allow projects to develop in multiple incremental steps.

The Economic Development chapter included an extensive discussion of Brownfields. Many of Jefferson County's infill sites with the greatest potential for redevelopment and productivity are Brownfields. It is imperative that the County and its political subdivisions continue to pursue public and private resources for remediation and redevelopment of many of these sites.

Healthy Communities

Jefferson County has been known to produce an unusually large incidence of health issues, many of which date back to the environmental consequences of former heavy industries. County Health Rankings provided by the Jefferson County Health District indicated that 23 percent of County residents were in poor or fair health, well above the national benchmark of ten percent and Ohio's reported 15 percent. Jefferson County had ten air pollution-ozone days

versus Ohio's six. County residents were also found to have a higher incidence of adult smoking, adult obesity, and physical inactivity than the national benchmark or Ohio averages. Despite the downsizing of much of the heavy industry, some inordinately high pathologies persist in the County and the Ohio Valley, and a concerted effort to adopt a healthier lifestyle could bring significant positive results for County residents.

Land use implications include promoting active and passive outdoor activities through the provision of parks and recreation uses, walking trails, and other outdoor opportunities. Additionally, consideration can be given to developing new or reconfigured roadway corridors as "complete streets" that accommodate safe bicycle and pedestrian traffic as well as vehicles.

Following these designs when practical can lead to physical improvements to the built environment, including making neighborhoods more walkable, reducing dependence on the automobile, taming traffic to reduce pedestrian and bicycle injuries, connecting open space on a community-wide or regional scale using greenways or linear parks, and planting street trees to provide shade. In urban settings, increased density and mixed uses have been shown to lead to improved health. Increased attention has recently been paid to the connection between health, physical activity, and the built environment.

In short, when a community is easier to get around, people can more easily include exercise and physical activity in their daily lives. Ideally, older residents should not have to move out of town as their needs change, and the physical design of communities and streetscapes should accommodate them and encourage them to remain active. Accessible homes and apartments should be located close to senior centers, libraries, stores, and medical services.

Another health component is the preservation of water quality. Growth should be directed away from areas near drinking water sources, and undeveloped land within close proximity of those sources should be preserved. With the Ohio River as a primary water source, extra caution should be given to the location of new activities, especially manufacturers, along the waterfront.

A large component in creating a healthy community is taking steps to develop age-friendly communities. This is especially important in a county such as Jefferson, where the population is noticeably aged. An age-friendly community should keep individuals socially connected and engaged in community life, enhancing everyone's opportunity to be healthy and active. Policies² to achieve this important goal impacting a growing segment of the County's

² These policies are listed by the American Association of Retired Persons as livable community policies and "principles for creating age-friendly communities".

population include leveraging the contributions of older adults, recognizing the value of retaining older adults' connections to both people and places, supporting housing affordability and choice, investing in transportation options for the elderly, improving health (healthy food options, opportunities for walking, biking and exercise, and access to health facilities) fostering safety and personal security (preventing injuries, promoting neighborhood cohesion and maximizing opportunities for residents to be active and engaged), supporting older adults and their family caregivers through long-term supports and services, and engaging residents of all ages in community planning.

Property Maintenance and Nuisance Control

A recurring land use issue throughout Jefferson County is the need for tighter control of property maintenance and the control of nuisance properties. Interviewees cited numerous cases of properties that were unkempt and in need of improvements to their appearance and upkeep. While it is relatively easy to define neglected and nuisance property by statute or law, the challenge in local government is to effectively and comprehensively enforce such a statute. This requires personnel costs to provide for inspections, and to follow through with citations, penalties, and monitoring of corrections and ongoing maintenance. Another challenge is to appropriately strike a balance between the need for public health and safety and the rights of property owners.

Large cities typically create and enforce housing and property maintenance codes, as well as health and sanitation codes. Ohio is one of eleven states that enacted housing and property maintenance codes involving either a requirement or restriction with the purpose of protecting the health of occupying individuals. The reasoning is that buildings and structural surroundings must maintain a certain level of structural and design soundness. State and local governments have difficulty in regulating private homes using health and sanitation codes alone, since products bought and used by a private homeowner varies from one individual to the next. Many localities find the most effective method of regulating health and sanitation inside a private home to be through product safety standards and public education programs.

A typical nuisance code describes public nuisances that can substantially degrade residential and business areas and promote rural blight and deterioration and often violate health and sanitation requirements. Such a code typically exists to provide for the steady and consistent improvement of the general safety, welfare, health, and economic value preservation of properties. Nuisances may involve abandoned manufactured homes, property with accumulation of litter and refuse, storage of personal property in front, side and rear yard areas that are visible to public view, vegetation that is decayed, dead, overgrown, or likely to harbor rats or vermin, abandoned machinery or motor vehicles, and other items that can be specified.

The code allows for declaration of a public nuisance, provides for the right to enter property to inspect it, spells out the procedure for serving property owners in violation with a compliance order, and provides for voluntary compliance or, failing that, abatement by the County with billing to the property owner. Provision is also made for penalties and exemptions, and an appeal process. While such a process may be ideal in order to effectively and comprehensively address blighted conditions throughout a rural county, sufficient manpower must be compensated to ensure effective and equitable monitoring, inspection, and follow-through. Revenues to support this process are limited to demolition permits and any collection of abatement costs and penalties.

North Olmstead, Ohio, has a Real Property Maintenance Initiative where responsibility is shared among several departments. An inventory of vacant properties is maintained by the Law Department, and circulated to the Police and Fire departments. Police monitor properties to prevent theft of copper piping and to prevent break-ins. The Fire Department monitors for frozen pipes and possible arson attempts. The Building Department conducts a complete exterior inspection and cites the owner, as necessary. The Service Department refers all high grass and weed complaints to a mowing service and a lien is filed against the property for the cost of mowing. The City of Sandusky has a similar initiative and conducts a vacant property registry overseen by the Fire Department; some 50 cities in Ohio have vacant property registries. Ohio Fire Code 311 regulates vacant buildings. There is a \$400 vacant building registration fee in Sandusky, and fees double every year. Inspections are made by staff one day per month.

In Prince William County, VA, the Neighborhood Leaders Group brings together individuals interested in neighborhood improvements and the county staff responsible for preventing neighborhood deterioration. Group members strategize solutions to neighborhood problems, provide input to county staff on enforcement issues, learn about property maintenance codes, and implement action plans. Special projects include county cleanup days and exterior home repairs for economically distressed residents. One cleanup produced three roll-off dumpsters full of trash and volunteers recruited 20 new members. Further, experience shows that an upbeat, positive attitude in approaching a neighbor about a property code violation, coupled with perseverance, can influence behavior more effectively than accusations or threats to call the authorities.

Ohio Revised Code 3767.41 enables certain entities (municipalities, nonprofit development groups, a neighbor within 500 feet, a tenant) to use the court system to require abatement of nuisance properties, even to the extent that they can take possession of the building if the owner does not act. The ORC provides for relief through a judicial order by an injunction that

will require the owner to abate the public nuisance within thirty days, by abatement of the nuisance by an “interested party” approved by the court, or through receivership, in which a receiver is appointed to take possession and take control of the building and abate the public nuisance. Under this section, the building must have a residential component, and must be a nuisance (which could involve being non-code compliant).

One other option in localities that cannot support full-time staff devoted to code enforcement is to contract with an outside entity that can provide these services. Firms exist that can administer a building and nuisance code on a part-time basis, and provide inspection services as needed.

Recommended Growth Areas

The recent and projected population decline in Jefferson County is mitigated by the growth of the shale extraction industry and the multipliers in other sectors that result from the activity generated by new businesses and employees. Formerly used commercial and manufacturing facilities are not acceptable for many new manufacturing processes and for commercial business that adopt corporate building design standards. Housing needs will change as well, as the growing elderly segment desires accessible single-story units, congregate facilities, and maintenance-free condominiums, and new employees seek newer owner-occupied and rental housing units in all price ranges. Thus, vacant and developable land, whether in a Greenfield on the urban edge, in a rural area, in a central business district with vacant buildings and lots, within an “infill” or redeveloping Brownfield area, or in a commercial center with available vacant lots, will continue to be in demand by all sectors, to varying degrees, and it is important to recognize this potential need and identify available property in order to position the county for desired growth. Further, it is important to promote growth in those locations that can support allowable land uses, with the cost-effective provision of utilities and local government services. Sites should ideally be:

- Served by adjacent water, sewer, and energy utility service and distribution systems;
- Adjacent to roadway systems that will adequately, safely, and efficiently serve new traffic generated by the new land use, with highway access for more intensive uses;
- Located strategically in relation to inputs, markets, and customers (or for residential uses, employers, schools, stores, health care, and other destinations).
- Located on property that is free of environmental hazards, with no environmentally sensitive features (wetlands, flood plains, endangered or rare species habitats) on the site.
- On land with suitable soil characteristics for development, and with level to gently sloping topography.
- Located away from prime farmland or open/green space identified in the County’s open space/greenway plan.

Based on the input of county and regional officials, those attending public meetings, contributors to the public survey, and the input of the core group, the following series of recommendations is intended to help guide the growth of the county in a responsible and cost-effective manner, with minimal need to extend new utilities, upgrade over-capacity roadways, or require excessive travel times between common origins and destinations.

A map depicting generalized primary growth areas by land use is attached as Map 28. In addition to the growth areas depicted on the map, highway and roadway corridors with public water distribution lines are also indicated, and these corridors (particularly on state routes) also provide opportunities for mixed use development (residential, commercial and service, and light manufacturing) on sites that do not contain environmentally sensitive features or prime farmland.

Industrial Land Use

With the advent of the Utica shale play, demand has increased for industrial properties to serve midstream and downstream industries, as well as suppliers. Demand for industrial property, or for distribution and logistics activity, covers a large range of land sizes, from five acres for smaller plants to several hundred acres for large operations such as the Wal Mart facility. Fortunately, Jefferson County has a wide variety of properties with the prerequisites necessary to consider them “shovel-ready”. Targeted growth areas include:

- The vicinity of the existing County Industrial Park, including the sizeable New Horizons property, with ready access to the US 22/SR 43 intersection. Several specific sites in this area and their owners are listed in the Jefferson County Port Authority site data base, which is linked to the statewide JobsOhio “InSite” data base. The industrial park itself is a key site for future investment, and efforts underway to expand the available acreage at this Park are encouraged. There are several additional sites within close proximity of the Route 43/22 intersection, both north and south of Route 22. With the potential for increased activity in this area, steps will become necessary to mitigate the impacts of growth and to accommodate this growth, including possible roadway improvements to safely and effectively handle traffic and turning movements, and extension of sewer collection lines to accommodate industrial and other economic activity.
- Brownfield sites and targeted industrial sites extending along the Ohio River-Route 7 corridor, including former steel mill locations, are key manufacturing sites. These sites are accessible by river, highway, and rail transportation, and are positioned for any industry’s transshipment requirements. Many of the sites can house extensive manufacturing processes, as they have in the past, with no significant negative impact on nearby land uses. These sites have been listed in the Economic Development chapter, and include locations in the Pottery Addition and other sites in Steubenville and Toronto, as well as other areas. The Route 7 corridor from Yorkville north to Toronto can be considered a mixed-use growth corridor, with alternating industrial and

recreational, river-oriented uses. Primary sites include the former steel mill facilities in Steubenville, the Mingo Steel Works site, and the former RG Steel facility in Yorkville.

- Although there is a focus on the 22/43 intersection and the Route 7 corridor as primary locations for industry, other significant sites exist within the county and hold sufficient potential to be included as targeted growth areas. These include a 31 acre site on SR 213 in Hammondsville, a 498 acre site in Irondale with potential rail and State Route access, and a 160 acre former mine property within close proximity of SR 43, with a former rail line that could be reinstalled. Sites for light industry and other uses are also available in the Jefferson County Airpark in Wintersville. These sites are ideal for a small corporation placing high value on proximity to the regional airport.

Many of these inland sites typically would require more infrastructure investment. Industrial-capacity water, wastewater, and energy needs have been provided for decades along the Ohio River Valley, and water (and very limited sewer) distribution has only come more recently to portions of the more rural, western regions of the county.

Commercial Land Use

- Highway-oriented commercial activity, including restaurants, vehicle service centers, and hotels, can be targeted to key intersections along the route 22 and 7 corridors. The SR 43/US 22 intersection is a likely site for further travel-oriented activity, as is the vicinity of the convergence of US 22 with SR 7 in Steubenville.
- The established commercial center in Jefferson County is the Sunset Blvd. corridor and adjacent centers of concentrated activity including the Fort Steuben Mall and surrounding strip centers, “big box” stores, and out lots housing restaurants, entertainment, and other retail facilities. Additional developable land is available behind the Lowes property. Another location along this corridor witnessing significant investment is the Hollywood center. There is opportunity for growth in this area.
- Smaller parcels may exist along the SR 7 corridor. New commercial activity has grown in a concentrated area on Toronto’s south side, and additional activities could develop in that area. A six-acre lot is available for commercial development in Tiltonsville.
- The County’s Central Business Districts present opportunities for niche and locally-owned retail and commercial activity. Some vacant downtown properties may be suitable for office and supplier activities responding to the needs of the shale extraction industry. Steubenville’s downtown building stock provides excess space and capacity for new activity in retail, service, office, and entertainment uses. Many of the smaller downtown districts also house vacant properties that could be redeveloped for local retail and service enterprises. These locations are

already serviced by utilities, are located along well maintained and high-capacity state routes, and parking is already in place on- and off-street.

- The University Drive “green strip” extending from its intersection with Route 7 along the perimeter of Franciscan University presents an opportunity for planned mixed-use development. A new hotel has been constructed near Route 7, and the University has been developing an extensive plan for the reuse of some of their developed property and the development of additional property south of University Drive.
- Another site which presents a potential for mixed use development is Steubenville’s South End Development Project. The City administration initially land-banked property in the south end of downtown Steubenville, intending to develop this area for industrial use. However, the city curtailed its acquisition of properties, and alternative uses may be considered in the future.

Residential Land Use

Jefferson County’s oldest concentrations of housing are in the river communities, close to their Central Business Districts, and newer housing radiated outward from these locations near the river. Most notably, housing subdivisions extended westerly from downtown Steubenville, up the hills and along the Route 43 corridor into Wintersville and beyond.

- It is recommended that any new congregate housing for the elderly be located within close proximity of the Route 43 corridor in Steubenville and Wintersville, in order to provide easy access to shopping, cultural, and health care destinations, as well as public transportation.
- Suitable sites exist for new single family or condominium housing. Potential sites include Bantam Ridge, with nearly 15 acres available on Bantam Ridge Road in Wintersville; Stanton Heights in Steubenville, with 8.5 acres available on Stanton Blvd., and property in the Fort Steubenville Mall area behind Lowes, which has mixed-use potential.
- Demand will continue to exist for new low-density housing along rural routes. It is recommended that such housing be constructed along corridors that are served by regional water lines and, if possible, regional sewer lines as well. A map of water distribution lines is included in this plan as Map 21.
- As with other land uses, some potential exists for infill housing development within and close to the Central Business Districts of the County’s municipalities. In addition to upper stories over downtown storefronts, vacant lots within walkable distance of downtown destinations would present excellent opportunities for new infill housing.

Land Use Tools

A number of tools are enabled by state, federal, and local jurisdictions to encourage investment in preferred land uses, and to guide development to locations that are most suitable and compatible with each use. It is important to ensure that such tools achieve locally desired goals, which include cost-effectiveness in the provision of public services and utilities, minimal impact on the condition of public roadways and other facilities, and fair, consistent, and beneficial increases in the tax base of county and local jurisdictions. Another over-arching goal is to achieve the highest and best use of land in any location. Implicit within this goal is the preservation of prime agricultural land, the location of industry along major transportation corridors, and the location of housing within relatively close proximity of residents' common destinations, as well as the location of all activities in a site that will be compatible adjacent and nearby land uses.

A variety of tools can be used to bring about efficient development that will be consistently beneficial across Jefferson County for decades to come. Any positive impact of a land use tool must be weighed in light of its impact on individual property rights, and the community's benefit must be well understood and supported in order to effectively initiate new land use and planning tools. However, if locally approved for implementation and applied strategically, any of the following tools can play an important role in shaping an optimal Jefferson County of the future, guiding desirable development without losing the unique and rural character that residents treasure.

1. **Subdivision Regulations** are design standards for street widths, setbacks, open space, and other features to ensure livability in new subdivisions. In unincorporated areas, subdivision regulations are issued and enforced by the Jefferson County Regional Planning Commission. Cities may control the subdivision of land within three miles of their corporate boundaries. Subdivision regulations provide for sufficient open space for traffic, utility hook-ups, and emergency service access, and they regulate density to prevent over-crowding and over-use of resources. Subdivision regulations also ensure accurate title records and proper development standards that assist in meeting the goals and policies of the community.
2. **Impact Fees and Exactions** are fees to pay for infrastructure improvements which are required from a developer to offset the cost of new development. Impact fees require developers to pay a calculated charge based on the type of development that they plan to build and the projected impact that it will have on local public facilities. Impact fees and exactions are legal in Ohio if a nexus exists between the impact of new development and the improvements financed or exacted using these techniques. Those who pay should be the beneficiaries.

3. **Local Land Trusts**, as recommended in the Farmland Preservation Plan, are private, nonprofit corporations that can be established to protect land with agricultural, recreational, scenic, historic, or productive value. A local land trust can own land outright or it can hold a conservation easement through purchase, donation, or life estate plans. Land trusts can provide technical assistance to landowners considering land preservation options.
4. **Transfer of Development Rights** is a method for protecting land by transferring the rights to develop land to an individual, organization, or government entity. Development rights can be sold, leased, donated, or transferred by a property owner, without selling the land. Transfer of development rights was enabled by Senate Bill 223 in 1999, allowing local communities to create and fund local programs to purchase or develop development rights. Potential sources of funding include real estate transfer tax revenue, general appropriations, sales tax revenue, and bonds.
5. **Rural Zoning** is a locally-enacted law which regulates and controls the use of private property. It can regulate land use in order to prevent land use conflicts and allow growth to occur in a rational manner. Under rural zoning, certain areas can be designated solely for agricultural use. **Agricultural zoning** only controls land designated as agricultural and can help communities protect the economic viability of agriculture and reduce competition for land between farmers and developers, keeping the cost of farmland reasonable. Conditional Use Zoning can then be used to provisionally allow non-farm uses based on discretionary standards.

Authorities typically base their decisions on whether the use is consistent with the purposes of the zone, and standards for the decision may include whether the use is compatible with surrounding uses, whether the use adversely affects environmental areas, and how much the use would add to public service costs.

While this plan is not endorsing the enactment of rural or agricultural zoning, it is presented here as one option which can be used to guide growth and protect agricultural property.

6. **Performance Zoning** is a land use planning concept that establishes performance standards for a specified area rather than specification standards or the more common division of land uses and minimum requirements resulting from “Euclidian” zoning. Performance zoning regulates the effects or impact of land uses through performance standards which concern such factors as traffic flow, density, noise, and access to light and air. Developers can build almost any building that meets the performance standards for that district, regardless of use. Thus, performance zoning allows for a large amount of flexibility.
7. **Cluster Development** can often help achieve maximum use of a development site, by allowing higher density development in one portion of that site while leaving intact an environmental feature or open space in another portion of the site. In this scenario, important natural, cultural, or recreational features of the landscape are preserved and protected while new

development of necessary overall intensity to make the project viable is allowed. However, cluster designs must ensure there is proper space for recharge of well water and leaching of septic systems, if public systems are not available. Such developments are sometimes referred to as **Planned Unit Developments**, and include mixed uses.

8. **Site Plan Review** refers to the application of a certain set of criteria to new development proposals. Common criteria address landscaping, buffering, signage, lighting, access, open space, storm water runoff, and impervious surface criteria.
9. **Development Agreements** are contracts between the developer and a local government, where the developer provides compensation to the local government for off-site impacts such as traffic control, storm water and other environmental impacts. In exchange, the local government agrees to approve the development proposal. Road use agreements with shale well developers are a form of development agreement.
10. **Urban Service Areas** are the boundaries beyond which water, sewer, and other urban services would not be extended and beyond which urban-level development would not take place. Enacting urban service areas helps reduce the cost of public utilities, plans the direction of future development, and helps to minimize sprawl. There is currently no enabling legislation in Ohio to create Urban Service Areas. Cooperation is necessary from the appropriate jurisdictions to enforce this policy.
11. **Concurrency** is a government policy requiring the availability of public services (water, sewer, roads and schools, etc.) before a new development is approved for construction. Concurrency compares the availability and adequacy of service provisions to the timing and amount of land use demand. This policy ensures that new facilities can be financed and that development and services occur simultaneously.
12. **Special Planning Districts** are new districts to regulate development in areas that contain sensitive or unique environmental, historic, architectural, or other features. These areas often require special additional protection and flexibility. Special planning districts can replace zoning districts with specific development guidelines and policies to encourage creative and sensitive site planning. They allow a greater range or mixture of compatible uses that would not be allowable in standard zoning classifications, and they require features that protect against negative impacts of incompatible land uses and environmental hazards. One example is a floodplain zoning district.
13. **A Conservation Easement** is a means to set aside open fields, wooded streams, historic sites, and green spaces in areas that may become urbanized. A conservation easement is the transfer of land rights to a qualified recipient organization, which is then responsible for monitoring the land, and ensuring that the restrictions are being met. The easement provides long term protection of private land, and is a legal tool that is modified to fit a variety of situations; the

landowner retains ownership of the land. It is enacted by an individual landowner and either a governmental agency or a private conservation organization such as a land trust. Land can also be protected and uses restricted through an outright donation, as a charitable gift, to a conservation trust.

14. **Deed Restrictions** can be required of new developments, or negotiated with current landowners. Such restrictions include prohibiting certain activities that may harm environmentally sensitive areas on the property. These restrictions are enacted by county and local planning agencies. The program is voluntary, and local agencies have no control over which areas are targets.
15. **Community Land Trusts** are a special type of land trust whose primary focus is to create affordable housing and to maintain its affordability over the long term. A CLT is a nonprofit organization that typically acquires and holds land, but sells off any residential or commercial buildings that are on the land. This is often done by purchasing land with private funds and making it available at reduced or no cost to qualified buyers. The goal is to obtain higher rates of homeownership to help stabilize and strengthen communities and provide homeownership opportunities to people who may otherwise be left out of the market.
16. **Agricultural Districts** are areas that are devoted exclusively to agriculture, and can be considered a legal designation that allows qualifying farmers to defer utility assessments if farming is continued on the land. Ohio farmers are eligible if they have at least ten acres of land that have been in agriculture for the past three years. Farmers with smaller acreage can qualify if their land generated an average of at least \$2,500 in gross farm income over the past three years. The land does not have to be contiguous, but it does have to be farmed with the same equipment and personnel. Farmers can enact this tool through the county auditor's office or through the city or village administration, depending on the jurisdiction. In addition to allowing farmers to defer utility assessments until they change the use of their land, the districts also give farmers legal protection against nuisance suits and provide for possible further review in the event that the local government utilizes its powers of eminent domain.
17. **Current Agricultural Use Value** (CAUV) is a program that permits land in agricultural use to receive a tax savings equal to "the difference between the dollar amount of real property taxes levied in any year on land valued and assessed in accordance with its current agricultural use value and the dollar amount of real property taxes which would have been levied upon such land if it had been valued and assessed for such year in accordance with Section 2, Article XXII of the Ohio Constitution." The program establishes minimum eligibility standards, as well as penalties if the land is removed from agricultural use. If accepted, a farmer pays taxes on the agricultural value of the farm, not on its development value.
18. **The Forest Tax** is a state program that reduces property taxes by 50 percent if the owner maintains approved forest management practices. Landowners with woodland tracts of ten

acres or more that are certified as forest land by the state and located outside the limits of incorporated areas are eligible. The land must be managed as a woodlot, which may include commercial cutting, and cannot be used for grazing or enrolled in CAUV.

19. **Special Designation** is given to a special resource that is recognized as having natural and cultural value. Examples are the Ohio Natural Areas program, the National Historic Landmark program, and the National Register of Historic Places. Advantages vary with the program, but may qualify a property for property tax credits.
20. **Enterprise Zones**, in Ohio, are areas in which local governments can provide real property tax incentives to promote a significant job-creating manufacturing or distribution/ warehousing business location or expansion within the zone. Enterprise zones can help guide significant industrial investments to preferred areas, and can help a locality compete with other locations for new activity. Enterprise Zone agreements require local legislative and school board approval, and coordination with the Ohio Development Services Agency.
21. **Community Reinvestment Areas**, in Ohio, are locally designated districts within municipalities where real property tax incentives may apply to new investment in either new or improved properties. This program can apply to industrial, commercial, and/or residential properties within the designated zone. The program is administered locally and coordinated with the Ohio Development Services Agency. This program can help guide development to targeted regions.
22. **Use of the Port Authority to Control Land Use:** The newly-formed Jefferson County Port Authority is authorized through Ohio Revised Code chapter 4582 to acquire, construct, equip, maintain, repair, sell, exchange, lease to or from, or operate real or personal property, related to any authorized purpose. Sale of property below fair market value is allowed provided the sale is within the Port Authority's developmental role. It can also issue general obligation bonds or notes for acquisition, construction, furnishing or equipping of any real or personal property, and can make loans for these purposes as well. The ability to acquire and sell real property is especially important in its ability to control the use of specific targeted land parcels and sites. The Port Authority could, for example, purchase land, develop an industrial park, and sell parcels to prospective new employers.
23. **Joint Economic Development Districts (JEDDs)** in Ohio are cooperative economic development projects between a municipality and one or more adjacent townships. This arrangement often can help provide for water and sewer, fire and police, street maintenance, trash pickup, and planning services. JEDDs pay for the cost of these services by imposing an income tax on non-residential property owners within the district. JEDDs allow for the levying of a district-wide income tax and the provision of municipal services in the unincorporated areas, to facilitate economic development. A JEDD can be used to guide economic development to that district, where needed facilities and services can be provided through this shared revenue arrangement. Another similar tool in Ohio is the **Cooperative Economic Development Agreement**, or CEDA. A

County, State, or State agency can become a party to a CEDA, unlike the JEDD arrangement. Both tools require public notification and a hearing process.

24. **Tax Increment Financing** (TIF) is another method, similar to Enterprise Zones in administration, to divert a portion of property taxes paid on new real property investments to make a stream of payments on a public infrastructure improvement needed to spur that investment. A TIF can guide development to a specific land area that will benefit from the new infrastructure.

25. **County Land Banks** were authorized in Ohio in 2010 for counties with populations of more than 60,000 people. The process involves authorization and incorporation of a Land Reutilization Corporation (LRC) by the County Commissioners and County Treasurer, respectively. The LRC can then acquire tax foreclosed properties and certain other properties, and resell property to a qualified buyer or rehabber, conduct infill development or create green space, create urban gardens, or hold property for strategic assembly for economic development. In this manner, land banks return vacant and abandoned properties to productive use, thus stabilizing and restoring neighborhoods. With well over 60,000 residents, Jefferson County is eligible to consider and adopt a land bank.

Land Use Goals

9.1 Maintain balanced growth that preserves the natural features, rural character, and prime agricultural land in Jefferson County. Support the findings, goals, and objectives of the Carroll, Harrison, and Jefferson County farmland Preservation Plan. Maintaining rural character, scenery, and natural features will also enhance tourism in Jefferson County.

9.2 To the maximum extent feasible, maintain a compact community pattern and promote efficiency in circulation and infrastructure. Minimize the need to expand utility service areas beyond the urban fringe or municipal boundaries. Minimize the potential for sprawl, loss of farmland, and “leapfrog” development. Where possible, discourage very-low-density residential development that takes prime agricultural land out of production. Guide growth to those corridors where public water lines (and, to a more limited extent, sanitary sewer lines) already exist, and where roadways can accommodate the projected additional traffic.

9.3. Encourage infill development in large Brownfield locations along the Ohio River, and in Central Business Districts and close-in neighborhoods.

9.4 Promote mixed use development, adaptive reuse of older commercial buildings, and conversion of upper floors to housing in central business districts. Promote a blend of retail commercial, service, office, restaurant, and entertainment uses.

9.5 Where possible, concentrate future commercial development in a walkable, village-like setting to encourage pedestrian-friendly development and a neighborhood atmosphere. Accommodate pedestrians and bicycles where practical through street designs with provision for all modes of transportation, and with access management planning to minimize traffic and vehicle/pedestrian conflicts. Tie communities into the county-wide bicycle path/trail plan, and promote the development of sidewalks in walkable, high-density developments.

9.6 Continue to support the goals and objectives of the Trail and Greenway Plan recently developed for Jefferson County. Apply that Plan's recommendations comprehensively and county-wide.

9.7 Support developments that are compatible with established neighboring uses, and that do not produce land use conflicts. Encourage transitional development areas and buffering between areas of differing intensities of use (such as recreational areas within close proximity of industrial growth areas along the riverfront), and between "urbanizing" and relatively rural uses.

9.8 Maintain diverse, viable, and competitive locations for industrial development to ensure flexibility and capacity to respond to economic development prospects. Use the tools available to the County and the Port Authority to respond to prospective businesses.

9.8 Preserve and maintain the existing character and mix of Jefferson County's commercial, residential, industrial, agricultural/open space, and other land uses. Maintain those characteristics that residents cherish most about their rural county.

9.9 Promote the identity, sense of place, and public awareness of the County by creating attractive and distinctive gateways at high-traffic entrances into the County, along U.S. 22, S.R. 7, and S.R. 43.

9.10 Support processes that encourage citizen participation, building a sense of community and creating a genuine investment in the future of Jefferson County. Continue and expand interactive citizen involvement and opportunities for citizens to get involved.

9.11 Continue to be prepared for new economic activity, through the maintenance of an updated data base of available and suitable industrial and commercial buildings and sites. Additionally, build upon the existing data base within the Geographic Information Systems (GIS) within County offices. Ensure compatibility among County-wide GIS data and mapping.

9.12 Seek an affordable but effective method to monitor and correct nuisance properties throughout Jefferson County, within municipalities and in unincorporated rural areas as well, with a property maintenance code that can be equitably but effectively enforced. Consider a

“neighborhood watch” approach, as well as contracting administrative functions to an outside contractor/consultant.

9.13 Ensure that County and local jurisdictions’ planning is conducted in collaboration with local institutions and entities that have developed strategic planning of their own.

9.14 Promote the use of Capital Improvements Planning to prioritize projects and allocate budgeted funds to the highest-priority needs.

9.15 Ensure that this land use plan continues to guide practical land use and development decisions, through a system of plan and project review and modification. It is recommended that the Core Group reconvene every two years to review and revise, as appropriate, the goals forwarded in this plan.