

In this section we address our community's land development policies. The following topics are covered:

- ◆ **Analysis of Development Constraints.** Land development is constrained by the need to protect the environment, to provide necessary urban services, and to create compatible relationships between diverse land uses. We analyze these constraints, and then we set priorities for how important these constraints are to development patterns.
- ◆ **Review of Current Trends and Issues.** We address the following questions: How do recent development trends compare with the adopted land use goals and objectives and with development policies currently in effect? What are the most significant current issues? How should we respond to them? Should we change any policies?
- ◆ **Summary of Land Development Policies.** Finally, we summarize our policies to guide future land development, incorporating recommendations from the review of current trends and issues. These policies serve as parameters for the Land Use Plan, its map and criteria (Section 440).

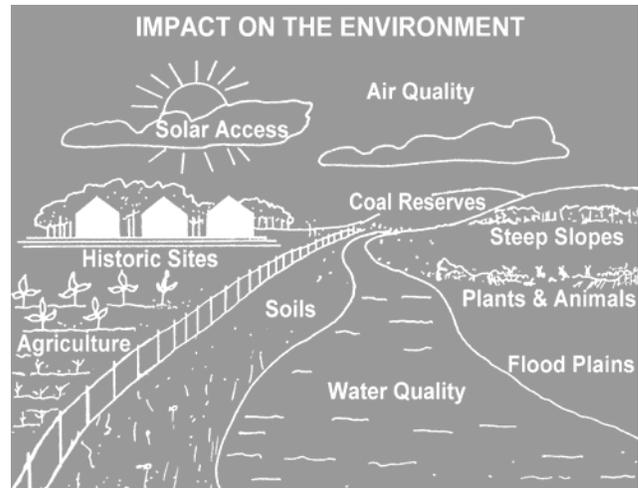
ANALYSIS OF DEVELOPMENT CONSTRAINTS

As we develop our community, we affect the land, our community's basic physical resource. In a broad sense, the land comprises the sun, soil, rocks, water, air, plant life and wildlife. These land elements have been and will continue to be highly important to our community's future development, since they provide ...

- ◆ The air we breathe and the water we drink,
- ◆ The basis for the food and fiber we grow,
- ◆ The materials from which we make all of our physical artifacts,
- ◆ The resources from which we produce energy,
- ◆ The foundation upon which we construct all our buildings, and
- ◆ A natural environment necessary for our emotional health and intellectual growth.

As we build more houses, streets, stores, industries, schools, etc., the process of urbanization will necessarily impact both the natural and built environments. If we wish to make our community primarily a place of and for people, and to achieve a good quality of life, we must recognize certain constraints upon how we develop the land. These constraints arise from the following needs:

- ◆ To protect fragile areas of the environment from detrimental impacts of urban development,
- ◆ To provide necessary urban services to protect the public welfare and to provide relief to the natural environment, and
- ◆ To create compatible relationships between diverse urban land uses, and also between urban and rural activities.



URBAN DEVELOPMENT AND THE ENVIRONMENT

Below is an accounting of various fragile areas of the environment, the impacts of urbanization upon them, and the significance of these impacts to the community. The topics are listed in order, as they appear in the indicated Sections of Part 700.

Solar Access (710)

Typical development patterns of streets, lots and buildings provide access to the sun's rays only by happenstance, limiting the potential widespread use of passive solar energy. Presently, this is not considered of major significance, because adequate sites are available to individuals who wish to use this alternative form of energy. However, if community interest should increase, then particular techniques may be used to protect solar access. One technique would be to increase the proportion of east-west subdivision streets, which would generally allow the longest walls of buildings to face the majority of the sun's daily rays.

Coal Reserves (720)

Urban development atop or in close proximity to accessible coal reserves reduces the ability to retrieve that coal by surface mining. Development, especially residential development, and coal mining are generally considered mutually intrusive. This has been a controversial issue in the community since the 1980s, and is discussed further under "Review of Past & Current Trends and Issues" starting on page 436.

Soils (720)

Alpha includes an analysis of the physical characteristics of the six major soil associations in Daviess County, in terms of their compatibility with urban development. Development outside of flood plains is considered acceptable with all soil groups with respect to depths to bedrock and fragipan, soil drainage, shrink-swell, erodibility, and slope (with appropriate design; more below). However, all soil types generally present problems for septic tanks due to poor soil permeability and shallow depths to seasonal high water tables. These soil characteristics present a significant constraint to urban development that occurs beyond the reach of planned sanitary sewers. Any development without sewers must be limited to densities that accommodate effective use of onsite sanitary sewage systems. (Refer to "Sanitary Sewage Disposal" on page 434.)

Steep Slopes (720)

Urban development on steep slopes (16% or greater) causes soil erosion, increased flooding, and higher development costs. This is of limited significance because there are relatively few areas of steep slopes in Daviess County, and they are primarily located in rural areas. Alternatives to reduce negative impacts include maintaining such areas in their natural state or construction of housing at very low or very high densities, which can absorb higher development costs.

Plant & Animal Life (730)

Urban development typically impacts plant and animal life, which can lead to losses of unrenewable resources, and possible extinction of unique wildlife species. Although some loss of wildlife is inevitable with more urban development, we should retain unique areas, especially wetlands, in their natural state. This is becoming a national issue, and has led to more rigorous federal and state programs to protect the unique and important habitats that wetlands nurture.

Flood Plains (740)

Most land uses associated with urban development are extremely incompatible with flood plains - those areas of land that are inundated during intense rainfall. Buildings, filled land, or materials stored outdoors can block floodways, and thus increase flood elevations to the point that loss of property or life results. This issue is of such major significance to our community that our local government has regulated building construction relative to flood plains since 1980, under the National Flood Insurance Program. Through this regulation, floodways are kept unobstructed. Acceptable land uses in floodways include agriculture, recreational areas, private lawns, parking areas, and similar open-space uses.

Prime Agricultural Land (750)

Urban development of prime farmland forces farmers to move to inferior soils or drop out of farming altogether. Storm runoff from urban development carries chemicals harmful to farmland and increases soil erosion. Urban sprawl creates speculation over land development and increases land prices. Urban traffic congests rural farm-to-market roads. All of these effects increase the cost of farming in our community. Because Daviess County has an extraordinary supply of prime agricultural land, our local economy, and the hungry everywhere, will benefit by our continued efficient production of food and fiber.

Historic & Archaeological Sites (760)

Urban development may threaten the loss of artifacts of ancient peoples, but more commonly disregards urban and rural examples of our community's historical past: old buildings and historical sites. Unique, irreplaceable architecture in redevelopment areas is especially vulnerable.

However, in recent years historic preservation has gained greater support throughout the country, as well as in our community, as its value to economic development is recognized. Maintaining our community's unique character, of which historic buildings are a major part, helps draw tourists. This idea is promoted in the Downtown Plan (Section 460).

A significant federal constraint on urban development is the "Section 106" process, which applies when the use of federal funds may affect buildings or sites eligible for the National Register of Historic Places. Local development policies can provide special recognition and incentives to encourage retention and rehabilitation of these links to our past.

Since 1989, Owensboro's Downtown Core has been subject to voluntary design guidelines that recognize the importance of historic commercial architecture. In 1999, the City of Owensboro adopted a historic preservation ordinance, which will allow local historic districts and landmarks to be designated, including residential areas. Within each designated historic district, construction and demolition activity may be subject to a set of mandatory design guidelines that are specific to the district.

Water Quality (770)

A significant issue for our community is that urban development produces contaminants affecting the quality of our water. Non-point sources of pollution entering the hydrologic system include leakage of wastes from sanitary sewers, storm water runoff carrying a wide range of chemicals from streets and buildings, and soil erosion from construction sites. Point sources of pollution come from industrial and sanitary treatment plant discharges. Concentration of urban development allows for more efficient control of these pollution sources, and might ultimately be mandated by tighter federal and state controls for communities as small as ours. The Kentucky Division of Water administers regulations addressing these sources of pollution to our water, and the quality of water supplied by OMU.

Air Quality (780)

Urban development results in industrial pollutants, automobile pollutants, and increased dust fall from construction activities. The Kentucky Division for Air Quality administers regulations that constrain the levels of these sources of air pollution. This issue is of major significance to our community. With growing national concern about ambient air quality, pollution controls have been and are likely to be further tightened, especially on coal-fired power generation. This could increase power costs and might constrain expansion of energy-dependent industries. Since the mid 1990s, stiffer environmental constraints have depressed the market for high-sulfur coal, resulting in a decline in local surface coal mining. Tighter air quality rules in the future could further impact our local economy.

Noise Control (790)

Heavy industry, airport expansion, high-traffic thoroughfares, and outdoor arenas present the greatest potential for the creation of permanent sources of objectionable noise. Noise control declined as a federal and state priority during the 1980s. Currently, the state Environmental Protection Cabinet serves only as an advisory group to local governments in the preparation of noise control ordinances. Owensboro regulates noise under its general nuisance ordinance, but allows specific exceptions for special, outdoor public events. This issue is of relatively minor concern in our community. Noise problems can be mitigated by policies that seek to buffer noise-generating land uses from residential areas.



CAPACITY AND AVAILABILITY OF URBAN SERVICES

An urban environment generates a need for a variety of services from streets to sanitary sewers. Most of these services are designed either to protect the public welfare and health or to provide relief to the natural environment or urban dweller. The amount of urban development we can accommodate will be constrained by the capacity of our urban services. And, the location of urban development will be constrained by our ability to deliver necessary services to different areas of the county.

Below, we review a list of transportation and other community facilities from parts 500 and 600 of this document. First, we evaluate in general whether each urban service satisfies existing demand and its capacity to provide for future needs. Second, we consider whether each service is essential to future development, and if so, how availability of such an essential service might constrain the location of future development.

Highways, Streets & Roads (510)

These facilities generally satisfy current demand with some exceptions. Particular urban thoroughfares are congested because of too many property access points or too few traffic lanes. And, safety problems have arisen on particular, deficient rural roads where the number of homes has increased, even though many rural roads and bridges have been improved over the years.

Generally, new local streets will be able to provide for future needs because they will be built into any new developments. Highways and major streets in the Urban Service Area will be improved through ongoing transportation planning and implementation of priority projects. Rural roads may experience more congestion and safety problems to the extent that urban sprawl occurs.

Adequate highways, streets and roads are integral and essential to urban development. The capacity and availability of roadways significantly constrain appropriate locations for future urban development and the quality of the urban environment. We face great costs in improving roadways to relieve traffic congestion resulting from growth. Therefore, we must devise land use policies and plans that use our highways, streets and roads efficiently.

Public Transit (520)

The Owensboro Transit System is meeting current needs for transit services, primarily for low- to moderate-income persons. Funding for this service is possible only through heavy subsidies from the federal and local governments. The provision of future service is uncertain, and considered very dependent on continued federal funding. Although public transit is generally not essential to the location of future development in Daviess County, it does provide mobility for persons without private means of transportation.

Airport (530)

The airport presently satisfies local demand for air travel, and could be improved to meet projected needs. Proximity to the airport would be critical primarily to any air-related industries recruited through economic development efforts. If air traffic increases, noise levels could also increase in the vicinity of the airport. Therefore, inappropriate development, especially residential, should not occur near the airport.

Waterways & Riverport (540)

The Ohio and Green rivers, the Owensboro Riverport, and other river terminals satisfy current demand for shipping commodities by barge. These facilities could be improved for greater capacity. Additional sites are available for industries needing access to water.

Railways (550)

Declines in rail service to our community have forced many local industries to switch to other means for shipping commodities. Because the future of rail availability is uncertain, it is likely that most industries that will expand in our community will not rely exclusively or extensively on rail service.

Bikeways (560)

There is little community awareness of existing officially designated bikeways, which are not believed to serve a significant portion of bicycle trips in the community. There has been some interest expressed in expanding or revamping the bikeway system, especially in conjunction with the City of Owensboro's Greenbelt Park. Despite their potential desirability, bikeways are not considered essential to future development or its location. However, bikeways should be considered in conjunction with or as alternatives to walkway facilities in new developments and arterial corridors.

Walkways (570)

Currently, walkways are inadequate along several major thoroughfares. Walkways are an essential design element of urban streets, and are generally a consequence of new development, rather than a constraint on the location of development. In redeveloping or expanding urban areas with deficient or no walks, policies should encourage the provision of sidewalks in conjunction with building construction and/or roadway improvements.

Public Protection (610)

Current public protection services are generally adequate, especially in urban areas of the community. The level of service is lower in rural areas, corresponding with greater travel distances, fewer fire hydrant locations, and reduced funding support. As urban areas grow, additional personnel and facilities will be required to maintain or expand current police and fire

services. **Police and fire are considered essential services.** There are currently and will likely continue to be two basic levels of service: urban and rural. Scattered development makes expansion of urban police and fire protection unaffordable due to the excessive costs of providing those services to areas with low average development densities. This difficulty could result in public dissatisfaction with the level of these services in rural areas.

Educational Facilities (620)

Our community has access to a wide range of public and private educational facilities, which can be enhanced to meet future needs. New locations for elementary schools may be necessary as older facilities are retired and centers of population change. Growth in rural areas requires expanded school bus routes. Educational facilities are essential to the community, but will not necessarily constrain the locations of new development.

Cultural Facilities (620)

Our community strongly supports its excellent museums, performing arts, and library services. We consider them important to our quality of life and economic development. All of these services are likely to be enhanced and expanded either at their present city locations or at new locations where demand and opportunities arise. Cultural facilities will not necessarily dictate the location of future urban development.

Health & Social Services (630)

Health and social services are generally adequate, but efforts are ongoing to improve deficiencies as identified in Section 630. The need for these services will become more important in the future, as the population ages. However, health and social services will not necessarily dictate the location of future urban development.

Public Parks & Recreation (640)

Neighborhood parks are presently needed in several areas of the City of Owensboro, and will be necessary in growth areas to provide convenient recreation. Constraints on new urban development will arise from the necessity of protecting or acquiring land in areas where parkland is needed now or will be needed in the future.

Telecommunications (650)

Telecommunications systems (television, radio, and telephone) generally meet existing needs and should be able to supply additional demand in the foreseeable future. Telecommunications systems present no significant constraints on the location of future urban development. However, with the expansion of wireless communications, more communications towers will likely be necessary, which may be objectionable when located in close proximity to urban residential areas.

Utility Supply (660)

The supply of electricity is currently adequate over most areas of Daviess County, with abundant capacity to meet future needs. Water supply is generally adequate but will need expanded treatment and storage capacity to enable continued growth of industry and other development. If residential development in the remote fringes of Daviess County continues at its recent pace, then waterlines may need to be enlarged to meet fire protection requirements. Natural gas has a limited service area, but is being expanded into urban growth areas when sufficient densities arise. Propane gas is commonly used in rural areas. **Adequate**

electricity and water supply are essential to urban development and their availability will constrain the locations of urban development.

Sanitary Sewage Disposal (670)

Since the late 1990s, the Regional Water Resource Agency has incorporated the private sewage system serving the Kentucky 54 development corridor. In 1999 RWRA began an aggressive expansion of trunk sewers and collection systems into the Yellow Creek basin, US 60 E, and US 60 West. These expansions will bring into the municipal system the sanitary sewage from several developments whose sewage was previously treated in private package plants or by onsite septic systems. Also, these projects will significantly expand the areas where sanitary sewers are available in the Urban Service Area and adjoining Rural Communities.

RWRA's capacity to treat sanitary sewage is sufficient to handle present flow and has the capacity for additional residential customers. New industrial customers may be accommodated to the extent they pre-treat their wastes. Beyond RWRA's urban area system, the City of Whitesville has a municipal sewage system that should be adequate for its growth needs. The few remaining single-user or small subdivision package treatment systems are not likely to be significantly expanded. Most of these should eventually be closed with sewage incorporated into RWRA's municipal system.

Sanitary sewers are essential to dense urban development.

Therefore, most new dense development will necessarily locate within the service areas of RWRA or Whitesville. Use of septic tanks and other onsite sanitary sewage disposal systems is an option for growth, but generally requires larger lots, and can create health problems when systems are improperly designed or maintained. Extensive use of onsite disposal could lead to negative impacts on natural aquifers that supply municipal water systems and rural wells.

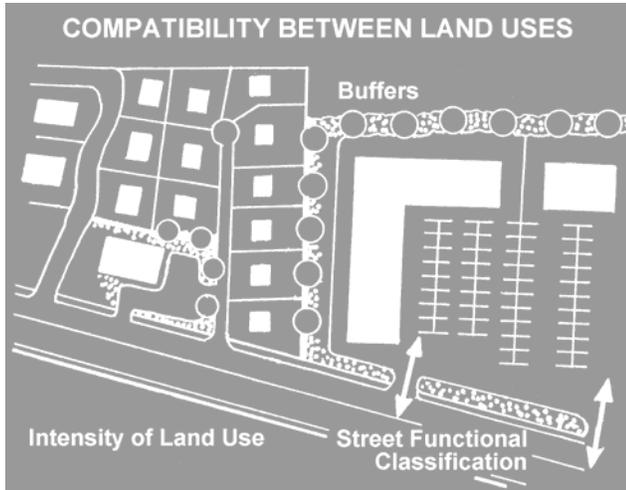
Storm Water Disposal (680)

Storm water disposal is marginally sufficient at this time. The City of Owensboro's 1999 *Storm Water Master Plan* has set priorities for the most needed improvements in the urban area. So far, a few improvements have been implemented, but the major costs involved suggest it will take many years to implement the entire plan. To avoid exacerbating current problems, storm water detention is designed into new urban developments wherever feasible. Improvements in rural residential subdivisions may be necessary in particular cases.

Storm water disposal is essential to urban development, but will generally not constrain the location of future urban development, except in areas where storm water problems are not yet or cannot be mitigated.

Solid Waste Disposal (690)

Solid waste disposal is sufficient at present. The Daviess County Landfill has adequate capacity for the foreseeable future. Expanded or new landfills will be built to stringent standards to protect the environment. Solid waste collection has expanded into rural areas, and may eventually be mandated countywide. Recycling may become a part of the solid waste disposal system. Solid waste disposal is essential to urban development, but will generally not constrain the location of future urban development.



LAND USE COMPATIBILITY

Various types of land use must be accommodated in our community. How well these land uses relate to one another will significantly determine the quality of our neighborhoods. One of the main reasons we make land use plans is to promote the development of compatible relationships between land uses. Two features primarily determine the compatibility of adjacent land uses: the "intensity" of land uses and the "buffers" between land uses of different intensities.

In general, the intensity of a land use can be thought of as the level of impact which that land use would have on surrounding land uses. This concept is fairly easy to understand intuitively. Agricultural uses typically have little impact on surrounding uses. Conversely, heavy industrial may have significant impacts on surrounding uses.

Intensity

If we arrange active land uses in Daviess County in order from the least intense to greatest, the list would look like this:

1. Agricultural/ forestry/ farm dwellings
2. Rural residential
3. Urban low-density residential (<9du/ac)
4. Urban medium-density residential (9-25du/ac)
5. Urban high-density residential (>25du/ac)
6. Professional/Service
7. Neighborhood Business
8. Central Business
9. Highway Business
10. General Business
11. Light Industrial
12. Heavy Industrial
13. Coal Mining/ Quarrying

Generally, the farther apart uses are on the list above, the more their intensities differ, and the less compatible they are. The less compatible that adjoining uses are, the more significant the boundary or buffer feature between them must be to protect the less intense use from the impacts of the more intense use.

Buffers

In general, the hierarchy of buffer features from strongest to weakest is as follows:

1. Large reserves of open space
2. Freeways/expressways
3. Railroads
4. Arterial streets
5. Collector streets
6. Creeks/major ditches
7. Topographic ridgelines
8. Local streets
9. Rear yard property lines
10. Side yard property lines

The need for buffers between incompatible uses constrains patterns of development, discouraging particular patterns and encouraging others. The most discouraged pattern is the random interspersal of small lots with widely varying intensities. This pattern creates numerous incompatible boundaries that must be buffered. But, buffers for small areas are troublesome. They represent significant costs relative to property investment, impinge on useable area, and must be shifted to new boundaries as uses expand. As a result, buffers tend to be composed of skimpy materials, poorly maintained, and encroached upon by active uses.

Land Use Clusters

The problems discussed above can be avoided by encouraging better patterns of development. The most beneficial pattern is to cluster land uses of similar intensity into larger areas, which reduces the occurrence of incompatible boundaries, and thereby reduces the need for extensive buffers. Orienting different uses so that a transition in intensity occurs gradually from one adjoining use or cluster of uses to the next can further preclude elaborate buffers.

Street Intensity

Streets are listed above as a form of land use buffer, but a street also has an intensity that is proportional to the amount of traffic it carries. The potential traffic volume of a street is closely associated with its functional classification (refer to Section 510). Freeways/expressways are the most intense. They serve regional and community-wide traffic and are designed to carry large volumes of traffic. At the other end of the functional hierarchy are local streets, which are generally the least intense. They serve small sections of neighborhoods and are designed to access property rather than move traffic.

Under the concept of clustering uses of similar intensity, it follows that the intensity of land uses in a particular area should relate well to the intensity (or functional classification) of streets in that area. Therefore, clusters of higher intensity uses should be oriented toward higher function streets and clusters of lower intensity uses should be oriented toward lower function streets.

In reality, land use intensity will vary widely along higher function streets, because there are not enough high intensity uses in the community to occupy all the property fronting on these major streets. And, application of the clustering pattern discussed above will typically lead to some higher intensity uses being located along portions of lower classification streets.

Land Use vs. Street Functional Classification

As a result of the anomalies discussed above, the best possible relationships between land use intensity and street classification can be stated as follows:

The lower the functional classification of a street, the less that land use intensity should vary along the street.

Where land use intensity varies along a lower classification street, higher intensity uses should be located closer to intersections with higher classification streets, with a transition to lower intensity uses proceeding away from the major street.

PRIORITY OF DEVELOPMENT CONSTRAINTS

Of the development constraints reviewed above, some are deemed more important than others in determining desirable patterns of land use development. Below, we assign each constraint to one of three levels of importance:

IMPORTANCE OF CONSTRAINTS TO DEVELOPMENT PATTERNS:

1. Essentially Determine Development Patterns

The items in this group are considered essential in determining the appropriate locations for any type of land development:

- ◆ Floodways
- ◆ Highways, streets & roads
- ◆ Water supply
- ◆ Electricity supply
- ◆ Land use compatibility

2. Conditionally Determine Development Patterns

The locations and/or special characteristics of the items below may determine the type, intensity or technique of land development that is appropriate in a particular location:

- ◆ Coal reserves
- ◆ Soils
- ◆ Steep slopes
- ◆ Plant & animal life
- ◆ Floodway fringes
- ◆ Prime agricultural land
- ◆ Historic & archaeological sites
- ◆ Water quality
- ◆ Air quality
- ◆ Noise control
- ◆ Airport
- ◆ Waterways & Riverport
- ◆ Railways
- ◆ Fire protection
- ◆ Natural gas supply
- ◆ Sanitary sewage disposal
- ◆ Storm water disposal

3. Generally Do Not Determine Development Patterns

The following items generally do not determine the location of land development, but these items may need to be provided, enhanced or expanded as a result of the locations of particular types of land development:

- ◆ Solar access
- ◆ Public transit
- ◆ Bikeways

- ◆ Walkways
- ◆ Police protection
- ◆ Emergency services
- ◆ Educational facilities
- ◆ Cultural facilities
- ◆ Health & social services
- ◆ Public parks & recreation
- ◆ Telecommunications
- ◆ Solid waste disposal

REVIEW OF PAST & CURRENT TRENDS AND ISSUES

Below we discuss the most prominent current trends and issues in land use. Also, we update the status of issues that were discussed in the previous update of the *Comprehensive Plan*. These issues relate to rural residential development, coal mining, and nonresidential areas.

RURAL RESIDENTIAL DEVELOPMENT

The pace and amount of rural residential development is exceeding that anticipated or recommended by previously adopted land use goals and objectives. This has resulted in increased conflicts with coal mining, growth in demand for dispersed urban services, and proliferation of point sources of water pollution in the form of private septic tanks.

Rapid Rural Subdivision

In the Rural Service Area (RSA), one-acre lots have been traditional. In 1979 *Community Directions* endorsed this as a minimum standard, under the assumption that the rate of lot creation would be relatively slow. To further encourage the concentration of rural development in existing developed areas, a regulatory bonus was provided to allow half-acre lots in and around the twenty established Rural Communities. In 2004, the half-acre minimum size in rural communities was increased to a minimum of three-quarter-acre as a result of recommendations of the Green River Health Department for adequate septic system installation.

There has been more development in the RSA than was anticipated by *Community Directions* or the last *Comprehensive Plan* update, and it has accelerated in the first five years of this century.

Between February 1999 and August 2005, Daviess County gained 2,853 acres of residential land use, an increase of 11.9%. The Urban Service Area gained 588 acres (20.6%) of the total, while the Rural Service Area gained 2,265 acres (79.4%).

Subdivision of residential lots in rural areas consumes more farmland per lot than in urban areas. 61% of the increase in lots was in the USA, but these lots only used 25% of the acres developed for residential lots. Conversely, 39% of the lot increase was in the RSA, requiring 75% of the acres developed for residential lots. Exhibit 437-GT1 compares the average lot size of those lots created since 1980. It is obvious from the table that the average size of lots created in the rural zones greatly exceeds the lot sizes created in the urban zones.

Exhibit 437-T1: Residential Subdivisions, 1980-2005

AVERAGE LOT SIZE (ACRES)			
<i>Average size of new lots created</i>			
	Rural Zones	Urban Zones	Total
DC	3.1	0.6	1.4
USA	6.3	0.5	0.6
UBA	6.2	0.5	0.5
RSA	3	1.4	2.6
UC	---	---	---
UB	---	0.4	0.4
UG	7.4	0.5	0.5
UF	6.6	0.5	0.8
RPU	3.1	0.4	0.9
RPR	3.1	1.1	2.2
RM	2.9	2.1	2.8

Rural Zones = A-R. Urban Zones = A-U, Res, MHP.

Subdivisions Along Existing Road Frontage

What are the implications if this trend in rural development continues in the future? Because RSA subdivisions are loosely permitted along existing road frontage, the potential exists for many more lots than exist now. Projections for residential uses contained in Section 420 show this potential when using the residential trend projection. Population density has changed from 260 acres per thousand persons in 1999 to 288 acres per thousand persons in 2005, just six years, and despite the fact that the population has not shown the same rate of growth. This is mainly due to the increasing use of agriculturally zoned property being converted to residential lots along existing county road frontage. If this trend continues at the current rate, it is projected that an additional 11,000 acres of residential use will be needed by 2030. If the rate accelerates, even more acres may be converted to residential use.

Rural Lot Patterns

Subdivision specifications require new streets to have curb and gutter. There have been very few new streets constructed in the RSA for 25 years, because subdivisions with new streets generally cannot compete in the market with lots that are subdivided along existing road frontage, in which case road improvements are not required by regulation.

In January 2000, subdivision regulations regarding road frontage requirements and 3 to 1 minimum depth to width ratios begin to be enforced, eliminating those flag lot divisions that allowed lots to stack behind one another creating numerous access points along the road. This previous type of subdivision could easily chop up an entire farm, without any new streets created.

It was hoped that the enforcement of the regulations would result in a decrease in the number of lots and acres being divided for residential use along existing county roads, thereby decreasing the demand for extended services and decreasing points of conflict as accesses were constructed along existing county roads.

While the policies have certainly discouraged or eliminated some lot divisions, there is still ample opportunity for lots to occur along existing roads meeting the current regulations, and the past six years have seen significant lot creation in the rural service area.

Rural Water Supply and Fire Protection

Since 1980, for most areas of Daviess County, waterlines with sufficient capacity to provide 250 gallons per minute were required for all new residential subdivisions creating more than one lot per year out of the same parent farm. The Rural Maintenance Area, the outer rural fringes of the county, were exempt from this requirement, resulting in a cost-savings for the rural developer versus all other areas of the county. This resulted in numerous lots being subdivided in the Rural Maintenance Area, inconsistent with the Goals and Objectives of this plan. To address this discrepancy, in April 1998, the planning commission amended the subdivision regulations to apply the fire hydrant requirement countywide for new residential lots.

"Agricultural Divisions"

Since the 1998 changes in fire protection requirements, rural farms that do not have adequate-sized waterlines for fire hydrants have continued to be divided as so-called "agricultural divisions," under a long-standing policy of the commission. This policy allows the division of a farm into tracts a minimum of 10 acres in size, so long as each tract has frontage of at least 50 feet along an existing public road. These plats are deemed to be for "agricultural use" as defined by KRS 100 and, therefore, are not required to comply with subdivision regulations. The planning commission has begun to monitor the number of tracts created in this manner. The planning commission and the Daviess County Property Valuation Administrator consider these tracts to be "farms" rather than "lots." If the observed trend to divide farms into 10-acre "mini-farms" continues over time, it could significantly decrease the amount of economically viable farmland in Daviess County.

Environmental Impact

The two most significant environmental implications of rapid rural residential development and "agricultural divisions" are the loss of farmland and the increasing use of septic tanks. In recent years, numerous farms have been totally subdivided and sold at auction. This puts pressure on individual farm owners to consider subdivision as a means of income unrelated to farming. Once land is subdivided into small tracts and sold to various individuals, its agricultural potential is lost or at least significantly diminished.

The use of septic tanks in the RSA has several implications. Many houses constructed on the one-half acre lots allowed prior to 2004 in rural growth areas must use pressurized septic systems costing thousands of dollars more than conventional systems. The Daviess County Health Department believes minimum lot size should be at least $\frac{3}{4}$ of an acre to allow conventional systems, and the zoning regulations were changed in 2004 to require the $\frac{3}{4}$ acre minimum.

Proliferation of septic systems throughout the rural area could lead to serious water quality problems. If and when clear evidence of this is found, there may be no easy (inexpensive) way to rectify these problems. To the extent that Daviess County's

population growth occurs in rural areas where there are no sewers or plans for sewers, this forestalls development in the Urban Service Area, wastes the capacity of current sanitary sewer expansions, and delays planned sewer expansions to currently unserved urban areas. Thus, septic problems in existing subdivisions within the USA could remain unsolved even longer.

Urban Service Availability

What demand could rapid rural residential development eventually place on local government services? As the rural area becomes more urbanized, demand grows for services that people expect to have in residential areas: road improvements, enhanced police and fire protection, schools, parks, etc. But the cost per home for providing these services increases dramatically, due to low population densities scattered over large areas. Thus, service expansions to rural areas tend to be marginal at best. When the development that does occur is located in rural areas instead of near existing built-up areas, planned urban service expansions cannot be made efficiently, and result in piecemeal solutions.

Water supply is another example. In an attempt to meet rural demand for a reliable and pure supply of water, water lines have been extended over wide areas of the county. County government has subsidized many of these extensions. While domestic water is provided, many of these lines do not have the pressure necessary for effective fire fighting, thus home insurance rates are much higher in rural areas.

Continued rapid rural development would only exacerbate fire protection deficiencies, and would likely lead to other service deficiencies and inefficiencies for both developing rural areas and existing urban areas.

Land Use Compatibility

Extensive rural residential development would increase conflicts between residential commuter traffic and the movement of farm vehicles, and could lead to pressures for spot commercial activities in conflict with objectives for larger, planned business centers. But the most controversial issue has been the conflict between rural residences and coal mining activities.

Residential Conflicts with Coal Mining

In the mid-1980s, rural residents began to demand better protection from incompatible impacts of mining: dust, noise, nighttime operation, truck traffic, etc. Existing rural residential areas have been accommodated without significantly impinging on mining as a primary use in the rural area. As of the autumn of 2000, active mining of zoned land had declined significantly from its level in the 1980s. With the increase in current oil prices, it is anticipated that coal mining activities could increase in this decade. If rapid rural residential development continues, and coal mining resumes, neighborhood objections to mining could become widespread in the rural area, severely limiting the extraction of this resource, in conflict with adopted goals for the rural area.

Alternative Policies: Rural Residential, Coal Mining

The current issues and future problems related to rural residential development arise from the pace of this development. We seek to provide for rural residences through our goals and objectives, but

only in such a manner that the character of rural areas will not significantly change from primarily agricultural and resource related. We also seek to avoid long-term use of ever more septic tanks that would pollute our ground water and demand for costly urban services spread over wide areas of the county.

In the 1991 *Comprehensive Plan*, the following alternatives were discussed for rural residential development and coal mining activities; the recommended policies are noted in bold type:

RURAL RESIDENTIAL POLICY ALTERNATIVES CONSIDERED (1991 PLAN):

- ◆ Continue to allow the creation of residential development lots down to one acre in size throughout the rural area, regardless of potential demand for more urban services or commercial land uses; and continue to allow minimum one-half acre lots in rural growth areas, even though problems result in the use of septic tanks.
- ◆ Only where coal is indicated, require larger lot sizes and/or limit the number of new lots.
- ◆ Limit the number of lots that can be created out of a parent farm anywhere in the rural area, perhaps in proportion to farm acreage.
- ◆ Prohibit the creation of residential lots (under 10 acres in size) only where coal is indicated, or anywhere outside of rural community growth areas.
- ◆ **FINAL RECOMMENDED POLICY (1991 PLAN). Where sanitary sewers are not available in rural community growth areas, minimum lot size should be large enough that conventional septic tanks can be used satisfactorily. Throughout the remaining rural area outside of rural community growth areas, minimum lot size should be large enough so as to discourage excessive numbers of lots. And, advise potential buyers that coal extraction is a generally recommended use in the rural area. Also, minimum widths for lots less ten acres in size should promote good lot form: depth should not exceed three times width.**

COAL MINING POLICY ALTERNATIVES CONSIDERED (1991 PLAN):

- ◆ Continue to give priority to mineral extraction regardless of the presence of residential lots in the vicinity or concerns of nearby landowners.
- ◆ Significantly restrict mining, such as limiting new mines to areas within a specified distance of past or existing surface mines, prohibiting the expansion or creation of new mining zones, or completely prohibiting future coal mining in Daviess County.
- ◆ **FINAL RECOMMENDED POLICY (1991 PLAN). Allow mining to occur generally throughout the rural area outside of growth areas, but have the discretion to set limits on the mining process where necessary to reduce conflicts with neighboring land uses. Such limits might include larger buffers, reduced hours of operation, restrictions on traffic generation, limits on the timing or scope of active mining that is concentrated in one area, etc.**

NONRESIDENTIAL AREAS

The character of nonresidential areas was a topic of concern another topic of concern during preparation of the 1991 *Comprehensive Plan*. This topic includes the following issues:

- ◆ Mixed business/industrial areas and uses,
- ◆ Expansion of existing nonresidential areas,
- ◆ Establishment of new nonresidential areas, and
- ◆ Buffers for outdoor storage yards.

Mixed Business/ Industrial Areas and Uses

When the 1979 land use plan was established, several existing nonresidential areas contained a mixture of general business and light industrial uses. The plan recommended a transition to distinct subareas over time, with only business or light industrial uses in each subarea.

However, by 1989 these areas continued to have a mixture of uses. This fact was cited to support numerous zoning changes from General Business (B-4) to Light Industrial (I-1), and vice versa.

Besides older established mixed-use areas, a few newer ones were created by 1989. Examples include West 2nd and 4th streets near Carter Road, the Salem Drive/ Carlton Drive area and Burlew Boulevard between Old and New Hartford roads. Both old and new mixed-use areas have developed into a hodgepodge of land uses that conflict with each other in activities and appearance.

Past and Current Zoning Problems

Part of the conflicts mentioned above arise from zoning regulations in effect since 1980, in which uses are categorized by naming the types of enterprises permitted in each zone rather than by differentiating the impacts uses have. For example, retail sales establishments are categorized either business or industrial based on the types of products sold rather than by the traffic volume they generate or whether goods are displayed outside enclosed buildings. Thus a particular use allowed only in a business zone could be similar in appearance and impacts to another use allowed only in an industrial zone. Or, uses of widely different appearance and impacts may be allowed in the same zone.

Adding further to this confusion, particular single establishments include a variety of activities, which taken individually would fit best in different zones. An example is a home improvement supply store that sells a wide variety of items from appliances to lumber. This type of establishment typically has showroom floor space, a warehouse area and outdoor yard for lumber and other items. Customers come from both the building trades and the general public. The proper zone for such mixed-use establishments is usually determined by the zone in which the primary or most intense activity is permitted. However, in certain cases, warehouse-style prefabricated buildings and/or outdoor storage yards end up in business zones if the primary use is retail sales, regardless of the types of merchandise sold.

Expansion of Existing Nonresidential Areas

During the 1980s, many nonresidential uses and areas experienced redevelopment and expansion. We have used the

term "logical expansion" to describe proposals that are deemed generally satisfactory, even before formal criteria were established in the 1991 plan. In 1991, we expanded our land use goals to include objectives supporting the idea of logical expansions of existing nonresidential uses and areas. In the 1991 plan, objective criteria were created for the review of such proposals. These criteria have been beneficial to the development community, the planning commission, and the public, by informing the consideration of proposed zoning changes. In 2001, additional criteria were added for a new classification of land use, Mixed Business/Industrial zoning. In the Business/Industrial Plan Area, both general business and light industrial uses are considered appropriate. A new zoning classification of B-5 Business/Industrial was established in compliance with the Comprehensive Plan by text amendment to the Owensboro Metropolitan Zoning Ordinance in 2004. This new zone allows property owners flexibility to change between general business and light industrial uses within mixed use areas without a zoning change.

Establishment of New Nonresidential Areas

In *Community Directions* (1979) we defined different types of commercial areas and recommended basic standards for them. The general concept was to discourage the expansion of "strip" commercial development beyond areas where it already existed. We recommended that new commercial areas be established in the form of centers, to preclude excessive numbers of driveways along major streets. Zoning regulations and access policies have been adopted to implement these strategies for commercial areas.

Industrial areas were not specifically addressed by the "center" strategy, even though "industrial parks" function as centers and have been a typical form for developing new industrial areas in recent years. Such parks, however, do not encompass all the industrial activity in the community. As discussed above, there are numerous areas of mixed business and industrial uses in the urban area. There will likely continue to be a demand for smaller areas of light industrial uses as elements of general commercial areas. In 2001, Daviess County's economic development officials have recommended that the Land Use Plan expand the capacity for industrial land beyond the currently designated industrial areas, by establishing appropriate criteria for new "stand-alone" industrial sites within Future Urban and Rural Preference plan areas. In 2006, the Economic Development Director identified a need in Daviess County of 400 to 600 more industrial acres in the next 20 years.

Buffers for Outdoor Storage Yards

By 1991, the appearance of outdoor storage yards was a growing concern in the community. Lack of visual screening around these yards within industrial areas is generally considered acceptable. But the absence of screening is not desirable where outdoor storage yards are located along the community's major streets, or within customary retail business areas, or near residential areas. Adding to the problem has been the phenomenon of large-volume retail and/or wholesale establishments that store goods outdoors or in semi trailers.

Recommended Policies for Nonresidential Areas (1991 Plan)

In light of the above discussion, the 1991 plan recommended a set of policies to address issues regarding the character of nonresidential areas. The concepts then expressed guided the creation of land use plan criteria in the 1991 plan. In the future, they could be further refined and implemented through land use regulations. The recommended policies are included in the "Summary of Land Development Policies" below and include those policies adopted in the 1991 plan as well as updates in 2001 and 2006.

SUMMARY OF LAND DEVELOPMENT POLICIES

Most of the community objectives and plan proposals can be reached only if local government is committed to their achievement. This commitment is best expressed by establishing and implementing appropriate **POLICY** statements.

Below are various policies that should be followed when evaluating any activity that could affect the community. By following these policies, we can bring to reality a built environment compatible with both people and the natural environment.

GROWTH/ NO-GROWTH POLICY

Owensboro, Whitesville, Daviess County, and the Owensboro Metropolitan Planning Commission reject a no-growth policy, as well as a completely unrestrained and unrestricted growth policy. Rather, our policy shall be to guide and manage growth and development in a manner that new growth is of an efficient and quality character and that existing urban and natural environments are protected and enhanced. Thereby, we can achieve a good quality of life for all the citizens of our community, present and future.

ENVIROMENTAL POLICIES

Any change in our community, whether related to existing or new development, has an impact of some type on our physical, social, or economic environment. Thus our concern cannot be with the prevention of any impact, but rather those actions that would adversely impact our community so as to seriously deteriorate the environment.

Our policy then should be that of reviewing proposed changes to determine the nature of their impact and to try to prevent those that would seriously deteriorate our built and natural environments.

With this policy in mind, we must maintain good information systems (topographic mapping, computer databases, the planned Geographic Information System, etc.) to assure proper review of development proposals. We must also coordinate the review of development proposals with the various agencies responsible for providing services and monitoring environmental quality. This will involve the following activities related to fragile areas of the environment.

- ◆ Avoiding improper development in areas of STEEP SLOPES.
- ◆ Protecting unique WILDLIFE HABITATS and WETLANDS.

- ◆ Regulating construction activities relative to FLOOD PLAINS to protect life and property.
- ◆ Coordinating with the Soil Conservation Service to protect PRIME AGRICULTURAL LAND from potentially negative effects of urban sprawl or improper surface mining techniques.
- ◆ HISTORIC PRESERVATION. The policy in regard to properly designated historic buildings, areas, and archaeological sites shall be that of attempting to protect, preserve and enhance their character as an asset of importance to our present and future citizens. Implementation of this policy will be coordinated with the Kentucky Heritage Council, and follow the federal Section 106 Process. Related activities should include securing federal and other grant assistance for the rehabilitation of historical areas; creation of local funding programs; use of historical markers; and establishment of historic zoning districts to permit architectural review, and to permit temporary delay of demolition or inappropriate exterior changes.
- ◆ Coordinating with Kentucky WATER QUALITY officials to prevent pollution to natural aquifers and streams; and to assure the purity of municipal water supplies.
- ◆ Monitoring AIR QUALITY by Kentucky Air Quality officials.
- ◆ Avoid creating permanent causes of dangerous or objectionable NOISE.

URBAN GROWTH LOCATION POLICY

A major policy of our community is to encourage urban-type growth to be concentrated in and around the existing urbanized area of Owensboro, within the Urban Service Area (USA). The remainder of Daviess County is designated as the Rural Service Area (RSA), where emphasis is placed on protecting agricultural lands and discouraging urban-type activities beyond areas where they currently exist.



URBAN SERVICE AREA POLICIES

Within the USA, the following urban development policies are applicable.

Capacity and Availability of Urban Services

Areas in which necessary urban services are available and of sufficient capacity, or areas in which such services can be provided at the least public cost, should be the first newly developed areas. Development should be discouraged in other areas until necessary services can be provided efficiently. Development plans should be coordinated with the various public and private entities that are responsible for providing urban services.

Land Use and Traffic Compatibility

Land uses that are not compatible in character and intensity should not be indiscriminately mixed, but rather should be

clustered within their own compatible areas and be separated by adequate space and trees, plants, walls and similar visual and noise buffers. The intensity and configuration of land uses should be commensurate with the functional characteristics of adjoining streets, and should avoid heavy through-traffic in residential areas.

Housing Mix

Residential areas should promote a sense of community by providing a variety of housing types suitable to a variety of people. Housing densities should be consistent with the character of streets and urban services in the neighborhood. Buildings should be designed and arranged so they do not become irritants within the neighborhood.

Building Quality

Maintenance and conservation should be encouraged for sound buildings, rehabilitation should be encouraged for those needing upgrading, and renewal should be sought for those beyond the stage of feasible repair.

Nonresidential Areas

Mixed Business/Industrial Areas

Existing nonresidential areas that contain a mixture of business and light industrial uses should be allowed to continue as mixed-use areas. In newly developing neighborhoods, business areas should be distinct from light industrial areas, even if both types are contiguous parts of a larger nonresidential area or center (see below).

Expansion of Existing Nonresidential Uses and Areas

Limited expansions to existing nonresidential uses, areas and centers should be accommodated where they reasonably satisfy a set of "logical expansion criteria." Significant expansions should satisfy the same criteria applicable to the establishment of new nonresidential areas (see below).

Establishment of New Nonresidential Areas

New nonresidential areas should be established as "nonresidential centers." Each center should be designed to accommodate one or more "similar-use areas" as appropriate to the size of the center and its location with respect to adjoining streets and land uses. Each "similar-use area" should be restricted to uses whose appearances, intensities and impacts are compatible with one another.

Buffering for Outdoor Storage Yards

Outdoor storage areas for raw materials, building supplies, construction vehicles or equipment, materials to be used in manufacturing, manufactured products, or similar items should be screened from major community streets and from nearby nonindustrial properties. Junk, salvage or scrap iron yards should be completely screened from all adjoining streets and properties.

RURAL SERVICE AREA POLICIES

Within the RSA, where emphasis is placed on protecting agricultural land from urban encroachment, the following policies apply.

Within Designated Rural Communities

Established rural communities are designated as the areas to provide for almost all of the small-lot rural housing and other urban-related commercial, industrial or similar activities that may be needed in the Rural Service Area. Lots should be large enough that conventional septic tanks can be used satisfactorily, if sanitary sewers are not available. (Currently, Whitesville is the only rural community with an extensive sewer system.) The development policies for the Urban Service Area, as stated above, should generally apply to urban development within the rural communities.

In Rural Areas Outside of Rural Communities

Urban-type residential subdivision development, small-lot rural housing, and other general urban related commercial, industrial or similar activities, should be discouraged outside of designated rural communities. An exception to the foregoing policy may be considered, when and where adequate urban services are expanded beyond the present USA boundaries

Rural Residential

Rural residences should be allowed, but only to the extent that they do not significantly impinge on agricultural or natural resource-related activities. Residential lots should be of a large enough size and width that excessive numbers of lots or odd-shaped lots are not created in rural areas. And, potential residents should be advised that coal extraction is a generally recommended land use in rural areas.

Coal Mining

Generally, mining should be permitted wherever coal exists in rural areas. However, discretion should be retained to set limits on the mining process where necessary, to reduce conflicts with neighboring land uses. Such limits might include larger buffers, reduced hours of operation, restrictions on traffic generation, limits on the timing or scope of active mining that is concentrated in one area, etc.

Other Activities

Other nonagricultural activities to be considered should be those of a nature that are bound to a land resource, such as mining; or should be related to special governmental needs, such as a landfill; or should be similarly unique and appropriate situations.