



**HIGHLANDER POINT: A GATEWAY
OVERLAY DISTRICT IN FLOYD COUNTY, IN**

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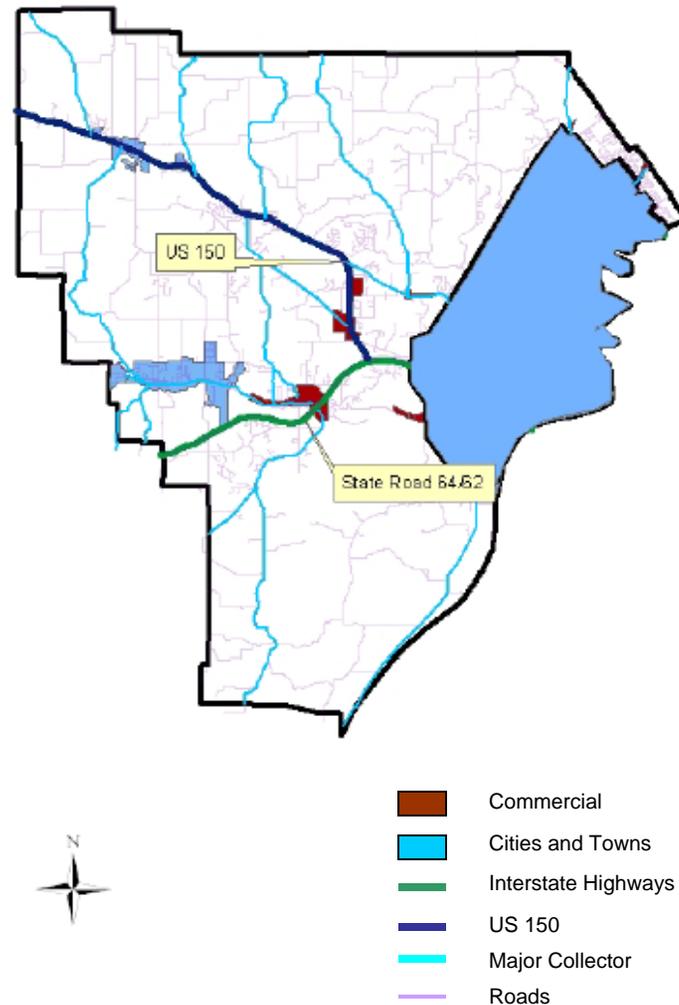


PROJECT OVERVIEW

Background

Two unincorporated areas of Southern Indiana's Floyd County are experiencing significant new development as more people are discovering residential opportunities in the scenic, rural atmosphere of the knobs. The convenient access to employment centers in the nearby cities of New Albany, IN and Louisville, KY makes the area particularly attractive for further development. In anticipation of future growth, the Floyd County Comprehensive Land Use Plan Update, "Cornerstone 2005", has designated the two unincorporated areas of (1) the Highlander Point/US 150 corridor and (2) the State Road 64/62 corridor as Gateway Overlay Districts (MAP 1). Through the establishment of Gateway Overlay Districts, the community can develop a series of standards to ensure the quality of development along these corridors (Floyd County Comprehensive Land Use Plan Update, 2002).

MAP 1 - Unincorporated Commercial Areas in Floyd County



Source: Floyd County Comprehensive Land Use Plan Update, 2005

The focus of this report is on the Gateway District of Highlander Point at US 150 (MAP 2). Throughout the spring of 2006 the University of Louisville's Master of Urban Planning Capstone analyzed the Highlander Gateway District. to determine urban planning principles and design components that could be used to guide the growth of this growing area.

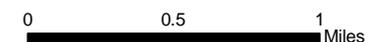
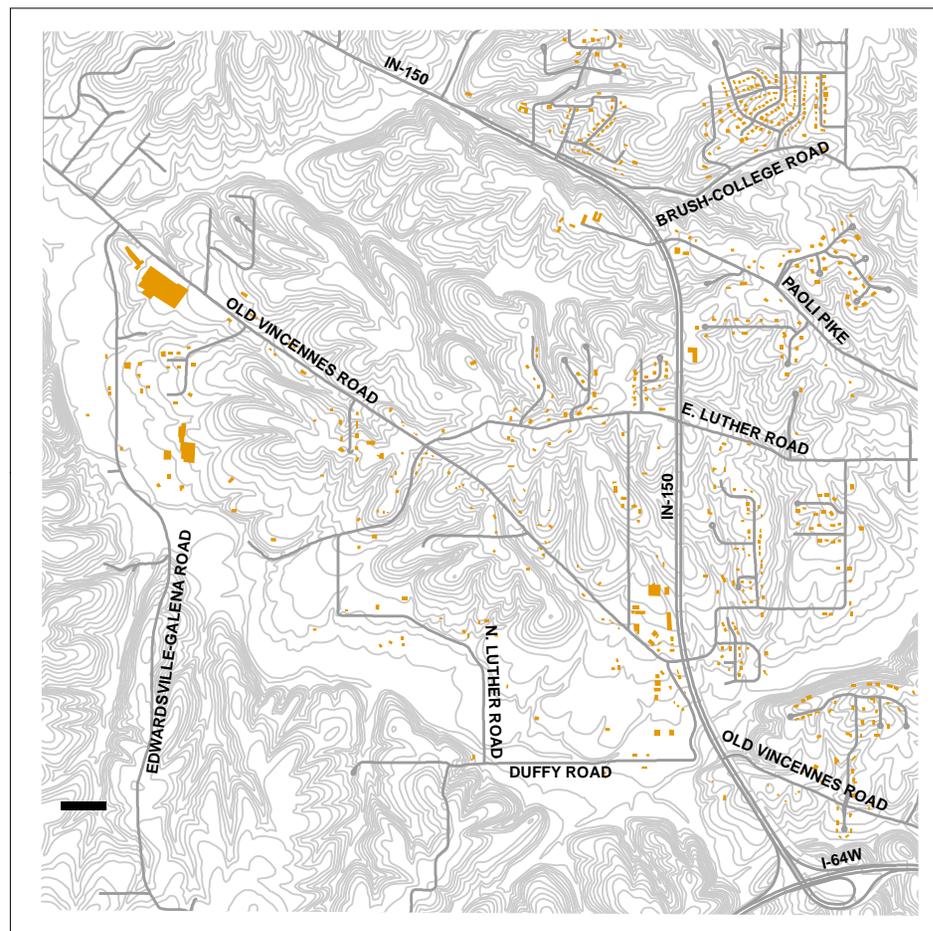
Highlander Point Gateway Characteristics:

The Highlander Point Gateway and the surrounding unincorporated community known as Floyd's Knobs is a largely low density residential area with a large commercial node at US 150 and Old Vincennes Road. Floyds Knobs is a series of hills characterized by relatively steep slopes. The terrain exhibits a minimum elevation of 390 feet above sea level with many of the knobs peaking anywhere from 800 to 1000 feet above sea level. The topography found in the area creates a

unique and scenic beauty and is a major asset for the Highlander Point study area. In the valleys and flat areas surrounding the creek large tracts of land are either currently or were formerly used for agricultural purposes.

US 150 (also known as the Mary Anderson Highway) is one of Floyds County's major transportation corridors and dominates the study area.

MAP 2 - Study Area





PLANNING PROCESS

Introduction

The contents of this document were shaped through a communicative and collaborative process with various official organizations and community members in Floyd's Knobs and Floyd County. The following four meetings helped to establish the recommendations and guiding principles of this document:

1. Floyd County Commissioners Meeting
2. Floyd County Plan Commission Meeting
3. Community Stakeholder Meeting
4. Developers Meeting



Community Stakeholder Meeting

Floyd County Commissioners Meeting

In a meeting with County Commissioners John Reisert, Stephen Bush and Charles A. Freiburger on February 7, 2006, class members asked about the Commissioners' vision for the Highlander Point area. All agreed that the area is currently experiencing a relatively high level of development, both commercial and residential, and that this situation was expected to continue into the foreseeable future. Mount St. Francis is seen as a significant positive factor for the community; participants agreed that this large parcel should be preserved in its current undeveloped state. A need was voiced for more public services, especially police and fire departments, within the area.

There was general agreement that commercial development in Highlander Point should be confined to sites along

Highway 150, and that any additional industrial development is more appropriate for the Georgetown area.

Further residential development was seen as more suitable for parcels "behind" commercial areas and off the main Highway 150 corridor. Conflicts between residents and business owners had already arose in places where the two uses adjoined, and these disputes could be expected to continue unless preemptive regulation is put into place. Some saw value in developing multi-family and rental homes for the area, especially in sites directly adjacent to commercial zones, while others were completely against the idea of any condominiums, lower-income housing or apartments. Although there is currently virtually no connectivity between existing residential subdivision developments, the concept was generally agreed to be a good idea for new projects, especially those in areas within walking distance of the commercial core.

Floyd County Plan Commission Meeting

In an informal open discussion with the Zoning Ordinance Task Force on February 11, 2006, members were asked their views on current land use issues in the Highlander Point area and their vision of future development.

Several commission members expressed an interest in the possibility of connecting the area to Kentucky via a bridge that would tie Highway 150 to the Gene Snyder loop in Louisville. Members saw future commercial development in Highlander Point limited to the Highway 150 corridor north of existing development, but stressed a desire to limit curb cuts and signal lights on the highway. A preference for nodal rather than linear development, to consist of businesses serving the daily needs of area residents, was expressed by several commission members. There was also interest in the establishment of a special

overlay district to include architectural and design standards that would help preserve the rural character of the area.

In addition, members raised infrastructure issues related to sewer accessibility and capacity. They identified a need for further study of potential expansion of the existing Highlander Point and Georgetown systems, possibly by connecting the existing private sewer plants to the public system. They also emphasized a need to identify potential funding sources for infrastructure expansion.



Participants viewing a design sample

Community Stakeholder Meeting

February 28th, the 2006 Capstone Studio assisted the Floyd County Planner's Office in conducting a stakeholder meeting. The purpose of this meeting was to examine some plan views of hypothetical design scenarios and rate their suitability for the Highlander Point / US 150 corridor. The hope is that the information gathered from the interested members of the community will help in determining appropriate land use for the area.

The participants examined a series of design samples, sketched by the 2006 UK Landscape Architecture Capstone, containing varying development patterns and styles. Each sample contained a mix housing size, commercial activity, street and sidewalk provision, street network type, and green space. Accompanying the design scenarios were a series of street level sketches also drafted by the UK Architecture students. With the help of the

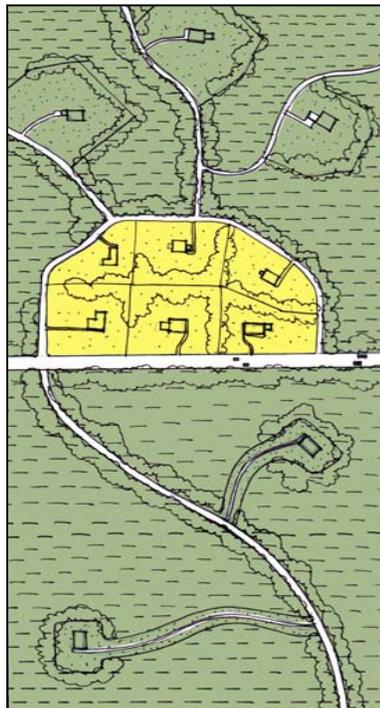
UK Transportation Center, participants voted on the suitability of each sample using key pad scoring system that allowed for real-time viewing and discussion of the results. The following sections examine the highest and lowest rated design samples. The higher rated samples represent development patterns that participants found most appropriate for the Highlander Point Gateway.

The highest rated sample was #1 with a mean score of 7.1 out of 10. Several of the participants indicated that this pattern of development was the reason they originally moved to the area. Several community members also advocated against sewer facilities. The participants made the following additional positive comments in response to Sample #1:

- Large lots
- Not a lot of buildings
- No commercial
- Less traffic
- Less people
- No retail
- No apartments, no condominiums

The only negative comments about Sample #1 included that the housing was isolated, raising security issues, and that it was difficult or expensive to gain access to services like phone or cable television.

Sample #1 – Highest rated sample



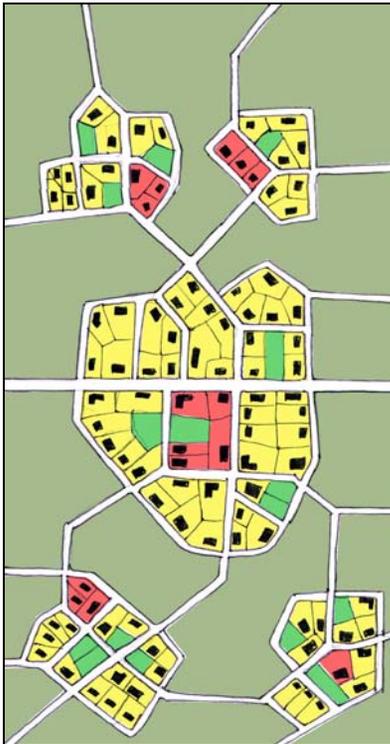
Source: 2006 UK Landscape Architecture Capstone

The second highest rated sample was #9 with a mean score of 5.8 out of 10. One respondent commented that this pattern of development was a “happy medium”, presumably between development and agricultural space. Another comment was that Sample #9 was superior to most of the other samples that depicted higher intensities of land use. Additional positive comments regarding Sample #9 included:

- An organized version of what we have
- Commercial areas are organized
- No multi-family
- Better than the alternatives
- Liked the connectivity
- Want to be able to walk to retail

Participants made several negative comments in regards to Sample #9. One community member said, “we don’t like it but it’s close to the current land use”. Another characteristic that some participants did not find suitable was the higher levels of commercial development.

Sample #9 – 2nd Highest rated sample

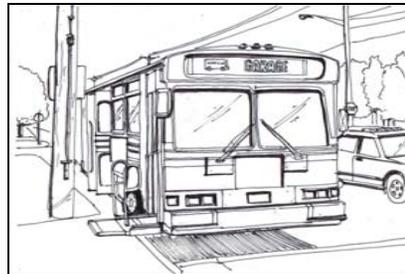


Source: 2006 UK Landscape Architecture Capstone

The lowest rated were Sample #4 (1.9 out of 10) and Sample #10 (2.3 out of 10). Community stakeholders found the intensity and density of development

unsuitable for the Highlander Point Gateway. Many participants found the design scenarios to contain too much commercial residential development. They found that density of the residential development to be unsuitable for the area. One stakeholder commented that a residential development with lot sizes less than one or two acres would be too dense. Another comment was that the residents of the community did not want a bus route.

Sketch from Sample #10



Source: 2006 UK Landscape Architecture Capstone

Overall it seemed that many of the comments collected at the meeting dealt with sewage treatment facilities. Many of

the more vocal community members indicated that they were against any sewage treatment plant in the Floyd's Knobs or the Highlander Point Gateway. Only a few participants indicated that they approved sewage treatment in the area. Several participants were concerned that Floyd County did not currently have a zoning ordinance. Even with the resistance to higher residential several participants were interested in "patio-home" development, or similar residential opportunities that gave retirees further housing options in the area. One respondent was adamant that something needs to be done about the traffic on Interstate 64 near US 150

Sketch from Sample #4



Source: 2006 UK Landscape Architecture Capstone

Developer Meeting

On March 8, 2006, several developers currently working projects in the Highlander Point area were also asked about their ideas for future commercial and residential development. Attendees offered input on infrastructure, residential and commercial development and transportation issues.

All agreed on a need for higher-density mixed income housing in the area, to be limited to small, specific sites, as a means of increasing overall density while maintaining the rural character of the majority of developable land. They are also in favor of Planned Unit Developments (PUDs) and mixed-use development as approaches that will encourage housing appropriate for residents of diverse ages and income levels and increase connectivity. There is also some agreement that regulations encouraging the use of front porches would help encourage a sense of community among Highlander Point residents. As for housing

outside of the limited high-density areas, developers recommend a minimum lot size of 12,000 square feet. They expect to see green space, continuity and design standards included in the new county zoning ordinances. While they anticipate public resistance to these ideas, they believe that it would be lessened if the public were educated as to the positive aspects of zoning, planning and development.

The developers recommend that commercial development be concentrated along Highway 150 near the I-64 interchange, consisting of retail and service businesses to meet the daily needs of area residents. Some additional commercial office space might be of value, but would probably require some sort of financial incentive to project developers. They saw no need for industrial development in the area.

Transportation was also a major issue from the developers' point of view, and they recommend that a transportation master plan be developed. They see the peak time traffic bottlenecks at the Highway 150/I-64 interchange as a major disincentive to further development, and suggest that the one-lane ramp from Highway 150 onto I-64 East be increased to two. Although they did not object to impact fees, they seemed to feel that there was some inequity in the current fee assessment process. They would like to see a new procedure in place that puts all county developers on equal footing.



LAND USE

Housing

The Highlander Point area has a mixture of low density (one dwelling unit per two acres) and moderate density (minimum of one dwelling unit per .85 acre) single-family developments that are concentrated along feeder corridors off US 150. Over 50 percent of the housing was developed after 1980. The existing housing is in satisfactory condition. The homes generally show no major signs of dilapidation or negligence.



Example of Residential Developments found in Highlander Point

Currently the existing developments lack any pedestrian orientated linkages between other residential developments

and/or the existing commercial core. There is a need for pedestrian orientated developments and pathways, as determined by visual survey, public comments and sound planning principles. This will encourage greater pedestrian access and less reliance on vehicular traffic, cutting down some of the congestion in the area.

Existing Design Elements

The community has various housing styles and types within the immediate vicinity of Highlander Point. The housing styles found in the community range from typical southern Indiana small farmhouses to more contemporary housing styles. The housing stock employs stone, wood and brick materials, primarily. The area home are composed of three main forms of housing styles: Colonial, Contemporary and Victorian Style.

The Colonial styles do not use typical materials, but employ simple box design with no fancy architecture. These styles of houses fit in well with countryside and rural surroundings. The Contemporary style, although modern, does fit into the natural surroundings. There is an extensive use of mixed materials and glass to help the home conform to the outdoors. The final style common to the area is the Country Style. Country style follows the typical farmhouse style that typically has pitched roofs with Gable ends, wood frame construction and asymmetrical façades.

To preserve and enhance the agreeable characteristics found throughout the community; the creation of a pattern book would be helpful. The purpose of a pattern book is to encourage quality development that is aesthetically pleasing and enhances the architectural quality of neighborhoods. This assist homeowners, builders, and communities as they repair, rebuild and

expand their houses and neighborhoods (Northcutt, 2006).

Historic Structures

The area is home to limited historic structures. The Mt. St. Francis chapel and former seminary and the Augustus Lamb House US 150 Greek Revival (1860) are the only known official historical buildings within the study area (Sekula 2006).

The Highlander Point Gateway District lacks a current record of historically significant structures and features. As the community continues to grow, this may become a point of contention between residents and developers. An adequate assessment of the historically significant structures found in the community would be helpful in planning future growth.

Commercial

The gateway has a existing commercial node at the intersection of Old Vincennes Road and US 150. The existing commercial developments are automobile

orientated, with poor pathways for pedestrians. The development consists of a series of disconnected buildings, with ample parking and connecting lanes. There are five entrances into the development, two off Old Vincennes Road and three off Schrieber Road.

The development is primarily composed of typical commercial establishment's restaurants, dry cleaners, grocery but it also contains some office and retail services.

The existing commercial area has few pedestrian paths between existing structures for patrons. As the commercial development continues to expand, it will begin to encroach upon the surrounding residential developments. The new zoning ordinances need address setting standardized buffering requirements between the low-density residential and commercial uses.



Encroaching Commercial Development

Industrial

Currently there are no existing industrial developments in the Highlander Point Gateway.

Public/Semi-Public Spaces

The community is home to the Mount Saint Francis Retreat Center, which has a nature preserve, including a lake and walking paths, which are open to the public. The friary is also home to the Mary Anderson Center for the Arts, founded in 1989. The Mary Anderson Center offers studio space for local writers, visual artists, and

musicians. There are three public schools located in this study area: Floyd Central High School, Highlander Point Middle School and Galena Elementary School. These serve as community centers as well as educational institutions.



Mount Saint Francis

Infrastructure and Public Services

For fire protection, the community relies upon a collaborative effort from the Georgetown, Greenville and New Albany

fire departments. The existing fire protection systems are not proficient enough to protect the addition of new residential dwellings (McGee 2006). The community also relies upon the county to provide police services. The community does not have any immediate facilities for these services to employ during emergency events.

An updated inventory of the existing water infrastructures (water mains, local water supply, and fire hydrants) would be helpful in assessing Highland Point's ability to respond to events. All fire fighting and protection services should be provided to new and existing residential developments per local fire department codes and jurisdiction (McGee 2006). Conduct an in-depth evaluation of all existing fire protection systems to meet the requirements of local fire codes. A separate fire district should be responsible for the Highlander Point corridor. Work toward creating a fire district map, to

distinguish all serviceable fire areas for all fire departments.

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Current Zoning

Currently the entire gateway is under a blanket Agriculture and Residential Zoning ordinance. All existing commercial development in the community has been permitted though conditional use permits.

The existing commercial developments are predominately located along the US 150 corridor with the major commercial node of the gateway located at the Highlander Point Commercial Center. The gateway has limited agricultural properties currently existing.

The current zoning ordinance lacks the ability to adequately manage future development within the area. Currently the planning commission is in the process of evaluating and updating the county zoning ordinance. Implementation of strong zoning and possibly an overlay district, would aid county officials in managing the future growth expected in the area.

The county planning commission and planner has designated the Highlander Point as a growth area.

As of summer 2006 the Floyd County Planning Commission is drafting a zoning ordinance. The ordinance is a tool for Floyd County to guide and manage growth and development in accordance with vision of the Floyd County Comprehensive Plan. The ordinance should be approved by the fall of 2006.

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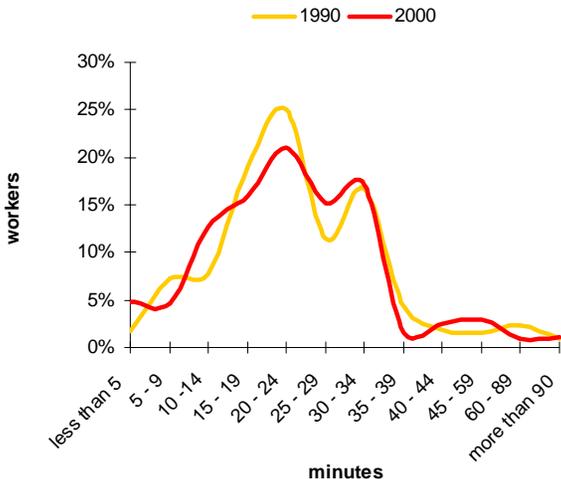


TRANSPORTATION

Transportation

In 2003 the Southern Indiana Chamber of Commerce commissioned a study to gauge how stakeholders viewed the future of the area. Members of the community were invited to provide recommendations on a range of topics. The final report states that participants identified transportation as the most important issue for southern Indiana to address (Southern Indiana Chamber of Commerce, 2003). The number of reported workers rose from 1,979 in 1990 to 2,786 in 2000 for a growth of 41 percent (U.S. Census Bureau 1990, U.S. Census Bureau, 2000). The significant increase in workers resulted from an accelerated increase in residential development in the Floyd’s Knobs area. While the number of cars on the road has increased, the average travel time to work remained almost the same; 21.6 minutes in 1990 to 21.3 minutes in 2000 (Chart 1). In 2000, the average daily traffic count on Hwy 150 adjacent to the Highlander Point retail and office area was 23,035 cars (Indiana Department of Transportation, 2000).

Chart 1: Travel time to work for area



The 2005 Update to the Floyd County Comprehensive Plan recommends “Smart Growth” guidelines for management of residential and commercial development (2002). A principle of smart growth is to provide transportation options for the reduction of traffic congestion, to improve air quality, etc. Smart Growth’s precept of creating walk-able communities is ambitious for an area hoping to maintain rural character.

Goal 5 of the update seeks to encourage opportunities for multi-modal transportation options such as park/ride lots, and pedestrian or bicycle networks. Special consideration should be directed to the Highlander Point area given the very high ratio of single driver automobile trips to work. Currently most workers in Floyd’s Knobs drive to work, and from 1990 to 2000 the area experienced a decrease in workers that carpool (Table 1).

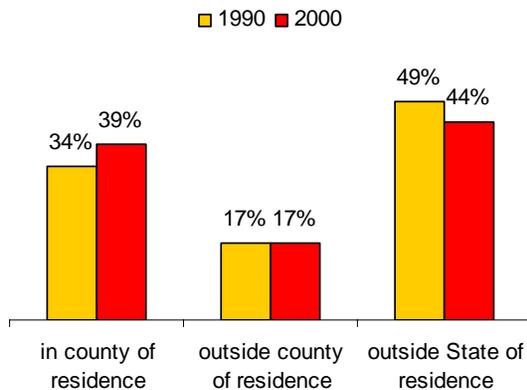
Table 1 – Means of transportation to work

Year	Drove alone	Carpool	Walk	Other means	Worked at home
1990	86%	9%	1%	0%	4%
2000	88%	7%	1%	2%	3%

Source: US Census Bureau

The development of commercial and office uses along Hwy 150 could account for the increase in workers remaining in the Floyd's Knobs area and the decrease of commuters to Louisville (Chart 2). Commercial development at Highlander Point has certainly contributed to an increase in within-county employment and within-county home-based trips to work.

Chart 2: Place of work



Source: US Census Bureau

As a part of the planning process for this document the Floyd County Commissioners identified the following transportation concerns in respect to Highlander Point Gateway District:

- Limiting signal lights on Hwy 150
- Setting a limit on the number of curb cuts
- Coordinating projects and road improvements with Indiana Department of Transportation (INDOT)



Local roadway

Connectivity

There is a lack of connectivity between Highlander Point and the surrounding community. Many of the residential areas are located on cul-de-sacs. If Highlander Point is to continue to grow with commercial and residential development, vehicular traffic will typically increase as well. Poor linkage between neighborhoods, commercial areas, and the road network will increase traffic congestion. Multiple modes of transportation in the county, especially in areas surrounding Highlander Point, are recommended. In terms of functional class, connectivity can be achieved by having the correct progression from a local feeder road to a collector road to an arterial (City of Bowling Green, 2002).



Many areas have no sidewalks

Walking and Bicycling

Two transportation studies that address non-automobile modes are in the planning stages for the area. Floyd County Public Works is developing a bicycle/pedestrian plan for unincorporated areas in the county (estimated availability: 2007). The plan will examine routing, connectivity to population centers, traffic generation, route identification, priority of efforts, and estimated costs of recommendations (Kentuckiana Regional Planning and Development Agency, 2000). The Floyd County Planner's office will complete a feasibility study regarding usage and facilities requirements of multi-modal functions (Floyd County Comprehensive Land Use Plan Update, 2002). One recommendation is to arrange a formal relationship (MOA) between these offices to pool resources for the two multi-modal studies.

The Floyd County Subdivision Control Ordinance addresses the need for sidewalks. Subdivisions with a gross area of more than one lot per acre are required have sidewalks on both sides of all new streets. The Ordinance also states that if a subdivision abuts a street that currently has no sidewalks, then the developer must provide exterior sidewalks within the limit of the subdivision.

More opportunities for walking and biking could occur through a public greenway or trail system. In Floyd's Knobs, the 500-year floodplain could serve as the major artery of a trail system. Land for a trail system could be acquired through conservation easements. A conservation easement (or conservation restriction) is a legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land in order to protect its conservation values; it allows landholders to continue to own and use land and to sell it (Land Trust

Alliance, 2006). When a conservation easement is donated to a land trust, the landowner relinquishes some of the rights associated with the land. For example, the landowner might give up the right to build additional structures, while retaining the right to grow crops (Land Trust Alliance, 2006). Greenways and trails offer improved connectivity while promoting active and healthy transportation options. A linear park system that would include shared pedestrian and bike path connections to major destinations in the community could connect with existing and improved sidewalk systems.



Walking Trail
Source: Indy Greenways

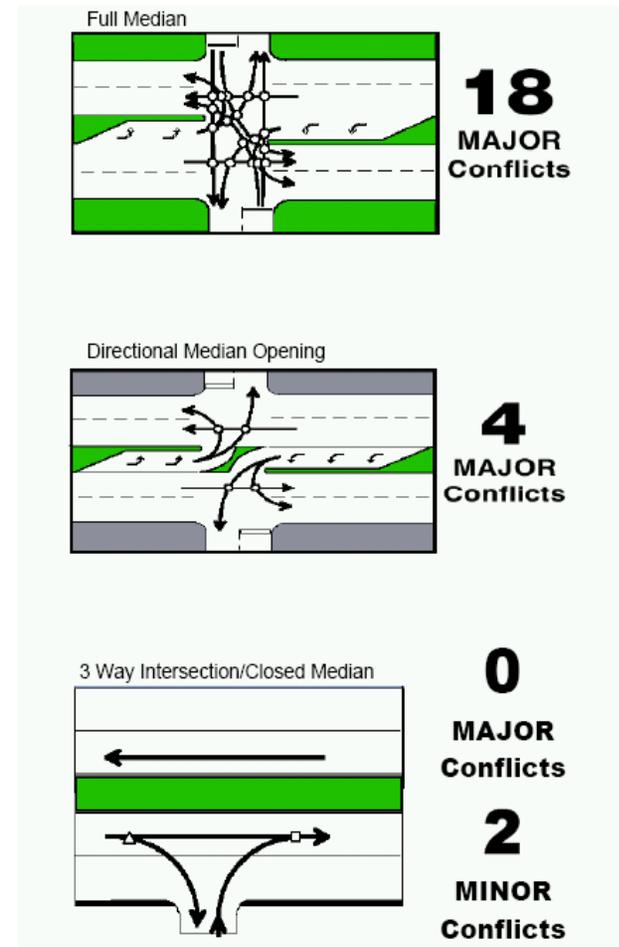
Access Management and Traffic Calming

Poorly designed intersections raise safety concerns in and around the Highlander Point shopping center. Traffic is increasingly hard to manage at the busy intersections at US 150/Luther Road and US 150 /Old Vincennes Road. One problem is that there are too many decision points at these intersections. For example, the Highlander Point shopping center has three points of access along Schreiber Lane. If the area continues to develop in this manner, congestion and collisions will progressively continue. It is essential that some form of control be exercised such that benefits can be achieved from growth and economic development while maintaining transportation safety and mobility (Kentucky Transportation Center, 2004).

Access Management is about providing and managing access to development while preserving the regional flow of traffic in terms

of safety, capacity and speed. It provides benefits to the communities, property owners and developers because it protects the level of service for thoroughfares and discourages the unplanned subdivision of land. A guiding principle is to limit the number of points where the movement of through traffic can come into conflict with traffic moving in another direction.

Many traffic safety concerns could be solved with traffic calming techniques. Reworking the I-64 and Hwy 150 interchange with medians and landscaping would slow motorists and help reduce speeding. Adding a stop light at Hwy 150 and Luther would slow down drivers and ease access to and from the road to the highway.



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CONSERVATION DESIGN

Rural Conservation and Preservation

Preserving the rural landscape of a community is an enormously difficult challenge for planners. Managing growth patterns in a consistent manner that combines methods of preservation with social and economic factors is extremely complex. In order to determine the most desirable elements of a community's rural characteristics, unique planning techniques are required.

The primary planning tools most often used by planners for the preservation of the rural characteristics of a community include, the comprehensive plan, the land development ordinance, and the development plan review process. Utilizing these tools in conjunction with additional innovative community planning techniques provide planners with the ability to manage growth and development and to provide the most efficient means of preservation for the rural

and scenic resources of a community (Stokes, Watson, and Mastran, 1997).

Some of the more common planning techniques currently used to protect and preserve rural resources include, conservation subdivisions, cluster development, overlay zoning, and the transfer and/or purchase of development rights. These tools are becoming increasingly more popular as rural preservation methods and land use development programs generate positive outcomes in communities across the country and around the globe.

The comprehensive land use plan is the blueprint for future development in a community, and provides a visionary plan of action detailing what should be done and how and when to do it. The land use plan serves as the foundation for the preservation of a community's natural, cultural, historical, and scenic resources while respecting the importance of its

residential, commercial, and industrial based economic resources.

Clustering development

Clustering development may consist of single-family detached housing, multi-family apartment buildings or condominiums, or a combination of all types. Maintenance of the common areas created by cluster development is typically controlled by a homeowners association, which requires homeowners to contribute equally to the related expense. The common areas may be used as recreational or agricultural space and are generally separated from the residential areas by a landscape buffer area. (Stokes, 1997).

Overlay zoning

Overlay zoning, also known as critical area zoning, serve to protect ecologically significant lands and to function as a means of preserving. In addition, serve as

safeguards for the unique visual resources that are considered to be in danger of objectionable development policies. (*Scenic Corridors Design Guidelines, 2001.*)

Overlay zoning districts work to enhance areas of aesthetic value such as, waterways, shorelines, wetlands, woodlands, historic preservation districts and natural historic sites. Overlay zoning assure that these unique sites are excluded from incompatible land uses.

Development standards in overlay zoning districts require architectural elements to be of a specific design, color, and material; enhancing the view shed and the architectural scheme of the district. The physical and structural elements of the development are organized in a manner to limit infringement upon scenic value and natural setting of the existing landforms. Landscaping plans incorporate existing trees, shrubs, watercourses, and wetlands

where feasible and new vegetation consist of native plant species and other flora that is compatible with the surrounding environment.

Conservation Subdivisions Developments

Conservation Subdivisions Developments (CSD) are an alternative to traditional “cookie-cutter” style subdivisions. These conservation subdivisions are a market-oriented approach to balancing market demand and environmental protection issues.

Conservation subdivisions developments concentrate development on those areas most suitable for development, such as upland areas or areas with well-drained soils. The undeveloped portion of a conservation subdivision can include such ecologically or culturally-rich areas as wetlands, forest land, agricultural land/buildings, historical or archeological

resources, riparian zones (vegetated waterway buffers), wildlife habitat, and scenic view sheds (Stokes, 1997).



Reflection of Residential Development near Wetlands in Prairie Crossing.

Common features of conservation developments include the integration of compact land tracts and common open spaces. In addition, they permit the construction of the maximum number of residential housing units allowed under

community zoning regulations. The final product is a contemporary suburban style housing development with tranquil landscape features such as, wetlands, woodlands, and scenic vistas.

Typically, the open space is permanently preserved via easement or dedication and managed through a homeowners association, land trust (or other conservation organization), or local government agency. In some conservation subdivisions, preserved areas have been leased to farmers for small-scale agricultural production, used for community gardens, and even used as community-owned horse farms.

Conservation subdivision developments can be a useful tool in addressing local concerns regarding the loss of environmental resources, farmland and community character. Local governments can also use CSD's as a vehicle for creating community open-space networks.

Establishing open-space networks and reducing impervious surface cover can benefit the community by providing new recreation opportunities, protecting wildlife habitat, maintaining the ecological and water filtration functions of wetlands and riparian areas, and reducing storm water runoff and flooding (Arnold, Gibbons, & Monahan 1999).

To encourage the use of CSD, local governments need to modify their comprehensive plans, zoning ordinances, and subdivision regulations to allow conservation subdivisions and to incorporate the flexibility into key development codes - such as lot sizes, building setbacks, and road frontages and standards - needed to implement CSD. Providing incentives such as density bonuses to developers that incorporate CSD into their projects is further step that local governments can take to promote this type of high-quality, ecologically sensitive type of development (Town of Cary 2004).



Conservation compared Traditional Rural Residential Developments

The Comprehensive Plan for Floyd County includes similar elements for the preservation of scenic lands under its *Land Use Plan Goals and Community Policies* section. This section focuses on preserving the rural atmosphere of the area, which describes ten Smart Growth principles for land use preservation (Cornerstone 2005, 16).

Conservation Subdivision Attributes

Designated open space should be located to protect environmentally sensitive features. In most cases, it can also provide nearby residents benefits such as scenic vistas and recreation areas which add value and increase marketability.

The location and functions of neighborhood conservation areas should be the *first* thing the developer designs, not the last. If the property is blessed with a good fishing stream or notable wildlife habitat, the conservation areas should be configured to protect these resources.

While recreational use of the open area is often appropriate, locating a ball field on the banks of a trout stream, where soil and fertilizer might wash to the water, should be avoided. Ultimately, to retain rural character and protect habitat, conservation areas need to be viewed in a regional

perspective and possibly linked to form greenways.

Social and Recreational Advantages

- Common open space provides attractive areas for neighbors to meet informally and socialize.
- Common open space may be designated for recreational uses such as biking, walking or ball playing all of which promote social interaction.
- Smaller yards to tend can provide residents with more leisure time.



Ideal Rural Open Space

Environmental Advantages: For Water Quality

- Common open space can be designated as buffers to protect wetlands, streams and ponds.
- Water quality is enhanced when impervious surfaces such as streets, driveways and pipes are minimized.
- Where appropriate, stormwater and sewage treatment facilities can be located within the open space.



Created Nature Preserves

For Wildlife

- Common open space, if properly sited and managed can provide wildlife habitat with the three basic requirements of shelter, food and water.
- When linked to other existing open areas, the common open spaces can serve as wildlife corridors and unfragmented wildlife preserves.
- Common open space can be used to protect “unique or fragile” habitat as identified by local, regional or state natural resource surveys.

The majority of residents in both conventional and conservation subdivisions said that a "nature view from home" of wooded areas was their top priority in a home site, but the view of the woods was largely unavailable in the conventional developments (Bailey 2004).

Conservation subdivision design offers economic benefits to residents,

developers, local governments and the community.

Economic Advantages of Conservation Subdivision Developments

1. Lower costs compared to traditional/conventional subdivision development, while accommodating the same number of homes
2. More profitable and faster selling development in many cases
3. Faster home appreciation
4. Helps to preserve the tourism economy by preserving land, wildlife and rural character
5. Smoother permit review process
6. Protects water quality, reducing or eliminating the need for expensive stormwater pollution treatment
7. Reduced infrastructure construction costs
8. Reduced infrastructure maintenance costs

9. Reduced demand for publicly funded land and open space

10. Enhances the property values of nearby parcels and neighboring properties

11. Marketing and sales advantage as developers and realtors can highlight distinct benefits such as open space, views, wildlife and trails (Landchoices, 2006).

Four Successful Steps to Implementing Conservation Subdivision Design:

Step One: Identifying Conservation Areas:

Identification of green space worthy of preservation is divided into two parts: Primary Conservation Areas comprising regulatory wetlands, floodplains and steep slopes; and Secondary Conservation Areas including those unprotected elements of the natural and cultural landscape that deserve to be spared from clearing, grading and advancement.

Step Two: Locating House Sites:

Locating the approximate sites of individual houses which for marketing and quality-of-life reasons should be placed at a respectful proximity to the conservation



Image of Rural Development

areas, with homes backing up to woodlands for privacy, fronting onto a central common or wildflower meadow, or



Step 1 to Identifying Conservation Areas

enjoying long views across open fields or boggy areas. Take maximum advantage of the property's conservation elements, thereby capturing the added value those elements convey.

Step Three: Aligning Streets and Trails:

Trace a logical alignment for local streets to access the homes and for informal footpaths to connect various parts of the neighborhood making it easier for residents to enjoy walking through the green space, observing seasonal changes in the landscape and possibly meeting

other folks who live at the other end of the subdivision.

Step Four: Drawing in the Lot Lines

Draw in the lot lines. Successful developers of conservation subdivisions know that most buyers prefer homes in attractive park-like settings and that views of protected green space enable them to sell lots or homes faster and at premium prices (Arendt 2001).



Final Layout of a Conservation Development

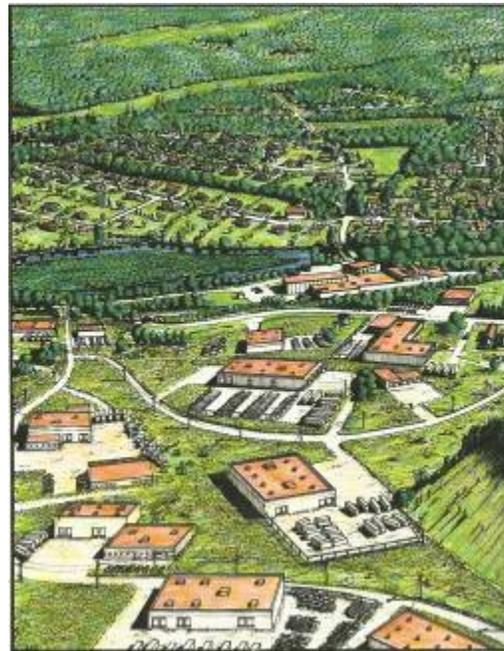
Land Use Policies and Methods for Land Conservation

Land conservation contributes to rural character by preserving the undeveloped lands and preventing them from becoming subdivisions. Land conservation allows local governments to preserve existing ecosystems and environmentally sensitive areas while managing growth.

Effectively management of growth requires current citizen to take proactive actions. As the Highlander Point continues to grow, local leaders and citizen need to enact land use policies to manage this future growth.

Approaches to Land Conservation

There are many choices policies for the citizens of Highlander Point to implement for conserving land, with each having varying levels of government involvement. It is up to the community to decide which methods are most appropriate for the area.



View of Conventional Development. From Rural by Design

Land Trusts

The least government-intrusive method for land conservation is the establishment of land trusts. Land trusts are non-profit, private organizations that may purchase or accept donations of land to hold in perpetuity on the promise that the land will be developed very lightly, or not at all.

Land trusts may hold land in ownerships or monitor conservation easements. The Sycamore Land Trust and the Oak Heritage Conservancy are excellent examples of land trusts found in Indiana.

Conservation Easements

According to Indiana law, a conservation easement is "a nonpossessory interest of a holder in real property that imposes limitations or affirmative obligations with the purpose of (1) retaining or protecting natural, scenic, or open space values of real property; (2) assuring availability of the real property for agricultural, forest, recreational, or open space use; (3) protecting natural resources; (4) maintaining or enhancing air or water quality; or (5) preserving the historical, architectural, archeological, or cultural aspects of real property." (Indiana Code 32-23-5-2)

In plain language, a conservation easement "is a restriction placed on a piece of property to protect its associated resources." (The Nature Conservancy) The easement is a legal document that limits or prevents development on the land, and is permanent because the easement runs with the property.

Conservation easements have tax implications, because the value of land that cannot be developed does decrease. Indiana law mandates that property with a conservation easement must be assessed and taxed reflecting the land's decrease in value. Therefore, if a conservation easement is donated, the donor may qualify for a charitable deduction.

Conservation easements do not require the involvement of local government; the sale and purchase of easements is like any real estate transfer; it is a private act between a land owner and a purchaser.

Open Space Development Design Mandates

A third option for citizens who wish to preserve and conserve land involves a higher degree of local government involvement. Randall Arendt suggests mandating open space subdivision design in zoning ordinances, specifically in subdivision regulations. He describes specific open space development design policies in "Growing Greener". For further information on specific ordinance language please visit the Green Neighborhoods' website. (www.greenneighborhoods.org, 2006)



Greenways Neighborhood, near Lexington, Virginia

Development Rights

The transfer of, or purchase of, development rights are a planning technique that is currently used to protect and preserve natural and rural resources and to manage development in areas deemed to have a high aesthetic value. They are similar to conservation easements.

A transfer or purchase of development rights program involves government to a large degree. A development rights program necessitates a strong political will to either spend a great amount of public money to acquire the development rights or strong zoning language that provides for transfer of the development rights from a rural area to a location where growth is far more desirable.

The local government typically runs a purchase of development rights (PDR) program. With the PDR's landowners, sale purchases the development rights but

continue to own the land. Because development rights can be very valuable, it proves to be fiscally challenging to operate a PDR. In the region, the Lexington-Fayette Urban County Government (Kentucky) has a PDR program in place to preserve farmland (www.lfucg.com, 2006).

Far more common in the United States are transfer of development rights (TDR) programs. TDR programs are administered by the local government as an growth management tool. The development rights of an area can be transferred from a designated "sending zone" to a designated "receiving zone". The intention is to encourage development in areas for more efficient use of existing infrastructure (Scenic Corridors Design Guidelines, 2001).

Both land trusts and conservation easements, which can be administered by private groups or individuals, could be a highly affective land conservation

approach. From a governmental approach, the open space development design mandates would be most useful for accomplishing the residents desire to maintain the rural character.

Examples of Successful Conservation Residential Neighborhoods:

Example 1: Third Street Cottage in Langley, Washington



Picture of Third Street Cottage

The city of Langley adopted the Cottage Housing Development (CHD) code in 1995. This code recognized that homes of 975 Square Feet (SF) should not be treated the same as homes of two to three thousand sq. feet.

The CHD code allows for 4-12 homes in an area that usually less than half of that many homes could be built. Each cottage has to be adjacent to a common area. The development has minimal parking requirements (1.25 spaces per cottage) and requires that parking spaces be screened from the road.

Example 2: Tryon Farm in La Porte County Indiana

Tryon Farm is a 170-acre development, located just one hour outside of Chicago. The development is intent on preserving the existing farmland and rural characteristics found in this community.

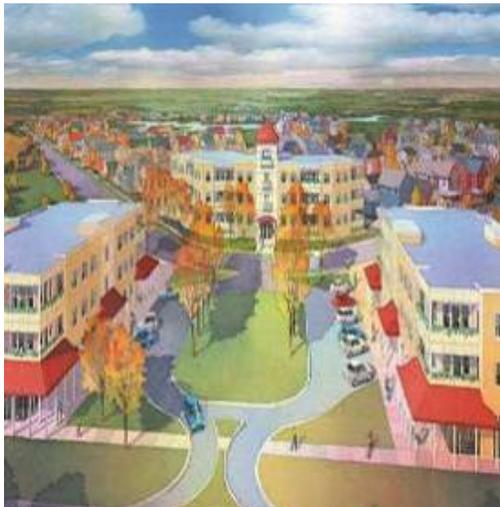
The development is composed of seven clusters, each organized around the existing natural farmland, ponds, and original farm buildings.



Aerial Photograph of Tryon-Farm

Example 3:
Prairie Crossing in Grayslake, Illinois

Prairie Crossing is a conservation community made up of 359 homes and 36 condominiums. The development provides residents with plenty of opportunity to enjoy the outdoors with public gardens, forest, open public spaces and more than ten miles of trails. The preserved open space found within the development composes over half of the acreage (*A Conversation Community: Living At Prairie Crossing*, 2001).



Drawing of Prairie Crossing

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WASTE TREATMENT

Introduction

The issue of sewers has been one of great debate and concern in the Highlander Point community. This is evident through public comments made at the public meeting on February 28, 2006 and comments from the planning commission board members meeting February 10, 2006.

In order to go forward with any decisions concerning waste treatment, it is necessary to understand the decisions that are being made now that will effect future decisions. Georgetown City Council voted on April 3, 2006 to purchase 23 acres of property to construct a sewage treatment plant. The facility will provide sewage service to residents in and around Georgetown and thus remove its dependence on New Albany (Hershberg, 2006)

In addition to Georgetown plans for building its own treatment facility, New

Albany received 350,000 “sewer credits” from the United States Environmental Protection Agency (EPA) to begin adding new users to its sewer system. A sewer credit is equivalent to one gallon of wastewater per day. According to the EPA, an average household produces around 300 gallons per day. This means that New Albany can add just fewer than 1200 new users once the entirety of the credits becomes available. As New Albany makes improvements to its sewer system, two additional installments of credits of 340,000 and 334,000 respectively will be issued. This creates a total of over 2,000 additional new users (Adams, 2006).

For the Highlander Point Gateway, this could mean many things. The gateway currently gets its sewer service from New Albany. Because New Albany has been struggling with the EPA to gain credits that would allow more people onto the sewer line, the addition of new sewers has been limited. Once the Georgetown facility

comes online there is the potential for additional sewage service to become available for New Albany and the surrounding areas. This could allow the Highlander Point Gateway to expand its sewer service

Traditional centralized systems may not be best suited for Highland Point. There are multitudes of alternative treatment technologies available to small communities. When deciding upon a suitable alternative community leaders must weigh their choices carefully since each technology has advantages and limitations. To choose the right treatment technology, a community must evaluate many factors and explore each system in-depth. Some factors to consider when evaluating alternative wastewater treatment systems are the state and local regulatory requirements, current and future community population trends, the current environmental limiting conditions in the

community and the community's' limiting financial factors (Olson, 2002).

According to the Indiana State Department of Health rules for Residential Sewage disposal Systems sec 31 (g) & (h):

(g)"In order to permit development of new or more efficient sewage treatment or disposal processes, the commissioner may approve the installation of experimental equipment, facilities, or pollution control devices for which extensive experience or records of use have not been developed in Indiana. The applicant for such approval must submit evidence of sufficient clarity and conclusiveness to convince the commissioner that the proposal has a reasonable and substantial probability of satisfactory operation without failure."

(h)"No portion of the residential sewage disposal system or its associated drainage system shall be constructed upon property

other than that from which the sewage originates unless easements, which grant permission for such construction and access for system maintenance, have been obtained for that property and have been legally approved and recorded by the proper authority or commission."

Citing these two regulations, Highlander Point can manage new developments and direct its design standards toward utilizing open space more efficiently, while preserving the rural feel of the community. This allows Highlander Point to be creative in its design and choice for sewage treatment services.

At the county level the Floyds County Cornerstone 2005 Comprehensive Plan states that future development will work towards following smart growth principles, namely managing future development to "Take Advantage of Compact Building Design." State regulations can aid in achieving this goal. By utilizing nontraditional but proven effective

decentralized sewer systems, along with clustering of new developments on suitable land, the community can manage growth while preserving environmentally sensitive areas and maintaining its rural character.

Currently the Highlander Point community is a mix of agricultural (AR), commercial (C) rural (RR) and suburban residential (RS) developments. The community will move towards denser developments in the future as County officials have designated this area as a managed growth area for the county (Cornerstone, 2005).

Currently sections of the community have water and sewage services provided by the New Albany treatment facility. The neighboring community of Georgetown plans to begin constructing a new 350,000-gallon treatment facility this summer, which will end the Georgetown's dependence on New Albany for its sewage treatment needs (Hershberg, 2006). The role of the new Georgetown treatment facility in the

development in Highlander Point is of concern and warrants further investigation.

Two limiting environmental conditions within the Highlander Point area limit traditional types of wastewater treatment facilities, centralized and onsite septic systems. These two environmental conditions are steep slopes (Map 3) and the poor soil conditions (Map 4) found throughout the community.

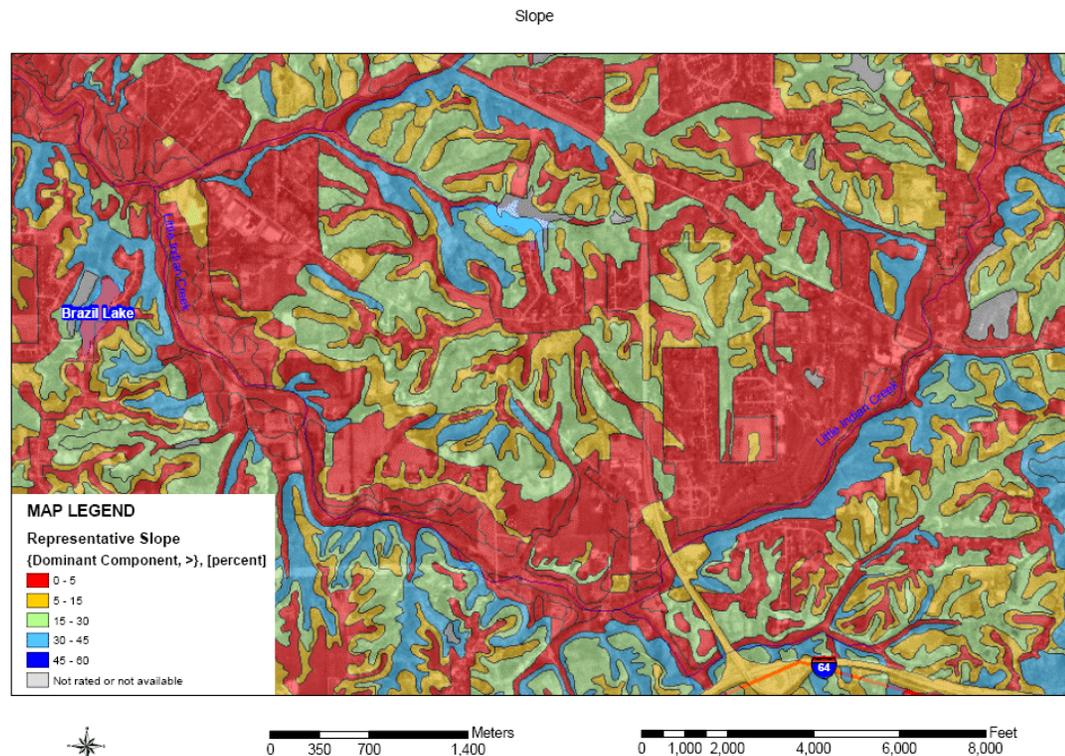
Conventional central sewer systems are dependent upon gravity to deliver the sewage from each property to the treatment plant. The pipes must continuously slope downwards at a steep gradient that is uniform throughout the system to ensure that the pipes avoid clogging with solid material. The elevation differences within found in Highlander Point would require a centralized system to employ numerous lift stations to transport the sewage to the higher elevation (Olson, 1996). These requirements would make

installing a conventional centralized system throughout Highlander Point community very cost prohibitive.

Traditionally, rural and outlying suburban areas developments depend upon individual septic systems for wastewater disposal (Hoover, 1997). Problems can arise in certain areas because not all soils

can absorb wastewater or purify it. Improperly functioning septic systems contaminant surface and groundwater, and can lead to outbreaks of bacterial and viral illnesses (Hoover, 2001).

REPRESENTATIVE SLOPE RATING FOR FLOYD COUNTY, INDIANA



Map3: Slope Limitation Overview for Highlander Point

Within the study area, the soils have a very limited capacity for septic tank absorption fields (Map 4 and Table 1). The ratings are based upon the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. Owners can expect fair performance and moderate maintenance from the system. "Very limited" indicates that the soil has one or more features that are unfavorable for septic systems. Owners can expect poor performance and maintenance can be expected (www.nrcs.usda.gov).

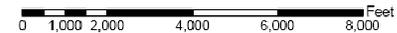
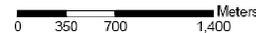
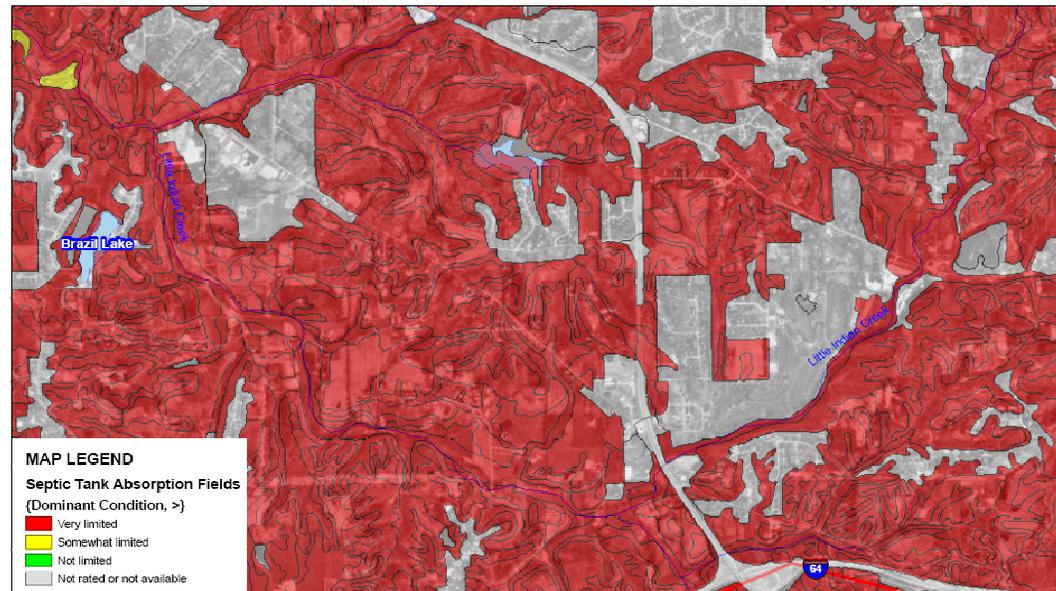
Decentralized systems

There has been much concern voiced in the public meeting, the planning board members meeting and in the "Southern Indiana 2020: Creating Our Future" survey, over health concerns and about the poor management of the current decentralized treatment facilities found in the area.

It has been only in the last few years that the EPA acknowledged that decentralized systems are as successful as municipal or centralized systems in treating wastewater to meet water quality standards in a cost-effective manner (Anderson and Gustafson 1998). In 1997, the EPA concluded that "Adequately managed decentralized

SEPTIC TANK ABSORPTION FIELDS RATING FOR FLOYD COUNTY, INDIANA

Septic Tank Absorption Limitation based upon Soil Type



Rating	Total Acres in Floyd County	Percent of Floyd County
Very limited	77,838.00	81.3
Not rated	17,649.60	18.4
Somewhat limited	235.2	0.2

Table 1: Soils Septic Tank Absorption Fields ratings for Floyds County

Map4: Septic Tank Soil Absorption Limitation For Highlander Point

wastewater treatment systems can be a cost effective and a long-term option for meeting public health and water quality goals, particularly for small, suburban and rural areas." (EPA, 1997)

The EPA defines decentralized wastewater treatment systems as "Individual onsite or clustered wastewater systems (commonly referred to as septic systems, private sewage systems, individual sewage treatment systems, onsite sewage disposal systems, or "package" plants) used to collect, treat, and disperse or reclaim wastewater from individual dwellings, businesses, or small communities and service areas. Such systems may provide an alternative to conventional centralized wastewater systems" (EPA, 2002).

With the limiting environmental conditions found in Highlander Point, the installation and proper maintenance of decentralized systems are the best options of future developments. Rural communities that

have limiting environmental conditions and limited financial capabilities to support multi-million dollar sewer projects can utilize decentralized systems as an alternative to the expensive, centralized sewer systems (Hoover, 2001).

Decentralized systems require more than the usual amount of long-term monitoring necessary to ensure that these systems consistently meet the operating standards claimed by manufacturers and proponents (Anderson and Gustafson 1998). To meet these requirements these systems need to be operated by a competent, accountable municipal, and/or private entity. Proper operation and management of treatment systems help dramatically improve the longevity and performance of any system (Hoover, 2001).

To adequately manage decentralized systems, many communities have taken a proactive approach by forming decentralized wastewater management

programs. These programs oversee the monitoring and maintenance of these privately treatment facilities after construction (Anderson and Gustafson, 1998).

Decentralized Management

A decentralized management program must address not only the proper functioning of these systems, but also system permitting, legal considerations, the maintenance of multiple types of treatment and collection systems, and setting user fees that fairly reflect different individual circumstances and system types as well as usage. Developing a system to inventory, permit, manage and maintain septic systems requires significant staff time and in many cases training (Hoover, 2001).

The process of developing a publicly supported, financially feasible decentralized management program generally involves five steps:

- **Needs Assessment**
- **Resource and Land Use Plans**
- **Engineering Assessment**
- **Public Education and Outreach**
- **Management Plan and Financial Structure Development**

Decentralized wastewater management is growth neutral. The decentralized management planning process allows communities to select the combination of wastewater treatment methods that best serves their land use goals, environmental resources, and political constraints, rather than relying on one-size-fits-all solutions (Hoover, 2001).

Linking wastewater management planning to local zoning ordinances, comprehensive plans, and permitting processes, provide communities with the opportunity to make wastewater treatment technology serve community goals and objectives (Hoover, 2001).

Future Considerations

While Floyd County elected and appointed officials seek a decision about the wastewater treatment of this area, it will be important for them to keep in tune with resident and developers alike. This issue will continue to be a hot button issue for the community. To make informed decisions about sewage treatment options, the Floyd County government should keep abreast of all of their options, from sewers, to septic, to decentralized systems.

The Highlander Point Gateway has been designated as an area for growth. Sewage treatment is a large part of this. As treatment facilities and systems become available, more development will be able to occur. With this expansion, however, growth need not become rampant. Many of the area residents have voiced their concerns that additional sewers would help promote sprawl and unchecked growth.

However, if Floyd County institutes strong growth regulations, this growth can be managed to keep pace with demand and capacity.

Floyd County is not alone in its decisions to move from septic to sewers. Locations around the country have been dealing with that issue for many years. A few examples of other areas from around the country that have dealt with the transition from septic to sewer can be found in the appendix. These articles show how these communities have dealt with the issue and provide some insight on how Floyd County might proceed with their own treatment decisions.

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GREENWAYS, TRAILS, & PARKS

Greenways

Greenways are networks of land containing linear elements that are planned, designed, and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with sustainable land use. (Ahern, 1995) Greenways have a long history in the United States. Beginning with Frederick Law Olmsted's Emerald Necklace in Boston (1875-1895), cities, counties, and regions throughout the nation have planned and implemented greenways, trail systems, and the linkage of regional parks through natural corridors (Ryder, 1995).

In the late 1980's a renewed interest in greenway development was sparked by a report by the President's Commission on the American Outdoors. The Commission promotes a living network of greenways to provide people with access to open spaces close to where they live, and to link together the rural and urban spaces in the

landscape, threading through cities and countryside like a giant circulation system (President's Commission on the American Outdoors, 1987).



Pedestrian trail at an Indianapolis Greenway.
Photo Source: Indy Greenway Foundation

Greenways and trail systems emphasize spatial connectivity of natural systems in the landscape by linking larger park areas through "fingers" or a "necklace" of green. Greenways can be described landscapes structured by a 'patch and corridor' spatial concept which includes corridors and stepping stones to connect isolated patches of open space while countering the effects of ecosystem fragmentation (Forman and Godron, 1986).

A Greenway system for Floyd County

People need green space, parks and trails for many uses, including recreation, dog walking, physical exercise, and even as an alternative means of transportation when pedestrian or bicycle paths are available. The area surrounding US 150 at Highlander Point is an ideal location to set up and implement these services and amenities. This section examines greenway planning and the implementation

of a system to link parks for Floyds County. Special attention is given to the Highlander Point Gateway District as an area with potential to serve as a hub for the beginnings of a larger, countywide park and trail system. Given the current development patterns and the natural surrounding, the Highlander Point Gateway provides the opportunity to implement recreational facilities including parks and playing fields for all ages, while contributing to connectivity between the residential areas of Floyds's Knobs.

Greenway and trail networks are developing in and around the cities of Indianapolis and Bloomington as well as in counties across the state. A goal of the Floyds County Parks Master Plans is to reserve and acquire park space in the rural fringe of the urban areas within Floyds County in advance of expected development with the purpose of influencing future growth patterns, assuring future residents accessible open spaces and protecting significant natural features

(New Albany-Floyds County, 2003). A greenway system could contribute specifically to this goal while supporting smart growth in Floyds County in terms of both influencing residential development and conserving ecosystems.

Greenways efficiently use and preserve wetlands, floodplains, and areas with steeply graded topography. The steep slopes and floodplains of Floyds's Knobs in particular are ecologically sensitive areas especially worthy of protection. The incorporation of greenway systems that protect stream corridors within agricultural lands can solve environmental problems as well as satisfy demands for open space preservation, wildlife conservation, and wetland protection (Schrader, 1995).

Parks and greenways can stimulate the local economy. Some argue that open spaces do not provide economic benefits because they occupy developable land. The reality is that parks and trail systems

increase property values. In terms of rising property values and increasing the tax base, a study on greenways commissioned by the City of Bloomington, Indiana finds in many cases that developers receive a premium on lot sales near greenways similar to lot sales close to golf courses (City of Bloomington, 2000).

Parks and trails can contribute to healthier lifestyles while strengthening social ties. Parks offer places for a community to exercise and play. Athletic fields, play grounds and open spaces offer functional areas that allow people to live more actively in an outdoor environment. Parks and open spaces offer a meeting ground for communities that provide for a greater sense of community.

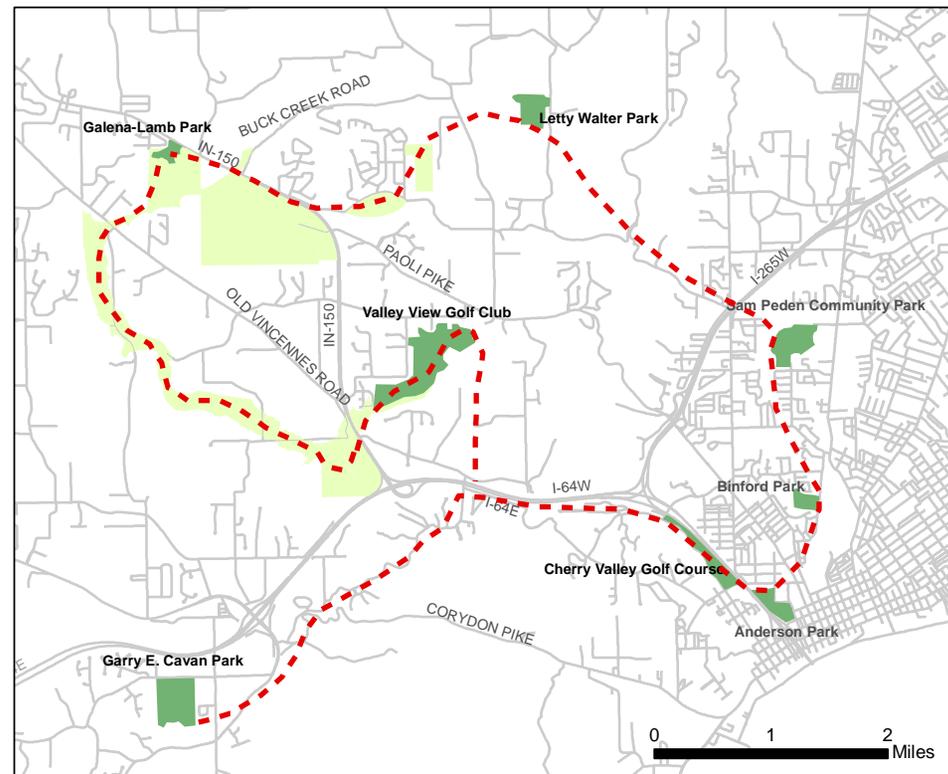
Planning for Greenways

Goal determination is a critical element of greenway planning. The City of Bloomington Indiana set a wide range of goals for their area greenway system. These goals included the implementation of highly accessible bicycle and pedestrian paths, the establishment of linkages between existing parks, the formation of funding strategies, a commitment to environmental stewardship, and the promotion of economic development and tourism (City of Bloomington, 2000). Useful goals for greenway planning in Floyds County could include promoting further opportunities for recreation and conservation, establishing linkages between existing parks and trails, and forming programs that educate the community about the many benefits of greenway systems. Initial goals could focus on the identification of links between existing parks, open spaces, and ecologically sensitive areas. A complete list of Floyds County regional and community

parks is available in the 2003 New Albany-Floyds County Parks and Recreation Master Plan (Appendix A). Using Geographic Information Systems existing parks are easily compared with the floodplain; a natural backbone for a

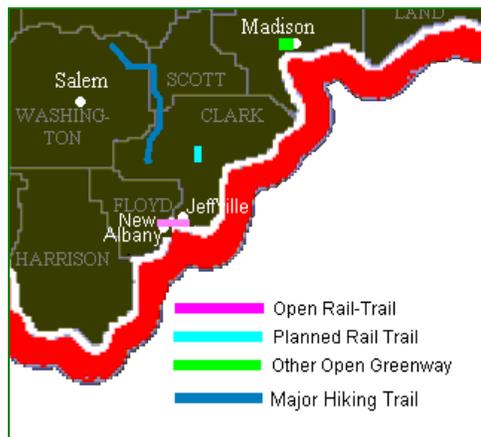
greenway in Floyd County. MAP 1 compares a proposed greenway made up of ecologically sensitive areas with existing area parks.

MAP 1 - Proposed Floyd County Greenway



- Existing Parks and Open Space
- Proposed Highlander Point Greenway
- Roads
- Potential Greenway Trail

More long term initiatives might involve plans to link up with greenway or trail systems in neighboring counties. Just north of Floyds County is the Knobstone Trail in western Clark County. The Knobstone Trail is Indiana's longest footpath - a 58-mile backcountry-hiking trail passing through Clark State Forest, Elk Creek Public Fishing Area, and Jackson-Washington State Forest that contains more than 42,000 acres of rugged, forested land in Clark, Scott and Washington counties in southern Indiana (Indiana Department of Natural Resources, 2006) (Map 2).



MAP 2- Hiking Trails of Southern Indiana

Eventually trails could be developed within Floyds County and the Highlander Point area to begin linking existing and newly acquired park space. South of the actual Highlander Point commercial center there is open land within the flood plain. Using this natural corridor it would be possible to link the Floyds County High school to the Highlander Point commercial center. By connecting the high school to the commercial center auto accidents and levels of traffic congestion might decrease. Such a trail could continue circumnavigate the Mt. Saint Francis preserve and continue south along US 150 (Map 2).

Existing transportation infrastructure can play a role in linking trails and parks. Scenic roads, linear by nature, have considerable potential for contributing to greenway corridors by protecting and connecting landscapes of particular ecological, recreational, and esthetic value (Little, 1990). Old Vincennes Road in the Floyds's Knobs area is situated roughly

along a historic buffalo trace (See Appendix B).

Indiana's Historic Pathways passes through 16 counties and comprises U.S. 50 from Vincennes to Lawrenceburg and U.S. 150, which overlaps U.S. 50 from Vincennes and extends southeastward to the Falls of the Ohio. Portions of the old Buffalo Trace can be found on or south of federal highways connecting Vincennes and Clarksville (Historic Southern Indiana, 2006).

As components of greenways, parkways and scenic routes have potential to provide wildlife habitat protection, improve landscape esthetics, enhance community pride and identity, and optimize the use of limited areas for conservation (Kent and Elliott, 1995).

In terms of land use the Indianapolis Greenways Master Plan (2002) provides valuable strategies for integrating greenways with neighboring property. (1) Lower density residential development should be developed carefully to provide both sufficient access to the trail for residents and appropriate vegetated buffers between homes and the trail. (2) Higher density residential development should include a significant buffer area between the trail and parking lots or buildings. (3) Areas of transitional space are recommended between greenways and commercial areas. (4) Uses including churches, schools, and libraries and other public institutions should be linked to residential areas. This linkage could provide a transportation options to county residents through pedestrian and bicycle trails (Indianapolis Greenways Master Plan, 2002). Planning strategies that would be of use for a greenway planning process in Floyds County include:

- Identify, plan and develop these areas at Highlander Point within Floyds County
- Come to a consensus between citizens, environmental groups & businesses.
- Establish management strategies as well as preservation and conservation requirements
- Work with landowners in recognizing preservation sites, points of access, and rights of way.

Making Greenways Happen

Greenspace plans are usually implemented either by imposing regulations or offering incentives to private property owners to preserve these open spaces and protect natural habitats (Lindsey and Knaap, 1999). Enforcement of green space requirements may have a negative impact on long term greenway planning in communities. The Floyds County Comprehensive Plan Update suggests an exploration of development

impact fees for a long-range park acquisition program (2004). However, regulating could have adverse effects in regards to future development in the area. Offering incentives for landowners to participate in greenways initiatives could be the more effective course of action. Greenway incentives might include conservation easements, transfer of development rights, liability insurance programs, and other planning and economic applications (Ryder, 1995). Potential tax credits, etc. could be made available to companies to donate acreage for parks facilities on either abandoned sites or adjacent to their location so that employees as well as residents can benefit from the facilities (New Albany-Floyds County, 2003).

Residents throughout the United States place a high value on greenway development and in several instances have voted to raise their own taxes in support of greenway implementation. In Cheyenne,

Wyoming, a greenway bond referendum was used to fund the first three miles of local greenways. Residents of this study area have even said they would consider a tax increase or some other sort of fee in order to develop a park and greenway system (Great Bicycle Trails, 2006). Sometimes local groups are often willing to donate time and resources to greenway campaigns. For example, Friends of White River, IN, is a successful and growing volunteer organizations working throughout the White River watershed in different parts of Indiana. It is a successful and growing

organization (Friends of the White River, 2006).

At least one study suggests that raising awareness of the environmental importance of stream land conservation has a positive effect on landowner acceptance of alternative management strategies such as greenway or trail systems (Schrader, 1995). These strategies are designed to encourage voluntary rather than mandated adoption of changes in land use focusing on greenway corridors (Schrader, 1995). If members of the community remain resistant to plans for

a greenway placing an economic values on these ecosystem services could be a useful strategy. The idea being that proper valuation of these types of services can serve as the foundation for regulatory decisions, investment decisions (such as fee simple purchases), or decisions about public programs to preserve natural systems and open spaces. (Lindsey and Knaap, 1999). In any case widespread community support and involvement will form the basis for successful greenway planning and implementation in Floyds County.



Images of current trails in Southern Indiana
Photo Source: Richard Weisser



Little Indian Creek near Highlander Point



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FINANCING

Financing

To sufficiently meet the public service demands of new residential and commercial development, a coordinated effort between private and public entities is required. While the private sector initiates new development projects, the local government often has the responsibility of providing them with public services. The charge of government is to help provide services that address quality of life issues for its citizens.

A major issue in Highlander Point concerns the existing and future expansion of the sewer services. Some concerns relate to the steep financial burden associated with installing a centralized waste treatment system while others are concerned that sewer expansion will promote uncontrolled growth. This section focuses on potential financing methods important for the

provision of public infrastructure such as waste treatment facilities.

Property Taxes

Gathering property taxes is a common source in communities for funding public projects. Since the 1960's, municipalities have begun exploring alternative tax and service charges for public services to fund infrastructure improvement projects (Berens et al, 1996).

Grants

Grants take two forms; categorical (used for a specific purpose) and unconditional (granted for any use). The typical types of grants awarded for infrastructure and capital improvements include Community Development Block Grant (CDBG), Transportation Enhancement (TE) Grants, and Industrial Development Grant Fund (IDGF).

Transportation Enhancement Grant Programs (TE)

The Federal Highway Administration (FHWA) has set up a Transportation Enhancements (TE) program that offers funding for community-based, publicly accessible projects relating to surface transportation. Twelve categories of projects are eligible:

- ***Pedestrian and bicycle facilities including sidewalks and walkways, bike parking and bus racks, and off-road walking trails;***
- ***Pedestrian and bicycle safety activities including safety awareness campaigns and classes;***
- ***Acquisition of scenic or historic sites including easements;***
- ***Scenic or historic highway programs including tourist and welcome centers, and historic site markers;***
- ***Landscaping and beautification including street furniture, lighting, public art and landscaping along travel corridors;***

- **Historic preservation including preservation of buildings and facades, and access improvements to historic sites;**
- **Rehabilitation of historic transportation structures or facilities including railroad depots and bus stations;**
- **Conversion of abandoned railway corridors to trails including land acquisition, planning, design and construction;**
- **Inventory, control and removal of billboards;**
- **Archeological planning and research;**
- **Runoff pollution mitigations and wildlife connectivity including studies and control solutions; and**
- **Transportation museums including acquisition, construction and purchase of exhibits.**

The program is coordinated through the Indiana Department of Transportation (INDOT). INDOT's TE Committee determines project eligibility, evaluates

and prioritizes projects submitted and makes recommendations for final approval by the INDOT Commissioner and the Governor. Applications must be submitted by January 31st of each year. Chances for project approval increase when the local matching funds exceed 20 percent, the project is part of a larger plan, and strong local initiatives and partnerships exist (www.tea21.ky.gov, 2006).

Successful application will discuss the potential economic, cultural aesthetic and environmental benefits to the community. Also tying the project to existing transportation networks and future state and regional transportation plans is viewed as beneficial.

Industrial Development Grant Fund (IDGE)

IDGE grants provide financial support for infrastructure improvements for capital

improvement and projects that generate employment. The grant funds off site infrastructure improvements associated with development of new industries, when matched by local investments. To gain eligibility Cities, towns, and counties can collaborate with non-profits, and other similar entities. This grant will fund a maximum of 50% of infrastructure projects and the associated planning and design projects (www.in.gov , 2006).

Land Use Financing

The type of financing options implemented by local governments is contingent upon current land uses and the anticipated growth of the community. Land use financing options require local governments to have enacted zoning ordinances and a corresponding land use map.

Tax Increment Financing (TIF)

Tax increment financing is a subsidy created by State enabling legislation. The increased tax revenue from that area applied to finance redevelopment within the district. It is the responsible of local governments to enforce TIF's.

TIF has versatile uses; financing new infrastructure projects, land acquisition or parceling services, planning and engineering services, and demolition and rehabilitation of buildings. In addition, TIF district can be employed to finance Brownfield redevelopment projects

Indiana state legislation states that only areas of blight are eligible for TIF districts. Once the development property is established, the property value is frozen, development bonds are issued and development commences. The differences in property value (pre TIF and post improvement) are used to pay for the development bonds. All redevelopment

plans must conform to the comprehensive plan, and must specify the type of land created by the development.

TIF has proven to be beneficial for larger urban areas. Today rural communities have begun to implement similar strategies and projects. In the region, Spencer County, Kentucky plans to designate up to 500 acres of land as a TIF district for industrial uses. Spencer County hopes that this will help to finance road and infrastructure improvement in the area to attract businesses for an industrial park. The added businesses in the county will also help to add to the county's tax revenues which are currently mostly from residential property taxes (Green, 2006).

Special Tax Districts

Another form of Tax increment financing (TIF) are special taxing districts. The government establishes these special districts to fund specific improvements

within the district. State enabling legislation permit special tax districts and are administered by a local government/community entity (Berens et al, 1996).

Creation of special tax districts circumvents the need to tax existing residents for facilities required for new developments and spreads the costs of improvements over a targeted group of owners for a repayment period of 15 to 20 years ((Berens et al, 1996).

Impact Fees

Impact fees are fees charged to the developer or to a homebuyer to recover the portion of the cost of certain off-site improvements or facilities attributed to the subdivision or lot. Impact fees are allowable under Indiana state law, and may be imposed by any county, city, township or town. They may be exacted on any new real estate development, residential or commercial; to mitigate or defray the

capital costs of new or improved infrastructure required to serve that development.

The establishment of impact fee ordinance requires an approved comprehensive plan for the community. Impact Fees also require the establishment of a Zone Improvement Plan (ZIP) for each area where the impact fees are applied.

ZIP's contain information on the existing infrastructure, and ten year projections of anticipated development and infrastructure needs in the area. It also contains funding sources information and a historic financial record of previous infrastructure projects for the previous five years. To uses ZIPs legally they must be assessed and updated on an annual or semi annual bases.

Caution should be used when considering impact fees. Without proper growth management measures, impact fees can cause development to occur in areas

where ample infrastructure already exists (Berens et al, 1996. This could cause overcrowding in an area and can cause further impact on the existing infrastructure. Growth management techniques such as clustering development and having a working land use plan can help to alleviate such issues.

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