



MORGAN COUNTY

COMPREHENSIVE PLAN



FEBRUARY 2010

TABLE OF CONTENTS

Section 1 - Acknowledgements

Acknowledgements	3
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Section 2 - Introduction to Phase II

Introduction to Phase II	7
The Planning Process	7
Why Comprehensive Plans Fail	9
A User's Guide to the Comprehensive Plan	12

Section 3 - Vision, Goals & Objectives

Morgan County Vision Statement	17
Morgan County Development Policies	17
Morgan County Goals & Objectives	17

Section 4 - Making the Case for Planning

Making the Case for Planning	23
Agricultural Protection	24
Greenways	24
Housing Growth	26
The SR 37 /144 Corridor Plan	30
Roundtable of Governments	31

Section 5 - White River Greenways Plan

Introduction	35
--------------	----

Vision	35
Model Greenways	38
Greenway Development Best Practices	38
Best Practice Resources:	39
Proposed Interstate 69	42
Proposed Plan	43
County Parks	45
Future Expansion	48
Design Recommendations	49
Special Aspects of the White River Greenway	52
Next Steps	53
Project Financing	53
 Section 6 - Land Use	
Land Use Trends	57
Development Principles	57
Development of the Future Land Use Plan	60
Future Land Use Map	66
On-site Septic Systems	70
Growth Management	70
Design Standards	73
Subdivision Control	77
Next Steps	78

Section 7 - Critical Sub Areas

Critical Sub Areas	81
Little Point	82

Section 8 - Housing

Housing	87
Inventory and Assessment – Single Family	87
Inventory and Assessment – Apartments & Rentals	88
Major Housing Issues	89
Next Steps	89

Section 9 - Utilities

Introduction	93
Development Principles for Utilities	93
Water Supply and Treatment	93
Stormwater	96
Wastewater	96
Septic Systems	98
Electric, Natural Gas, and Telecommunications	99

Section 10 - Transportation

Transportation	103
Supporting Documents	103
Contributing Factors	103
Road and Street System	105

Analysis of Priority Issues	107
Railroads	108
Multi-Modal System	109
Public Transportation	110

Section 11 - Environment & Natural Resources

Introduction	113
Summary of Environmental Priorities	113
Development Principles	114
Priority Issues	114
Natural Resources Map	115
Rivers, Lakes and Streams	117
Floodplains	120
Wetlands	121
Karst Areas	122
Groundwater	124
Steep Slopes	125
Wildlife Habitat	126
Endangered Species	127

Section 12 - Implementation Plan

Implementation	131
Rezoning of Land to Match Comprehensive Plan	131
Zoning Ordinance	132

Subdivision Ordinance	132
Administration	132
Transportation	133
Utilities	133
Annual Comprehensive Plan Review	134

Appendix

Building Local Planning Capacity

- ◆ Planning Capacity Checklist
- ◆ Protecting Natural Resources
- ◆ Encouraging Economic Development
- ◆ Managing Transportation and Infrastructure
- ◆ Directing Development & Growth
- ◆ Increasing Local Fundamental Planning Capacity

Project Sheets

- ◆ Agricultural Land Preservation
- ◆ Bicycle & Pedestrian Plans
- ◆ Conservation Subdivision
- ◆ Creating a Neighborhood Association
- ◆ Hillside / Steep Slope Protection
- ◆ Impact Fees
- ◆ Overlay Zones
- ◆ Sustainability
- ◆ Traditional Neighborhood Development

Survey Results for Morgan County

MAPS

White River Whetzel Trace Greenway Map	37
Agriculture Intensity Map	61
Suitability of Soils for Agriculture Northwest Quadrant Map	62
Suitability of Soils for Agriculture Northeast Quadrant Map	63
Suitability of Soils for Agriculture Southwest Quadrant Map	64
Suitability of Soils for Agriculture Southeast Quadrant Map	65
Future Land Use Map	69
Little Point CSA Map	83
Transportation Map	106
Culture & Environment Map	116

Acknowledgements

1

Acknowledgements

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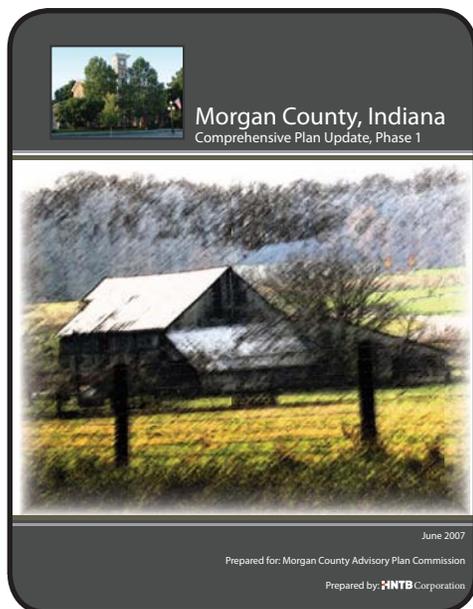
Introduction to Phase II

2

Introduction to Phase 2

Morgan County divided the work for its Comprehensive Land Use Plan into two phases.

Phase 1 had a Steering Committee who worked with the consulting firm of HNTB Corp. to do research and analysis, seek public input and ultimately create a set of goals and objectives. It was completed in June 2007. Phase 1 of the comprehensive planning process addressed the questions of “Where are we now?,” and “Where do we want to go?”



Phase 2 had a Steering Committee with many of the same members. This committee worked with the consulting firm The Economic Growth Team on additional research and creating an implementation plan for the goals and objectives. It was completed in spring 2009. Phase 2 tackled the question, “How do we get there?”

Combining these two phases shows how the Comprehensive Plan was formed, but a third document was integrated into the county’s planning efforts.

The SR 37/SR 144 Overlay Plan was created at the same time as Phase 2. Representatives from Morgan County, Martinsville and Mooresville worked together on an intersection-by-intersection plan for those two corridors. The Overlay Plan was made in anticipation of Interstate 69 being built through Morgan County, following the footprint of the existing SR 37. However, the recommendations are structured to be what’s best for the corridor, whether I-69 is built or not.

Because SR 37 (and by extension, the new I-69) is the economic lifeblood of much of Morgan County, the need for integrating the Overlay Plan is clear.

This section provides background on the planning process and pitfalls that could derail planning efforts. There are also tips for comprehensive plan users.

The Planning Process

In Indiana, comprehensive planning is permitted by the 500 Series of Title 36-7-4 of the Indiana Code. This law empowers cities, towns, and counties to adopt plans. Any plan adopted in Indiana must contain at least the following three elements:

1. A statement of objectives for the future development of the jurisdiction.
2. A statement of policy for the land use development of the jurisdiction.
3. A statement of policy for the development of public ways, public places, public lands, public structures, and public utilities.

In addition, the law provides for a number of optional elements, including, but not limited to parks and recreation, flood control, transit and natural resource protection. While each planning process should be custom-designed to meet community needs, nearly all contain the same core elements as found in this plan:

- ◆ Evaluate existing conditions, including strengths and weaknesses, community character, demographics, natural features, etc.
- ◆ Establish goals and objectives for the future
- ◆ Identify alternatives for meeting the goals and objectives
- ◆ Select the most desirable alternative
- ◆ Devise and adopt tools to implement the plan (zoning, subdivision control, capital improvement programming, etc.)
- ◆ Evaluate the success of the plan
- ◆ Revise the plan

These steps are part of a continuing process. Plans must be evaluated, changed and updated as the community changes. These changes can be gradual, as through demographic trends, technological change, or slow economic growth or decline. Sometimes change is more sudden, such as the location of a large new industry in a small community or the loss of a major employer.

Plans must be evaluated, changed and updated as the community changes.

Morgan County's planning process for this comprehensive plan included the following key elements:

Big Tent Event

This event was a kick-off for all Morgan County communities doing comprehensive plans. Steering committee members and key people were invited to

hear about the comprehensive plan process and to identify things they would like to change and things they would like to preserve. It was held on June 26, 2008 at the Morgan County Fairgrounds.



Big Tent Event

Key Stakeholder Focus Groups

Focus groups were held to gather input from school officials, public safety professionals, large employers and elected officials from across the county. This was completed on August 28, 2008.



Community Leader Focus Group

Key Stakeholder Interviews

Representatives from utilities were interviewed as well as members of the consulting team working on the I-69 expansion for the Indiana Department of Transportation.

Steering Committee Meetings

The committee met six times to set priorities and discuss options. They also reviewed documents and held discussions via e-mail.

A full report on all the information-gathering activities can be found in the Appendix.

Why Comprehensive Plans Fail

Most plans aren't plans; they are just high-level ideas.

As a result, many comprehensive plans can be found in pristine condition, untouched atop of filing cabinets. Although every unsuccessful plan fails under its own set of circumstances, there are some miseries common enough to warrant further attention. The obstacles that get mentioned most when a community plan doesn't deliver include:

Lousy Communication

Some communities do little or nothing to distribute their plans, not even making them available on a public website. This means that citizens are not sufficiently informed about the process, do not participate in decisions or don't identify with the goals. Creators of the strategy have to get out enough information for people to understand what they're supposed to do. In a related failure, expectations about the plan are not shared openly or effectively.

To tackle this problem, a specific group – or better yet, specific person – must be assigned to spreading the word and generating momentum through an overall communication plan.

Who's in Charge?

When responsibility for decision making about capital improvements and provision of services is diffused among public agencies, private vendors and individual citizens, confusion is bound to follow. This diffusion makes accountability and coordination even more difficult.

In short, who are we following?

Weak leadership brings improper resource allocation, poor follow-through, and inefficient rewards and punishments. In this category, there is enough blame to go around: the problem doesn't just rest with the main person in charge, but includes the lack of ability or willingness from other people who are needed to step up. We are all called to lead from wherever we are, even if we're not at the top.

What's in it for Me?

Government is often focused on self-preservation while some businesses ignore public welfare to achieve their own ends.

Many planning initiatives fail because the people responsible for implementing them are not convinced of their value. More effort is needed to help people understand how getting behind the community's goals can support their personal goals. This solution leads back to communication and education.

No Money

There's rarely enough money to get everything done, and in tough times even the most worthy and desirable projects can get delayed. Neighborhoods lack needed amenities and economic development is inadequately organized and focused.

Like the poor, this problem will always be with us. The first step – and one that must be revisited constantly – is setting priorities.

Lack of Capacity

This bedeviling circumstance is similar to lack of money, but it's wider ranging and warrants a longer look. Capacity refers to a community's resources to carry out a project, including:

- ◆ Technical (someone with expertise)
- ◆ Managerial (someone to oversee)
- ◆ Funding
- ◆ Political Will

The first two bulleted items could be covered by a staff member or a volunteer of heroic proportions. The third bullet might include tools such as Tax Increment Financing, Redevelopment Commissions and Brownfield Development. The fourth bullet is the most difficult to quantify but easy to spot.

Local resources should be considered before determining future planning. For example, a solution which requires an extensive amount of staff to administer would not be appropriate for a community with few or no planning staff.

The I-69 Community Planning Program, which funded this study, recommends that communities complete a checklist to gauge their current planning capacity.

Planning capacity is determined by the highest level that has all or the most items checked in the table below. A preliminary checklist for Morgan County might look like the following table, with a designation between Level 3 and Level 4.

Planning Capacity Chart

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
<input type="checkbox"/> We have thought about planning for our community but do not have a plan commission.	<input checked="" type="checkbox"/> We have a plan commission and a board of zoning appeals with rules of procedure.	<input checked="" type="checkbox"/> We have a plan commission and a board of zoning appeals that consistently follow rules of procedure.	<input checked="" type="checkbox"/> We have a plan commission and a board of zoning appeals that consistently follow rules of procedure and annual training.
<input type="checkbox"/> We do not have any planning staff.	<input type="checkbox"/> We have a building commissioner/ planner on staff.	<input checked="" type="checkbox"/> We have a professional full time planner.	<input type="checkbox"/> We have a professional full time staff of planners and other trained technical staff.
<input type="checkbox"/> We have no financial resources designated for planning projects.	<input type="checkbox"/> We rarely designate financial resources for planning projects.	<input checked="" type="checkbox"/> We occasionally designate financial resources for community planning projects.	<input checked="" type="checkbox"/> We annually designate financial resources for community planning projects.
	<input checked="" type="checkbox"/> We have someone who focuses part of their time on economic development or redevelopment.	<input checked="" type="checkbox"/> We have a full-time staff member who is dedicated to economic development or redevelopment.	<input checked="" type="checkbox"/> We have a full-time staff member who is dedicated to economic development or redevelopment in addition to other trained technical economic development staff.
	<input type="checkbox"/> Our focus of planning is on plan review.	<input checked="" type="checkbox"/> Our focus is on some longer range planning and visioning.	<input type="checkbox"/> Our focus is on long range planning.
	<input type="checkbox"/> We have no or limited inspections.	<input checked="" type="checkbox"/> We have limited inspections and enforcement personnel.	<input type="checkbox"/> We have full range of inspections and full time enforcement personnel.
	<input checked="" type="checkbox"/> We have zoning and subdivision regulations.	<input type="checkbox"/> We regularly update our comprehensive plan and development codes.	<input type="checkbox"/> We have additional ordinances such as historic preservation, etc.
	<input checked="" type="checkbox"/> We have a comprehensive plan.	<input type="checkbox"/> We have additional ordinances such as architectural review, etc.	
	<input checked="" type="checkbox"/> We have a redevelopment commission.		

Once the community has determined its capacity level, it can better judge its ability to implement regulations, studies, etc. The I-69 Community Planning Program provides additional checklists where Morgan County can compare its capacity to carry out efforts in protecting natural resources, encouraging economic development, managing transportation and infrastructure impacts and directing development and growth.

Those tables can be found in the Appendix. For example, town leaders could review the Protecting Natural Resources checklist (sampled below) to see what tools a Level 3 community is best suited for:

Example Planning Capacity Matrix			
Tools in gray boxes are <u>not</u> recommended for that level of planning capacity.			
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
Increasing Fundamental Planning Capacity	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements
	Conservation Subdivision Ordinance	Conservation Subdivision Ordinance	Conservation Subdivision Ordinance
	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection
	Tree Protection Ordinance	Tree Protection Ordinance	Tree Protection Ordinance

If a tool is beyond a community’s planning capacity, capacity can be acquired through external resources such as universities, regional planning organization, metropolitan planning organizations, other resource organizations and consultants.

Many communities that have a higher planning capacity use outsourced services to assist them in completing various projects. When capacity is acquired in this manner, a key consideration in the plan should be the long-term administrative requirements for successful implementation. Additionally, each community should analyze the different approaches to increasing local planning capacity. If external resources are used, a plan should be developed to gradually increase their own capacity in various

ways, such as analyzing or expanding the structural capacity of the planning staff.

For this plan, special care was given in the Action Steps to matching goals with the tool needed to carry them out.

A User’s Guide to the Comprehensive Plan

For the comprehensive plan to produce results, it must be linked in practical ways to the activities of the groups that influence growth in Morgan County. No one organization can implement the plan alone.

For those organizations to make the most of their work together in implementing the Comprehensive Plan, it is useful to understand how all the parts came together.

Vision, Development Principles, Goals & Strategies

These are the core beliefs that form the plan. They move from the broadest to the most specific.

The sections were formed during the planning process and were gathered from the steering committee, focus groups, interviews and public meetings.

The wording used in the various components could be useful for plan commissioners and commission

also refer to the input of the dozens of local leaders and residents whose opinions helped shape the plan's goals.

poured into creating this plan to let it slowly grow outdated, while the need for current planning does not.

They can also ask themselves how they make decisions without a plan. Certainly their long experience in the county guides their judgment, but a group of people making decisions based on their individual perceptions may not lead to a shared vision of the county's future.

The Comprehensive Plan provides a defensible, unified vision.

Tips for Developers

Developers across the country ask for "more predictability" from decision makers in order to maximize their investments. This plan spells out the community's preferred future; where it wants to extend infrastructure and where it wants housing, industrial and commercial development to go.

The plan also suggests future changes to the zoning code and subdivision regulations.

Tips for Citizens

After finding your house on the future land use or critical sub area maps, the next step is to read up on community issues that interest you. Check on the Greenways Plan or environmental protection. Most importantly, check out the Implementation Plan for ways to get involved.

Changes to the Comprehensive Plan

The final word on the Morgan County Comprehensive Plan is that the landscape is always changing, and the plan should be modified to change along with it.

This may not mean a complete update, but every year or so the planning commission and others should review the tenets of the plan and make note of future change. It would be a poor use of the resources

Vision, Goals & Strategies

3

Morgan County Vision Statement

The irreplaceable natural beauty of Morgan County is a haven from big city life. As honorable stewards of the land, we will balance residential and commercial development with agricultural uses, and provide quality of life amenities and opportunities for all Morgan County residents. To fulfill our responsibility to future generations, we will support sustainable development, promote a strong and diverse economic base, and deliver effective and efficient county-wide services.

Morgan County Development Policies

Development principles are intended to guide decision makers as they interpret the comprehensive plan. They are overarching statements that can be applied to many different decisions. The Steering Committee created these principles to address their biggest concerns.

Agricultural Protection

We believe in the use of planning and zoning to direct growth away from prime agricultural land while at the same allowing for flexibility in decision making.

Greenspace

Greenspace is vital for Morgan County's quality of life, and cannot be taken for granted. Greenspace must be promoted, preserved and planned for.

Housing

Morgan County needs a continuum of housing choices. However, the focus should be on more quality, mid-level and upper-level homes while directing multi-unit housing toward existing urban areas with infrastructure.

Manufacturing and Industrial Development

Manufacturing and industrial development should be confined to along the SR 37 Corridor, SR 144 Corridor, SR 67 Corridor and Interstate 70 Corridor or – with infrastructure improvements – within easy access to those major roads.

Commercial Development

Large-scale commercial and retail development should be confined along the SR 37 Corridor and only minor commercial nodes be permitted in the outlying areas.

Community Image

National retail chains and housing developers – as well as local businesses and homeowners - should raise the aesthetic qualities of their projects.

Morgan County Goals & Objectives

None of the goals from Phase 1 were altered during the second phase, but the Steering Committee revised some of the objectives.

The revisions make the objective more specific, and make a clearer link between the goal and an eventual change to regulations that might take place. Also, one new goal was added, number 9, concerning sustainable development.

Goal 1: Maintain the community's rural way of life.

OBJECTIVES

Use zoning to discourage residential development on prime agricultural land.

Use subdivision controls to encourage cluster development.

Require the incorporation of open space in new large-scale development and appropriate redevelopment sites.

Using GIS, determine the effectiveness of the codes by annually tracking data on the rate of urbanization and the conversion of agricultural land.

Goal 2: Promote growth and redevelopment in areas with existing infrastructure.

OBJECTIVES

Use financial incentives and utility availability to direct growth so it is contiguous to developed areas as indicated on the Future Land Use Map. Outside the designated growth areas, require additional information from developers such as transportation studies and financial impact statements.

Use TIF's and zoning tools to promote infill, redevelopment and other revitalization projects.

Protect businesses that have made an investment in the community by surrounding them with appropriate land uses or buffering them from different uses.

Goal 3: Capitalize on economic development opportunities.

OBJECTIVES

Provide the necessary infrastructure (e.g. transportation and utilities) to support creation of new industries.

Support construction of new business parks along the SR 37 corridor or other major thoroughfares with adequate infrastructure.

In conjunction with surrounding communities and the Morgan County Economic Development Corp., update and support a countywide Economic Development Strategy.

Partner with private enterprise projects to expand broadband network opportunities.

Goal 4: Promote the development of attractive, affordable and livable neighborhoods.

OBJECTIVES

Promote “Quality of Life” amenities through adoption of such tools as the Greenways Plan and creation of a Trails Master Plan.

Amend the zoning ordinance and subdivision ordinance to include street connectivity.

Employ basic design standards to improve the appearance of new residential development.

Working with incorporated communities, conduct a Housing Needs Assessment to determine gaps in Morgan County’s housing stock.

Goal 5: Provide improved access to housing, employment and commerce in Morgan County.

OBJECTIVES

Adopt and periodically update the Thoroughfare Plan to maintain regional access for Morgan County, especially to and from Marion, Hendricks and Johnson Counties.

Promote alternative forms of transportation such as pedestrian paths, bike lanes, express bus service, carpooling and the Interurban.

Design for the safe movement of commercial goods through appropriate roads by use of truck routes and other methods.

Goal 6: Provide safe and efficient transportation networks for Morgan County.

OBJECTIVES

Use the Comprehensive Plan, Thoroughfare Plan and Capital Improvement Plan to guide maintenance and improvements of the transportation network.

Require connectivity to the existing road network for new residential, commercial and industrial developments. Also promote connectivity within new developments.

Provide an interconnected network of bicycle and pedestrian facilities.

Minimize the negative impacts of transportation networks to property and the natural environment through tools such as new trees or tree replacement and drainage management.

Adopt the SR 37/SR 144 Corridor Plan to address the impact of I-69.

Goal 7: Provide for county-wide park and recreation opportunities, including both facilities and services/programs.

OBJECTIVES

Adopt the Morgan County Greenways Plan for a trail along the White River.

Use and keep updated the County Master Parks Plan.

Develop a network of interconnected parks.

Encourage privately provided parks and recreation areas.

Goal 8: Improve and enhance intergovernmental cooperation throughout the County.

OBJECTIVES

Encourage a county-wide approach to coordinated fire and emergency services and infrastructure expansion and improvements.

Ensure properly funded (local, state and federal) emergency services.

Assist in the creation of a Roundtable of Governments for all Morgan County entities.

Adopt the SR 37/SR 144 Corridor Plan.

Goal 9: Ensure the county becomes more sustainable by meeting the needs of its residents while protecting environmental resources for future generations.

OBJECTIVES

Integrate environmental concerns into decision making at all levels.

Encourage the use of green building materials and techniques in new construction, perhaps by offering incentives.

Explore the recommendations of the National Association of Counties' Green County Initiative for assistance in creating sustainable local programs.

Making the Case for Planning

4

Making the Case for Planning

Morgan County has an uneven history of planning.

Elected officials have been swept into and out of office based upon their views of land use. At the time of this report, however, momentum was clearly with the people wanting to take a more active approach to planning.

For example, the community completed Phase 1 of its comprehensive plan, which created goals and objectives for land use. County leaders also made some changes to their zoning and subdivision regulations. This report, Phase II, is designed to implement more of Phase I's goals.

But there is still debate about how far and how fast to push land use regulations. The arguments are centered around this principle: A community has a right to get the maximum benefit out of its prime land.

These questions cropped up constantly during Steering Committee meetings: Who gets to define "maximum benefit?" Can maximum benefit only be reached by building on the land? Should a land owner be prohibited from building on his property because the community wants to preserve the tangible and intangible benefits of undeveloped land?

As a result, the group settled upon an approach that is incremental and fairly cautious. The most commonly heard request was for a "common sense" approach to planning.

Morgan County prefers a "common sense" approach to planning.

Although the steps may be incremental, they should still move toward providing more protection for what the community as a whole sees as valuable and worth preserving, Steering Committee members said. This

list always included Morgan County's rural character and environment.

If those prime assets weren't threatened, local leaders probably would not have reinstated more formal land use practices. Every Steering Committee member could point to some recent development and say, "We don't want any more of that."

Many areas of Morgan County are not being developed right now, but every part is changing. It is inevitable: roads degrade; houses are built; new businesses begin and old ones close. Over time, sometimes too slowly to attract attention, these changes can alter a community's character.

Not everybody will agree with the goals of the plan or the tools suggested to reach those goals. In fact, some Steering Committee members disagreed. But there was consensus that a more active approach to the future was needed, particularly if plans for I-69 are carried out.

Other sections of this report talk about how to implement land use planning. This section talks about why. It attempts to make the case for the importance of planning, especially as it concerns key ideas of the Comprehensive Plan. Residents can use the section to learn the background information that went into the plan. Decision makers can use it to defend the planning choices they will no doubt have to make in the future. Key topics in this section include:

- ◆ Agricultural preservation
- ◆ Greenways
- ◆ Housing growth
- ◆ The SR 37 /144 Corridor
- ◆ Roundtable of Governments

Agricultural Protection

The Steering Committee spent more time on this topic than any other. The discussions took place under the following development principle:

“We believe in the use of planning and zoning to direct growth away from prime agricultural land while at the same time allowing for flexibility in decision making.”

The committee used research to guide their discussions. The Appendix has three project sheets (Agricultural Preservation Techniques, Conservation Subdivision and Hillside and Steep Slope Protection) that give background information and a common language on the most popular tools for controlling growth in agricultural areas.

The committee also requested examples from other Indiana communities, where zoning to protect or minimize growth on agricultural land has just started to appear.

For example, Hendricks County and Bartholomew County have just adopted new agricultural protection rules and Putnam County is currently developing new regulations. The type of protection that seems to have been the most successful so far in Indiana is zoning for multiple agricultural districts (see Agricultural Preservation Techniques project sheet).

As a general principle, experts give this warning: “Farmland preservation efforts are destined to fail if they are anti-development or anti-growth. To be successful, the efforts must preserve prime farmland and direct industrial, residential and commercial growth to areas less suitable to farming.”

Using a set of maps, the Steering Committee agreed

upon a “common sense” approach to protecting the county’s prime agricultural land. They:

1. Mapped existing or remaining farmland.
2. Identified zones within those areas where soils and floodplains make residential growth unlikely.
3. Designated those areas as places where growth would be discouraged (called Agriculture Preferred).
4. Decided on the strictest level of protection they were willing to designate (using examples from other Indiana communities).
5. Selected areas on the map where soils, existing infrastructure, etc., made some development likely in the future.
6. Put less restrictive designations on those zones.
7. Selected areas of the map where existing development, infrastructure, etc., made future growth likely or desirable.
8. Put few development restrictions on those zones.

The result was a set of guidelines that are only incrementally more restrictive than the existing regulations. More details about the land uses and where they are located can be found in the Land Use section and on the Future Land Use Map.

While this description is unlikely to alter some people’s views about the inalienable rights of the property owner, it should demonstrate how methodical the Steering Committee was in making decisions.

Greenways

Morgan County is rich in natural beauty but is short in recreational infrastructure to enjoy it. Outside

of Morgan Monroe State Forest and the new Ravinia Woods, there are few parks, trails or other recreational opportunities.

This shortage is particularly noticeable because the county has so much green, open space. In fact, its environment is one of the community's key assets. However it is a shortage that is being addressed. The Morgan County Park Board's 5-year plan is scheduled to be updated this year.

The park plan states "the need for additional sites providing active recreation has been identified east of Martinsville on State Road 252, in Madison Township, close to Monrovia and along the White River near Waverly. Each of these potential sites is located in heavily populated areas of the county.

"In addition to the development of park acquisition and development, Morgan County is actively pursuing the development of additional trails in Morgan County to build on the initial trail development effort in Pioneer Park in Mooresville."

A new component is the White River Greenway Plan, included in this report, which proposes a trail along the river. The plan shows a possible route and suggests best practices and trail standards.



White River

The greenway section also addresses concerns about trails, particularly cost and safety. It also outlines the

case for why these concerns should not overwhelm the benefits of trails and greenways.

Bartholomew County's planning director was asked about the 11-mile Columbus People Trail. He acknowledged that Columbus has a relatively aggressive maintenance program and it is expensive. Some of the most significant maintenance activities include:

- ◆ Snow removal
- ◆ Grass mowing
- ◆ Lane markings
- ◆ Leaf blowing and removal
- ◆ Trash removal
- ◆ Mile marker and "rules" sign installation and maintenance
- ◆ Trash can installation and maintenance
- ◆ Bench installation and maintenance

"The mowing, snow removal, and leaf blowing are the largest cost generators," he said. "Anyone considering a trail should give some consideration as to what extent they will take on these maintenance tasks. In a rural area they may be more optional."

He finished by saying that the trail is "extremely popular with local residents for socializing, recreation, and bicycle commuting."

The White River Greenway Plan as proposed would run exclusively through rural areas, where many of these services would not be a necessity.

Safety is another prime public concern, and people are rightfully outraged when a crime occurs on a recreational trail. But crime is a problem wherever it occurs; schools, parking lots, grocery stores, in homes. The possibility of crime has to be weighed against the benefits derived from those places in the vast majority of the time.

And those benefits can be large. “Trails and greenways provide countless opportunities for economic renewal and growth,” according to the National Trails Training Partnership. “Increased property values and tourism and recreation-related spending on items such as bicycles, in-line skates and lodging are just a few of the ways trails and greenways positively impact community economies.”

Increased property values and tourism and recreation-related spending on items such as bicycles, in-line skates and lodging are just a few of the ways trails and greenways positively impact community economies.

For example, a 1992 study by the National Park Service estimated the average economic activity associated with three multi-purpose trails in Florida, California and Iowa was \$1.5 million annually. Closer to home, Bloomington is spending millions on The B-Line Trail, which converts 3.1 miles of the former CSX rail corridor into a multi-use trail. The trail is being touted as an economic development tool for the city.

Other benefits of trails and greenways include promoting healthy living. They provide a safe, inexpensive avenue for regular exercise for people living in rural, urban and suburban areas.

There are also environmental benefits. Greenways protect important habitat and provide corridors for people and wildlife. They also serve as natural floodplains.

Trails and greenways also have the power to preserve historic places and provide access to them. The White River Greenway Plan features historic landmarks in Waverly.

In summary, trails and greenways provide what many Americans seek - close-to-home recreational areas, community meeting places, historic preservation, educational experiences, natural landscapes and beautification. Morgan County is fortunate to have the White River and the time left to both protect and promote this asset.

Housing Growth

Many Morgan County residents who took part in this planning process expressed ambivalence about more homes being built in the county.

But most people were excited about the plans for Stonebridge, an up-scale housing development with shops and golfing that has already been approved for construction along SR 37. Details of this project can be found in the Critical Sub Areas Plan.



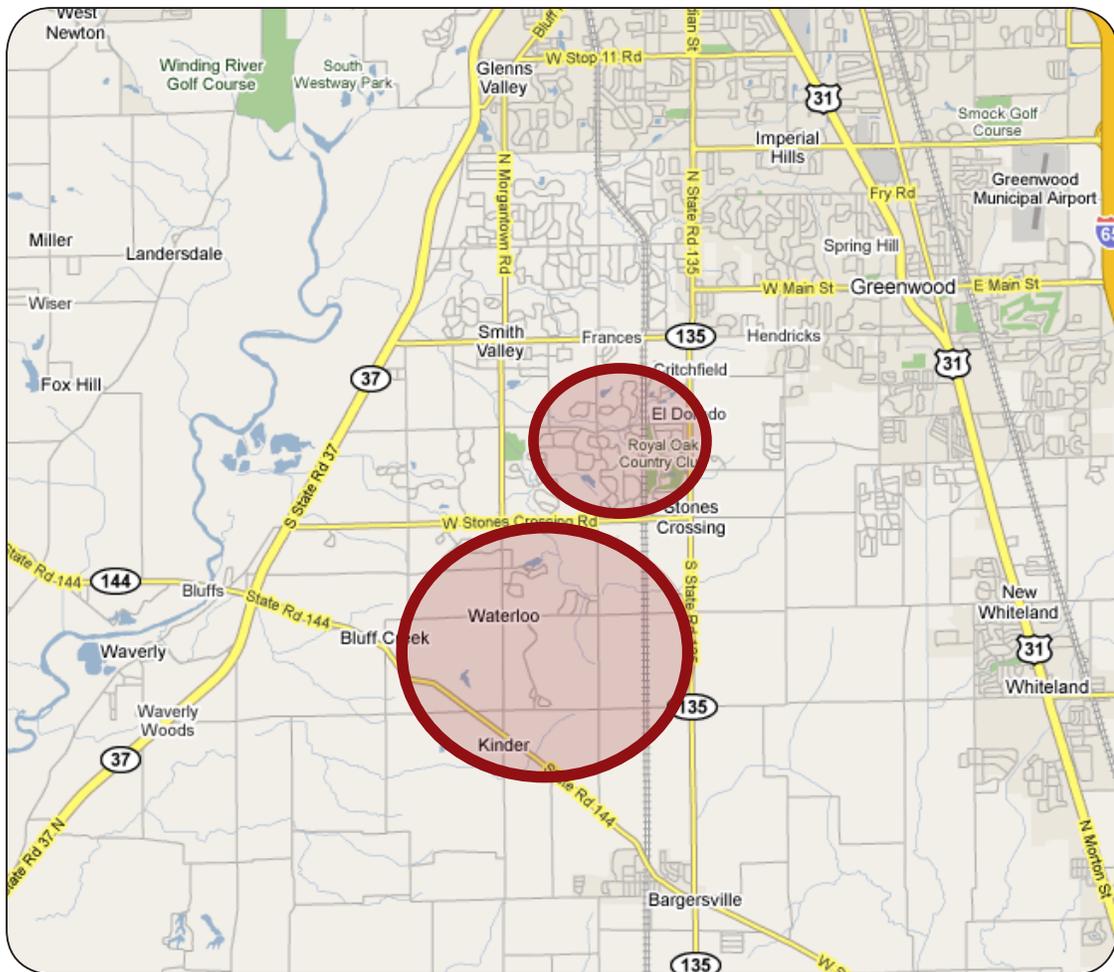
On the other hand, many pointed to recent, large-scale subdivisions in the Indianapolis region as prime examples of what they don't want. They believed the mass housing to be poorly constructed and the neighborhoods ill conceived. People also said they do not want multi-unit housing, such as large apartment blocks, for similar reasons.

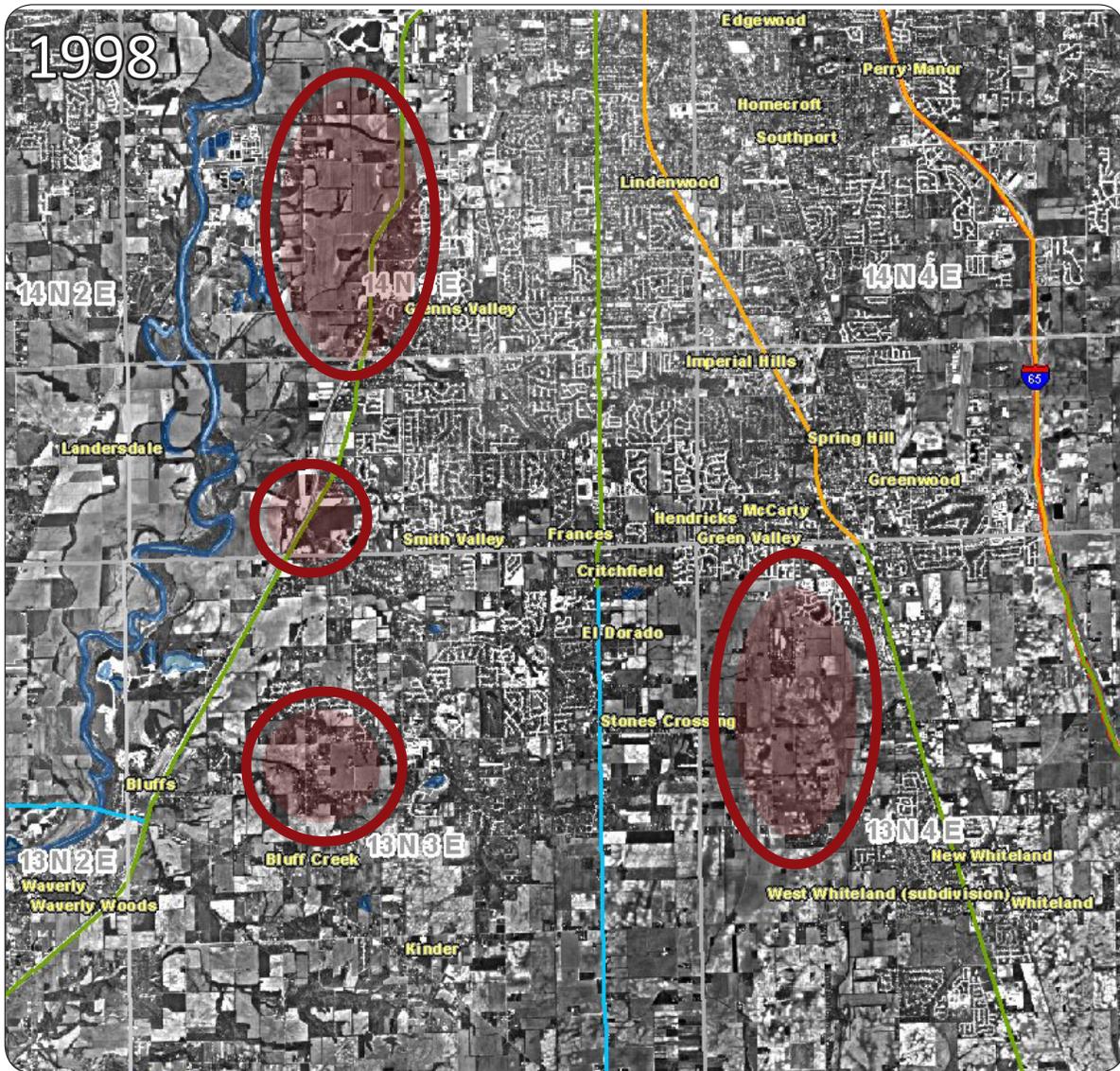
While Stonebridge may be a wonderful asset for the county, future growth is just as likely to be the type of housing subdivisions residents said they do not want.

Single family and multi-family housing developments are growing southward out of Indianapolis toward Morgan County.

Evidence of this can be found with a simple Google search. On the map below, look at the top-right quadrant starting at W. Stones Crossing Road (areas circled in red). Note the spaghetti-patterned roadways from subdivisions on the east side of SR 37 in Johnson County.

Now look south of W. Stones Crossing Road and SR 144 at all the relatively undeveloped land.



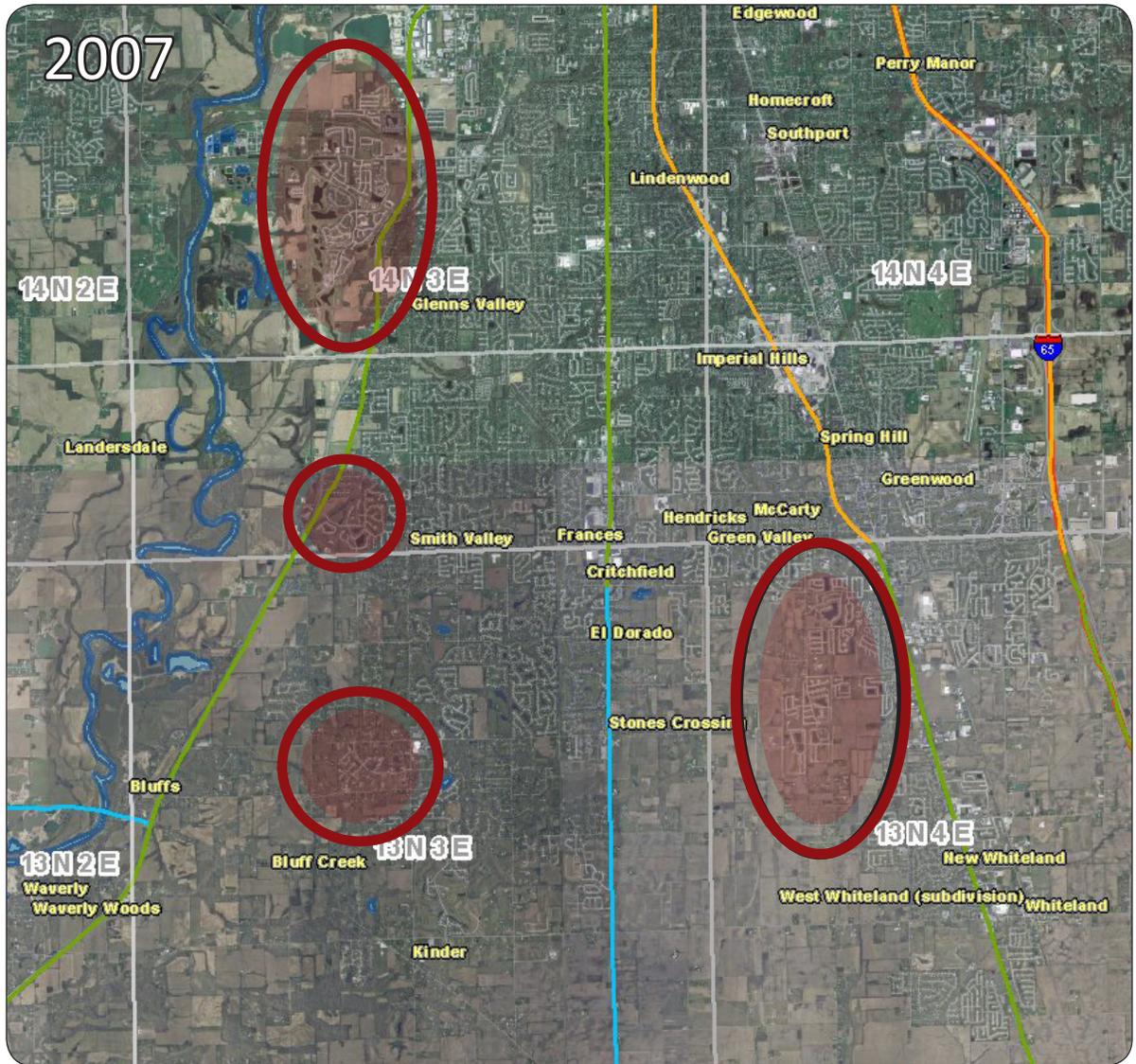


These two pages show aerial photos of White River Township, one from 1998 and the other from 2007. The highlighted areas on the 2007 map confirm the southward growth of development from Indianapolis into Johnson County.

Further evidence is found in population statistics. Highway 37 primarily runs through three townships in Johnson and Morgan Counties: White River Township (Johnson), Harrison Township (Morgan) and Washington Township (Morgan).

The tables below show the Johnson County township has almost doubled in population, a rate far faster than the Morgan County townships.

WHITE RIVER TOWNSHIP, JOHNSON COUNTY POPULATIONS	
1980	20,527
1990	28,232
2000	35,539
2007	39,709



HARRISON TOWNSHIP, MORGAN COUNTY POPULATIONS	
1980	1,501
1990	1,538
2000	1,601
2007	1,609

WASHINGTON TOWNSHIP – MORGAN COUNTY POPULATIONS	
1980	15,258
1990	15,977
2000	17,978
2007	18,133

More recently, the data shows that the two Morgan County townships experienced little to no growth in the first seven years of the new century, while White River Township in Johnson County experienced an 11.7% increase in population.

But there is no reason to believe that the growth will not continue creeping south. In fact, the 1,200-unit Stone Bridge proposal is a sign of that migration. Although the housing and credit crisis that began in late 2008 stunted residential growth across the country, most researchers say there will be a long-term, gradual climb toward new growth.

As plans for construction of I-69 grow firmer, housing pressure will undoubtedly increase along the corridor.

The SR 37/SR 144 Corridor Plan that complements this report addresses these concerns in detail. But this section is intended to make the case that local decision makers – if they want to prepare for the future - should act now on design guidelines, conservation subdivisions and other tools for land use planning.

The SR 37 /144 Corridor Plan



The SR 37/SR 144 Corridor Plan is a tool for promoting two of Morgan County’s prime economic assets while at the same time protecting the corridors from undesirable land uses and development practices.

Growth already is occurring along both of the corridors. New residential, commercial and industrial developments have been proposed on SR 37. Along SR 144, many residences are being added as a result of suburban Indianapolis development pressures.

The combination of these pressures and the likely impacts of I-69 have clearly generated a need to develop a plan for how land should be developed both today and in the future.

The SR 37/SR 144 Corridor Plan, which addresses these issues in detail, is complete. But there is no structure in place to see the plan to its conclusion. Representatives from Morgan County, Martinsville and Mooresville worked together on the document, but now must take advantage of the momentum. The next steps should be:

- ◆ Morgan County, Martinsville and Mooresville should each adopt the SR 37/SR 144 Corridor Plan as an element of their Comprehensive Land Use Plan update.
- ◆ Use the services of a certified land use planner to convert the Model Ordinance in the plan to language for new regulations.
- ◆ Have the Morgan County commissions and common councils of Martinsville and Mooresville adopt the new overlay zone regulations as part of their zoning ordinance and as an amendment to their zoning maps.
- ◆ Schedule routine “check-ups” between the three communities to see how the regulations are being applied.
- ◆ Update and modify as necessary.

Roundtable of Governments

As the above example makes clear, the separate governments of Morgan County need a forum to resolve regional issues by convening local elected officials and other stakeholders.

The environment, affordable housing, economic development, health and family concerns, human services, population growth, public safety, and transportation issues do not have political boundaries. They are regional concerns.

Currently, the burden of coordinating shared problems falls upon the shoulders of few individuals who keep communication flowing between the county, Martinsville and Mooresville. If those individuals leave, it is not clear who would take their place.

At meetings for the SR 37/SR 144 Corridor Plan it was obvious that members of one community's plan commission, for example, had little knowledge of what their neighbor's plan commission goals were.

A Roundtable of Governments could foster growth and planning by promoting regional partnerships, developing best practices, applying cutting-edge technologies and providing a forum for decision-making.

Local leaders did not want a formal, contract-bound organization. But they were also hard-pressed to imagine how the organizing would get done without one. The trick will be finding a middle way between having no system and creating a new level of bureaucracy.

The Implementation Plan suggests some alternatives and agendas, but it is up to community leaders to carry out the plan.

White River Greenways Plan

5

Introduction

Morgan County communities have set a goal of preserving the rural character of their communities, while also improving the quality of life for the residents. The expectation behind this goal is to ensure the community is a great place to live and work well into the future.

These goals were set during joint planning efforts between various governmental entities throughout the county. Community Planning Grants were used to fund general long range planning as well as specific planning associated with the development of I-69 through Morgan County. Concurrent planning projects throughout the county allowed the community to set collective goals, as well as individual community goals. Projects included the Morgan County Comprehensive Plan, the Martinsville Comprehensive Plan, the Mooresville Comprehensive Plan and the SR 37/SR 144 Corridor Plan through Morgan County.

As part of the planning, significant interest has been expressed for providing improved recreational facilities for the County in general, and included specific interest in the development of a greenway along the White River.



White River

The White River mostly lies in a relatively undeveloped portion of the county, flowing from the northeast corner of the county near Waverly

(abutting Johnson County), through Martinsville, to the southwest corner of the county abutting Owen County. Numerous recreational opportunities exist along the corridor including walking, biking, boating, fishing, sightseeing, and canoeing.

The purpose of this document is to establish a plan for the development of the White River Greenway through Morgan County. An alignment will be proposed, and best practices for the greenway will be explained, and recommended trail standards will be provided. Because of the knowledge of property owner related issues, the scope of this study will be focused between the Johnson County line and Henderson Ford Road (just north of Martinsville). While there is a long term goal of extending this or related corridors further and interconnecting Martinsville, Mooresville, Owen County and Monroe County, only this first segment of the project will be reviewed in detail as part of this effort.

Vision

The vision for this project is to create a true multi-use greenway corridor that will parallel the White River. What makes this vision unique is that the route is scenic and largely undeveloped – allowing many ways for the trail to reflect the character of the community.

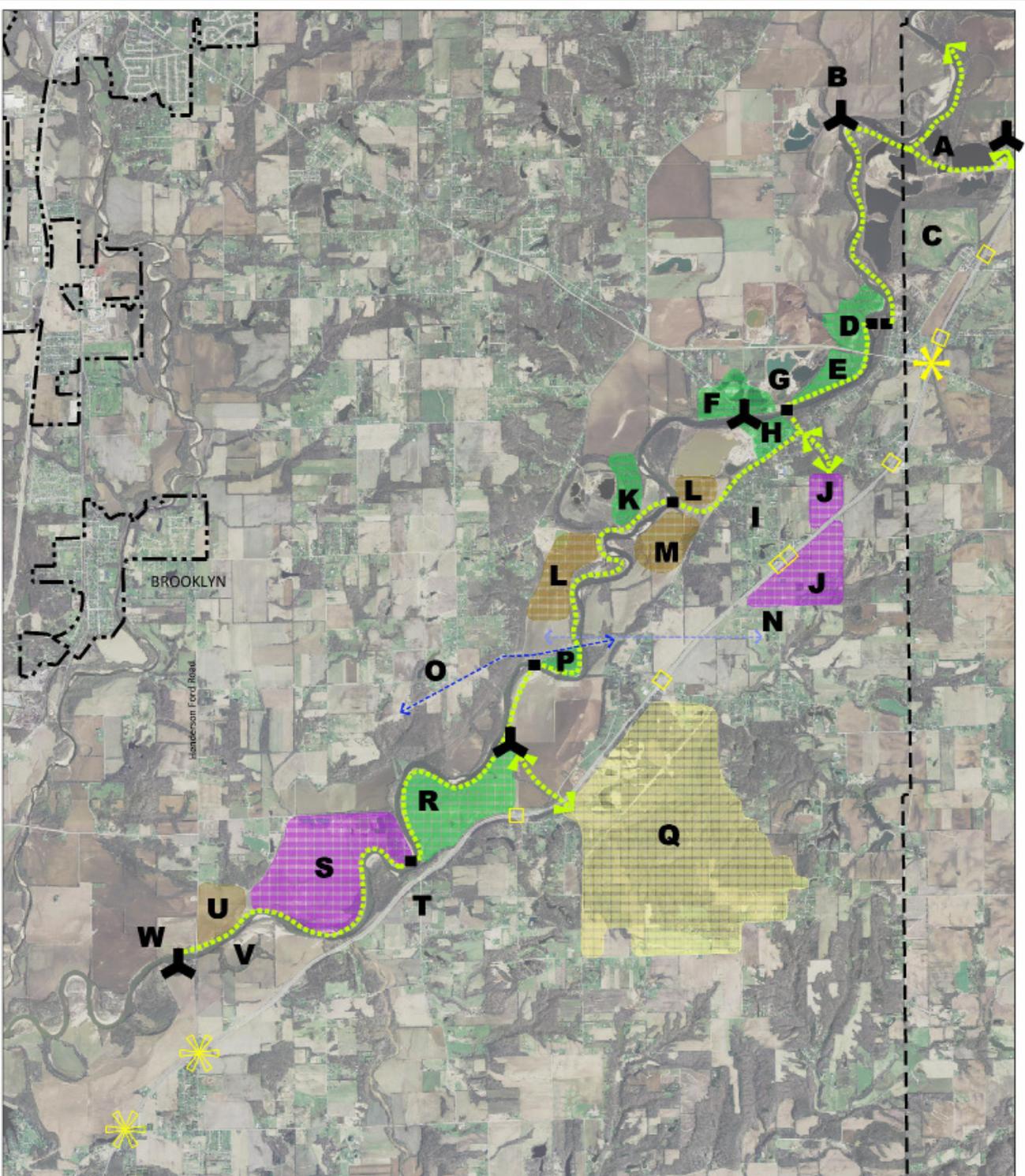
The primary feature of the corridor will be a new multi-use path along the White River. Walking, biking and running will be encouraged on the route. The potential also exists to construct parallel equestrian trails along the route, either initially or as a future phase of the project.

In addition to walking/biking, this segment of the river is also suitable for canoeing and kayaking. Existing and new public access points would provide a number of locations to launch a canoe. It is also envisioned that a public or private livery would be developed to support water activities.

Along the route, it is envisioned that a series of public parks and private recreational facilities be developed to further enhance the corridor. Public parks would serve as primary anchors for the corridor – providing starting/stopping points for the routes with numerous activities at the sites. Private campgrounds and other facilities are also envisioned along the route, providing opportunities for visitors and locals alike.

This vision leverages the county’s greatest asset, which is its rural charm, into a parks system that showcases the beauty of the area. It achieves improved quality of life for residents, and presents a strong image to visitors of the community.





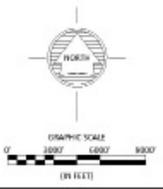
Legend	
	Corporation Limits
	SR37 / Proposed I-69
	White River Greenway - Phase 1
	Proposed I-69 Interchange (All Alternatives)
	Proposed I-69 Interchange (Some Alternatives)
	Proposed I-69 Grade Separation (All Alternatives)
	Potential Pedestrian Bridge
	Public Access

EXHIBIT KEY:	
A	City Park Trailhead
B	Impassable Public Access Site
C	Wild Creek State Historic Site
D	Campground & Soccer Complex
E	Recreational Historic Property
F	South Lake Swimming & Fishing
G	Whetzel Covered Bridge Reconstruction
H	Preserved County Park (Wetland)
I	Historic Wetland
J	Impassable Business Park
K	Impassable Subdivision
L	Pulaski Quarry Expansion Area
M	Chapin Property
N	Proposed Road as Pipeline
O	US Forest Service Land
P	Proposed County Nature Park
Q	State Bridge
R	Wetzel/Manlight Property (County Park)
S	Becky Balle
T	Impassable Public Access
U	Milliken Property
V	In Use Property
W	Impassable Public Access at Wetland/Stream

White River Whetzel Trace Greenway

Morgan County Comprehensive Plan

ECONOMIC GROWTH TEAM
 Foundations for a Sustainable Future



Model Greenways

When developing a new greenway corridor, thought should be given to what has made other greenways successful. Several examples of thriving greenway systems follow:

Monon Trail (Indianapolis)

Monon Trail (Indianapolis) – A bicycle and pedestrian trail in Indy running 15.2 miles using a portion of the Chicago-Indianapolis main line of the former Monon Railroad. As well as a recreational trail, the Monon also provides a strong means of economic development along the pathway.



Monon Trail photo courtesy of phj73

Cardinal Greenway (North-Central Indiana)

Cardinal Greenway North-Central Indiana – A rail trail that encompasses 60 miles of abandoned CSX railroad corridor in east central Indiana. The trail runs from Richmond to Marion and is the longest rails-to-trails project in Indiana.

Greenway Development Best Practices

When thinking about best practices, the terms sustainability, system and balance can all be used to describe best practices. These are approaches to planning, design, engineering, construction, maintenance and other aspects of greenway and trail development that are informed by the work of

others and that strengthen the project through the utilization of practices that deliver improved results. Results may include minimizing impact on the environment, improved safety, reduced maintenance costs, and reasonable initial construction costs.

The following are best practice recommendations for the White River Greenway:

- ◆ **Use this Plan:** Use this plan as a tool for building a more detailed plan and attract stakeholders and volunteers. Additionally, this plan is intended to serve as the foundation for grant and funding applications.
- ◆ **Connections:** Similar to what makes property valuable, connections and relationships to destinations and other transportation modes and routes improves the value of the greenway.

Examples include connections to I-69 corridor, commercial nodes, historic and cultural features.

- ◆ **Process Milestone Acknowledgement:** Document and celebrate achievements in the development of the plan and implementation for the greenway.

Example: Publish the greenway plan graphic to the Morgan County website or start a new website focused only on the greenway.

- ◆ **Greenway Visibility:** The greenway should have visible notes and gateway features. At the same time, the majority of the trail should be secluded to take advantage of the scenic qualities of the route.

Example: Limited nodes and gateways should be visible from SR 37. In future phases, routes through urban areas should we well marked for visibility. The northern section this study

focuses on should be secluded to take advantage of the scenic experience overlooking quarry lakes and the White River.

- ◆ Greenway Width: The width of the trail is recommended to be a minimum of twelve feet wide, providing six foot travel lanes in either direction.
- ◆ Greenway Pavement Material: Asphalt is the recommended trail surfacing material. Should budget become an issue, an alternative is crushed stone (dusty 12s) similar to the application on the canal towpath trail. If feasible, pervious pavements and or “boardwalks” through sensitive areas are recommended.
- ◆ Partner Development and Recognition: Develop a “Friends of White River Greenway” group to support and maintain momentum for the project while also providing a stakeholder group to assist with planning and funding.
- ◆ Erosion: Practice sustainable and environmentally friendly erosion control practices such as the utilization of blankets/ mats planted with native plugs.
- ◆ Greenway Architecture: use architectural styles that are compatible with south central Indiana architecture and materials.

Example: Materials may include native woods, limestone and field stone.

- ◆ Plantings: Planting the greenway should integrate plant materials native to southern Indiana. Trees, shrubs and groundcovers should blend with the adjacent landscape and prevent the opportunity for invasive species.



Native landscaping

- ◆ Overlay Zone / Easement: Create a Greenway zone specifying the design criteria, materials, uses, etc. within the zone.

Note: Allow the greenway to serve as an asset to other development including considerations such as stormwater, shared parking, etc.

- ◆ Cultural and Historic Resources: Connect resources with and by the trail creating a more rich experience.
- ◆ Provide parking: provide dedicated or shared parking for visitors not able to bike or walk to the greenway. Encourage shared parking with businesses along the route.

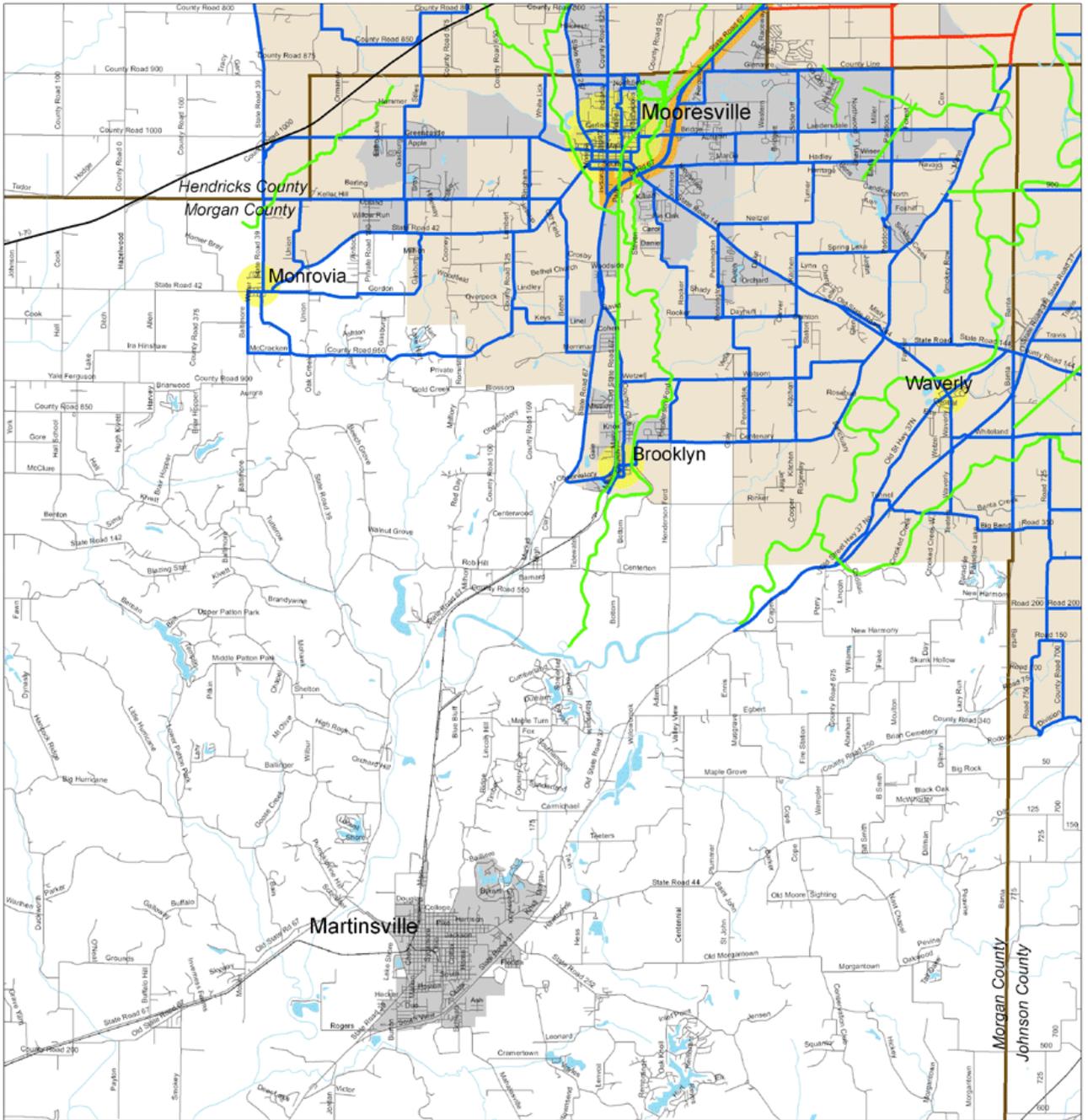
Best Practice Resources:

- ◆ Design Guidance: Accommodating Bicycle and Pedestrian Travel: A Recommended Approach - A US DOT Policy Statement Integrating Bicycling and Walking into Transportation Infrastructure <http://www.fhwa.dot.gov/environment/bikeped/design.htm>
- ◆ National Complete Streets Coalition <http://www.completestreets.org/>

- ◆ Indianapolis MPO Pedestrian System Plan - The City of Indianapolis Metropolitan Planning Organization published its pedestrian plan in November 2006 with the stated purpose of developing "...a regional network of diverse, walkable, bikeable, and transit-friendly communities linked by a comprehensive multi-modal system that provides access to home, work, education, commerce, transit, and recreation."

As identified in the graphic on the following page, this plan proposes trails along the White River and along White Lick Creek in Morgan County.

This plan also provides best practices for the development of urban and rural greenways that should be followed in the construction of the White River Greenway.



- Recommended Collector Sidewalk
 - Marion County Existing Sidewalk
 - Recommended Multi-Use Path (within road right-of-way)
 - Recommended Multi-Use Path (within off-street right-of-way)
 - Urban Greenway
 - Recommended Pedestrian Corridor (existing or planned development area)
 - Recommended Pedestrian District (existing or planned development area)
- County Boundary
 - Urbanized Area, Census 2000
 - Indianapolis Metropolitan Planning Area (MPA)

Vision Plan- Morgan County

*Indianapolis MPO Regional Pedestrian Plan
November 2006*



This map was created by Starvo Kinella Associates from information and data provided by but not limited to: IGIC (formerly INGIS), IMAGIS, SAVI, IUPUI (LUCI), MPO, IDNR, Hoosier Rails to Trails, and local jurisdictions/municipalities

Indianapolis MPO Regional Pedestrian Plan for Morgan County

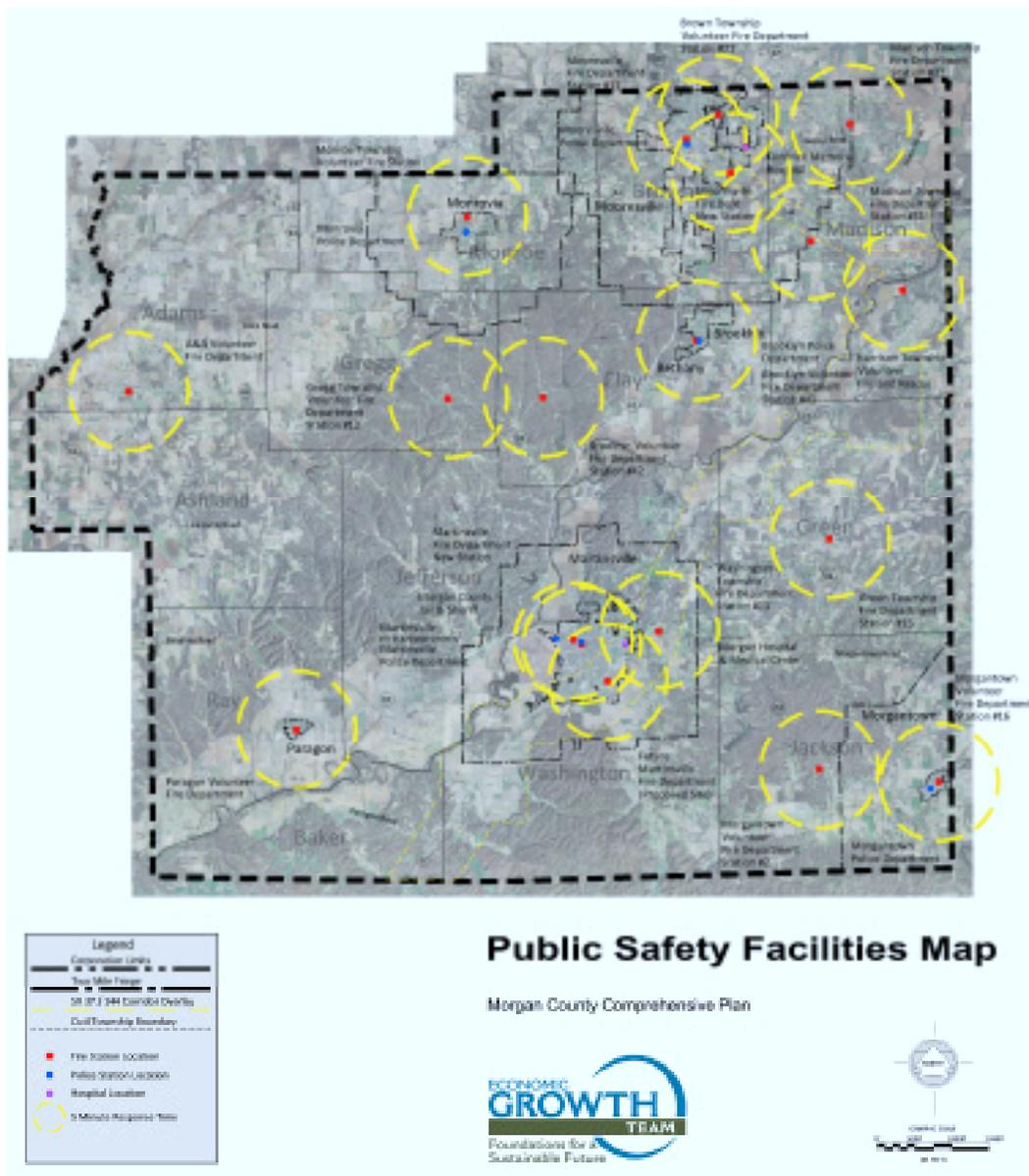
Proposed Interstate 69

The proposed White River Greenway nearly parallels the proposed Interstate 69 corridor. The Interstate corridor project is subdivided into six (6) sections. Morgan County includes a small portion of Section Five in the southern part of the County and Section Six through the remainder including the section east of Martinsville. The study corridor has a 2000' wide planning area.

There is only one instance where the study corridor includes the White River. Near this location (Cragen Road), this study recommends the inclusion of an

grade separated pedestrian crossing of the White River linking the proposed greenway with the southeastern part of the county. Current plans for I-69 do not show a grade separation at Cragen Road, but do include one slightly to the north at Perry Road. There is also a bridge currently proposed south of Cragen Road at Stotts Creek (near New Harmony Road). During detailed design of I-69, it is recommended that the location of a pedestrian connection be studied more thoroughly.

Additionally, "workaround" or alternative pedestrian transportation opportunities should be included in



the planning for Interstate 69. Specifically, numerous frontage roads are planned to address roads that are being severed due to the new interstate, these roads should include bike and pedestrian facilities that provide alternative modes of transportation paralleling the corridor. Crossing the new interstate by pedestrians, bikes and other modes should also be accommodated at the grade separations. Minimally, adequate width needs to be provided, and consideration of alternative modes safety should be considered. Examples include the provision of appropriate guardrails, grades and utility placement allowing for future improvements.

Relationship to Johnson and Marion County

In Marion County, the White River Wapahini trail routes from approximately 38th street south to White River State Park and the Indianapolis Zoo. It has been proposed that this trail be extended from White River State Park along the river through Johnson County to the northern section of this proposed trail section at the Morgan/Johnson County line. Opportunities to link Greenwood have been proposed via the MPO Pedestrian Plan.

Coordination should occur between Johnson and Morgan Counties to coordinate the location of the trail systems.

Relationship to Owen County

In the Indiana Trails Master Plan, a segment of trail is indicated from Terre Haute through Owen County to Bloomington. Research and an interview with Owen County revealed no current plans for the development of a greenway system. Initial recommendations for the White River Greenway south of Martinsville include an alignment that would leave the White River alignment and travel south to Monroe County and the Morgan - Monroe State Forest and Bloomington, Indiana.

Relationship to Monroe County

Monroe County has an extensive system of trails proposed that would provide possible trail linkages. The trails proposed in the northern portion of Monroe County in and around the Morgan-Monroe State Forest would appear to provide logical connections to future sections of the White River Greenway through Morgan County.

Proposed Plan

General Alignment, Extents and Points of Interest

The White River Greenway in Morgan County will extend from the Morgan/Johnson County line north of Waverly to Henderson Ford Road, as shown on the overall greenway graphic earlier in this section. The initial segment reviewed in this plan extends over 12 miles. The alignment...” of the proposed greenway generally follows the White River and is proposed to cross the river in several locations, most often requiring a pedestrian bridge, because of natural features and property ownership issues. As the alignment extends south, the greenway’s proposed alignment passes north of Martinsville and travels southwest toward Henderson Ford Road (just north of Martinsville).

Future extensions of the greenway are ultimately proposed to connect to Mooresville and Martinsville, but those extensions have not been studied as part of this effort.

The northern half of the county’s proposed White River Greenway have been the most studied. In part, this is because of the large number of quarries and points of interest in this area – but also because of accessibility to the River from the SR 37 corridor. The following study section corresponds with the keymap and provides a descriptive list of the route and points of interest travelling from the north (Waverly area) to

south (Henderson Ford Road).

The full size White River Greenway map is on shown on page 35.

Points of Interest & Key Property Owners

A. RV Park

Johnson County proposes a continuation of the trail through a proposed campground development. The proposed campground would be in both counties. It is proposed that a public trailhead be incorporated into the campground development.

B. Proposed Public Access Site

C. Bluff Creek Golf Course



Historic Church in Waverly

D. Campground & Soccer Complex

Owned by Prairie Materials, this property on the west side of the river has been proposed as a 32 acre campground and soccer complex. Additionally, Prairie Materials has agreed

in principal to discuss the provision of an easement for the White River Greenway.

E. Beaver Materials Property

F. South Lakes Swimming & Fishing

G. Waverly Covered Bridge Reconstruction

It is proposed that the Waverly covered bridge over the White River be reconstructed to replace a bridge that burned down years ago. It would serve primarily pedestrian traffic associated with the trail.

H. Proposed Historic County Park (Waverly)

Parts of the former town of Waverly within the floodplain have been proposed to be a new county park . A narrative description of this park follows this section.

I. Waverly

Waverly is the oldest village in the county. It is here where Jacob Whetzel and son cut the first road across Indiana to Metamora. (Whetzel Trace) Also, this was an area for a French / Indian trading post located on the White River called Port Royal.

The first settler of what is now Waverly was Hiram T. Craig in 1819. Port Royal, just upriver, was settled in 1818 by Jacob Whetzel. Once considered as a site for the state capital, Port Royal no longer exists. Waverly is thought to be the oldest existing village in the county. Jacob Whetzel's gravesite may be found just south of Waverly. The construction of the Central Canal prompted the growth and development of Waverly. Cornelius Free built the largest grist mill in the state here which attracted hundreds of wagons at a time waiting for service at the mill. Other businesses followed the mill, including a storehouse, a corn drying kiln, and a woolen factory. In 1855, the town

of Far West was absorbed into Waverly when the Post office name became official. By 1870, the canal project had gone bankrupt, but Waverly continued to grow and thrive.² Several historic structures in Waverly exist including the church, bank and blacksmith shop. A livery has been proposed for Waverly. Additionally, it is in this location that an historic covered bridge was located crossing the White River.

J. *Proposed Business Park*

The county is in development of a business park near the Town of Waverly. Connecting the business park to the trail system would provide an attractive amenity. Pedestrian access at SR 37/Future I-69 needs to be accommodated in the design.

K. *Preservation Easement*

L. *Future Quarry Expansion Areas*

M. *Cragen Property*

N. *Proposed Rockies Pipeline*

O. *IPL Transmission Line*

P. *Proposed County Nature Park*

This is property owned by the county. Due to its location, it is not seen as a developed park, but rather as an unofficial nature preserve. It is envisioned that walking trails could be extended through the site in the future.

Q. *Stone Bridge*

This is a planned unit development site that is proposed to have 1300 higher end residences and 400 condominiums. The development itself will have its own recreational facilities, including both walking trails and equestrian trails.

To further enhance the development, the walking/equestrian trails should be connected to the Greenway. It is recommended that a grade separated crossing be provided for SR 37/Future I-69. One likely location for this would be at Crooked Creek. Other locations will need to be evaluated based on final plans for Stone Bridge and I-69.

R. *Harris/Starlight Property (County Park)*

This property has been identified as a potential County Park to include; a campground on the river. A narrative summary of this facility is included in the following Section.

S. *Reith Reilly*

T. *Proposed Public Access*

U. *Barnard / Milhon Property*

V. *Hines Property*

W. *Trailhead/Public Access at Henderson Ford*

This is an existing Indiana Department of Natural Resources public access site. It provides a southern trailhead for the trail. This location is well suited for access by persons west of the river as there is a bridge over the White River on Henderson Ford Road.

County Parks

Two significant county parks are envisioned along this route. The first would be at Waverly and the second would be in the southern part of the route, possibly near the Harris/Starlight properties.

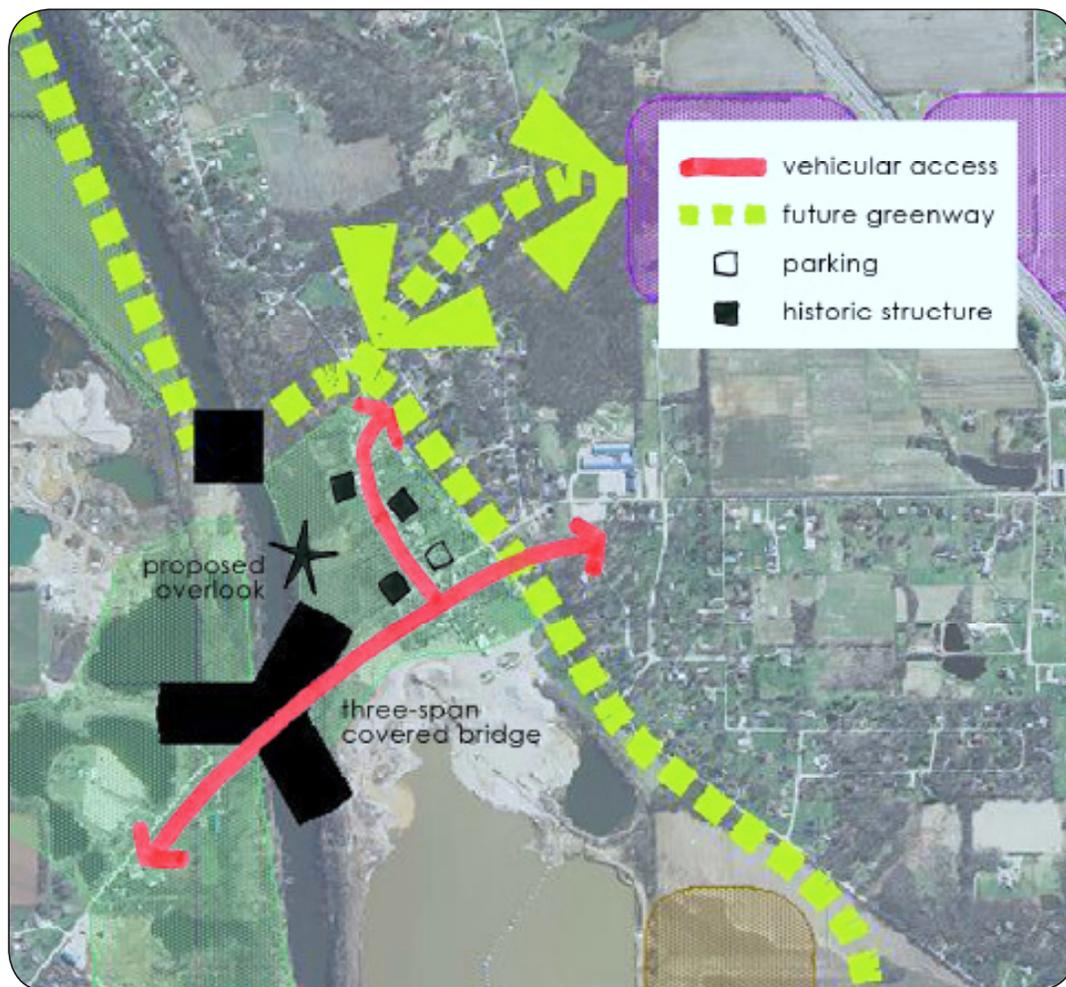
The two parks are described in detail on the next two pages.

Waverly County Park

Recurring flooding in portions of the Waverly area has made it difficult to inhabit portions of Waverly. The county has received funding to help relocate residents who are repeatedly damaged by flooding. As a result, the county has numerous properties in this area of Waverly that could be combined to form the beginnings of a county park.

Based on this, it is envisioned that this area be developed primarily as a history park that can trace the roots of the county. One idea that could complement the park is the re-building of the three span Waverly Covered Bridge that burned in the early 1900's. This bridge could become one of the pedestrian bridges needed to support the plan.

The park is also envisioned as a public river access point, as well as a possible location for a canoe livery and/or a primitive campground.



Waverly County Park Concept Plan

Harris/Starlight County Park

Through acquisition or a land swap, the county envisions developing the Harris/Starlight property into a second county park along the river. It is also in the floodplain, so development options are somewhat limited – but it is envisioned as a series of passive recreation facilities

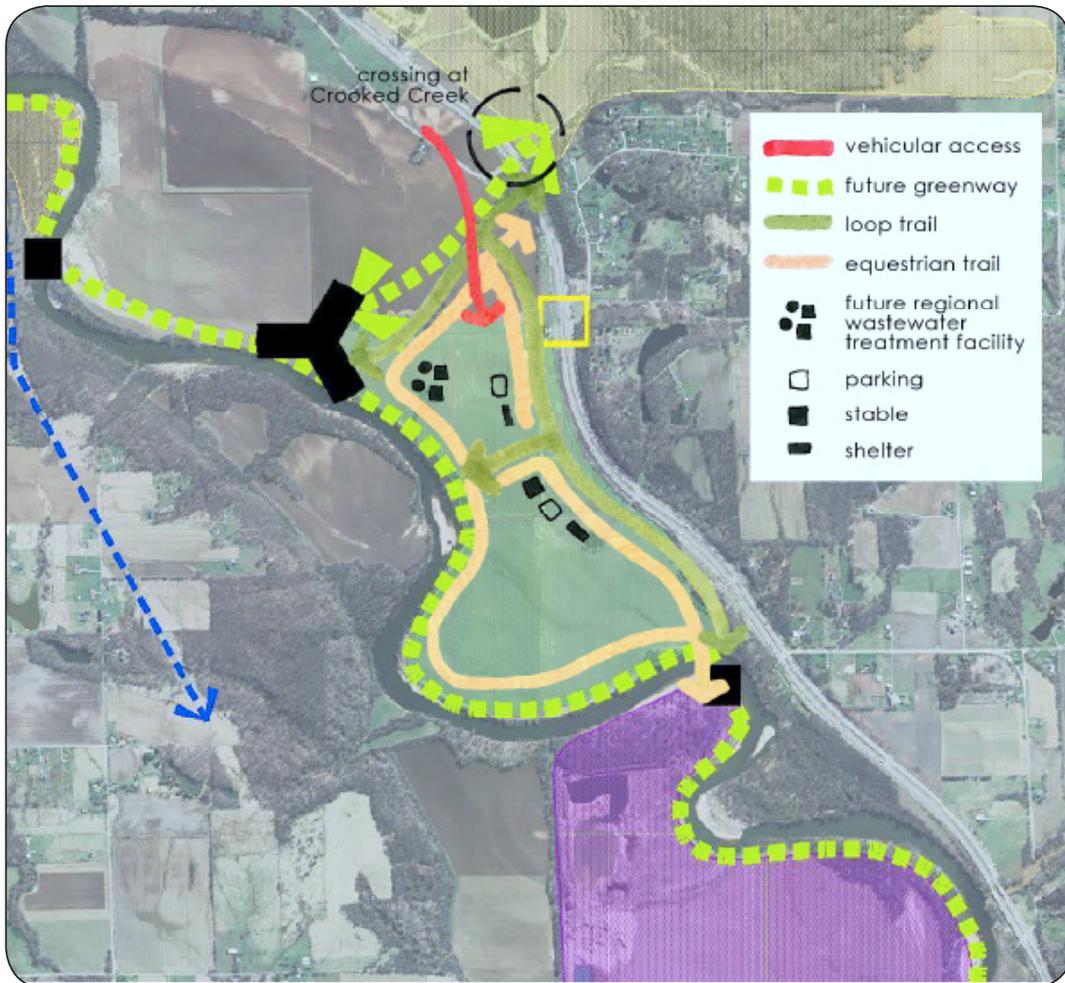
The river is closest to the SR 37 corridor in this area, making it the most visible portion of the greenway system. The intent is to build on this opportunity to make the park reflect the image the of trail system.

A key attraction at this park is envisioned to be a public stable and equestrian trails. These trails would circle the park, and could parallel a portion of the trail

up to the nature park just north of the site. This would provide an extended loop for horseback riding. Trails are also expected to connect to the Stone Bridge development through this site.

Other features at the site could include walking trails, a bark park, and possibly the location of the county's animal shelter.

A portion of the site is also to be reserved for a future wastewater treatment facility to serve long range development along the SR 37 corridor.



Harris Starlight County Park Concept Plan

Future Expansion

While this study has focused on the greenway's first phase between Waverly and Henderson Ford Road, it is important to understand the options for further expansion of the trail system. The two most significant opportunities for future expansion of the trail system are extending the White River Greenway south through Martinsville, and creation of a northern connection to Mooresville. These are described in the following.

Future White Lick Greenway

The proposed White Lick Creek Greenway trail segment would serve as a north-south connector that would connect central Morgan County to Mooresville and ultimately to the Indianapolis International Airport. It should be noted that a Transportation Enhancement Grant Application was submitted on behalf of the Indianapolis Airport Authority for a northern portion of this route in 2005.

This route also has the benefit of creating an 32 mile loop long term. By interconnecting Landersdale Road and Trail with the White River Greenway and the White Lick Creek Greenway, an overall network can be developed that would serve thousands of residents of northern Morgan County.

Future White River Greenway (South)

This segment of the proposed greenway, while less clear in it's alignment along the White River, county roads, etc, has many interesting and attractive potential alignments to consider. The primary feature of this section is the connection of Martinsville to the White River Greenway.

Several route alignments and combinations of alignments are discussed here and merit additional exploration.

♦ White River Route

While this route would follow the intent of the greenway by following the scenic portions of the river, there are no plans for an extension of the route through Owen County. While it is a long term goal to connect to Owen County, it is not recommended to pursue this route at this time.

♦ Martinsville Urban Route

This alternative would complement the rural and scenic portions of the trail by constructing an urban segment through Martinsville. The trail could follow SR 67 and SR 39 into Martinsville, or it could follow the river to Blue Bluff Road and then follow that to Main Street in Martinsville. This would lead through the heart of downtown Martinsville and would provide direct access to the greenway to thousands of residents. The northern portion of this route offers many interesting waypoints such as connection to Centerton, the boyhood home of John Wooden.

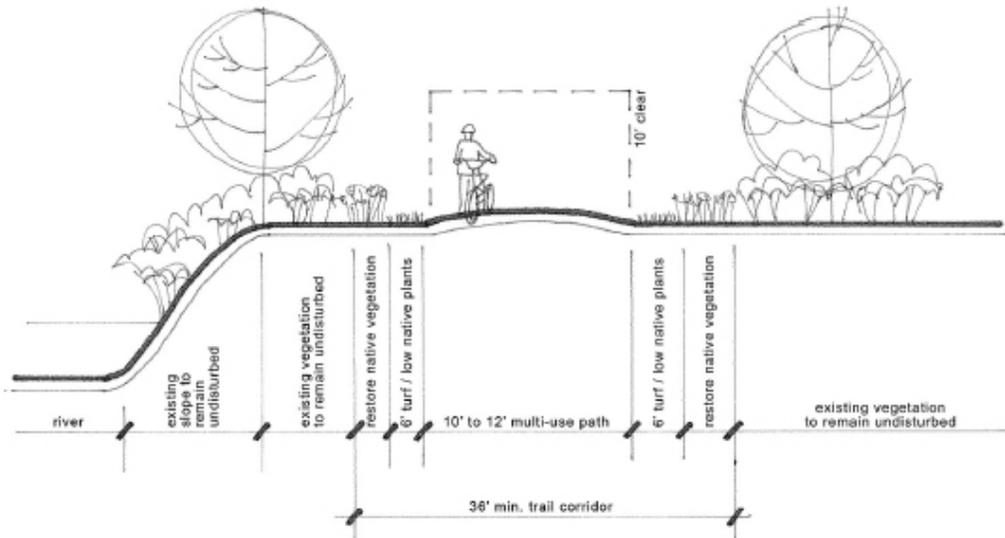
♦ Monroe County Connection

South of Martinsville, the trail has the opportunity to connect to multiple trails in the Morgan Monroe State Forest and in Morgan County. Several route alternatives are possible including following SR 37/I-69, routing more directly south into the State Forest, or an eastern route around the State Forest. These routes should be considered as future development progresses.

Design Recommendations

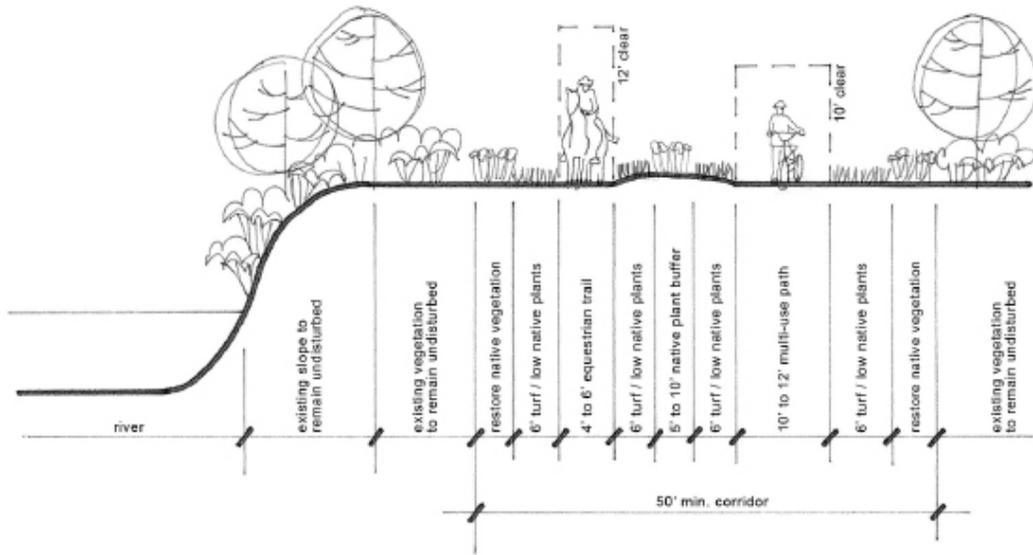
Design Standards

A preliminary summary of trail features and amenities follows on the next two pages. Final amenities and design standards will need to be developed during future planning phases of the trail.



Typical Multi-Use Trail Cross Section

MULTI-USE PATH GUIDELINES	
Feature	Standard
Trail Width	10' – rural areas 12' – urban areas
Horizontal Clearance	5' from edge of trail to fixed objects (mow strip)
Vertical Clearance	10' over path
Cross-Slope	2%
Longitudinal Slope	5% maximum
Surface Material	Asphalt
Shoulders	Earthen shoulder
Railings	42" high wood railing adjacent to slopes more than 1:3, parking areas, unsafe conditions
Lighting	Provide lighting in parks open beyond daylight hours, no lighting along general route of trail
Nodes/Resting Points	Provide benches and trash receptacles every ½ to 1 mile.
Landscaping	Re-establish native landscape at disturbed areas.
Poorly Drained Areas	Site specific issue - consider culverts, boardwalks or other elevated surface as appropriate
Trailheads	Provide trailheads every 3 to 5 miles. Trailhead to include parking, seating, modest shelter, wayfinding maps, drinking water and toilet facilities. Co-locate with canoe launch.
Corridor Width	36' minimum – multi-use path only



Typical Multi-Use Path with Equestrian

MULTI-USE TRAIL WITH PARALLEL EQUESTRIAN PATH	
Feature	Standard
Equestrian Trail Width	4' to 6' (greater in high traffic areas)
Horizontal Clearance	5' from edge of trail to fixed objects (mow strip)
Vertical Clearance	12' over path
Cross-Slope	2%
Longitudinal Slope	5% maximum
Surface Material	Mulch or limestone fines
Shoulders	Earthen shoulder
Railings	42" high wood railing adjacent to slopes more than 1:3, parking areas, unsafe conditions
Buffer	5 to 10' minimum between multi-use and equestrian trails.

Special Aspects of the White River Greenway

Several special conditions are present on the corridor that warrant special attention and design detailing. These are summarized in the following narrative.

Quarries

Areas within the floodplain of the White River are extensively used as gravel quarries. Dozens of past and present quarries are located in the study corridor.

Operational quarries adjacent to the trail could result in conflicts between mining operations and trail users. Design issues will need to be evaluated on a case by case basis so that each specific concern is addressed. However, general care should be taken to separate the trail from operational quarries. While this could be accomplished with fencing in sensitive areas, the preferred method is to preserve a wide vegetative barrier/screen between the trail and the active quarry. In some cases, mounding may be an appropriate buffering device. The final decision on which method of separation to use will need to be made based on cost, location, and the degree of mining activity present.

Another concern is bodies of water left after a quarry is abandoned. While these pose a concern, it is in most cases no more of an issue than having a trail near the White River. Care should be taken to separate the trail from bodies of water, and preferably to include vegetative buffers between the trail and the body of water. Where existing conditions do not permit full separation, wood railings could be included to provide the needed separation.

Floodplains

Nearly the entire route of the project will be within existing floodplains, and in some cases will be near a floodway. Design of the trail will need to consider a variety of factors associated with this issue.

First, all pavements, signage, and trail improvements need to be designed to accommodate periodic flooding. For pavements, it is recommended that asphalt be used for surfacing for ease of cleaning and maintenance after an event. Buildings at trailheads will need elevated or constructed so as to allow them to be flooded periodically.

Second, there will be areas along the trail that will be periodically wet. In these cases, a paved trail may not be suitable. In these situations, alternative elevated trail designs will need to be considered.

In addition, construction schedules will need established to allow work to proceed in summer/fall to avoid the rainy season. Special permitting requirements will also be required for this work.

Endangered Species

The corridor along the White River provides habitat for a number of species, including the Bald Eagle. Multiple eagle's nests are known to exist along this portion of the corridor. Careful planning of the trail during early design phases of the project will be needed to avoid impacts to this species. It is recommended that the design firm work closely with county and DNR officials to route the trail away from known nests to prevent unnecessary disruption to the birds.



Bald Eagle photo courtesy of marktrabue

In addition, planning of the route should occur to limit disruption of existing trees and vegetation that could provide habitat for the Bald Eagle and other animals in the eco-system. A simple way to accomplish this is to route the trail along existing footpaths and dirt roads along the river.

Next Steps

Recommended Next Steps

Recommended next steps for the project include continuing to work on land rights issues, building public support for the effort, and developing a first phase of the plan with preliminary costs. Specific recommendations include:

- ◆ Adopt plan for the White River Whetzel Trace Greenway as part of the Morgan County Comprehensive Plan.
- ◆ Work on commitments for greenway easements. Secure commitments of land donations whenever possible to serve as part of the County's future matching dollars.
- ◆ Present and share White River Greenway Plan with Indianapolis MPO
- ◆ Present and share White River Greenway Plan with Indiana Department of Transportation and specifically Interstate 69 project management
- ◆ Present and share White River Greenway Plan with Indiana Department of Natural Resources.
- ◆ Update the Morgan County Master Parks Plan to address current needs and improvements.
- ◆ Identify a first phase catalyst project to begin the greenway. Determine this based on available land, proximity to attractions, cost of development and related issues.

- ◆ Prepare grant application(s) for the improvements.

Project Financing

Project Financing Opportunities

A series of options will need to be considered for project financing. A summary of the programs currently available, and opportunities associated with each follow:

- ◆ Transportation Enhancement (TE): Provides 80% grant/20% local funding. Funding is available for trails and for basic trailhead facilities. This could include monies for not only the trail, but also for construction of parking, toilet rooms, shelters and other basic improvements at the county park projects. Funding of up to \$500,000 to \$1.0 million per round is possible.
- ◆ IDNR – Recreational Trails Program (RTP): RTP provides 80% grant/20% local funding for acquisition and development of multi-use trails. Funding is more limited than TE funds, but still could provide grants of up to \$150,000. A five year park and recreation plan is required to be on file at IDNR to be eligible.
- ◆ IDNR – Land and Water Conservation Fund (LWCF): LWCF provides 50% grant/50% local funding for the development of park facilities. It would be more appropriate for development of one of the county park facilities than for trails itself. A five year park and recreation plan is required to be on file at IDNR to be eligible.

- ◆ IDNR – Special Grants: IDNR provided special grants of \$200,000 to \$1.0 million for development of greenways systems in 2008. While not through a competitive grant program, it reinforces the need to keep IDNR aware of the project and the need for improvements.
- ◆ Brownfield Grants – Inventories should be checked to determine if any brownfields are designated along the project route. Grants are available for the funding of brownfield projects.
- ◆ SafeRoutestoSchool(SRTS): This provides 100% grant funding for projects of up to \$250,000 to promote walkability in communities where school facilities are located. In particular, areas around the Waverly Elementary School might be appropriate for this funding.
- ◆ CDBG funding: OCRA provides 90% grant/10% local funding for community development projects from Community Development Block Grants. While OCRA does not normally provide funds for park and recreation oriented activities, they do finance historic preservation projects. This could be used to assist in developing facilities at the proposed Waverly County Park.

Land Use

6

Land Use Trends

Morgan County has seen its population increase faster than the Indiana average. Now estimated at more than 70,000, it has grown by about 25% since 1990.

The growth has of course been accompanied by more land being developed for housing as well as complementary commercial and institutional uses. This growth has, for the most part, clustered around areas such as Mooresville and in spots along SR 37.

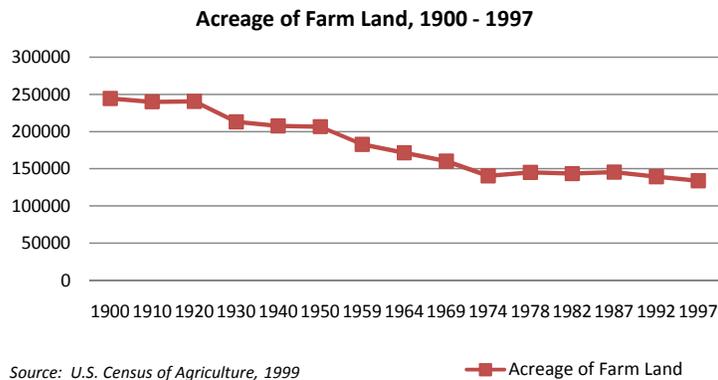
The steady climb of these land uses have come at the expense of another type of use: agriculture. The graph below illustrates the decline.

Agricultural Protection

We believe in the use of planning and zoning to direct growth away from prime agricultural land while at the same time allowing for flexibility in decision making.

Greenspace

Greenspace is vital for Morgan County's quality of life, and cannot be taken for granted. Greenspace must be promoted, preserved and planned for.



Considering how much of Morgan County's history, culture and image is tied to its rural setting, it is no surprise that the Steering Committee made it a priority to create goals and policies that protect agricultural land.

Development Principles

Development principles are intended to guide decisions makers as they interpret the comprehensive plan. They are overarching statements that can be applied to many different decisions. The Steering Committee created these principles to address their biggest concerns.

Housing

Morgan County needs a continuum of housing choices. However, the focus should be on more quality, mid-level and upper-level homes while directing multi-unit housing toward existing urban areas with infrastructure.

Manufacturing and Industrial Development

Manufacturing and industrial development should be confined to along the SR 37 Corridor, SR 144 Corridor, SR 67 Corridor and Interstate 70 Corridor or – with infrastructure improvements – within easy access to those major roads.

Commercial Development

Large-scale commercial and retail development should be confined along the SR 37 Corridor and only minor commercial nodes be permitted in the outlying areas.

Community Image

We expect national retail chains and housing developers – as well as local businesses and homeowners - to do more to raise the aesthetic qualities of their projects.

As detailed in Making the Case for Planning and other sections of this report, the Steering Committee was methodical and pragmatic when considering changes to land use. They begin deliberations by reviewing the range of options for how tough, or lax, regulations could be. The following table lists tools for land use protection in ascending order of the difficulty in implementing them in most communities.

Although no formal vote was taken on the options, the shaded boxes indicate tools that the Steering Committee wanted to explore further.

MATRIX OF POLITICAL WILL & RESOURCES

Requires Little Political Will & Resources	Requires More Political Will & Resources	Requires Considerable Political Will & Resources
Document existing or remaining farmland. Map agricultural soils and resources.	Initiate agricultural land mapping and monitoring programs, such as GIS to document the amount of land in farm production and the rate at which it is being converted to non-farm uses	Compile and annually track data on the rate of urbanization and the conversion of agricultural land.
Update the comprehensive plan to establish clear goals and policies with regard to community character, agricultural protection, and suburban growth.	Update the comprehensive plan to address the preservation of agricultural land and to specify programs and techniques for its protection.	Update zoning and subdivision ordinances to support and encourage conservation design to discourage single-family housing in agricultural areas.
Use the county comprehensive plan to identify agricultural priority areas and other areas suitable for development.	Eliminate exemptions from the subdivision ordinances that would result in the division of agricultural land into parcels that are too small for commercial farming.	Encourage state legislation and funding to adopt the following programs: Agricultural District Programs, Purchase of Development Rights and Transfer of Development Rights.
Plan and zone for smaller residential lots within already urbanized areas to increase development density, removing pressure for development on farmland.	Adopt agricultural zoning ordinances to protect agricultural land. The zones would limit non-agricultural development to densities and development patterns.	Create agricultural zones with minimum lot areas of at least 40 but preferably 160 acres where dense residential development is prohibited.
	Adopt policies and ordinances, such as a right-to-farm law, that recognize prime farmland as an important environmental, economic, and community asset.	Implement policies to limit premature expansion of urban infrastructure (such as roads and sewers) into agricultural areas.
Encourage greater housing densities in developed areas with existing infrastructure, ultimately reducing pressure on perimeter agricultural land.	Develop incentives to encourage development where infrastructure is in place.	Direct growth to already built-up areas, where developable land is available, through infill development and brownfield redevelopment.
		Use clustered designs and conservation development techniques on non-prime farmland in areas where development of agricultural land is unavoidable.

Development of the Future Land Use Plan

Morgan County communities undertook to develop a coordinated future land use plan to accommodate future housing and business growth, while also best addressing the community's environmental protection goals. The process used to develop the future land use map is described as follows:

◆ **Step 1 - Review Existing Land Use Map:**

Previous work completed by Morgan County had developed existing land use maps for the county. That work was reviewed under this plan, but not duplicated.

◆ **Step 2 - Agricultural Zones Identified:**

One of the county's highest goals was agricultural preservation, so land use planning started with identification of prime agricultural areas. Mapping was prepared to identify soil conditions throughout the county, and areas with the best soil conditions were identified. In addition, mapping of the percentage of land cultivated for farming was also prepared. The combination of these two resources was reviewed by county officials, and prime agricultural areas were identified on maps. The future land use map identifies these areas as "Agricultural-Preferred" land use. Copies of the soils and percent cultivation maps were not included in the adopted comprehensive plan, but are included here for reference.

◆ **Step 3 - Steep Slopes/Forest Areas Identified:**

A significant portion of the county's topography can be characterized as having steep slopes. Most of these steep slopes are also forested areas. While there are state forests in the southern and west-central portion of the county, a majority of the forested/steep slope areas are under private ownership. Steep slope and forested areas

are also interspersed with level agricultural lands suitable for cultivation. Upon review, it was decided that these lands should all receive an "Agricultural – General" land use recommendation. This allows agricultural and limited residential uses, but discourages large scale development. Recommendations on appropriate protections are presented in the environmental section of the plan.

◆ **Step 4 - Karst Areas Identified:**

There is one area with karst topography in the west central portion of the county. It was decided that the underlying agricultural land use recommendations would remain for this area, but that the future land use plan would be amended to identify this as a Karst Protection Zone. Recommendations on appropriate karst protections are presented in the environmental section of the plan.

◆ **Step 5 - Floodplains Identified:**

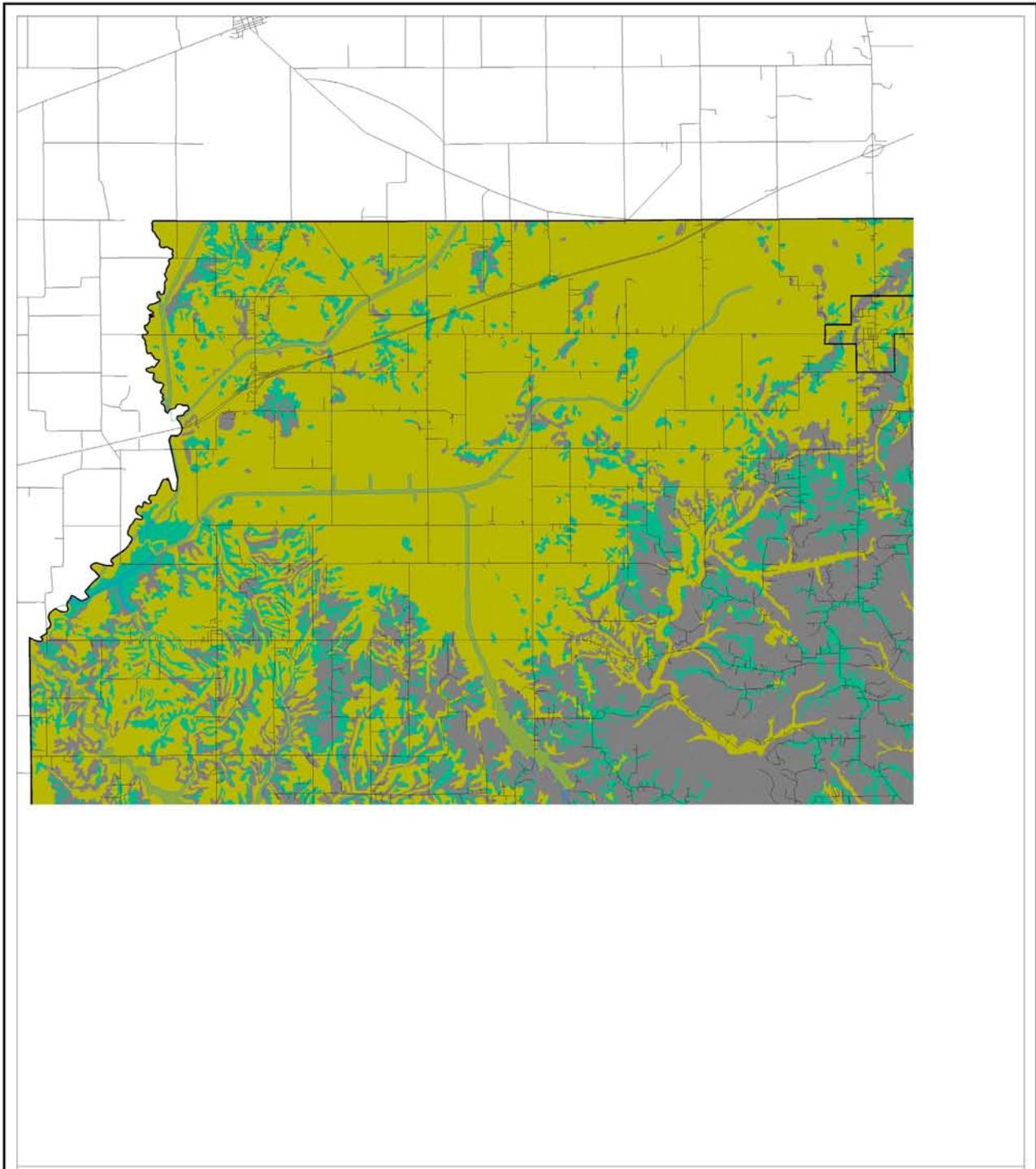
500 year floodplains were identified on future land use maps, and all floodplain areas were identified as either agricultural, open space or park use.

◆ **Step 6 - SR 37/I-69 Corridor Land Use Determinations:**

The next priority in the effort was to determine future land use along the SR 37 (future I-69) corridor. This began with establishing recommendations for the location of interchanges along the corridor. Then, recommended land uses at each interchange were developed, taking into consideration agricultural uses, forests and steep slopes. Land use recommendations for the corridor are included on the future land use map, and in the SR 37/144 Corridor Plan.

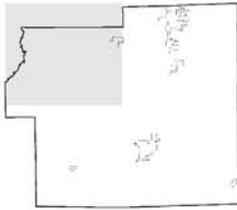
◆ **Step 7 - Residential Zoning:**

The final step in the preparation of the future land use map was the determination of residential districts. It was determined that residential



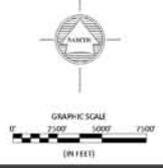
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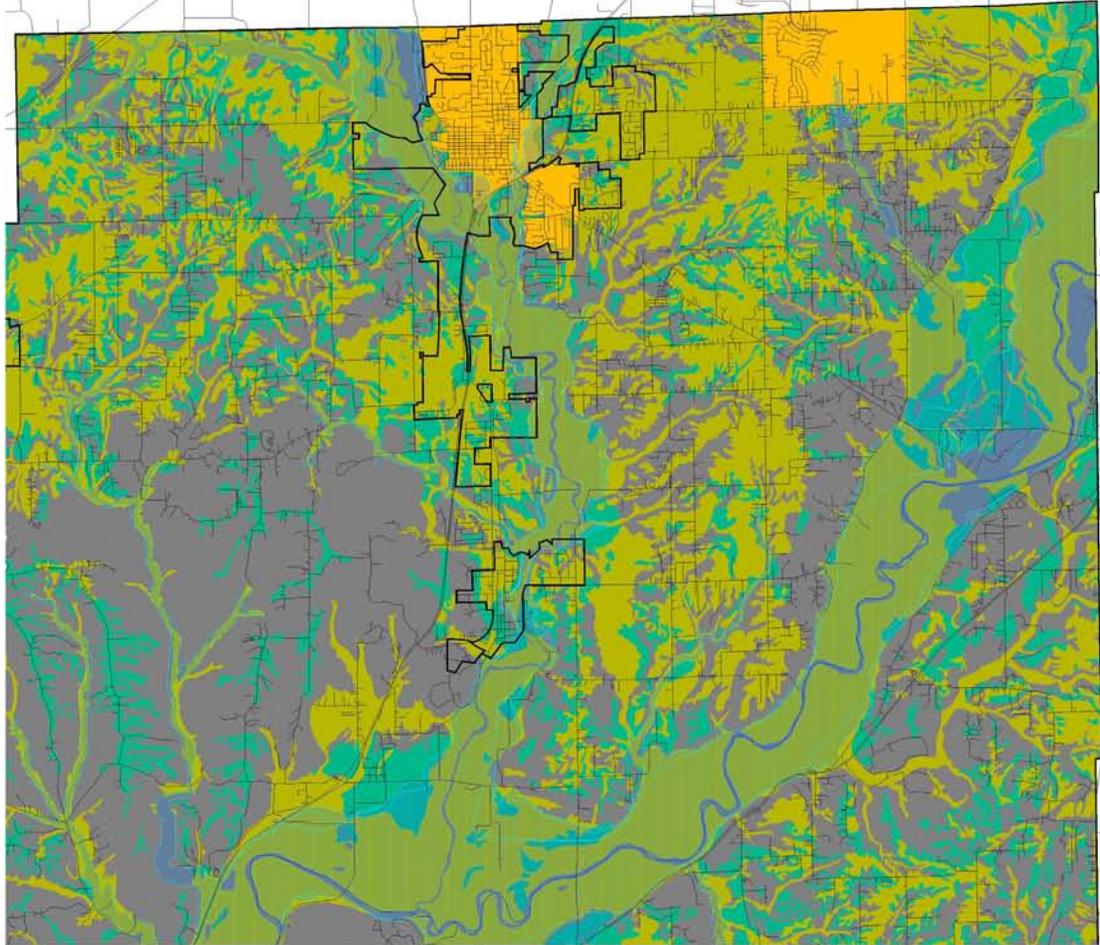
	Prime Farmland
	Conditional Prime Farmland
	Not Prime Farmland
	Urban Areas (100 homes/sq.mi.)
	Floodplain Areas



Suitability of Soils for Agriculture Northwest Quadrant

Morgan County Comprehensive Plan
November 13, 2008





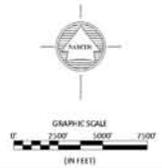
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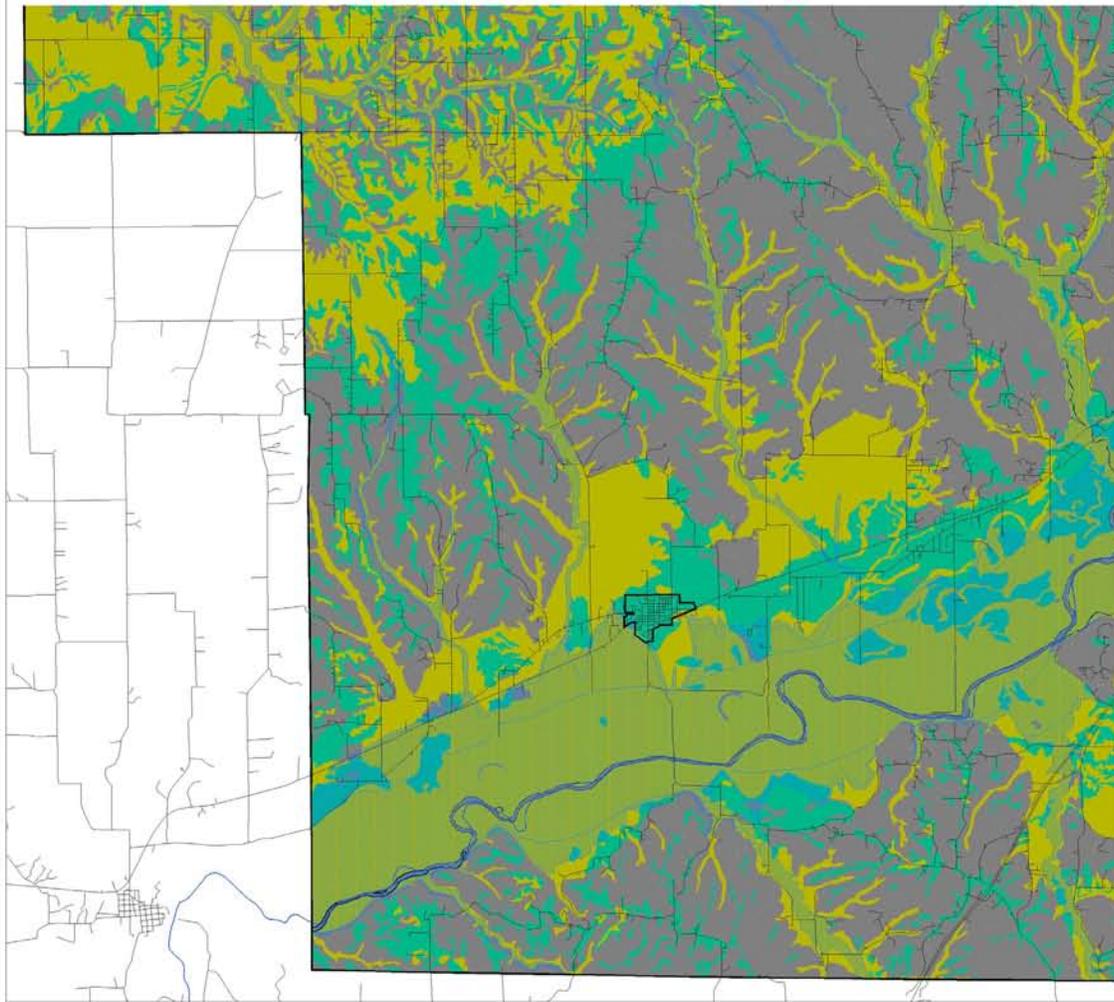
- Prime Farmland
- Conditional Prime Farmland
- Not Prime Farmland
- Urban Areas
(100 homes/sq.mi.)
- Floodplain Areas



Suitability of Soils for Agriculture Northeast Quadrant

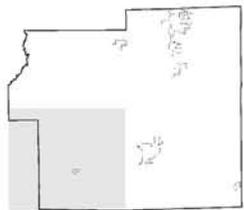
**Morgan County Comprehensive Plan
November 13, 2008**





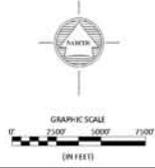
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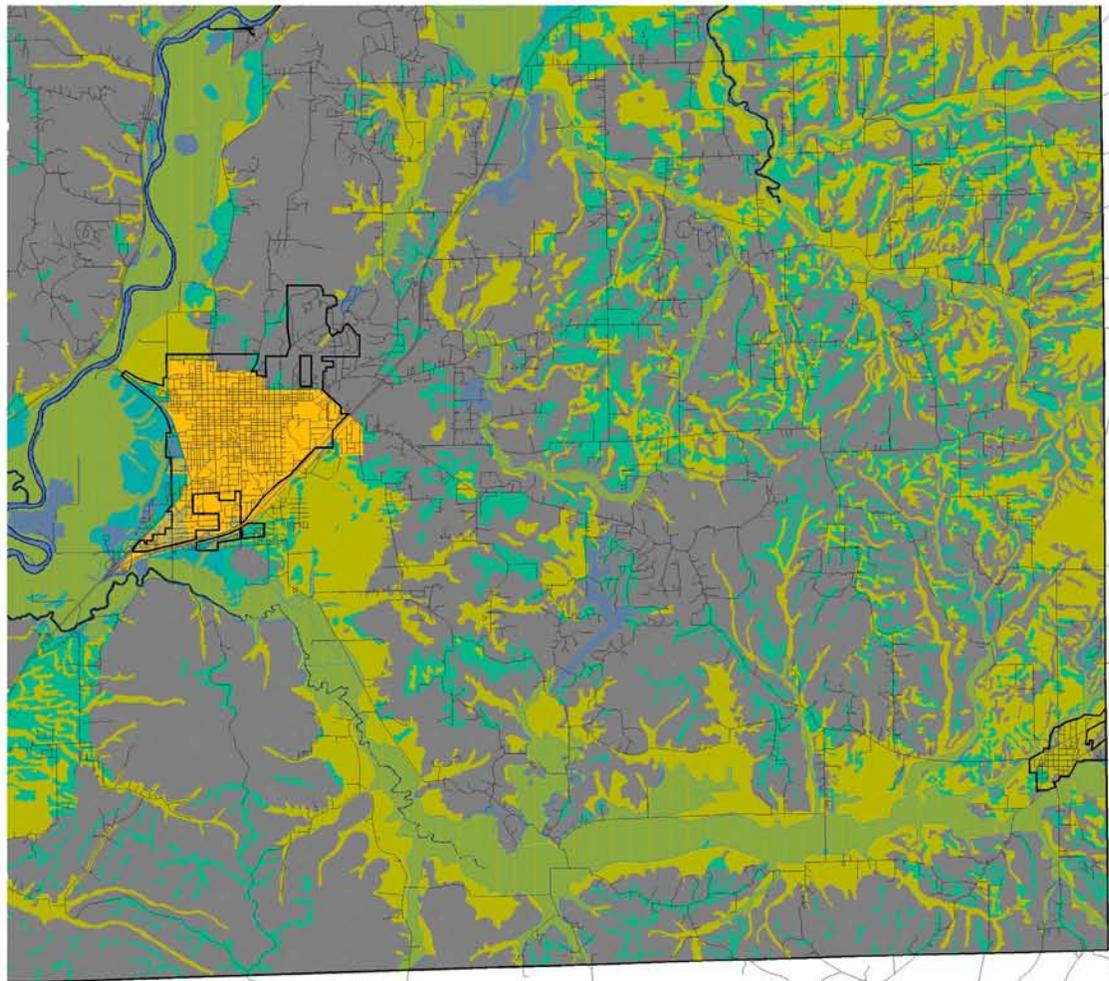
	Prime Farmland
	Conditional Prime Farmland
	Not Prime Farmland
	Urban Areas (100 homes/sq.mi.)
	Floodplain Areas



Suitability of Soils for Agriculture Southwest Quadrant

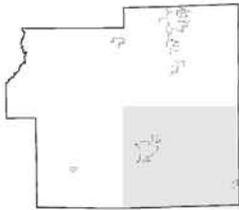
Morgan County Comprehensive Plan
November 13, 2008





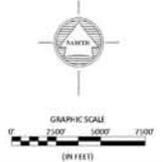
LEGEND

	Prime Farmland
	Conditional Prime Farmland
	Not Prime Farmland
	Urban Areas (100 homes/sq.mi.)
	Floodplain Areas



Suitability of Soils for Agriculture Southeast Quadrant

Morgan County Comprehensive Plan
November 13, 2008



areas are preferred in areas not impeded by environmental limitations, and in areas not suited for economic development purposes along major highways. This resulted in recommendation that rural residential districts be located on the east side of the community near the SR 37 corridors as outlined on the future land use map.

- ◆ **Step 8 – Land Use Planning in Cities and Towns:** Detailed land use planning in the fringe districts of Mooresville and Martinsville were completed as outlined in those plans. Areas with floodplains, steep slopes and forests were reviewed following the same process as used for the county.

Future Land Use Map

Future land use maps draw a lot of attention in a comprehensive plan. They're eye-opening because they illustrate – via a map of the community – where leaders think homes, businesses, manufacturing plants and other uses should go in the future.

By extension, they also specify where they shouldn't go.

The future land use map has this core concept: Communities engage in planning to ensure the needs of the whole community are considered, not just benefits to individuals.

Community planning is based upon the idea of the public interest. Some flexibility in the use of individual land is given up in exchange for creating a community in which the interests of all are considered. When communities plan, they establish and implement public policy for decisions on development and redevelopment. Plans help a community achieve a character that residents of the community recognize and support.

Because a comprehensive plan is not enforceable by law, the future land use map is not the same as a zoning map. Zoning maps, and their accompanying regulations, are enforceable. They specify where potential uses, such as residential, commercial, light industry, heavy industry, open space or transportation infrastructure can be located.

While the future land use map does not have the power of law, it can lay the groundwork for changes to the zoning map and regulations. This section includes a review of the land uses as well as the guiding principles behind how community leaders think the town should develop. It also includes assessments, strategies and action steps for housing, commercial and manufacturing land uses.

How to Use the Future Land Use Map

County commissioners, plan commission members, developers and others can use the future land use map to see the community's expectations on what the community will look like in the future.

The land use map is general in nature, and the categories are broadly defined. The steering committee which created this plan wanted to keep the uses flexible in order to adapt to changing conditions.

This map is meant to be used in combination with the Critical Sub Area Plans, SR 37/SR 144 Corridor Plan and the goals and strategies to fully understand the steps that Morgan County will take to manage change in the next 20 years or more.

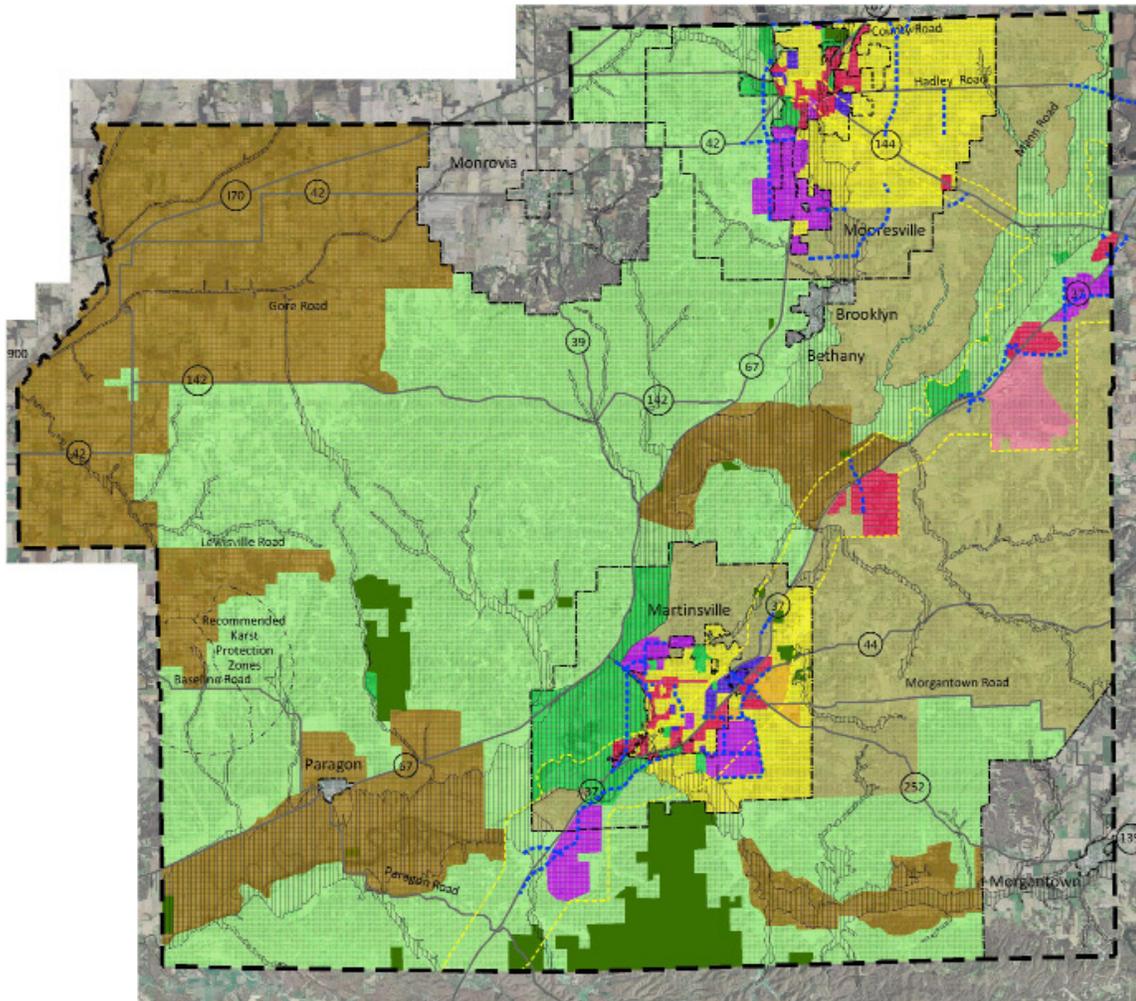
Definitions of Future Land Use Map Categories

The following definitions match the categories given in the legend of the land use map, on page 69.

FUTURE LAND USE MAP CATEGORIES

<p align="center">AP</p> <p>Agriculture Preferred</p>	<p>This district is intended for the most rural, most agricultural portions of the county where farming is the dominant land use and infrastructure is limited. It preserves highest quality farmland and subdivision of land is discouraged. (Generally applies to the northwest corner of the county.)</p> <p>Development of individual properties in existence at the effective date of the ordinance is allowed at a density of 1 lot for every 10 acres. This does not require a 10-acre lot; it just sets a cap on the number of new lots that would be allowed.</p> <p>The minimum lot size is 1 acre.</p> <p>The maximum lot size is 3 acres.</p> <p>This is similar to existing codes, except with the addition of a maximum lot size. This designation would be by-right, so someone who followed it would not have to do a subdivision.</p>
<p align="center">AG</p> <p>Agriculture General</p>	<p>This district is intended for rural areas where, due to topography, crop production is mixed with estate residences, rural home sites, stables, etc. Emphasis is still on agriculture, but with smaller lot sizes allowed. Residential subdivisions are discouraged. (Generally applies to central and southern portions of the county.)</p> <p>The requirements are the same as those for AP, except the density is 1 lot for every 5 acres.</p> <p>The minimum lot size is 1 acre.</p> <p>The maximum lot size is 3 acres.</p>
<p align="center">RR</p> <p>Residential Rural</p>	<p>These are areas that are not well suited for agriculture and do have reasonable access to higher functioning roads, utilities, etc. This district can absorb demand for rural housing on properties that would not overly disrupt agricultural operations.</p> <p>Conservation subdivisions would be required for residential development. Higher density housing is allowed where water and sewer utilities are provided. Lower density is required otherwise. (Generally applies to areas along the SR 37 corridor subject to current/future development.)</p>
<p align="center">R</p> <p>Residential</p>	<p>This district is intended for single family residential housing where traditional, higher density subdivisions are allowed. (Generally applies to areas within corporate limits or fringe areas of towns). Developments must be connected to water and sewer utilities.</p>

<p>Commercial</p>	<p>The purpose of this land use category is to provide a full range of commercial retail, office, and service uses for residents, businesses, and visitors.</p> <p>This applies to commercial activities with direct contact with customers ranging from neighborhood convenience stores to regionally oriented specialty stores.</p> <p>These areas are intended to accommodate both wholesale and retail sales and are characterized by: 1) shared parking areas, and 2) shared points of access to a roadway.</p>
<p>IDNR Managed Lands</p>	<p>These state-owned lands are controlled by the Indiana Department of Natural Resources.</p>
<p>Industrial</p>	<p>The purpose of this category is to provide for a full range of light and heavy industrial uses. Types of uses that would be permitted include manufacturing, processing, distribution and storage.</p> <p>The designation will accommodate a variety of industrial establishments which: 1) employ high environmental quality standards; 2) may function as an integral part of an overall development area; 3) require large tracts of land because of their nature and function; and, 4) have minimal impacts on adjacent uses.</p>
<p>Institutional</p>	<p>The purpose of this category is to provide land for buildings for government or private institutional use such as schools, church, hospitals and museums.</p>
<p>Mixed Use</p>	<p>This designation is applied to land that has a combination of commercial and residential uses.</p>
<p>Park/Open Space</p>	<p>The purpose of this category is to provide public or private land reserved for passive or active recreational activities or permanent preservation of natural open space. It may also be used on private lands to designate natural features within clustered development.</p>
<p>P.U.D.</p>	<p>A planned unit development (PUD) is a type of residential, commercial, or industrial land development that provides more planning flexibility than traditional zoning and lot layout.</p> <p>Buildings are often clustered on smaller lots, permitting the preservation of natural features or open park-like areas.</p>



Legend	
	Corporation Limits
	Two Mile Fringe
	SR 37/144 Corridor Overlay
	Floodplain
	Agricultural General
	Agricultural Preferred
	Commercial
	IDNR Managed Lands
	Industrial
	Institutional
	Mixed Use
	Park / Open Space
	P.U.D.
	Residential
	Residential Rural

Future Land Use Map

Morgan County Comprehensive Plan



On-site Septic Systems

Failing septic systems have been a problem in many areas of the county. Rocky soil on ridges, lack of flat terrain in many locations, and clay soil in agricultural areas have resulted in many failed systems. At the same time, there are many locations in the county with sandy soil or permeable clay soils that are well suited for on-site septic systems.

Current ordinances require a soil scientist to review each site for suitability and to recommend design criteria for an on-site system prior to county approval of a building permit. Each system also is required to be inspected prior to backfilling the trenches. While these steps help improve the effectiveness of the systems, they do not guarantee that a system will perform. When systems do fail, homeowners often do not have enough property to construct a new system. In these cases, sometime systems are replaced, other times septic tanks are pumped out frequently, and in other cases the issue is ignored completely resulting in an environmental concern.

Many communities with large rural populations reliant on septic systems are taking additional steps to provide a backup plan in case a system fails. One of the more popular policies is to require residential lots to be sized to accommodate a second system – should the first system fail. Opponents of this idea argue that it increases lot sizes – making development consume more property resulting in sprawl.

The steering committee reviewed these options, and concluded that additional measures should be considered by the county to guard against failed septic systems. But, the committee did not conclude what measures should be taken. Therefore, this plan recommends that septic system provisions be reviewed in conjunction with minimum lot size requirements to determine what, if any, additional steps should be taken related to this issue.

Growth Management

When people hear the phrase, “growth management”, the impression that comes to mind is often a negative one. Here in Indiana, the common misperception is that growth management actually means growth discouragement. In reality, growth management does not mean discouraging growth; it means exactly what it says, managing the growth that takes place.

While the term growth management is most commonly interpreted to mean managing the amount of growth, there are actually four additional ways to manage growth besides quantity: location, type, pattern and quality of growth. Think of growth management as a set of tools or techniques that are used by local government to ensure that growth meets their standards and that there are services available to meet the demands that are generated.

Managing growth is a proactive step for local governments to take. If Morgan County does not take advantage of growth management, then the county is put in the position of reacting to growth, a response that is guaranteed to waste the limited resources the county has. Creating growth management policy is an important part of the county’s future and a key part of this comprehensive plan.

Let’s explore how Morgan County can manage future growth using the following methods:

- ◆ Location of Growth
- ◆ Type of Growth
- ◆ Pattern of Growth
- ◆ Amount of Growth
- ◆ Quality of Growth

Growth Management Method I -- Location of Growth

The future land use section of the comprehensive plan and the critical sub-area plans already identify the desired locations for future growth. Since most development occurs in “greenfield” areas (undeveloped land that is often being used agriculturally) it is very important to also note which areas are intended for preservation as Agricultural.

These “greenfield” development areas are not very efficient with regards to the use of resources, because they will require extensions of utilities and new roads. By contrast, infill (the gaps between existing developed areas) development or redevelopment usually has much less impact on resources, because the infrastructure is already in place. Because there is less cost and the impact to the County and its citizens is less, infill development should always be considered the highest priority for development. In Morgan County, the infill development areas are generally closer to existing towns.

Some communities prioritize areas for future development based on a set of criteria that include considerations like traffic levels, emergency response times, utility availability, etc. Because the level of growth in Morgan County is not anticipated to be high, the prioritization of growth areas is probably not necessary at this time.

Growth Management Method II -- Type of Growth

When we refer to type of growth, we refer to land use type (i.e., residential, commercial, etc.). The future land use section of the comprehensive plan already identifies and describes the land uses that Morgan County has identified in its future.

Growth Management Method III -- Pattern of Growth

This method of growth management is related closely to type and location, and really focuses on the pattern of the development (i.e., concentrated vs. scattered).

Less is said in this plan about the pattern or density character of future development, although the future land use section does discuss lot size minimums and maximums.

The general rule is that the more spread out land uses are, the more costly providing the services becomes, and those costs are typically passed on to taxpayers. Concentrated development makes it easier to anticipate and plan for impacts to infrastructure and services. Scattered development also leads to other costs, like longer response times for emergency services and increased costs and riding times for busing students to schools.

Concentrating development also benefits our neighborhoods by making them more walkable. As obesity, heart disease, and diabetes continue to rise among Americans, Morgan County needs to begin looking at how its growth and development can make it easier to live more healthy lifestyles. According to an article published by the US News and World Report, “many studies [have] clearly shown that walking--the cheapest, easiest, and most common physical activity for most Americans--reduces risk for many of these deadly diseases.”

Growth Management Method IV -- Amount of Growth

While most people think of controlling the amount of growth when they hear the phrase “growth management”, managing the amount of growth is actually one of the least-used and most difficult methods. The ways to limit the amount of growth

are few, and include limiting the number of building permits issued or limiting the number of rezonings and subdivisions that are granted. Some fast-growing Indiana municipalities are now considering not annexing or rezoning property to residential that could lead to an increase in population beyond the projected future population established in their comprehensive plans. It is probably not necessary or as feasible for the county to attempt to manage the amount of growth.

Growth Management Method V -- Quality of Growth

The area of growth management that people are most surprised to see included is managing the quality of growth. When we talk about growth quality we are talking about setting high standards for infrastructure in our subdivision ordinance and sticking to them. Quality of growth also can include the landscape standards and architectural standards in a zoning ordinance. Architectural standards can be as lenient or as restrictive as the county wants them to be.

Specific quality standards will not be determined as part of this comprehensive plan, however the plan does give some direction for their development. Note that in order for quality standards (including architectural standards) to be effective, they must be required, not optional.

Smart Growth vs Growth Management

Smart Growth is a term that became well known in the 1990's, and by its very name, it implies that not all growth is "smart" or good. The idea of smart growth goes hand-in-hand with the proactive approach of growth management.

In 1996, the U.S. Environmental Protection Agency joined with several non-profit and government organizations to form the Smart Growth Network

(SGN). The network's partners include environmental groups, historic preservation organizations, professional organizations, developers, real estate interests; local and state government entities. Their website at www.smartgrowth.org states:

"In communities across the nation, there is a growing concern that current development patterns -- dominated by what some call "sprawl" -- are no longer in the long-term interest of our cities, existing suburbs, small towns, rural communities, or wilderness areas. Though supportive of growth, communities are questioning the economic costs of abandoning infrastructure in the city, only to rebuild it further out.

Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth. The result is both a new demand and a new opportunity for smart growth.

The features that distinguish smart growth in a community vary from place to place. In general, smart growth invests time, attention, and resources in restoring community and vitality to center cities and older suburbs. New smart growth is more town-centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial and retail uses. It also preserves open space and many other environmental amenities."

The Smart Growth Principles below describe in greater details the various aspects of planning and development that make up smart growth. Although the Steering Committee did not banter about the term “smart growth” during their discussions, many of their goals and strategies are linked to the smart growth principles:

- ◆ Mix land uses
- ◆ Take advantage of compact building design
- ◆ Create a range of housing opportunities and choices
- ◆ Create walkable neighborhoods
- ◆ Foster distinctive, attractive communities with a strong sense of place
- ◆ Preserve open space, farmland, natural beauty and critical environmental areas
- ◆ Strengthen and direct development towards existing communities
- ◆ Provide a variety of transportation choices
- ◆ Make development decisions predictable, fair and cost effective
- ◆ Encourage community and stakeholder collaboration in development

Design Standards

While this plan does not aim for an overhaul of the existing code, the Steering Committee expressed interest in new regulations in some areas. In particular they want to require new development to enhance the community’s visual appeal.

These requirements would take the form of design standards and include both commercial and residential developments. Current ordinances focus mainly on infrastructure issues and not as much with

building design, materials, etc.

To accelerate the process of selecting exact requirements for the new ordinance, the following table lists different components of commercial design standards and their typical implementation tools, indicating the difficulty in establishing each of the tools in most communities.

One important decision related to this is which developments these standards should apply to. The steering committee expressed multiple opinions on this issue. Some argued that only larger residential developments should need to follow the design standards. Others made the case that it should apply to the entire county to raise the quality of housing.

In considering this decision, the community will need to be careful with how they write the requirements. For example, if the ordinance is written that only developments with a density under four homes per acre need to apply, then they can expect to see an increase in the number of developments just over that minimum density. Similarly, if the requirement only applies to developments with more than six homes, then it might be expected to see many 5 home subdivisions that do not need to comply.

One area where there was general consensus was that any development within the SR 37 corridor should have to conform to a higher standard such as those outlined in this plan. Consequently, these concepts have also been written into the SR 37/144 Corridor Plan.”

The following matrix is for commercial buildings.

DESIGN STANDARDS MATRIX FOR NEW COMMERCIAL CONSTRUCTION

	Tools that Require Little Political Will & Resources	Tools that Require More Political Will & Resources	Tools that Require Considerable Political Will & Resources
Building Orientation	Continue to allow building to be placed and oriented in any location on the site, as long as no other provisions of the zoning ordinance are violated (i.e., setbacks).	Amend the zoning ordinance to prohibit a commercial building from “turning its back” to the main thoroughfare.	Amend the zoning ordinance to require development plan approval by the plan commission for all commercial buildings.
Parking Location	Continue to allow parking to be placed in any location on the site, as long as no other provisions of the zoning ordinance are violated (i.e., sight distance).	Amend the zoning ordinance to limit the amount of parking that can be placed in front of the commercial building, in effect pulling the building closer to the road.	Amend the zoning ordinance to prohibit parking in front of a commercial building, so that resulting parking is on side and rear, opening up the commercial building to the road.
Exterior Building Materials	Amend the zoning ordinance to prohibit certain exterior building materials (i.e., concrete block and prefabricated steel panels)	Amend the zoning ordinance to include a section on exterior building materials that lists acceptable materials and gives the developer guidelines for using them (i.e., each wall must have at least 2 different materials, or 80% of the front elevation must be masonry).	Amend the zoning ordinance to create an architectural review committee to approve exterior building material selection for each commercial building elevation.
Signs	Follow existing zoning ordinance commercial sign regulations.	Amend the zoning ordinance to include unique sign regulations for main thoroughfare.	Amend the zoning ordinance to create a sign review committee to approve each commercial sign plan and design.

Landscaping	Rely on existing zoning ordinance landscape standards as only guide.	Amend the zoning ordinance to include a section on landscape standards for the corridor that sets minimum standards for things like buffers and lists multiple options for the developer of each site to choose from.	Amend the zoning ordinance to require the same landscaping for every commercial site on the main thoroughfare, resulting in a uniform look.
Building Design	Rely on existing zoning ordinance developmental standards (i.e., maximum height) as only guide.	Amend the zoning ordinance to include a section on architectural standards that sets minimum standards and lists multiple options for the developer to choose from.	Amend the zoning ordinance to create an architectural review committee to approve each commercial building design.
Trash & Recycling	Rely on existing zoning ordinance developmental standards as only guide.	Amend the zoning ordinance to prohibit this where visible from the road, in addition to requiring screening.	Amend the zoning ordinance to require this be considered as part of development plan approval by the plan commission for all commercial buildings in the main thoroughfare.

The next table lists different components of residential design standards and their typical implementation tools, indicating the difficulty in establishing each of the tools in most communities.

DESIGN STANDARDS MATRIX FOR NEW RESIDENTIAL CONSTRUCTION

	Tools that Require Little Political Will & Resources	Tools that Require More Political Will & Resources	Tools that Require Considerable Political Will & Resources
Exterior Building Materials	Amend the zoning ordinance to require that exterior building materials meet quality standards (i.e., vinyl siding minimum width and installation standards).	Prohibit the use of certain exterior building materials (i.e., vinyl siding).	Amend the zoning ordinance to include a section on exterior building materials that lists required materials (i.e., each wall must be 80% masonry).
Landscaping	Rely on existing zoning ordinance landscape standards as only guide.	Amend the subdivision ordinance to require that at least one street tree be planted on each residential lot.	Amend the subdivision ordinance to require the developer to get a landscape plan for the entire subdivision approved by the plan commission and post a financial guarantee to ensure that the landscaping is installed.
Architectural Design	Continue to Rely on existing zoning ordinance developmental standards (i.e., maximum height) as only guide.	Amend the zoning ordinance to include Anti-Monotony Provisions (i.e., limit the number of times the same house design may be used within the subdivision).	Amend the zoning ordinance to include a full set of architectural design standards (i.e., allowable window and roof styles, etc.).
Garage Placement	Continue to allow attached and detached garages to be placed in any location on the site, as long as no other provisions of the zoning ordinance are violated (i.e., setbacks).	Amend the zoning ordinance to allow attached front loading garages only if the impact is minimized by acceptable choice (i.e., garage has a greater front setback than the front elevation of the home).	Amend the zoning ordinance to prohibit front-loading garages.
Accessory Buildings	Rely on existing zoning ordinance developmental standards as only guide.	Amend the zoning ordinance to limit the size and placement of accessory buildings, in order to minimize their visual impact.	Require that accessory buildings be architecturally compatible with the house (i.e., use same building materials and style).

Subdivision Control

Subdivision control ordinances guide the division of land for new growth. These include the fundamentals of good urban planning including right-of-ways, sidewalks, connectivity to other roads and many other issues.

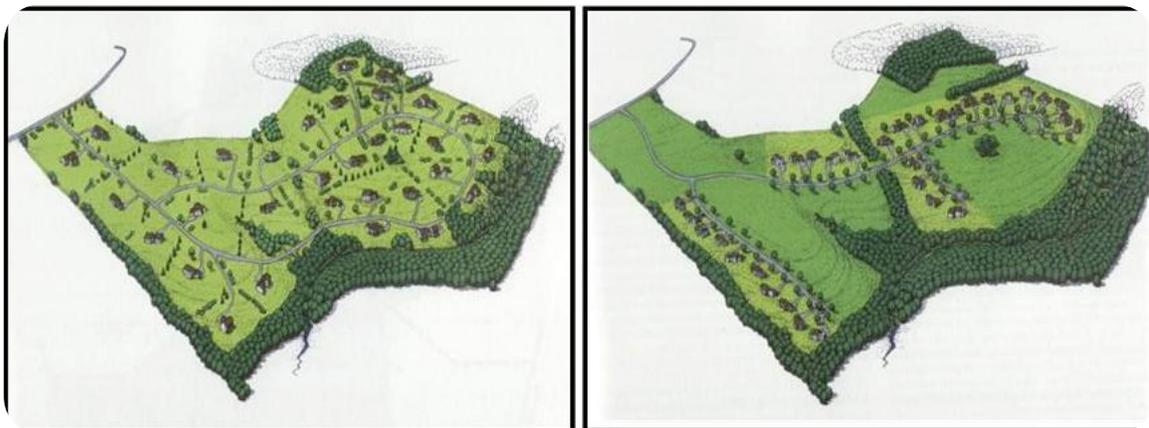
In keeping with its goal of preserving Morgan County's rural character, the Steering Committee advocates the adoption of rules for conservation subdivisions.

A conservation subdivision generally sites single-family homes on smaller parcels of land, while the additional land that would have been allocated to individual lots is converted to common open space for the subdivision residents. Typically development standards, including road frontage, lot size, setbacks, etc. are changed to allow the developer to better preserve the desirable open space.

The illustration below is from The Conservation Fund's Resourceful Communities Program web site (www.resourcefulcommunities.org/CBAH). The drawing on the left is a traditional subdivision while the one on the right is a conservation design.

Advocates list the following advantages of conservation subdivisions:

- ◆ Saves money: Preserves land at no cost to your community.
- ◆ Reduces demand for public land acquisition.
- ◆ Preserves 50% to 70% or more of the buildable land (in addition to unbuildable wetlands, steep slopes and floodplains).
- ◆ Is fair to developers and landowners: Same number of home sites as conventional subdivision development. Proven more profitable, faster selling and less costly.
- ◆ Protects water quality. Reduces storm water run-off and treatment costs. Preserves groundwater.
- ◆ Reduces NIMBY (Not in my backyard!) complaints from current residents.
- ◆ Reduces costs: Municipal service costs are cheaper when homes are not widely scattered.
- ◆ Preserves your local tourism and agricultural economies.



Next Steps

- ◆ Assign one or more Morgan County representatives to join the government-sponsored Smart Growth Next.
- ◆ Review project sheets on:
 - ✓ Conservation Subdivisions
 - ✓ Impact Fees
 - ✓ Sustainability
 - ✓ Traditional Neighborhood Dev.
 - ✓ Overlay Zones
- ◆ Consult the Implementation Plan

Critical Sub Areas

7

Critical Sub Areas

In the course of developing this Comprehensive Plan, the Steering Committee identified several key areas within the community for more detailed study. A closer examination was needed for these places in order to provide guidance that responds to their unique issues and challenges.

The areas were selected based on the belief that major land use decisions will have to be made in them soon. In some cases they are ripe for development, but community leaders want to propose a new growth pattern. In other cases, public investment is needed in order to steer future uses.

Plan commissioners and county commissioners can use the plans while making land use decisions, while members of the public can see the community's desired future.

Most of all the Critical Sub Areas identified by the steering committee are already detailed in companion plans, where there are detailed analyses for land use issues in addition to maps for each area.

The Morgan County State Road 37 / 144 Corridor Plan contains a description, map and policies for each of the following geographic areas or intersection:

- ◆ Henderson Ford Road
- ◆ Liberty Church Road
- ◆ Stonebridge Residential Development (Big Bend Road)
- ◆ Waverly Business Park

The White River / Whetzel Trace Greenways Plan contains a description, map and policies for each of the following areas:

- ◆ Harris Starlight County Park
- ◆ Waverly County Park

The last critical sub area not covered in companion plans is the Little Point interchange area, off of Interstate 70. The following pages address this geographic area.

Little Point

Vision

Little Point Road is the only interchange along Interstate 70 in Morgan County. The long term vision for the area is for it to become a commercial/industrial development area, most likely containing big-box distribution centers similar to what exists at the Interstate 70/SR 267 interchange and is currently being developed at the Interstate 70/SR 39 interchange. However, this is anticipated to be ten or more years away from being developed.

There should be a balance between using land for economic development requirements, and in maintaining the land as an agricultural use. The surrounding agricultural lands contain the largest acreage of high quality farmland in the county. Any development should be limited in scale so as to not impact the viability of the agricultural sector in this area.

In order to preserve this area for the envisioned future development – and to limit the impact on agriculture, it is recommended that short term development be limited within current areas of development on the south side of the Interchange. This area is mapped on the following Little Point CSA plan. Limiting short term development to the south side will preserve the entire north side for long term commercial/industrial development.

Plans for long term development on the north side of the interchange have not been included in this plan. It is recommended that a detailed plan be developed to guide future development in this area before specific developments are proposed.

As the area is developed, it is further envisioned that passengers driving through Morgan County on Interstate 70, especially past the Little Point interchange, will see well designed and visually appealing development that fits with the integrity of the surrounding landscape.

Land Use

An Overlay Zone could be created for the interchange that would limit the land uses allowed in the area, define the area for future development and to specify design standards. In order to present a well designed and high quality appearance along the highway, minimum design standards such as minimum / maximum building setback and requiring parking lots in the rear of buildings should be implemented. Similar recommended design standards can be found in the Morgan County State Road 37 / 144 Overlay Plan.

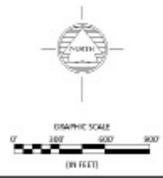


Legend

Corporation Limits	
Two Mile Fringe	
SR 37 / 144 Corridor Overlay	
Future Roads	
Agricultural Preservation	Mixed Use
Commercial	Park / Open Space
IDNR Managed Lands	P.U.D.
Industrial	Residential
Institutional	Residential Rural

Little Point CSA

Morgan County Comprehensive Plan



Housing

8

Housing

This section of the Comprehensive Plan documents the present need for housing, assesses the condition of the local housing stock and develops policies to address the demand for a range of housing options.

Inventory and Assessment – Single Family

The Community Profile section of this report contains most of the detailed data, but a few trends are worth reviewing:

- ◆ Between 1990 and 2007, the county’s population increased 25%, making it the 15th fastest growing county in the state.
- ◆ In 2007, the estimated total housing units in the county were 28,676.
- ◆ Morgan County had higher median home values in 1990 and 2000 than the state.

Most of the countywide data is from the 2000 Census and will not be updated until 2010. In order to get a better idea of the current market, a “market snapshot” was taken to determine the number, price and location of homes for sale in the fall of 2008.

Figures were provided by the Metropolitan Indianapolis Board of Realtors’ Multiple Listing Service. Nearly all listing are single-family homes, with some multi-family units. A few were classified as townhouse or condo.

Real estate listings do not exactly correspond with political boundaries – for example, homes listed as being in Martinsville may be outside the city limits – so comparisons between communities will not be exact. The table below shows, not surprisingly, that most of the activity is in Mooresville and Martinsville.

PRICE RANGE & NUMBER OF HOMES LISTED FOR SALE BY COMMUNITY							
MUNICIPALITY	< \$100K	\$100- \$200K	\$200K- \$300K	\$300 - \$500K	\$500K - \$1M	> \$1M	All Housing
Martinsville	70	109	56	24	13	2	274
Mooresville	29	82	78	28	3	1	221
Camby	21	117	7	1	0	0	146
Monrovia	6	14	6	4	1	0	31
Morgantown	6	9	6	4	2	1	28
Paragon	4	11	3	0	0	0	18
Brooklyn	3	1	0	0	0	0	4
Eminence	0	1	0	0	0	0	1
Morgan Co.	139	344	156	61	19	4	723

Source: Metropolitan Indianapolis Board of Realtors’ Multiple Listing Service, Fall 2008

Inventory and Assessment – Apartments & Rentals

According to the 2000 Census, about 20% of Morgan County’s total housing units were renter occupied. The Census also reported that a majority of the county’s vacant units are renter occupied.

The market snapshot taken in the fall of 2008 also looked at the number, price and location of places for rent.

MARKET RATE RENTAL UNITS							
Location	Complex	Efficiency	1BR Price	2BR Price	3BR price	Vacancy Rate	Total Units
Mooreville	Towne View		\$525	\$585	\$680		
Martinsville	Country View		\$515 - \$565	\$615 - \$665	\$680 - \$730		
Martinsville	Artesian Court*			\$550		3	43

*About 15% (6-7 apartments) under Section 8

Source: Metropolitan Indianapolis Board of Realtors’ Multiple Listing Service, Fall 2008

SECTION 8 / RURAL DEVELOPMENT RENTAL UNITS							
Location	Complex	Efficiency	1BR Price	2BR Price	3BR price	Vacancy Rate	Total Units
Martinsville	Heather Heights		\$317			7	100
Martinsville	Morgan House	\$459	\$570	\$658		6	111
Mooreville	Spring Hill					3	190

Source: Metropolitan Indianapolis Board of Realtors’ Multiple Listing Service, Fall 2009

Major Housing Issues

The Steering Committee looked at many housing questions in various levels of detail. The solutions they devised are outlined in the strategies and action steps. Here is a summary of key issues.

The National Credit Crisis

As this comprehensive plan was being assembled, the national housing crisis swept through Indiana and Morgan County. A company called Realty Trac reported home foreclosures are at the highest level since the Great Depression and that Indiana is 10th



among all states in foreclosures filed per household.

In December 2008 there were 30 foreclosed properties (one in every 995 housing units). In February 2009 the firm listed 46 properties under Sheriff Sale and 12 listed as pre-foreclosure.

Morgan County is caught in a nationwide crisis and, unfortunately, there are few things local government can do in the short-term. However, this should not keep town leaders for planning for the future.

Housing Alternatives

There is a strong consumer preference for detached single family housing in the county. About 75% of the occupied housing was owner occupied and 20% was renter occupied, according to the last Census.

Steering committee members were frank in their admission of not wanting to permit too many lower-income, multi-unit residential developments. Such units are frequently not well maintained and contribute to traffic congestion and other problems, they said.

However, they acknowledged that limited rental opportunities don't leave room for one type of resident they are trying to attract: young professionals who work in Indianapolis. Also, when single family units are the dominant housing form, there are few options for town residents who want to – or must – live in higher density units.

Additionally, single family home development in suburban locations instills dependency on cars, which adds costs to both the families and the town which maintains the roads, etc.

Finally, the preference for single-family homes also ignores a national shift in demographics. As the county's population ages, different housing types are becoming increasingly popular with the baby boom generation. Downsizing from a single family home to a patio home, townhouse, condominium, or apartment offers a different lifestyle. Residents who can't find those options locally will move elsewhere.

Offering a broader range of housing alternatives can remedy these issues, but the Steering Committee admits that now – with record foreclosures and decreasing home sales – there is little the county can do to initiate action. However, these considerations should be factored into the next upswing of the housing market.

Next Steps

- ◆ Review Project Sheets in the appendix for ideas on:
 - ✓ Bicycle & Pedestrian Plans

- ✓ Conservation Subdivisions
 - ✓ Creating a Neighborhood Associations
 - ✓ Green Cities
 - ✓ Traditional Neighborhood Development
- ◆ Consult the Implementation Plan

Utilities

9

Introduction

The utilities in Morgan County are provided by a mix of public, private, and member-owned entities. In order to focus on the utilities that have the greatest impact on land use, this Utility Plan has chosen to address the areas of water, wastewater, electricity, gas, and telecommunications. The purpose of the Plan is to provide guidance on the expansion of infrastructure to better serve the county's goals and objectives.

Development Principles for Utilities

SR-37 Corridor Utility Plan

The most significant opportunity for utility expansion in the County is along the SR-37 corridor. Regardless of whether I-69 is constructed, this corridor is expected to have considerable growth.



SR 37 at 252

To prepare for expansion in the corridor, it is recommended that the County assist in developing a coordinated infrastructure plan for the areas. Since the county does not have direct control over utilities, they should serve in a facilitator's role and help the various utilities set policies over how and when utilities will be extended.

Several recommended policies have been noted in the SR 37/144 Corridor plan, and include:

- ◆ Development should be limited where "rural" water service is not sufficient for fire protection.
- ◆ Encourage residential development to be provided with sanitary sewers in areas with soil unsuitable for on-site septic systems, regardless of the size of the development.
- ◆ Sanitary sewer systems should be capable of being regionalized.
- ◆ Commercial/industrial development should be prohibited in areas not provided with sanitary sewer systems.
- ◆ Promotion of infill development where utilities already exist.

Water Supply and Treatment

Inventory and Assessment

Water service is provided in the county by several providers, including Indiana American Water, Hill Water Corporation, Indianapolis Water Morgan (IW Morgan), Morgan County Rural Water Corporation, Brooklyn Water, Martinsville Water, Mapletown Utilities, Painted Hills Utilities, Morgantown Water, and Paragon Water. The incorporated cities and towns in the county all have water service. Most rural areas also have water service in reasonable proximity.

Indiana American Water

Indiana American Water supplies water primarily in the old town limits of Mooresville. The system serves approximately 3,700 customers, has a production capacity of approximately 2,800,000 gallons of water per day, and has a storage capacity of 750,000 gallons. The distribution system consists of roughly 53 miles of mains and 400 fire hydrants. The average system pressure is approximately 60 psi.

Indiana American has two interconnections with a neighboring water provider, Hill Water Corporation. These interconnections are for emergency purposes, such as adding pressure for fire protection. One of the interconnections is located near the intersection of SR-42 and Bethel Road. The other interconnection is along SR-144, between 400 East and Pennington Road.

Representatives from Indiana American Water said the utility operates below their production capacity. The utility expressed available capacity to serve future developments.

Hill Water Corporation

Hill Water Corporation is a cooperative utility that started in 1971 as an extension of Indiana American Water. The utility serves approximately 2,620 customers in the areas southeast and southwest of Mooresville, and continues south to Brooklyn. Hill Water's production capacity is approximately 1,440,000 gallons of water per day. The system has a storage capacity of 1,440,000 gallons from the following sources: two 500,000 gallon elevated storage tanks, a 50,000 gallon elevated storage tank, and a 390,000 gallon standpipe. The distribution system has nearly 87 miles of mains.

Hill Water expanded significantly in the mid to late 1990s, adding excess capacity which has not fully been utilized. For example, in 2007 the average daily water production was 628,000 gallons, which is only 44% of the plant's capacity. Representatives from Hill Water said this excess capacity could be used to serve future development in and around Mooresville.

Indianapolis Water Morgan

Indianapolis Water Morgan (IW Morgan) is a subsidiary of Indianapolis Water (IW), which is owned by the City of Indianapolis and operated by Veolia Water. IW Morgan serves approximately 1,600

customers in the eastern end of Morgan County. The service area extends from the north to the south boundaries of the county. Most of the distribution system consists of small mains that serve domestic customers. However, there are large mains along Paddock Road, Mann Road, and I-70 that could potentially serve future development.

The supply from IW Morgan comes from the South Wellfield Station, which is located in southern Marion County. The wells from this station also serve residents in the City of Indianapolis. Within Morgan County, there are a couple key storage tanks, including a 250,000 gallon elevated tank at Conservation Road and a 100,000 gallon elevated tank at New Harmony Road. IW Morgan also has booster stations at Nast Chapel Road and New Harmony Road.

Morgan County Rural Water Corporation

Morgan County Rural Water is a non-profit cooperative that serves much of western Morgan County. The water system was built to serve rural residential customers. In the 1960s, the original treatment plant was built, and was expanded in the 1990s to its current condition. During the expansion, the utility decided that any future capacity would be best added through an interconnect with another large utility. This interconnect occurred recently, as Morgan County Rural Water has seen more demand in their north service boundary due to growth south of I-70. In order to increase capacity, the utility has entered into a contract with Indianapolis Water to purchase between 100,000 and two million gallons of water per day. This water will be provided at an interconnect near the Hendricks/Morgan County line.

The Morgan County Rural Water system has approximately 225 miles of water mains over a service area encompassing 148 square miles. The normal system-wide water usage is between 500,000 and 600,000 gallons per day. The system has two

wells and several storage facilities. The storage facilities include: 500,000 gallon elevated tank, 75,000 gallon tank, 250,000 gallon elevated tank, 338,000 gallon standpipe, and three 250,000 gallon ground reservoirs. The system has high pressure, so new customers are required to install pressure relief valves with their service meters.

Brooklyn Water

Brooklyn Water serves the Town of Brooklyn and the Town of Bethany. The water supply is from two wells that are located in City Park, which is on the east side of Brooklyn. The treatment plant is adjacent to the wells, and the plant was most recently updated in 2000. The current daily water demand for the utility is approximately 100,000 gallons of water per day. This daily water usage is under 25% of the plant's treatment capacity. Representatives from Brooklyn Water indicated that they also have good pressure in the system.

Martinsville Water

Martinsville has a water department that serves approximately 4,500 customers. These customers are mostly within the city, though water mains do extend considerably north and south of the corporate limits. The city's water comes from three wells that are located to the northwest, near the intersection of Cunningham Street and Elliott Street. The wells are designated as Well #3, Well #4, and Well #5. The pumping capacities of the wells are 1200 gallons per minute (GPM), 759 GPM, and 1391 GPM, respectively. Each pump operates at 80 psi of head.

Storage in the water system is currently 1,375,000 gallons, and is currently being expanded. The storage is provided by two structures, a one million gallon elevated tank off Sycamore Street, and a 375,000 gallon standpipe off Lincoln Hill Road. The City has received complaints about water pressure in the southern end of their system. To address the

problem, the City built a 1.5 million gallon ground storage tank off Burton Lane. The tank will be in service by the spring of 2009. Once completed, the total storage in the system will be 2.9 million gallons, with the system pressure expected to be 60 psi.

The city's water treatment plant was constructed in 2006. Prior to this time, the water was treated at the well site using chlorine and fluoride. The current treatment plant includes chlorine, fluoride, phosphate, and granular activated charcoal. The plant's capacity is two million gallons of water per day.

Mapleturn Utilities

Mapleturn Utilities is a non-profit company that provides both water and wastewater services to an area north of Martinsville, between SR-37 and Blue Bluff Road. The water system consists of two wells that have a total production capacity of 432,000 gallons of water per day. The storage in the system is provided by a 180,000 gallon ground storage tank. The utility has approximately 580 water customers, who use an annual average of 150,000 gallons of water per day.

Painted Hills Utility Company

Painted Hills Utility Company is a water service provider located east of Martinsville. The utility has approximately 600 customers and an annual average demand of 150,000 gallons of water per day. The utility's water comes from two wells off of Cramertown Loop Road, and they have a production capacity of approximately one million gallons of water per day. Storage in the system is 170,000 gallons, from three ground storage tanks.

Morgantown Water

Morgantown has a water system that serves approximately 400 customers within the town's

corporate limits. The system currently has three wells, though the plan is to change to a single new well in 2009. The new well will have a capacity of over 200,000 gallons of water per day, which is more than the three existing wells combined. Chlorine and fluoride are added to the water at the town's 100,000 gallon elevated tank. The town's water usage is well below the system's capacity, and there are no complaints of low system pressure.

Paragon Water

Paragon has a small water utility that serves approximately 300 customers within the town's corporate limits. The utility's production is from two wells, and the only storage structure is an 80,000 gallon elevated storage tank. The normal usage in the system is approximately 45,000 gallons of water per day, which is well below the production and treatment capacity.

Action Steps

- ◆ Encourage upgrades to small water mains in high density developments in order to provide fire protection.
- ◆ Promote infill development to reduce the need for water main extensions.
- ◆ Ensure new utilities along SR-37 are sized appropriately for high density development.

Stormwater

Inventory and Assessment

The County collects and conveys stormwater through a collection system that ultimately discharges to local rivers and streams. In recent years, the Environmental Protection Agency (EPA) has worked to improve the quality of stormwater discharged by municipalities by designating and regulating municipal separate storm sewer systems (MS4s). Morgan County is designated as an MS4 entity.

As an MS4 entity, municipalities must establish a program that establishes best management practices (BMPs) and measurable goals to meet six "minimum control measures." The minimum control measures are: Public Education and Outreach, Public Participation/Involvement, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post-Construction Runoff Control, and Pollution Prevention/Good Housekeeping. In order to meet the requirements of the MS4 program, several communities have established stormwater utilities. These utilities typically have rates for the use of the stormwater system, providing revenue to help fund improvements to stormwater systems and for management of the MS4 program.

Morgan County has been permitted under the MS4 program, and therefore has already established its program to meet the minimum control measures. As capital improvements are planned to the stormwater system, consideration should be given to establishing a stormwater utility to fund needed stormwater improvements.

Wastewater

Inventory and Assessment

Wastewater management in the County is provided by both sewer systems and individual septic systems. The areas with sewer systems are mostly limited to locations within, or adjacent to, cities and towns. The providers in these areas include Mooresville Wastewater, Martinsville Wastewater, Brooklyn Wastewater, Mapletown Utilities, Morgantown Wastewater, Paragon Wastewater, and Monrovia Wastewater. An explanation of each of these utilities is given below.

In addition, there are a few subdivisions outside cities and towns that provide their own wastewater services. For example, Wildwood Shores is a

subdivision southwest of the intersections of Paddock Road and Hadley Road. Other examples include Rolling Vista Estates and Heartland Crossing. These subdivisions provide wastewater service to the subdivision residents only. The remaining areas in the County are served by individual septic systems.

Mooreville Wastewater

Mooreville has a sanitary sewer system consisting of gravity sewers and force mains, which transport sewage to the town's wastewater treatment plant. In the past few years, the system has had problems of infiltration and inflow (I/I). This results in large flows going to the treatment plant during substantial rain events. In order to reduce I/I, the town has invested in sewer replacement and/or rehabilitation projects. As a result of these projects, the system currently has most I/I issues resolved.

The town's wastewater treatment plant was first built on the present site in 1959 and has been upgraded over time. Currently, the treatment plant has a design flow of 1.5 million gallons per day (MGD) with a peak of 2.5 MGD. The treatment plant has recently been operating at full capacity, averaging flows over the design of 1.5 MGD. In order to address this, the town has planned four phases of improvements to the plant. The first two phases of improvements have already been completed. The third phase of improvements has been designed by an engineering firm and is expected to be built in 2008-2009. The fourth and final phase of improvements is still in the planning process. This final phase will address the capacity of the plant and look to expand the plant by at least 1.0 MGD. According to the town, the plant may expand to a design flow of 2.5 MGD without altering the existing levee around the plant. But if the levee were adjusted, the town could have enough space to expand the plant even further, to an estimated 3.2 MGD.

The treatment plant appears to be a significant obstacle in promoting future economic development in the town. Until the treatment plant expansion takes place, the town does not have the capacity to add large new businesses or housing development.

Martinsville Wastewater

The majority of the properties in the Martinsville corporate limits are served through the city's sanitary sewer system. The sanitary sewer system consists of both gravity sewers and force mains. Over the last several years, the system has had problems of I/I into the collection system. In order to reduce I/I, the city has performed a Sanitary Sewer Evaluation Study (SSES) to identify the potential areas of concern.

The city's wastewater treatment plant (WWTP) was first built on the present site in the late 1950s and has seen two significant upgrades. Most recently, the WWTP completed an upgrade and was put into service in early 2007. The project was initiated to meet new ammonia requirements and increase the peak flow capabilities of the plant.

The WWTP is currently rated for an average daily flow design of 2.2 MGD and a peak treatment capacity of 6.25 MGD. After the improvements project the average daily flow was measured at 1.4 MGD for 2007. For the year the plant operated at a 64% capacity. The high rainfall in 2008 has taken some of the capacity at the treatment plant because the collection system receives a high amount of I/I. The influent flows from January thru July averaged 1.89 MGD; operating at 86% capacity. The peak flow sent to and handled at the plant during that time was 4.97 MGD.

Brooklyn Wastewater

The Town of Brooklyn has a sanitary sewer system that serves both Brooklyn and Bethany. The treatment plant is located near the corporate boundaries

separating Brooklyn and Bethany. The treatment plant has sequencing batch reactors (SBRs) which were installed as part of an upgrade project in 2000. As part of the upgrade project, a chlorine contact tank and sludge retention were also added to the plant. The plant has a design flow of 340,000 gallons per day with a peak capacity of 620,000 gallons per day, but normally the plant operates at approximately 150,000 gallons per day. Representatives from the utility stated that I/I has been a problem in specific areas where people move mobile housing without properly capping the service laterals.

Mapletown Utilities

As mentioned previously, Mapletown Utilities is a non-profit company that provides water and wastewater services to an area north of Martinsville. The utility has approximately 580 customers, with a daily production of approximately 140,000 gallons per day. The wastewater treatment plant is contact stabilization and has a design flow of 225,000 gallons per day.

Morgantown Wastewater

Morgantown provides sanitary sewer service to approximately 400 customers within the town's corporate limits. Treatment of the wastewater is provided by a lagoon system that is approximately 25 years old. The town has discussed expansion of the lagoon system, but there is not much urgency since the existing system is properly treating all flows.

Paragon Wastewater

Paragon provides sanitary sewer service to approximately 300 customers within the town's corporate limits. The system has had previous problems with I/I, but this was significantly reduced between 2006 and 2007 when the town conducted a stormwater project. The town treats the sanitary sewage at their activated sludge wastewater

treatment plant. The plant was upgraded in 1992, and is currently operating well below capacity.

Monrovia Wastewater

Monrovia finished installed a sanitary sewer collection system and treatment plant in 2001. The plant is Aero-Mod and was recently expanded to a design flow of 300,000 gallons per day. Typical flow is approximately 100,000 gallons per day, which is well below capacity. Both the collection system and treatment plant are in good condition due to their young age.

Septic Systems

As mentioned above, wastewater services are provided in most cities and towns, as well as some subdivisions in the County. All other areas are served by individual septic systems. The permitting of new septic systems and investigation of septic system failure is the responsibility of the Morgan County Health Department.

According to the County Health Department, there are a few areas served by septic systems that have expressed an interest in sanitary sewer service. These areas include Eminence and Waverly. Eminence in particular has had problems of poor septic systems. But the town's small size and large distance from neighboring communities makes it difficult to provide sewer service without a significant cost to property owners. Waverly and its neighboring residents held a public meeting in 2008 about starting a regional sewer district. This would better position the area for future development. However, not all residents at the public meeting were in favor of creating the sewer district.

Lake Hart, southwest of Monrovia, is another area that has expressed an interest in sanitary sewer service. Properties along lakes, such as Lake Hart, Paradise Lake, and Lake Edgewood, can have problems of

septic systems failing and polluting the water. Ideally, these areas could be served by a neighboring sewer service, or by creating their own system with a treatment facility. It is recommended that Eminence, Waverly, and these lake communities each conduct studies to find the level of pollution from failing septic systems and to determine recommendations for alternative wastewater service.

Action Steps

- ◆ Encourage wastewater studies for areas with failing septic systems, such as Eminence, Waverly, Lake Hart, Paradise Lake, and Lake Edgewood.
- ◆ Create a policy that septic systems are only allowed for residential properties where soils are adequate.
- ◆ Promote infill development to reduce the need for sewer extensions.
- ◆ Ensure new utilities along SR-37 are tied to a regional system or have the capability of being regionalized.

Electric, Natural Gas, and Telecommunications

Inventory and Assessment

Electricity

Electric service in the County is provided by Hendricks Power Cooperative, Indianapolis Power & Light Company (IPL), Brooklyn Electric Department, Johnson County REMC, Duke Energy, and South Central Indiana REMC. The service regions for each of these utilities are described below.

- ◆ Hendricks Power Cooperative: Northwest corner of the County.

- ◆ IPL: A band starting at the west side of the County, moving northeast towards Marion County. The region includes the Town of Mooresville.
- ◆ Brooklyn Electric Department: The Town of Brooklyn.
- ◆ Johnson County REMC: A strip along the eastern boundary of the County.
- ◆ Duke Energy: Southern parts of the County, including Martinsville, Morgantown, and Paragon.
- ◆ South Central Indiana REMC: Rural areas throughout the County, especially in the middle and southern sections.

Natural Gas

Vectren Gas Company serves portions of the County.

Telecommunications

A fiber optic network is known to run through Morgantown and Martinsville, on its way further south to Bloomington. There is also a network along US-40 in neighboring Hendricks County. There may be private phone companies that have fiber optic cable in parts of the County, but it is not part of a large high-speed network.

Action Steps

- ◆ Encourage the extension and upgrade of electric, natural gas and telecommunications infrastructure.

Transportation

10

Transportation

The Transportation Plan describes Morgan County's existing transportation system and provides an assessment of key issues. The key issues were determined through public input, discussion with stakeholders, and consideration of future land use. The purpose of the Plan is to provide a direction for future planning, guiding the County towards achieving their long-term goals and objectives.

Supporting Documents

Several supporting documents were reviewed in the process of creating this Plan. The documents are listed below:

- ◆ Mooresville Transportation Plan (2007)
- ◆ Morgan County Transportation Plan (2007)
- ◆ INDOT Long Range Transportation Plan (2006)
- ◆ Indianapolis Regional Pedestrian Plan (2006)
- ◆ Indianapolis Regional Transportation Plan (2005)
- ◆ Comprehensive Operational Analysis of IndyGo (2005)
- ◆ Central Indiana Regional Mass Transit Service Plan (2000)
- ◆ Martinsville Comprehensive Plan (2008 Draft)
- ◆ Mooresville Comprehensive Plan (2008 Draft)
- ◆ White River Whetzel Trace Greenway Plan (2008 Draft)
- ◆ Morgan County SR-37 / SR-144 Corridor Plan (2008 Draft)

Contributing Factors

In order to conduct a proper transportation assessment for Morgan County, several factors

must be considered. These include previous transportation reports, concurrent reports, public input, and consideration of future INDOT projects. These factors are explained in greater detail below.

Indianapolis Metropolitan Planning Organization (MPO)

Transportation in Morgan County has been previously assessed in 2007 with funding by the Indianapolis Metropolitan Planning Organization (MPO). At this time, two separate Transportation Plans were developed for Morgan County and Mooresville. The MPO is responsible for transportation planning in a region called the Indianapolis Metropolitan Planning Area (MPA). The MPA encompasses all of Marion County and parts of the surrounding counties of Boone, Hamilton, Hancock, Hendricks, Shelby, Morgan, and Johnson. In Morgan County, the MPA includes Mooresville and extends up to two miles from the corporate limits of the Town.

A recommended transportation plan was given in each of the MPO Plans, based on the anticipated transportation needs for the next 20 years. Since the recommendations were developed in 2007, the information is recent and helped guide this Plan. However, this Plan separates itself from the MPO Plans by placing a greater emphasis on priorities for the entire county and on impacts related to I-69. It also includes more up-to-date public and stakeholder input.

Indiana Department of Transportation (INDOT)

INDOT plans the future investment strategy into the state highway system by means of a report called the Long Range Transportation Plan (LRP). This document was most recently updated in 2006 and plans ahead to 2030. Several projects in Morgan County are outlined in the LRP. These important projects are explained in greater detail in this Plan.

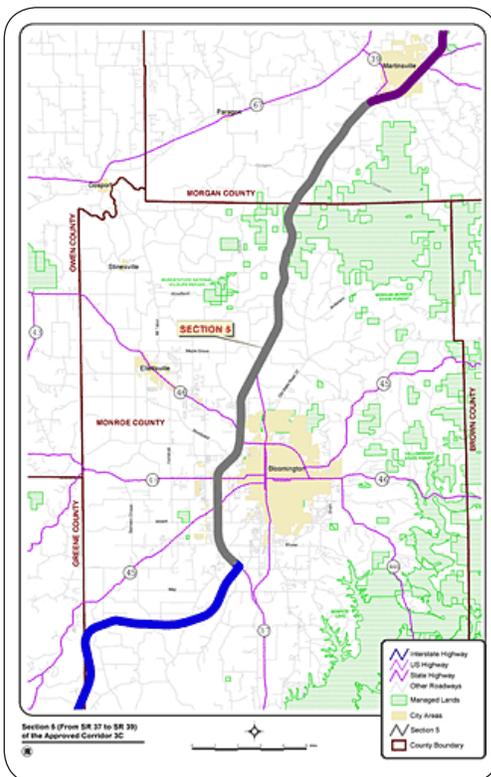
Interstate 69

The construction of I-69 through Morgan County will affect future traffic flow and land use. The planning of I-69 was implemented by splitting the corridor into six sections and conducting Tier 2 Environmental Impact Statements (EIS) for each section. The Tier 2 EISs determine the alignment of the roadway, as well as the location of interchanges.

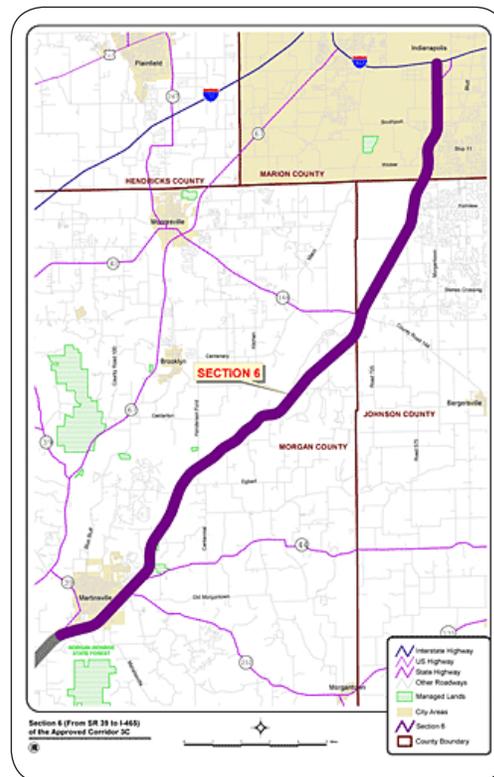
Two of the I-69 planning sections take place in Morgan County. The north section, Section 6, follows SR-37 from the northern end of the County to the southern end of Martinsville. The next section, Section 5, continues south on SR-37 from Martinsville to Monroe County.

The EIS's for both sections are still in the draft phase. Although the studies for both sections are not finalized, there are alternatives which have been presented to the public. These alternatives do not vary in alignment, but they do propose different interchange locations. The alignment in both sections follows the existing route of SR-37.

I-69 related impacts and issues are reviewed in detail in the SR-37 / SR-144 Corridor Plan.



INDOT Section 5



INDOT Section 6

Road and Street System

Inventory

The Federal Highway Administration has established a functional classification system to group roads based on their intended use. The categories of the classification system include the following: principal arterials, minor arterials, urban collectors, major collectors, minor collectors, and local streets. Each category was created based on how the road addresses both the flow of traffic and access to land.

Principal Arterial

Principal arterial streets are intended for high traffic with minimal access to land. These types of roads are meant for long trips and high travel speeds. Examples include I-70, SR-37, and SR-144.

Minor Arterial

Minor arterial streets connect with principal arterial streets, allowing a lower level of traffic mobility but more access to land. These types of roads are meant for moderate trips. They provide intra-community connectivity in urban areas and inter-regional connectivity in rural areas. Examples include SR-67 south of Bethany and SR-252 southeast of Martinsville.

Urban Collector

Urban collectors both circulate traffic and provide land access in residential, commercial and industrial areas. Unlike arterial streets, urban collectors can enter residential neighborhoods to link travelers with their destination area. Examples include St. Clair Street in Mooresville and South Street in Martinsville.

Major Collector

Major collectors are rural roads that serve large towns not served by higher classified roads, and other

important intracounty generators of traffic such as consolidated schools, county parks, and agricultural areas. Examples include SR-44 and Mahalassville Road.

Minor Collector

Minor collectors are rural roads, spaced at intervals, that guarantee all smaller developed areas are a short distance from a collector road. Examples include Bunker Hill Road near Mooresville and Old Morgantown Road near Martinsville.

Local Street

Local streets offer the lowest level of movement and provide direct access to abutting land. They include roads or streets that are not higher classified as arterials or collectors.

A map of the existing road network within Morgan County is displayed on the next page. The various arterial and collector streets have been designated using color coding.

Analysis of Priority Issues

Through the Steering Committee meetings conducted in Morgan County, the following transportation issues were designated as priorities.

- ◆ Proposed I-69
- ◆ SR-144: East-west connectivity
- ◆ Henderson Ford/Centennial Road/Pennington Road Corridor

Interstate 69

The impacts of I-69 on Morgan County are analyzed in the Morgan County SR-37 / SR-144 Corridor Plan. The Corridor Plan was written concurrently with this Plan and is included in Section X. The Corridor Plan provides specific recommendations at a smaller scale level. Recommendations are given for several issues, including land use, access management, infrastructure and utilities, the environment, and aesthetics.

State Road 144: East-West Connectivity

SR-144 links Mooresville to SR-37 and the eastern part of Morgan County. As a principal arterial street, the road receives heavy traffic, which has increased over the past few years. In order to improve the east-west connectivity between the northern part of the County and SR-37, the widening of SR-144 has been proposed. Improvements to other east-west roads, such as Hadley Road, have been discussed as an alternative.

The need for better east-west connectivity has been reemphasized during the summer of 2008. During this time, severe flooding took place in the county that damaged SR-144. The road had to be closed for several weeks for rehabilitation, providing added traffic to alternate streets.

Option 1: State Road 144 Widening

Since SR-144 is already the major source of east-west connectivity from Mooresville to SR-37, the priority should be to invest in improvements to SR-144 rather than alternate east-west roads. In addition, the proposed route for I-69 is along SR-37 with an interchange proposed at SR-144. The I-69 interchange could further increase traffic on SR-144, and promote future development in the area.

The widening of SR-144 is already under construction between SR-67 and Johnson Road. When completed, this 0.8-mile section will be three lanes, and transition back to two lanes east of Johnson Road. The widening of SR-144 east of Johnson Road to SR-37 has been listed as a proposed future project in the INDOT LRP. The widening of this section is tentatively planned to take place between 2026 and 2030, with the road going from two lanes to four lanes. INDOT also anticipates changing the designation of Johnson County Road 144 to SR-144, which would fill the space in SR-144 between SR-37 and SR-135. INDOT shows the widening of this section of roadway in the LRP between 2026 and 2030.



SR 144

Option 2: Improvements to Alternate East-West Roads

There are alternative east-west roads, such as Hadley Road and Landersdale Road, which could be improved to provide alternate access to SR-37. However, both

of these roads end at Mann Road, so extending one of them to SR-37 would require a road extension with a bridge over White River. In the case of Hadley Road, the extension over White River could tie into Smith Valley Road in Johnson County for a highly effective route.

Extending either Hadley Road or Landersdale Road would be costly and therefore should be considered a long-term goal in case traffic significantly increases. The County could start planning for the project by preserving a future corridor for either road extension. The preservation of a corridor could include limiting development and obtaining right-of-way.

Henderson Ford Road/Centennial Road/ Pennington Road Corridor

Most of the alternatives for I-69 propose an interchange at Henderson Ford Road, which runs north-south between Watson Road (east of Brooklyn) and Egbert Road (northeast of Martinsville). Near the proposed interchange, the alternatives show a realignment of Henderson Ford Road to connect with Centennial Road. Since Centennial Road goes as far south as Old Morgantown Road, the realignment would provide a key north-south corridor between Watson Road and Old Morgantown Road.

The County could further improve this north-south corridor by conducting two road extensions. The first is extending Henderson Ford Road north to connect with Pennington Road. Pennington Road continues north and ends at its intersection with SR-144. By conducting a second extension of Pennington Road north to Landersdale Road and Hadley Road, the County could establish a connection between I-69 and the residential areas east of Mooresville.

Interstate 69 improvements and the County's two road extensions could develop Henderson Ford Road/Centennial Road/Pennington Road into a significant north-south thoroughfare. Given that several

existing road connections to SR-37 will be eliminated with I-69, the corridor will provide residents with an alternate connection. In order to start establishing the corridor, the County should clearly define the road route and secure right-of-way. At the same time, the County should also promote upkeep of the three existing roads and start creating policies for the corridor. A couple examples of policies include limiting curb-cuts through a drive permit process and requiring traffic projections for developments to determine whether turn lanes are required.

Action Steps

- ◆ Encourage INDOT to accelerate the scheduled widening of SR-144 between Johnson Road and SR-37.
- ◆ Preserve a corridor for an eastern extension of Hadley Road or Landersdale Road.
- ◆ Set alignment and acquire right-of-way for Henderson Ford Road and Pennington Road extensions. Start to develop policies for Henderson Ford Road/Centennial Road/Pennington Road Corridor by conducting a thoroughfare plan.

Railroads

Inventory

Indiana Southern Railroad has a rail line that travels through Morgan County, as it connects Indianapolis to Evansville. The line goes through Mooresville, Brooklyn, Bethany, Martinsville, and Paragon. Indiana Railroad Company also has a line that travels through the southeast corner of the County. The line passes through Morgantown as it connects Indianapolis to Bloomington.

Assessment

It is recommended that the County maintain the Indiana Southern Railroad and Indiana Railroad lines and/or corridors for rail use today or commuter rail service in the future.

Action Steps

Preserve the Indiana Southern Railroad and Indiana Railroad lines and/or corridors.

Multi-Modal System

Inventory

The existing streets in older downtown areas like Mooresville, Martinsville, Monrovia, Morgantown, Brooklyn and Paragon have sidewalks for pedestrian use. In addition to these areas, there are also sidewalks or bike paths within recent residential developments. Recreational trails for pedestrian or bike uses are available at certain parks, like Pioneer Park in Mooresville. But there are no existing trails or paths that link cities/towns to other places in the County, except Landersdale Trail which is currently under construction.

Landersdale Trail is a 6-mile long bicycle and pedestrian trail that is currently under construction east of Mooresville. The trail will travel along Mann Road and Landersdale Road, linking Mooresville to both Madison Township in Morgan County and Decatur Township in Marion County. Funding for the project was through a grant with the Indiana Department of Transportation (INDOT). The project will connect to the existing Indy Parks Bike Route in Indianapolis.

Assessment

It is recommended that the County encourage cities/towns to conserve, upgrade and extend their pedestrian facilities within the corporate limits. These internal pedestrian systems should connect

neighborhoods, parks, downtown, businesses, etc. The County can then establish external pedestrian systems such as multi-use trails located within the road right-of-way or in separate right-of-way. The external systems should connect the different cities/towns or provide links to key features of the County.

An example of an external pedestrian system is the White River Whetzel Trace Greenway, which was studied concurrently to this Plan. The vision behind the greenway is to create a multi-use corridor that will parallel the White River, providing a unique recreational facility. The planning has focused on the initial segment, which is over 12 miles long. The segment begins at the Morgan-Johnson County line near Waverly and ends at Henderson Ford Road. Long term extensions of the greenway could extend north towards Mooresville along White Lick Creek and south along the White River or Blue Bluff Road towards Martinsville. The greenway is analyzed in the White River Whetzel Trace Greenway Plan section of this document.

Action Steps

- ◆ Encourage cities/towns to improve pedestrian facilities within the corporate limits.
- ◆ Develop external multi-use trails, such as the White River Whetzel Trace Greenway.



Public Transportation

Inventory

There are currently no public transportation services in Morgan County.

Assessment

The Comprehensive Operational Analysis of the IndyGo Transit System was a planning document created for the Indianapolis MPO. The Plan was completed in June of 2005 and it recommended improvements to serve future public transportation demand. One of the proposed improvements was an express/local route from Plainfield and Mooresville to the Indianapolis International Airport and downtown Indianapolis. The route was part of IndyGo's short range service plan, which plans ahead for a time period of four to nine years. The Plan did not include any other proposed routes in Morgan County.

Action Steps

- ◆ Encourage Mooresville to schedule a public meeting with IndyGo to confirm interest in public transportation. If public interest is shown, then work with Mooresville and IndyGo to incorporate the express/local route that is recommended in the Comprehensive Operational Analysis Plan.
- ◆ Investigate interest in public transportation in other parts of the County.

Environment & Natural Resources

11

Introduction

Throughout the nation and across the globe, issues of sustainability, liveability, walkability, context sensitive design, smart growth and quality of life pervade our conversations about our communities. These terms have become an integral part of our discussion not because it is a trend, rather, because these issues are valid and important to the way each of us lives, works and plays.

Whatever your perspective on how we are affecting changes in our environment and global climate, there is a need and a growing interest in planning, designing and building our communities with a more thoughtful, careful and sustainable approach. This is much more than a design industry led initiative, this is being driven by public demand on a global scale. The need to re-examine how we approach design and development in our communities is because the impact of sprawl and disposable development is significant.



This section of this plan addresses the environmental aspects of sustainability as it relates to Morgan County's natural resources. It begins with an inventory of the existing resources available in the County. That is followed by a summary of threats to those resources as a direct result of development. Finally, the section includes recommended action

steps (best practices) for mitigating impacts of those threats.

Summary of Environmental Priorities

While the county plans to make progress toward several different environmental goals, two priorities have risen to the top in this process.

First, the county has made a renewed commitment toward protecting their floodplains from development. The June 2008 floods reinforced to the community the need to protect their floodplains and limit development in them accordingly.



This plan reflects this priority by designating undeveloped floodplains only for uses such as parks, open space and agriculture. It also goes further than most plans by not showing future development anywhere in a 500 year floodplain (not just the 100 year).

Second, this plan directs future development to where there is already sufficient water/wastewater infrastructure in place. The land use plan encourages short term residential development to occur directly adjacent to the town in areas where utilities already exist to support development. It further directs development away from the south and west sides of the town, where there currently are no sanitary sewers. This approach will help reduce urban sprawl,

will minimize problems historically associated with failing on-site septic systems in the area, and will help keep the from overextending infrastructure.

Development Principles

Since development in general is one the largest threats to Morgan County’s natural resources, the community needs to make every effort to direct development in a manner that preserves and enhances those resources. In past years, a goal of “do no harm” has been a guiding principle relating to environmental concerns. Today’s sustainability movement has established that communities need to go further to repair past damages - and work to help re-build and enhance the natural environment. As a result, development standards are being redefined in communities throughout Indiana and the nation to not just protect what exists – but to go a step further and improve the conditions by restoring habitat, reducing volumes of runoff, controlling non-point source pollution on-site and related measures.

Action steps/best practices listed in this section of the plan begin to outline some of the basic steps that communities can take to address these issues. They form the basis for future development ordinances to implement these measures.

Implementing sustainable practices does not necessarily rely on writing new ordinances. One of the most basic steps a community can take is to be more thorough in development plan reviews. The simple step of reviewing plans before they are built is a first step in identifying potential environmental impacts so that efforts can be made with the developer to update plans to meet those requirements. Another way to implement these goals is to encourage sustainable development by offering reduced permitting fees, faster review times or related incentives for projects that meet a recognized environmental development standard

such as LEED. The community can also demonstrate leadership by following sustainability practices on municipal projects such as streets, utility projects and government buildings.

LEED:
The LEED (Leadership in Energy & Environmental Design) Green Building Rating System is a voluntary, consensus-based standard to support and certify successful green building design, construction and operations. LEED was developed by the U.S. Green Building Council.

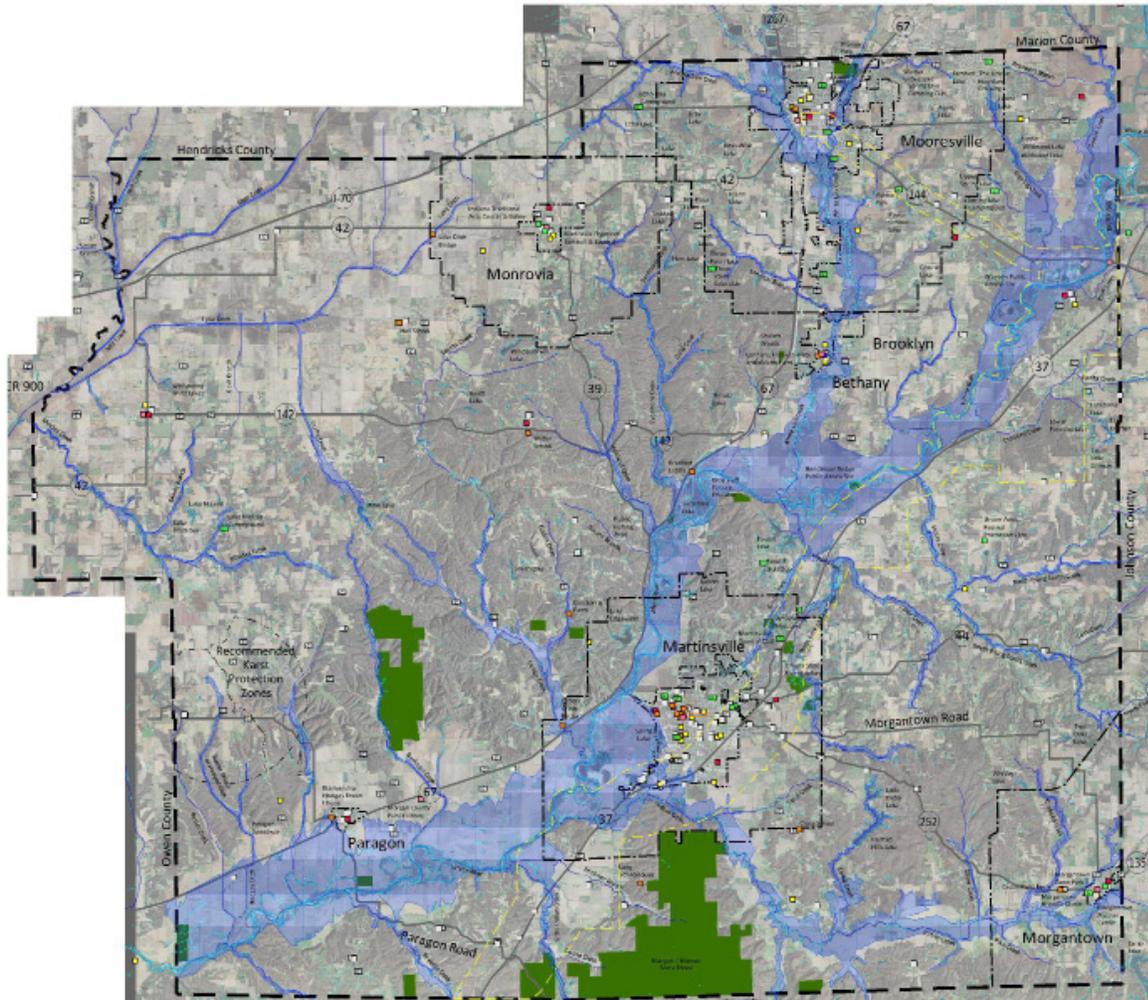
Priority Issues

Of the issues reviewed in the following pages, the following priorities have been established. Details relating to each issue are provided in this section.

1. Protect floodplains from development to preserve these areas and mitigate the impact of flooding on the community.
2. Enact a steep slopes ordinance to guard against deterioration of these features, and to protect scenic views in the community.
3. Encourage cluster development to allow development to occur in fringe areas in a responsible manner that preserves existing topography, habitat and/or unique features.
4. Implement standards for development in karst areas that provide for stricter stormwater runoff quality standards and encourages appropriate land uses in karst areas.

Natural Resources Map

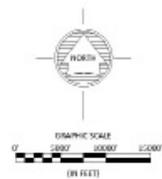
A summary of existing cultural and environmental resources is provided on the next page.



Legend	
Corporation Limits	Campground
Two Mile Fringe	Cemetery
SR 37 / 144 Corridor Overlay	Golf Course
Fire Department	Parks
Historical Site	Historic District
Law Enforcement	Managed Lands
Library	Floodplain
Museum	Lakes
Recreation	Streams
Religious	Wetlands
Schools	White River

Cultural and Environmental Map

Morgan County Comprehensive Plan



Rivers, Lakes and Streams

The White River runs from the northeast corner of Morgan County to the southwest corner. It is listed as an outstanding river by the Indiana Department of Natural Resources Division of Outdoor Recreation and the Natural Resources Commission. An outstanding river is a body of water that has particular environmental or aesthetic interest.

There also exist a number of lakes and smaller streams throughout Morgan County. One of them, White Lick Creek, enters Morgan County north of Mooresville, and travels south through Mooresville until it enters the White River about 3.5 miles north of the corporate limits of Martinsville.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
<p>Non-point source pollution (pollution from stormwater runoff)</p>	<p>Non-point source pollution results from stormwater runoff moving over the ground. As this runoff moves along the ground, it collects various pollutants – chemicals, animal waste, trash, sediment – and deposits them into bodies of water.</p>	<p>Preserve natural vegetation to reduce stormwater runoff and protect natural habitats. (IDEM Indiana Stormwater Quality Manual)</p>
		<p>Develop ordinances or regulations that require nonpoint source pollution treatment, such as water quality swales, sedimentation basins, and vegetated filter strips. (EPA National Management Measures to Control Nonpoint Pollution from Urban Areas)</p>
		<p>Establish limits on impervious surfaces allowed on newly developed lots. (EPA National Management Measures to Control Nonpoint Pollution from Urban Areas)</p>
		<p>Revise stormwater ordinances to encourage structural Best Management Practice (BMP) devices to reduce pollutants from being discharged off-site.</p>

<p>Agricultural Runoff (pesticides, herbicides, and sediment from agriculture)</p>	<p>This is non-point source pollution as the direct result of runoff from agricultural lands.</p>	<p>Encourage integrated pest management strategies that require the use of appropriate amounts and types of pesticides at times when runoff will be minimal to reduce the amounts of toxic pesticides that get into streams and lakes. (EPA National Management Measures to Control Nonpoint Pollution from Agriculture)</p>
<p>Impervious Surfaces (increased runoff from surfaces that do not absorb water)</p>	<p>The construction of impervious surfaces is affecting more land, transforming natural greenspace into hard landscapes of buildings, parking facilities and road surfaces.</p>	<p>Construct on-site storm systems to utilize the infiltration capabilities of soils.</p> <p>Encourage the use of green roofs as a way to minimize runoff and store excess stormwater.</p> <p>Create a stormwater utility to generate revenue to address community stormwater runoff from increased impervious surfaces. These utilities assesses fees based on percent impervious area of each lot.</p> <p>Re-evaluate parking requirements set forth by the zoning ordinance</p> <p>Promote open space development or clustering as an alternative to traditional development.</p>
<p>Soil Erosion and Sedimentation</p>	<p>Sediment is the greatest pollutant by volume affecting streams and lakes.</p>	<p>Require the use of water body setbacks for all development near lakes and streams.</p>

Gravel Pit and Quarry Runoff	<p>There are many gravel pits and quarries in Morgan County along the White River. These gravel pits are important resources because there are limited areas in central Indiana where gravel can be extracted. Unfortunately, gravel pits and their operations can be significant contributors to nonpoint source pollution from stormwater runoff, from erosion and sedimentation to leaking equipment.</p>	<p>Utilize erosion control practices at the site. Minimize disturbances to natural vegetation whenever possible to prevent erosion. Replace vegetation in areas with bare soil.</p>
		<p>Treat stormwater runoff that has not been diverted by using oil/water separators, constructed wetlands, or other water treatment options.</p>
		<p>Require wheel washing and street sweeping at the gravel pit in order to minimize the amount of material being tracked offsite.</p>
		<p>Maintain buffer zones around the boundaries of gravel pits, especially those that are located near environmentally sensitive areas.</p>
		<p>Store equipment, fuel, and waste disposal away from the perimeter of the gravel pit, especially if mining below the water table.</p>
		<p>Cover and protect stockpiles from weather events such as wind and rain.</p>

Floodplains

The largest floodplain throughout Morgan County is the White River floodplain. Smaller floodplains surround the many streams that are also located throughout the county, including the White Lick Creek floodplain in the Mooresville area.

Flooding in Morgan County in June of 2008 provides evidence of the need to protect and manage floodplains more effectively. In that period, flooding extended well beyond the 100 year floodplains, and impacted areas even outside the 500 year floodplain. A committee has been formed to guide long term recovery plans and to make recommendations on future policies relating to drainage and floodplain issues. Consequently, detailed recommendations on policies are not included in this comprehensive plan – other to limit development in the floodplain and to work to implement the recommendations made by the committee.

It is noted that maps provided in these documents represent the 500 year floodplain boundaries.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Development within the floodplain	Development within the floodplain results in more areas being susceptible to flooding, and flooding is increased downstream because there is less floodplain area for stormwater storage.	Limit development in floodplains to uses devoted to green space preservation and uses that will limit damages and danger to human lives.
		Support and implement recommendations from the Drainage Task Force/Long Term Recovery Committee.

Wetlands

According to the National Wetland Inventory, a number of wetland areas are located throughout Morgan County, many near streams and lakes. The National Wetland Inventory is a guide that shows where wetlands may occur. If wetlands are suspected in an area to be developed, a wetland delineation must be performed by a wetland consultant to determine the presence of wetlands on the specific site.

Natural wetlands provide a variety of useful functions for the environment. In addition to providing recreational opportunities to people, wetlands also provide essential habitats to many threatened and endangered species. Wetland plants filter pollutants out of the water that flows through them. As a result, our surface and drinking waters are cleaner and safer. Wetlands also protect surrounding areas from floodwaters because they absorb and slowly release the water, prevent erosion of streambanks, and recharge aquifers that provide many peoples' drinking water.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Development of wetland areas	Development pressures for housing, industrial and commercial growth are eliminating wetland areas at an alarming rate.	Encourage preservation and reconstruction of wetlands along riparian corridors and lakes.
		Designate wetlands to be preserved on the zoning map.
Non-point source pollution	While wetlands can naturally filter pollutants to a degree, the volume of pollutants impacting wetlands must be managed	See action steps under Rivers, Lakes and Streams.

Karst Areas

Some karst areas exist on the west side of Morgan County, between S.R. 67 and S.R. 142. There are 11 caves in Morgan County, with 14 mapped entrances. There are also several sinkhole areas and sinking stream basins. These karst areas are generally located within the upper reaches of the Butler Creek-Butler Branch and Fall Creek (Morgan County) watershed. These locations are indicated on both the environmental resource graphic, and on the proposed land use plan.

Karst areas can provide many environmental and recreational benefits to communities. They provide groundwater recharge, stormwater storage, and important animal habitats for many of Indiana’s subterranean species. Caves are also home to several endangered species, including the Indiana bat and the cavefish. They also provide opportunities to explore the caves and underground streams, and to learn about different ecosystems.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Groundwater Contamination	Surface water and groundwater in karst areas are often directly connected through sinkholes and underground streams. As a result, many of the contamination issues that affect surface waters can also affect groundwater in karst areas. Pollutants do not have the opportunities to be filtered out of water in karst areas as they would in other areas.	Establish karst-related overlay zoning district to establish specific karst protections.
		Discourage land uses within the karst area that could result in point sources for water pollution. Examples could include industrial operations; wastewater treatment lagoons and septic systems, animal agriculture; underground storage tanks; and landfills.
		Develop stricter water quality performance standards for watersheds that include karst features. These standards should require best management practices be applied to any potential point or non-point source pollution sources in the watershed. This would include but not be limited to stormwater runoff quality, effluent for septic systems, and wellhead protection standards.

Development in Karst Areas	Unmanaged development in karst areas can damage the structural integrity of cave systems and to surface improvements above the caves.	Discourage development and extension of municipal utilities into karst areas. Prohibit development that would include blasting, heavy loads, or vibrations that could damage underlying formations.
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Groundwater

Groundwater is an important source of domestic drinking water in the area. Several public water systems service the Morgan County area, and each has prepared a wellhead protection plan to identify potential contamination sources for the drinking water (groundwater) and to develop a contingency plan if contamination should occur. Each wellhead protection plan designates a Wellhead Protection Area, which is an area surrounding the water system’s source wells where certain activities are restricted in order to protect the water supply. Wellhead Protection Areas for smaller water supplies are typically a fixed radius surrounding the source wells. For larger water supplies, the Wellhead Protection Areas are non-uniform shapes that are determined by the groundwater flow in the area.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Contamination of Public Water Supply	There are many potential sources of groundwater contamination. These can be point sources like industrial discharge, or nonpoint sources like pesticides from agricultural runoff. There are many methods for protecting groundwater, including structural BMP’s, regulatory practices, and public education and outreach.	Develop a land use plan that restricts potential point sources of pollution in areas sensitive to groundwater contamination
		Purchase land or develop conservation easements in Wellhead Protection Areas.
		Require secondary containment for hazardous substances and chemicals, like grease and oil traps.
		Require as a part of the site plan review process that monitoring wells be installed at sites identified as being vulnerable to groundwater contamination.
Non-point source pollution	Non-point source pollution impacts areas sensitive to groundwater contamination, including karst areas, and areas with highly permeable soils.	See action steps under Rivers, Lakes and Streams.

Steep Slopes

Morgan County has many areas with steep, forested slopes. The largest contiguous area with significant topography is located north of SR 67 between Paragon and Mooresville. South of Martinsville, the Morgan Monroe State Forest and surrounding areas also contain many steep forested slopes. These steep, forested slopes mix with agricultural lands at the far east and west edges of the county.

These steep, forested slopes are not only an environmental resource, but also serve as a key part of the rural character of the community. The hillsides frame scenic views, and the ridgetops are dotted with numerous homesites.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Erosion	Stable slopes help to reduce erosion. When development begins to occur in areas with steep terrain, clearing of vegetation from the slopes can cause extreme erosion to occur. This degrades water quality in surrounding water bodies and further damages surrounding areas.	Enact an ordinance restricting development on terrain determined to be steep.
		Create design standards for developers and property owners to address acceptable land uses for areas with steep slopes.
		Include requirements for preserving existing vegetative cover within steep slopes. The vegetation helps to slow stormwater runoff, minimizing erosion.
Elimination of Scenic Viewsheds	Development on steep slopes threatens to degrade the number and quality of scenic views throughout the county.	Prepare a prioritized inventory of viewsheds within the county and the hillsides that are included in each.
		Prepare development standards for priority viewsheds. Development standards should guide and limit development in priority areas. Standards should include development on slopes (regardless of the pitch), development on ridgetops and associated areas that comprise scenic views.

Wildlife Habitat

Wildlife exists everywhere. Woodlands, caves, agricultural lands, wetlands, lakes and streams are all homes for many different species of animals and plants. When these areas are disturbed by development or other human activities, the animal and plant populations that live there can suffer.

The Indiana Department of Natural Resources Division of Nature Preserves publishes a list of threatened and rare species by county in Indiana. The list for Morgan County includes many mollusk and bird species, as well as some fish, amphibians, reptiles, insects, mammals, and plants. Specific locations of endangered species are kept confidential for the purposes of protecting those species.

THREATS	THREAT SUMMARY	ACTION STEPS (BEST PRACTICES):
Habitat Destruction	As previously undeveloped lands begin to be built up, the natural land cover is cleared, and many wildlife species are displaced.	Utilize cluster development to help keep open space and wooded areas connected to prevent habitat fragmentation.
		Identify environmentally sensitive areas that provide habitat for endangered and threatened species, and avoid extending development in those areas.
		Encourage development on infill areas and redevelopment to prevent the destruction of habitats on undeveloped land. Preserve natural vegetation whenever possible to prevent habitat destruction. Replace native vegetation if preservation is not feasible
Habitat Fragmentation	When development is not continuous, habitats are fragmented, resulting in the relocation or destruction of species	Utilize cluster development to help keep open space and wooded areas connected to prevent habitat fragmentation.

Endangered Species

Page 1 of 1
11/22/2005

Indiana County Endangered, Threatened and Rare Species List County: Morgan

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Cyprogenia stegaria	Eastern Fanshell Pearlymussel	LE	SE	G1	S1
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	S1
Lampsilis ovata	Pocketbook			G5	S2
Ligumia recta	Black Sandshell			G5	S2
Obovaria subrotunda	Round Hickorynut		SSC	G4	S2
Pleurobema clava	Clubshell	LE	SE	G2	S1
Pleurobema pyramidatum	Pyramid Pigtoe		SE	G2	S1
Ptychobranthus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot		SE	G3T3	S1
Villosa lienosa	Little Spectaclecase		SSC	G5	S2
Insect: Odonata (Dragonflies & Damselflies)					
Aeshna mutata	Spatterdock Darner		ST	G4	S1S2
Fish					
Percina evides	Gilt Darter		SE	G4	S1
Amphibian					
Hemidactylum scutatum	Four-toed Salamander		SE	G5	S2
Rana areolata circulosa	Northern Crawfish Frog		SE	G4T4	S2
Reptile					
Clonophis kirtlandii	Kirtland's Snake		SE	G2	S2
Crotalus horridus	Timber Rattlesnake		SE	G4	S2
Macrochelys temminckii	Alligator Snapping Turtle		SE	G3G4	S1
Ophedrys aestivus	Rough Green Snake		SSC	G5	S3
Bird					
Accipiter striatus	Sharp-shinned Hawk	No Status	SSC	G5	S2B
Aimophila aestivalis	Bachman's Sparrow			G3	SXB
Ammodramus henslowii	Henslow's Sparrow		SE	G4	S3B
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Buteo platypterus	Broad-winged Hawk	No Status	SSC	G5	S3B
Dendroica cerulea	Cerulean Warbler		SSC	G4	S3B
Haliaeetus leucocephalus	Bald Eagle	LT,PDL	SE	G5	S2
Helmitheros vermivorus	Worm-eating Warbler		SSC	G5	S3B
Lanius ludovicianus	Loggerhead Shrike	No Status	SE	G4	S3B
Mniotilta varia	Black-and-white Warbler		SSC	G5	S1S2B
Pandion haliaetus	Osprey		SE	G5	S1B
Thryomanes bewickii	Bewick's Wren			G5	S1B
Tyto alba	Barn Owl		SE	G5	S2
Wilsonia citrina	Hooded Warbler		SSC	G5	S3B
Mammal					
Lutra canadensis	Northern River Otter			G5	S2
Lynx rufus	Bobcat	No Status		G5	S1
Taxidea taxus	American Badger			G5	S2
Vascular Plant					
Epigaea repens	Trailing Arbutus		WL	G5	S3
Eupatorium incarnatum	Pink Thoroughwort		ST	G5	S2
Pinus strobus	Eastern White Pine		SR	G5	S2
Rubus centralis	Illinois Blackberry		SE	G2?Q	S1
Rubus odoratus	Purple Flowering Raspberry		ST	G5	S2
High Quality Natural Community					
Forest - upland dry-mesic	Dry-mesic Upland Forest		SG	G4	S4
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Primary - cliff eroding	Eroding Cliff		SG	G4	S1
Wetland - seep circumneutral	Circumneutral Seep		SG	GU	S1

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Implementation Plan

12

Implementation

The first step toward implementation is the adoption of the plan by the Plan Commission and County Commissioners. But once a plan is adopted, the process isn't over. It takes political will, resources and accountability to implement a comprehensive plan. Without an implementation strategy, all the efforts so far in the planning process are essentially wasted. Part of plan implementation is a regular review of the plan, to determine if any amendments are needed.

The Zoning and Subdivision Control Ordinances are the two biggest implementation tools for a comprehensive plan, so they should be updated immediately to match the plan. Administration and decision making for planning matters is also very important.

Rezoning of Land to Match Comprehensive Plan

After a comprehensive plan is adopted, local governments may choose to initiate rezoning of property in the community, which can be very controversial, so that it will match the desired future land use reflected in the plan. Without this action change of zoning and closer adherence to the comprehensive plan is done on a voluntary basis, and may happen very slowly, if at all. The county commissioners and the plan commission need to decide whether to initiate a rezoning on any land within Morgan County. One possible strategy would be to rezone land slated for future commercial or industrial use, which might help promote development.

Rezoning Policy

Even without county-initiated rezoning, one of the greatest influences a Comprehensive Plan has is in directing decision-makers in the rezoning of land. When considering a rezoning, IC 36-7-4-603 says the

plan commission and the legislative body shall pay reasonable regard to:

1. the comprehensive plan;
2. Current conditions and the character of current structures and uses in each district;
3. The most desirable use for which the land in each district is adapted;
4. The conservation of property values throughout the jurisdiction; and
5. Responsible development and growth.

When considering the comprehensive plan, the entire document should be reviewed for direction. The future land use map will serve as a general guide for determining if the proposed zoning is compatible. In addition, the goals and objectives may contribute recommendations, as may other chapters in the plan.

Note that while Indiana law does not say that all five of the above rezoning criteria should be met before granting a zoning change, it does say you must "pay reasonable regard to" them. In other words, the county should have a very good reason if they disregard the comprehensive plan recommendation during a rezoning process, particularly when the plan is relatively new or has been reviewed and updated regularly.

Occasionally a desirable project may be proposed that does not meet the recommendations of the Comprehensive Plan. In that case, the County should reexamine the Plan to determine if conditions have changed and if they have, the Plan should be amended to allow that development. An amendment to the Comprehensive Plan requires the same procedures as its initial adoption.

Zoning Ordinance

Since the Zoning Ordinance is one of the biggest implementation tools for a comprehensive plan, it should be updated to match the plan as soon as possible. The following items should be included in the zoning ordinance rewrite:

- ◆ Amend the Agriculture zoning districts to reflect suggested designations of Ag Preferred, Ag General and Rural Residential along with the revised development standards as suggested in the Land Use Section of this plan.
- ◆ Adopt architectural standards for residential -- Morgan County should adopt architectural standards for residential zoning districts that include provisions to prevent “cookie cutter” development of identical or nearly identical homes.
- ◆ Adopt architectural standards for commercial. Morgan County should adopt architectural standards for commercial zoning districts that set minimum quality standards.
- ◆ Consider a broader range of housing alternatives by expanding housing types allowed in residential zones, such as single family attached and lower density multifamily housing in specified areas.
- ◆ Consider prohibiting Commercial/industrial development in areas not provided with sanitary sewer systems.
- ◆ Re-examine the “night skies” lighting ordinance.

Subdivision Ordinance

Since the Subdivision Control Ordinance is the other biggest implementation tool for a comprehensive plan (in addition to the zoning ordinance), it is important to update it to match the comprehensive

plan. The following items should be included in the zoning ordinance rewrite:

- ◆ Adopt regulations for conservation subdivisions

Administration

- ◆ Adopt and implement the strategies in the SR 37/SR 144 Corridor Plan as an element of this comprehensive plan update.
- ◆ Encourage the common councils of Martinsville and Mooresville to adopt the new corridor plan suggested regulations as part of their zoning ordinance and as an amendment to their zoning maps.
- ◆ Schedule routine “check-ups” between the three communities to see how the regulations are being applied.
- ◆ Compile and bi-annually track data on rate of urbanization and conversion of agricultural land.
- ◆ Roundtable of Governments – Establish a bi-annual meeting with Morgan County and other incorporated towns or cities in the county. Topics for discussion can include future land use planning, utility expansions, emergency management and economic development. It is intended that the Roundtable of Governments identify common goals, provide a baseline for communication among all governments in Morgan County and provide a forum for discussing and solving mutual problems.
- ◆ Adopt and implement the White River / Whetzel Trace Greenways Plan
- ◆ Assign one or more Morgan County representatives to join the government-sponsored Smart Growth Next.

- ◆ Have Plan Commission and County Commissioners ensure that petitions are in compliance with the Comprehensive Plan.
- ◆ Begin preparation for the future addition of planning staff. Additional staff resources are needed for timely implementation of Morgan County's many planning efforts.

Transportation

- ◆ Encourage INDOT to accelerate the scheduled widening of SR-144 between Johnson Road and SR-37.
- ◆ Preserve a corridor for an eastern extension of Hadley Road or Landersdale Road.
- ◆ Set alignment and acquire right-of-way for Henderson Ford Road and Pennington Road extensions. Start to develop policies for Henderson Ford Road/Centennial Road/Pennington Road Corridor by conducting a thoroughfare plan.
- ◆ Preserve the Indiana Southern Railroad and Indiana Railroad lines and/or corridors.
- ◆ Encourage cities/towns to improve pedestrian facilities within the corporate limits.
- ◆ Develop external multi-use trails, such as the White River Whetzel Trace Greenway.
- ◆ Encourage Mooresville to schedule a public meeting with IndyGo to confirm interest in public transportation. If public interest is shown, then work with Mooresville and IndyGo to incorporate the express/local route that is recommended in the Comprehensive Operational Analysis Plan.
- ◆ Investigate interest in public transportation in other parts of the County.

Utilities

- ◆ Assist in developing a coordinated infrastructure plan for the State Road 37 / proposed I69 corridor. Since the county does not have direct control over utilities, they should serve in a facilitator's role and help the various utilities set policies over how and when utilities will be extended.
- ◆ Encourage upgrades to small water mains in high density developments in order to provide fire protection.
- ◆ Promote infill development to reduce the need for water main extensions.
- ◆ Ensure new utilities along SR-37 are sized appropriately for high density development
- ◆ As capital improvements are planned to the stormwater system, consideration should be given to establishing a stormwater utility to fund needed stormwater improvements.
- ◆ Encourage wastewater studies for areas with failing septic systems, such as Eminence, Waverly, Lake Hart, Paradise Lake, and Lake Edgewood.
- ◆ Create a policy that septic systems are only allowed for residential properties where soils are adequate.
- ◆ Promote infill development to reduce the need for sewer extensions.
- ◆ Ensure new utilities along SR-37 are tied to a regional system or have the capability of being regionalized.
- ◆ Encourage the extension and upgrade of electric, natural gas and telecommunications infrastructure.

Annual Comprehensive Plan Review

Begin an annual review of Morgan County's Comprehensive Plan, led by former comprehensive plan steering committee members acting as a special sub-committee of the plan commission. The review should include a review of any deviations from the plan and any need for amendments due to changing conditions, clarification, etc.

	Implementation Item	Short Term (1-5 years)			Mid Range (6-12 years)			Long Range (13-20 years)			Ongoing
		Plan Commission	Town Council	Other	Plan Commission	Town Council	Other	Plan Commission	Town Council	Other	
Zoning Ordinance	Amend the Agriculture zoning districts	x									
	Adopt architectural standards for residential	x									
	Adopt architectural standards for commercial	x									
	Expand housing types allowed in residential zones	x									
	Consider prohibiting Commercial/Industrial development in areas not provided with sanitary sewer systems	x									
	Re-examine the "night skies" lighting ordinance.	x									
Subdivision Ordinance	Adopt regulations for conservation subdivisions	x									
Administration	Adopt and implement the strategies in the SR 37/SR 144 Corridor Plan		x								
	Encourage the common councils of Martinsville and Mooresville to adopt and implement SR 37 / 144 Corridor Plan		x								
	Schedule routine "check-ups" between the three communities to see how the corridor plan regulations are being applied.		x								x
	Establish Roundtable of Governments		x								x
	Adopt and implement the White River / Whetzel Trace Greenways Plan		x								
	Assign one or more Morgan County representatives to join the government-sponsored Smart Growth Next.		x								
	Begin an annual review of Morgan County's Comprehensive Plan		x								x
Begin preparation for the future addition of planning staff. Additional staff resources are needed for timely implementation of Morgan County's many planning efforts.			x							x	
Compile and bi-annually track data on rate of urbanization and conversion of agricultural land.		x									x

Appendix



Building Local Planning Capacity

Along the I-69 corridor, the use and implementation of planning tools and techniques varies greatly among communities. While some communities have embraced many planning tools, others have not for various reasons. Accordingly, the capacities of the communities to manage and subsequently administer plans formulated in the I-69 Community Planning Program may vary as well.

For communities to choose the most appropriate tool(s), the community's planning resources and capacity should be analyzed. This discussion of local planning capacity focuses on the **technical, managerial, financial and political ability of a local government** to carry out a project or task. It is recognized that many other influences can impact or determine a community's planning capacity. All local influences and considerations should be analyzed before determining future planning endeavors.

The purpose of discussing planning capacity is to identify the conditions under which individual tools are ideally used. For example, a tool which requires an extensive amount of staff to administer would not be the most appropriate tool for a community with few or no planning staff to implement.

Throughout this toolbox, tools are listed by their recommended level of planning capacity. This is a suggestion when communities should utilize each tool. The intention of organizing tools by recommended level of planning capacity is not to limit or restrict any community from using or implementing a desired tool; rather, its purpose is to serve as a **guide** to help communities select the tool that will be most effective for the topic(s) they are trying to address. However, any community can use any tool described in this toolbox. A community may be able to implement a tool above their capacity if resources are dedicated to that particular tool or if the community uses a simplified version of the tool.

For example, after assessing a community's planning capacity, the local decision makers determine their community falls within the "level 2" planning capacity. The tool they choose from any of the categories should be within level 1 or level 2. Because local decision makers assessed the community's planning capacity as a level 2, it does not restrict or preclude them from implementing a level 3 or level 4 tool. A community can always choose to implement a tool beyond their self assessed capacity.

Example Planning Capacity Matrix			
Tools in gray boxes are <u>not</u> recommended for that level of planning capacity.			
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
Increasing Fundamental Planning Capacity	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements
	Conservation Subdivision Ordinance	Conservation Subdivision Ordinance	Conservation Subdivision Ordinance
	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection
	Tree Protection Ordinance	Tree Protection Ordinance	Tree Protection Ordinance

If a tool is beyond a community's planning capacity, capacity can be acquired through external resources, such as universities, regional planning organization, metropolitan planning organizations, other resource organizations and consultants. Many communities that have a higher planning capacity use outsourced services to assist them in completing various projects. When capacity is acquired in this manner, a key consideration in the plan should be the long-term administrative requirements for successful implementation. Additionally, each community should analyze the different approaches to increasing local planning capacity. If external resources are used, a plan should be developed to gradually increase their own capacity in various ways, such as analyzing or expanding the structural capacity of the planning staff.

In order to efficiently use the I-69 Community Planning Toolbox, a community should understand the level of their planning resources and capacity.

It is suggested that each community complete the following checklist to determine its current planning capacity.

Evaluate Your Local Planning Capacity

Planning capacity is determined by the highest level that has all or the most items checked.

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
<ul style="list-style-type: none"> <input type="checkbox"/> We have thought about planning for our community but do not have a plan commission. <input type="checkbox"/> We do not have any planning staff. <input type="checkbox"/> We have no financial resources designated for planning projects. 	<ul style="list-style-type: none"> <input type="checkbox"/> We have a plan commission and a board of zoning appeals with rules of procedure. <input type="checkbox"/> We have a building commissioner/ planner on staff. <input type="checkbox"/> We rarely designate financial resources planning projects. <input type="checkbox"/> We have someone who focuses part of their time on economic development or redevelopment. <input type="checkbox"/> Our focus of planning is on plan review. <input type="checkbox"/> We have no or limited inspections. We have zoning and subdivision regulations. <input type="checkbox"/> We have a comprehensive plan. We have a redevelopment commission. 	<ul style="list-style-type: none"> <input type="checkbox"/> We have a plan commission and a board of zoning appeals that consistently follow rules of procedure. <input type="checkbox"/> We have a professional full time planner. <input type="checkbox"/> We occasionally designate financial resources for community planning projects. <input type="checkbox"/> We have a full-time staff member who is dedicated to economic development or redevelopment. <input type="checkbox"/> Our focus is on some longer range planning and visioning. <input type="checkbox"/> We have limited inspections and enforcement personnel. <input type="checkbox"/> We regularly update our comprehensive plan and development codes. <input type="checkbox"/> We have additional ordinances such as architectural review, etc. 	<ul style="list-style-type: none"> <input type="checkbox"/> We have a plan commission and a board of zoning appeals that consistently follow rules of procedure and annual training. <input type="checkbox"/> We have a professional full time staff of planners and other trained technical staff. <input type="checkbox"/> We annually designate financial resources for community planning projects. <input type="checkbox"/> We have a full-time staff member who is dedicated to economic development or redevelopment in addition to other trained technical economic development staff. <input type="checkbox"/> Our focus is on long range planning. <input type="checkbox"/> We have full range of inspections and full time enforcement personnel. <input type="checkbox"/> We have additional ordinances such as historic preservation, etc.

Directing Development and Growth

This section of the toolbox presents methods and techniques to effectively direct the growth and development of each community. Generally, growth management covers numerous community development methods and strategies that tackle economic, social, environmental matters in a changing environment. Many of the tools are designed to prevent or limit the occurrence of negative development effects such as loss of open space, undesired mixture of land uses, uncontrolled growth, poor aesthetics, etc.

Select the tools below. Tools in gray boxes are **not** recommended for that level of planning capacity.

LEVEL 1:	LEVEL 2:	LEVEL 3:	LEVEL 4:
See Increasing Local Fundamental Planning Capacity	Comprehensive Plan	Comprehensive Plan	Comprehensive Plan
	Zoning Ordinance	Zoning Ordinance	Zoning Ordinance
	Land Use Plans	Land Use Plans	Land Use Plans
	Downtown Plan / Main Street Program	Downtown Plan / Main Street Program	Downtown Plan / Main Street Program
	Subdivision Regulations	Subdivision Regulations	Subdivision Regulations
	Signage & Billboards	Signage & Billboards	Signage & Billboards
	Overlay Zones	Overlay Zones	Overlay Zones
	Landscape Overlay	Landscape Overlay	Landscape Overlay
	Planned Unit Developments	Planned Unit Developments	Planned Unit Developments
	Neighborhood Planning / Sub Area Plan	Neighborhood Planning / Sub Area Plan	Neighborhood Planning / Sub Area Plan
	Annexation:	Annexation:	Annexation:
	<ul style="list-style-type: none"> • Geist Annexation Fiscal Plan, Town of Fishers • Geist Annexation Ordinance, Town of Fishers • Riverbend Commons Ordinance, City of Muncie • Shirey Road Annexation Fiscal Plan, City of Muncie 	<ul style="list-style-type: none"> • Geist Annexation Fiscal Plan, Town of Fishers • Geist Annexation Ordinance, Town of Fishers • Riverbend Commons Ordinance, City of Muncie • Shirey Road Annexation Fiscal Plan, City of Muncie 	<ul style="list-style-type: none"> • Geist Annexation Fiscal Plan, Town of Fishers • Geist Annexation Ordinance, Town of Fishers • Riverbend Commons Ordinance, City of Muncie • Shirey Road Annexation Fiscal Plan, City of Muncie
	Cluster Development	Cluster Development	Cluster Development
	Traditional Neighborhood Development	Traditional Neighborhood Development	Traditional Neighborhood Development

Traditional approaches to planning address growth issues by designating land uses through zoning regulations. The separation of conflicting uses (such as residential and industrial) helps to create a more comfortable and safe environment. While this tool is effective in many ways, it does not always address the issues of sprawl and uncontrolled growth. There are multiple ways to approach regulating development that address these issues such as prescribing the quantity and quality of growth in a community. By doing so, land uses and services can be mixed in a more unified way to create vibrant, healthy communities.

Growth management approaches must be developed to address specific local conditions. The tools included in this resource provide *guidelines* for how to manage growth, and are not intended to be a perfect fit or fix for each community. Instead, they must be tailored by the local planning leaders and community members to meet the needs and desires for that individual community.

Key principles are listed below to evaluate and apply in ways that best fit the vision and needs of each community. Evaluating these principles in addition to implementing selected tools described in this section will help guide the community's future growth.

The Key Principles include:

- **Housing for all incomes**
- **Provide walkable neighborhoods, including desirable places to live, work, learn, and play**
- **Establish community and stakeholder collaboration**
- **Create a vision and standards for development that reflect what the community wants**
- **Foster fair and cost effective development**
- **Promote mixed land uses**
- **Protect a community's critical and significant environmental areas by encouraging growth in areas with existing development**
- **Provide transportation choices**
- **Encourage growth in existing communities to preserve open space and natural resources on the urban fringe**
- **Encourage compact building design**

(Source: Smart Growth Network <http://www.smartgrowth.org>)

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Encouraging Economic Development

The nature of economic development practice has changed significantly over the last two decades to focus on competitively-advantaged industry clusters and the elements necessary to attract firms within those clusters. Maximizing the benefits of the new highway will require the utilization of these contemporary strategies tailored to local circumstances.

Select the tools below. Tools in gray boxes are **not** recommended for that level of planning capacity.

LEVEL 1:	LEVEL 2:	LEVEL 3:	LEVEL 4:
See Increasing Local Fundamental Planning Capacity	Tax Abatement	Tax Abatement	Tax Abatement
	Economic Development Strategic Plan	Economic Development Strategic Plan	Economic Development Strategic Plan
	Tax Increment Financing	Tax Increment Financing	Tax Increment Financing
	Special Improvements Districts	Special Improvements Districts	Special Improvements Districts
	Agricultural Development	Agricultural Development	Agricultural Development
	Agriculture and Nature Tourism	Agriculture and Nature Tourism	Agriculture and Nature Tourism
	State Economic Development Programs	State Economic Development Programs	State Economic Development Programs
	Competitive Industry / Targeted Industry Studies	Competitive Industry / Targeted Industry Studies	Competitive Industry / Targeted Industry Studies
	Brownfield / Infill Development	Brownfield / Infill Development	Brownfield / Infill Development

States and local units of government began to develop economic development programs in response to a series of economic downturns in the late 70s and early 80s. Initially economic development efforts consisted primarily of the offering of incentives to reduce costs and influence the location decisions of business. During this period, a city or region competed to offer the lowest public sector costs in hopes of capturing relocating businesses. Critics suggested that long-term competitive advantages of particular areas drove actual location decisions and that short-term tax breaks had little effect. They surmised that firms merely used these incentive negotiations to lower the cost of doing business in their preferred location.

The primary goals of current economic development are attracting private investment and creating jobs. Many economic development efforts also seek to create a positive fiscal impact (growing new tax revenues faster than increasing new service costs). Over time, economic development practice has expanded to include a focus on the following strategies:

- **Providing state and local incentives**
- **Identifying and capitalizing upon competitively advantaged industry clusters**
- **Developing programs to improve the quality of the local workforce**
- **Addressing quality of life or cultural and environmental assets to attract human capital.**

Focus on competitively advantaged industry clusters emerged to address concerns about use of incentive packages. Rather than “shooting at anything that flies,” cities and states began to use knowledge of the local economy to fine tune and focus the use of incentive programs. The basic premise of the competitive advantage and industry cluster approach was that communities and regions provided some industry groups (clusters) with an economic environment that enables them to be more successful in that area than in other regions. As competitive advantage theory gained traction cities and states across the nation engaged in studies to identify their competitive industry clusters and adjusted economic development policies to focus on nurturing them.

One of the most important aspects of the competitive advantage approach was a focus on locally skilled and specialized workforce. Economic development efforts expanded to include programs directed to increasing the skills and productivity of the local workforce.

In response to the workforce focus that emerged from the competitive advantage approach and, in part, to Richard Florida's notion that creative and innovative people were the driving force behind new business start-ups and greater economic activity, recent economic development efforts have focused on developing and supporting a quality of life that makes a city/region attractive to creative human capital.

The discussion below provides some practical advice about adopting a successful, contemporary economic development approach on the local level.

As the notion of what constitutes economic development has expanded, so has the responsibility of the economic development practitioner. First, it has become essential that economic development practitioners build the partnerships required to address the community's quality of life and thus support economic growth. Economic development practitioners should consider a wide range of public, private, not-for-profit, and university-based partners. For example, in the new economy, supporting the arts, culture, and general quality of life (to make the region attractive) are as important as education and workforce development programs (to increase worker productivity), capitalizing on competitive industry clusters and research universities (to develop new, local industries), and the development of incentive packages (to attract major employers to the region). While the list of potential partners will vary by community, economic development practitioners should consider those described above and others that may be unique to their community and mission.

Secondly, while economic development programs are primarily directed towards attracting private investment and creating jobs, sound economic development practice must consider the impact on the local tax base (new costs attributable to the development compared to new tax revenues). An analysis of tax impacts should consider any property tax revenues generated by the new facility and any local income tax attributable to employment at the facility relative to the new public costs generated by the project and by any new employees who move to the community. If the project attracts a large number of new workers to the community it is particularly important to consider the impact on the local school district. Any study of tax impact on the school system should consider new property tax attributable to residential construction and the ability of the local school system to absorb new students prior to the need for new hires and new construction.

While economic development projects that have a continuing positive impact on the local tax base are desirable, it should be recognized that some projects may be slow in offsetting increased costs for governmental services with local tax revenue and still be beneficial to the community. For example, in a community that has been suffering from population loss and the attrition of local shopping, dining, and entertainment facilities, the attraction of 500 or more new workers may be thought of as an investment in the long-term quality of life in the community.

Finally, patience is an important attribute in any economic development strategy. Communities must believe in the integrity of their carefully considered economic strategies. The first opportunity may not always be the best opportunity. If the community's economic development strategy suggests that there are higher and better uses for a parcel of land than are offered by a particular opportunity, communities may consider passing on the current proposal while working to attract a more desirable project. In doing so, the community can ensure that land and resources required to develop the more desirable project will be available.

The economic development tools presented here are organized in three categories (basics, local incentives, and strategies). These tools provide practitioners with the capacity to develop programs and address issues related to incentives, competitive industries, and workforce development. Many of the tools provided in other sections of the tool kit provide practitioners with the capacity to address issues related to the quality of life in the local community.

The basics section includes the development of economic development plans and the state programs that support local economic development efforts. Tax abatement, tax increment financing, and special improvement districts are included in the local incentive section. The strategy section includes: agricultural development, agricultural tourism and tourism corridor planning, competitive industry/ targeted industry studies, and brownfield development programs.

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Increasing Local Fundamental Planning Capacity

This section of the toolbox presents the most fundamental ways for communities to improve their local planning capabilities. These tools will help communities increase their technical, managerial, financial and political abilities within local government. Generally, these tools will be more helpful for communities with a capacity level of one or two to begin the planning process. For more information on assessing a community's local planning capacity, refer to the [Building Local Planning Capacity](#) discussion.

Many of the tools described in this toolbox require a certain level of planning capacity according to Indiana Code. For example, a plan commission and board of zoning appeals is required in order to implement planning techniques such as creating a comprehensive plan, zoning, etc.

As a community's planning capacity increases, they become more capable of tackling increasingly complex and involved planning issues as well as being able to better influence their future. Planning initiatives should come from leaders within the community; however, when additional guidance is needed, it may be obtained through external resources. As communities grow, the planning qualifications within community leadership should increase. Additional training and hiring of planning professionals eliminates the need to outsource simple yet important planning tasks. In addition, communities can gain many advantages from partnering with other local governments on providing certain services. For example, if a small town and rural county partner to provide planning services, they could benefit by hiring one planning director instead of duplicating this service in each government entity.

Developing a COMMUNITY VISION:	Establishing the ORGANIZATIONAL STRUCTURE:	Acquiring EXTERNAL RESOURCES:
Community Visioning and Strategic Planning	Advisory / Area Plan Commission	Request for Proposal (RFP) Using Qualifications Based Selection (QBS)
	Board of Zoning Appeals (BZA)	Partnering
	Common Rules of Procedure: • Fulton County	
	Redevelopment Commission	
	Creating an EDA or RDA	

* Tools Under Construction

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Managing Transportation and Infrastructure

This section of the toolbox presents methods and techniques to effectively direct and manage the development and improvement of transportation and infrastructure systems. Although I-69 will be the major transportation investment in each community, other systems will be influenced by its construction. Careful planning is essential to ensure that transportation and infrastructure systems are capable of handling the changes in local travel demand associated with I-69.

Select the tools below. Tools in gray boxes are **not** recommended for that level of planning capacity.

LEVEL 1:	LEVEL 2:	LEVEL 3:	LEVEL 4:
See Increasing Local Fundamental Planning Capacity	Capital Improvement Plan: <ul style="list-style-type: none"> • City of Fort Wayne • City of Indianapolis • Town of Highland 	Capital Improvement Plan: <ul style="list-style-type: none"> • City of Fort Wayne • City of Indianapolis • Town of Highland 	Capital Improvement Plan: <ul style="list-style-type: none"> • City of Fort Wayne • City of Indianapolis • Town of Highland
	Access Management Plan & Policies Areawide Thoroughfare Plan Comprehensive Corridor Plan Interchange Area Plan Areawide Bicycle and Pedestrian Plan	Access Management Plan & Policies Areawide Thoroughfare Plan Comprehensive Corridor Plan Interchange Area Plan Areawide Bicycle and Pedestrian Plan	Access Management Plan & Policies Areawide Thoroughfare Plan Comprehensive Corridor Plan Interchange Area Plan Areawide Bicycle and Pedestrian Plan
	Traffic Calming Plan & Policies: <ul style="list-style-type: none"> • City of Indianapolis 	Traffic Calming Plan & Policies: <ul style="list-style-type: none"> • City of Indianapolis 	Traffic Calming Plan & Policies: <ul style="list-style-type: none"> • City of Indianapolis
	Design and Construction Standards for Infrastructure Traffic Impact Study Guidelines Urban Growth Boundaries / Urban Service Area Traffic Control Device / Signal Warrant Studies Impact Fees	Design and Construction Standards for Infrastructure Traffic Impact Study Guidelines Urban Growth Boundaries / Urban Service Area Traffic Control Device / Signal Warrant Studies Impact Fees	Design and Construction Standards for Infrastructure Traffic Impact Study Guidelines Urban Growth Boundaries / Urban Service Area Traffic Control Device / Signal Warrant Studies Impact Fees

Transportation planners typically work with land use planners to predict future patterns of demand. In most cases, various alternatives are considered for meeting this demand, leading to the development of a transportation plan. The link to the land use plan is key to the development of an effective transportation plan. Good planning practice extends beyond the function of the system, however. It considers the broader effect of the transportation system on the community, addressing historic preservation, environmental protection, aesthetic appeal and other issues.

Proper working water, sewer, and other utilities are also vital to the smooth operations of a community. As growth occurs, existing system and facility conditions must be evaluated according to current and predicted use. The availability of infrastructure plays a key role in guiding the type and density of development into rural areas. Development should be encouraged only where existing and new infrastructure improvements can support it. In addition to identifying future functional needs in terms of system capacity, infrastructure planning must address alternative options for growth considering environmental protection, construction and operating costs, and development policies.

If addressed before development occurs, transportation and infrastructure improvements can influence development in a positive way. Transportation and infrastructure planning can strongly influence:

- **Where growth occurs**
- **What scale and type of growth occurs**
- **How much growth occurs**

Various tools are included in this resource to identify and address future infrastructure needs and to manage urban and rural growth. These tools relate specifically to transportation and infrastructure development, but to be most effective, they should be linked with other tools such as land use planning and overall community visioning. As with all planning resources, the tools should serve as a guide for communities wishing to manage their growth and development and should be shaped to fit each individual community's needs and desires.

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Protecting Natural Resources

Natural resources in southwest Indiana are integral to the identity of the region and many individual communities within it. These important resources include but are not limited to: agricultural lands; forestlands, karst terrain; stream and the associated corridors and floodplains; wetlands; groundwater resources, including public and private drinking water; wildlife and wildlife habitat, including endangered, threatened, or rare species; and high quality natural communities.

Select the tools below. Tools in gray boxes are **not** recommended for that level of planning capacity.

LEVEL 1:	LEVEL 2:	LEVEL 3:	LEVEL 4:
See Increasing Local Fundamental Planning Capacity	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements	Land Ownership and Conservation Easements
	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection	Hillside / Steep Slope Protection
	Open Space Planning	Open Space Planning	Open Space Planning
	Scenic Viewshed Protection	Scenic Viewshed Protection	Scenic Viewshed Protection
	Tree Protection Ordinance	Tree Protection Ordinance	Tree Protection Ordinance
	Forest Protection	Forest Protection	Forest Protection
	Agricultural Land Preservation	Agricultural Land Preservation	Agricultural Land Preservation
	Stream Corridor Protection	Stream Corridor Protection	Stream Corridor Protection
	Wetland Protection	Wetland Protection	Wetland Protection
	Watershed Protection	Watershed Protection	Watershed Protection
	Groundwater / Wellhead Protection	Groundwater / Wellhead Protection	Groundwater / Wellhead Protection
	Karst Landscape Preservation	Karst Landscape Preservation	Karst Landscape Preservation
	Biodiversity / Habitat Protection	Biodiversity / Habitat Protection	Biodiversity / Habitat Protection

The benefits provided by the region's set of natural resources are as varied as the resources themselves. Natural resources contribute directly to the local economies within the region through the production of agricultural and forest commodities and value-added products, as well as through the recreation and tourism industries. Less directly, natural resources provide quality of life and aesthetic benefits that retain current residents and attract new ones. Natural resources also provide many of the environmental services often associated with hard infrastructure at a much lower cost, such as storm water conveyance, wastewater treatment, and drinking water provision.

The construction of I-69 from Indianapolis to Evansville is likely to spur new development along the highway and place pressure on the region's resources. Sustainable development and decision making is particularly important to southwest Indiana communities as they seek to maximize the benefits derived from the new highway and manage the potential negative consequences. Sustainable development incorporates social, economic, and environmental considerations to ensure that future generations continue to have a rich quality of life. Contrary to popular belief, the protection of natural resources and building a healthy economy are not mutually exclusive.

The incorporation of natural resources into community planning efforts and public education will be particularly critical to sustainable development and decision making. Comprehensive planning throughout the state typically involves only cursory review of a limited number of resources, commonly including only steep slopes, floodplains, wetlands, and the soil conditions appropriate for the location of individual on-site wastewater treatment (septic) systems. Development regulations often deal with natural resources issues as an after-thought. More complete consideration and treatment is needed to manage and protect these important resources effectively.

Public education, while critical, is likely to be a challenge. Residents often take these important resources for granted and few understand the complexity of relationships between individual natural resources or between

natural resources and the built environment. Because natural resources are interconnected in complex ecosystems and sometimes hidden, development and land use actions can have significant consequences in near and seemingly distant locations. A lack of knowledge also can have significant consequences for land owners and communities when decisions are made independent of the realities of natural hazards such as stream or karst floodplains or the contamination of drinking water supplies.

To assist local communities in their efforts to incorporate natural resources into community planning, the tools presented in this section include resource data, public education resources, and a variety of regulatory and non-regulatory implementation options. Communities should consider their needs and local implementation capacity when selecting among potential tools and various treatments, from simple to complex, within those tools.

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AGRICULTURAL LAND PRESERVATION



Agricultural land boosts local economies directly through sales, jobs, support services, and businesses such as feed and seed stores, farm machinery retailers, and secondary businesses such as food processing. It also provides stabilizing diversity to the state's economy. Farmland is one of Indiana's most important resources.

Farmland demands fewer public services than residential, commercial, and industrial land uses. This irreplaceable natural resource provides high quality and increasingly popular locally-grown food as well as water filtration, groundwater recharge, floodwater storage, habitat for wildlife and recreation. Maintaining the scenic, cultural, and historic features of agricultural landscapes also preserves a rural way of life and a scenic getaway.

Loss of prime farmland occurs due to a myriad of reasons. According to Rick Chase, Ag and Natural Resources Educator at the Purdue University Cooperative Extension Service, the five most common reasons agricultural land is converted to other uses are as follows:

Increased Demand on Land

During the 1990s, population and economic growth in the U.S. stimulated competition for land. This demand has caused increased development pressure on lands previously used for production of agricultural crops, commodities, livestock, or forests. Agricultural land is desirable for building because it tends to be flat, well drained and generally is more affordable to developers than to farmers or ranchers.

Agricultural Business Realities

Farming is a risky business subject to the fluctuations of nature and government policies, and further aggravated by the farmers' inability to set prices for their products. Over time the land owned by farmers becomes their insurance against unplanned events. Land is often used as a hedge against future economic demands, such as those caused by poor health, retirement, or economic recession. This is also one reason many farmers want to retain control over the fate of their private property

Local Zoning Policies

In an attempt to discourage sprawl, many local communities in Indiana have required large lot minimums for residential development. These minimums usually range from five to 40 acres. The intention of these minimums is to discourage homebuilders in rural areas by

requiring the purchase of large lots (5-10 acres in most cases). However, the result is usually the opposite of what is intended. People's desires to build homes in the country outweigh the cost of large tracts of land. So persons who really want only a small tract of land for a home feel forced to purchase a larger tract. The result is often a loss of agricultural land and continuation of sprawl in agricultural areas.

Other Government Policies

Tax policies such as tax abatements for industry, capital gains taxes, and income tax deductions for homeowners contribute to the conversion of farmland to non-farm uses. These policies provide financial encouragement for nonfarm businesses and new homebuilders to invest in new construction.

Highway construction policies can contribute to farmland depletion. The construction of new highways contributes to the loss of much prime farmland. It is more desirable to build roads on flat, productive land than on rocky hills with little topsoil. Highways and interstates also make it more convenient for workers to live farther away from their places of work. Most people want better, more convenient highways, but easy commutes from rural residences to urban centers give homeowners the incentive to live farther away from work.

The building permit and development approval process is often more expensive and lengthy in urban areas than in the rural community. Consequently, land developers are attracted to the plentiful land and fewer regulations in rural counties.

The Desire for a Rural Setting

The rural character of agricultural areas can be attractive to families wanting to escape urban centers. Persons fleeing cities often cite noise, pollution, crime, and weak educational systems as problems that plague urban areas. The rural life is often characterized as slower, more peaceful, and having less pollution and crime. However, as more people move to the country, an increased demand for public services, retail businesses, and more subdivisions often result, thus creating some of the same problems from which people were retreating when they left the cities.



Farmland Preservation Techniques

The issue of farmland preservation is more than preserving farmland – it encompasses the landscape in cities, suburbs, rural communities and transportation zones between town and country. Farmland preservation efforts are destined to fail if they are anti-development or

anti-growth. To be successful, the efforts must preserve prime farmland and direct industrial, residential and commercial growth to areas less suitable to farming.

Techniques for farmland preservation can be implemented in several ways, such as the examples listed below:

1. Enact agricultural preservation programs and policies for agricultural land.

- Assess and document existing or remaining farmland in the county.
- Identify and map agricultural soils and resources in the county.
- Initiate agricultural land mapping and monitoring programs, such as GIS, in order to document the amount of land in farm production and the rate at which it is being converted to non-farm uses.
- Compile and annually track data on the rate of urbanization and the conversion of agricultural land.
- Adopt agricultural zoning ordinances as an appropriate technique for protecting agricultural land. Such agricultural zones would limit non-agricultural development to densities and development patterns that are consistent with the continuation of agriculture.
- Create agricultural zones with minimum lot areas of at least 40 but preferably 160 acres where dense residential development is prohibited.
- Plan and zone for smaller residential lot sizes, townhouses, and apartments within already urbanized areas to increase development density, removing pressure for development on farmland.
- Update zoning and subdivision ordinances to support and encourage conservation design, which allows development and farmland to co-exist.
- Update the comprehensive plan to establish clear goals and policies with regard to community character, agricultural protection, and suburban growth
- Update the comprehensive plan to address the preservation of Agricultural Land and to specify programs and techniques for its protection
- Use the county comprehensive plan to identify agricultural priority areas and other areas suitable for development.
- If applicable, eliminate exemptions from the subdivision ordinances and processes that would result in the division of agricultural land into parcels that are too small for commercial farming.

- Enact enabling legislation to adopt the following programs: Agricultural District Programs, Purchase of Development Rights and Transfer of Development Rights.
 - ✓ Agricultural District Programs are voluntary programs designating special areas for agricultural use only. In exchange for enrollment in the program, farmers receive benefits that vary from state to state. The State of Kentucky has such a program and details can be found on their website at: www.conservation.ky.gov/programs/agdistrict/.
 - ✓ Purchase of development rights (PDR) programs pay landowners for the development rights to their property. An appraisal is made of the difference between the property value as agriculture land and its value if sold for development. The landowner is paid the difference, and the land is permanently protected from development. Several states, including Michigan, Massachusetts, New Jersey, and Pennsylvania have these programs. Indiana has adopted such a program, but the funding is limited.
 - ✓ Transfer of Development Rights (TDR) programs allow the transfer of development rights from one parcel of land (sending parcel) to another (receiving parcel). The sending parcel is then permanently protected by a conservation easement. This shift in land uses allows locally designated growth areas to receive the growth while protecting agricultural lands. Communities will need to identify areas where increased density would be appropriate so that such a receiving zone can be established. In Indiana, TDR's are not widely used.
- Adopt policies and ordinances, such as a right-to-farm law, that recognize prime farmland as an important environmental, economic, and community asset.
- Implement policies to limit premature expansion of urban infrastructure (such as roads and sewers) into agricultural areas.

2. Use development design principles to integrate development with agricultural preservation.

- Direct growth to already built-up areas, where developable land is available, through infill development, brownfield redevelopment, and transit-oriented development.
- Encourage greater housing densities in developed areas with existing infrastructure, ultimately reducing pressure on perimeter agricultural land.
- Develop incentives to encourage development where infrastructure is in place.

- Use clustered designs and conservation development techniques on non-prime farmland in areas where development of agricultural land is unavoidable.

3. Encourage farming practices that sustain the soil, fertility, and environmental quality of the land.

- Practice soil conservation and erosion control to keep fertile soil on the fields. This includes practices such as no-till farming, tilling along contours, and installing windbreaks.
- Reduce the use of environmentally damaging fertilizers and pesticides.
- Install natural buffers and filter strips along water bodies to slow water runoff and filter agricultural fertilizers, pesticides, and other chemicals.
- Practice crop rotation to maintain healthy soil.
- Integrate some natural habitat and wetlands into agricultural land management plans for wildlife protection.
- Practice conservation irrigation (using only the amount of water that is absolutely necessary for plant growth) to conserve groundwater resources.



4. Reduce the incentive for farmers to sell their land by improving the profitability of farming.

- Help maintain the viability of small farms by promoting, marketing, and supporting alternative farming strategies such as specialty and niche farming, roadside stands and markets, organic or other value-added produce, small-scale farming operations, alternative crops, and community-supported agriculture (CSA) operations, which connect local growers to local consumers.
- Encourage local farmers to use state and federal programs that assist farmers who protect natural resources.
- Apply lower property tax rates or tax credits to agricultural land, making agriculture more profitable.
- Work with farmers to discover innovative ways to use farmland for mutual benefit, such as wind farms, bio-fuel production, on-farm composting of municipal yard waste, and irrigation of crops with treated municipal wastewater.



Sources:

Policy Guide on Agricultural Land Preservation, American Planning Association, 1999

Agricultural Land Preservation, Sustainable Development Series, Northeastern Illinois Planning Commission and the Campaign for Sensible Growth, 2004

Agricultural Land Protection in Indiana by Rick Chase, Ag & Natural Resources Educator, ID 225, Purdue University Cooperative Extension Service, 1999

How Important is Central Indiana Farmland?, Compilation of Resources by Shelby County Community Preservation Group

Protecting Prime Farmland in Indiana, by B. R. Wheeler and G. C. Steinhardt, Department of Agronomy; and C. A. Sargent, Department of Agricultural Economics, Purdue University, Agronomy Guide, AY 245

The Deck Is Stacked Against Farmland, by Tom Condon, courant.com, August 31, 2008

BICYCLE & PEDESTRIAN PLANS

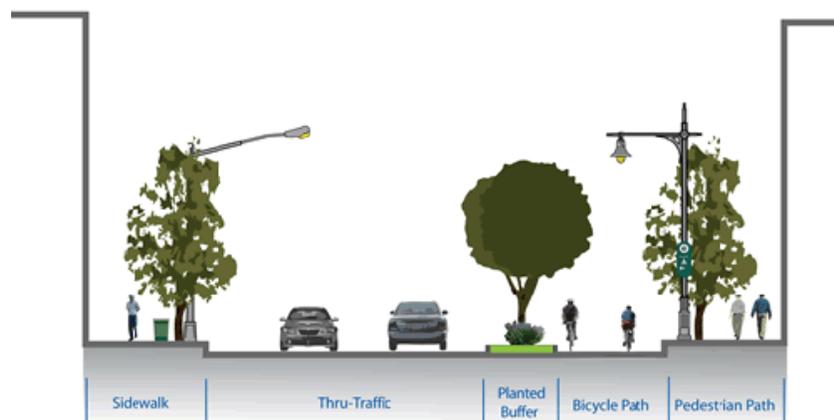


Bicycle and Pedestrian Plans recognize walking and biking as legitimate forms of transportation. Generally, Bicycle and Pedestrian Plans provide guidance for policy and project plans for creating or improving access and mobility for bicyclists and pedestrians. These plans can identify a network of bike and walking paths to connect community assets such as parks, schools, employment areas, retail areas and residential neighborhoods.

Federal legislation officially recognizes bicycling and walking as modes of transportation. According to the Federal Highway Administration, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) increased federal spending on bicycle and pedestrian improvements from \$4 million annually to an average of \$160 million annually. The Transportation Equity Act for the 21st Century (TEA-21) continued the call for the mainstreaming of bicycle and pedestrian projects into the planning, design, and operation of the national transportation system.

Establishing a bicycle and pedestrian plan can have many goals. Ideally, the main goals of such a plan are to reduce the reliance on vehicles by reducing the amount of trips. Community quality of life can also be improved with a viable bicycle and pedestrian network, where residents can walk to accomplish their errands and safety is perceived.

A Bicycle and Pedestrian Plan can not only identify a network for travel, it can identify improvements that a community can undertake to make their transportation network more accessible and welcoming to bikers and pedestrians.



Source: Brooklyn Greenway

CONSERVATION SUBDIVISION

A conservation or cluster subdivision generally sites single-family homes on smaller parcels of land, while the additional land that would have been allocated to individual lots is converted to common open space for the subdivision residents. Typically development standards, including road frontage, lot size, setbacks, etc. are changed to allow the developer to better preserve the desirable open space. Some definitions from Zoning Ordinances around the country are noted below:

- A subdivision in which the lot sizes are reduced below those normally required in the zoning district in which the development is located, in return for the provision of permanent open space. (*Muskegon, Mich.*)
- A residential use that divides land into not more than the number of lots permissible in a conventional subdivision of the same property in the same zone, but where the size of individual lots may be reduced in order to gain common open space. (*Deering, N.H.*)
- A form of development for single-family residential subdivisions that permits a reduction in lot area and bulk requirements, provided there is no increase in the number of lots permitted under a conventional subdivision and the resultant land area is devoted to open space. (*Bondurant, Iowa*)
- A clustered neighborhood design with gross density comparable to nearby rural/semirural subdivisions. (*Wayne, OH*)

Note: most communities have standards for what is and is not acceptable as common open space. Common open space should be land area that the community wants to preserve, such as historic sites, wetlands, floodplains, wooded areas, pasture or cropland, or even regular ground that stays undeveloped.

Differences between Conservation or Cluster Subdivisions and Regular Subdivisions

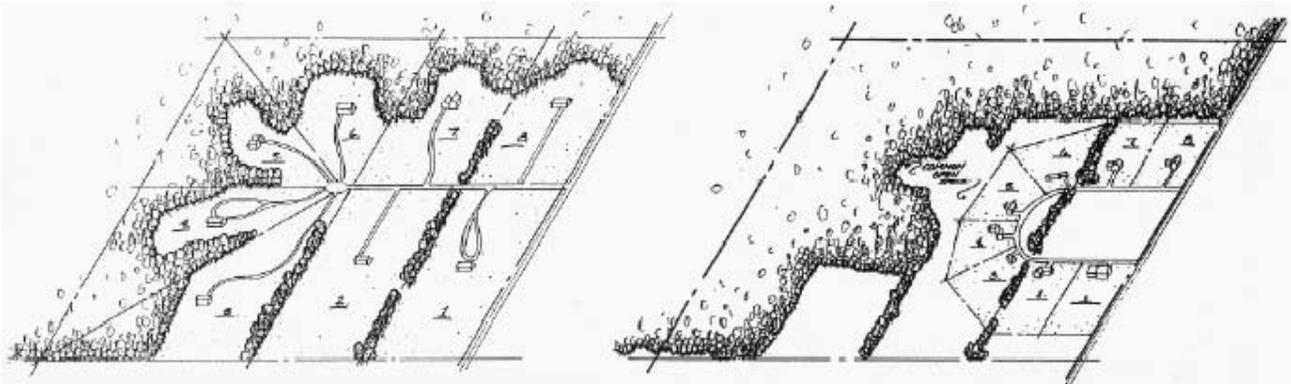
Consider the following distinction between a conventional subdivision and a conservation or cluster subdivision. With a conventional subdivision in mind, imagine a developer subdividing a 100-acre piece of land into 50 two-acre parcels, each with a single-family home. Under a conservation or cluster subdivision design, a developer would plan differently to get the 50 single-family homes, this time putting each on 0.5-acre parcels, "clustered" together in groups. This would only use 25 acres of land for residences and would

leave 75 acres of "open space." Typically, the open space areas are in the midst of the development and are designed around the natural or man-made features of the landscape. In our hypothetical 100-acre parcel, for example, we might have three separate areas of open space averaging 25 acres each. One might be centered around a section of woods, one around a pond or a creek, and one around a meadow.

In a typical cluster subdivision, each homeowner has access to all of the open space areas, which may be permanently preserved by a conservation easement -- a restrictive covenant forbidding any type of development in perpetuity. To provide maximum protection for both the open space and the residents, the conservation easement should be assigned to at least two organizations, a homeowners' association, whose membership includes all the homeowners in the subdivision, and a local government agency or land trust. The conservation easement should specify the types of activity permitted on the open land, i.e., recreation, type of agriculture, woodland protection, or stream buffers. The easement should be placed on the property prior to the development of the conservation or cluster subdivision.

Cluster or conservation subdivisions have been very popular in rural areas in the eastern United States. Surveys show that residents generally rate them very highly as places to live, and they have maintained their property values. In Indiana, Michigan City's *Tryon Farm* is a well-known example that preserves 120 of the property's 170-acres.

The following illustrations are from the State of Wisconsin's Model Conservation Subdivision Ordinance



Standard Subdivision

Conservation Subdivision

Advantages of a Conservation or Cluster Subdivision

- Maintaining rural character of the area
- Open space for residents
- Preserving critical land
- Cheaper infrastructure costs, leaving developers more money for amenities
- Meeting a market need for low-maintenance housing
- Reducing the impacts of development on watersheds
- Can provide a buffer between residential lots and agricultural

Disadvantages of a Conservation or Cluster Subdivision

- Current zoning and subdivision regulations don't support this type of development
- Takes extra effort for developer if regulations aren't already in place (variances, etc.)
- Maintenance of common open space requires creation of homeowners' association
- Homeowners have extra cost for maintenance fees (taxes, insurance, and general upkeep) not typically incurred in a conventional subdivision
- Smaller-sized lots result in close proximity to neighbors' homes

Sewage disposal in a Conservation or Cluster Subdivision

In areas where public sewers are not available, advances in technology allow creation of small community systems where wastewater is transported and treated in a safe, economically feasible, and aesthetically pleasing manner.

Differences between Conservation or Cluster Subdivisions and Planned Unit Developments

Planned Unit Developments (PUDs) may include a mix of residential, commercial, industrial, or other uses, whereas the conservation or cluster subdivision normally only includes single family housing. Within the PUD, development standards need not be uniform with the community's zoning code. One major difference between PUDs and conservation or cluster development is the amount of open space. Where PUDs typically contain 20 percent open space or less, most conservation or cluster developments strive for 40 percent.

Source: Conservation or Cluster Subdivision Fact Sheet, by K.K. Gerhart-Fritz, AICP of the Planning Workshop

CREATING A NEIGHBORHOOD ASSOCIATION

Neighborhood associations can be defined as a voluntary association of homeowners and businesses gathered together to protect their property values and to improve the neighborhood. A neighborhood association can build relationships among neighbors, create a unified voice in local government decision making and provide the basis for neighborhood improvement.

Neighborhood associations are different from homeowner associations, where developers create a set of covenants, conditions and restrictions for each lot in their subdivision in addition to common areas in the development. Homeowner associations are generally mandatory for property owners where they exist, and they can be recorded on individual property deeds.

Components of a successful neighborhood association include:

- **Defining Clear Goals & Objectives**

Clearly defined goals promote communication and provide members with direction and a sense of accomplishment. Goals and objectives need to be realistic and attainable.

- **Written Operating Procedures**

To ensure continuity from year to year, especially when officers and leaders change, your association needs to have written operating procedures and policies, such as a set of bylaws. The written procedures should address the purpose of the association, the boundaries it serves, titles and duties of your group's leadership, when and how leaders are selected, frequency of meetings, voting procedures, definition of membership, etc.

- **Democratic Process of Leadership/Officer Elections**

Through the election of officers/leadership, members are able to participate in the development and direction of the association. Election of officers such as president, vice-president, secretary and treasurer, also helps to promote officer/leadership accountability to the members.

- **Solid Leadership**

A neighborhood leader needs to have the vision and the ability to build consensus, to delegate duties and authority to others, to encourage neighbor involvement and maximize neighborhood talent.

- **Committees**

Committees allow the neighborhood leadership to delegate issues (identify and research problems and solutions) and meet its goals by involving a number of members. Standing committees, which operate continually, could address key issues such as newsletter and communication, welcome, safety, social functions, etc.

- **Neighbor Input and Involvement**

The key to a vital and active association is members - neighbors involved in their association. A neighborhood association serves as the foundation to bring neighbors together to address neighborhood issues, promote team building, and serve as a vehicle for neighbors to pool their resources and maintain the integrity of their neighborhood.

- **Funding**

Neighborhood associations have expenses and should operate with a budget capable of supporting association goals. Membership dues are the main source of funding for neighborhood associations. The association leadership, specifically the treasurer, should provide a monthly report of the revenues, expenses and balance on hand.

The Hillsborough County Office of Neighborhood Relations in Florida suggests the following steps to determine if there is support for a neighborhood association in your area:

1. Inventory the neighborhood – get together with neighbors and friends and form a committee to identify housing, schools, businesses, recreation areas. Determine what can be improved.
2. Find a meeting place and select a meeting date convenient to most.
3. Create meeting announcement flyers and distribute as many places as you can think of.
4. Request articles in local papers announcing meeting.

5. Invite community leaders (both local and surrounding areas), heads of community organizations, House and Senate representatives, police and/or sheriff, city/county department heads, etc who can explain the benefits of an association in your neighborhood.
6. Night of meeting – have your committee set-up tables and chairs; set out refreshments; have greeters at the door with sign up sheets and “interest lists” – put out nametags.
7. Introduce your special guests and have them say a few motivating words.
8. Have audience members introduce themselves (name/occupation).
9. Discuss if there’s a need for an association.
10. Invite questions, comments or concerns from the audience.
11. Invite attendees back to second meeting
12. Thank everyone for coming.
13. Have the committee assist with clean up.

Source: Organizing Neighborhood Associations, Hillsborough County, Florida Office of Neighborhood Relations, 2003 (full text available at www.hillsboroughcounty.org)

HILLSIDE / STEEP SLOPE PROTECTION

There are a number of issues associated with development on steep slopes, hillsides, and ridgelines. Foremost among them are health, safety, and environmental considerations that arise when planning development in steep areas. Another factor is the aesthetic quality of hillsides and ridgelines that can be lost when they are developed. Protecting hillsides and steep slopes from development helps to preserve those unique environmental qualities that people value. Furthermore, development on steep slopes can have an adverse effect on water quality as a result of increased erosion and sedimentation.



Historically, development on hillsides and steep slopes were avoided due to increased cost of development as opposed to flat terrain.

However, with new and improved engineering and construction techniques, combined with the value of the scenic views, development on hillsides or steep slopes is becoming increasingly more common.

Some communities have found that there is a local desire to protect the hillsides both for their aesthetic qualities and for safety reasons. Options for protecting hillside and steep slopes involve creating regulations for their protection, routinely placed in the zoning ordinance.

In his 1996 article "Planning for Hillside Development", University of Illinois professor Robert Olshansky outlined ten topics that should be considered prior to implementing hillside regulations. These ten topics, which are outlined below, can be used as a framework to build a solid justification for regulating steep slopes, hillsides, and ridgelines:

- Topography
- Slope Stability
- Drainage and Erosion
- Infrastructure
- Access
- Aesthetics
- Natural Qualities

- Fire Hazard
- Recreational Values
- Open Space

Source: Innovative Land Use Planning Techniques, 2007, New Hampshire Department of Environmental Services

IMPACT FEES

Impact fees are a one-time, monetary charge imposed on new development by a government unit to defray the capital costs of maintenance, construction or expansion of infrastructure needed to serve the new development such as roads, parks, and sewers. Impact fees are an alternate way of obtaining additional funds for capital improvements rather than through the use of traditional state and local taxes. This source of infrastructure funding is especially successful in moderate or rapidly growing communities. According to Indiana State Law (IC 36-7-4-1300 series), municipalities can enforce an impact fee on developers during the development approval process by adopting an Impact Fee Ordinance.

There are some requirements, however, that communities must meet before an impact fee ordinance is adopted and fees may be collected. The planning unit must have adopted a comprehensive plan for the entire jurisdiction that the impact fee ordinance will affect. An impact fee advisory committee must also be formed to guide the decisions of the adopting unit (this committee may be an already established committee such as the plan commission or other development related committee).

The first step in creating an impact fee ordinance is establishing an impact zone for each type of infrastructure that is included in the ordinance. This geographical zone must have some functional relationship to the infrastructure improvements that will be made with the collected fees. For example, fees collected for a new development on the west side of a municipality must be used for improvements and expansions within that same west side area.

In order for impact fee ordinances to be adopted, the planning unit must have also completed or updated infrastructure improvement plans for the areas that fall within the impact zone during the previous year. These improvement plans must include information and analysis of existing infrastructure, current levels of service, projected levels of service, capacity levels of service, estimated locations and costs of additional services as development occurs, and general projections of development within the zone for ten years.

An impact fee ordinance must include a schedule stipulating the amount of fees that may be imposed for each type of infrastructure and a formula stating how these fees are derived. The fee schedule and formula must provide a uniform standard for calculating the impact fees in order for payers to calculate the imposed fees on their development.



There are two ways of constructing formulas for the collection of development impact fees:

1. A flat fee is charged for connection to the provided service or amenity
2. A three-part tariff
 - a. Costs of the facility to provide the service (construction of new facilities)
 - b. Cost of the facility to deliver the service (based upon distance from facility)
 - c. Actual usage amounts (larger developments vs. single family)

The latter method allows for officials to choose the locations of their new facilities and how to charge for their uses. The market then determines where and what types of efficient development would occur based upon the appropriate fee schedules. Impact fees may also be collected in different ways. Fee payers may choose to pay all costs up front when other permits and fees are received. However, there must also be the option for payers to follow an equal installment plan.

Impact fees can be somewhat controversial because although they do not alter the amount or quality of service, they do affect who may pay for them. Communities should make a decision as to who will be responsible for the additional costs of upgrades and additions. This is a touchy matter because existing residents can say no to raise the taxes needed for new facilities that will primarily be serving new residents. However, if the costs are placed on new development, current residents may reap the benefits from the construction and improvements of public facilities without having to pay for them at all.

Impact fees can sometimes also be contradictory to a communities overall vision or economic development. As impact fees are implemented where new development is projected, the new development could instead be constructed just outside the impact fee jurisdiction. This creates undeveloped gaps within communities that are not part of the overall vision and contribute to sprawl. Additionally, impact fees can deter new development entirely. Businesses may choose to locate in a community without impact fees, negatively effecting an area's economic development.

Source: I-69 Community Planning Program Toolbox

OVERLAY ZONES

An overlay district is a “transparent” zone that lies on top of the existing zoning. It is typically used to add additional design standards or restrictions beyond those required by the existing zoning. Unless specifically modified by the overlay district, development adheres to the base district (existing zoning).

Overlay Districts are used differently in different communities, but they generally are used to unify streetscape and architecture without monotony, control traffic problems and signage, and provide for open space and landscaping. Overlay Districts do not attract development, but they ensure that the development that occurs is higher quality.

An overlay district is usually used when there is a special public interest to be served that does not coincide with already mapped traditional zones. An overlay district may cover parts of several zones or only a portion of an underlying zone. Generally, the underlying zone determines the permitted land uses, while the overlay district restricts the design, requires additional setbacks, or sets into place any other restrictions that meet the district’s purpose. In cases where there is a conflict between the requirements of the overlay district and the underlying zoning, the overlay restrictions apply (Zoning News, 1991).

Overlay districts are most common for:

- Downtown areas
- Historic areas
- Corridors
- Airport development
- Natural resource areas (rivers, shore lines, etc.)

Some of the other types of overlay districts are:

- Transit supportive (or oriented) development
- Infill
- Pedestrian walkability

In some cases the overlay district may reduce the requirements for setbacks, landscaping, or parking to preserve a specific character (such as in a downtown area). An overlay district in some instances will modify the permitted uses of the district in order to preserve or promote the character of the district.

The following can be regulated in an overlay district:

- Lot size
- Accessory buildings
- Building height and area
- Architectural design
- Landscaping
- Storage and loading areas
- Parking
- Lighting
- Signage
- Access points
- Development review procedure
- Land uses



Westbrook, ME Overlay Zone

A local government's authority to create an overlay district is implied in the delegation of the power to enact zoning restrictions and create zoning districts. One purpose of zoning is to ensure consideration for the character of areas and their suitability for conserving the value of buildings and encouraging the most appropriate use of the land (Pace, 2001). In Indiana the statutes say that "A geographic area may be subject to more than one (1) district," hence authorizing the use of overlay zones.

Overlay zones are adopted the same as any other zoning amendment. When the text amendment is made creating the regulations for the overlay zone, a map amendment should also be adopted to establish the boundaries for the overlay zone. When an applicant seeks to vary from the requirements of an overlay district, they must apply to the Board of Zoning Appeals for a variance just as they would if they were varying from the requirements of the base district.

Source: I-69 Community Planning Program Toolbox

SUSTAINABILITY

Sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Sustainability can focus on the built environment, water systems, ecosystems, agriculture, energy creation and consumption, materials and toxics.

This concept of sustainability encompasses ideas, aspirations and values that continue to inspire public and private organizations to become better stewards of the environment and that promote positive economic growth and social objectives. The principles of sustainability can stimulate technological innovation, advance competitiveness, and improve our quality of life.

Local governments have the power to affect the main sources of pollution directly linked to climate change: energy use, transportation, and waste. Cities control the day to- day activities that determine the amount of energy used and waste generated by their community - from land use and zoning decisions to control over building codes and licenses, infrastructure investments, municipal service delivery and management of schools, parks and recreation areas.

Programs can be locally created and tailored to meet the current level of sustainability in a community. Program areas could include:

- Land Use Management
- Urban Forestry
- Transportation Planning Measures
- Using Green Power from Renewable Energy Sources
- Programs Aimed at Energy Efficiency
- Green Building
- Water and Wastewater Management
- Recycling and Waste Reduction
- Education and Outreach



Sources: US Environmental Protection Agency website @ www.epa.gov
The Climate Action Handbook, ICLEI - Local Governments for Sustainability

TRADITIONAL NEIGHBORHOOD DEVELOPMENT

Traditional Neighborhood Development (TND), loosely interchangeable with the term New Urbanism, combines certain common principles from a history of neighborhood development and uses these principles to direct development of new neighborhoods. These principles and their importance vary depending on the developer and location, but can be generally recognized by the terms listed below.

Walkability and Connectivity

A central idea for a TND is to have the majority of a resident's necessary amenities within a walkable distance from his/her residence and/or place of work. A part of this is a gridded road network with pedestrian friendly design elements—sidewalks, buildings next to the sidewalks, trees, on-street parking, lower vehicular speed limits, etc.

Mixed-Use and High Density

For a walkable and connected community, the zoning must allow for mixed-use development and encourage high density development.

Traditional Neighborhood Structure

The typical structure of a TND includes boundaries that are easy to define and a “center” that serves as a hub of activity. Usually development in and near the “center” is the highest density, decreasing as development moves towards the outer edge.

Housing Diversity

A range of housing styles and prices should be included in the neighborhood to diversify the offers to future residents.

Quality Architecture

An emphasis is placed on creating beauty in the architecture of the buildings and the craft of the infrastructure and elements surrounding them. This encourages pedestrian travel, and provides a greater sense of place and comfort.



Chicago, IL

Sustainability

High-density development and an emphasis on walkability and connectivity usually produce a more sustainable environment. There is less pollution from driving and less strain on the infrastructure due to centralization. In general, with a focus on local consumption and recreation, less energy is used.

A TND can be developed by a private developer, much like a regular subdivision, or a municipal/developer partnership can be organized. Incentives such as tax increment financing (TIF) or other funding benefits for the private developer can be used to foster TND. However, many benefits of TND are being recognized by developers outside of municipality encouragement. These benefits include: Potential for greater income due to higher density development, quick approval for communities that have adopted TND principles, less impact on transportation and utility infrastructure, and faster sales due to interest in TND and more diverse offerings to consumers in the various residential and commercial ranges.



Dunn Street Development
Bloomington, IN

The benefits of TND for municipalities can be quantifiable as well: less strain on infrastructure, a steady tax base, less traffic due to the inherent walkability of the area, less crime because of more people in a smaller area, a greater sense of place and pride in the neighborhood and more. TND can be implemented on a small scale (single buildings, city blocks, etc.) or on a large scale (full neighborhoods, towns, etc.). The best way to encourage TND is to plan for it by integrating it into existing zoning and development codes.

Source: I-69 Community Planning Program Toolbox

Survey Results for Morgan County Comprehensive Plan

Wednesday, April 01, 2009

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Executive Summary

This report contains a detailed statistical analysis of the results to the survey titled *Morgan County Comprehensive Plan*. The results analysis includes answers from all respondents who took the survey in the 214 day period from Tuesday, July 29, 2008 to Saturday, February 28, 2009. 8 completed responses were received to the survey during this time.

Survey Results

Survey: **Morgan County Comprehensive Plan**

Author: **SDG**

Responses Received: **8**

1) How satisfied are you with the quality of life in Morgan County?

Response	Count	Percent
Very Satisfied	4	50.0%
Satisfied	4	50.0%
Unsatisfied	0	0.0%
Very Unsatisfied	0	0.0%
Uncertain	0	0.0%

2) If you checked Unsatisfied or Very Unsatisfied in question #1, please explain why:

<p>If you checked Unsatisfied or Very Unsatisfied in question #1, please explain why:</p> <p>Extremely high quality of life at more reasonable cost than most areas. The most beautiful of the doughnut counties. Love southern Indiana.</p>

3) What are the main reasons that you live in Morgan County?

Response	Count	Percent
Born and raised here, decided to stay	2	25.0%
Close to work	3	37.5%
Community appearance	0	0.0%
Community atmosphere	2	25.0%
Cost of living	4	50.0%
Crime rate / safety	1	12.5%
Emergency services	0	0.0%
Employment opportunities	0	0.0%
Geographic location	1	12.5%
Near family and/or friends	3	37.5%
Parks / Recreation	0	0.0%
Property taxes	1	12.5%
Quiet	4	50.0%
Rural	4	50.0%
Schools	2	25.0%
Other (please specify)	0	0.0%

Other Responses:

Farm here
I do not live in the county. I work in the county.

4) How would you rate the quality of housing in Morgan County?

Response	Count	Percent
Excellent	1	12.5%
Good	7	87.5%
Fair	0	0.0%
Poor	0	0.0%

5) As Morgan County continues to grow, what types of housing would you like to see encouraged?

Response	Count	Percent
Affordable housing	1	12.5%
Apartments	0	0.0%
Assisted / senior living	4	50.0%
Clustered home developments	3	37.5%
Condominiums	1	12.5%
Duplexes / two family units	0	0.0%
Mixed use housing	1	12.5%
Mobile home parks	0	0.0%
Motel / hotel	0	0.0%
Single family homes	5	62.5%
Subdivisions	2	25.0%
Other (please specify)	2	25.0%

Other Responses:

High end housing
higher quality single family

6) Focusing on neighborhood preservation and development, which items should Morgan County concentrate on during the next five years?

Response	Count	Percent
Affordable housing	1	12.5%
Beautifying the area	5	62.5%
Expanding neighborhood shopping opportunities	0	0.0%
Recreation	4	50.0%

7) How would you rate the following transportation services for Morgan County residents?

	Excellent	Good	Average	Poor
Bicycle / pedestrian trails	0.0% (0)	0.0% (0)	25.0% (2)	75.0% (6)
County road conditions	0.0% (0)	37.5% (3)	37.5% (3)	25.0% (2)
Local road conditions	0.0% (0)	25.0% (2)	50.0% (4)	25.0% (2)
Road maintenance	12.5% (1)	25.0% (2)	62.5% (5)	0.0% (0)
Snow plowing	12.5% (1)	50.0% (4)	37.5% (3)	0.0% (0)

8) Please rank the following issues for Morgan County.

	Serious Problem	Moderate Problem	Not a Problem	Uncertain
Agricultural land preservation	75.0% (6)	12.5% (1)	12.5% (1)	0.0% (0)
Ambulance service	25.0% (2)	62.5% (5)	12.5% (1)	0.0% (0)
Availability of recreational activities for all ages	37.5% (3)	50.0% (4)	12.5% (1)	0.0% (0)
Broadband / telecom availability	87.5% (7)	0.0% (0)	12.5% (1)	0.0% (0)
Drainage overflows during rains	37.5% (3)	50.0% (4)	0.0% (0)	12.5% (1)
Environmental protection	0.0% (0)	87.5% (7)	12.5% (1)	0.0% (0)
Garbage collection	0.0% (0)	12.5% (1)	75.0% (6)	12.5% (1)
Government planning for the future	28.6% (2)	42.9% (3)	28.6% (2)	0.0% (0)
Litter or garbage on local streets	0.0% (0)	62.5% (5)	37.5% (3)	0.0% (0)
Maintaining community atmosphere	0.0% (0)	50.0% (4)	50.0% (4)	0.0% (0)
Police / Fire protection	0.0% (0)	25.0% (2)	75.0% (6)	0.0% (0)
School facilities and programs	25.0% (2)	0.0% (0)	62.5% (5)	12.5% (1)
Sewage service	25.0% (2)	37.5% (3)	12.5% (1)	25.0% (2)
Traffic congestion	0.0% (0)	50.0% (4)	37.5% (3)	12.5% (1)
Water service	0.0% (0)	25.0% (2)	50.0% (4)	25.0% (2)

9) What types of industries should Morgan County focus on retaining / securing?

Response	Count	Percent
Agriculture	6	75.0%
Arts and entertainment venues	1	12.5%
High tech industries	7	87.5%
Hotels, tourism	2	25.0%
Light industry / manufacturing	7	87.5%
Medical services	4	50.0%
Professional services (financial, etc)	4	50.0%
Recreational facilities	6	75.0%
Restaurants	2	25.0%
Retail / shopping	1	12.5%
Other (please specify)	1	12.5%

Other Responses:

Need educational service such as Ivy Tech

10) Which of the following do you believe are the most important economic development issues for Morgan County to focus on over the next several years?

	High Priority	Medium Priority	Low Priority
Capital investments	71.4% (5)	28.6% (2)	0.0% (0)
Creation of local jobs	87.5% (7)	12.5% (1)	0.0% (0)
Developing an industrial park	37.5% (3)	50.0% (4)	12.5% (1)
Promoting tourism	14.3% (1)	57.1% (4)	28.6% (2)
Recruiting new businesses	75.0% (6)	25.0% (2)	0.0% (0)
Retaining and expanding existing businesses	87.5% (7)	12.5% (1)	0.0% (0)
Revitalizing downtown	14.3% (1)	57.1% (4)	28.6% (2)
Utilizing vacant facilities	25.0% (2)	75.0% (6)	0.0% (0)
Workforce training	12.5% (1)	87.5% (7)	0.0% (0)

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