Terre Haute Vigo County
Comprehensive Plan

Appendix C:
Policy Development, Growth Pattern

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Growth Scenarios Analysis

Prior to the development of the goal and policies relating to growth pattern an analysis between the cost and benefits of a strategic growth scenario compared to continuing the current trend scenario was conducted. Each of the scenarios was presented to the Steering Committee and discussed in terms of its impact on farmland, floodplains, mining areas, parks, municipal water, wastewater treatment, and the transportation network.

Current trends vs. Strategic Growth

Current Trends

The current trends scenario focuses development along the transportation corridors, particularly to the south of Terre Haute where the development pressure has been the greatest in recent years. It continues a pattern of "stripping out" development along these corridors.

This development pattern is consumptive of land, assuming that the development over the next twenty years will consume as much land as has been consumed over the past twenty years. This means that more than 15,000 acres of new development will be needed. The current trends scenario consumes almost 10,000 acres of prime farmland and has nearly 2,000 acres of development occurring in the floodplain.

Some of the development in this scenario occurs quite far from existing community facilities such as schools, fire stations, and parks. This development pattern trends to drive a need for new facilities and/or decreased service delivery to new development.

Under current trends, only 20 percent of the development occurs within a sewer service area. This type of development increases the amount of land consumed by urbanization because larger lots are needed to accommodate septic fields. Additionally, some soils are generally unsuitable for septic systems and can lead to a high failure rates, creating public health concerns.

Strategic Growth

The strategic growth scenario assumes that some of the needed development can be absorbed as infill and redevelopment within the existing urbanized area. New development would be conducted in a manner that avoids development in the floodplain or mining areas and protects prime farmland and focuses development near existing development where it can be served by existing facilities and infrastructure.

The strategic growth scenario preserves nearly 2,500 acres more prime farmland than the current trends scenario. Only a small portion of the development occurs in an area that could be threatened by flooding.

The new development in the strategic growth scenario is closer to existing community facilities such as schools, parks, and fire stations. It provides greater ability to provide services to residents near where they live due to the more compact nature of the development.

Under the strategic growth scenario, three-quarters of the new development is within the sewer service area and development that is not within the service area is compact enough and located in such a manner that infrastructure could be expanded to those areas with lower costs than under the current trends scenario.

Cost and Benefits

There are cost and benefits to any development policy. The following review presents some general costs of the development scenarios presented, in addition to information on the existing conditions in the community. In some cases more specific information about the costs is provided for consideration.

The costs were evaluated against the development principles established for the strategic growth scenario. These include:

- Consumption of farmland;
- Development in the floodplain;
- Development in mining areas;
- Schools;
- Park accessibility;
- Fire station locations;
- Availability of municipal water service; and,
- Availability of wastewater treatment

Farmland

Without detailed fiscal analysis of the local tax rates and costs of services, it is difficult to provide precise measures of the costs of converting prime farmland to residential development. However, a number of studies across the country have found that farmland provides fiscal benefits by generating more local taxes that it demands in services. Additionally, farmland provides jobs in transportation, processing, and marketing of agricultural products beyond the direct farming jobs.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Farmland			
Farmland eliminated by development	N/A	9,811 Acres	7,355 Acres

As the number of farms and farm acres decease, farming support business are not able to survive. Additionally, farmland becomes isolated and difficult to farm using modern farming techniques when leapfrog development occurs. Noting development pressures around them, farmers stop investing in their farms and begin thinking of selling to development. These costs, in addition to the costs of extending "urban" services should be considered in allowing the conversion of farmland to non-agricultural uses.

Floodplain

Development in the floodplain has cost implications in terms of the National Flood Insurance Program insurance rates and the cost of repairing, replacing, or relocating structures that sustain flood damage.

Generally is preferable to restrict development in the floodplain to those uses, such as agricultural and recreation uses, which can sustain periods of inundation with water. The design solutions that can make residential development possible in the floodplain while minimizing the flood risk are often considered unsightly or undesirable.

Community participations in the National Flood Insurance Program make property owners eligible to purchase flood insurance. Each participating community is classified with a Community Rating System (CRS) level that determines the flood insurance rate for the community. All communities start as a class 10, with no premium discounts. Communities can earn points in order to establish a lower class number, which qualifies them for discounts on premiums.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Floodplain			
Acres of development in the floodplain	7,040	8,860 (1,820 new)	7,265 (225 new)
% of development in the floodplain	16%	15% (12% of new development)	13% (2% of new development)

Under the CRS, communities receive credit for more restrictive regulations, acquisition, relocation, or flood proofing of flood-prone buildings, preservation of open space, and other measures that reduce flood damages or protect the natural resources and functions of floodplains.

To maintain the county's CRS rating, or improve it to reduce the premium costs to property owners, the county should:

- Limit or restrict issuance of building permits for new development in the floodplain;
- Limit or restrict the issuance of building permits for substantial improvements to structures currently located within the floodplain;
- Consider acquisition or relocation of properties and property owners within the floodplain who have sustained repetitive losses; and,
- Preserve open space within the floodplain areas.

Mining Areas

The cost of developing in mining areas are primarily borne by the developer and/or property owner, but can be substantial to develop in a way that minimizes the geotechnical risks to structures. There is no insurance to cover such issues as mine subsidence that damages a structure. Such losses are borne by the property owner and/or community relief organizations that assist people experiencing crisis.

To limit any liability the community may have in permitting a structure in a formerly mined area, criteria should be established for development in mining areas that recognize the respective considerations needed for underground mining areas and surface mining areas.

Schools

One of the best criteria for establishing the quality of a community is the ability for children to walk to their elementary schools. This is a model that is evident in the core of many urban communities, but becomes less used in lower density suburban areas. Most schools districts bus students who live more than a mile from their schools, hence an elementary school that children could walk to would be within one mile of their home. This is the criterion that was used to evaluate the growth scenarios. Generally, as school population is projected to increase, there will likely be a need for school construction in the next twenty years. The schools boards with a set criteria developed by the state and the school board, however, largely make those decisions. This analysis simply demonstrates the geographic distribution of elementary schools relative to the planned location of future development.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Schools			
Acres of developed land within 1 mile of an elementary school	13,210	14,630 (1,415 of new)	15,015 (1,805 of new)
% of developed land within 1 mile of an elementary school	30%	25% (9% of new)	26% (15% of new)

Parks

Providing park services is one of the costs of growth in a healthy community. The City of Terre Haute currently ha a very healthy level of service in the city parks department. To accommodate the projected growth in the city by 2025, the city would need to add the following number of acres of parks to the system, in order to maintain the existing level of service:

- Mini parks: 1.58 acres
- Neighborhood parks: 6.88 acres
- Community parks: 8.32 acres
- Regional parks: 25.49 acres

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Parks			
Acres of development within ½ mile of a neighborhood park	4,475	4,530 (58 new)	4,690 (216 new)
% of development within ½ mile of a neighborhood park	10%	8% (<1% of new)	8% (2% of new)

Each of these types of parks serves different needs and should be located based on a set of criteria. Neighborhood parks should be centrally located within their service area and should serve an area that is ¼ to ½ mile in radius without being interrupted by non-residential roads or other physical barriers. These parks should be 7 to 10 acres to be of optimal size, but should not be smaller than 5 acres.

Community parks serve two or more neighborhoods and have a service radius of approximately ½ to 3 miles. They are generally served by arterial or collector streets and should be accessible by trail. The optimal size for a community park is 20 to 50 acres.

Regional Parks serve a broader purpose than community parks and generally serve the entire community. The minimum size of a regional park is generally 50 acres and their optimal size is more than 75 acres.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Parks			
Acres of development within 3 mile of a community park	16,475	16,845 (370 new)	17,720 (1,245 new)
% of development within 3 miles of a community park	37%	28% (2% of new)	31% (10% of new)

The capital costs of park development include land acquisition, site planning, site preparation, and construction of facilities. Ongoing maintenance costs include staff and operating costs in addition to programming costs.

Emergency Services/Fire Protection

The most geographically sensitive emergency service is fire and ambulance response. One of the criteria insurance companies use in developing premiums is the distance a property is from a fire station. Typically they want the fire station to be located within three miles of an insured property. For this analysis we considered the quantity of development located within three miles of a fire station.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Fire Protection			
Acres of development outside of 3 mile radius of fire station (existing)	3,840	6,050 (2,210 new)	4,630 (785 new)
% of development outside 3 mile radius of fire station (existing)	9%	8% (15% of new)	8% (6% of new)
Acres of development outside of 3 mile radius of fire station (proposed)	2,861	4,807 (1,945 of new)	2,900 (40 of new)
% of development outside 3 mile radius of fire station (proposed)	6%	8% (13% of new)	5% (<1% of new)
Number of stations needed to cover urbanized area within 3 mile radius (existing)	N/A	2	1
Number of stations needed to cover urbanized areas within 3 miles radius (proposed)	N/A	1	0

The location of fire stations is currently under discussion in the City of Terre Haute, The proposal calls for the closure of four stations: 13th and Chase, Ninth and Ohio, Ninth and College; and Fruitridge Avenue and Deming Park. The proposal calls for the construction of two new fire stations: Eight and Tippecanoe and Indiana 46 and Poplar. The analysis was done considering both the existing fire station locations and the proposed fire station locations. In neither case are obstacles such as water bodies or railroad tracks taken into consideration. Fire station planning is done with routes in mind and knowing the response capabilities of the departments to certain areas. This analysis generally compared the geographic distribution of fore stations to the proposed location of development.

The proposal would reduce the number of stations in the highly urbanized core of Terre Haute, but add response capability to the area on the east side of the city.

The costs associated with fire/emergency services are numerous. Some of the tools and equipment to respond are very costly. Aspects City and Township Fire Departments must take into consideration are facilities, equipment, and staffing. Individual property owners pay increased insurance premiums when property is located outside an adequate response time area, when fire hydrants are not available, and when fire departments are not professionally staffed. Development in rural areas of the county puts pressure on fire departments to build new stations, obtain new equipment, and professionalism in order to ensure adequate fire protection of suburban homes.

Municipal Water Service

The availability of municipal water service minimizes the public health risks associated with the potential contaminated wells and creates the ability to have fire hydrants located where they can service development. There are significant costs associated with extension of

water service. The treatment plant capacity and maintenance costs are generally borne by all users of the system through water rates, while the costs of service to individual sites is often borne by the developer. However, extension of main lines to areas far from the existing service area, and that bypass closer undeveloped areas, is generally cited as on of the high cost of sprawling development.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Water (Public)			
Acres of development inside water district	29,680	40,140 (10,460 of new)	38,230 (8,550 of new)
% of development inside water district	67%	67% (69% of new)	67% (69% of new)

The Steering Committee expressed that current availability of infrastructure or planned infrastructure wasn't as critical as the ability to efficiently and affordably extend infrastructure to developing areas. Hence, the criteria used for evaluation was the amount of development within a water service district. In the strategic growth scenario, areas outside of a water service district are generally adjacent to a district's boundaries.

Wastewater Treatment/Sewers

The ability to connect to public sewers is practically necessary for new development in much of Indiana, unless that development occurs on large lots, due to the soil limitations for septic fields. This is also true in Vigo County, where according the Natural Resource Conservation Service, nearly 80% of the soils are very limited for the use of septic field. Septic fields that are improperly constructed, maintained, or sited are susceptible to failure, which can cause public health concerns.

	Existing Conditions	2025 Current Trends	2025 Strategic Growth
Sewer			
Acres of development inside sewer district	24,930	28,195 (3,265 of new)	34,715 (9,785 of new)
% of development inside sewer district	56%	47% (21% of new)	61% (78% of new)

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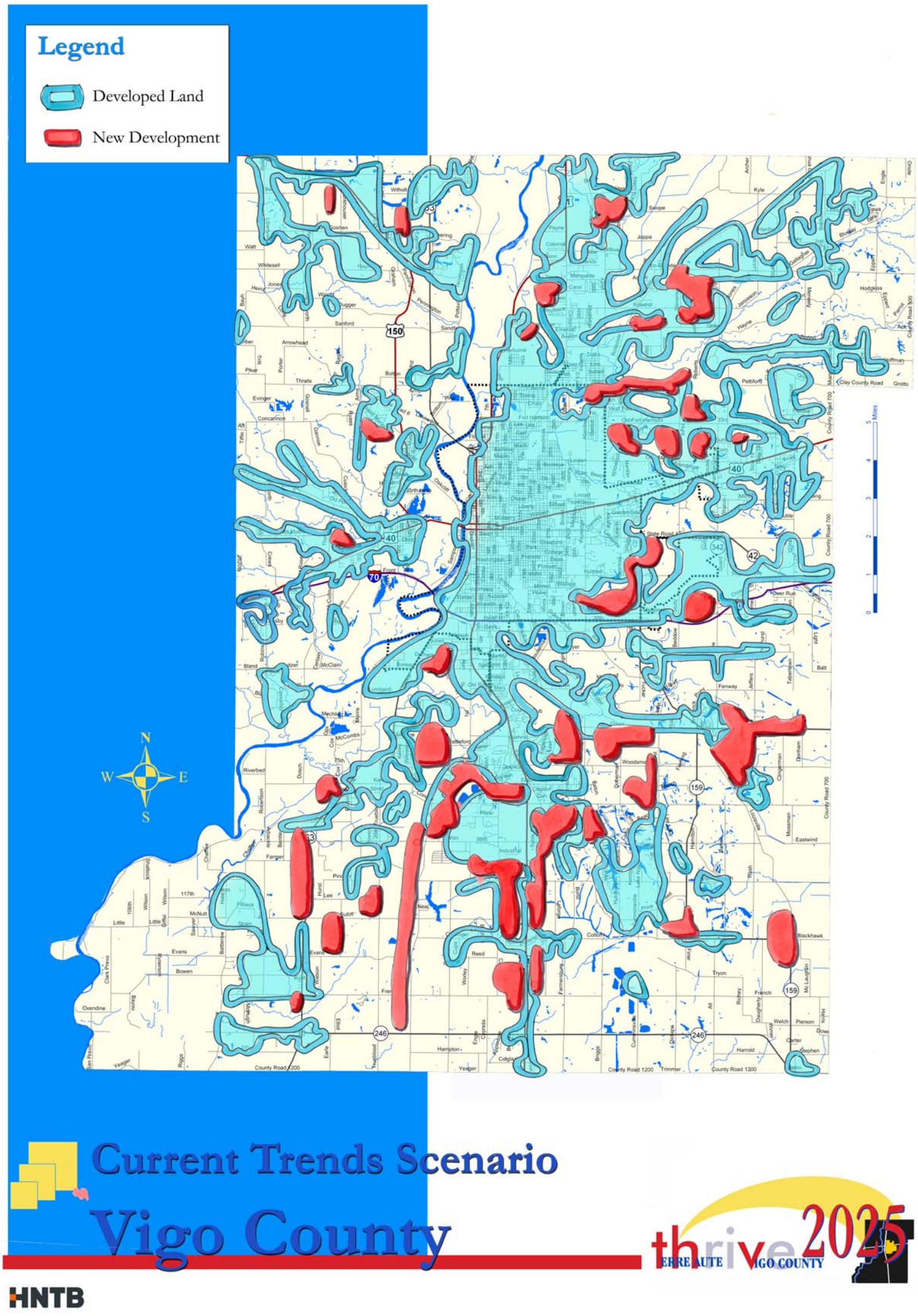
Map 1: Current Trends Development Scenario



Map 2: Strategic Growth Development Scenario