Chapter 4:
Alternative Development Scenarios

Alternative Development Scenarios

Muskegon County enjoys a rich industrial and agricultural heritage, and its development has been related to the industries, crops, and tourism activities that have developed as the economic life of the county. The ability to maintain rural, recreational, and other open space areas for agricultural and tourism uses and to redevelop industrial areas in ways that support existing, new, and emerging industries is critical to the future of Muskegon County. The Muskegon Area-wide Plan (MAP) is a vision for that prosperous Muskegon County future.

As a means of developing a plan for obtaining this future vision, alternative scenarios were developed for evaluation by the citizens of Muskegon County. Scenario building provides an opportunity to consider what might happen in the community under various policy conditions.

The purpose of considering alternative scenarios is to understand the policy choices, educate local officials and the public about the implications of policy choices, and evaluate which policy choices are right for Muskegon County. Understanding the policy choices and their implications forces trade-offs between conflicting goals. These alternatives are general in nature and have been prepared to illustrate and explore distinct potential future development patterns for the planning area.

As a means of developing the alternative scenarios, regional opportunities and threats were considered along with projected area trends, existing conditions including transportation infrastructure and utility service capabilities, sound planning principles, and public opinion. The opportunities considered include:

- Diversifying economy
- Community character
- Precedents for regional cooperation
- Natural resources
- Growing public awareness/concerns regarding growth
- Destination tours

The threats outlined include:

- Lack of coordinated land use planning
- Lack of shared vision
- Household decentralization
- Increasing decline in the urban centers
- Loss of farm/open space
- Threats to environmental quality

The MAP project is intended to overcome the threats and take advantage of regional opportunities.

The current distribution of land uses as represented by acreage of the total county is as follows:

- 12.9% residential
- 1.9% commercial
- 1.0% industrial
- 4.8% public lands and utilities
- 79.5% agriculture, open space, forest, water, and wetlands

Other important trends that were considered in the development of scenarios include:

- Continued decentralization
    - Growth in Fruitport Township
    - Growth in southeast Muskegon Township and southwest Egelston Township
    - Growth along corridors in Moorland Township
    - Growth along corridors in Egelston Township

  - Growth along corridors in Fruitland Township
  - Growth in Blue Lake Township
  - Between 1970 and 2000, development occurred in a sprawling pattern that "stripped out" residential lots along county roads. These lots were predominately low density.
- Loss of farm/open space
  - Between 1992 and 1997, 0.7 percent of the county's farmland was lost to development
  - Between 1987 and 1992 there was a loss of 10.4 percent of farmland
  - Only 429 of 73,113 acres under formal farmland protection programs
  - Michigan ranked as 9th most endangered farm state by the American Farmland Trust
- Conflicts between new residential development and agricultural uses
  - 30 percent of housing units in Blue Lake Township built after 1995
  - 20 percent of housing stock in Egelston Township built after 1995
  - Development conflicts between residential/commercial developers and citizens concerned about protecting environmentally sensitive areas
- Residential land uses expanding
  - More than 700 building permits issued countywide in each of the last three years
  - Only 7.8 percent of permits issued in City of Muskegon
- More and longer car trips
  - 25 percent of Muskegon County residents worked outside Muskegon County in 2000
  - 17 percent of those who work in Muskegon County do not live in the county
  - More than 30,000 people enter or leave Muskegon County for work each day
  - 84 percent of workers drove a car, truck, or van alone to work in 2000
- Minority populations disproportionately located in Muskegon County urban areas
  - Sixteen percent of the county population is minority, more than 30 percent of Muskegon is African-American and more than three quarters of Muskegon Heights is African-American

Under these circumstances three scenarios, or development alternatives, were considered. The Business as Usual scenario is the baseline scenario which continues existing market and demographic trends. The Zoning Build-out scenario shows how the region would develop if local governments followed the existing zoning ordinances and new development followed the existing land use patterns. The Smart Growth scenario policies encourage infill development in urban areas, suburban areas, and rural centers. Some infill may also occur in mature corridors that connect centers or along transportation corridors.

The Business as Usual and Smart Growth scenarios were developed using a 2020 target year. Using this target, the population is expected to grow thirteen percent, or by 23,000 people. Residential land uses are expected to increase 38 percent and

consume an additional 17,000 acres of land. Commercial uses are expected to grow 29 percent and consume 1,700 additional acres, and industrial land uses are expected to grow 21 percent, consuming an additional 700 acres. Land consumption is projected to outpace population growth between 2000 and 2020. The same assumptions were used in each scenario for gross density and the number of persons per household, the difference in the scenarios is where the growth occurs.

In the Zoning Build-out scenario, the scenario shows all of the areas that are currently zoned for development using the existing zoning maps for all of the jurisdictions in the county (the Villages of Casnovia and Fruitport were not available). This scenario does not reflect a 2020 base year, but rather the build out of all of the land currently zoned for development.

In each case, the scenarios include recommendations for public improvements such as new or improved transportation facilities that would help attract and support the desired development pattern. The next chapter will add detail to the preferred scenario, based on public input.

The scenarios represent distinct ideas that respond to one or more of the visions or goals expressed by the Steering Committee. These alternatives have been created to generate specific discussion as to what can be supported locally and what elements cannot.

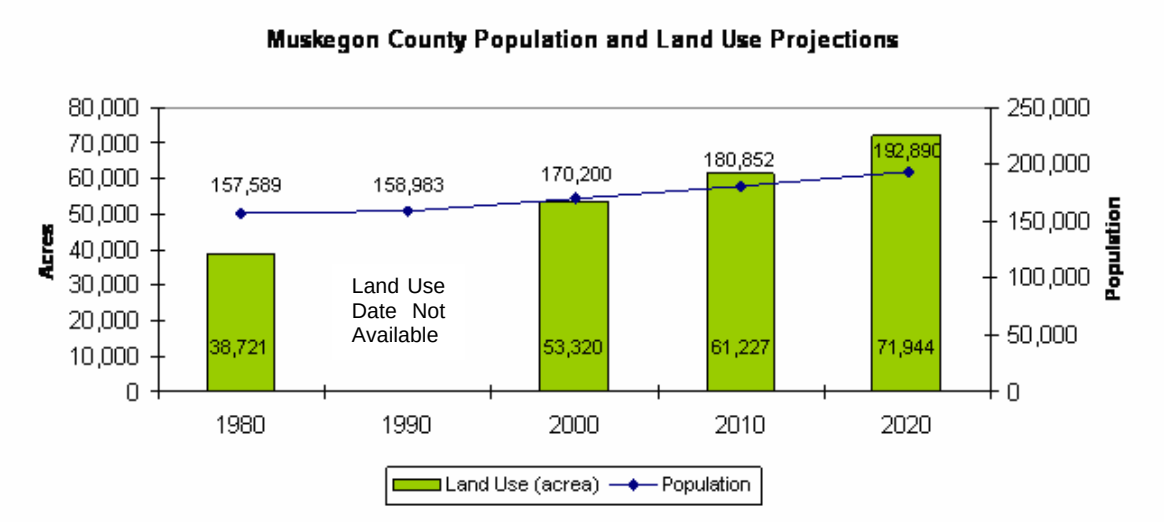


Figure 4.1: Population and Land Consumption Projections

Business as Usual

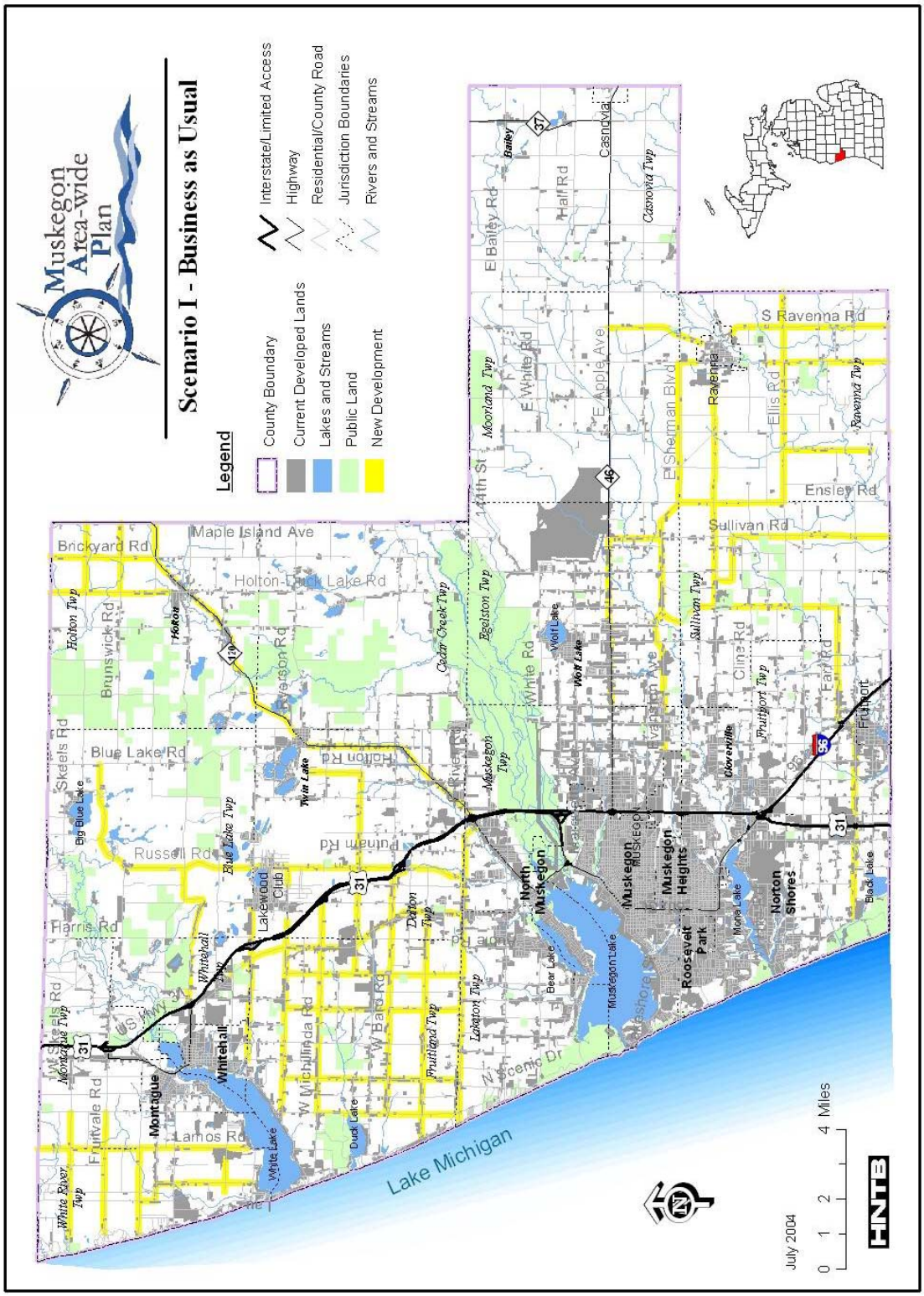
The Business as Usual scenario is the baseline scenario in the sense that it assumes continuation of the existing market and demographic trends. Future trends follow the past trends in terms of urbanization and land consumption. This scenario assumes that the current land use policies remain in place and allows maximum flexibility and independence for the local jurisdictions in development decisions. It relies on cooperation among localities on most development issues such as watershed protection, land use planning, natural area conservation and economic development. Under this scenario, each community bears the burden of its own growth-related costs.

The following principles apply to the Business as Usual scenario:

- Average lot sizes and the distance between homes increase
- Most new residential development would be single family homes on large lots
- Residential growth would continue to cause a reduction in agricultural and open space lands
- Transportation and other infrastructure (water, sewer, and utilities) costs would increase
- Construction and maintenance cost of transportation links would increase over time

Under this scenario, the growth would continue the pattern that emerged during the 1980s and 1990s of "stripping out" land along transportation corridors for residential and commercial development. The majority of this growth would occur in the southeast townships and in the northwest corner of the county.

Map 4.2: Scenario I – Business as Usual



Land use

This distribution of land uses would effectively be the same as the existing land use distribution.

Agricultural land and open space is threatened along corridors throughout the county in the Business as Usual scenario. One land use concern associated with this development pattern is that some agricultural land could become unusable for production due to access constraints. More than 8,500 acres of farmland and open space is consumed under this scenario.

Forest land is least threatened under this scenario as the development occurs in narrow strips along corridors and doesn't require removal of significant stands of trees. Under the Business as Usual scenario, approximately 8,600 acres of forested land is lost to development.

Transportation

Transportation corridors would likely become increasingly congested during peak travel times as people commute farther to jobs in the urban area and other counties. The commute times in the outer townships, if they continue at the 1990-2000 rate of change, would be more than thirty minutes by 2020. This includes; Casnovia, Egelston, Fruitland, Holton, Montague, Mooreland, and Ravenna townships.

This scenario has the highest number of road miles to maintain, and generates the most traffic, more than 450,000 vehicle miles traveled (VMT) per day. Due to the dispersed development pattern, the opportunities for transit would be limited under this development pattern.

Emergency services

Under the Business as Usual scenario, 15 percent of the new development occurs outside of an eight minute response time (based on an average speed of 30 mph and using "crow flies" distances).

Fruitport Township would experience a significant portion of the growth outside of the service areas. Currently Fruitport Township has an Insurance Standards Organization (ISO) rating of 5 (scale of 1 to 10, 1 being the highest). However, significant portions of Fruitport Township are not within an eight minute response area for fire fighting, particularly the southeast portions of the township. Not being able to meet the eight minute standard 90 percent of the time affects the department's ISO rating, raising the cost of homeowners and business insurance. As development continues in Fruitport Township, another station may be needed to cover the southeastern portion of the township if the development pattern follows the Business as Usual scenario. Also, in order to meet the eight minute response standard, a fire station would be needed in northwestern White River Township.

A 6,000 square foot fire station with three bays, a kitchen, and training areas costs approximately $800,000. A 2,000 gallon pumper truck costs approximately $175,000. Therefore, the two new fire stations needed under the Business as Usual scenario would cost approximately $1,950,000.

Staffing for fire departments is determined on their ability to meet response standards. It costs approximately $2,000 to outfit a firefighter with the needed equipment. If additional staffing is needed for the new fire stations, or existing fire stations, the approximate cost would be $2,000 per year per firefighter in addition to any labor related costs.

Water

Water service in the county is provided by four systems, Montague, Whitehall, Muskegon, and Muskegon Heights. The

Whitehall system serves the city and a commercial area along Colby Road. Planned expansions include the Colby corridor near the US 31 interchange, Whitehall Road from Colby to White Lake Road, and White Lake Road near the industrial park and the US 31 interchange. The Montague system serves the city and a commercial area along Business 31, as well as a residential area that had contaminated wells southwest of the city. Muskegon customers include the City of Muskegon, Muskegon Township, North Muskegon, Roosevelt Park and the County North side system. The Muskegon Heights system serves Muskegon Heights, Norton Shores, and Fruitport Charter Township.

The existing total capacity for the county's water treatment facilities is approximately 60 million gallons per day (MGD). Currently only about 17 MGD of that capacity is being used on an average daily flow basis.

Under the Business as Usual scenario, 65 percent of the new development would be outside of the planned future service area. This would result in an additional 5,936 households using private wells, the equivalent of 1.48 MGD in water flow.

In order to serve all of the new development under the Business as Usual scenario with water, 150 miles of additional water mains would need to be extended at a cost of $67,320,000 (rough estimate).

Wastewater

The county is served by a single wastewater treatment system. The Montague-Whitehall system and the Metro system were combined in May 2003. The average daily flow for the system is 24.4 MGD, with a maximum daily flow of 28.2 MGD. More than 60 percent of the average daily flow is from industrial users, with a single user who contributes 12.8 MGD to the total. The population that is on sewer is 115,000.

There are $37.3 million worth of improvements planned for the wastewater treatment plant. Phase I improvements include replacing pump stations, eliminating pump stations and replacing with a central pump station, upgrading and rehabilitating pump stations, and a new force main. Phase II improvements include constructing a new pump station, optimizing the existing wastewater treatment facility, and headworks improvements.

Under this scenario, 65 percent of the new development would fall outside of the planned sewer service area. This would result in 5,054 additional households using septic systems, or the equivalent of 1.49 MGD of effluent entering the ground rather than a wastewater treatment facility.

In order to serve all of the new development under the Business as Usual scenario with sewer, 150 miles of additional sewer mains would need to be extended at a cost of $178,200,000 rough estimate.

Parks

Residents would continue to enjoy abundant park and recreation land in the national forest, state owned lands, county, township, and local parks under the Business as Usual scenario. The amount of park land per 1,000 people far exceeds any national standards in aggregate. On the county, township, and local level additional park acreage would be needed to provide recreation opportunities for children in the form of parks that can be accessed without cars and playground equipment and recreation fields. The additional acreage needed for the parks systems are:

Providing this additional acreage in locations where it efficiently serves the local

Additional Park Acreage Needed	
Government Level	Acres
County	108
Township	43
Local	162

Table 4.1:Additional Park Acreage Needed

park function would be difficult since the development is not concentrated.

In workshops, citizens noted the following likes regarding the Business as Usual scenario:

- Promotes rapid development – realtors and developers enjoy rapid profits
- Sprawl is reality
- It's the direction of current development
- There is freedom, no regulation
- Allows local flexibility
- We are accustomed to this growth
- Freedom of choice
- Works for developers and land owners
- No conflict/individual freedom
- Driven by market forces
- Requires no effort
- Local control

Citizens also suggested the following changes to the Business as Usual scenario:

- Continue growth south – saturation
- Bring communities together with congruent zoning
- Open space

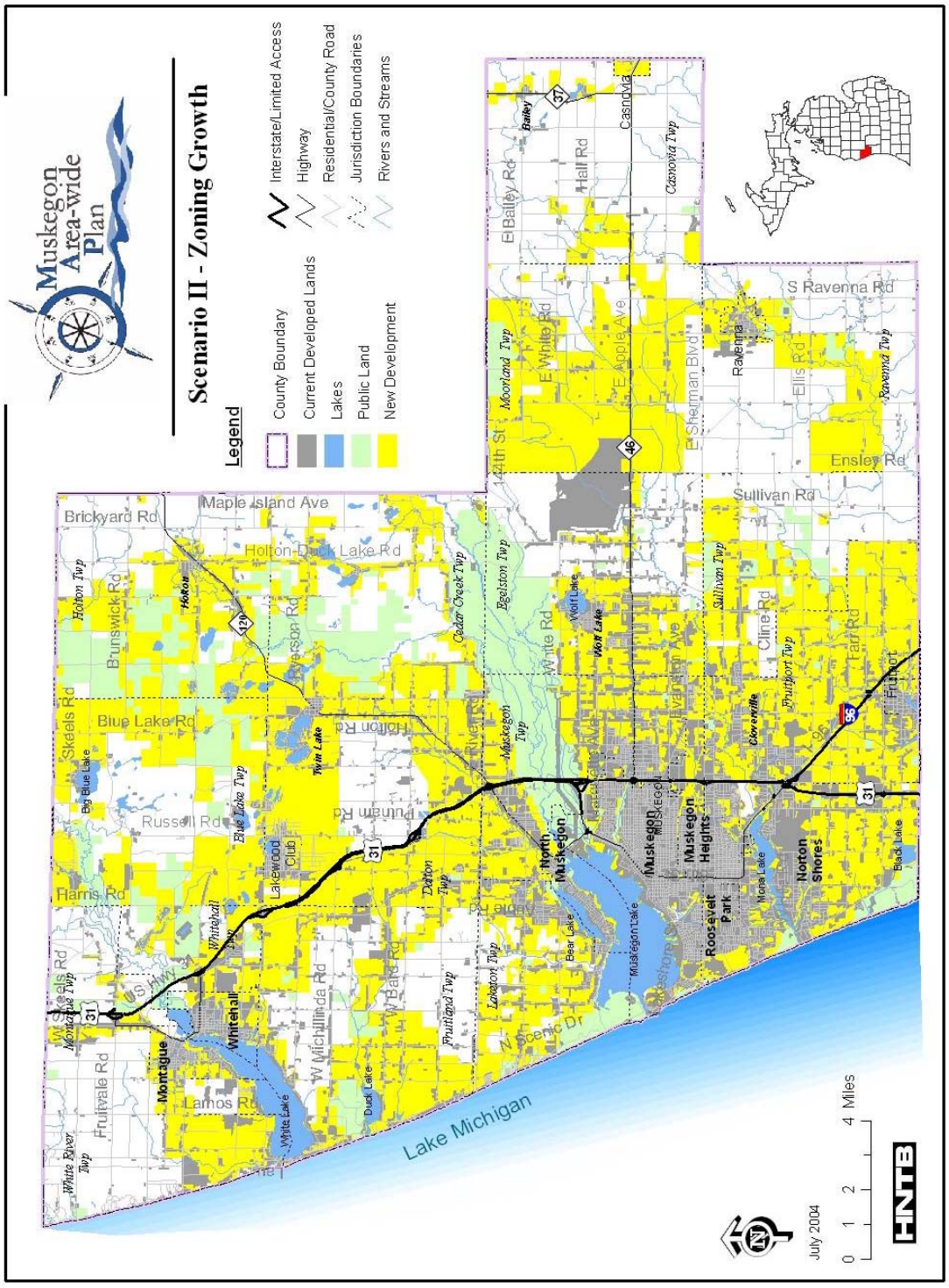
Zoning Build-Out Scenario

The Zoning Build-out scenario shows how the region would develop if local governments follow their existing zoning and new development followed existing development patterns. In order to construct this scenario, a composite zoning base map was created based on the existing local zoning maps.

In the Zoning Build-out scenario, the growth is distributed throughout the county. Much of the growth will occur in the metro area, Moorland Township, near Ravenna, in the Duck Lake area, in Dalton Township, Blue Lake Township, and western Holton Township.

Land left undeveloped would include the federal and state lands, and portions of Casnovia, Ravenna, Sullivan, Egelston, Fruitland, White River, eastern Holton, and Cedar Creek Townships.

Map 4.3: Scenario II – Zoning Build Out



Land use

In this scenario, residential development continues to occur at existing zoned densities, expanding infrastructure needs, consuming agricultural land and fragmenting open space and forest lands.

Build-out calculations were completed using information from the local zoning ordinances about the minimum lot size allowable in each residential and agricultural zone. This information, along with the amount of land zoned for each use (in each jurisdiction) in the composite zoning map was used to calculate a build-out population, based on a population of 2.5 persons per household. Further the WMRSDC population projections were extended to determine the year at which build-out would be achieved.

Including agricultural lands, the build-out population would be at least 875,000 (data not available for all jurisdictions). Without further development in agricultural areas, as permitted under the existing zoning ordinances, the build-out population would be nearly 790,000. Neither of the calculations includes residential development that may occur in Planned Unit Developments or Mixed-Use Developments with higher densities allowed.

Based on the WMSRDC population projections assuming 3.3 percent growth for every five year increment, it would roughly be the year 2240 before the residential zones alone reached build-out and 2255 before the residential and agricultural zones reached their build-out population. **Hence, the county is zoned for much more growth than it anticipates in the next twenty years.** Having excessive land zoned for residential uses encourages development to occur outside of existing service areas and in a lower density, less efficient pattern than if the appropriate amount of land was zoned for a reasonable planning horizon. In effect the zoning pattern is giving very little direction to the prioritization of desired development sites.

Open space is threatened in the Zoning Build-out scenario. Most of the undeveloped area of the county would be in the environmentally sensitive areas of the national forest, state game area, and state lands. Areas zoned for agriculture would also remain undeveloped.

Under this scenario, 75 percent of the new development occurs in forested land, consuming 52 percent (87,043 acres) of the county's forest resources. More than 25,000 acres of agricultural land and open space are consumed for development under this scenario.

Transportation

Under the Zoning Build-out scenario there would be fewer "spot" projects and more "system" projects than in the business as usual scenario. Since development would be more compact than under the Business as Usual scenario there would be a more moderate number of road miles to maintain and some improved efficiencies for snow removal.

The operations impacts such as regional travel time and distance would be moderate as would fuel usage.

The multi-modal opportunities are moderate for transit services and there are improved options for non-motorized transportation compared to the Business as Usual scenario.

This scenario leads to predictable patterns for long range transportation planning.

Emergency services

Under the Zoning Build-out scenario 85 percent of the new development is within an eight minute response time for fire fighting. Areas in Fruitport Township and in the

Cedar Creek and Moorland Township area would not be served within this response time without the construction of new fire stations.

The development in Cedar Creek and Moorland Townships is in the eight minute response time for the DNR fire station, but that staff generally does not fight structural fires.

The cost of a new fire station in Fruitport Township would be approximately $975,000 based on a three-bay station with a kitchen and training areas and a pumper truck. The same costs would apply to a new fire station in Cedar Creek or Moorland Township to service new development in that area.

Water

Under the Zoning Build-out scenario, 51 percent of the new development is outside of the planned future water service area.

New development outside of the water service area would be on private wells. There would be 24,970 new households using wells; the equivalent of 6.24 million gallons per day (MGD) of water flow.

Expanding the water treatment system to the planned service area from the current area would require $3 to $25.1 million worth of investments based on estimates for the White Lake Water Authority from the engineering consulting firm of Prein & Newhof.

Wastewater

In the Zoning Build-out scenario, not all of the growth occurs within the future sewer service area and areas that are served by sewer are left undeveloped. Development in Mooreland, Sullivan, Fruitland, Holton, and Blue Lake Townships is not served by sewer. This can be a concern when septic fields are built too close together and fail. Further, the public investment in wastewater treatment infrastructure is not maximized when development does not occur in areas where sewer is available.

Specifically, 56 percent of the Build-out development would occur outside of the sewer service area. Under the Zoning Build-out scenario, the county population is approaching 875,000. If this entire population were on sewer, using the planning standard of 250 gallons per household per day and 2.5 persons per household, the treatment plant would need to have a capacity of 87.5 MGD, or 45.5 MGD additional capacity just to serve residential customers.

Parks

While Muskegon County has abundant land for recreation in the form of the national forest, state parks, the state game area, and county, township, and local parks, those facilities were not planned to accommodate a Muskegon County population in excess of 875,000 people. If no additional park land were developed by the build-out year of 2255, the level of service for county, township, and local parks would be reduced to 2 acres per 1,000 people and the overall parks level of service (including federal and state lands) would be reduced to 50 acres per 1,000 people. As mentioned earlier, federal and state lands do not necessarily meet the same recreation needs as county, township, and local parks. Therefore, to meet the 2000 level of service of 4 acres of county parks, 2 acres of township parks, and 7 acres of local parks per 1,000 residents, the following number of acres of park land would be needed:

Additional Park Acreage Needed	
Government Level	*Acres*
County	**3,120**
Township	**1,229**
Local	**4,661**

Table 4.2:Additional Park Acreage Needed to Meet 2000 Level of Service

Public Comments

In workshops, citizens liked the following about the zoning build-out scenario:

- Supports current zoning master plans
- Allows more space for building and growth
- More realistic unless there is collaboration/consensus on issues
- More closely represents what is likely to occur
- Creates alternatives for people willing to move to the area
- Local input
- Works for local governments
- Respects individual property rights
- Attracts more opportunities to the area
- Concentrates housing
- Local control
- Less density

Citizens also recommended the following changes to the zoning build-out scenario:

- Work together between the townships
- Restrict future development or infrastructure/services costs will be astronomical
- Listen to communities

Smart Growth Scenario

Generally, "smart growth refers to an overall set of broad policies designed to counteract sprawl. These usually include: (1) limiting outward expansion, (2) encouraging higher density development, (3) encouraging mixed-used zoning as distinct from fully segregating land uses, (4) reducing travel time by private vehicles, (5) revitalizing older areas, and (6) preserving open space" (Muro and Puentes, March 2004). In this scenario, policies are intended to encourage infill in developed urban, suburban, and rural centers. Infill of mature corridors that connect centers or are along transportation corridors may also occur. The policies provide for limited growth at low densities in clustered settings, which is assumed to occur in areas outside existing urban, suburban, and rural centers. The majority of the development is assumed to occur where public water and sewer are available. Smart Growth policies also encourage investment in quality of life, or livability factors.

The principles that apply to the Smart Growth scenario include:

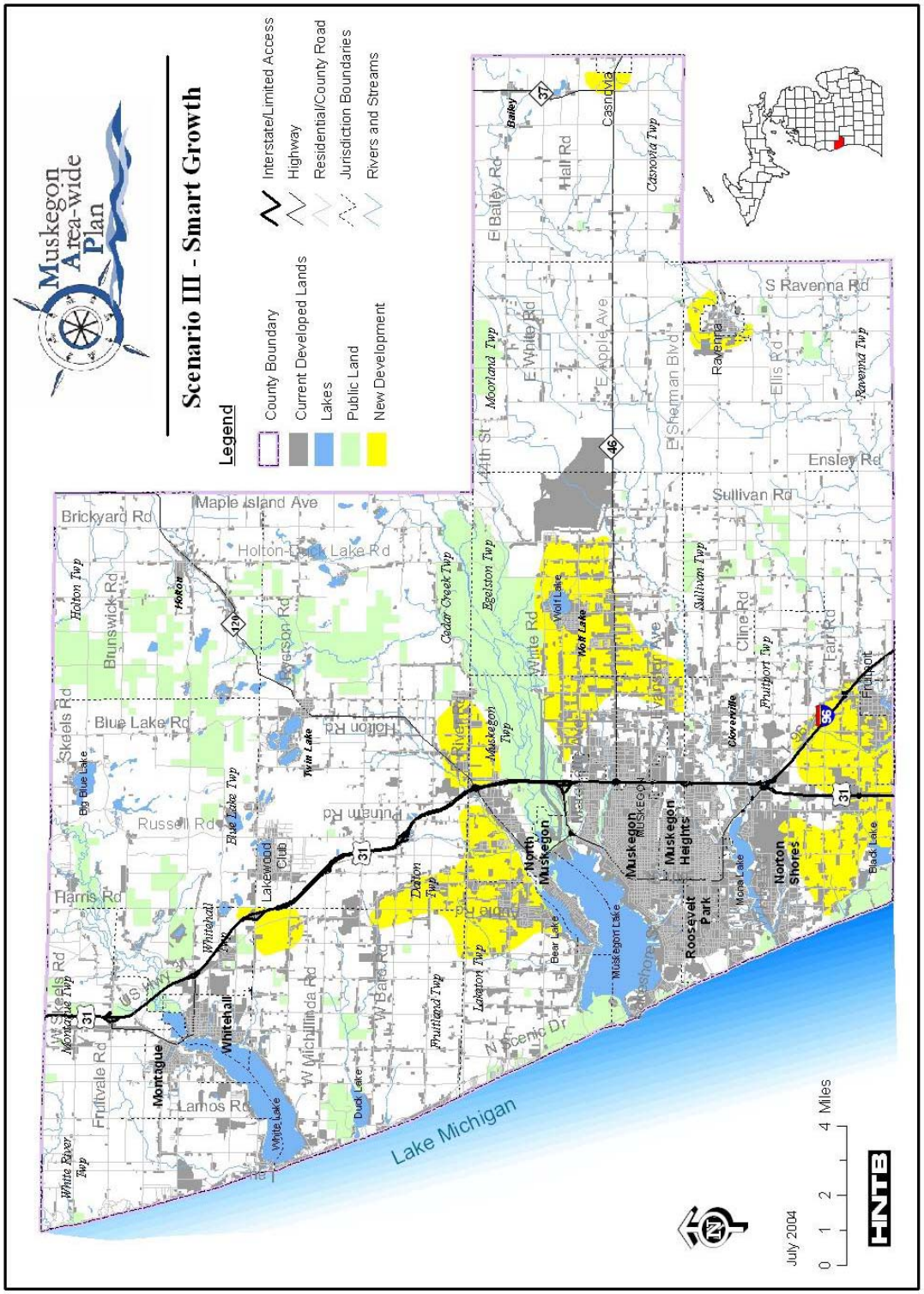
- Development locating near existing communities providing opportunity for the sharing of services
- Commercial and retail services would be located within short distance of residential areas, and provide walking and biking opportunities
- Less open space and agricultural land would be lost to development in this scenario
- Encourage the adoption of new regulations for planned unit developments (PUD), cluster development, and open space in communities
- Increase investment in non-motorized transportation linkages such as trails, pathways, and open space corridors
- Average lot sizes would be smaller, with increased diversity of housing types and prices
- Smaller lots would consume less land over time, resulting in lower infrastructure costs than the business as usual scenario
- Transportation investments would focus on improvements and transit

In this scenario, new development is concentrated in Laketon, Muskegon, Egelston, and Fruitport Townships, near existing communities. There are also development areas surrounding Montague and Whitehall, Casnovia, and Ravenna.

Smart Growth Principles:

- Create a Range of Housing Opportunities and Choices
- Create Walkable Neighborhoods
- Encourage Community and Stakeholder Collaboration
- Foster Distinctive, Attractive Communities with a Strong Sense of Place
- Make Development Decisions Predictable, Fair and Cost Effective
- Mix Land Uses
- Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas
- Provide a Variety of Transportation Choices
- Strengthen and Direct Development Towards Existing Communities
- Take Advantage of Compact Building Design

Map 4.4: Scenario III – Smart Growth



Land use

The Smart Growth scenario development pattern addresses concerns related to farmland protection, average lot sizes, and infrastructure development by concentrating growth near existing urban areas and rural villages. These shifts would be accomplished through policy changes that require the development and adoption of new zoning ordinances and Planned Unit Development ordinances that allow for smaller lot sizes, encourage cluster development, and provide for non-motorized transportation linkages.

In this scenario, development would occur near existing development in the Townships of Muskegon, Laketon and Dalton, the Wolf Lake area and the villages of Lakewood Club, Ravenna, and Casnovia.

Open space is preserved in the Smart Growth scenario by directing growth toward existing urbanized areas and away from environmentally sensitive lands and prime farmland. The open space areas include protected federal and state lands, and rural areas in the outlying townships. Under this scenario, 13,808 acres of forest land would be lost to new development. However, only 4,195 acres of farmland/open space would be consumed by new development. Since much of the land in Muskegon County is forested, it would be impossible to plan for growth in serviced areas without losing forest resources. By concentrating the area of development, larger tracts of habitat are left intact.

Transportation

The Smart Growth scenario has the most limited number of miles of roads to construct and maintain. It provides for "system" improvements to better service local needs. This development scenario is also the most efficient of the three for snow removal.

The Smart Growth scenario involves a savings of 62 percent of vehicle miles traveled per day over the business as usual scenario. It also provides for the lowest total regional travel time, lowest total regional fuel usage (saving $6 million per year in fuel costs) and has the fewest air pollution impacts from mobile sources.

The Smart Growth scenario also provides for the greatest opportunity for providing transportation choice in terms of transit and non-motorized options. It provides a predictable growth pattern that facilitates long range transportation improvement planning.

Emergency services

Only two percent of the new development in the Smart Growth scenario lies outside of the current eight minute fire response time. Since nearly all of the new development is within an existing service area, no new stations would be needed – no capital investment would be needed. Compared to the Business as Usual scenario local governments would save $1,950,000 in fire station construction and equipment. This saves townships from investing or having to seek grant funding for that amount. It would save taxpayers (if shared by all county taxpayers) $0.04 per $100 of County Equalized Value (CEV) or approximately $35 for the average household.

Water

Under the Smart Growth scenario only six percent of the new development is outside of the planned future service area.

This would result in the equivalent of 570 households on private wells, or .14 MGD of water flow that could be on municipal water. While wells do not create some of the health and environmental hazards that septic systems create, there are still public health issues with wells related to the potential for well contamination.

The Smart Growth scenario would eliminate the need to construct 150 miles of water lines over the Business as Usual scenario, at a cost of $67,320,000 (rough estimate), if all new development were to be served with water.

Expanding the water treatment system to the planned service area from the current area would require $3 to $25.1 million worth of investments based on estimates for the White Lake Water Authority from Prein & Newhof.

Wastewater

In the Smart Growth scenario only five percent of new development would be outside of the planned sewer service area.

This level of development outside the service area would result in 532 households using septic systems, putting .13 MGD of septic effluent in the ground.

According to a 2004 Prein & Newhof study, the 2020 estimated daily flow is 35.3 million gallons for the whole county.

Parks

Residents would continue to enjoy abundant park and recreation land in the national forest, state owned lands, county, township, and local parks. The amount of park land per 1,000 people far exceeds any national standards in aggregate. On the township and local level, additional park acreage would be needed to provide recreation opportunities for children in the form of parks that can be accessed without cars and playground equipment and recreation fields. Providing this additional acreage in locations where it efficiently serves the local park function would be possible since the growth is concentrated in the existing urbanized area and new development can have parks incorporated into the overall development plan to serve the new households.

Quality of life is generally considered an important focus of a Smart Growth scenario. Muskegon County residents defined quality of life using the following terms:

- small town atmosphere
- rural character
- quiet
- safe
- family
- sense of community
- water resources
- arts, cultural, and educational opportunities
- greenway
- parks and recreation
- events
- quality healthcare

Through policies that focus growth in urban areas and around small towns, Smart Growth promotes maintenance of rural and small town character. A focus on non-motorized transportation places priority on linkages such as greenways to connect points of community interest such as beaches, parks, schools, and government buildings. Open space preservation allows for active and passive recreation opportunities, in both structured and unstructured open spaces.

In workshops, citizens noted the following likes about the Smart Growth scenario:

- Preserves private ownership rights
- Conserves land uses
- Concentrates growth
- Keeps major roadway undeveloped
- Creates open space development
- More visually appealing
- Better way to develop small community atmosphere
- Limits growth in rural areas
- Preservation of farmland/open space

- Continued development of urban areas
- It is contained, leaving plenty of room for agriculture
- Greater density
- Less sprawl
- Less pollution
- Conserves lakeshore and prime farmland
- Considers outcome, collaboration
- Planned
- Local governments working together
- Less impact on the environment
- Will facilitate redevelopment of brownfield sites
- Benefits the entire community
- Better use of infrastructure

Citizens also make the following suggestions for change to the scenario:

- Should be an emphasis on greenway & green infrastructure as an integrated part of Smart Growth
- Acknowledge some strip development will occur
- Somewhat bigger lots
- Listen to existing communities

Table 4.5: Comparison of Development Scenario Impacts

Factor	*Scenario I: Business as Usual*	*Scenario II: Zoning Build-out*	*Scenario III: Smart Growth*
Acres of forest consumed	8,612	84,658	13,808
Acres of agricultural land/open space consumed	8,563	25,056	4,195
Percent of development outside 8-minute fire response	15%	15%	2%
Number of needed fire stations	2	1 (or 2)	0
Cost of new fire stations (capital)	$1,950,000	$975,000	$0
Percent of new development outside water service area	65%	51%	6%
Number of new private wells	5,936	24,970	570
Water flow from wells	1.48 MGD	6.24 MGD	.14 MGD
Percent of new development outside of sewer service area	65%	56%	5%
Number of new septic systems	5,054	33,999	532
Septic flows	1.49 MGD	8.49 MGD	.13 MGD
Both water and sewer calculations are based on 2.05 acres per household (average for new development), 100 gallons of water/sewage per person per day and 2.5 persons per household.			

Table 4.6: Comparison of Development Impacts on Transportation

Scenario I: Business as Usual	*Scenario II: Zoning Build-out*	*Scenario III: Smart Growth*
Construction Highest road miles to construct Large number of "spot" intersection projects	**Construction** Moderate (planned) road miles to construct Fewer "spot" projects/more "system" improvements	**Construction** Most limited new road miles to construct "System" improvements better serve local needs
Maintenance Highest road miles to maintain Highest snow removal costs	**Maintenance** Moderate (planned) road miles to maintain Improved efficiency for snow removal	**Maintenance** Most limited new road miles to maintain Most efficient snow removal plan
Operations Highest total regional travel distance Highest total regional travel time	**Operations** Moderate total regional travel distance Moderate total regional travel time	**Operations** Lowest total regional travel distance Lowest total regional travel time
Environment Highest total regional fuel usage Most air pollution impacts for mobile sources	**Environment** Moderate total regional fuel usage Moderate air pollution impacts for mobile sources	**Environment** Lowest total regional fuel usage Least air pollution impacts for mobile sources
Multi-Modal Opportunities Inefficient and costly transit service/low ridership Limits non-motorized options (due to distances)	**Multi-Modal Opportunities** Moderate/reasonable transit service opportunities Improves non-motorized options	**Multi-Modal Opportunities** Designed to optimize transit service & ridership Optimizes non-motorized options
Other Public Priorities Least predictable long range improvement plan Increased emergency response times	**Other Public Priorities** Predictable long range improvement plan Moderate/reasonable emergency response times	**Other Public Priorities** Most predictable long range improvement plan Improved emergency response times