

## Miami Valley Land Suitability Assessment - Built Environment Factors

The Built Environment Residential Suitability Composite Map presents the result of the comprehensive land suitability measure from a built environment perspective at the regional level.

As described in the methodology section of this report, the weight factor was applied to all 15 factors examined in this study to differentiate between each factor's importance in determining development potential. However, because of the dissimilar needs and values placed on each factor between residential and non-residential considerations, the process for assigning weight factor numeric values for Residential Land Suitability Scoring System was carried out independently from the process for Non-Residential Land Suitability Scoring System.

The different weight factor values for the same built environment factor can be found by comparing the Residential and Non-Residential Land Suitability Scoring Systems. For example, the Residential Land Suitability Scoring System has a higher weight factor value assigned to the Recreational Amenities factor (a value of 3) than the Non-Residential Land Suitability Scoring System (a value of 2). The reason for this is that recreational amenities are more valued for residential development than non-residential development. However it is important to note that the two scoring systems were compared and adjusted so that the total suitability score remain the same between the Residential and Non-Residential Land Suitability Scoring Systems.

The Residential Land Suitability Scoring System in the Appendix presents a more precise description of the factors and their attributes that characterize the Region's residential development potential.

The Residential Suitability Measure takes all 15 factors into consideration, as described in the methodology section and provides information pertaining to where opportunities and constraints exist for residential development.

In general, land with high development potential for residential development is characterized as:

- Being located outside airport noise affected areas, potential environmental hazard sites, industrial clusters, and restricted development lands
- Having good access to the Region's educational, recreational, and other amenities
- Having adequate public wastewater, water, and fire protection services
- Having certain levels of transportation network connectivity and access to major thoroughfares, public transportation services, and job clusters

LSM.1 - Built Environment Residential Suitability Composite Map

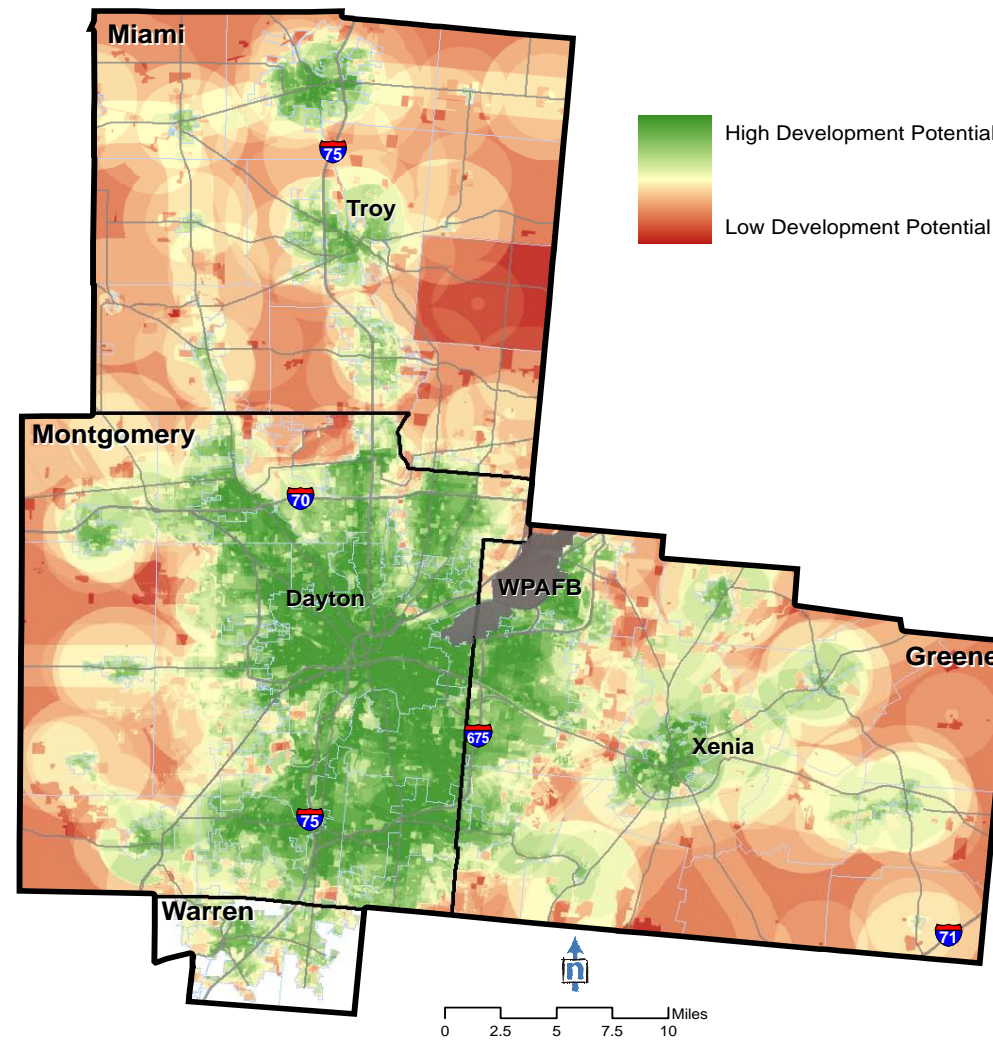
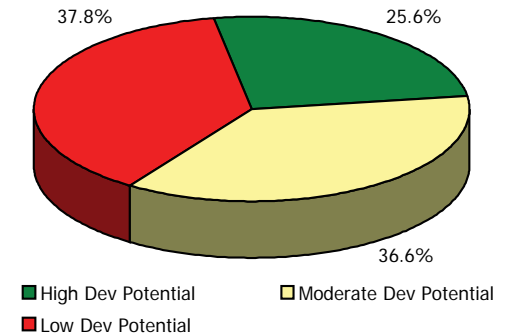


Figure LSM.1 shows the distribution of high to low development potential for the residential suitability measures. The areas with high development potential are, for the most part, located within areas that are currently urbanized and have existing infrastructure.

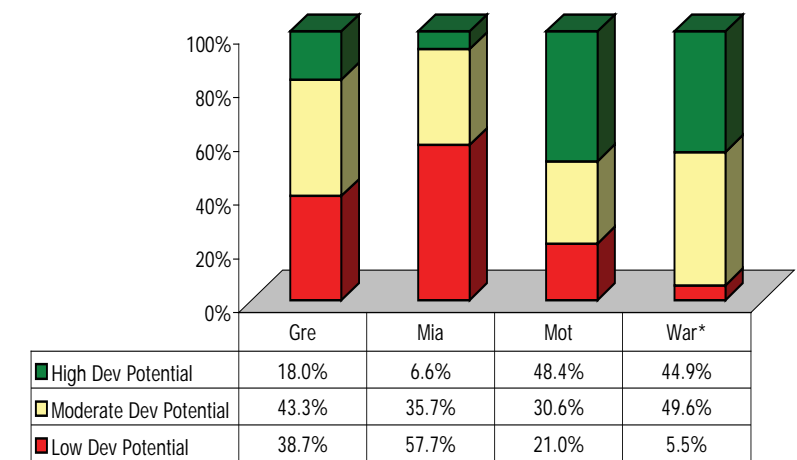
LSM.2 - Regional Land by Residential Development Potential Classification



The majority of the Region (62.3%) has a high or moderate residential development potential (see figure LSM.2). Approximately, 37.8% of the Region has a low development potential. Figure LSM.3 shows that Montgomery County has the largest share (66.7%) of the Region with high development potential based on residential considerations, followed by Greene (22.3%) and Miami (8.0%) counties.

Montgomery (48.4%) and Warren (44.9%) counties have the largest portions of land deemed suitable for residential development (see figure LSM.4). Miami (57.7%) and Greene (38.7%) counties have the largest portions of land with low development potential.

LSM.4 - County Land by Residential Development Potential Classification



Note: \* Warren County includes only the cities of Carlisle, Franklin, and Springboro

LSM.3 - County Share of Land by Residential Development Potential Classification

County	High Dev Potential		Moderate Dev Potential		Low Dev Potential		Total
	Acreage	County Share of Regional Total	Acreage	County Share of Regional Total	Acreage	County Share of Regional Total	
Greene	47,977.5	22.3%	115,442.5	37.6%	103,163.2	32.5%	266,583.2
Miami	17,348.9	8.0%	93,751.0	30.5%	151,350.7	47.6%	262,450.7
Montgomery	143,827.0	66.7%	91,117.5	29.6%	62,466.8	19.7%	297,411.2
Warren*	6,382.1	3.0%	7,057.5	2.3%	776.0	0.2%	14,215.6
<b>Regional Total</b>	<b>215,535.5</b>	<b>100.0%</b>	<b>307,368.5</b>	<b>100.0%</b>	<b>317,756.7</b>	<b>100.0%</b>	<b>840,660.6</b>

Note: \* Warren County includes only the cities of Carlisle, Franklin, and Springboro

## Miami Valley Land Suitability Assessment - Built Environment Factors

The Built Environment Non-Residential Suitability Composite Map presents the result of the comprehensive land suitability measure from a built environment perspective at the Regional level.

As described in the methodology section of this report, the weight factor was applied to all 15 factors examined in this study to differentiate between each factor's importance in determining development potential. However, because of the dissimilar needs and values placed on each factor between residential and non-residential considerations, the process for assigning weight factor numeric values for Non-Residential Land Suitability Scoring System was carried out independently from the process for Residential Land Suitability Scoring System.

The different weight factor values for the same built environment factor can be found by comparing the Residential and Non-Residential Land Suitability Scoring Systems. For example, the Non-Residential Land Suitability Scoring System has a higher weight factor value assigned to the Public Wastewater Services factor (a value of 4) than the Residential Land Suitability Scoring System (a value of 3). The reason for this is that, while both residential and non-residential land uses depend on the transport and treatment of waste, residential development can exist without public wastewater service by using a septic system. A septic system, however, may not be a desirable option for non-residential uses, particularly those that dispose of large quantities of waste. It is important to note that the two scoring systems were compared and adjusted so that the total suitability score remains the same between the Residential and Non-Residential Land Suitability Scoring Systems.

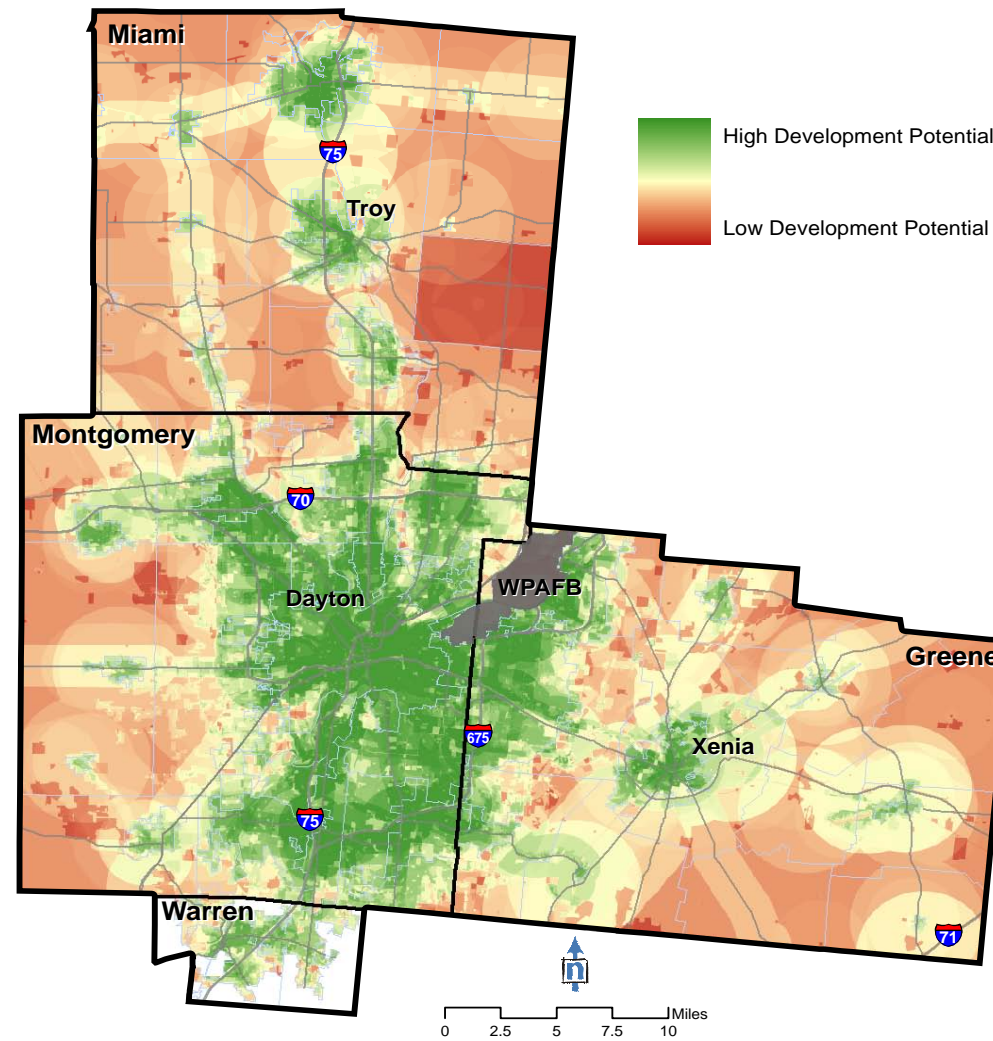
The Non-Residential Land Suitability Scoring System in the Appendix presents a more precise description of the factors and their attributes that characterize the Region's non-residential development potential.

The Non-Residential Suitability Measure takes all 15 factors into consideration, as described in the methodology section and provides information pertaining to where opportunities and constraints exist for residential development.

In general, land with high development potential for non-residential development is characterized as:

- Being located outside potential environmental hazard sites and restricted development lands
- Having good access to major thoroughfares and adequate public wastewater and water supply systems
- Being in close proximity to existing industrial clusters, job clusters, and retail clusters with good transportation network connectivity
- Having certain levels of access to educational and recreational amenities and public transportation and fire protection services

LSM.5 - Built Environment Non-Residential Suitability Composite Map



LSM.7 - County Share of Land by Non-Residential Development Potential Classification

County	High Dev Potential		Moderate Dev Potential		Low Dev Potential		Total
	Acreage	County Share of Regional Total	Acreage	County Share of Regional Total	Acreage	County Share of Regional Total	
Greene	45,197.0	21.1%	115,353.7	41.1%	106,032.5	30.6%	266,583.2
Miami	22,303.1	10.4%	73,305.3	26.1%	166,842.2	48.2%	262,450.7
Montgomery	139,088.0	65.0%	85,981.4	30.7%	72,341.8	20.9%	297,411.2
Warren*	7,397.0	3.5%	5,797.6	2.1%	1,020.9	0.3%	14,215.6
<b>Regional Total</b>	<b>213,985.2</b>	<b>100.0%</b>	<b>280,438.1</b>	<b>100.0%</b>	<b>346,237.3</b>	<b>100.0%</b>	<b>840,660.7</b>

Note: \* Warren County includes only the cities of Carlisle, Franklin, and Springboro

LSM.6 - Regional Land by Non-Residential Development Potential Classification

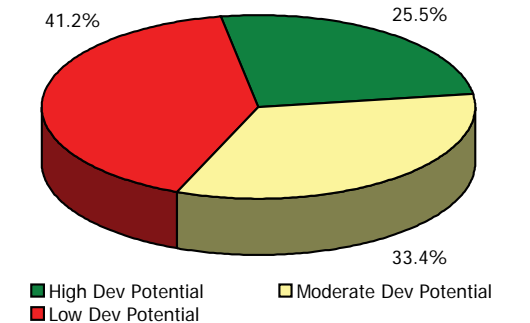
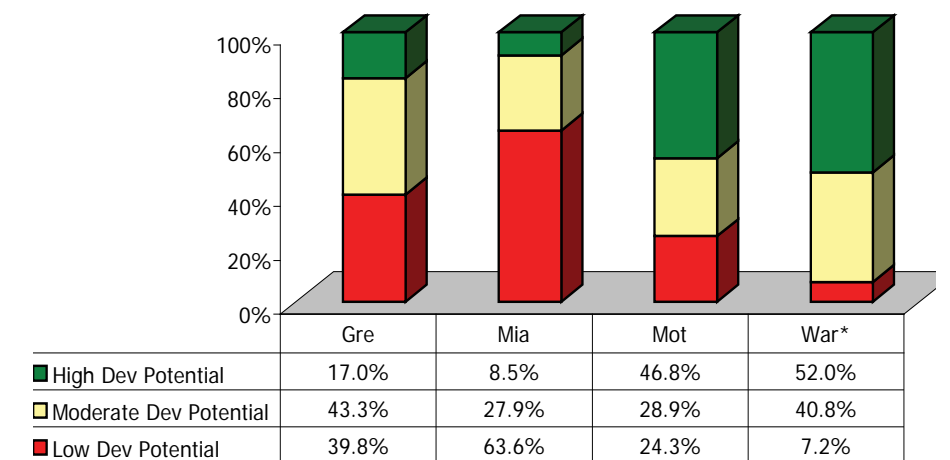


Figure LSM.5 shows the distribution for the non-residential development potential. Similar to the Residential Suitability Composite Map, the areas categorized as having high development potential are located, for the most part, inside urbanized areas.

The majority of the Region (62.3%) has a high or moderate non-residential development potential (see figure LSM.6). Figure LSM.7 shows that Montgomery County has over half of the Region's land (65%) categorized as having a high development potential for non-residential development. Miami County has the lowest Regional share of land, excluding Warren County, with a high development potential (10.4%).

Figure LSM.8 shows that Montgomery (48.4%) and Warren (44.9%) counties have the largest portions of land categorized as having high development potential for non-residential development. Miami (57.7%) and Greene (38.7%) counties have the smallest portions of land categorized as having high development potential.

LSM.8 - County Land by Non-Residential Development Potential Classification



Note: \* Warren County includes only the cities of Carlisle, Franklin, and Springboro

# Built Environment Suitability Comparative Analysis

## Miami Valley Land Suitability Assessment - Built Environment Factors

CA.1 - Residential and Non-Residential Land Development Suitability: Built Environment Factors

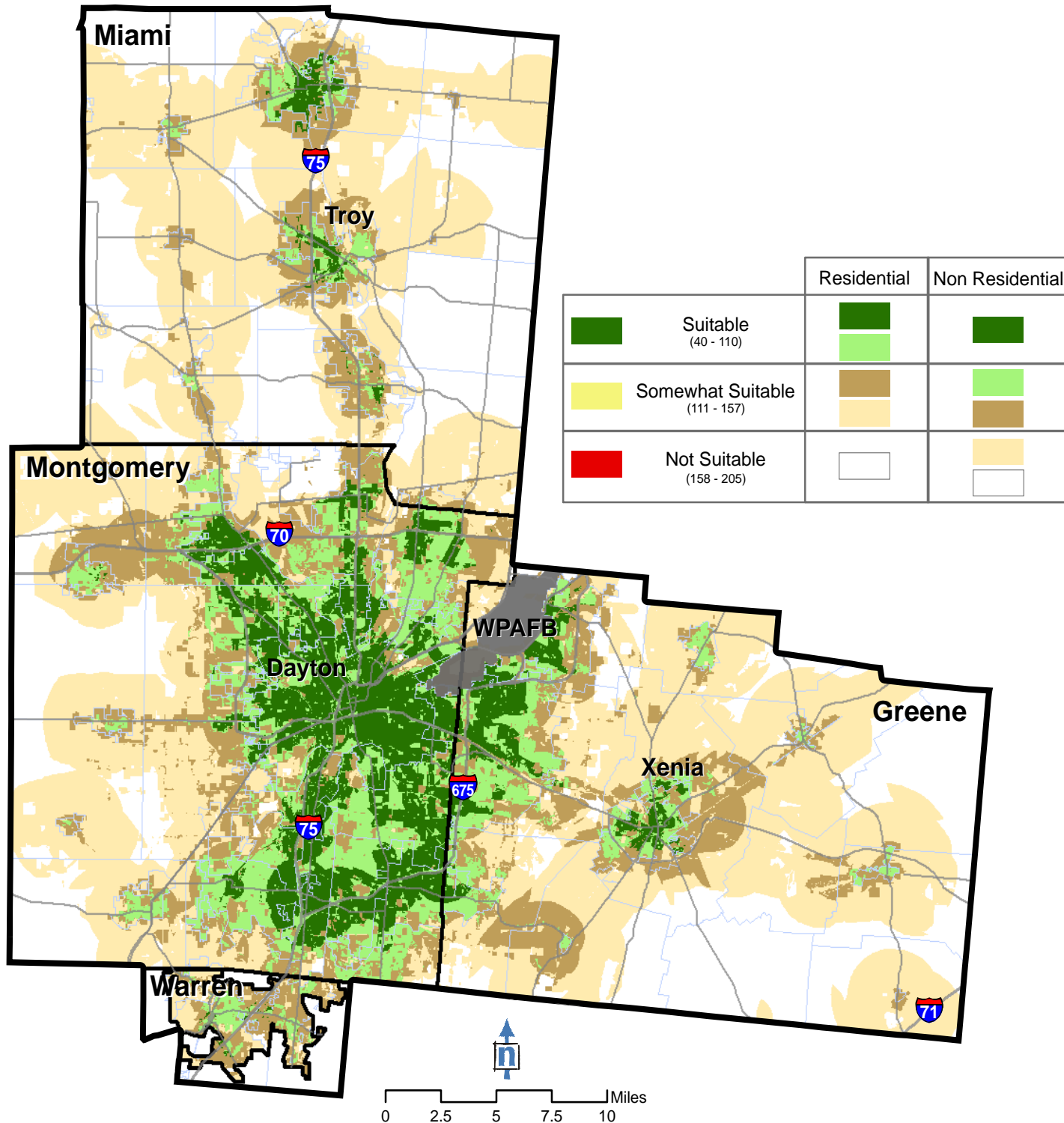


Figure CA.1 is a presentation of the Residential and Non-Residential Land Development Suitability Map based on the Built Environment Factors.

The map in CA.1 was created from both the residential and non-residential composite maps. The suitability scores for both land use considerations were standardized into equal intervals and separated to more clearly show the differences in development suitability between residential and non-residential considerations. The legend is presented as a matrix to graphically display the map's color combinations that represent development suitability for both residential and non-residential considerations. The number ranges listed below the suitability categories are the numerical groupings of the final suitability scores used to create the map.

CA.2 - Regional Land by Residential and Non-Residential Land Development Suitability Classification

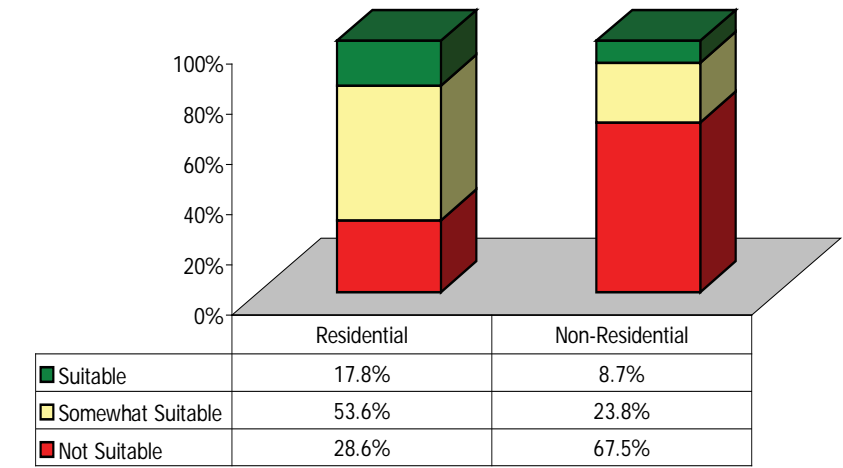
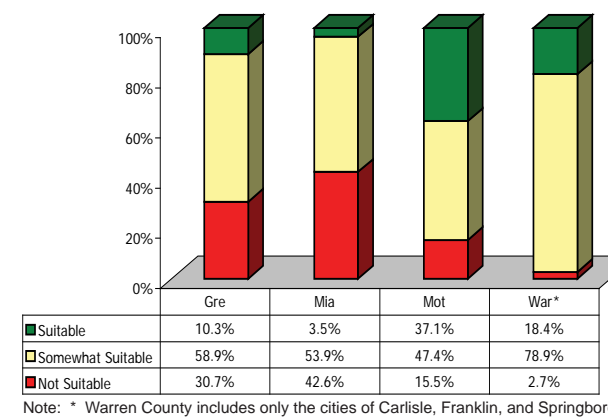


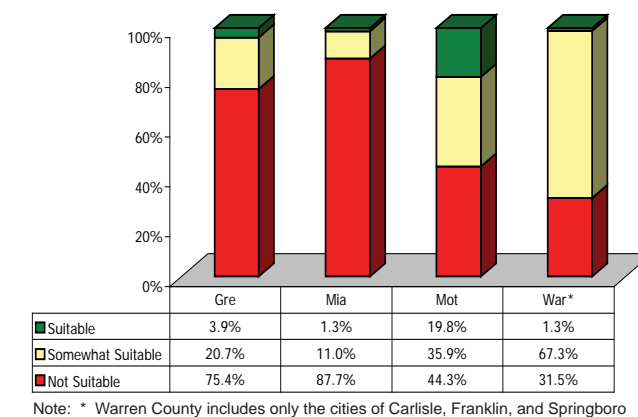
Figure CA.2 illustrates the percent of regional land categorized as Suitable, Somewhat Suitable, and Not Suitable for residential and non-residential considerations based on standardized scoring. Figure CA.2 illustrates that more than half (53.6%) of the Region's land is somewhat suitable for residential development and 17.8% is Suitable. Figure CA.2 also illustrates that more than half (67.5%) of the Region's land is Not Suitable for non-residential development and only about 32.5% is either Suitable or Somewhat Suitable.

Figures CA.3 and CA.4 illustrate the findings at the county level based on the standardized scoring between the residential and non-residential composite maps. Figure CA.3 shows that the majority the land in each county is either Suitable or Somewhat Suitable for residential development. Warren (97.3%) and Montgomery (84.5%) counties, in particular, have the largest percent of their land categorized as Suitable or Somewhat Suitable. Figure CA.4 illustrates that Montgomery (55.7%) and Warren (68.6%) Counties have the greatest percent of county land that is either Suitable or Somewhat Suitable for non-residential development.

CA.3 - County Land by Residential Land Development Suitability Classification



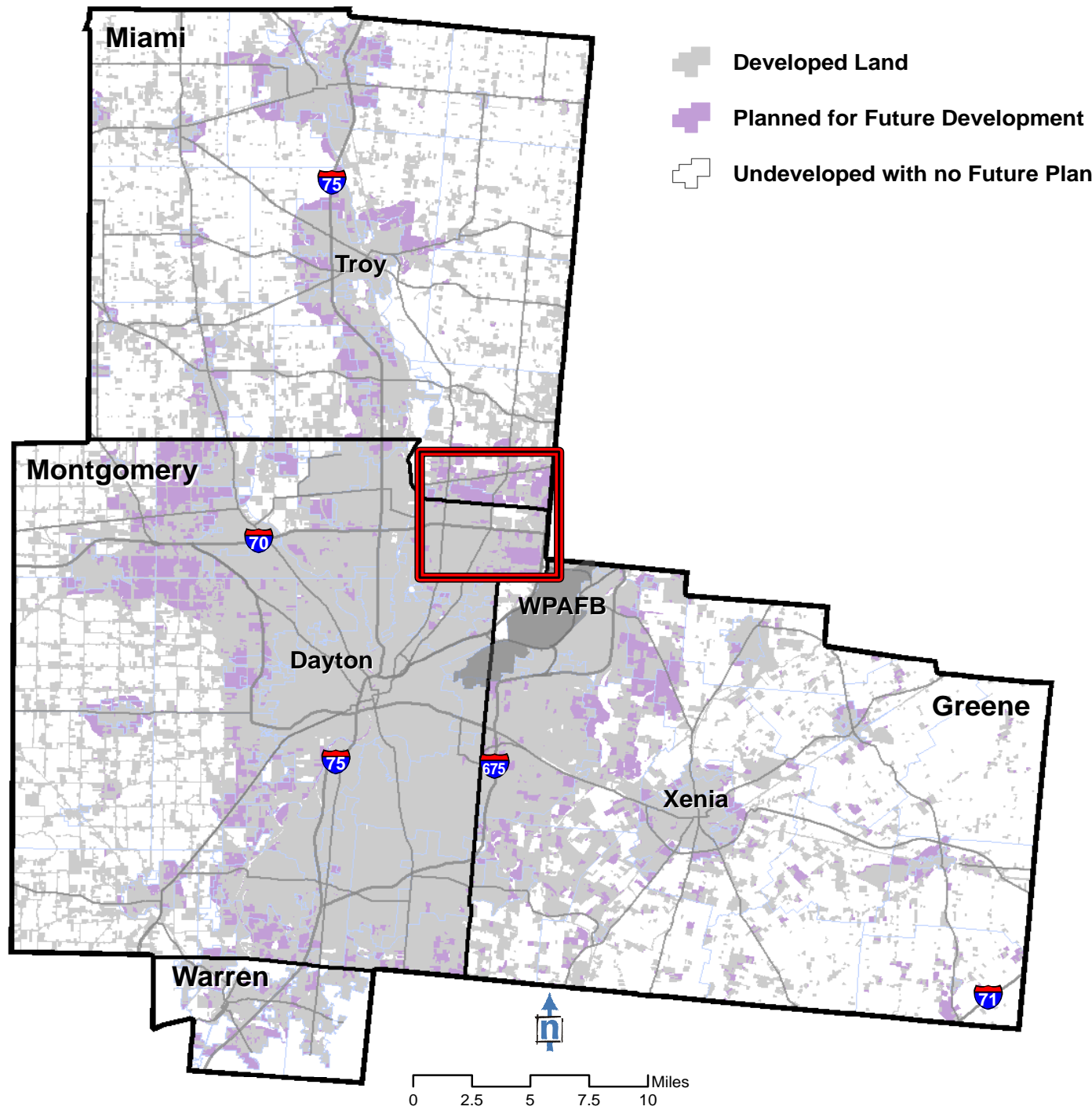
CA.4 - County Land by Non-Residential Land Development Suitability Classification



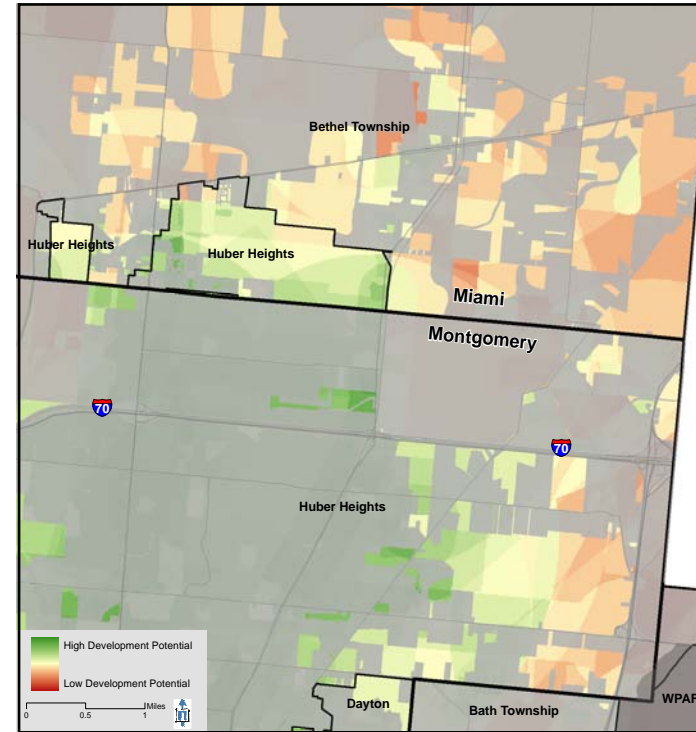
# Built Environment Suitability Comparative Analysis

## Miami Valley Land Suitability Assessment - Built Environment Factors

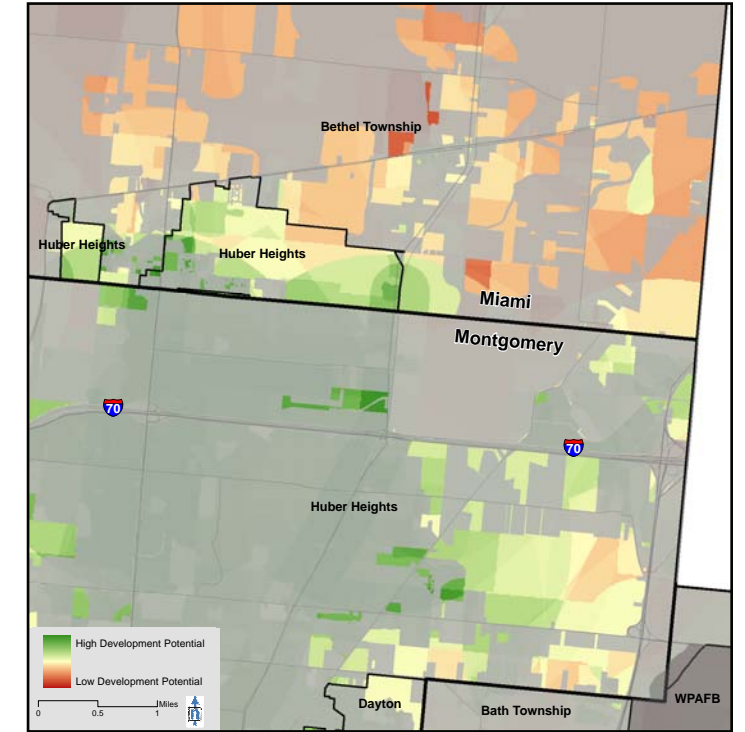
CA.5 - Existing and Future Development Map



CA.6 - Lands Planned for Future Development overlayed with Residential Suitability Composite Map



CA.7 - Lands Planned for Future Development overlayed with Non-Residential Suitability Composite Map



CA.8 - Lands Planned for Future Development overlayed with Residential and Non-Residential Land Development Suitability

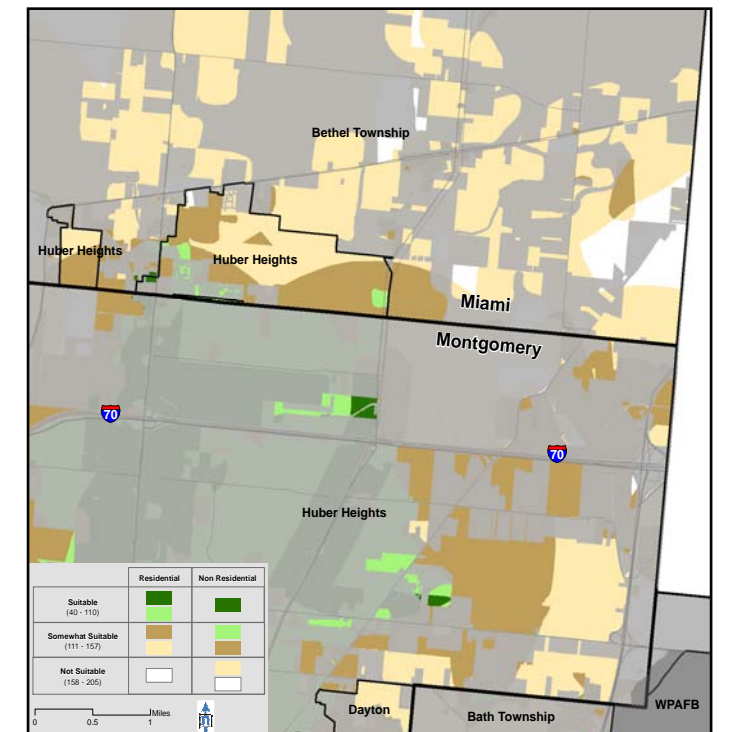


Figure CA.5 represents land that is currently developed, as well as the land that local jurisdictions plan to develop in the future. The developed land (shown in grey) is based on county auditor property data. The land planned for future development (shown in purple) is based on a compilation of local future land use plans.

Figures CA.6 and CA.7 show the overlay of the individual residential and non-residential Suitability Composite Maps with land that is planned for future development. These two maps are intended to illustrate relative land suitability measures for residential and non-residential development independently rather than in comparison. Figure CA.8 illustrates whether certain areas are better suited for residential development than non-residential and vice-versa.

These insets provide an example of how the Built Environment Suitability Measure can be incorporated into local future land use planning efforts. This information should help local authorities make sound decisions when approving development plans.