



Chapter 5

Testing the Direction

While Chapter 2 establishes the existing conditions for the Anderson region, this chapter establishes the assumed future conditions that allow us to test the direction of *2050 inMotion*. We define the level and location of population and employment change between 2020 and 2050, as well as incorporating high-level demographic and industry shifts. The result is a projection of the people, places, and activity distributed across the region to test proposed transportation system improvements and determine overall performance.

MPOs incorporate planning assumptions into a travel demand model (TDM) to forecast trends and estimate future transportation system needs. The TDM uses zonal forecasts to see how changes in population and employment can impact transportation metrics like VMT, transit ridership, congestion, air quality, and safety. The primary purpose of the travel demand analysis is to provide insights into traffic impacts and capacity needs for the Anderson region as it undergoes household and employment change.

The following sections introduce the TDM, describe the role of localized knowledge in forecasting, and illustrate how population and employment could be distributed across the region in the future. Finally, while this illustrates one approach to testing the direction, there are limitations and potential future enhancements to consider beyond this effort. The future condition developed and described represents one potential outcome with many possible disruptions that should be further investigated in the future.

Travel Demand Model

The MCCOG TDM, Prometheus, is an advanced 4-step model used to estimate future trips and changes in transportation system usage. In Prometheus, trips are generated based on the characteristics of an area called the travel analysis zone (TAZ), then split by the mode used (i.e., drive alone, carpool, walk-bike, or transit), distributed to other zones, and, finally, assigned to the transportation network. The current version, updated in 2026, uses a pre-COVID 2020 base year. Note: it is standard practice for the base year to be 5-10 years before the current year, due to limited data availability like Census release delays, infrequent household travel surveys, and cyclical traffic count collection. Further, this allows planners to test forecasts by comparing against more current

data (i.e., a 2020 base model could forecast to 2025 to give planners an idea of how well or poorly it represents known conditions if being applied in 2026).

For the purposes of this chapter, the focus is on TAZs and the integration of socio-economic forecasts. The TAZs in Prometheus cover 15 counties in Central Indiana with three levels of sensitivity and detail:

1. MPA
2. Expanded Sensitivity Area (ESA): areas outside of the MPA with additional network and TAZ detail.
3. Halo: all areas outside the MPA and ESA with less network and TAZ detail.

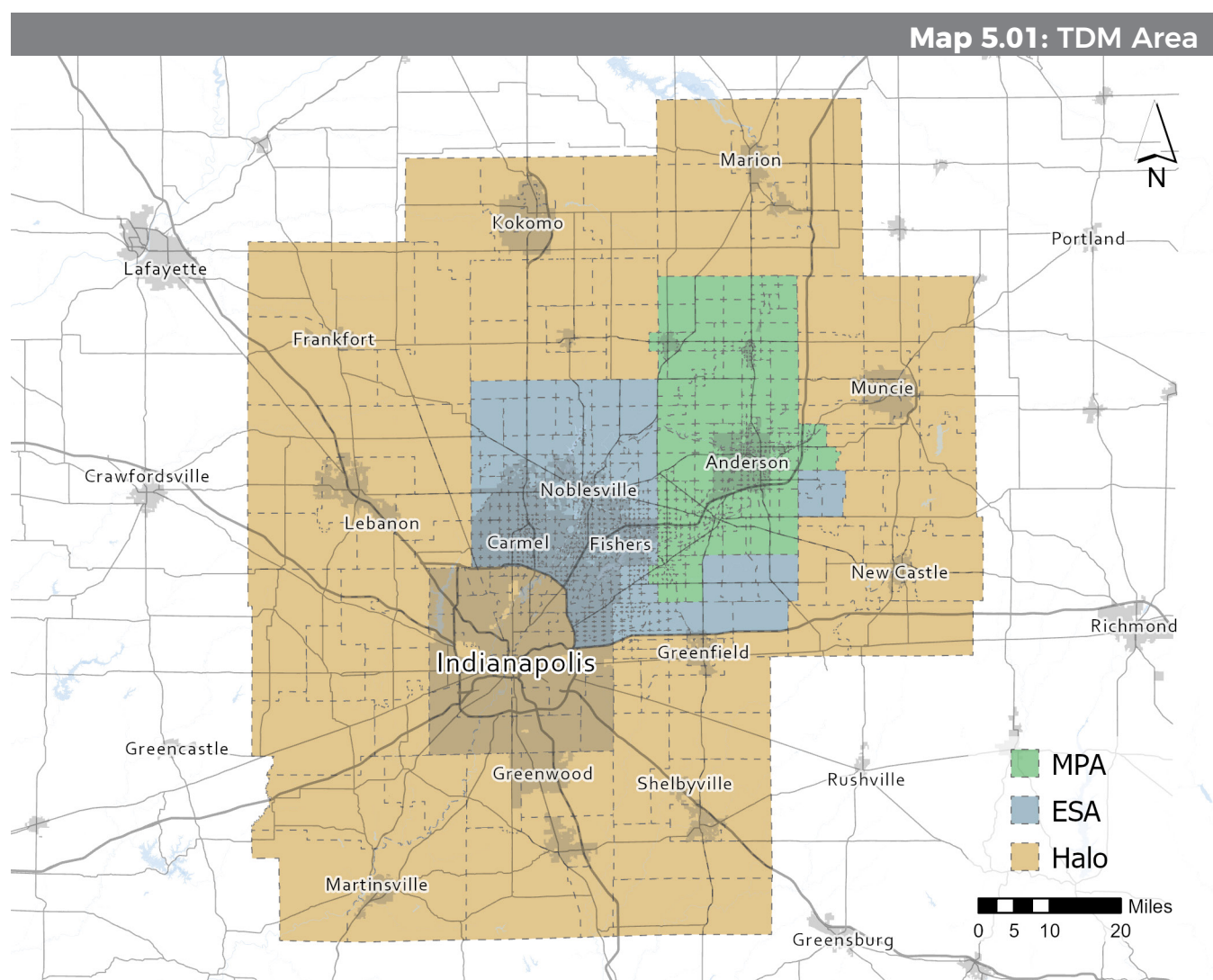


Table 5.01: TAZ Statistics by Geography

Geography	Zones	Population	HH Size
MPA	530	144,399	2.48
ESA	626	493,570	2.64
Halo	267	1,780,563	2.52
Total	1,423	2,418,532	

TAZs in the Indianapolis region developed and maintained by the Indianapolis MPO are integrated into Prometheus directly with minor modifications to ensure alignment as much as possible. Though the focus for applying Prometheus is on the Anderson MPA, previous iterations of the MCCOG TDM lacked sensitivity to the Indianapolis region and the expansion to include all 15 counties improves the forecast capabilities. Generally, TAZ geographies represent homogenous areas of traffic generation connecting to the same transportation network links. For example, TAZs are typically split where residential and commercial areas are clearly defined and separated. The example shown is SR 9/Scatterfield Rd where TAZs are split based on the primary land use. In this case it is either residential or commercial.



Figure 5.01: Taz Boundaries and Land use

Each zone (TAZ) includes socio-economic attributes developed from Census and employment data. The base year was developed from 2020 Decennial Census Redistricting blocks after validated through aerial imagery for location accuracy, especially where known growth occurred. Household attributes unavailable at the block level were developed from Census tracts. Likewise, employment data was developed from the 2019 National Establishment Time Series (NETS) dataset developed by Walls & Associates with significant location validation and updates by the planning team.

Table 5.02: Example TAZ Attributes

Field	Description
TOTPOP	Total population
HHPOP	Household population
GQPOP	Group quarters population
HH	Total households
HHSIZE	Average people per household
HHINC	Average household income
HHWRK	Average workers per household
HHVEH	Average vehicles per household
HHSTD	Average students per household
SENHH	Households with seniors
TOTEMP	Total employment
EMP##	Industry-specific employment

Planned & Anticipated Development

Recent, current, and anticipated land use developments were gathered to inform regional growth projections and allocation. The planning team worked with local planners, real estate professionals, economic development professionals, the county assessors' office, and other partner organizations to develop a database of housing and employment

Map 5.02: Planned & Anticipated Development by Use Category

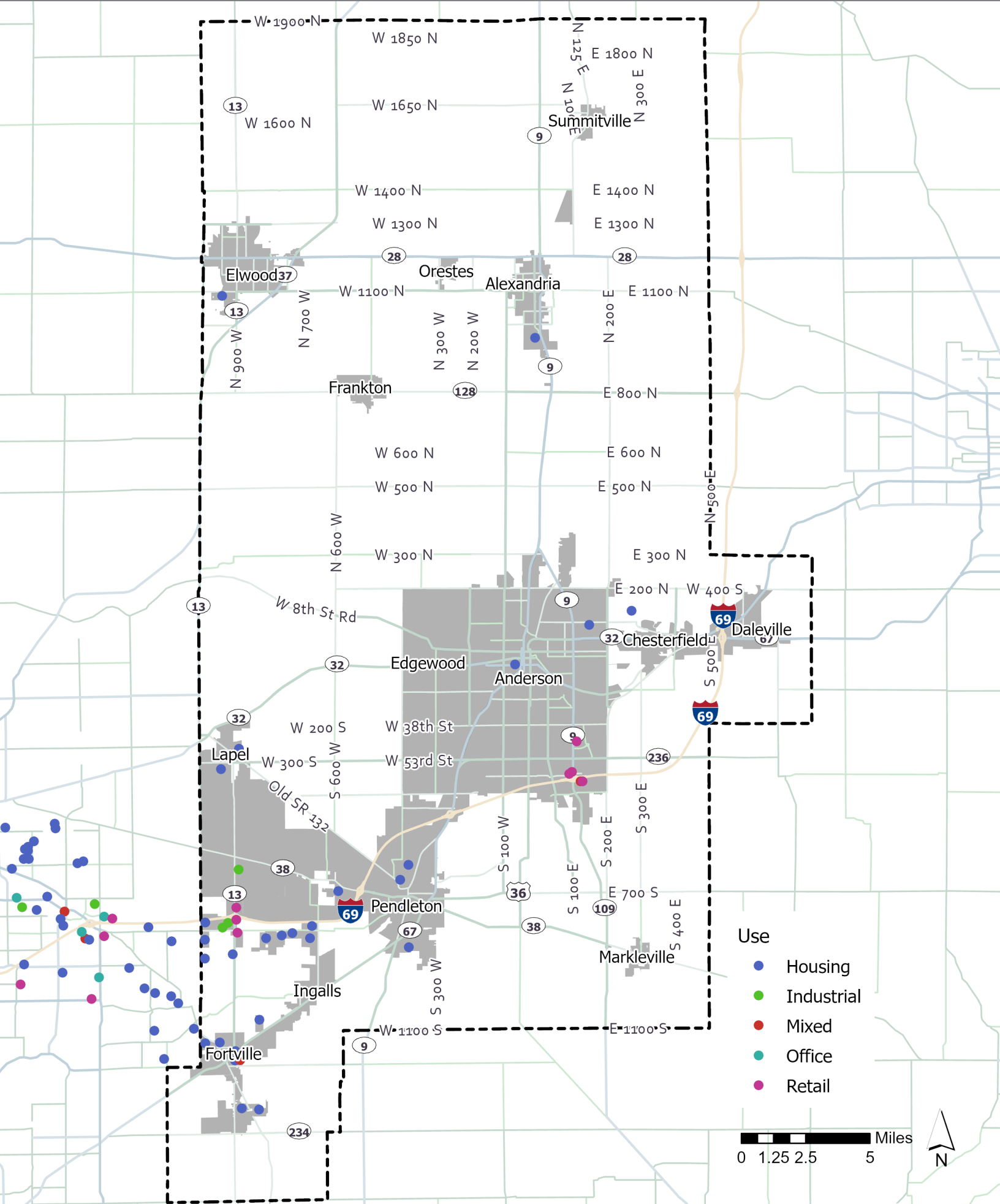


Table 5.03: Development Attributes	
Field	Definition
Description	General overview or name for the development
Location	Address, parcel ID, and/or latitude/longitude
Activity Type	Attraction for new developments and Expansion for additions to existing developments (i.e., additional subdivision phases)
Lot Size	Approximate acreage
Use Category	Housing, Retail, Industrial, Office, or Mixed
Build Year	Year of full build-out
Building Size	Square footage (to inform employment estimates if unavailable)
Dwelling Units	Number of housing units, if applicable
Employees	Number of employees by industry code, if applicable
Source	Partner organization or document data is from

development. The table highlights attributes that were collected for each development.

Development was captured for the entire model area but focused on the MPA and ESA zones (Madison, Hancock, Hamilton, and northeast Marion Counties). As previously discussed, most development within the Anderson MPA is occurring in the southwest subregion. The database has a total of 41 developments between 2020 and 2035 in the

Table 5.04: Full Build-out Years	
Range	Number
2020-2025	17
2026-2030	21
2031-2035	3

be added in the Anderson MPA is 5,208 with the largest housing development being Fall Creek Crossing subdivision in Ingalls with 600 dwelling units. The total number of employees

Anderson MPA. The most common use category was Housing (28) followed by Retail (8), Industrial (3), and Mixed Use (2). The total number of dwelling units to

to be added in the Anderson MPA is 550 with the largest employer development being Walmart in Ingalls with 300 employees.

While the planned & anticipated development database likely does not contain every development or present a full picture of development for the MPA, it provides vital information to check growth projections against. Most of the database’s entries were dependent on responses from partner organizations and represent the best information available at the time it was collected.

Table 5.05: Development by Use Summary for MPA		
Use	Number	Units/Emp
Housing	28	5,208
Retail	8	325
Industrial	3	75
Office	2	150
Total	41	5,208 / 550

Regional Growth Projections

After finalizing the base year TAZs, a forecast or set of forecast zones are developed. The process starts by reviewing existing data sources, if available, to identify expected overall population and employment change. Traditionally, national and even state level data sources are relatively accurate where changes in growth remain stable. However, in areas of transition these sources can lag behind ground level data due to the delay for changes to show up in input sources like the Census.

The planning team used the development database and worked with the Technical Advisory Committee to refine forecast levels. Final adjustments were made by the planning team to accommodate a mixture of actual and projected growth rates.

Population

Projections for population change are the result of demographic, socioeconomic, and land use models. Two data sources provided a base to begin developing estimated future population at the county level: Indiana Business Research Center population projections to 2060 and Woods & Poole Economics state profile regional projections. The 2024 Woods & Poole populations were used for the counties outside of Madison County to maintain consistency with employment forecasts. While both data sources showed an increase in population within Madison County, neither matches the level of change seen on the ground. The planned and anticipated development provided direct insight into the disconnect and justification for setting a higher level of growth. These data sources indicated population increases from 380-4,200. However,

Table 5.06: Household Change Data Comparison by County							
County		Woods & Poole		IBRC			
		Change	Pct	Change	Pct		
11	Boone	12,015	45.20%	13,645	51.31%	Planned 2020-2035	
23	Clinton	-10	-0.10%	-1,238	-9.97%		
35	Delaware	-3,376	-7.40%	-2,284	-5.02%		
53	Grant	-1,594	-6.00%	-2,958	-11.17%		
57	Hamilton	81,958	63.80%	66,487	51.74%		
59	Hancock	10,898	35.30%	13,545	43.91%		
63	Hendricks	32,740	51.10%	27,427	42.78%		
65	Henry	-97	-0.50%	-1,571	-8.29%		
67	Howard	-441	-1.20%	-615	-1.72%		
81	Johnson	21,641	35.90%	15,315	25.42%	Change	Pct
95	Madison	154	0.30%	1,698	3.23%	5,208	9.9%
97	Marion	26,657	6.70%	14,222	3.57%		
109	Morgan	2,673	9.60%	1,390	5.02%		
145	Shelby	1,080	6.00%	-878	-4.89%		
159	Tipton	-353	-5.70%	-966	-15.48%		
Total		182,221	19.10%	143,221	15.90%		

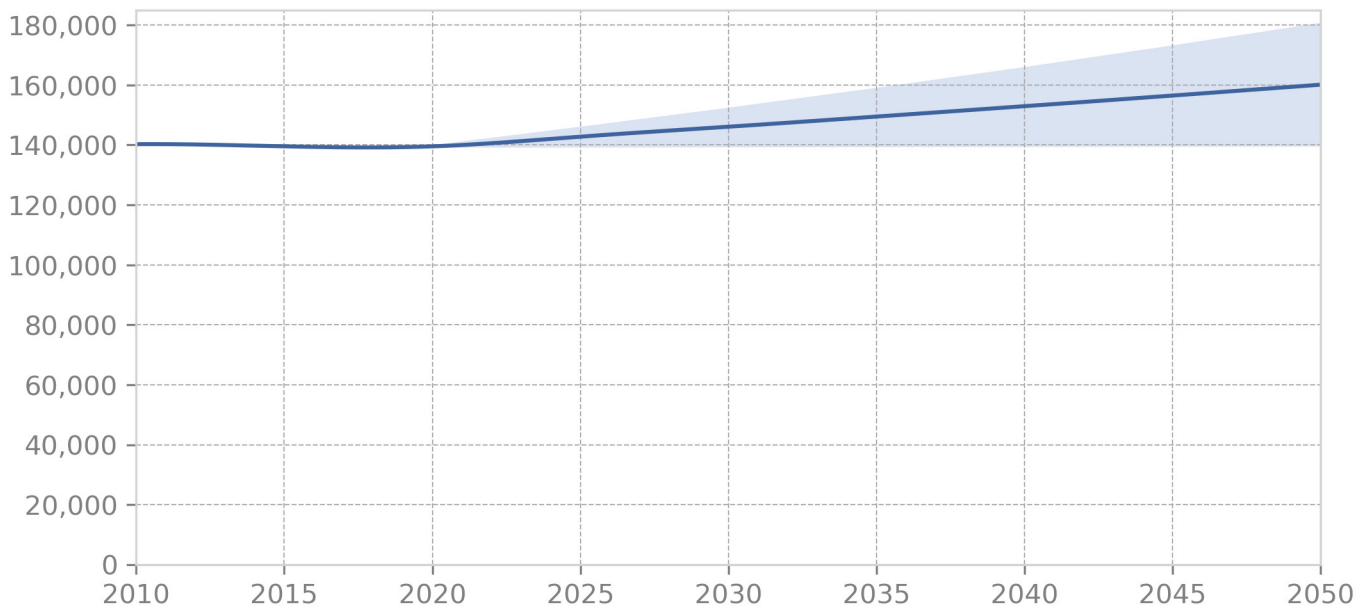


Figure 5.02: Population Projection Ranges

Source: Prometheus TDM

the development database shows over 5,000 homes planned for 2020-2035, representing approximately 10,000-12,500 people.

After further discussing this disconnect with the TAC, the planning team revised the Madison County projections to account for a higher level of growth, though with the anticipation that some areas will continue to decline and that the development spike will slow down. Therefore, the Anderson region is projected to add nearly 20,000 people between 2020 and 2050. However, these assumptions are subject to change, and the actual projection becomes less certain the further the forecast year is from the base year. The population graph illustrates this increasing uncertainty by providing a range of possibilities.

Employment by Industry

Like the household estimates, two data sources provided a base to begin developing estimated future employment by industry: Woods & Poole Economics state profile regional projections and Indiana Department of Workforce Development (IDWD) long-term projections. The IDWD estimates were

extrapolated from 2034 to 2050 using logarithmic trend lines representing decreasing levels of growth or decline. These sources were compared to identify conflicting industry-level trends for additional review and adjustment. For example, the Woods & Poole forecast for Madison County indicated more than a 23% loss in manufacturing employment, while Indiana is projecting a nearly 2% increase. As Madison County has been successful at attracting manufacturing over the last 15 years and a regional shift-share supports its competitive edge, employment projections were adjusted to maintain more manufacturing jobs like the Indiana projection.

The Anderson region is projected to gain 2,983 jobs between 2020 and 2050. The total number of jobs increases from 58,276 in 2020 to 61,259 in 2050. Jobs are grouped by 2-digit NAICS industry sectors. The industries with the largest decline in jobs are Public Administration (-431) and Retail Trade (-318). The industries with the largest increase in jobs are Health Care & Social Assistance (+1,371), Transportation & Warehousing (+456), and Accommodation & Food Services (+407).

Table 5.07: MPA Employment Change by Industry					
Industry		2020	2050	Change	Pct
11	Ag, Forest, Fish, Hunt	1,063	983	-80	-7.53%
21	Mining & Extraction	123	116	-7	-5.69%
22	Utilities	48	46	-2	-4.17%
23	Construction	3,238	3,406	168	5.19%
31-33	Manufacturing	5,738	5,818	80	1.39%
42	Wholesale Trade	1,238	1,324	86	6.95%
44-45	Retail Trade	6,043	5,725	-318	-5.26%
48-49	Transp & Warehousing	3,035	3,491	456	15.02%
51	Information	456	499	43	9.43%
52	Finance & Insurance	2,066	2,153	87	4.21%
53	Real Estate, Rental, Leasing	1,684	1,702	18	1.07%
54	Professional Services	2,079	2,095	16	0.77%
55	Mgmt of Companies	426	455	29	6.81%
56	Admin & Support Services	3,598	3,721	123	3.42%
61	Educational Services	5,051	5,361	310	6.14%
62	Health Care & Social Assist	7,782	9,153	1,371	17.62%
71	Arts, Entertainment, & Rec	1,735	2,020	285	16.43%
72	Accomm & Food Services	4,894	5,301	407	8.32%
81	Other Services (except public)	4,163	4,505	342	8.22%
92	Public Administration	3,816	3,385	-431	-11.29%
Total		58,276	61,259	2,983	5.12%

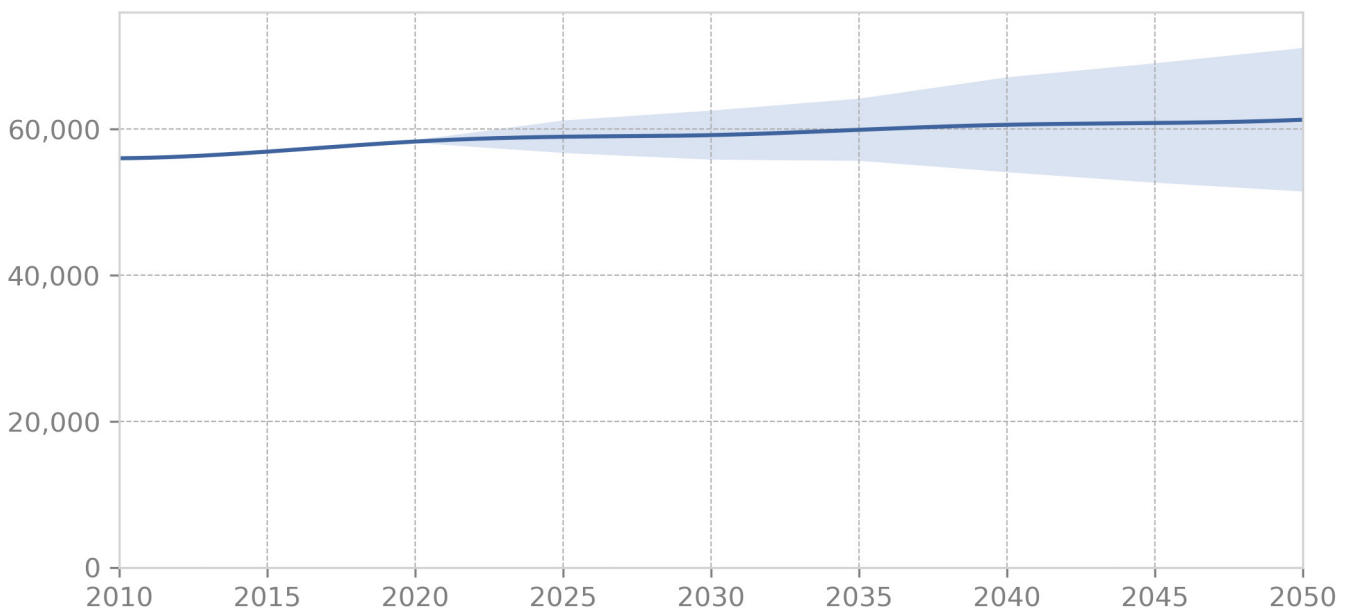


Figure 5.03: Employment Projection Ranges

Source: Prometheus TDM

Household & Employment Distribution

While the smallest geography for growth projections is often only the county level, including the source data used to develop population and employment totals above, the TDM requires changes to be split into the TAZs. The final projections were distributed to the Prometheus zones through a growth allocation process. Note that while growth totals are established for population, they are distributed by household to account for varying development typologies (i.e., single family homes, apartment complexes, and mixed-use buildings).

The allocation model incorporates growth since the TDM base year and predicts:

Housing:

- Redevelopment
- Declines in occupied housing
- New development

Employment:

- Redevelopment
- Declines at existing locations
- Growth at existing locations
- New development

Initial redevelopment and changes in existing housing or employment locations establishes a base for new development opportunities to be located. The growth allocation process calculates parcel-level utility for development, subtracts area that is no longer developable, and generates a final utility for potential development. Parcel-level utilities include accessibility to amenities, which reinforces the desire to locate in areas with high mobility, like the I-69 corridor. Employment typologies are used to generate unique developments to conduct individual location searches. Each unique “development” searches for the location with the highest utility matching its need, i.e., industrial developments typically require larger parcels and will account for this requirement before choosing a final location.

Households

TDM zones were grouped by incorporated area to further explore where growth and loss are occurring within the MPA following the allocation process. While the north subregion is losing households between 2020 and 2050, it is largely occurring in unincorporated areas and small, rural towns like Summitville (-57) and Frankton (-19). Elwood’s nearly 7% increase in households is largely due to its proximity to Hamilton County and SR 37. The

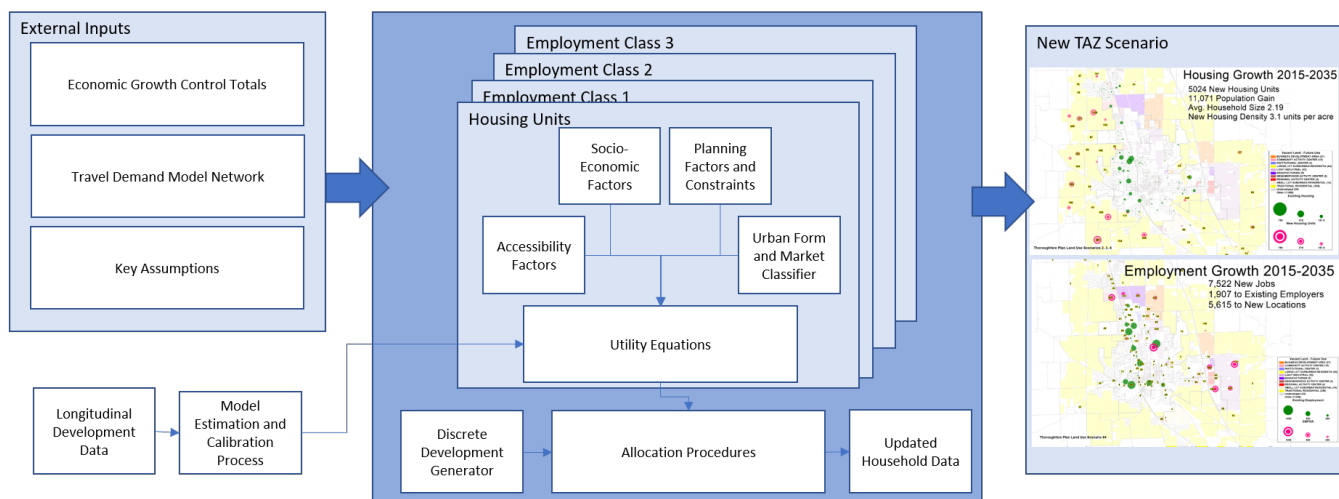
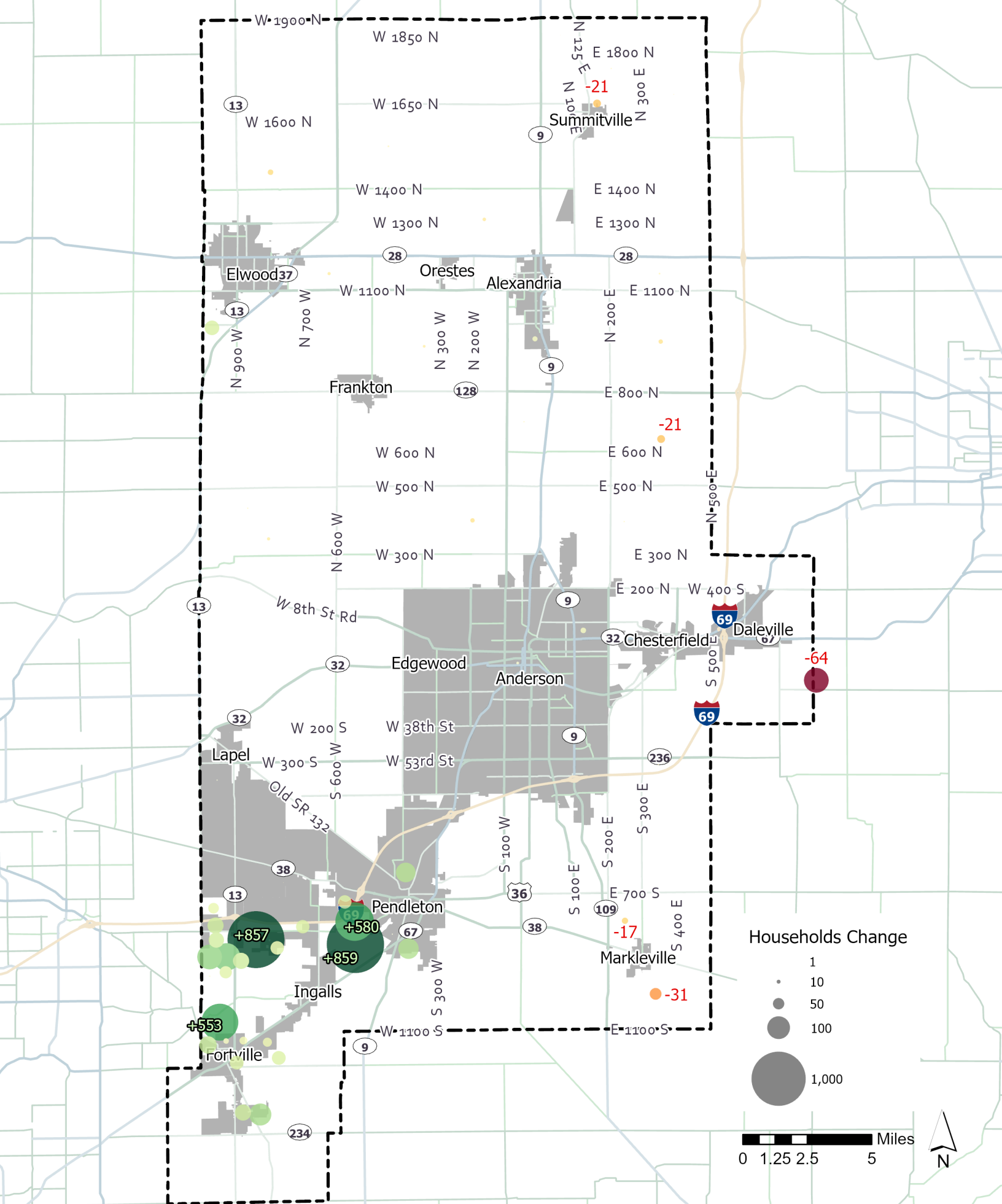


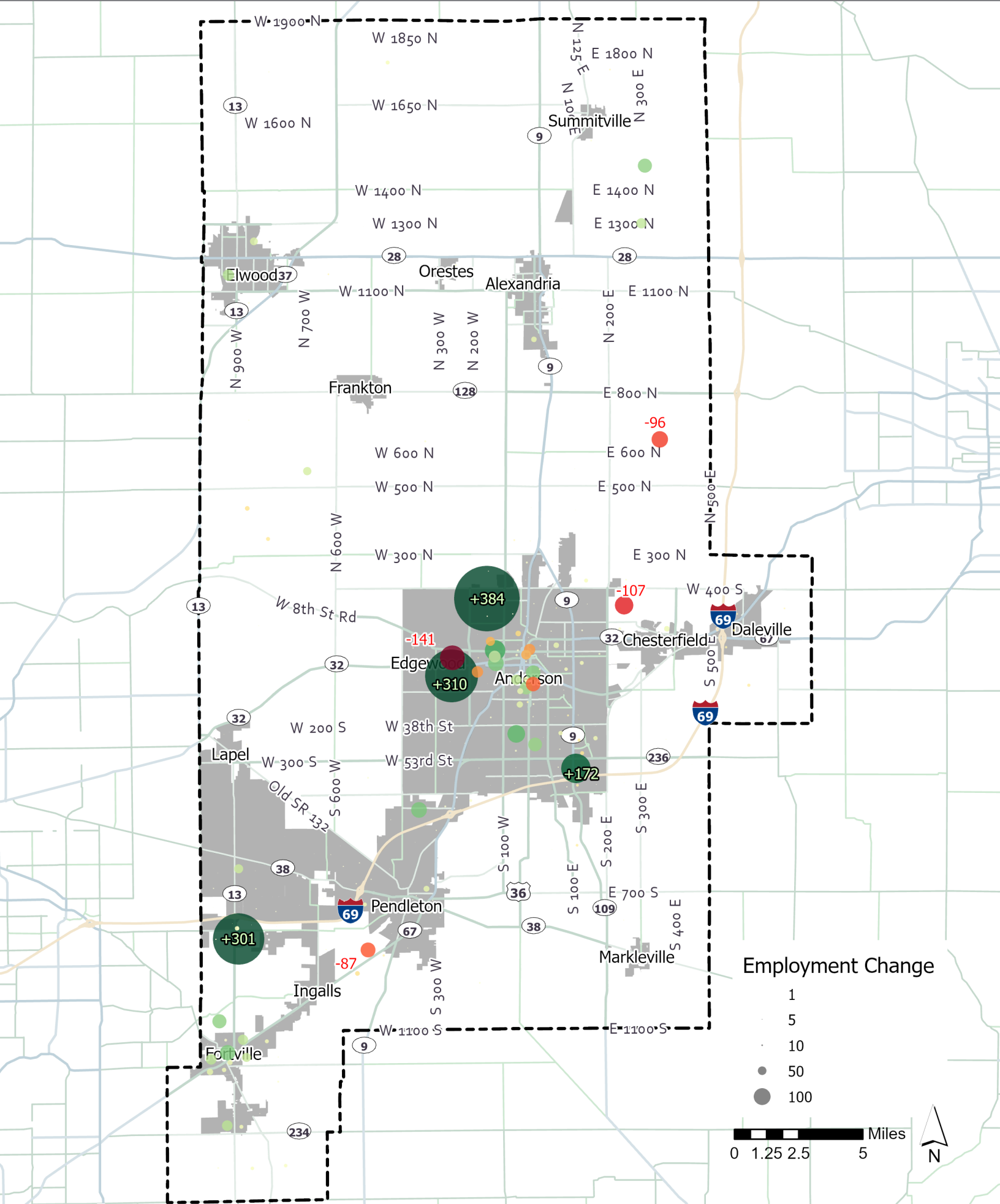
Figure 5.04: Allocation Process

Source: Convergence Planning



Map 5.04: Employment Change from 2020-2050

Source: Prometheus TDM



central-east subregion largely stays the same for households between 2020 and 2050. The City of Anderson is stagnant, only maintaining a net gain of 40 households. Finally, the southwest subregion is expected to grow in each community. Fortville is projected to gain nearly 1,600 households, a slightly higher rate than broader Hancock County potentially due to proximity to Hamilton County. Daleville is projected to slightly lose households, but at a much slower rate than the rest of Delaware County likely due to its proximity to I-69.

Employment

Like housing, the southwest subregion results in the highest growth rate (+0.33%) for employment. However, the central-east subregion has the highest overall net growth in employment (+1,527). Though it also contributes the most to declining industries, the Anderson area offers a lot of opportunities for employment in both new development and redevelopment. Finally, the north subregion has the lowest growth but still increases from the base year.

Table 5.08 LPA Household Change				
LPA Area* *Includes some area outside LPA boundaries	2020	2050	Change	% Change
Alexandria	2,525	2,579	54	2%
Anderson	26,218	26,258	40	0%
Chesterfield	2,568	2,583	15	1%
Daleville	1,009	1,003	-6	-1%
Elwood	4,010	4,284	274	7%
Fortville	2,376	3,945	1,569	66%
Ingalls	2,250	5,509	3,259	145%
Lapel	979	1,039	60	6%
Pendleton	2,109	4,903	2,794	133%
Summitville	572	515	-57	-10%
Markleville	592	532	-60	-10%
Frankton	873	854	-19	-2%
North Uninc	3,761	3,380	-381	-10%
CE Uninc	2,935	2,779	-156	-5%
SW Uninc	3,577	4,498	921	26%
MPA	56,354	64,661	8,307	15%

Table 5.09 Employment Change by Subregion						
Geography	2020		2050		Growth	
	Number	Pct Tot	Number	Pct Tot	Number	Rate
Anderson MPA	58,276		61,259		2,983	0.17%
North	9,810	16.8%	10,077	16.4%	267	0.09%
Central-East	37,189	63.8%	38,716	63.2%	1,527	0.13%
Southwest	11,277	19.4%	12,466	20.3%	1,189	0.33%

Forecasting to 2050

The amount, location, and type of population and employment change can significantly impact the transportation system. Before finalizing a list of actions, it is important to consider how needs may shift in the future and how potential projects may support or exacerbate transportation issues. The Prometheus 2050 zonal assumptions represent the best information available for what the future may look like. Further, the forecasts developed are a significant departure from previous estimates, as housing development especially presses northeast from Indianapolis. While employment is not anticipated to grow as quickly, the TDM does assume low level growth, as well as shifting industries that can impact travel patterns and commute demand.

The forecast zones are combined with the existing transportation network and planning infrastructure projects to estimate changes in system performance and test the direction of final recommendations. The performance impacts in Chapter 7 highlight key metrics and where possible, provide a comparison between today, a future without *2050 inMotion* and a future with *2050 inMotion* to illustrate estimated effects of transportation investments. Planned infrastructure projects can be found in Chapter 7 and in the Appendix under MTP Project List.

Uncertainty & Future Enhancement

The future offers unlimited possibilities including both challenges and opportunities that will impact Anderson MPA residents. People may continue demanding walkable places and delay or forgo getting a driver's license, automobiles may become connected and driverless, core industries today may disappear tomorrow, the world may be hit with a global pandemic that halts travel, or population growth may slow. MTPs are long-term plans that are required to make assumptions about the future to test the impact of projects and planning efforts.

The forecasts developed, explained within this chapter, and utilized for testing transportation investments represent a single potential future. Reality may look similar to the assumptions built into this analysis or, more likely, may depart drastically. Scenario planning tools, built to consider a wide variety of potential futures simultaneously, offer the chance to mitigate some uncertainty inherent in all forecasting. Prometheus is undergoing enhancements to integrate the FHWA VisionEval tool to support future scenario planning efforts. In subsequent MTP updates, it may be possible to test projects under multiple scenarios to identify investments that provide the most benefit across potential futures.

