APPENDIX F

ECONOMIC ANALYSIS REPORT

KTYC Interstate Analysis

Northern Kentucky Outer Loop Economic Analysis

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Introduction

AECOM was engaged as part of a STANTEC team to analyze the ways in which a proposed Northern Kentucky Outer Loop may change the demographic variables – namely population, households and employment – of those living and working within proximity of a given corridor alternative.

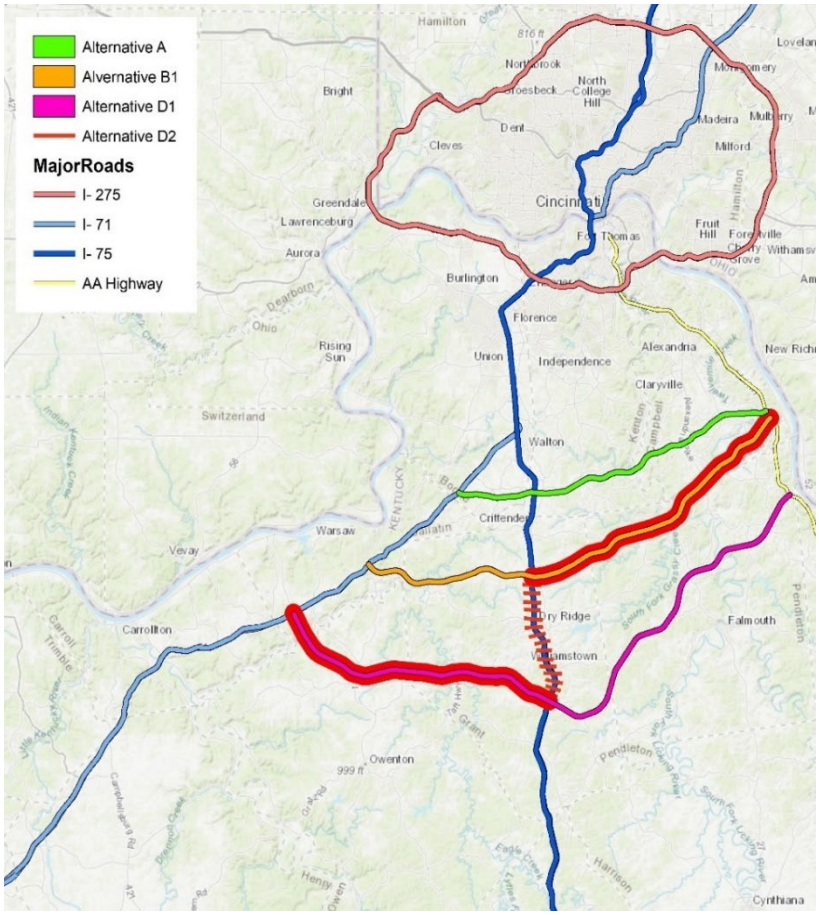
To do so, AECOM assembled a national database of interstate segments, either newly developed or functionally renovated between 1990 and 2015. GIS was then used to assign each interstate segment to all the counties in which that segment crossed. This analysis yielded 144 U.S. Counties in which a new or functionally renovated interstate segment was located. From there, AECOM compared county-level growth rates for population, households, and employment for the census period pre- and post-interstate construction in order to pick up on any incremental changes that may have resulted from the completion of a new interstate. Finally, to benchmark the relative growth or decline in counties with new interstates against a non-interstate baseline, growth rates from the 144-county sample were measured against growth rates from 1,040 counties in the central/eastern U.S. that do not contain any interstate roads. This analysis suggested that rural counties can see accelerated short-term growth from the development of a new interstate corridor.

Market Area

The planning stages leading into the potential development of a new Northern Kentucky Outer Loop began in 2018. The client-team first defined the underlying goal of the project as an effort to **"stimulate economic opportunities through regional mobility by providing a safer and more efficient east-west corridor between I-71 and the AA Highway (KY 9)."** According to the client team, economic development opportunities within northern Kentucky are viewed as constrained anywhere outside of the northern most counties of Boone, Kenton and Campbell. Specifically, this constraint has been attributed to a lack of east-west interstate access anywhere south of I-275. Limited interstate access is assumed to inhibit those living within the area from reaching employment opportunities.

To combat limited mobility, and to spur economic development in the southern portions of Northern Kentucky, seven new interstate corridor alternatives were proposed in a Level 1 analysis; these seven options were then narrowed to four through community engagement. The four corridors that advanced to a Level 2 analysis were summarized in a March 2019 report titled "Level One Screening Report," and include Alternative A, Alternative B1, Alternative D1 and Alternative D2. They can be visualized in the figure below:

Figure 1: Level 2 Corridor Alternatives



Alternative A begins at I-71, approximately two miles south of the existing Walton KY14 interchange (Exit 72), crosses I-75 two miles north of the Crittenden KY 491 interchange (Exit 166) and parallels KY 14 before ending at KY 9 (AA Highway) near mile-point 2.6. This corridor is approximately 25 miles long and will feature two system interchanges at I-71 and I-75, and will also include approximately five service interchanges.

Alternative B1 begins at Owenton US 127 interchange (Exit 62), crosses I-75 3.2 miles north of Dry Ridge 22 interchange (Exit 159), and ends at the AA Highway (KY 9) between California and Mentor near mile-point 2.1. This corridor is approximately 36 miles long and will feature two system interchanges at I-71 and I-75, and will also feature approximately seven service interchanges.

Alternative D1 begins at I-71 at the existing KY 1039 interchange (Exit 55), runs southeast to I-75 about two miles south of the Williamstown KY 36 interchange (Exit 154) and ends at the KY 9 (AA Highway) near mile-point 0.6 at the Pendleton/Bracken County line. This alternative will be approximately 48 miles long and will require two system interchanges at I-71 and I-75 in addition to six service interchanges.

Alternative D2 begins at I-71 at the existing KY 1039 interchange (Exit 55) and runs southeast to I-75 to about two miles south of the Williamstown KY 36 interchange (Exit 154). This alternative will run concurrent with existing I-75 through Williamstown and Dry Ridge (outlined in hatched red lines in Figure 1) then continues east on new alignment to the AA Highway between California and Mentor near mile-point 2.1. **The western half of Alternative D2 matches D1 and the eastern half of Alternative D2 matches Alternative B1.** This alternative will span approximately 44 miles, excluding the nine-mile section that follows I-75 and will include three system interchanges, one at I-71 and two at I-75. This alternative will also include approximately seven service interchanges.

Data Collection

Performing this analysis involved the collection of significant economic, demographic and other geographic and topographic information. Data and other items collected throughout the process include:

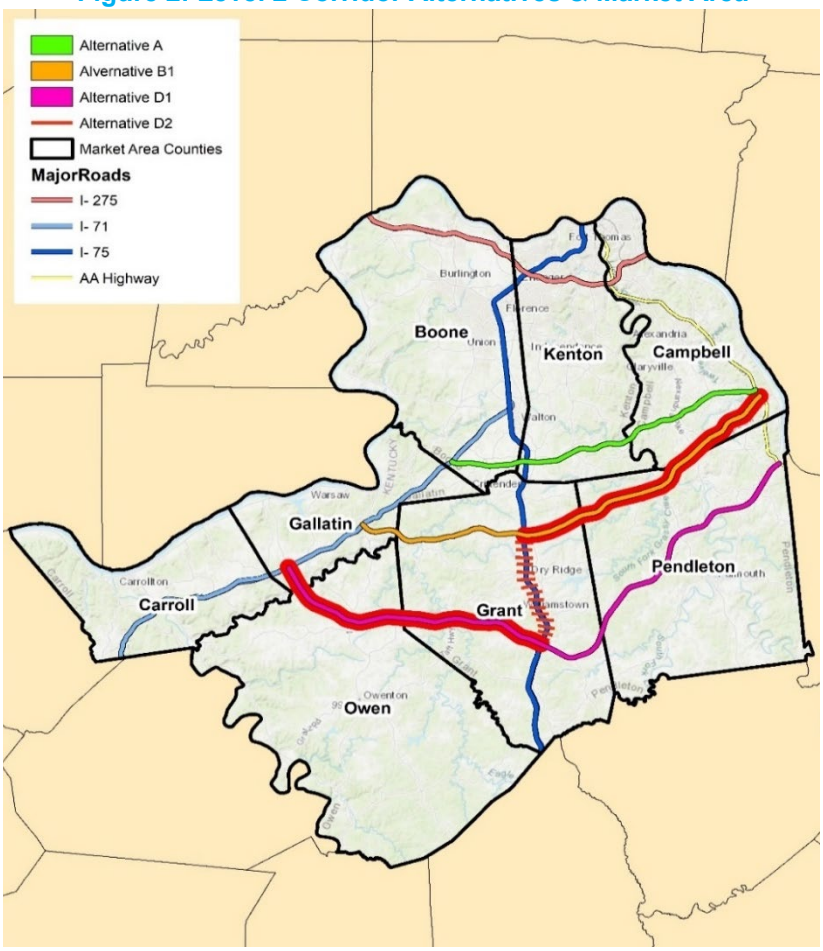
- Socioeconomic information at a county level,
- Real estate information from CoStar,
- Traffic analysis zones (TAZ) GIS shapefiles that included TAZ-level demographic forecasts between 2010 (base year) and 2040 (end year),
- Shapefiles for wetlands, lakes, rivers and streams,
- LiDAR data for steep slope threshold,
- Shapefiles for public right of way,
- Tiger 2017 Interstate and Federal Highway Administration arterial road shapefiles,
- USGS developed land cover raster file.

Available TAZ data and future projections were provided to AECOM by Stantec. Resulting confidential TAZ level data was aggregated to county and corridor concept level for the purpose of this report. This data was used at the foundation of this analysis.

Methodology & Setting the Baseline

The market area for this analysis is defined as the eight-county region comprising Northern Kentucky. The counties that make up the primary market area of Northern Kentucky include Boone, Kenton, Campbell, Gallatin, Grant, Pendleton, Owen and Carroll. Figure 2 illustrates the core study area counties and adjacent counties in relation to the proposed interstate alternatives.

Figure 2: Level 2 Corridor Alternatives & Market Area



The underlying socioeconomic conditions within the core geographies were evaluated prior to the analysis so that baseline conditions may be defined, understood and extrapolated. The first project deliverable included a complete analysis of population, households, household size, and employment factors by corridor and by county. Key baseline county-level insights from that effort included:

Boone County

- Boone County is the 4th largest county in terms of gross land area (~164,140 acres) and is the second largest county in terms of base year population (~118,810). Baseline population within Boone County is expected to grow at the fastest rate among market area counties, or by 2.1% on an annual basis. An estimated 181,700 people are expected to be living in Boone County by 2040.

- Approximately 17% of the gross land area within Boone County has been developed at the time of this report and approximately 56% of the gross land area within Boone remains "developable" today (the highest share among market area counties).

- In terms of base year employment, Boone County has the largest number of employees at approximately 88,260 for a factor of 0.7 employees per resident – the highest among market area counties. Total baseline employment is also expected to grow at the fastest rate among all market area counties, or by 1.7% on an annual basis.

- Boone County has the highest number of persons per household among all market area counties at 2.6 suggesting that there are more families living within Boone than any other market area county. This figure is also moderately higher than the state average of 2.5 persons and is par with the national average.

Kenton County

- Kenton County has a gross land area of approximately 105,180 acres making it the 5th largest county within the market area. However, its base year population of approximately 159,720 people makes it the most populous and most dense county within the market area. Baseline figures suggest that the population of those living within Kenton County will grow by 0.4% on an annual basis, reaching more than 177,960 people by 2040.

- Kenton County has experienced the most significant development among all market area counties as 21% of the gross land area has been developed at the time of this report. As a result, only 47% of the county's gross land area remains developable today – the lowest share among all market area counties.

- An estimated 80,180 employees worked in Kenton County in the base year for a factor of 0.5 employees per resident. Total employment within Kenton County is expected to grow by 1.4% on an annual basis, thus increasing the number of employees per resident to 0.7. Kenton County has the second fastest baseline employment growth rate among market area counties.

- On average, there are 2.3 persons per household in Kenton County. This figure is well below the state- and nation-wide averages.

Campbell County

- Campbell County is the 3rd smallest county in terms of gross land as it spans approximately 102,030 acres, but is the 3rd largest county in terms of total population with an estimated 90,340 residents in the base year. However, the population of those living within Campbell County is expected to decrease by 0.1% on an annual basis, reaching just over 88,000 residents in 2040.

- Approximately 13% of Campbell County has been developed while approximately 48% of the gross land area remains developable today.

- In the base year an estimated 38,640 people worked in Campbell County. This figure is expected to grow to 55,980 workers in 2040. While the population of those living within Campbell County is expected to decrease, total employment is expected to increase by 1.2% on an annual basis. In the base year, there were approximately 0.4 employees per resident. This figure is expected to increase to 0.6 employees per resident in 2040 suggesting that Campbell County is moving from a residential hub to more of an employment hub.

- Campbell County boasts an average household size of 2.3 persons per household which is well below the state- and nation-wide averages.

Gallatin County

- Gallatin County is the smallest county within the market in terms of gross area at just over 67,000 acres. Similarly, Gallatin County has the smallest base year population of the eight-county region with just under 8,600 people. This figure is expected to grow at a moderate pace of 0.5% on an annual basis reaching just under 9,900 residents by 2040.

- An estimated 5% of the gross land area within Gallatin County has been developed, with approximately 55% of the land area able to be developed.

- In addition to having a small population, Gallatin County also boasts the smallest employment base within the market at approximately 2,920 people. Total employment is forecasted to grow by 1.0% on an annual basis, reaching just over 3,900 people by 2040. In the base year, Gallatin County has approximately 0.3 employees per resident – this number is expected to grow to 0.4 employees per resident by 2040.

- Gallatin County has an average household size of 2.3 and is well below the state- and nation-wide averages.

Grant County

- While Grant County is the 3rd largest in terms of gross area (~166,900 acres), it is the 4th largest in terms of total population with just over 24,660 residents in the base year. The population growth rate of 0.7% is the second fastest among market area counties. Population is forecasted to grow to more than 30,000 people by 2040.

- Grant County is one of the least developed counties within the market as 56% of the gross area remains developable and only 4% of the county is developed. Approximately 35% of the county is comprised of undevelopable steep slopes.

- Grant County housed an employment base of just over 8,400 people in its base year, but is expected to grow to employ more than 11,500 people by 2040. Overall, employment is expected to grow annually by 1.1%. The employees to resident ratio is expected to remain between 0.3 and 0.4 employees per resident between the base year and 2040.

- Grant County has a base year average household size of 2.5 people. This figure is on par with state-wide figures, and is above all but Boone County within the market area.

Pendleton County

- Pendleton County is the 2nd largest county in terms of gross area (~180,420 acres), but only houses a base year population of 14,880 people making it one of the least dense counties within the market area. Population growth within Pendleton County is expected to be marginal, or growing by 0.1% annually – reaching just under 15,120 people by 2040.

- Pendleton County is rural in nature with only 3% of its gross area developed and more than 53% of its gross area deemed developable. Approximately 39% of Pendleton County's gross area is considered to be undevelopable steep slopes.

- Like population, Pendleton County has minimal employment opportunities with a base year employment base of approximately 4,150 people. While minimal, the base of employment is expected to grow to just over 5,520 people by 2040, or by 1.0% annually.

- Due to its rural nature, Pendleton County's average household size is 2.3 persons per household which is below the state- and nation-wide averages.

Carroll County

- Carroll County is the 2nd smallest county within the market at just over 87,870 gross acres. In the base year, Carroll County housed just over 10,810 residents. Population growth is expected to grow by 0.4% on an annual basis, reaching almost 12,200 people by 2040.

- Approximately 5% of Carroll County is currently developed with approximately 55% of the county designated as developable. Approximately 6% of Carroll County is water, the highest share among all market area counties.

- Carroll County has the highest ratio of employees to residents at 0.7 in the base year, and growing to 0.8 by 2040. In 2010, Carroll County housed approximately 7,120 employees. Total employment is expected to grow by 0.4% on an annual basis, reaching 10,330 employees by 2040.

- Consistent with most other counties in the market, Carroll County has an average household size of 2.3 persons.

Owen County

- Owen County is the largest county in terms of gross area at more than 226,700 acres, yet it is the least dense county population-wise in the market. In the base year, Owen County housed just over 10,840 residents, a figure that is expected to grow by 0.2% annually to approximately 11,450 by 2040.

- Approximately 3% of Owen County is considered to be developed today with approximately 55% of the gross area deemed as developable in the future. Approximately 38% of the gross land area is considered to be undevelopable steep slopes.

- Owen County also has the second smallest base of employment among all market area counties with approximately 3,500 employees in the base year. Total employment within Owen County is expected to grow by 0.8% annually, which is the slowest rate among all market area counties. Employment is forecasted to reach almost 4,500 employees by 2040.

- Consistent with its rural nature, Owen County has the smallest average household size within the market at 1.9 persons.

Baseline Socioeconomic Analysis Takeaways

- Baseline population growth anywhere outside of the northern “suburban” counties of Boone and Kenton is expected to be minimal or negative through 2040. Specifically, Campbell County is expected to lose population between 2010 and 2040 while Pendleton, Carroll and Owen counties are all expected to see population grow annually by less than 0.5 % over the same period.

- In the baseline, all market area counties house more residents than they do employees suggesting a net job outflow from the market area and into the Cincinnati metro.

- Boone and Kenton counties are expected to see the most significant employment growth between 2010 and 2040.

- Similarly, Boone County is expected to see its population increase by 2.1% on an annual basis. This figure is substantially higher than any other growth rate observed (the next closest is the 0.7% growth rate in Grant County).

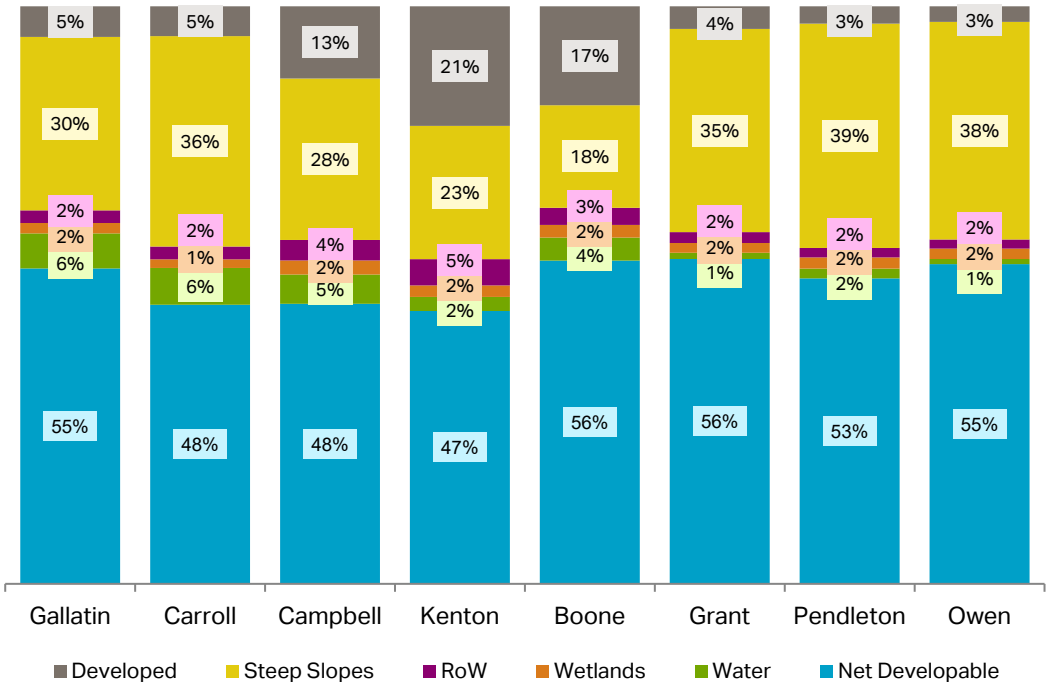
- Even the most highly developed counties (Kenton and Boone) have a significant inventory of land that may still be developed.

Developable Land

In addition to the underlying economic, demographic and employment trends present within each of the counties. AECOM also conducted an analysis that estimated the remaining “developable land” within each county. Developable land is considered to be shovel-ready land and excludes

any already developed land, bodies of water, wetlands, right of ways and steep slopes. Developable land is an important indicator for the future development opportunities within a county as shovel-ready land is more attractive to developers than land that requires extensive conditioning – it is essentially the path of least resistance to future development. The following figure (Figure 3) summarizes the land use by market area county.

Figure 3: Net Developable Land by County



All counties within the market area have at least 47% of their gross area as developable, with Grant and Boone counties having the highest percentage of gross land as developable at 56%. Approximately 21% of Kenton County is currently developed leaving 47% as developable. A clear distinction can be seen between the northern-most counties (Boone, Kenton and Campbell) and the more rural counties to the south.

Industrial Real Estate

Prior to performing any analysis on the existing TAZ-level demographic and employment data, AECOM also analyzed historical industrial real estate development trends within the market area. Specifically, AECOM analyzed CoStar data from the decades since 1990. A summary for each decade can be found below:

1990s

- 251 industrial buildings totaling just under 18.5 million square feet were developed throughout the eight-county region. The average industrial building was approximately 73,800 square feet.
- Industrial development in Boone County accounted for 63% of the buildings and 76% of the rentable building area in the decade. Included in this were 131 warehouses, 11 distribution centers, 9 manufacturing warehouses and 3 service buildings. The average building was just over 88,200 square feet which was 20% greater than the average building size within the market.

- Kenton County was second behind Boone County in terms of industrial development with 21% of the market area's buildings (52) and 13% of the market area's rentable building area (~2.5 million square feet). Industrial development in Kenton County in the 1990's included 25 warehouses, 5 manufacturing warehouses, 4 service buildings and 3 distribution centers.

- No industrial real estate development occurred in Owen or Grant counties in the 1990's.

- The remaining counties (Campbell, Gallatin, Carroll and Pendleton) accounted for the remaining 16% of the total buildings and 11% of total rentable building area developed in the 1990's.

- The largest industrial building developed in 1990 was the 735,356 square foot industrial distribution warehouse in Boone County. This building is located in Hebron, Kentucky.

2000s

- In the 2000's, 149 industrial buildings were developed within the market area. These buildings averaged just over 118,550 square feet per buildings which was 61% larger than the average industrial building in the decade prior. In total, more than 17.6 million square feet of industrial space was delivered.

- Similar to the decade prior, 71% of buildings and 91% of rentable building area within the market area was built within Boone County. Many of these developments were in proximity to the Cincinnati/Northern Kentucky International Airport – one of the countries largest freight airports. Boone County also housed the largest industrial development of the decade with the almost 1.2 million square foot Toyota Parts manufacturing warehouse.

- In Kenton County 19 buildings totaling more than 573,200 square feet were developed in the 2000's. The average building size of those delivered in Kenton County was 75% smaller than the average for the market.

- In Campbell County 17 buildings totaling 922,000 square feet of space were delivered. The average building in Campbell County was just under 55,000 square feet.

- No industrial buildings were delivered in Gallatin or Carroll counties in the 2000's.

2010s

- The pace of industrial development tapered off significantly in the 2010's within the market area, however the average industrial building size increased by more than 100% in the decade prior to more than 245,250 square feet on average. In total, only 32 buildings totaling more than 7.8 million square feet were delivered in the decade.

- 29 of the 32 buildings developed in the 2010's within the market area were developed in Boone County. In total, Boone County saw the addition of more than 7.6 million square feet of industrial space with the average building spanning almost 265,000 square feet.

- Outside of Boone County, only Kenton (2 buildings) and Grant (1 building) saw the addition of industrial real estate within the decade.

- The largest building delivered in the decade was the 898,560 square foot industrial distribution center in Boone County called LogistiCenter at 275.

Industrial Real Estate Takeaways

- The majority of industrial real estate development has occurred in Boone County since 1990. Specifically, development has been in proximity to I275, I75/71 and especially in proximity to the Cincinnati/Northern Kentucky International Airport.

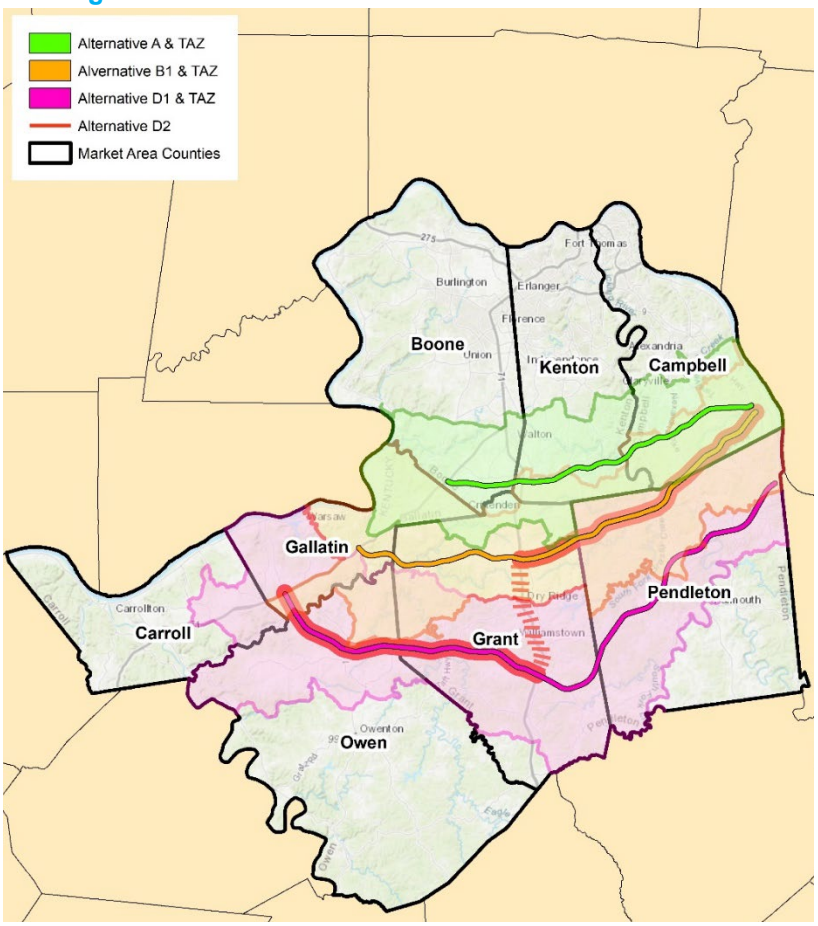
- The average industrial building has increased from ~73,800 square feet in the 1990s to almost 265,000 square feet in the 2010s. This reinforces macro trends of consolidation of industry.

- The natural path of industrial development within the market continues south along the I75/71 corridor suggesting that southern Kenton County and northern Grant County may be positioned well for future industrial growth under the right economic conditions.

Analysis

After the baseline was set, and to approximate how a new interstate corridor may impact the economic and demographic conditions in proximity to each alternative, AECOM first selected all TAZ within approximately 3 miles of each corridor to set the baseline conditions. This process aggregated all TAZ-level data to a corridor level. This process can be visualized in Figure 3 (below). It should be noted that aggregated TAZ in Alternative D2 are not presented in the figure below as they are a summation of the same TAZ in Alternatives B1 and D1.

Figure 4: Level 2 Corridor Alternatives & Selected TAZ



Then, AECOM applied the results of its benchmarking exercise that analyzed national conditions before, during and after a new interstate corridor was developed. The benchmarking analysis relied on the creation of an interstate database that includes historical demographic data for all continental U.S. counties. Time series data was collected between 1980 and 2017 at the county-level from IPUMS NGHIS (includes census data). Only those counties located within the central/eastern U.S (32 states) were analyzed, as they are the most geographically relevant to this project.

AECOM utilized 2017 TIGER interstate and Federal Highway Administration arterial road shapefiles to determine which counties contain interstate segments via GIS analysis. The analysis identified 144 counties that saw completed interstate segments (including major U.S. or state highways) between 1990 and 2015. These segments include:

- Brand new interstate segments; as well as
- Segments with significant functional upgrades (ex. two- to four-lanes; route length expansion).

All interstate segments were assigned a year based on the date of the full segment's completion. For example, if portions of an interstate were constructed over six counties between 1990 and 1995, the segment's growth was analyzed based on the 1995 completion year. AECOM compared county-level growth rates for population, households, and employment for the census period pre- and post-interstate construction, in order to pick up any incremental changes that may have resulted from the completion of a new interstate. Finally, to benchmark the relative growth or decline in counties with new interstates against a non-interstate baseline, growth rates from the 144-county sample were measured against growth rates from 1,040 counties in the central/eastern U.S. that do not contain any interstate roads. It is important to note that this analysis is not considering long-term demographic change, only immediate before-and-after changes.

Then, all continental U.S. counties were assigned one of four classifications based on their current population and relative population density by gross land area:

- Urban: Total population greater than 900,000
- Suburban: 75th percentile and above of population density (>110 persons/mi2)
- Rural Transitional: 50th to 75th percentile of population density (43 - 110 persons /mi2)
- Rural: 50th percentile and below of population density (< 43 persons/mi2)

Using this methodology, KTYC corridor counties received the following classifications:

Table 1: Market Area County Classification

County	Population Density (persons/mi^2)	Classification
Boone	497.8	Suburban
Campbell	575.9	Suburban
Carroll	77.9	Rural Transitional
Gallatin	82.6	Rural Transitional
Grant	95.1	Rural Transitional
Kenton	998.1	Suburban
Owen	30.2	Rural
Pendleton	51.5	Rural Transitional

As the analysis focuses on projecting the future growth impact on population, households and employment – the following marginal growth rates were applied to the baseline conditions:

Table 2: Marginal Growth Rates

	No Interstate Counties	New Interstate Counties *Top Performers*	Marginal Difference
Population			
Suburban	1.11%	1.40%	+0.3%
Rural Transitional	0.39%	0.74%	+0.4%
Rural	0.07%	0.26%	+0.2%
Households			
Suburban	1.14%	1.66%	+0.5%
Rural Transitional	0.55%	1.00%	+0.4%
Rural	0.23%	0.85%	+0.6%
Employment			
Suburban	1.19%	1.43%	+0.2%
Rural Transitional	0.41%	1.08%	+0.7%
Rural	0.15%	0.88%	+0.7%

The final outputs were revised TAZ level 2040 population, employment and household projections based on the opening of the of each respective Alternative in January, giving a ten-year period for development to follow. The results of the analysis were used to define scenarios for which the Commonwealth's regional travel demand model was used to develop year 2040 traffic forecasts.

The following tables compare the baseline forecast to each Alternative's development scenario forecast. The tables provide estimated aggregate population, households and jobs in 2030 and 2040 for all TAZ within a three-mile radius of each Alternative. The 'baseline' represents the Commonwealth's projected total for population, households and jobs by corridor in 2030 and 2040. The 'Revised 2040" represents anticipated "new" 2040 projections developed using the methodology outlined above. Additionally, each table below includes a "without bridge" and a "with bridge" scenario. A hypothetical bridge was assumed to be developed at the eastern end of each corridor so that the Kentucky-side and Ohio-side of the Ohio River may be connected, thus allowing for a larger capturable market.

Table 3: Alternative A Summary

	POPULATION			HOUSEHOLDS			EMPLOYMENT		
Alternative A	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**
Without Bridge	40,608	46,852	47,868	15,949	18,440	19,707	7,979	9,229	9,479
With Bridge	40,608	46,852	49,396	15,949	18,440	20,115	7,979	9,229	10,102

Table 4: Alternative B1 Summary

	POPULATION			HOUSEHOLDS			EMPLOYMENT		
Alternative B1	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**
Without Bridge	33,787	35,083	35,682	13,096	13,463	13,693	10,754	11,816	13,201
With Bridge	33,787	35,083	36,375	13,096	13,463	13,823	10,754	11,816	13,553

Table 5: Alternative D1 Summary

	POPULATION			HOUSEHOLDS			EMPLOYMENT		
Alternative D1	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**
Without Bridge	29,839	30,985	31,548	12,106	12,251	12,446	8,412	9,338	10,723
With Bridge	28,839	30,985	32,207	12,106	12,251	12,549	8,412	9,338	11,006

Table 6: Alternative D2 Summary

	POPULATION			HOUSEHOLDS			EMPLOYMENT		
Alternative D2	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**	**Baseline 2030**	**Baseline 2040**	**Revised 2040**
Without Bridge	43,208	45,087	45,984	16,978	17,385	17,730	13,333	14,758	16,697
With Bridge	43,208	45,087	47,028	16,978	17,385	17,917	13,333	14,758	17,163

Conclusions

Overall, the benchmarking analysis yielded the following key findings, many of which can be observed in the summary tables by Alternative.

- New interstates generate a premium on county-level population, household and employment growth. The analysis shows that rural counties tend to see larger percentage gains over the short-term from development of a new interstate.

- The top 25% of rural counties that gained a new interstate see population growth at a rate that is, on average, 3.7 times greater than that of rural counties without interstates. Similarly, rural counties see the number of households grow at 3.6 times the benchmark rate, while employment growth is 6 times greater than non-interstate counties.

- While rural counties see the largest marginal growth rates, rural transitional and suburban counties with new interstates still see the greatest net growth. On average, in the period following construction:

    - Rural counties gain 247 people, 210 households, and 283 employees

    - Rural transitional counties gain 1,274 people, 913 households, and 848 employees

    - Suburban counties gain 16,754 people, 7,440 households, and 8,120 employees

- Implicitly, while rural and rural transitional county growth is likely largely due to the impact of a new interstate, suburban county growth is likely a reflection of broader growth drivers.

- The completion of a new interstates has the highest impact on employment growth – over population or household growth – in both rural and rural transitional counties. This trend is especially apparent in Alternative D2 as a majority of this Alternative tracks within rural counties.

Population	2010	2020	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	CAGR
Kenton	159,720	165,583	171,662	172,281	172,904	173,528	174,155	174,784	175,415	176,049	176,684	177,323	177,963	0.4%
Boone	118,811	146,925	181,693	185,593	189,577	193,646	197,803	202,049	206,387	210,817	215,343	219,965	224,687	2.1%
Campbell	90,336	89,555	88,780	88,703	88,626	88,549	88,472	88,395	88,318	88,242	88,165	88,088	88,012	-0.1%
Grant	24,662	26,353	28,159	28,347	28,535	28,725	28,916	29,109	29,302	29,497	29,694	29,891	30,090	0.7%
Pendleton	14,877	14,957	15,037	15,045	15,053	15,061	15,069	15,078	15,086	15,094	15,102	15,110	15,118	0.1%
Owen	10,841	11,042	11,247	11,267	11,288	11,309	11,329	11,350	11,371	11,392	11,413	11,434	11,455	0.2%
Carroll	10,811	11,255	11,716	11,764	11,811	11,858	11,906	11,954	12,002	12,051	12,099	12,148	12,197	0.4%
Gallatin	8,589	8,994	9,419	9,462	9,506	9,550	9,594	9,638	9,683	9,728	9,772	9,818	9,863	0.5%

Households	2010	2020	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	CAGR
Kenton	68,975	70,414	71,883	72,032	72,181	72,330	72,479	72,629	72,779	72,930	73,081	73,232	73,383	0.2%
Boone	46,154	58,211	73,419	75,143	76,907	78,713	80,561	82,453	84,389	86,371	88,399	90,475	92,599	2.3%
Campbell	39,523	38,707	37,907	37,828	37,749	37,670	37,592	37,513	37,435	37,357	37,279	37,202	37,124	-0.2%
Grant	9,942	10,430	10,943	10,995	11,048	11,101	11,154	11,208	11,262	11,316	11,370	11,425	11,480	0.5%
Pendleton	6,339	6,272	6,206	6,199	6,192	6,186	6,179	6,173	6,166	6,160	6,153	6,147	6,140	-0.1%
Owen	5,634	5,395	5,165	5,143	5,121	5,099	5,077	5,055	5,033	5,011	4,989	4,968	4,946	-0.4%
Carroll	4,696	4,714	4,733	4,734	4,736	4,738	4,740	4,742	4,744	4,745	4,747	4,749	4,751	0.0%
Gallatin	3,786	3,842	3,899	3,905	3,911	3,916	3,922	3,928	3,934	3,940	3,945	3,951	3,957	0.1%

Employment	2010	2020	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	CAGR
Kenton	80,178	92,580	106,900	108,449	110,020	111,614	113,231	114,871	116,535	118,223	119,936	121,673	123,436	1.4%
Boone	88,264	104,947	124,783	126,962	129,180	131,435	133,731	136,066	138,442	140,860	143,320	145,822	148,369	1.7%
Campbell	38,636	43,719	49,472	50,087	50,710	51,341	51,979	52,626	53,280	53,943	54,614	55,293	55,981	1.2%
Grant	8,407	9,340	10,376	10,486	10,597	10,709	10,822	10,936	11,052	11,169	11,287	11,406	11,527	1.1%
Pendleton	4,154	4,568	5,023	5,071	5,120	5,169	5,218	5,268	5,318	5,369	5,420	5,472	5,524	1.0%
Owen	3,488	3,790	4,118	4,152	4,187	4,222	4,257	4,292	4,328	4,364	4,400	4,437	4,474	0.8%
Carroll	7,817	8,578	9,413	9,501	9,590	9,680	9,770	9,861	9,953	10,046	10,140	10,234	10,330	0.9%
Gallatin	2,922	3,218	3,543	3,578	3,612	3,647	3,683	3,718	3,754	3,791	3,827	3,865	3,902	1.0%