
2045 *LONG RANGE
TRANSPORTATION PLAN*

APPENDICES

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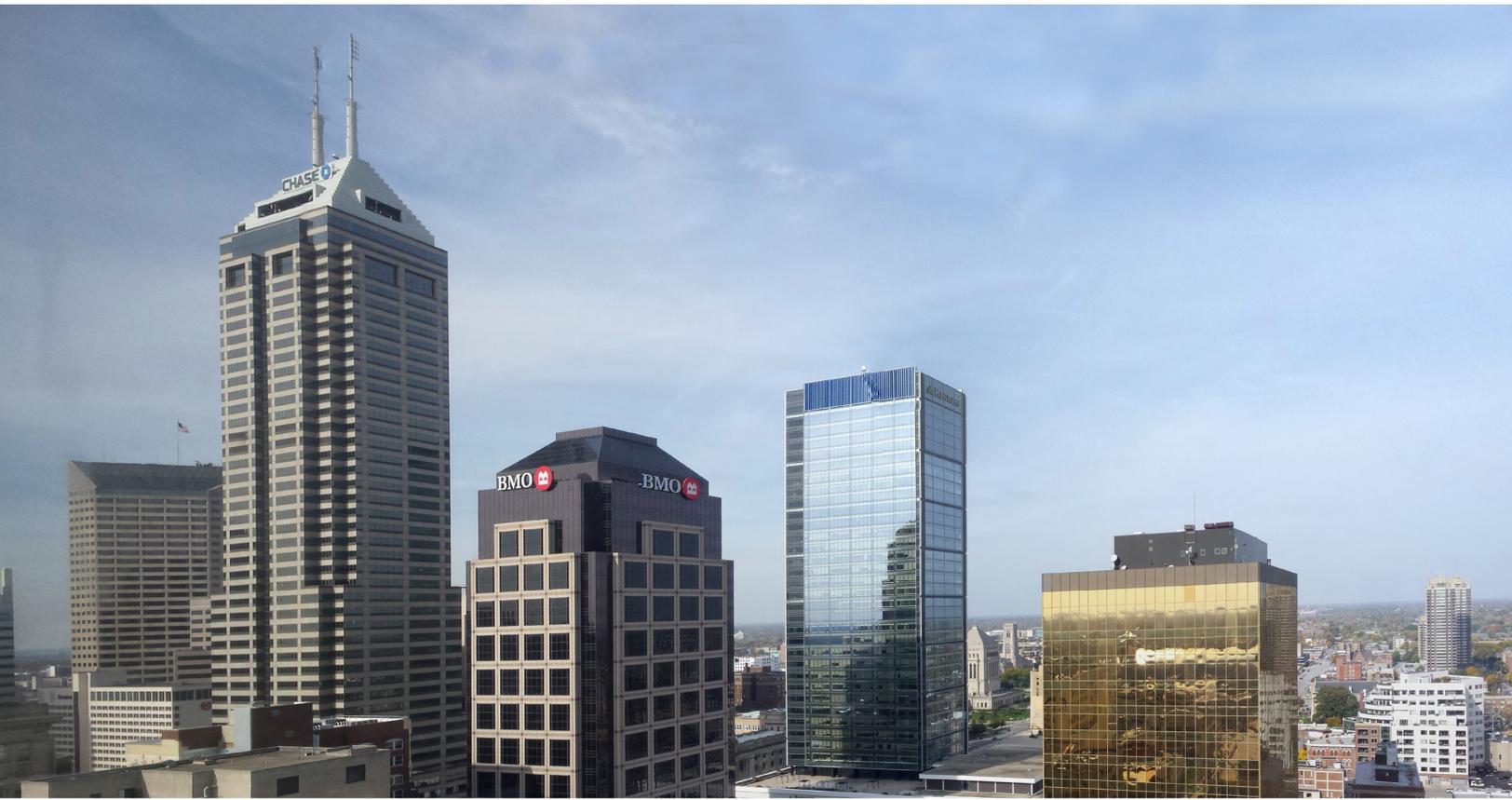
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APPENDIX A

FEDERAL REQUIREMENTS



APPENDIX A

Federal regulations outline requirements for certain products metropolitan planning organizations produce, including long range transportation plans. The 2045 LRTP must meet certain requirements as outlined in federal regulations, contained in the Code of Federal Regulations. In the case of a long range transportation plan, the regulations are spelled out, primarily, in 23 Code of Federal Regulations Section 450.306 and 450.324. The following table outlines the long range transportation plan requirements and how the 2045 LRTP addressed those requirements.

REGULATION	TEXT	NOTES
23 CFR 450.306(b)	The LRTP reflects consideration of the eight planning factors?	Reviewed and addressed through our Goals and Objectives (See Chapter 4)
23 CFR 450.104	Planning factors have been addressed given scale and complexity of issues?	Reviewed and addressed through our Goals and Objectives (See Chapter 4)
23 CFR 450.324(a)	The LRTP covers at least a 20-year planning horizon as of the effective date?	LRTP covers at least a 20 year planning horizon (from 2016 to 2045).
23 CFR 450.104	Does the LRTP include an air quality conformity determination?	No longer required for Indianapolis MPA.
23 CFR 450.324(d)	Includes long- and short-range planning strategies?	Reviewed and addressed through Goals and Objectives and Project Screening (See Chapters 4 and 5)
23 CFR 450.324(b)	Updated within four years for nonattainment, five years for attainment?	Updated 6 years after last update because the IRTC reaffirmed the Goals and Objectives of the 2035 LRTP in 2015.
23 CFR 450.324(e)	In nonattainment and maintenance areas is there a process for developing transportation control measures (TCM)?	Addressed in regional Complete Streets Policy and Congestion Management Process (See Appendix M)
23 CFR 450.324(f)	Latest available estimates and assumptions for land use, population, travel, employment, congestion and economic activity were used in the update of the transportation plan?	Yes, in the Demographics and Commuting technical memorandum (See Appendices C and D)
23 CFR 450.324(g-1)	Projected transportation demand of persons and goods	Yes, during forecasting of population and employment.
23 CFR 450.324(g-2)	Identifies existing and proposed transportation facilities, including roads, transit, bicycle and pedestrian facilities, multimodal and intermodal facilities	Major roadway and transit projects are identified in the plan; all other projects are identified by reference in the 2045 LRTP.
23 CFR 450.324(g-5)	Operational and management strategies to improve performance of the existing and proposed transportation facilities to relieve vehicular congestion and maximize safety	Identified in the Congestion Management Plan (See Appendix M).
23 CFR 450.324(g-6)	Identifies congestion management strategies and identifies SOV projects that result from congestion management process (TMAs only)	Identified in the Congestion Management Plan (See Appendix M).

REQUIREMENTS

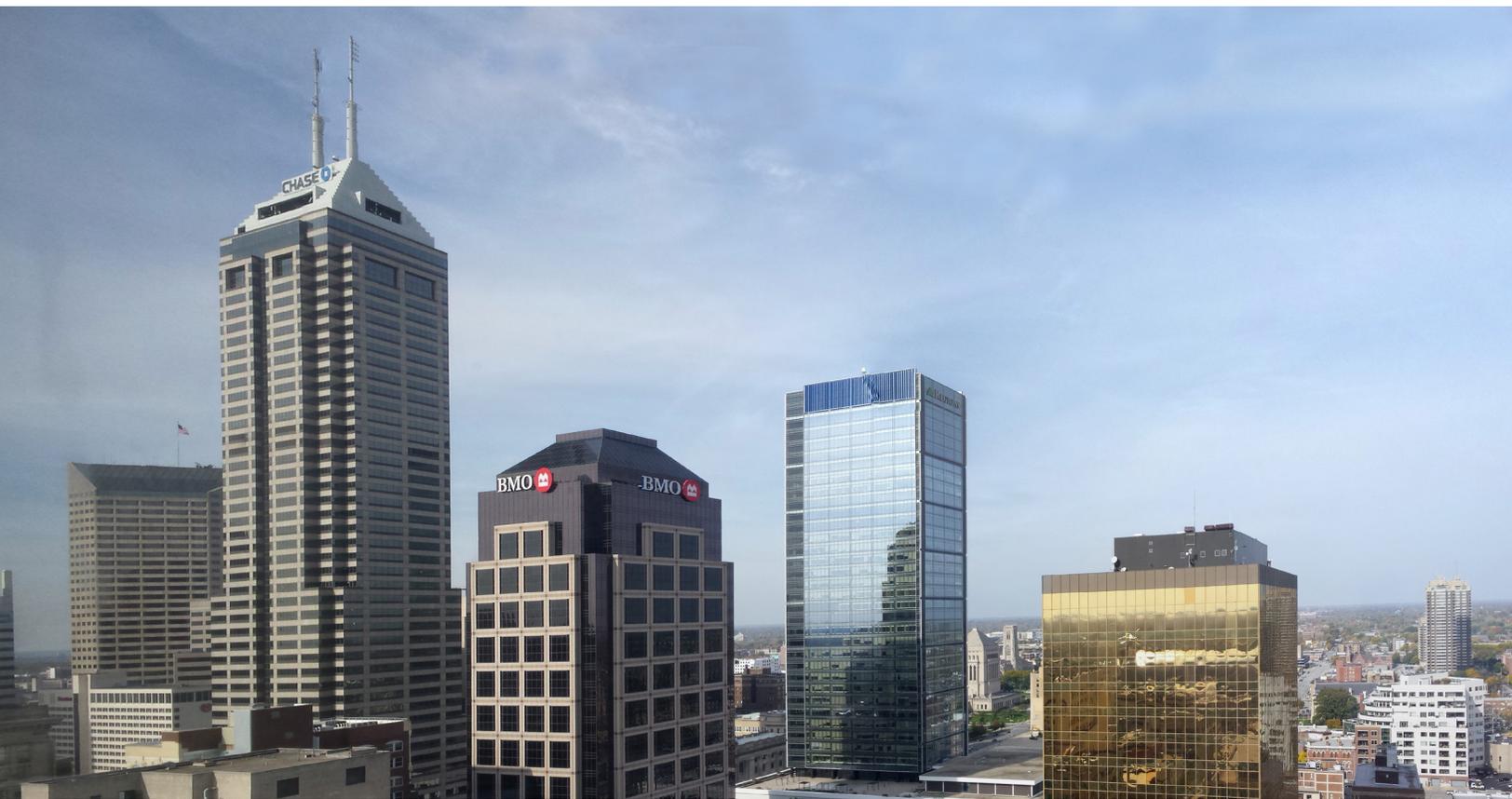
REGULATION	TEXT	NOTES
23 CFR 450.324(g-7)	Assessment of capital investment and other strategies to preserve existing and projected future transportation infrastructure and multimodal capacity increases	Identified in the Congestion Management Plan (See Appendix M).
23 CFR 450.324(g-9)	List of all existing and proposed transportation facilities (including design concept, scope, descriptions, and source of funds)	Identified during the project call and revenue forecast.
23 CFR 450.324(g-10)	General discussion of types of potential environmental mitigation activities at the corridor or regional level (i.e., policy/strategy level, not project-specific) and potential areas to carry out activities developed in consultation with Federal, state and tribal wildlife, land management, and regulatory agencies.	A general discussion of environmental issues is contained in the Red Flag Investigation chapter, along with project-specific issues (See Appendix R)
23 CFR 450.324(g-12)	Pedestrian walkway and bicycle facilities (23 USC 17 (g))	Included by reference to the Regional Bikeways Plan.
23 CFR 450.324(g-8)	Transit enhancement activities	Specific projects are included in the Plan and the transit planning activities are outlined in the Plan.
23 CFR 450.324(g-11)	Financial plan that demonstrates how the adopted transportation plan can be implemented and includes strategies for implementation of any new funding sources (23 USC 101 (a)(5)).	Addressed in the revenue forecasting chapter and appendices (See Chapter 5 and Appendix K)
23 CFR 450.324(g-11-i)	Financial plan contains system-level estimates of costs and revenue sources reasonably expected to be available to operate and maintain the transportation system	Addressed in the revenue forecasting chapter and appendices (See Chapter 5 and Appendix K).
23 CFR 450.324(g-11-ii)	Public Transit operators were included in the cooperative development of funding estimates for the financial plan.	Contacted IndyGo and received their revenue forecasts.
23 CFR 450.324(g-11-iii)	Financial plan includes recommendations on any additional financing strategies to fund projects and programs in the metropolitan transportation plan.	Included as a recommendation for future work for the MPO. INDOT has conducted extensive work on potential revenue sources, including a current study on tolling.
23 CFR 450.324(g-11-iv)	All projects and strategies proposed for funding reflect “year of expenditure” dollars.	Yes.
23 CFR 450.324(g-11-vi)	In nonattainment and maintenance areas, the financial plan addresses financial strategies to ensure implementation of transportation control measures (TCM).	Addressed in Congestion Management Process (See Appendix M).

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REGULATION	TEXT	NOTES
23 CFR 450.324(h)	Consultation with state and local agencies responsible for environmental protection, land use management, natural resource and historic preservation agencies for the development of the metropolitan transportation plan	Yes.
23 CFR 450.324(h-1)	Comparison of conservation plans/maps with transportation plans	See the Red Flag Investigation section and appendices (See Appendix R).
23 CFR 450.324(h-2)	Comparison of natural or historic resources with transportation plans	See the Red Flag Investigation section and appendices (See Appendix R).
23 CFR 450.324(h-2-i)	Metropolitan transportation plan integrates the priorities, goals, countermeasures, strategies, or projects for the metropolitan planning area contained in the HSIP, including the SHSP, the Public Transportation Agency Safety Plan, or an Interim Agency Safety Plan as in effect until completion of the Public Transportation Agency Safety Plan, and may incorporate or reference applicable emergency relief and disaster preparedness plans and strategies and policies that support homeland security, as appropriate, to safeguard the personal security of all motorized and non-motorized users .	Safety is a goal of the plan and references to safety plans are included in the 2045 LRTP.
23 CFR 450.324(k)	Citizens, state and local agencies, freight transportation services, providers of freight transportation services, representatives of users of pedestrian walkways and bicycle facilities, disabled persons, and private citizens were all given reasonable opportunity to comment on the transportation plan using the participation plan.	See appendix on public involvement and stakeholder involvement (See Appendix Q).
23 CFR 450.324(l)	Metropolitan transportation plan published and made electronically accessible on the World Wide Web.	All major milestones of the 2045 LRTP were accessible on the website throughout the planning process.
23 CFR 450.324(k)	If significant written and oral comments were received during the draft metropolitan long-range plan as a result of the participation process, was a summary, analysis or report part of the final metropolitan transportation plan?	Yes. See Appendix Q).

APPENDIX B

ACRONYMS



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TERM	FULL TERM	DEFINITION
ACS	American Community Survey	Provides vital information on an annual basis about our nation and its people.
BEA	Bureau of Economic Analysis	The Bureau of Economic Analysis is an agency of the U.S. Department of Commerce.
CFR	Code of Federal Regulations	A compilation of the general and permanent rules of the executive departments and agencies of the Federal Government as published in the Federal Register.
CMAQ	Congestion Mitigation and Air Quality	Federal-aid funding program. Directs funding to projects that contribute to meeting National air quality standards. Funds are typically prohibited for projects that add capacity available to single occupancy vehicles (SOV).
CMP	Congestion Management Process	Systematic process for managing congestion; required for a TMA.
Ej	Environmental Justice	Refers to process required of state and federal agencies, specifically evaluating how projects and programs affect minority and low-income populations.
FCS	Functional Classification System	Hierarchy of roadways, from Interstate to Local. Only roadways with a classification of Minor Collector and above are eligible for federal-aid.
FHWA	Federal Highway Administration	Branch of the U.S. Department of Transportation that administers the federal-aid Highway Program.
FTA	Federal Transit Administration	A branch of the U.S. Department of Transportation that is the principal source of federal financial assistance to America's communities for mass transportation systems.
FY	Fiscal Year	The yearly accounting period beginning October 1 and ending September 30 of the subsequent calendar year.
IRTC	Indianapolis Regional Transportation Council	The IRTC is comprised of three committees: Policy, Technical, and Administrative. The IRTC Policy Committee is the governing board for the Indianapolis MPO. Its members included elected officials, town managers, and planners from across the region.
ITS	Intelligent Transportation Systems	The application of advanced technologies to improve the efficiency and safety of transportation systems.
IRTIP	Indianapolis Regional Transportation Improvement Program	The 4 year programming document for the Indianapolis MPA.

GLOSSARY

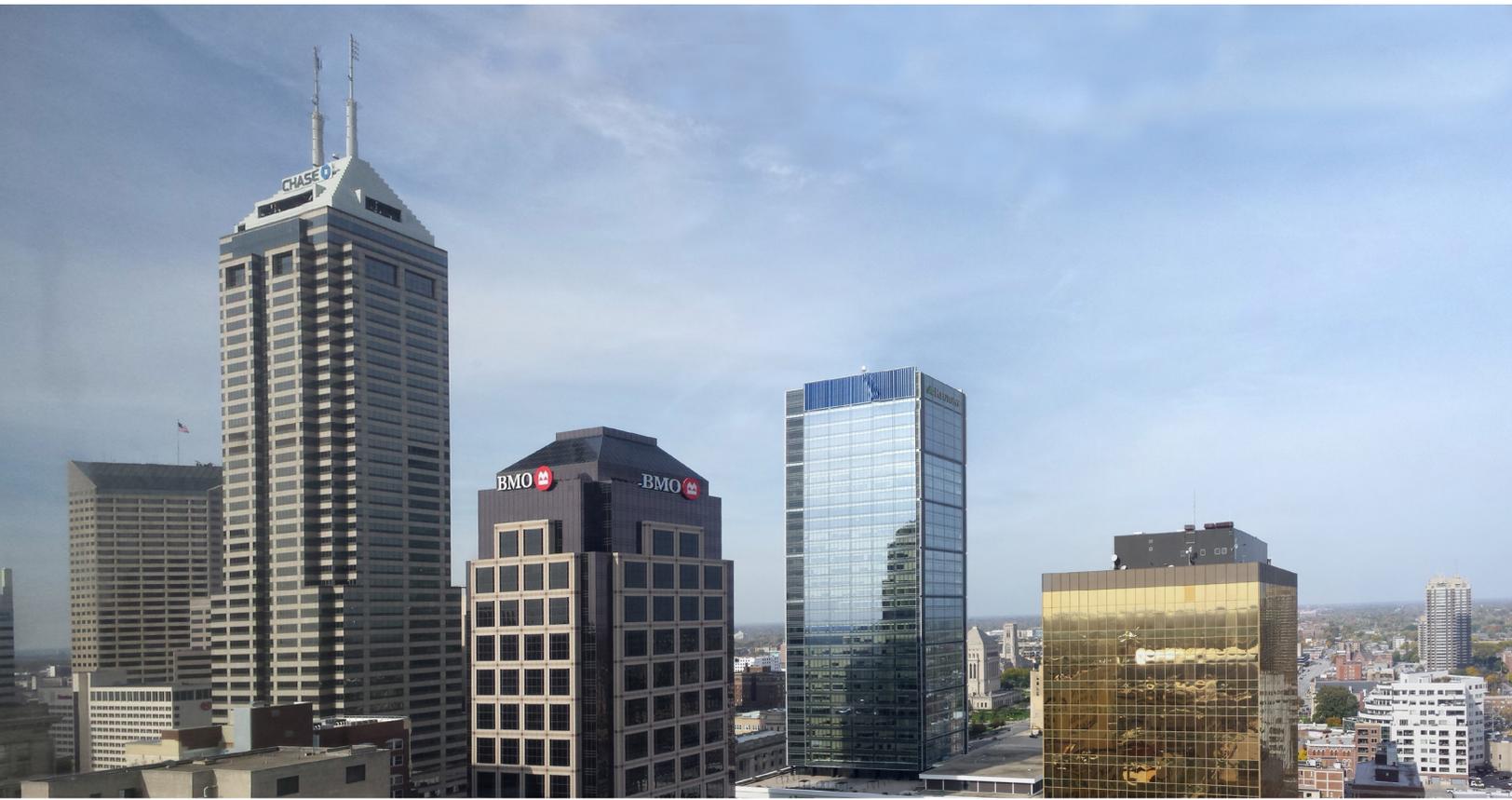
TERM	FULL TERM	DEFINITION
LOS	Level of service	A qualitative assessment of a roadway's operating conditions. Can also be used to evaluate bike, pedestrian and transit operations, but is usually a separate formula.
MPA	Metropolitan Planning Area	The designated planning area for a metropolitan planning organization. Typically this area reflects 20 years of growth from the urbanized area.
NHS	National Highway System	A system of nationally-significant roadways throughout the U.S. Also used for evaluating performance measures.
PM	Performance Measures	Specific metrics used to evaluate projects or programs.
RFI	Red Flag Investigations	Analysis of a project's potential impact on social, cultural, and environmental features.
SOV	Single occupancy vehicle	A vehicle, typically an automobile, with only a single occupant.
TDM	Travel Demand Model	The primary technical tool available to the Indianapolis MPO. The TDM estimates travel in Central Indiana.
TMA	Transportation Management Area	An urbanized area over 200,000 in population. The Indianapolis MPO is considered a TMA.
UZA	Urbanized Area	The Census-defined area that is urbanized. The urbanized area is used in calculations for federal-aid funding.
VMT	Vehicle Miles of Travel	Also known as Vehicle Miles Travelled, VMT is the number of miles travelled by vehicle and can be expressed as an annual or daily amount. VMT is usually determined by traffic counts and a travel demand model estimate.

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APPENDIX C

DEMOGRAPHICS



Technical Memorandum: Demographics

The Demographics Technical Memorandum is one in a series of technical memorandum concerning the 2045 Long Range Transportation Plan (LRTP). This memorandum will discuss the demographics in central Indiana up to 2013.¹

Population

Comprised of nine counties, the central Indiana region is 3,522 square miles in size. **Table 1** shows the absolute population of each central Indiana county from 1990 to 2013.²

	1990	2000	2010	2013
Boone County	38,147	46,107	56,640	60,477
Hamilton County	108,936	182,740	274,569	296,693
Hancock County	45,527	55,391	70,002	71,575
Hendricks County	75,717	104,093	145,448	153,879
Johnson County	88,109	115,209	139,654	145,535
Madison County	130,669	133,358	131,636	130,482
Marion County	797,159	860,454	903,393	928,281
Morgan County	55,920	66,689	68,689	69,782
Shelby County	40,307	43,445	44,436	44,729
TOTAL	1,380,491	1,607,486	1,834,467	1,901,433

Table 1 Absolute Population by County

¹ Unless otherwise noted, all data is sourced from the 2009-2013 American Community Survey (ACS) 5 Year Estimates.

² In a previous version of this memorandum, the 2013 population data was sourced from the U.S. Census 2009-2013 American Community Survey (ACS) 5 Year Estimate. However, a better source was found in the Census Population Estimate program. Data for 2013 for population, including the age cohort table, was updated to reflect the different data source.

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Population Growth

Population in the nine-county area increased 18% between 2000 and 2013, compared to a 8% increase in population statewide and 12% nationwide. Indiana added over 490,000 people between 2000 and 2013, with central Indiana absorbing over 59% of that total (293,947), despite only accounting for 10% of square miles in Indiana. Counties experiencing the highest growth rate from 2000-2013 were Hamilton County (62%), Hendricks County (47%), and Hancock County (29%). Boone County is now seeing a higher annual growth rate than all but Hamilton County. Madison County experienced a negative growth rate. **Figure 1** below shows the annualized population growth for each county.³

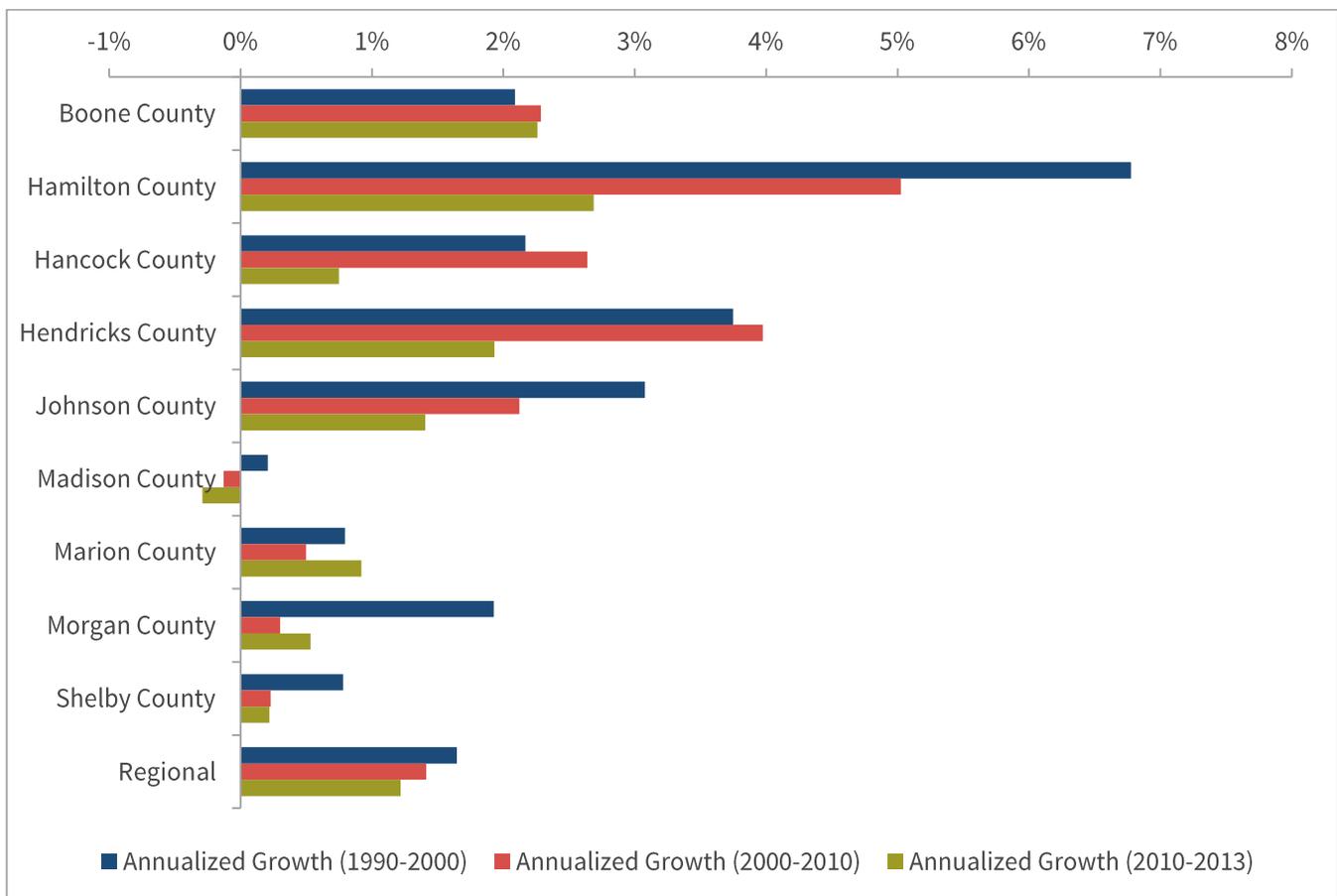


Figure 1 Percentage of Population Growth by County

³ Data from Table 1 and Figure 1 are both from the decennial Census, except for 2013 data, which uses 2013 Census Population Estimates.

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Population growth rates can be misleading. Marion County’s growth rate of 8% was one of the lowest in the region, yet its absolute population growth of 67,827 was second only to Hamilton County (113,953).

Age Distribution by Sex

The age distribution of the central Indiana population is fairly stable with between 57,000 to 69,000 people in each five-year age group for working age adults and younger. The population pyramid shown below displays the classic “chimney” shape, which is indicative of most areas in developed countries where death rates and birth rates are low and life expectancy is high.

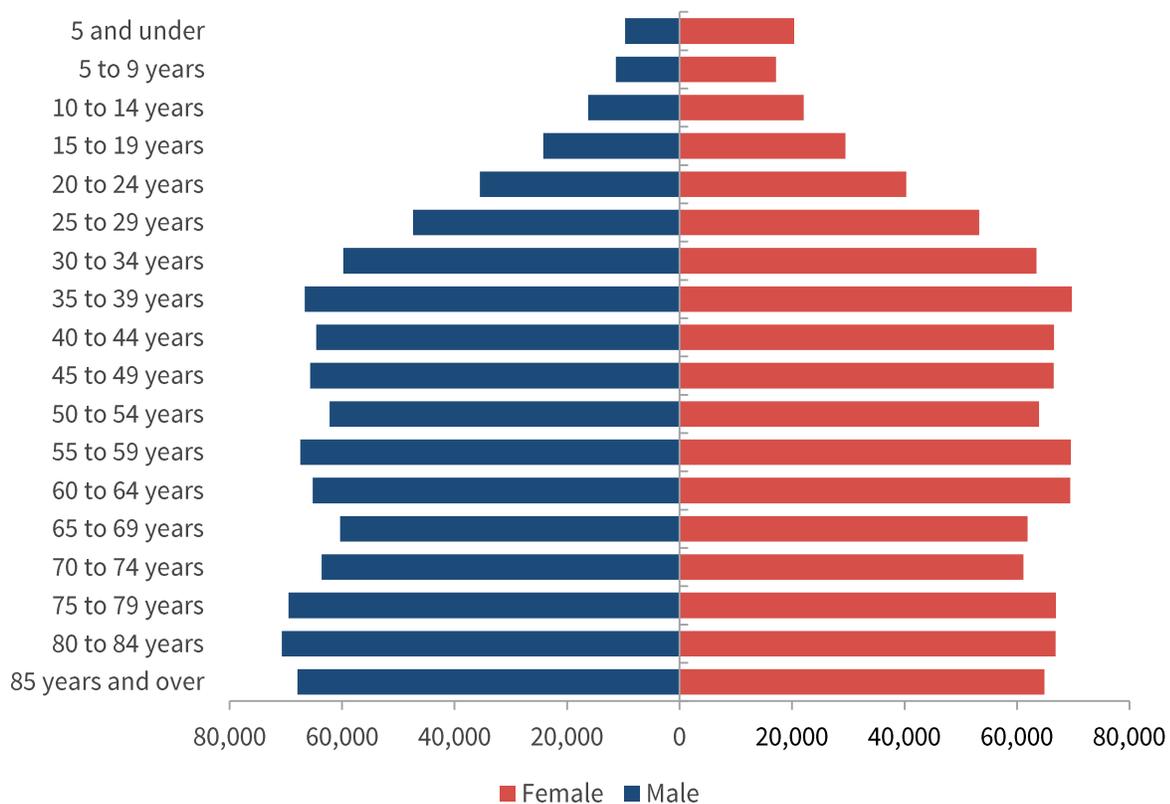


Figure 2 Central Indiana Population Distribution by Age

Population Density

Central Indiana continues to outpace the state of Indiana in population density. Only three of the nine central Indiana counties had a density lower than the state

DEMOGRAPHICS

average of 181 persons per square mile. The rapid growth in Hamilton County has contributed to a nearly 160% density increase between 2000 and 2013. Other remarkable increases in density occurred in Hendricks and Johnson County, at 97% and 61%, respectively. See **Figure 3** for a map of population density per square mile in central Indiana, based on block group level population data.

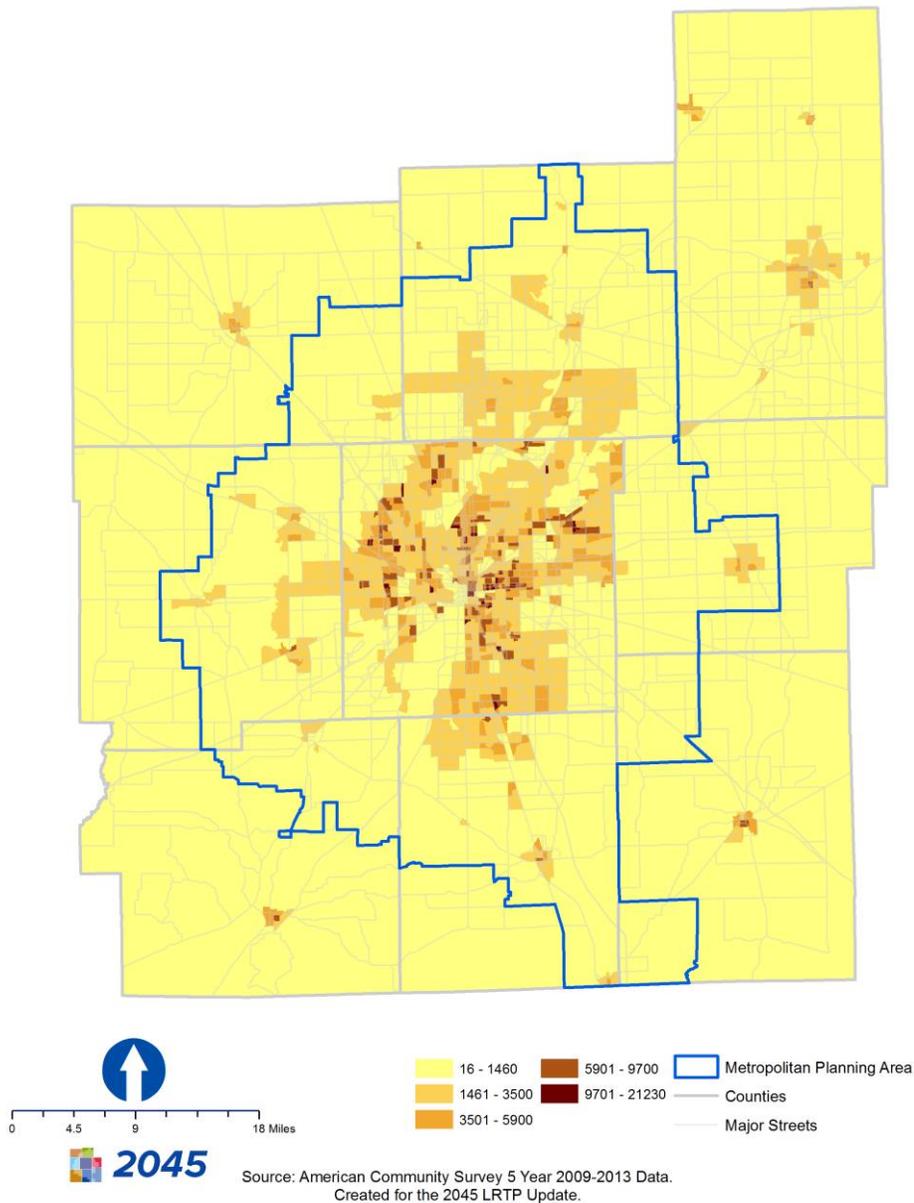


Figure 3 Central Indiana Population Density Map

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Employment

Employment Changes

According to the data⁴ from the Bureau of Economic Analysis (BEA), overall jobs have increased 11.11% in the nine-county area between 2001 and 2013. Large job growth occurred in Hendricks (61.49% increase), Boone (55.72% increase), and Hamilton (53.12% increase) Counties.

	2001	2010	2013
Boone County	25,315	34,111	39,421
Hamilton County	122,183	169,154	187,089
Hancock County	30,677	37,024	39,448
Hendricks County	51,363	75,700	82,944
Johnson County	58,960	65,820	73,275
Madison County	58,256	51,160	50,399
Marion County	680,646	642,897	674,177
Morgan County	20,389	19,581	20,267
Shelby County	22,446	20,941	22,169
TOTAL	1,070,235	1,116,388	1,189,189

Table 2 Number of Jobs by County, 2001 – 2013

With two major economic recessions happening during the 2001-2013 period, several counties experienced employment decreases. Of the nine counties, Madison (-13.49%), Marion (-0.95%), Morgan (-0.60%) and Shelby (-1.23%) Counties had decreases in jobs, as shown on Figure 4.

⁴The BEA regional employment data (Local Area Personal Income and Employment) was used for county totals of jobs (available from 2001-2013). Data of jobs by County is from table CA34; jobs by sector data is from table CA25; income by sector data is derived from CA5 and CA25.

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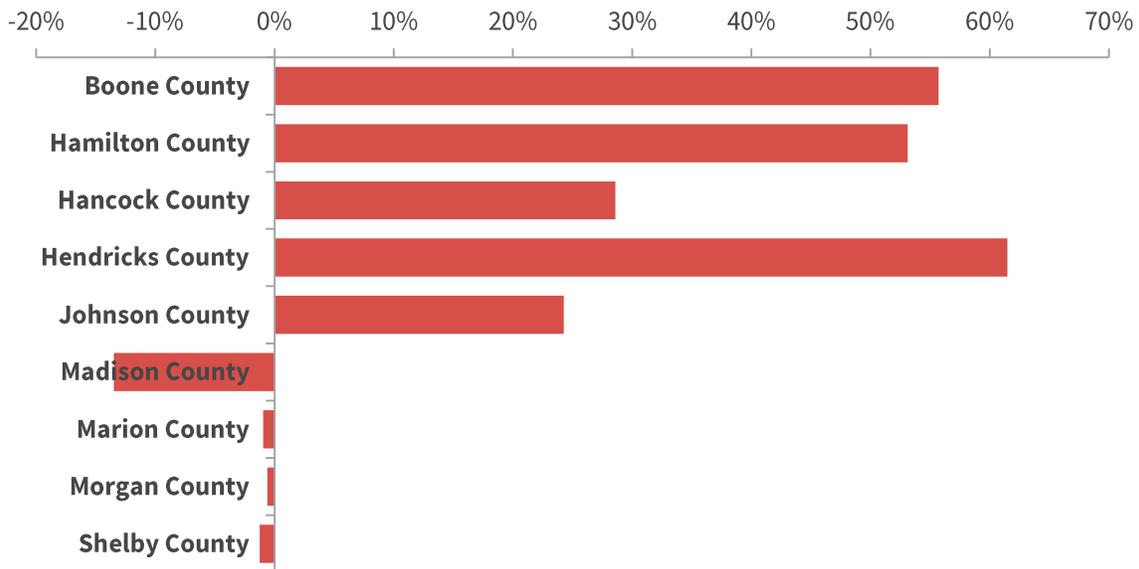


Figure 4 Percent change in Number of Jobs by County, 2001 – 2013

As shown in **Figure 5**, the change in jobs between 2001 and 2013 altered the regional distribution of jobs, shifting more jobs to the suburban counties. In particular, Hamilton and Hendricks counties both experienced significant increases in the regional share of jobs. Marion County experienced the largest drop, losing nearly 7% of its share of regional jobs since 2001.

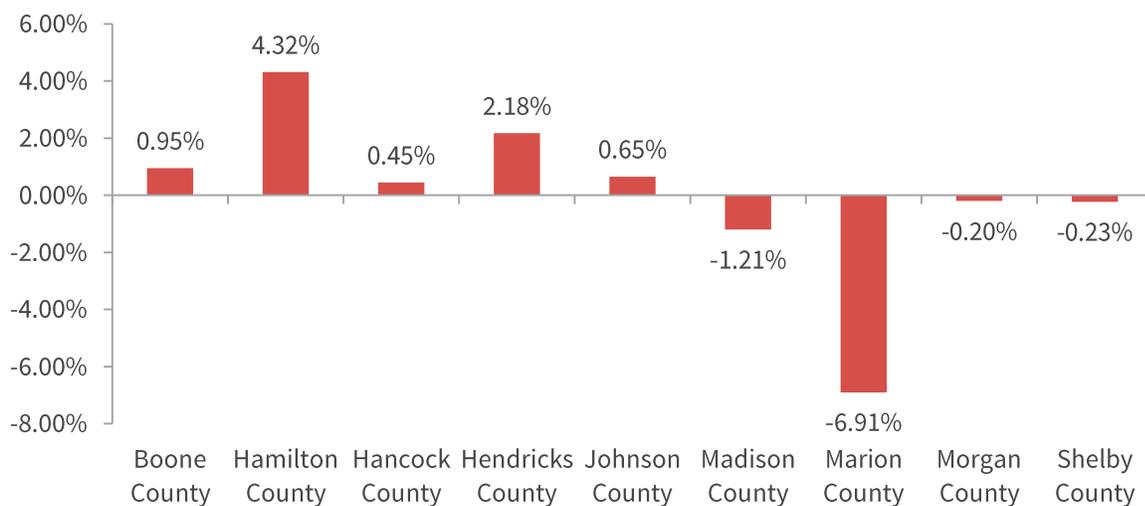


Figure 5 Change in Regional Share of Jobs, 2001 -2013

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Unemployment Rate

The 9-county central Indiana region experienced a similar unemployment trend as the rest of the United States following the Great Recession. As shown in **Figure 6**, the central Indiana region saw a similar rise in unemployment from 2009 and 2010. The region never reached the same unemployment rate as the state and recovered faster, with a peak unemployment rate of 9.6% in 2010 and a fast recovery to 8.7% in 2011; by 2014, the region was under 6% in unemployment rate.



Figure 6 Unemployment Rate, 1990 to 2014

Job Gains/Losses by Industry⁵

Overall, in 2013, Health care and social assistance, Public administration, and Retail trade are the 3 biggest sectors in the whole market; Agriculture, Mining, and Utilities are the smallest 3 sectors. Among the 20 sectors, Educational services has the highest percent growth (90%) between 2001 and 2013. Among the largest five

⁵ Jobs (share) and income of the 9-county area by North American Industry Classification System (NAICS) sectors from 2001 to 2013 were calculated with BEA data.

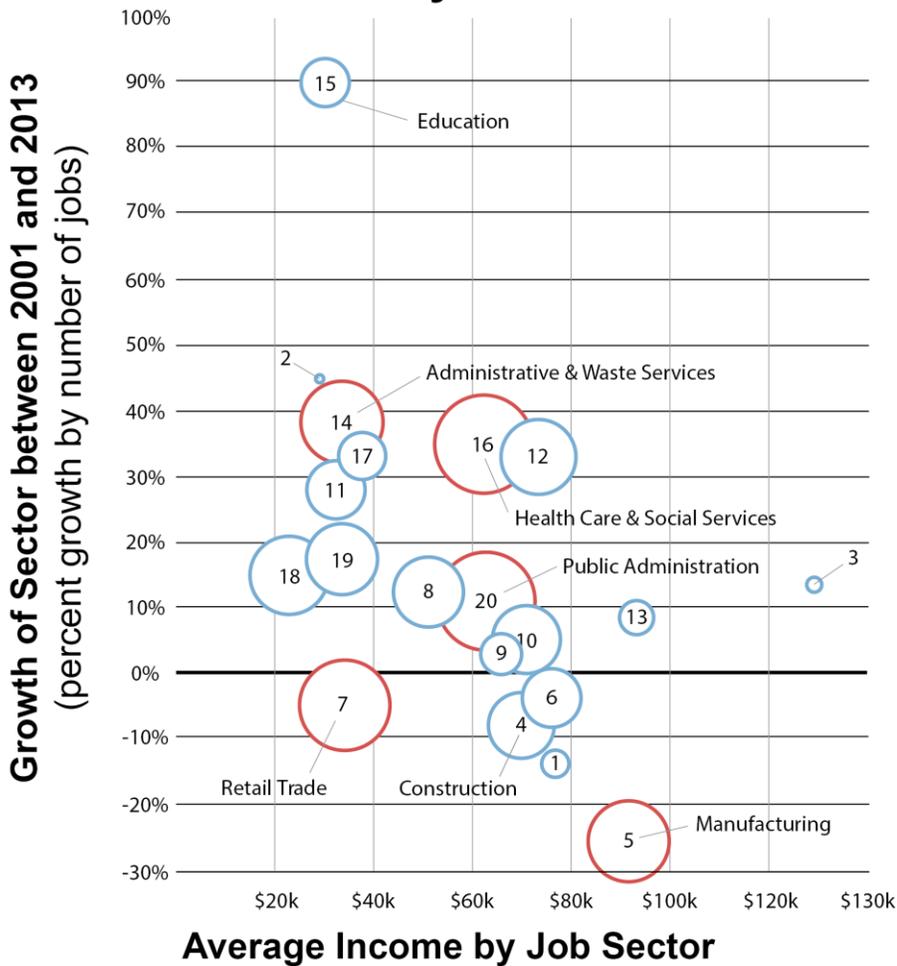
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sectors, Administrative and waste services and Health care and social assistance have shown the most growth at 38% and 35% respectively. Manufacturing (the fifth largest sector) has shown the largest decline in job share from 2001-2013 at 25%. The third largest sector, Retail trade, lost approximately 5% of its jobs over the same time period. Most of the big changes happened in 2001-2010, which may be caused by the big recession in 2007. Error! Reference source not found. provides details on the size, growth and income level of each sector.

Income Changes by Industry

On the income side, in 2013, Utilities has the highest average income, followed by Manufacturing and Management of companies and enterprises; Accommodation and food services, Mining, and Educational services are the bottom 3 sectors in average income. From 2001-2013, the biggest average income growth was in Agriculture, forestry, fishing and hunting (\$29,700 to \$77,020, 159.33%). Big income decreases happened in Mining (\$54,769 to \$28,230, -48.46%), Real estate and rental and leasing (\$47,963 to \$32,365, -32.52%), and Management of companies and enterprises (\$113,165 to \$93,020) sectors, as shown in **Figure 8**.

Size, Growth and Average Income Level by Job Sector



#	Sector	Jobs	#	Sector	Jobs
1	Agriculture, forestry, fishing & hunting	10,022	11	Real estate & rental & leasing	45,768
2	Mining, quarrying, oil & gas extraction	871	12	Professional technical services	75,844
3	Utilities	3,032	13	Management of companies & Enterprises	15,725
4	Construction	58,574	14	Administrative & waste services	91,268
5	Manufacturing	88,709	15	Educational Services	31,336
6	Wholesale Trade	46,522	16	Health care & social services	130,299
7	Retail Trade	110,470	17	Arts, entertainment & recreation	29,958
8	Transportation & warehousing	66,192	18	Accommodation & food services	82,750
9	Information	22,624	19	Other services, except public admin	68,263
10	Finance & insurance	62,338	20	Public administration	129,989

Figure 7 Size, Growth and Income by Job Sector 2011-2013

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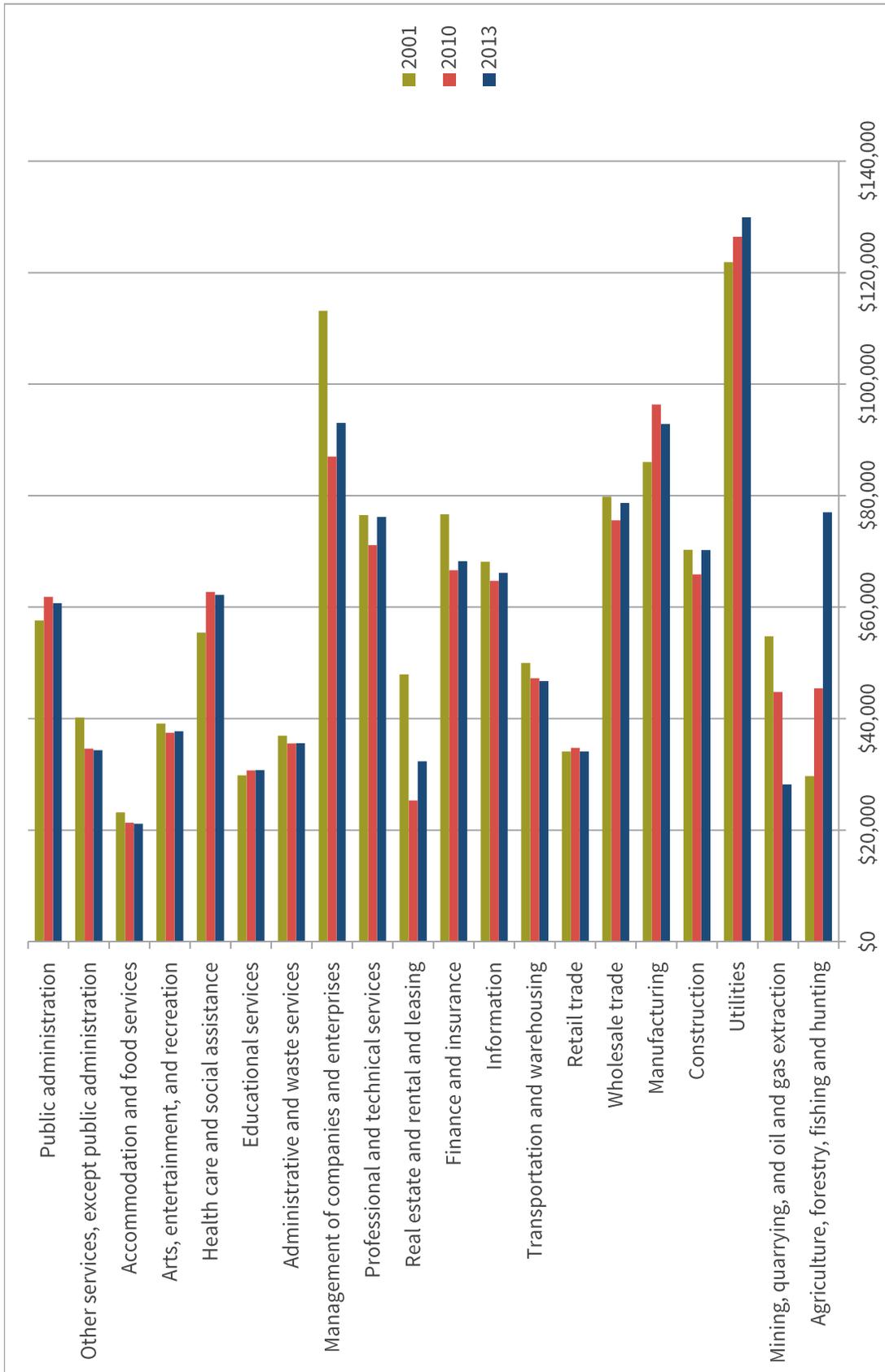


Figure 8 Pay for Jobs in Sectors, 2001 - 2013

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Housing and Income

Households

The number of households increased 28.3% in the nine-county area between 2000 and 2013. The number of persons per household increased slightly in the nine-county area (2.5 persons per household in 2000 to 2.6 persons per household in 2013). A similar increase occurred at the state level (from 2.53 in 2000 to 2.55 in 2013). From 2010 to 2013 (see **Figure 9**), however, only four counties showed household growth: Boone, Hamilton, Hendricks, and Johnson. Boone and Hamilton saw the largest growth at 3.6% and 3.4%, respectively.

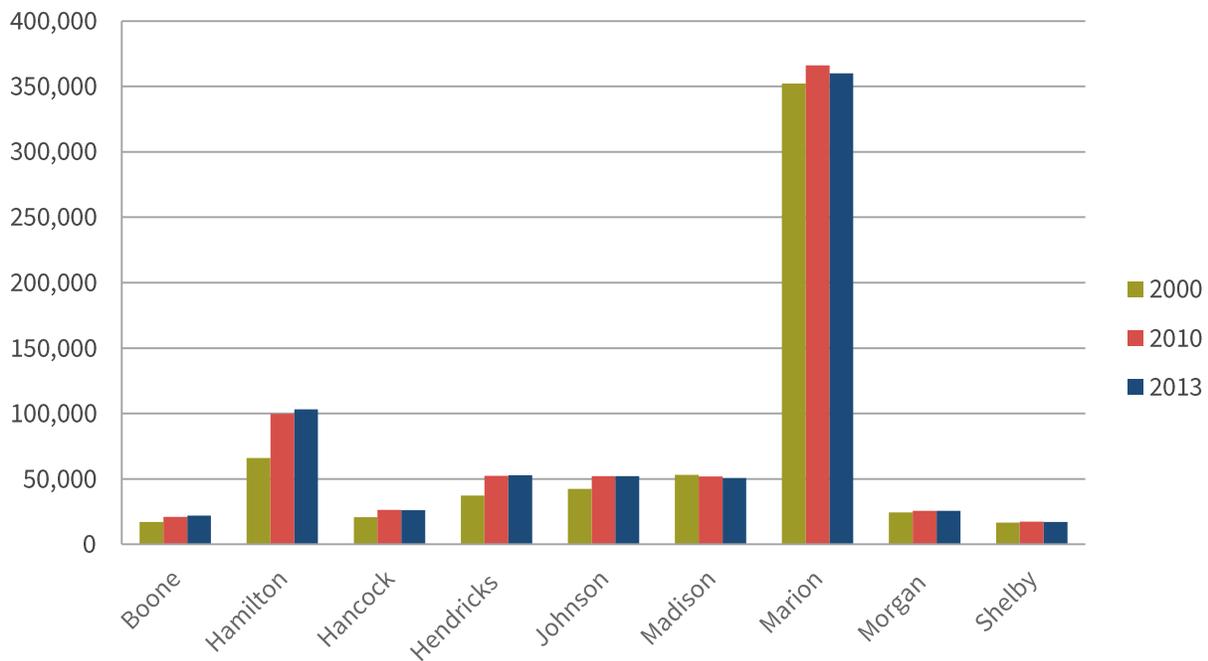


Figure 9. Total Households by County

Housing Units

Statewide, the number of housing units increased 10.6% between 2000 and 2013. The nine-county area experienced an increase of 17.1% during this period. At the county level, the greatest increase occurred in Hamilton County, where housing units increased 56.8%.

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Homeownership Rates

The housing crisis in 2008 pushed homeownership rates in central Indiana to 66.1% in 2013, down from 76.3% in 2000. Madison County saw the greatest drop (4%) but every county suffered at least a 1% drop in the homeownership rate, as displayed in **Figure 10**.

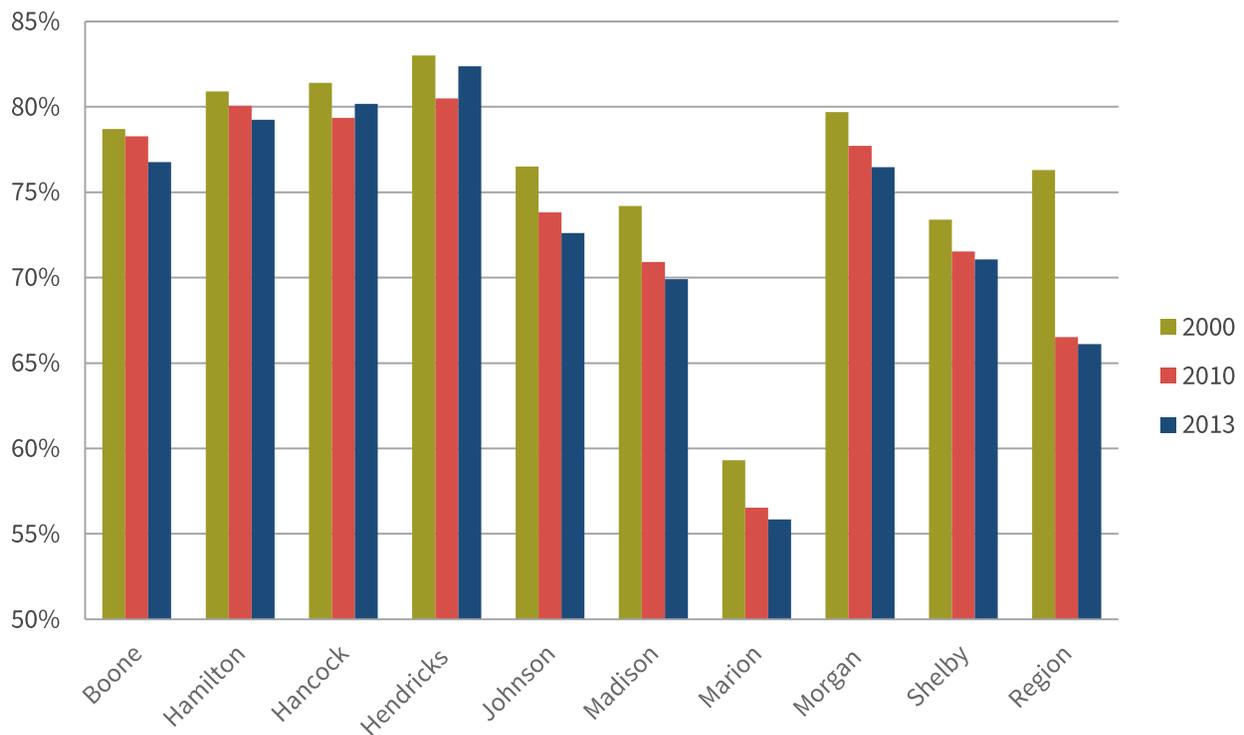


Figure 10 Homeownership Rates, 2000-2013

Median Household Income

Median household income experienced a precipitous decline following the financial crisis, as shown in **Figure 11**. Adjusting to 2013 real income, median household income declined compared to 1990 in all counties but Boone and Hamilton. The

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remaining counties have an adjusted median household income below their 1990 levels.⁶

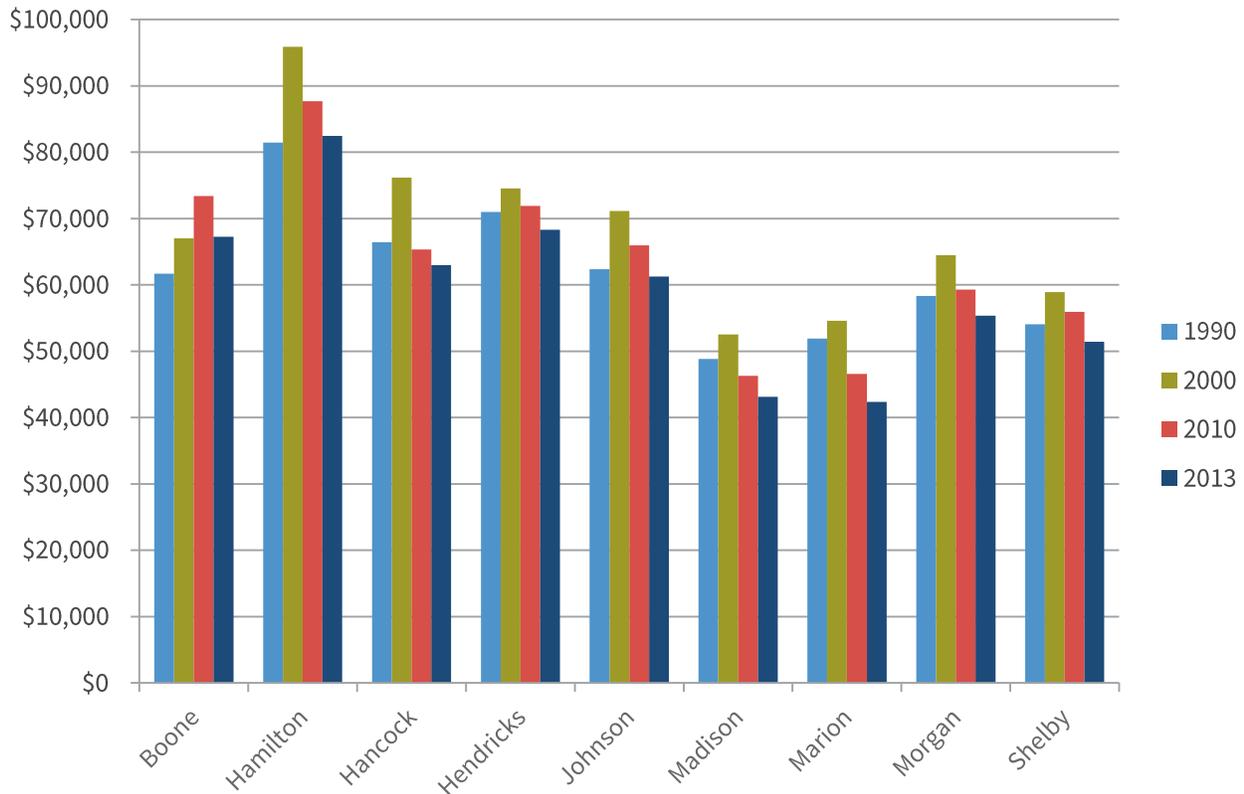


Figure 11 Median Household Income, Adjusted for Inflation

Educational Attainment

Educational Attainment can be one measurement of economic competitiveness for an area. Residents with a Bachelor's Degree are likely to be employed in middle class jobs. Conversely, an area with fewer residents with Bachelor's degrees may be unable to retain or attract businesses that pay, at minimum, a living wage. The higher the percentage of residents with Bachelor's Degree correlates to the strength of the economy.

⁶ Adjustment calculated using the Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) Inflation Calculator, using 2013 constant dollars.

DEMOGRAPHICS

Conversely, individuals without a high school diploma, or equivalent, face challenges when entering the work force. A decades-long restructuring of the American and global economy have largely eliminated semi- or no-skill manufacturing jobs with middle class wages and benefits. Jobs requiring at least an associates or bachelor's degree have replaced those manufacturing jobs, amplifying the earning power gap between the two cohorts. In central Indiana, the regional average of residents without high school diplomas is 11.58%. Four counties have percentages higher than the average; Madison, Marion, Morgan, and Shelby Counties.

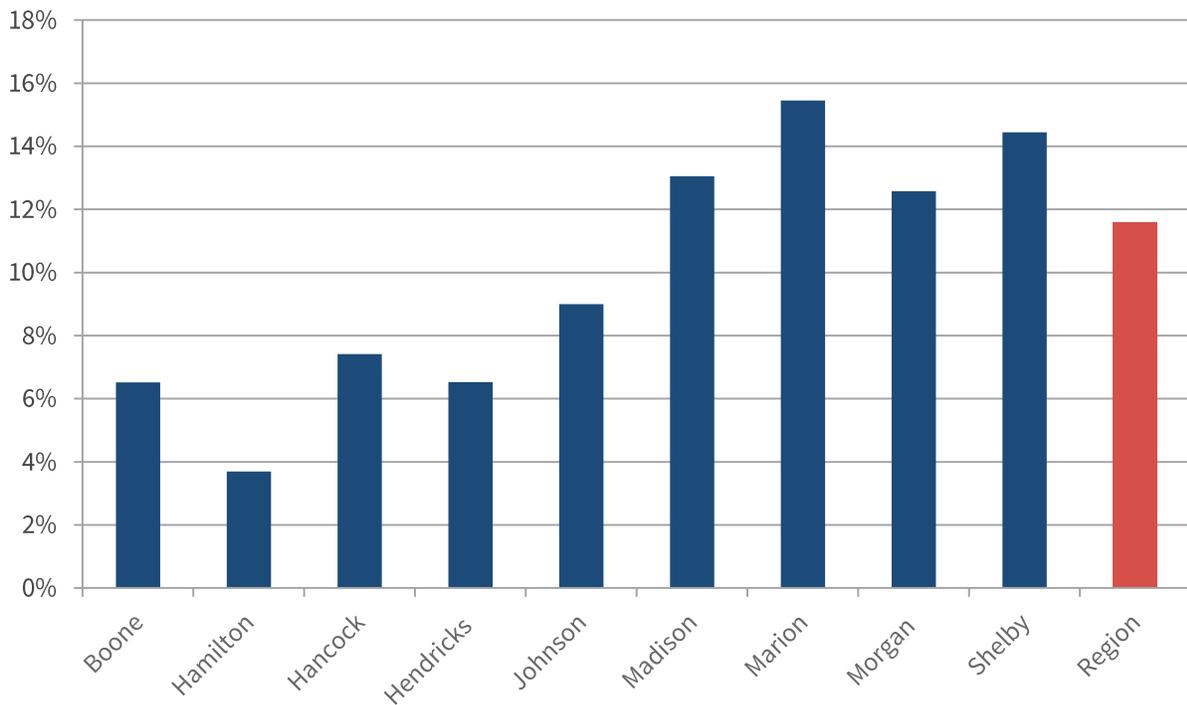


Figure 12 Percent of Residents Without High School Diploma

The trend shown in **Figure 13** continues when examining residents with a Bachelor's degree or a graduate/professional degree. Boone, Hamilton, and Hendricks all have percentages higher than the regional average for a Bachelor's degree. For residents with a graduate degree, only Boone and Hamilton exceed the

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regional average, although Hancock, Hendricks, Johnson, and Marion are all within reach of the average.

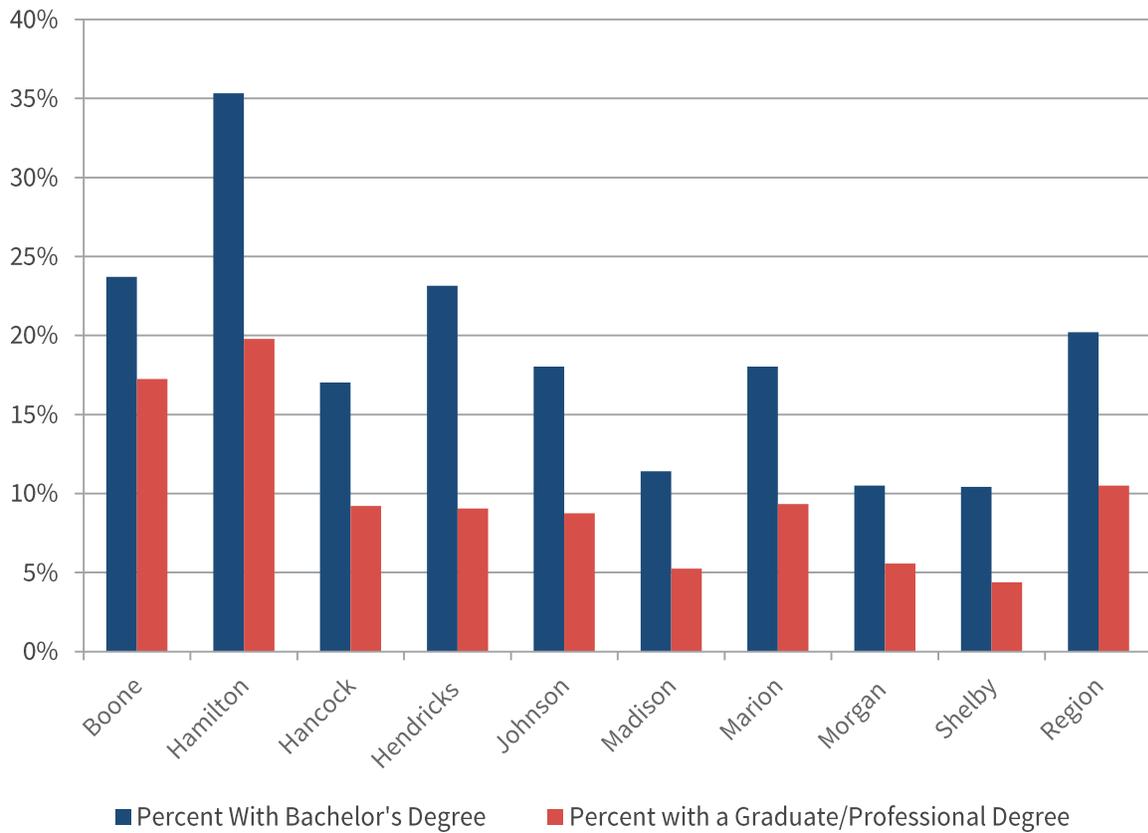
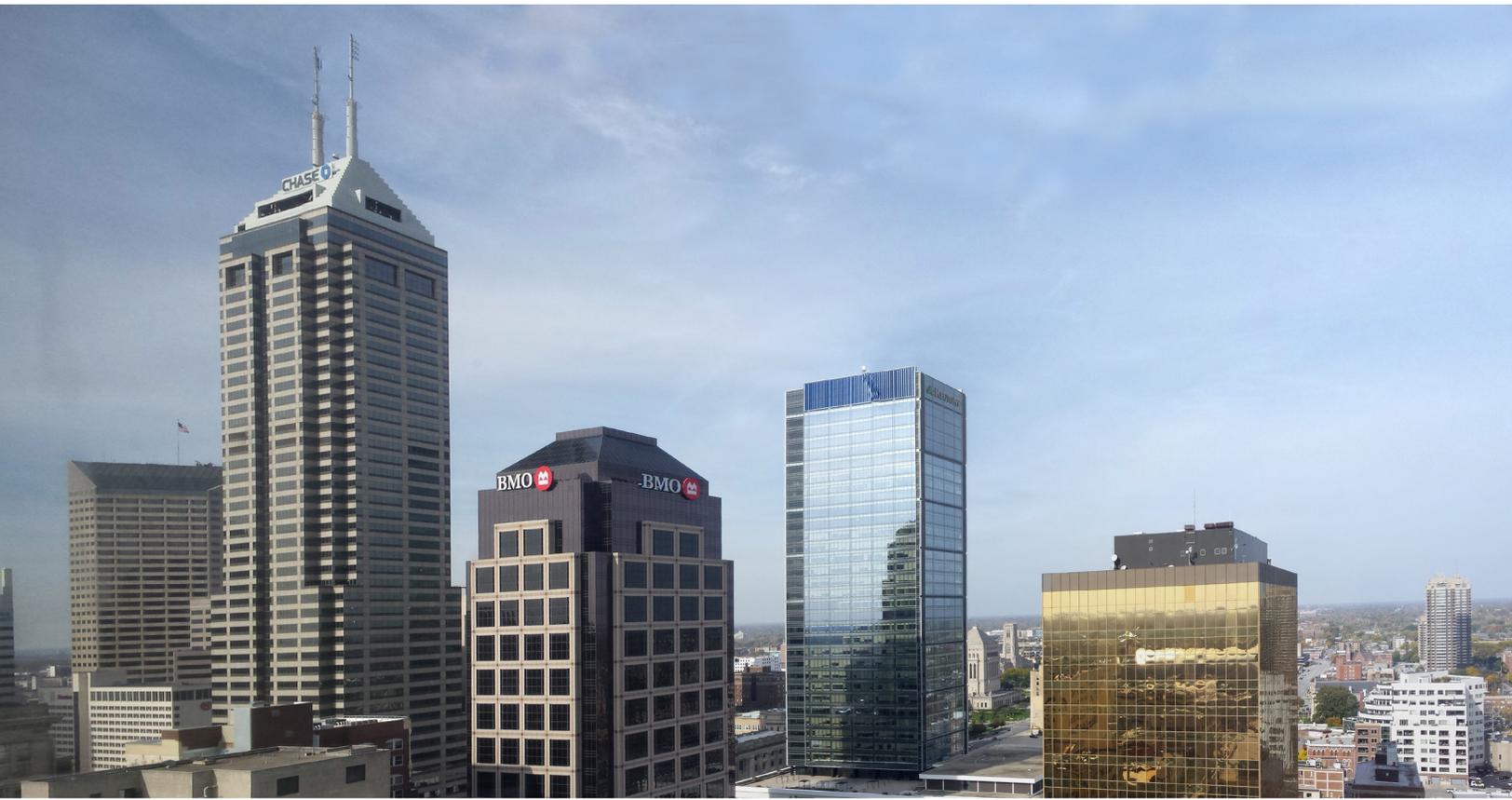


Figure 13 Percent of Residents with Bachelor's Degree or Graduate/Professional Degree

APPENDIX D

COMMUTING



Technical Memorandum: Commuting

Part of a series of technical memorandum concerning the 2045 Long Range Transportation Plan (LRTP), this memorandum will discuss the commuting patterns in central Indiana up to 2013.¹

Commute Time

The average journey to work commute time for central Indiana is 24.48 minutes. Morgan County has the highest average commute time while Marion County has the lowest, as shown in **Figure 1**.

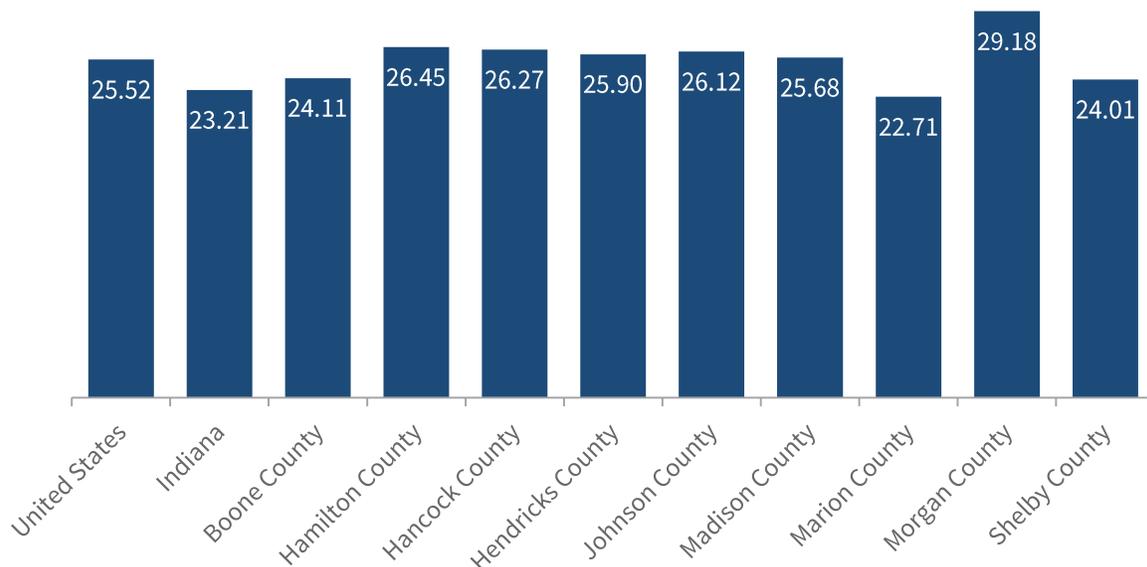


Figure 1 Average Travel Time to Work, 2013

¹ Unless otherwise noted, all data is sourced from the 2009-2013 5 Year American Community Survey (ACS) Estimates.

COMMUTING

County to County Commuting

The commuting pattern in central Indiana is dominated by commuters traveling to Marion County jobs from surrounding counties. More than 40 percent of commuters from Hendricks (49%), Hancock (45%), Hamilton (43%), and Johnson (43%) commute into Marion County. **Figure 3** shows that in general the percentage of commuters from each county traveling into Marion County is slowly decreasing over time; a trend which could be significant if it continues. The next largest importer is Hamilton County, which now sees over 27,000 Marion County residents cross the county border to work in Hamilton County each day.

As indicated in **Figure 2**, the largest commuting flows in central Indiana are from Hamilton County to Marion County (60,268 commuters), Hendricks County to Marion County (35,146 commuters), Johnson County to Marion County (29,928 commuters) and Marion County to Hamilton County (27,400 commuters). The large exchange of commuters between Marion and Hamilton Counties frequently leads to noticeable congestion on I-69 and northeast I-465 during peak commute times.

Commuters that stay within their county of origin also make up a significant portion of travel. Over 80% (344,154) of commuters that work in Marion County also live in Marion County. Other counties range between 38% and 62% of commuters that stay within their county of origin. Just over 4 percent of all commuters travel to counties outside of central Indiana.

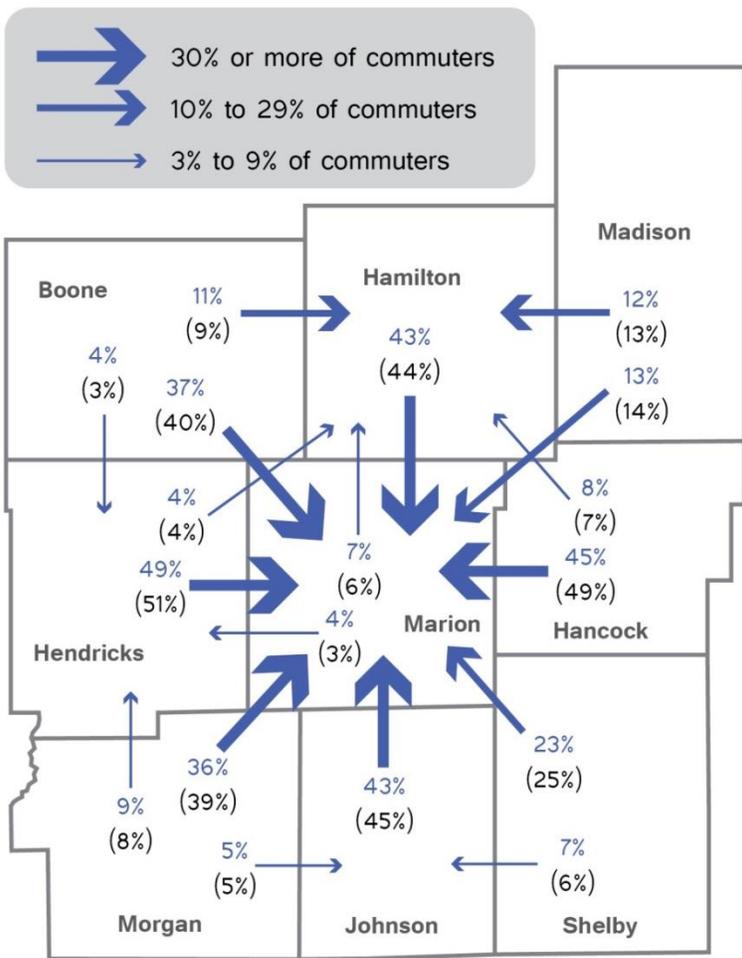
Between 2000 and 2013, total regional commuting for work increased by nearly 62,000 workers, from around 770,000 to 829,000. Marion County saw a negligible gain in commuters but Hamilton and Hendricks County saw the greatest increases, 32,000 and 18,000 respectively. Commuters to Marion County have dropped between 2006 and 2009 from every county except Boone (1.2%), Hamilton (2.3%), and Hendricks (0.3%). In Hamilton County, commuting within the county increased 58.3% and commuters from Marion County to Hamilton County increased 10%. More workers commute to Hamilton County (98,616) than commute to Marion

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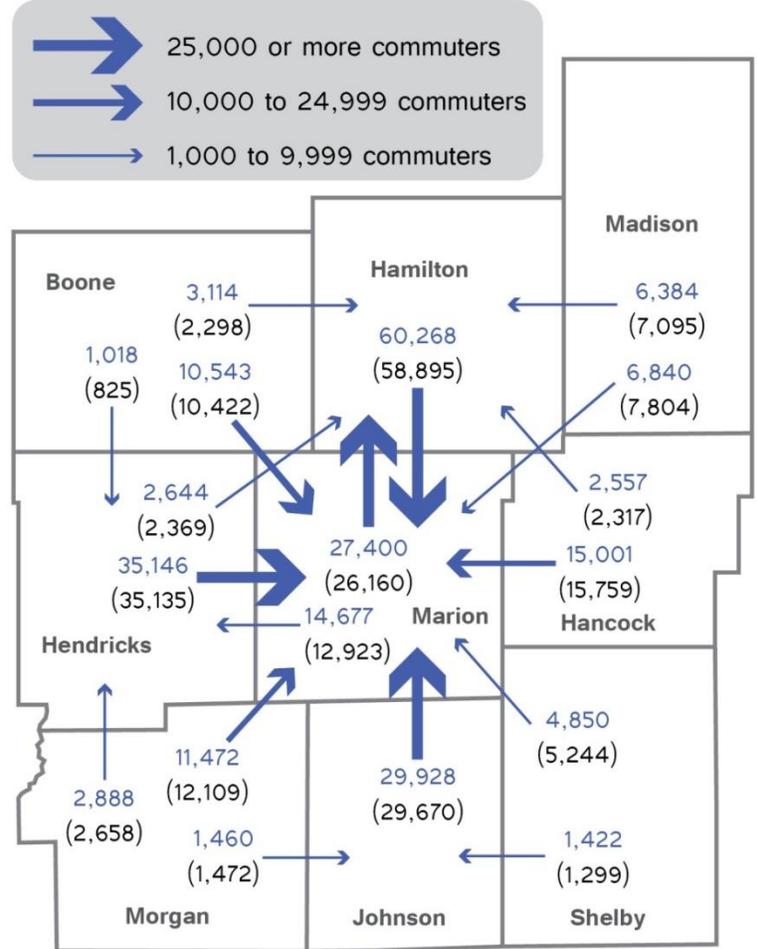
County (60,268). Hendricks County saw the greatest percentage increase and the county sending the most commuters to Hendricks County is Marion County; even higher than those from Hendricks County.

COMMUTING

Percentage of Workers Commuting County-to-County*



Number of Workers Commuting County-to-County*



Source: American Community Survey 2009-2014 (Blue), 2006-2010 (Black)

*Commuter flows of 3% or more of total

Figure 3 Percentage of Workers Commuting County-to-County

Figure 2 Number of Workers Commuting County-to-County

APPENDIX D

To Work From Residence	Boone		Hamilton		Hancock		Hendricks		Johnson		Madison		Marion					
	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009				
Boone	9,955	10,409	1,462	1,891	2,298	3,114	50	53	544	825	1,018	55	68	104	33	8,601	10,422	10,543
Hamilton	835	1,213	1,488	43,356	63,597	68,616	506	787	304	766	992	225	375	410	1,453	43,152	58,895	60,268
Hancock	101	70	91	1,513	2,317	2,557	10,150	11,224	12,588	190	147	121	205	428	389	13,995	15,759	15,001
Hendricks	467	1,067	1,695	1,376	2,369	2,644	67	80	74	19,548	26,352	530	481	671	129	28,410	35,135	35,146
Johnson	151	89	85	730	829	996	261	253	132	441	726	24,603	28,923	29,928	88	28,594	29,670	29,495
Madison	85	125	210	5,689	7,095	6,384	798	825	967	152	117	37	135	176	39,545	7,236	7,804	6,840
Marion	2,006	2,765	3,698	24,857	26,160	27,400	2,309	2,616	2,385	6,460	14,677	8,855	9,191	10,303	1,407	368,274	353,450	344,154
Morgan	82	50	114	378	456	513	97	91	57	2,042	2,658	1,689	1,472	1,460	42	13,782	12,109	11,472
Shelby	29	9	24	189	243	128	566	585	575	58	168	1,025	1,299	1,422	142	5,559	5,244	4,850
Total	13,711	15,797	18,867	79,979	105,364	112,352	14,804	16,481	18,052	29,739	44,602	37,140	42,131	44,866	43,299	517,593	528,488	517,769

To Work From Residence	Morgan		Shelby		8 Counties		9 Counties		Other		Total					
	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009				
Boone	19	11	16	38	11,274	13,697	14,883	21,229	24,106	26,345	1,450	1,885	1,948	22,679	25,991	28,293
Hamilton	45	96	121	82	46,602	63,883	66,480	89,958	127,480	135,096	4,603	5,314	6,638	94,561	132,794	141,734
Hancock	71	46	3	520	16,900	19,704	19,495	27,050	30,928	32,083	1,164	1,318	1,277	28,214	32,246	33,360
Hendricks	712	652	711	89	31,780	39,964	41,132	51,328	66,316	68,867	1,694	2,725	3,115	53,022	69,041	71,982
Johnson	605	706	772	550	31,420	33,177	33,054	56,023	62,100	62,982	2,793	4,014	5,116	58,816	66,114	68,098
Madison	11	27	35	71	14,069	16,157	14,795	53,614	50,277	47,604	5,302	5,283	5,445	58,916	55,560	53,049
Marion	1,299	1,839	1,872	1,243	48,436	57,681	63,203	416,710	411,131	407,357	7,888	8,943	9,468	388,582	420,074	416,825
Morgan	13,098	12,099	12,432	64	18,176	16,908	16,600	31,274	29,007	29,032	1,878	2,286	2,865	26,297	31,293	31,897
Shelby	0	44	57	12,848	11,933	11,905	31,210	28,984	29,003	20,416	19,565	1,381	1,656	1,680	21,797	20,787
Total	15,860	15,520	16,019	15,477	249,867	290,155	298,645	767,602	820,910	828,473	28,153	33,424	37,552	752,884	854,334	866,025

Table 1 Commuting Flow, 2000-2013

Sources: 2000 U.S. Census; 2006-2010 5 Year American Community Survey Commuting Flows, Table 1; 2009-2013 5 Year American Community Survey Commuting Flows, Table 1.

COMMUTING

Commuting Modes

Driving alone continues to dominate the central Indiana commuting patterns. All nine counties saw the share of commuters driving alone above 80%. The region saw a mix of increased and decreased commuter share for those driving alone with Hamilton County seeing a decrease and Marion County seeing an increase.

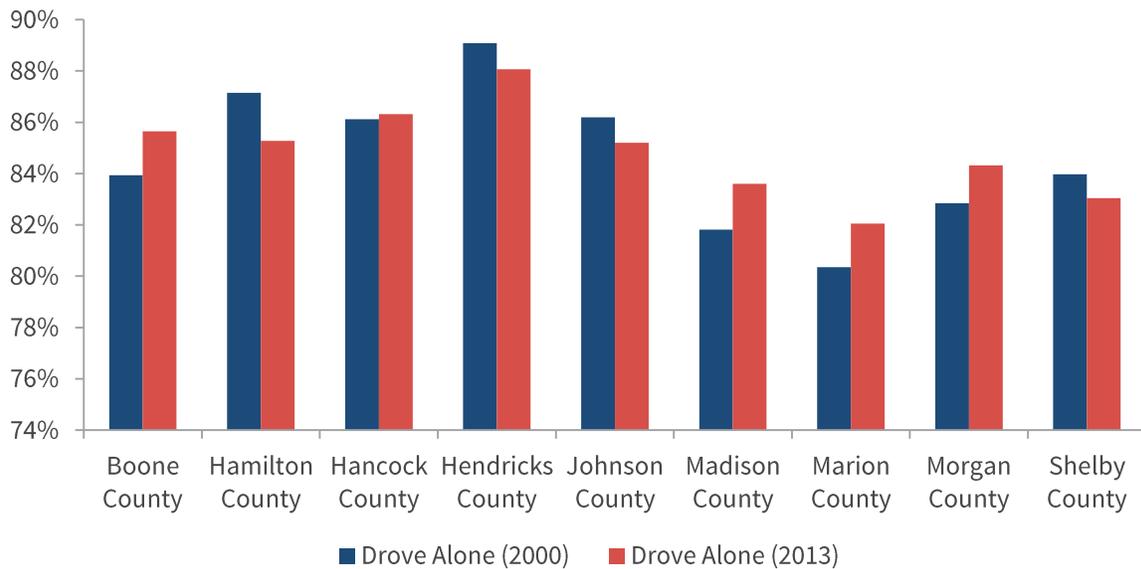


Figure 4 Percent of Commuters Who Drove Alone, 2000 and 2013

Carpooling saw a marked decline in five counties. Commuting by public transit remains a small share of the total commuting in each county and Marion County experienced a small drop from 2000 to 2013. Working from home continues to be a category showing growth in almost every county. Hamilton County now leads the way, with nearly 6% of workers in Hamilton County now working from home, an increase of approximately a percentage point. Johnson County saw the largest percentage increase of workers working from home, jumping from 2% to just over 4%.

APPENDIX D

Overall, commuting by automobile, whether alone or with another worker, remains the dominant form of transportation in central Indiana. **Figure 5** provides some context as to commuting mode share for Marion County.

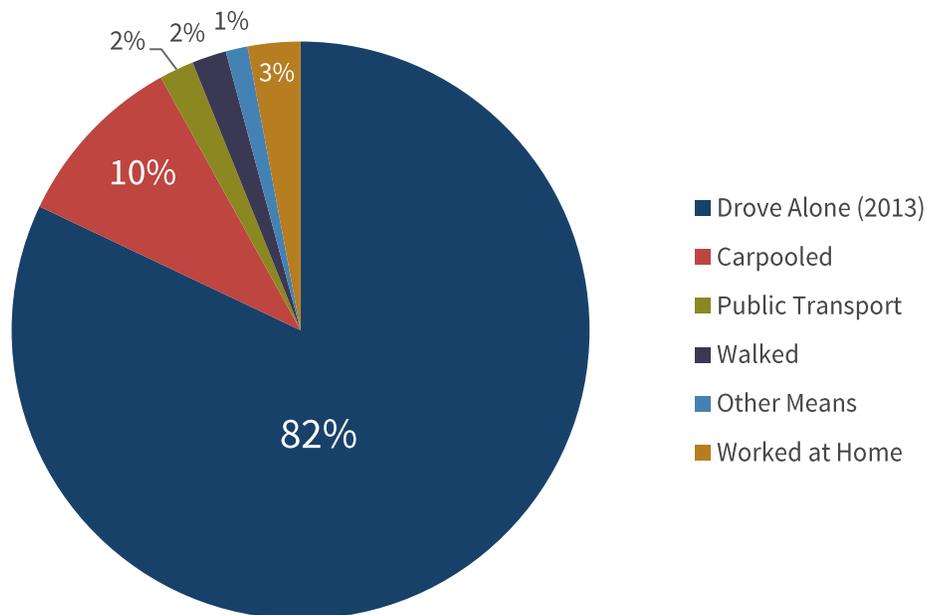


Figure 5 Marion County Commuting Mode Share, 2013

Commuting Purpose

The Indianapolis MPO completed a household travel survey in 2009.² As part of the survey, respondents were asked to explain the primary reasons for traveling. The largest reason for traveling was 32% for “All other home activities”, with only 11.5% of the overall trips were taken for work/job purposes. The average trip lasted nearly 18 minutes and covered nearly 6 miles. The longest trip times were loop trips and trips for school (43 minutes). The longest trip distance was for work, averaging just over 11 miles.

² http://www.indympo.org/Data/SurveyData/Documents/Central_Indiana_Travel_Survey_2008-2009.pdf

APPENDIX E

ENVIRONMENTAL JUSTICE



Technical Memorandum: Environmental Justice

(Updated June 2017)

The Indianapolis Metropolitan Planning Organization (MPO) seeks to treat disenfranchised and disadvantaged populations fairly in all planning and programming efforts. Specifically, such populations deserve to receive their fair share of benefits, to shoulder not more than their fair share of burdens, and to be meaningfully and equitably involved in decision-making.

Executive Order 12898 (February 1994) and related rules from the Federal Highway Administration (FHWA) and U.S. Department of Transportation (DOT) require the MPO to analyze its plans and programs to ensure they do not disproportionately burden low-income households and minority populations. The MPO also considers five additional population categories.

This memorandum discusses the distribution of disadvantaged or disenfranchised segments of our region's population. The following analysis uses data from the 2009-2013 American Community Survey 5-Year Estimate (ACS)¹ to locate concentrations of those demographic categories.

Methodology

The goal of the MPO's Environmental Justice (EJ) analysis is to find concentrations of disadvantaged and disenfranchised populations (aka "EJ populations"). The MPO calls these concentrations Areas of Concern. The two Federally required groups of minority populations and low-income households are used to define the Areas of Concern. An additional five at-risk population groups are measured and reported on (see Appendix), but not used to define Areas of Concern.

¹ This will be referred to as the ACS data or 2009-2013 ACS.

EJ ANALYSIS

Demographic Categories

The following categories of disadvantaged or disenfranchised groups make up the EJ populations that define the Areas of Concern:

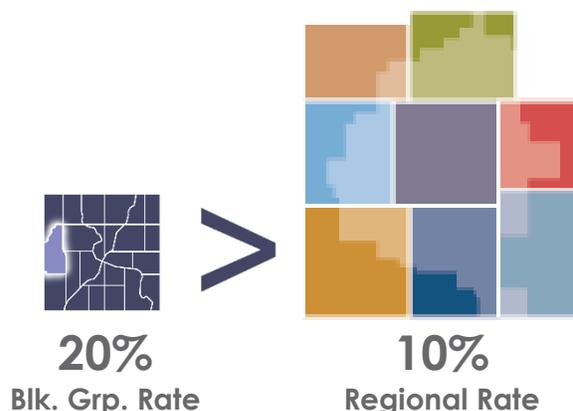
- Low-income (households below the poverty line), and
- Minority population (population reporting a race and ethnicity other than “White, Non-Hispanic”)

Geographic Area

Demographics were measured at the block group level. Block groups are areas defined by the Census to include 600-3,000 residents. Block groups are smaller than Census tracts but larger than blocks.

Designating Areas of Concern

Population rates are measured for each EJ population at the block group level. (For example, if a block group has 100 residents and 20 are minority residents, that is a minority rate of 20 percent.) When a block group’s EJ category population rate is higher than the regional rate for that category, it is a concentration of that population and an Area of Concern.



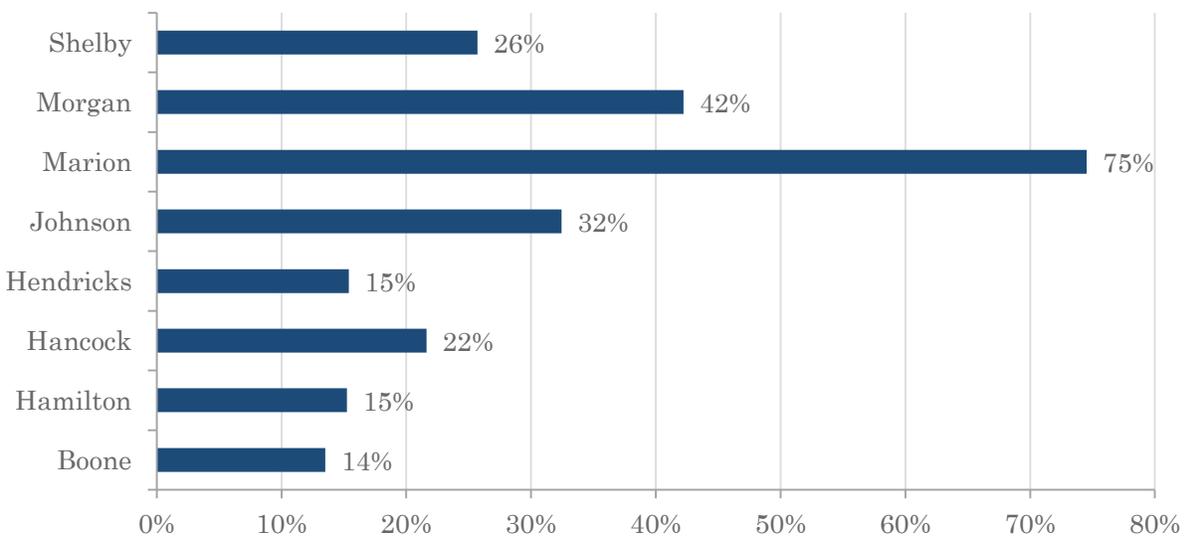
In this example, 20% of the people living in the block group are part of the EJ category population, which is higher than the regional rate for that category, making this block group part of an Area of Concern.

APPENDIX E

Areas of Concern

Figure 1 illustrates the percentage of block groups in each county that were designated as Areas of Concern. Far more of these block groups exist in Marion County than any other county, followed by Morgan, Johnson, and Shelby counties.

Figure 1. Percent of Block Groups Designated as EJ Areas of Concern

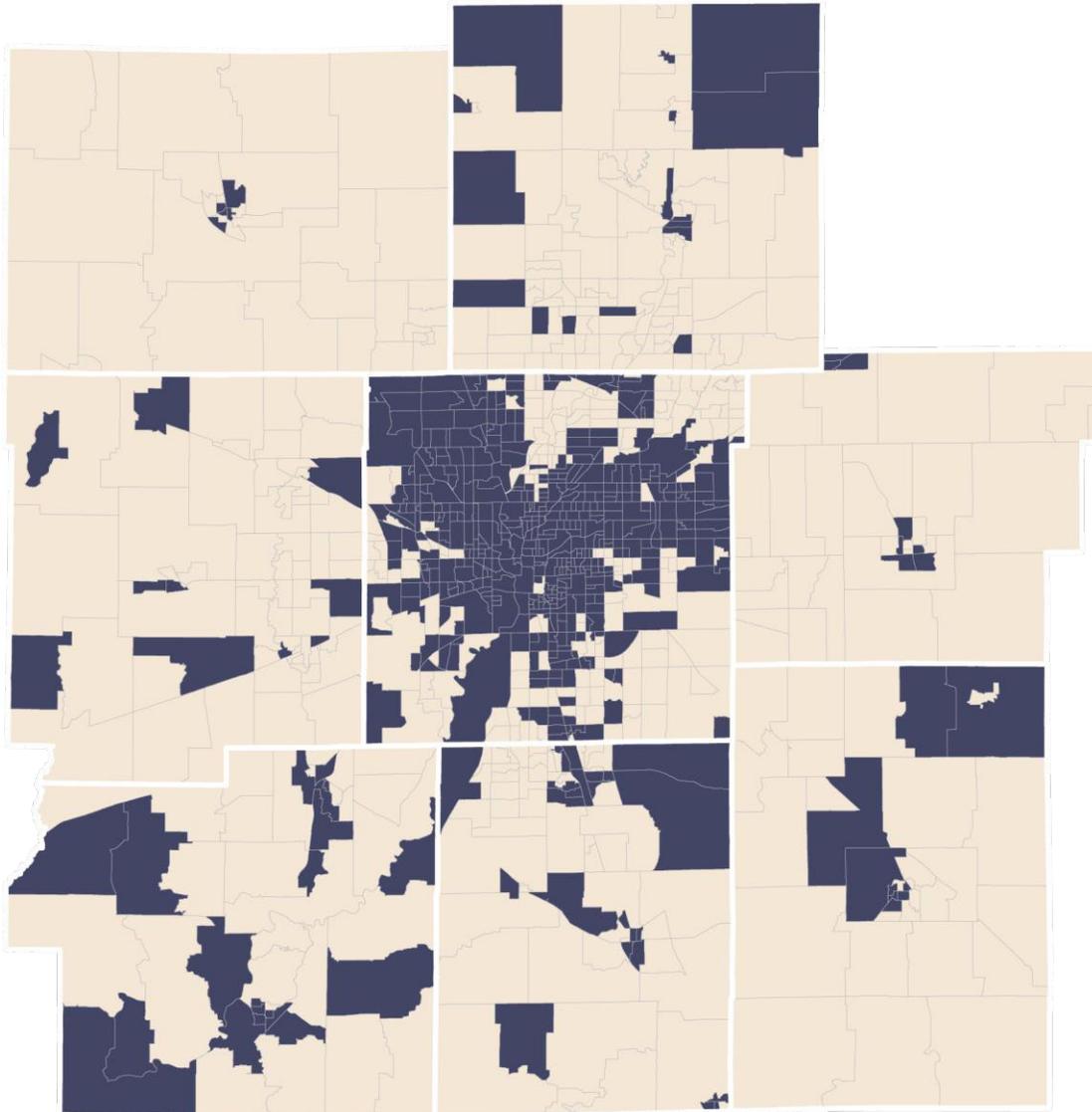


Map 1 displays the Areas of Concern for the region, based on geographic locations and concentrations of Low-Income households and Minority populations.

Map 2 also displays the Areas of Concern, but in addition identifies the occurrence of other disenfranchised and disadvantaged populations (limited-English proficiency, seniors, low educational attainment, persons with disabilities, zero-car households) within the Areas of Concern and the rest of the region. These five at-risk groups are additional populations evaluated by this report, but not included in the identification of the Areas of Concern.

EJ ANALYSIS

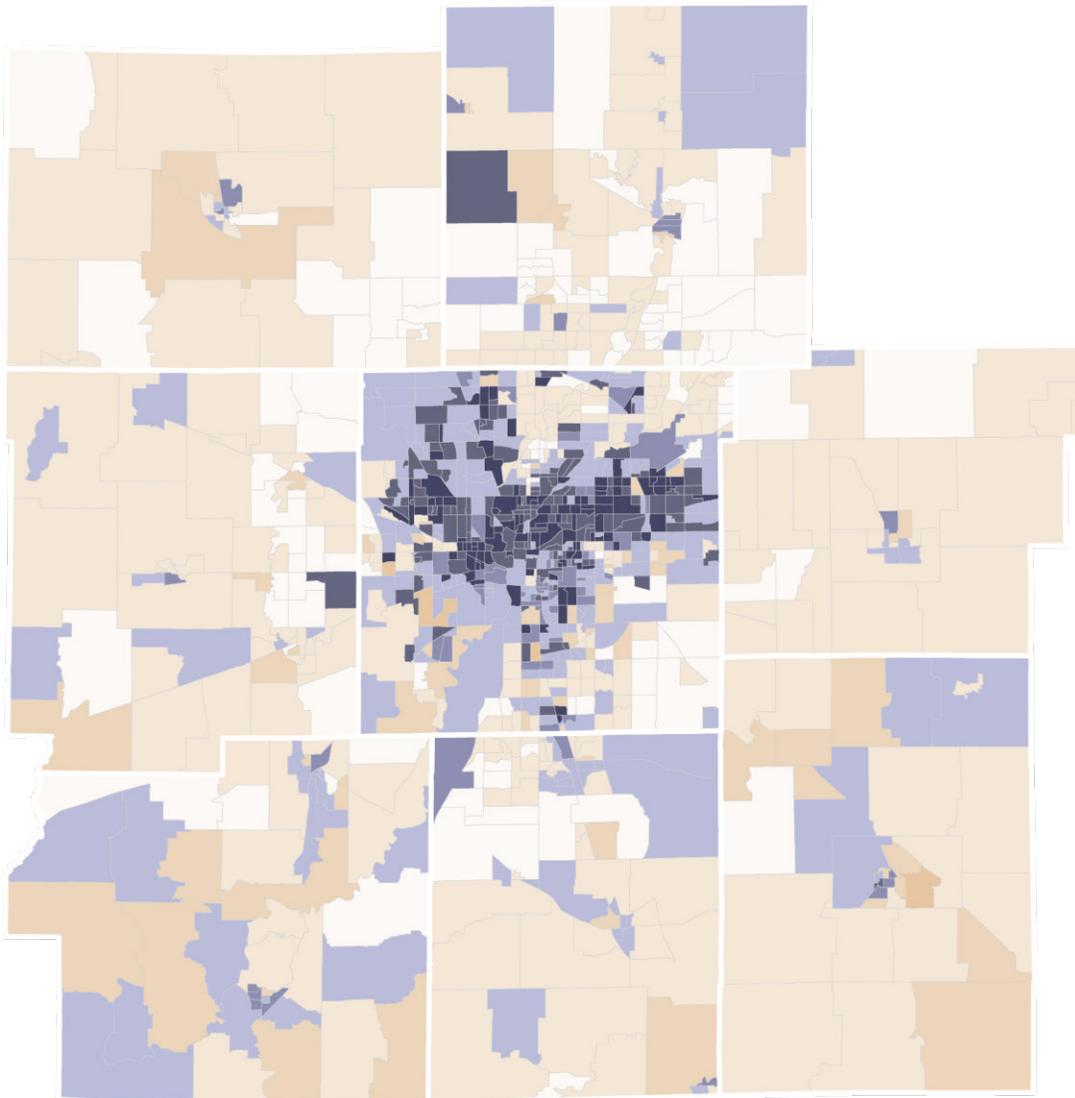
Map 1. Regional Areas of Concern



-  Environmental Justice Area of Concern
-  Other

APPENDIX E

Map 2. Regional Areas of Concern + Additional Populations



Not Environmental
Justice Area of Concern

Not Minority or Low-Inc.

No Other Groups

1-2 Other Groups

3-4 Other Groups

5 Other Groups

Environmental
Justice Area of Concern

Either Minority or Low-Inc.

0-3 Other Groups

4-5 Other Groups

Both Minority and Low-Inc.

0-3 Other Groups

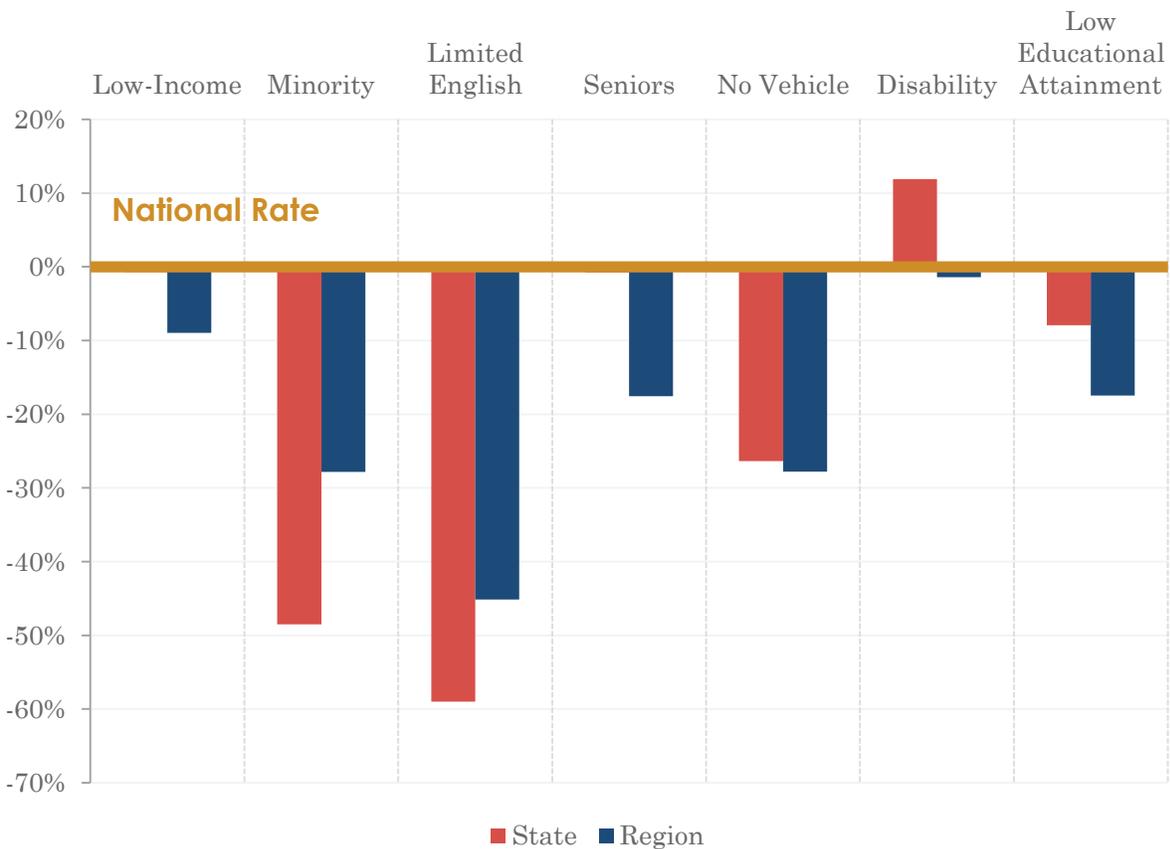
4-5 Other Groups

Comparing Central Indiana

The chart below shows how the Central Indiana regional rates compare to the rates of the State of Indiana and the nation. (Rates are shown as the percent difference from the national rate.)

The regional rates for each of the seven population categories below is less than the national rate. The regional rate is also less than the state's in five of the categories, with minority and limited-English populations being the only exceptions where the state's rates are higher than the region's.

Figure 2. Regional Rates Compared to State and Nation



Source: 2009-2013 American Community Survey 5-Year Estimate

Appendix

Demographic Categories

The following categories of disadvantaged or disenfranchised groups make up the EJ populations that define the Areas of Concern:

- Low-income (households below the poverty line);
- Minority population (population reporting a race and ethnicity other than White, Non-Hispanic);

These five at-risk groups make up the additional populations evaluated by this report, but not included in the identification of the Areas of Concern.

- Limited-English proficiency (population over age 14 reporting low English proficiency);
- Senior population (population age 65 or over);
- Zero-car households (occupied housing units with no vehicle available);
- Persons with disabilities (population aged 16-64 reporting a disability); and
- Low educational attainment (population over age 25 with no high school diploma or GED).

Each demographic is mapped in two ways.

- **Percentiles:** These maps show the percentage of each block group's population that falls in the demographic category. For example, the minority map shows the percent of non-white people for each block group. In this map, block groups are divided into five percentiles of equal size. (Note that on these maps, "Pctle" stands for percentile.) The Percentiles maps can be used to see distributions of a population category throughout the whole region.

- Block Group v. Regional Population Rate:** These maps show which block groups have a higher rate than the overall regional rate (included in a bar chart in the side panel of each population category below).

Each category also includes charts comparing the rate of that population within each county, as well as to the rates for the region, state, and nation.

Figure 3 shows a comparison of each county’s percentage of the category’s total population in the region. Though Marion County has about half of the region’s population, it has 2/3-4/5 of the region’s EJ populations. Most other counties have EJ populations at or below their rate of regional population share, with few exceptions.

Figure 3. Environmental Justice Population Distribution

County (% of Total Regional Pop.)	Pct of Regional Share						
	Low-Income Households	Minority Pop.	Limited-English Proficiency Pop.	Senior Pop.	Zero-Car Households	Persons with Disability Pop.	Low Educational Attainment Pop.
Boone (3.4%)	1.9%	0.9%	0.6%	3.7%	2.2%	2.1%	1.9%
Hamilton (16.4%)	6.1%	8.8%	8.1%	13.5%	6.4%	8.9%	5.2%
Hancock (4.1%)	2.3%	1.0%	0.6%	4.9%	1.6%	4.3%	2.7%
Hendricks (8.6%)	3.1%	4.0%	3.1%	8.7%	2.7%	6.4%	4.9%
Johnson (8.2%)	6.1%	2.6%	2.0%	9.4%	4.7%	6.7%	6.5%
Marion (52.8%)	75.2%	81.6%	84.2%	51.5%	77.9%	63.7%	70.8%
Morgan (4.0%)	3.2%	0.5%	0.2%	4.9%	1.9%	5.1%	4.6%
Shelby (2.6%)	2.2%	0.7%	1.3%	3.4%	2.5%	2.9%	3.4%

APPENDIX E

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Low-Income

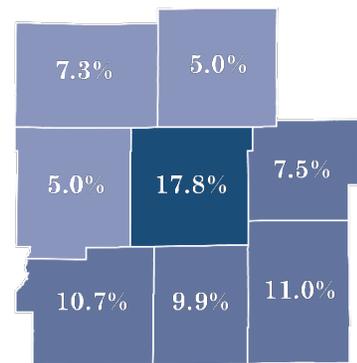
“Low-income” refers to households who fall below the poverty line, as determined by the U.S. Census Bureau’s calculations of poverty thresholds.

Block groups with the highest low-income rates (refer to Map 3, 80th-99th Percentile) are concentrated in the core neighborhoods of Marion County, especially Center Township and northern Warren Township. Other block groups in the 80th-99th Percentile are in or near Mooresville, Martinsville, Bargersville, Greenwood, Southport, Shelbyville, Cicero, Lebanon, and the rural area north of Westfield.

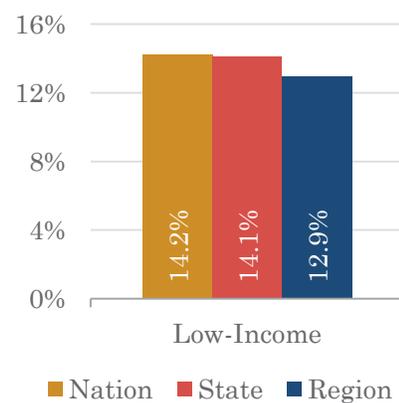
As shown in Map 4, Marion and Morgan counties have the most even distribution of low-income block groups. Low-income households in Shelby, Johnson, and Hendricks counties are concentrated in the fewest block groups and located primarily in the town/city centers.

County, Region, State, Nation

The difference between low-income rates in Marion (higher than the region/state/nation’s) and the surrounding counties is significant. Hamilton and Hendricks counties’ rates are less than half the region/state/nation’s.

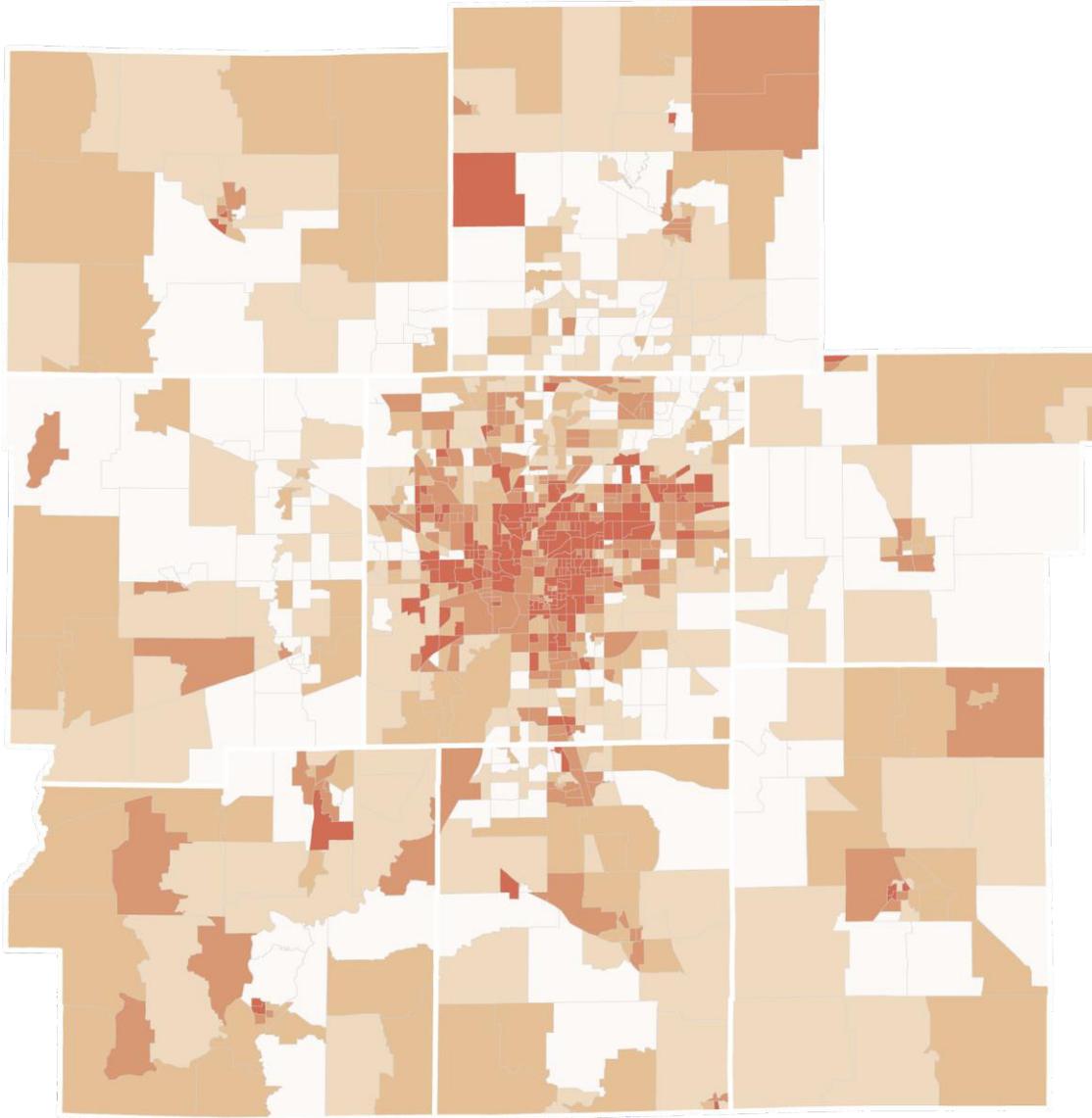


Low-Income Rates for Counties in Central Indiana



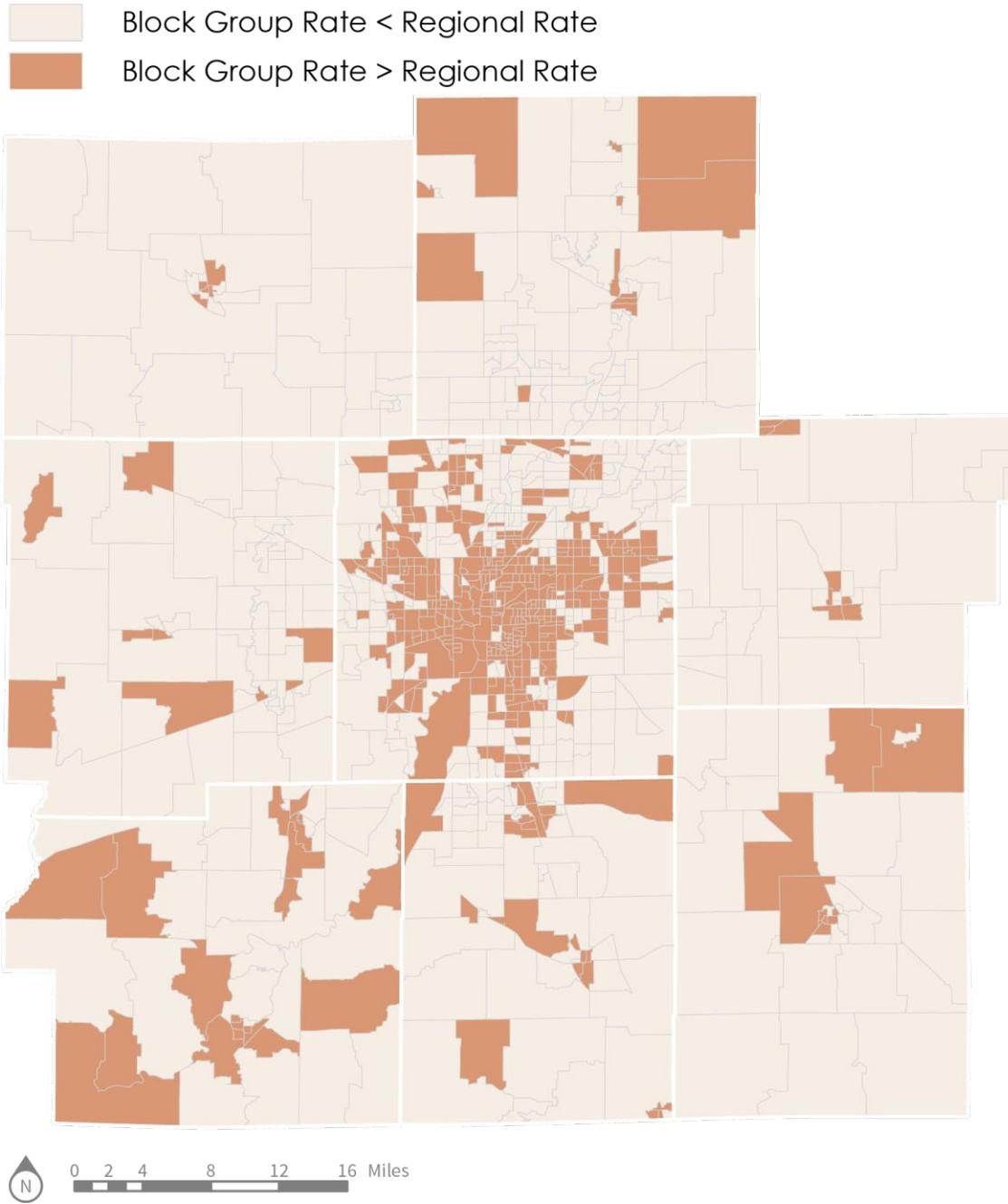
APPENDIX E

Map 3. Low-Income Households: Percentiles



EJ ANALYSIS

Map 4. Low-Income Households: Rate Comparison



APPENDIX E

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Minority

Individuals who reported a race and ethnicity other than “White, Non-Hispanic” in the ACS are considered minorities.

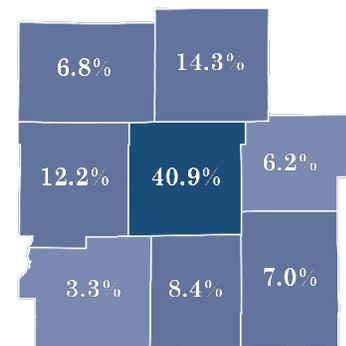
Central Indiana’s minority population is distributed less evenly than low-income households. Regionally, while the low-income rate in each county ranges from 5.0% to 17.8%, the minority rate has a much wider range from 3.3% to 40.9%. Even within each county, the minority population is not as evenly distributed as the low-income households. In Map 5, block groups with higher minority rates tend to exist in or near the fringes of Marion County.

The highest minority concentrations are in northern Marion County along 38th Street. Other areas with moderate concentrations are Shelbyville, east of Greenwood, south of Southport, and some parts of Carmel, Fishers, and rural Hamilton County. The minority population is distributed least evenly in Hendricks and Hamilton Counties.

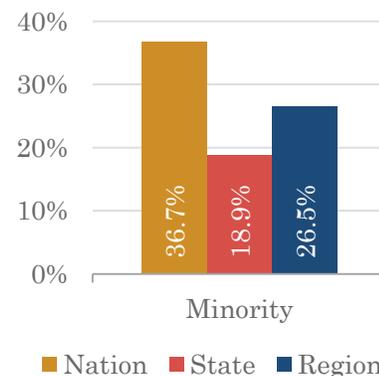
In Map 6, the Areas of Concern for minority populations are almost exclusively in Marion County, with a few exceptions.

County, Region, State, Nation

Central Indiana has a lower minority rate than the nation overall. Marion County, however, has a higher rate than the nation and more than twice the rate of Indiana. No other counties have minority rates higher than state’s rate.

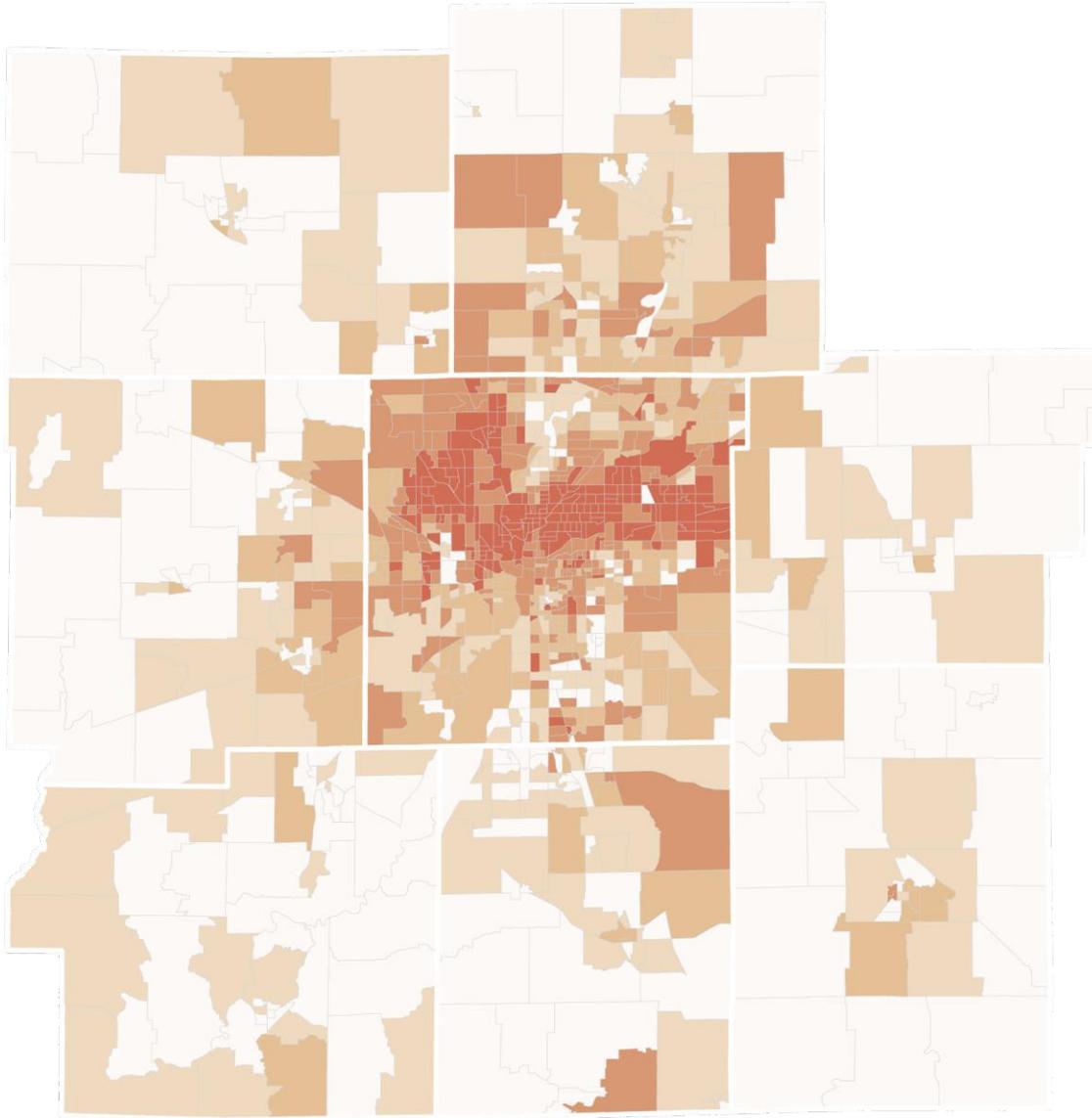


Minority Rates for Counties in Central Indiana



APPENDIX E

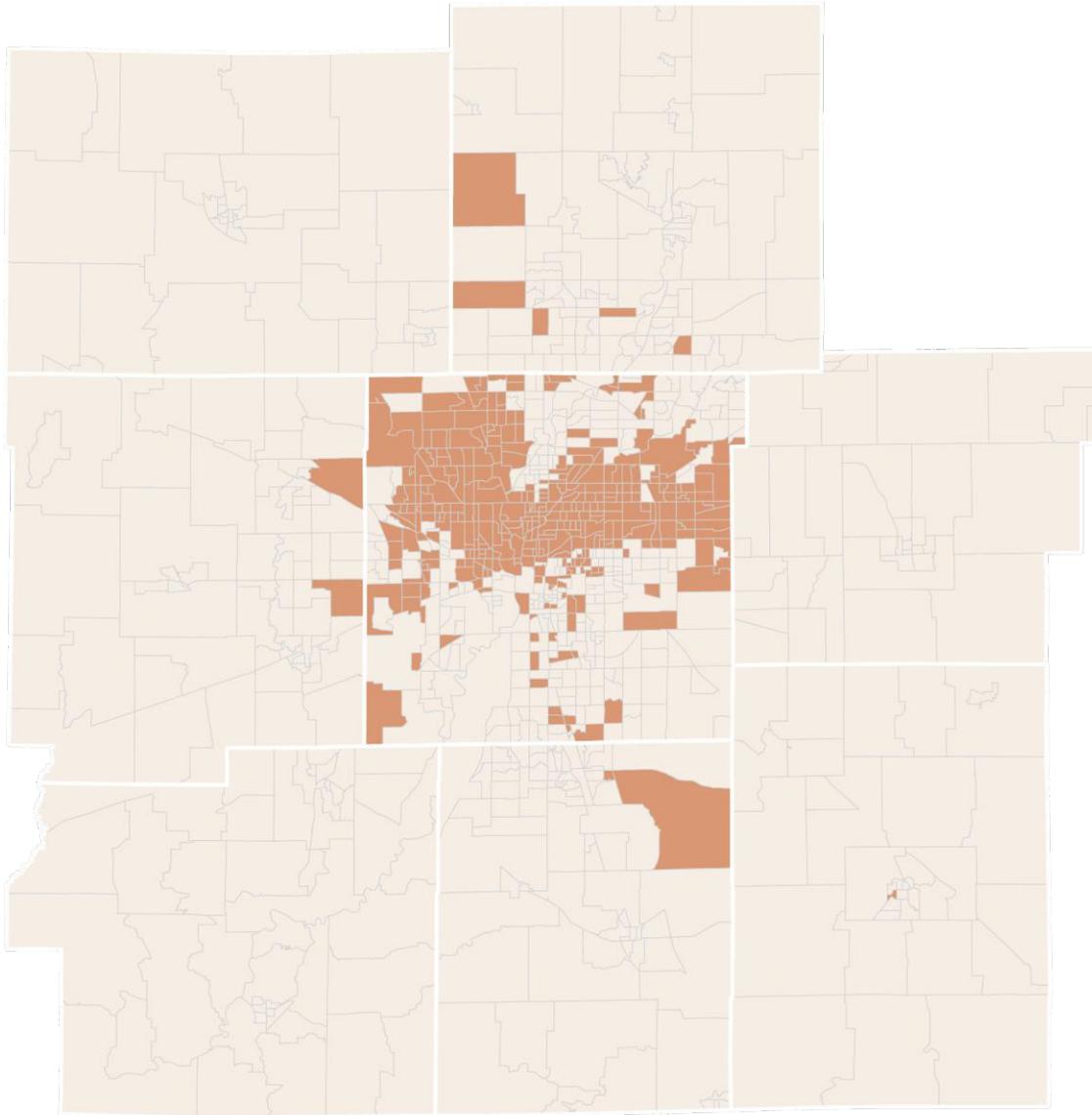
Map 5. Minority Population: Percentiles



EJ ANALYSIS

Map 6. Minority Population: Rate Comparison

- Block Group Rate < Regional Rate
- Block Group Rate > Regional Rate



APPENDIX E

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Limited-English Proficiency

Individuals over the age of 14 who reported limited-English proficiency in the ACS fall into this category.

Of all the demographic groups, this population is the least evenly distributed. Ethnic and lingual minorities tend to live in proximity to one another, forming ethnic neighborhoods. Map 7 shows that the block groups with the highest rates of limited-English proficiency are concentrated in western Marion County along I-65 and I-465, northern Marion County along I-465, southern Marion County along US 31, and near Carmel and Westfield. The two highest concentrations are on the Indianapolis near-west side and in the International Marketplace near 38th St. and Lafayette Rd.

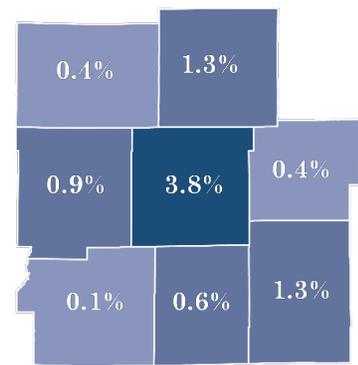
The limited-English population in Hamilton County is the most evenly distributed, while Morgan County’s limited-English population is the least evenly distributed.

Map 8 shows that this population is concentrated mostly in the urban areas of each county.

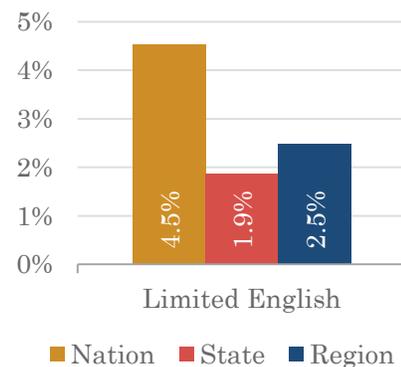
County, Region, State, Nation

The region’s rate of limited-English households is nearly half that of the nation’s.

Marion County’s rate is double the State of Indiana’s and nearly equal to the nation’s. Other counties have rates that are well below state and national rates.

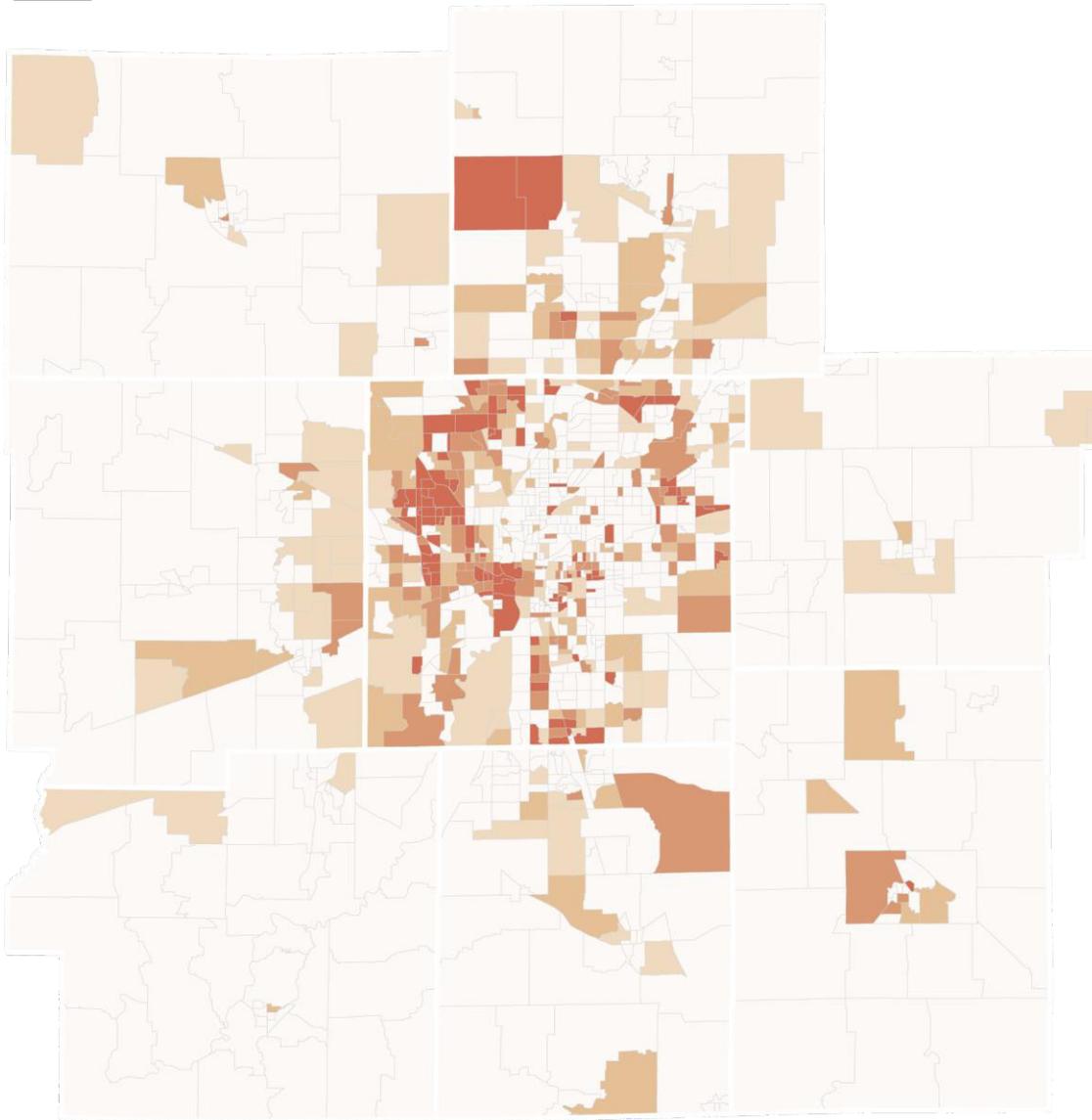


Limited English Rates for Counties in Central Indiana



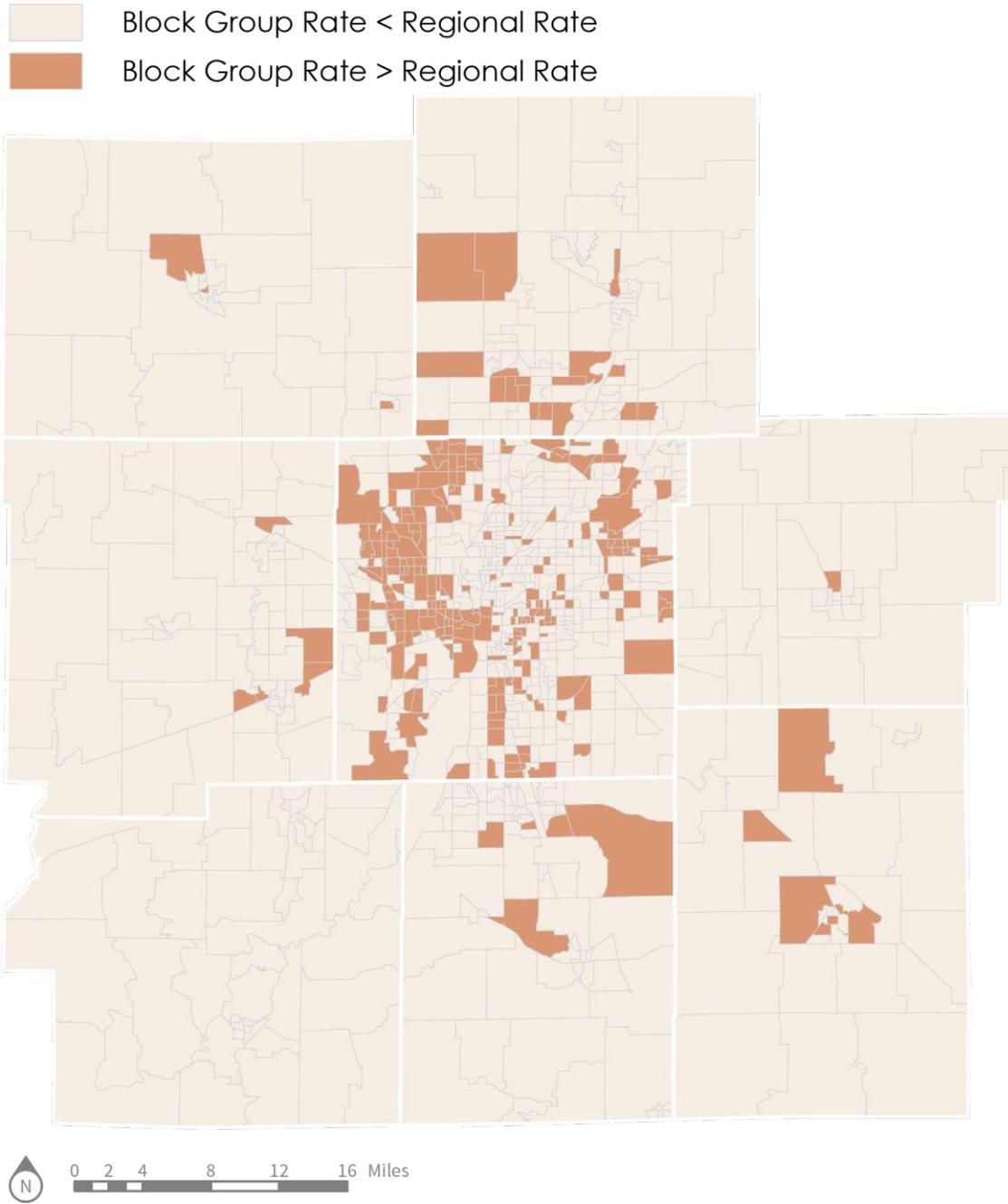
APPENDIX E

Map 7. Limited-English Proficiency Population: Percentiles



EJ ANALYSIS

Map 8. Limited-English Proficiency Population: Rate Comparison



APPENDIX E

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Seniors

Individuals who reported their age as over 65 years in the ACS fall into this category.

The senior population is one of the most evenly distributed of the seven demographic groups (refer to Map 9).

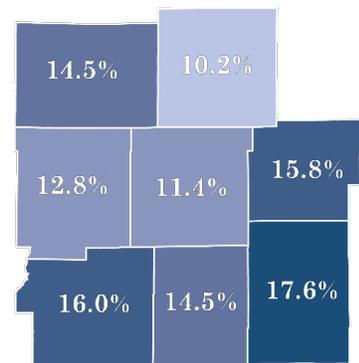
For most counties, nearly half of all block groups have senior population rates higher the regional rate (refer to Map 10). The county rates vary little from county to county, ranging from 10.2% to 17.6% (compared with, for example, the range in minority rate from 3.3% to 40.9%).

While those over 65 years old are distributed relatively evenly, there tend to be higher concentrations in rural areas.

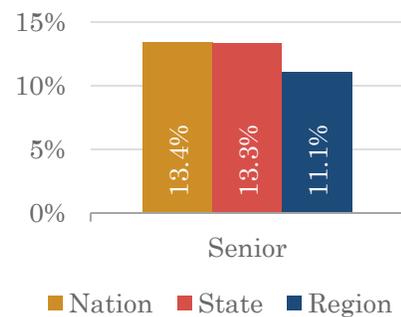
County, Region, State, Nation

The regional senior population rate is lower than the state’s and nation’s, but three counties in particular (Shelby, Morgan, and Hancock) are well above the state’s and nation’s rates.

The senior population rate is higher in rural counties than urban or suburban counties.

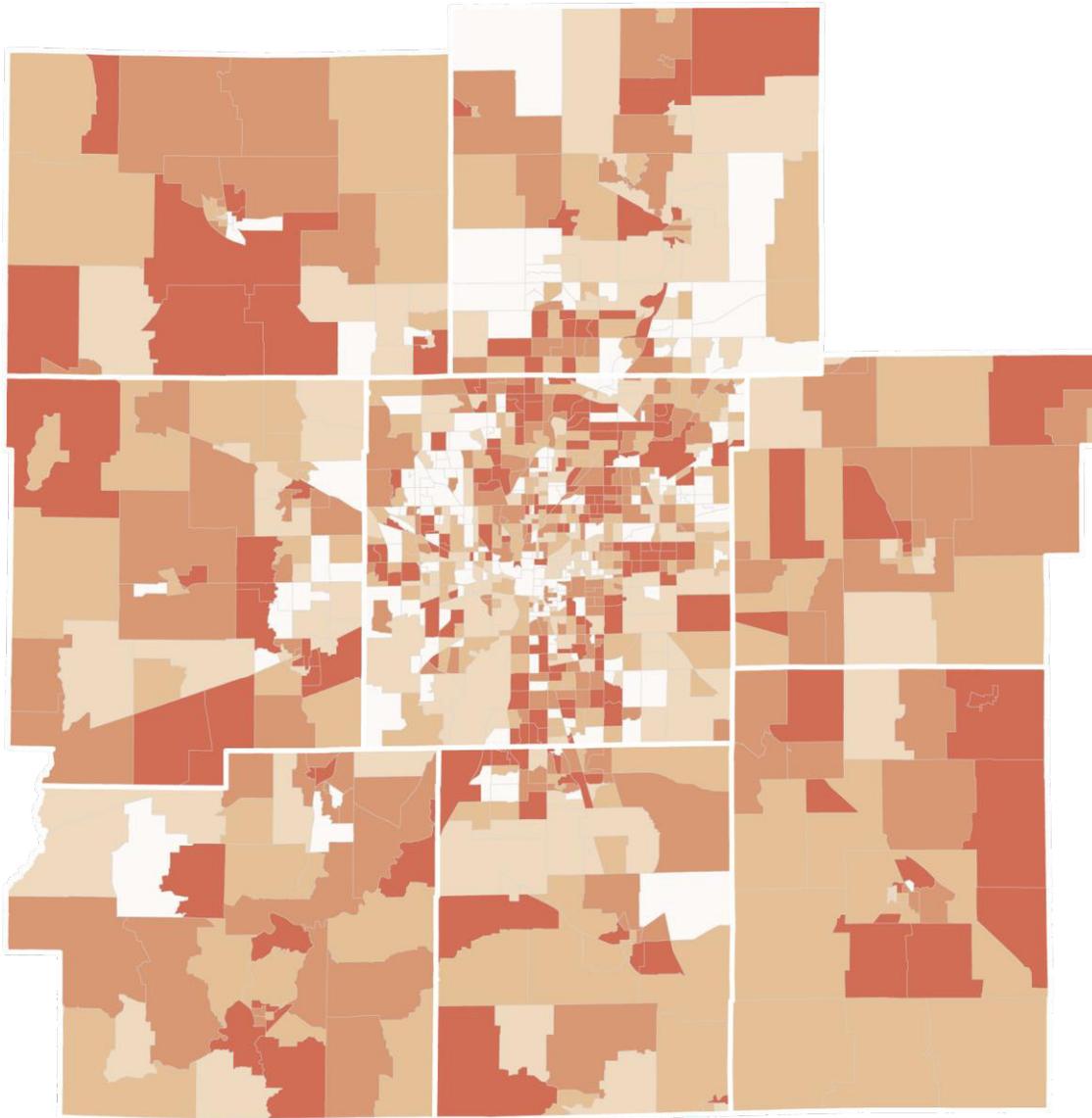


Senior Rates for Counties in Central Indiana



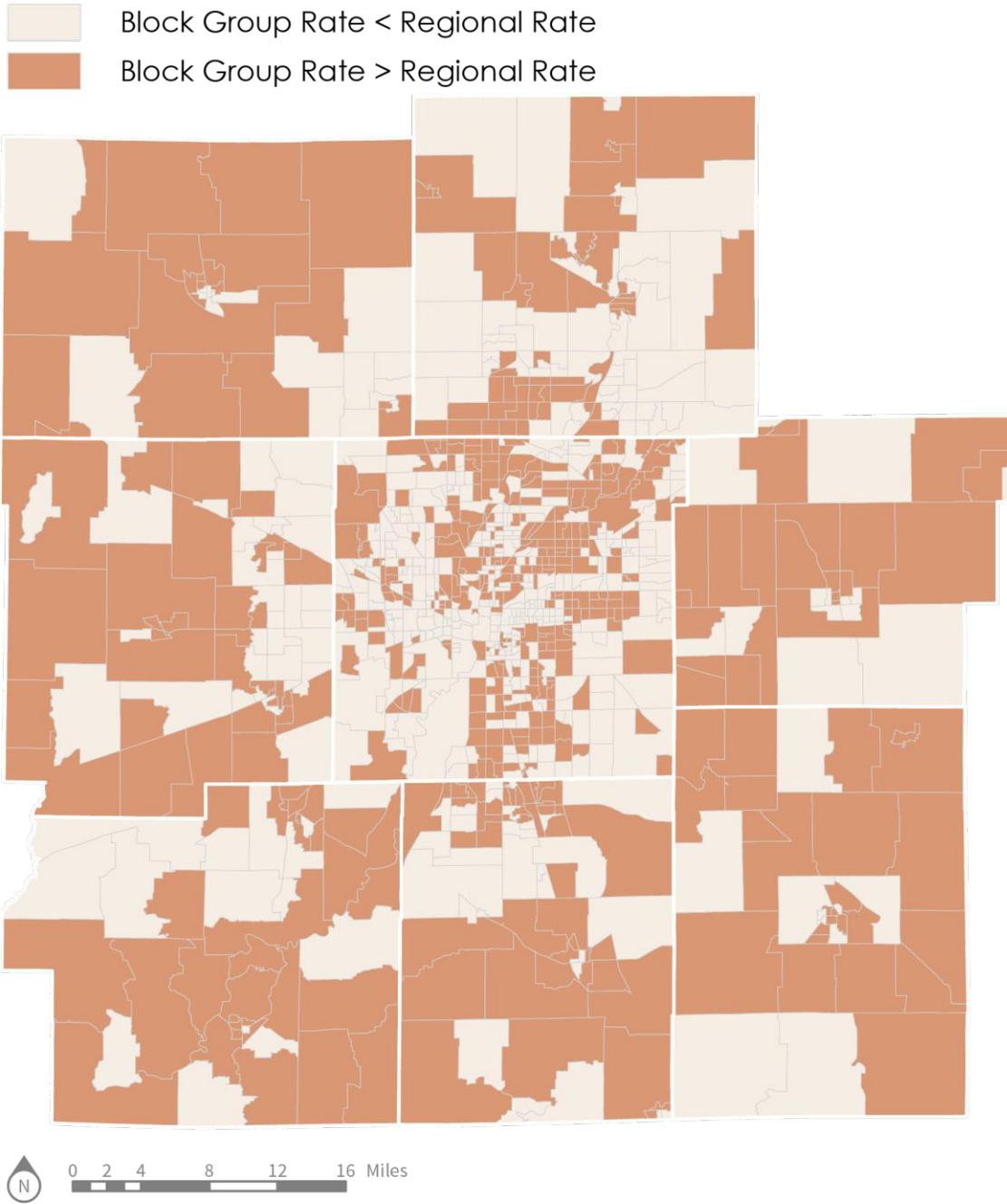
APPENDIX E

Map 9. Seniors / People Over Age 65 Population: Percentiles



EJ ANALYSIS

Map 10. Seniors / People Over Age 65 Population: Rate Comparison



APPENDIX E

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Zero-Car Households

Occupied housing units reporting they had no access to a vehicle fall into this category. (For simplicity, this document sometimes refers to these occupied housing units as households.)

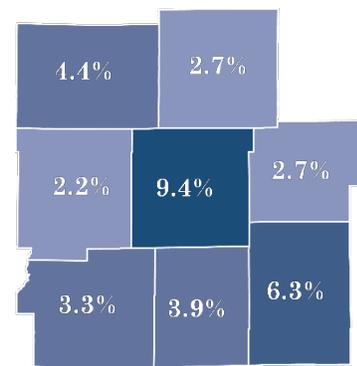
Regionally, about 78% of carless households rent. In Marion County alone, almost 1-in-10 households are without a car (a total of 33,747 households). This totals more than 77,000 individuals without access to a vehicle.

Block groups with the highest rates of zero-car households are highly concentrated in Marion County, especially in a broad corridor between Washington Street on the south and 38th Street on the north, and along US 31 to the south and into Johnson County (refer to Map 11).

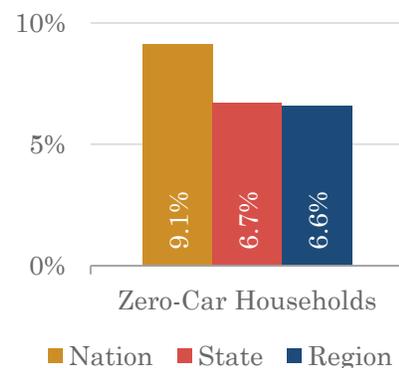
In relative terms, census block groups with a higher rate of households without access to a vehicle than the regional rate are generally concentrated in or near town centers, or in areas with alternatives, like public transportation (refer to Map 12).

County, Region, State, Nation

Marion County's rate of carless households is just above the nation's rate, while Hendricks, Hamilton, and Hancock counties' rates are well below the state's or nation's.

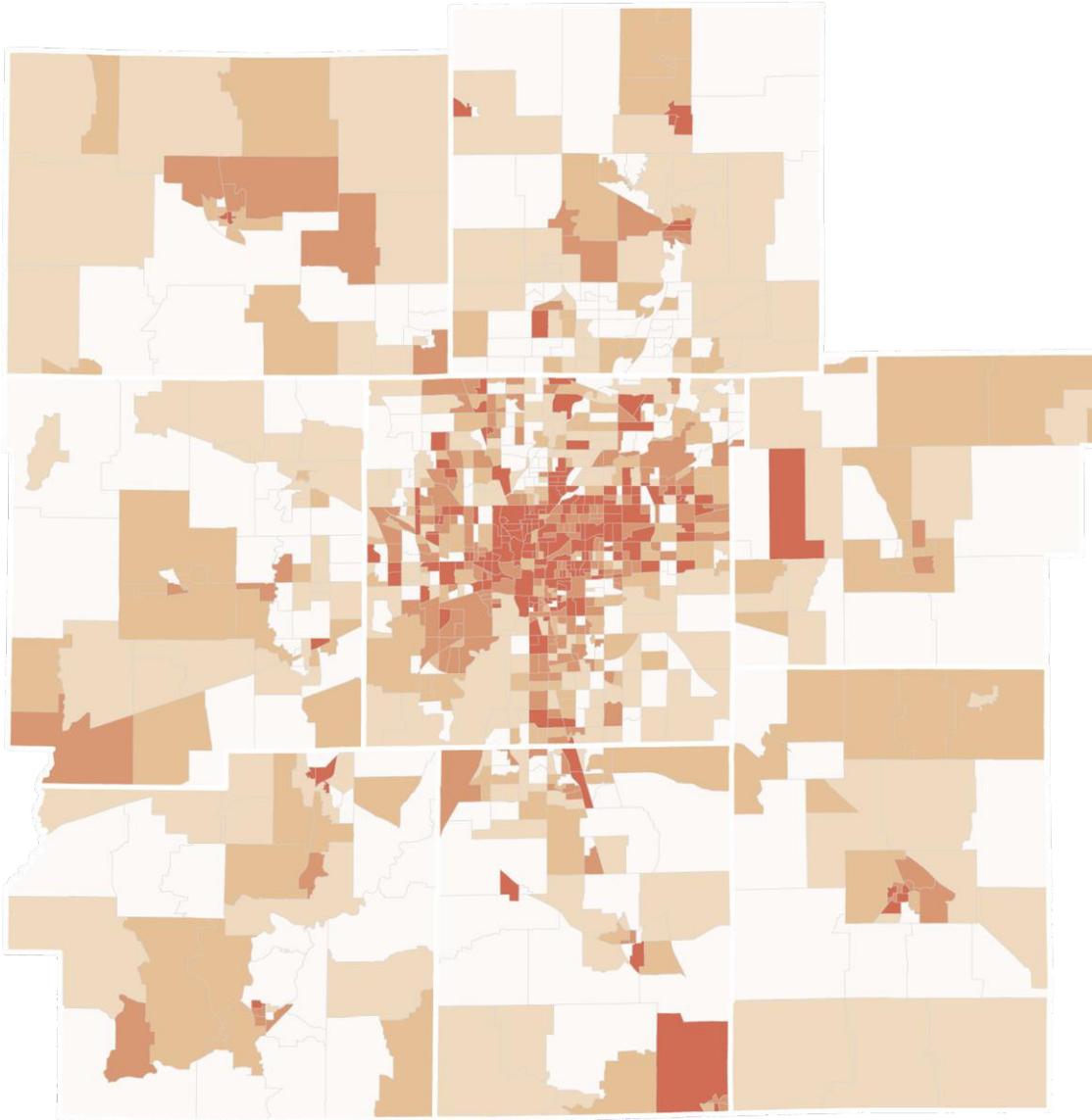


Zero-Car Household Rates for Counties in Central Indiana



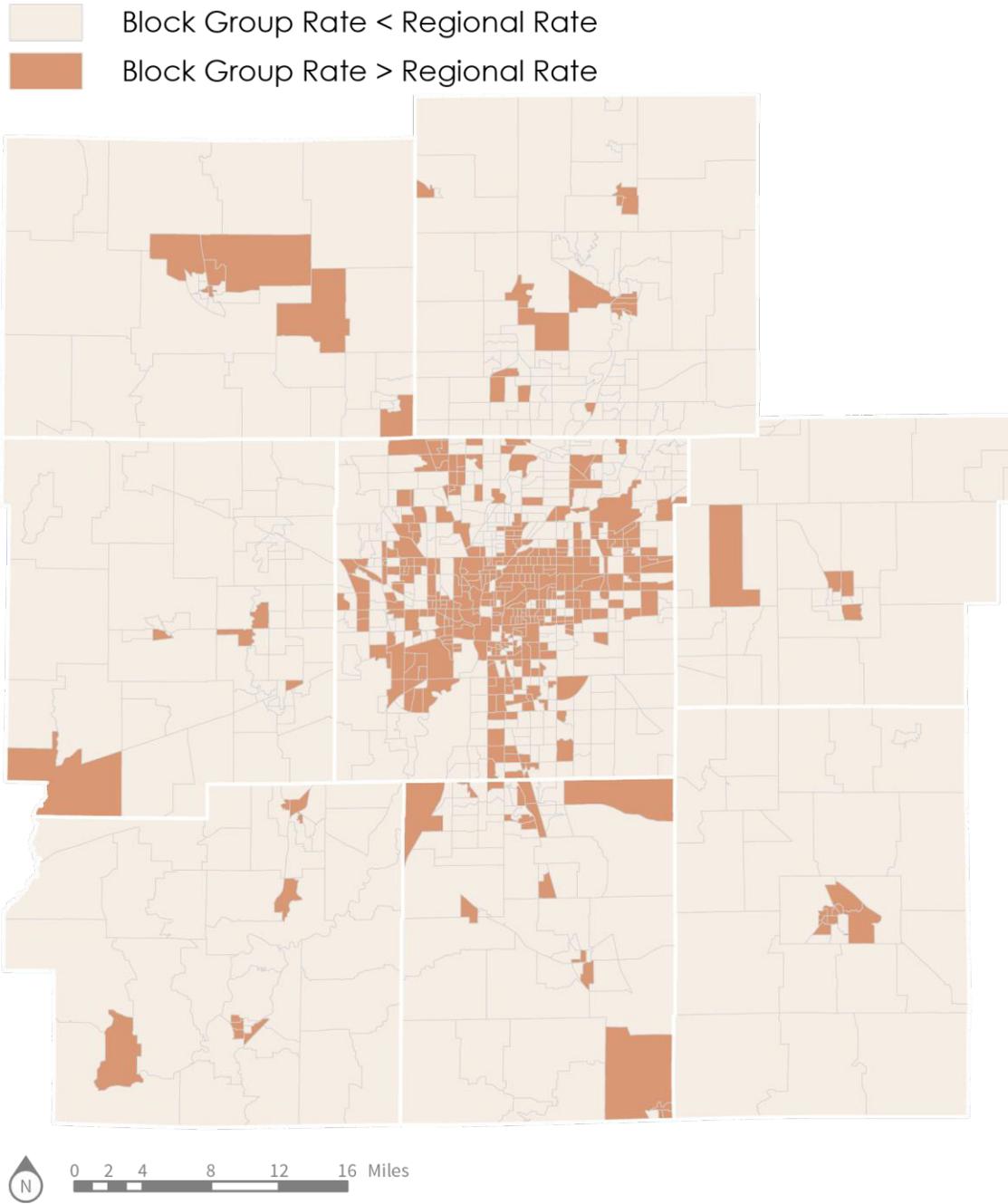
APPENDIX E

Map 11. Households Without Access to a Vehicle: Percentiles



EJ ANALYSIS

Map 12. Households Without Access to a Vehicle: Rate Comparison



APPENDIX E

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Persons with Disabilities

Workers over the age of 16 who indicated that they were disabled in the ACS fall into this category.

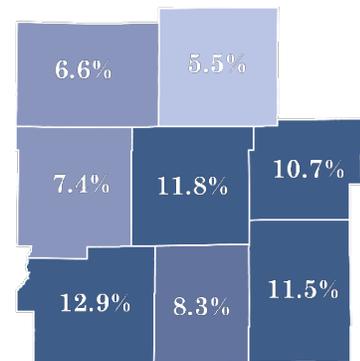
As with the senior population, the disabled population rate is slightly higher in rural areas. Block groups with the highest rates of disabled population are concentrated heavily in central Marion County, rural Morgan County, and northern Shelby and Hamilton Counties, with small concentrations in most of the region's town/city centers (refer to Map 13).

The disabled population is relatively evenly distributed throughout the region, with rates ranging from 5.5 to 12.9 percent. The group is also distributed relatively evenly throughout each county (refer to Map 14).

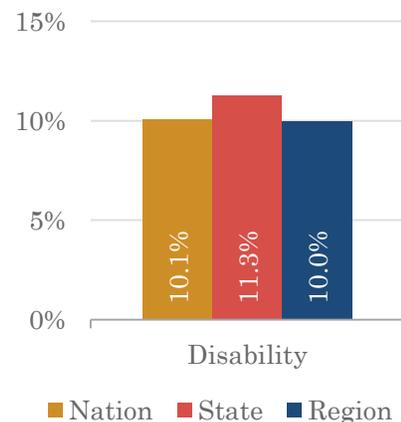
County, Region, State, Nation

Indiana's overall disability rate is higher than the nation's; the regional rate is similar to the nation's.

Morgan, Marion, and Shelby counties have particularly elevated rates, significantly above the nation's.

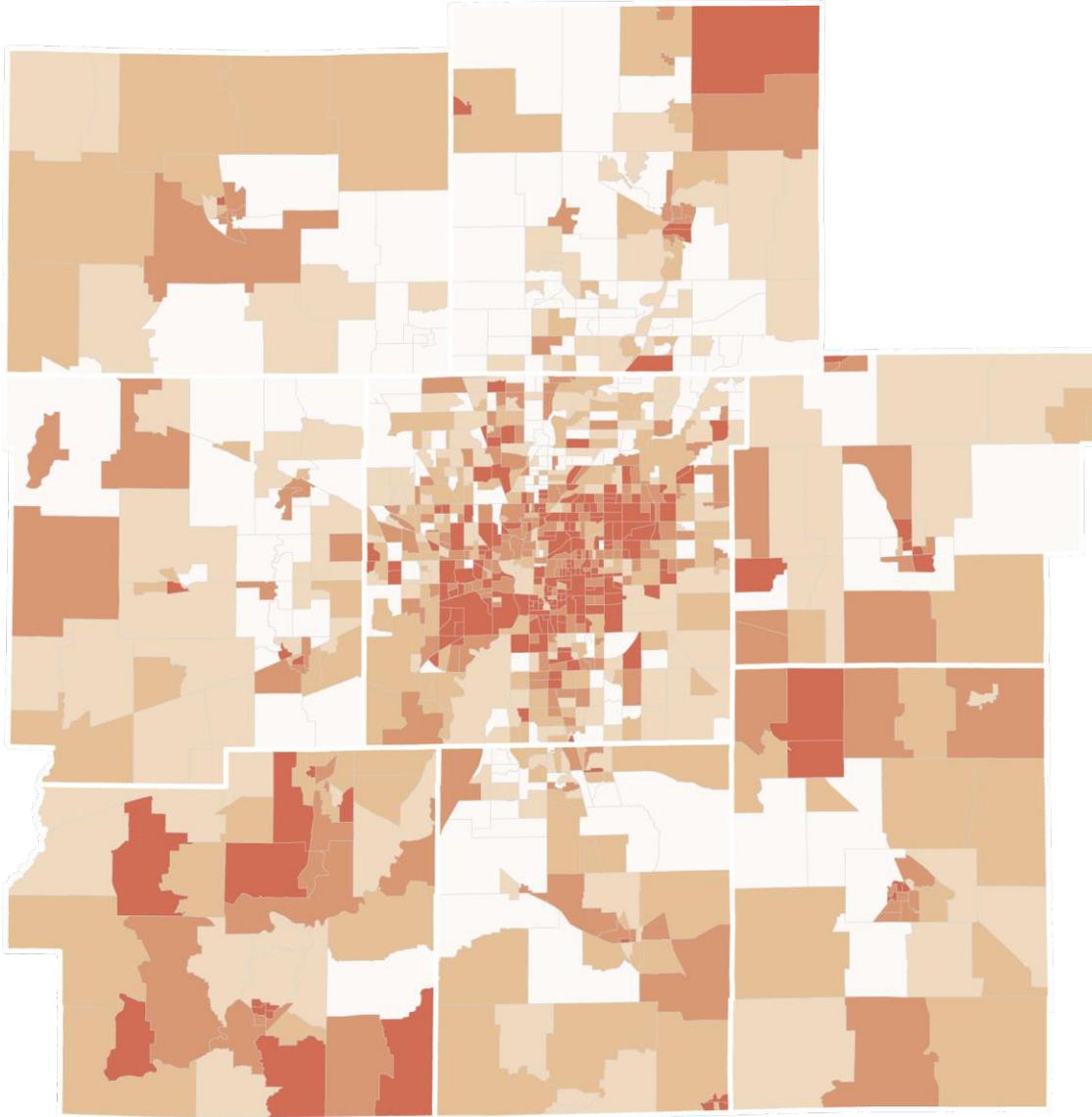


Disability Rate for Counties in Central Indiana



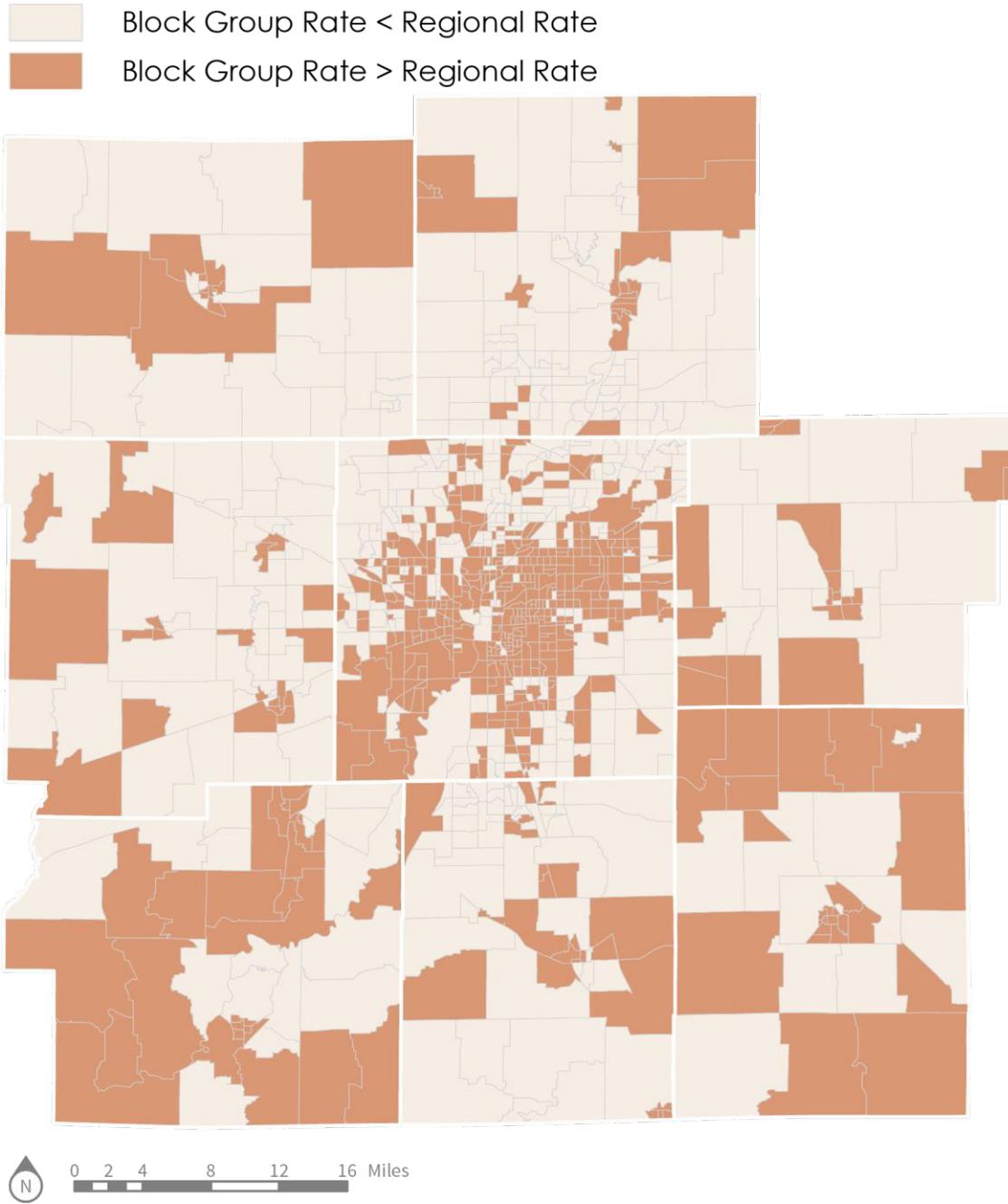
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Map 13. Persons with Disabilities: Percentiles



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Map 14. Persons with Disabilities: Rate Comparison



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Low Educational Attainment

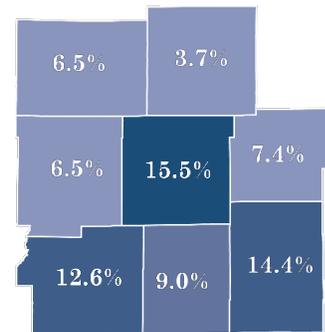
Individuals over the age of 25 who reported their highest level of education as under a high school diploma or GED in the ACS fall into this category.

This population is distributed fairly evenly throughout Central Indiana, but the highest rates of low educational attainment primarily exist within the boundary of I-465 in Marion County, with the exception of northern Marion County which appears to be more educated (refer to Map 15).

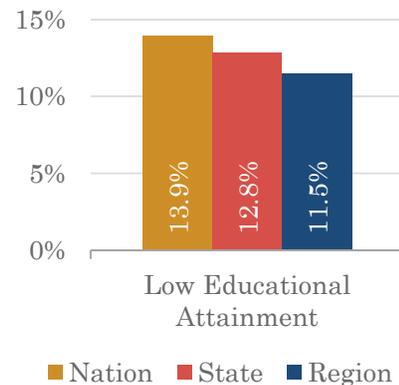
Block groups with rates above the regional rate for low education attainment exist primarily in or near the region's cities and towns, but some of these block groups are also along the region's rural fringes (refer to Map 16).

County, Region, State, Nation

Low Educational Attainment is less prevalent in Central Indiana than in the state and the nation. Most counties are well below the state's and nation's rates for low educational attainment, but Shelby and Marion counties are above.

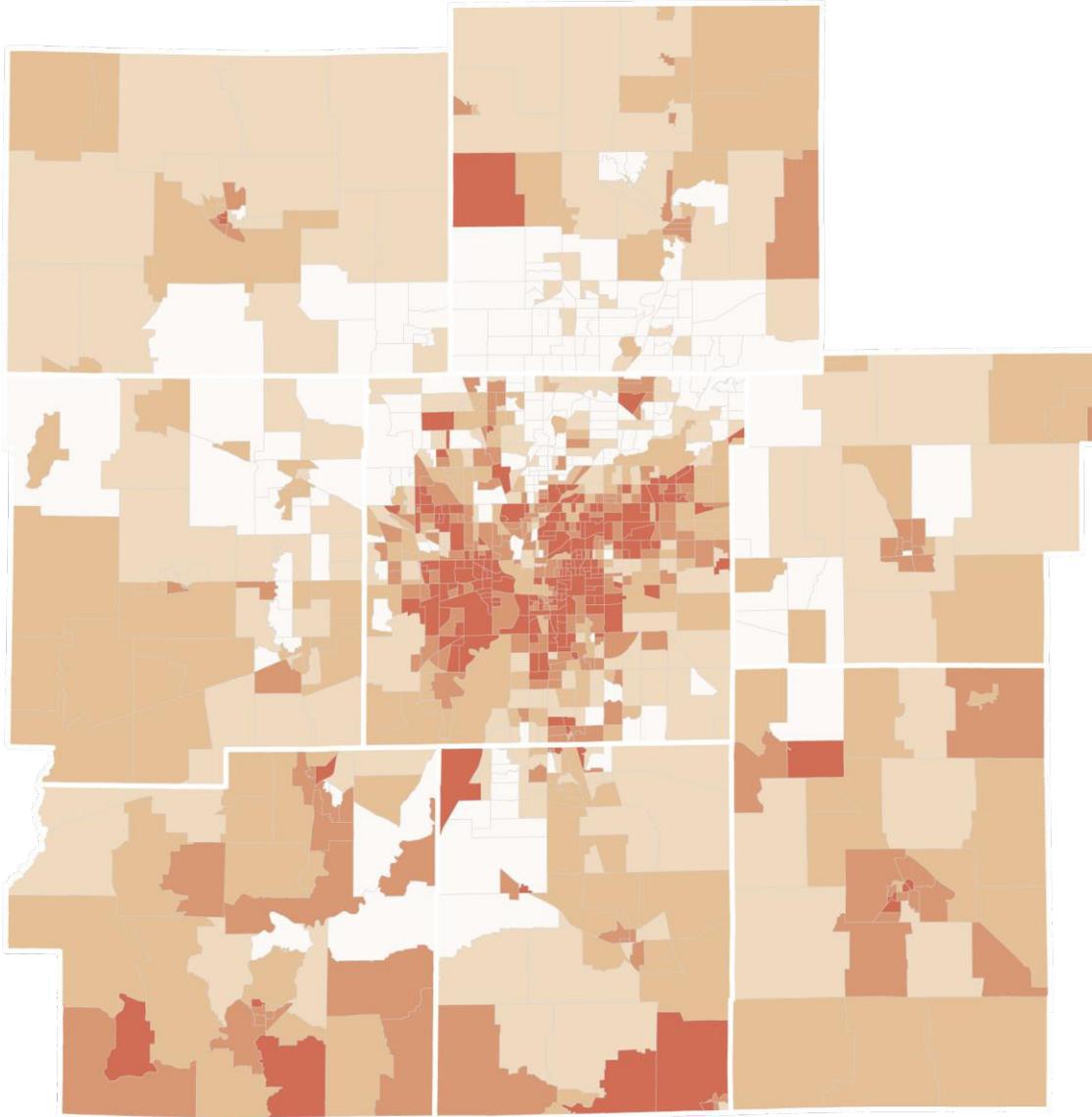


Low Educational Attainment Rate for Counties in Central Indiana



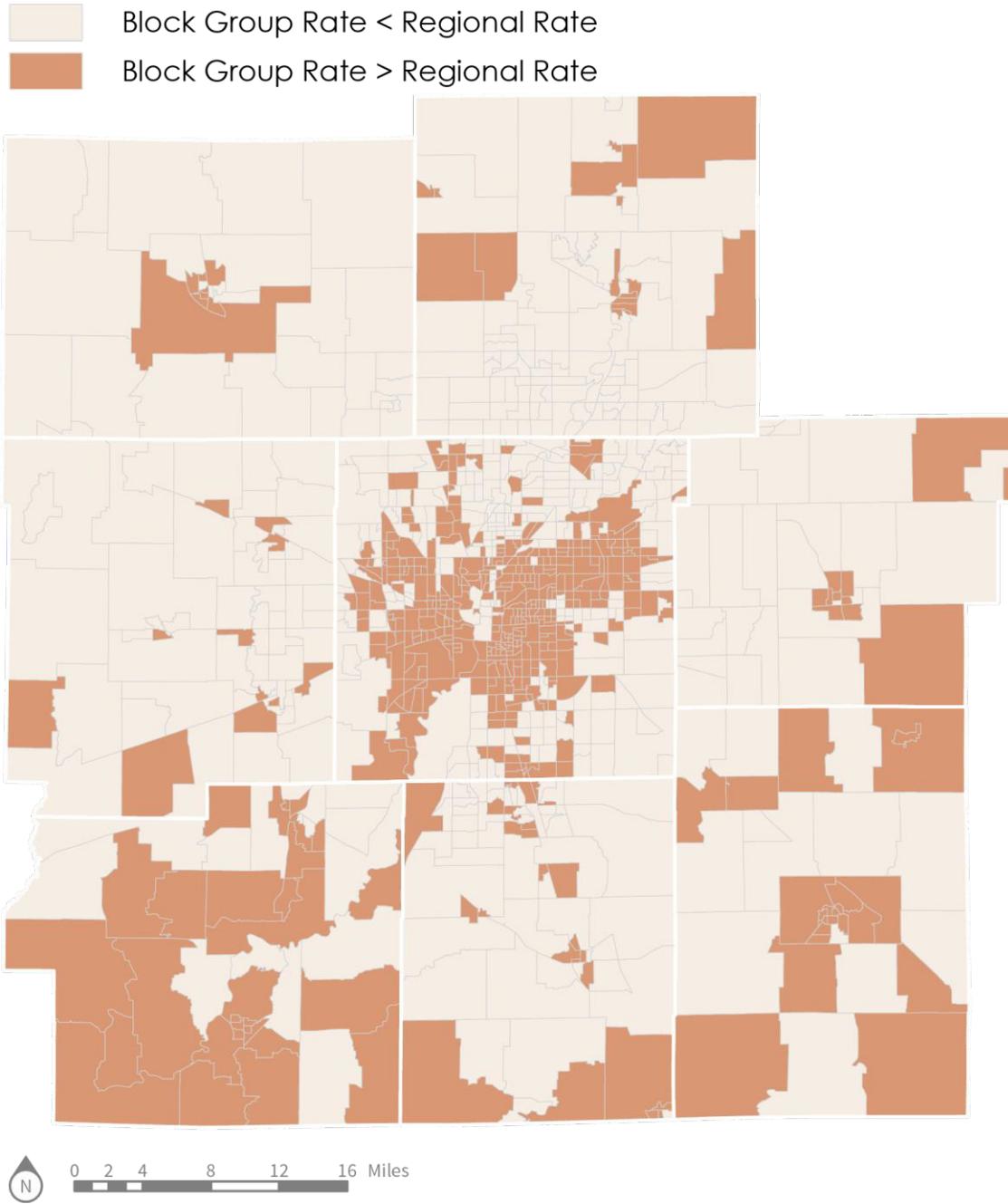
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Map 15. Low Educational Attainment Population: Percentiles



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Map 16. Low Educational Attainment Population: Rate Comparison



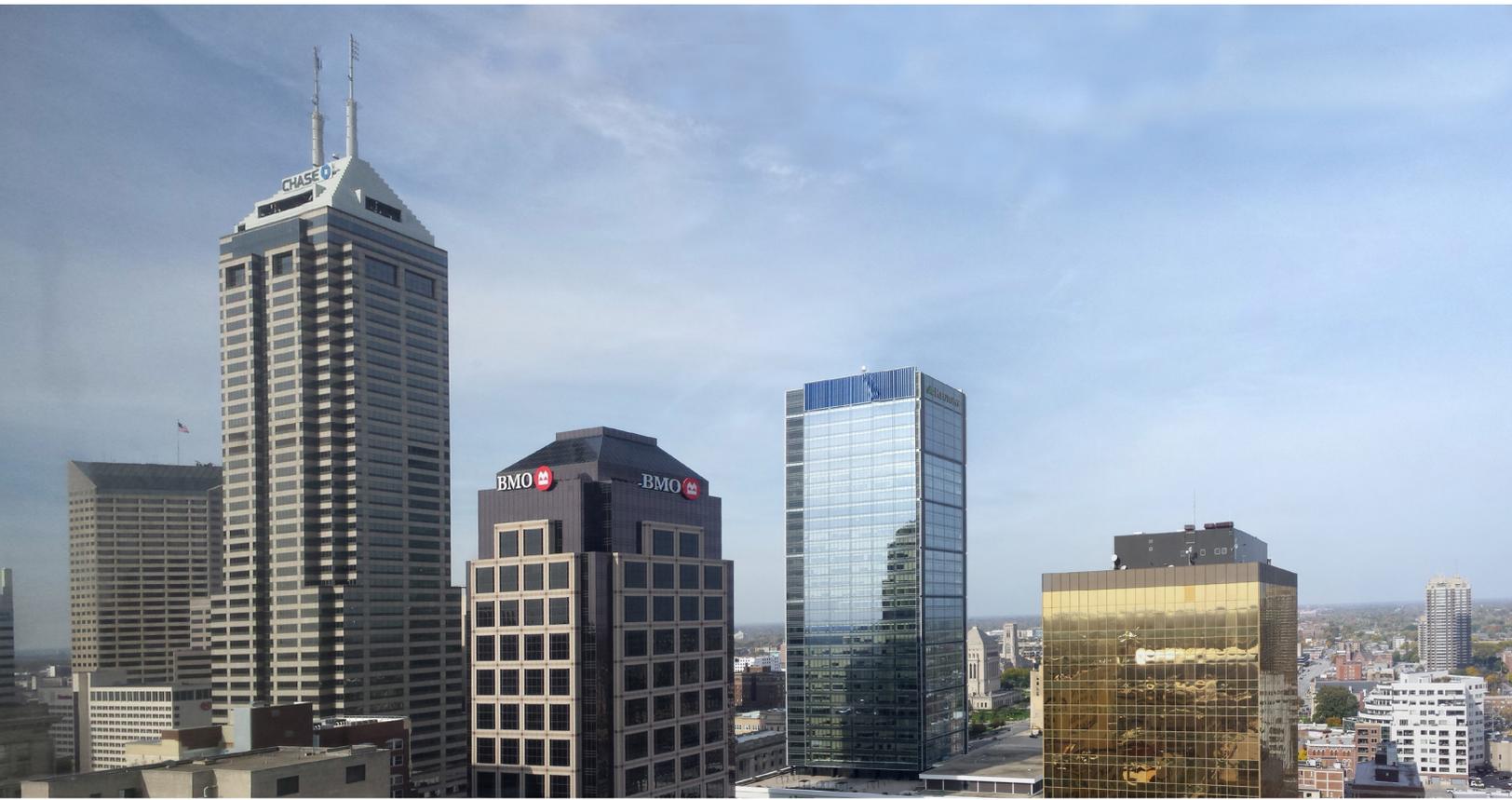
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APPENDIX F

SYSTEM OVERVIEW



Technical Memorandum: Regional Transportation System

Continuing the series of technical memorandums concerning the 2045 Long Range Transportation Plan (LRTP), this memorandum will discuss the existing regional transportation system in central Indiana.

Existing Transit Services

Transit trips in central Indiana eclipse 10.25M per year.¹ While the availability of transit has a significant impact on a sizable number of area residents, it still accounts for less than 1% of all trips. The role and scope of transit in Central Indiana has been the topic of active discussion for several years. In 2014 the state legislature passed authorizing legislation that would allow some counties to hold referenda that would establish dedicated transit funding sources.

Central Indiana is served by three fixed route transit operators (IndyGo, the City of Anderson Transit System (CATS) and Access Johnson County), several on-demand transportation services available only to individuals who meet certain criteria, and a few less frequent, private services.

Public Transit Providers

Central Indiana Regional Transportation Authority

The Central Indiana Regional Transportation Authority (CIRTA) is a quasi-governmental organization (IC 36-9-3) focused on bringing more transportation options to central Indiana. CIRTA is working to better connect Indianapolis to the suburban and rural communities in Marion, Hamilton, Hancock, Shelby, Johnson, Morgan, Hendricks, Boone, Delaware and Madison counties, and to coordinate

¹ This number is a combination of IndyGo and Access Johnson County numbers.

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services between transit operators from different communities within Central Indiana.

CIRTA also helped establish three fixed route services:

- The Plainfield North and Plainfield South connectors -- extensions from the IndyGo system on the west side of Marion County into Plainfield.
- The Whitestown Connector -- an extension of IndyGo routes 37 and 86 into Whitestown.

CIRTA also offers the following programs:

Commuter Connect (formerly Central Indiana Commuter Services or CICS) offers alternative transportation solutions to area employers and commuters in Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan and Shelby counties, such as: carpooling, vanpooling, riding transit, biking and walking. Costs associated with each alternative vary, depending on the number of passengers involved, the area they are traveling to/from, and the cost of fuel. Commuter Connect representatives work with individuals searching for transportation solutions to determine the most cost effective alternative that suits their needs.

The Emergency Ride Home (ERH) benefit is available to any commuter who is registered with CIRTA's Commuter Connect Program and works for a participating employer. The commuter must carpool, ride transit, vanpool, walk or bicycle to work at least three (3) or more times per week to be eligible for the ERH benefit.

County Connect is a program that provides a single phone number (327-RIDE) or website (327ride.net) that helps Central Indiana residents find transportation options for getting from place to place, including across county lines. The County Connect website lists both demand-response and fixed route services, and allows users to see what, if any, restrictions (age, disability, health) may be placed on the use of that service.

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For more information about the transportation services offered by CIRTA, visit their website at www.cirta.us.

Indianapolis Public Transportation Corporation (IPTC) operating as IndyGo: IndyGo is a municipal corporation that provides public transportation services throughout Marion County. Fixed route transportation (IndyGo) is available for the general public and demand response paratransit service (Open Door) is available to Americans with Disabilities Act (ADA) eligible consumers. IPTC contracts with MV Transportation to provide the Open Door service.

IndyGo operates 31 fixed bus routes with a fleet of approximately 150 medium or heavy-duty transit buses that are wheelchair accessible. Open Door paratransit services (demand-response) are provided with 73 IPTC owned accessible vehicles. Both transportation services operate Monday through Friday from 4:17 AM until 11:45 PM. Saturday services are available from 5:43 AM until 11:45 PM. Sunday hours begin at 6:32 AM and end at 8:10 PM on a limited number of routes.

A limited number of taxi vouchers are available to Open Door eligible riders to meet the growing needs of the individuals with disabilities in the IPTC service area. Open Door riders can purchase up to 10 taxi vouchers per month at a cost of \$3.50 per voucher. Riders must call a local taxi company to schedule their trip.

IndyGo is the area's largest public transit operator and provides over 10 million passenger trips annually. Additional information regarding the transportation services provided by IPTC can be found at their website: www.indygo.net.

Transit in Central Indiana Counties

Boone County

Boone County Senior Services (BCSSI)/ Boone Area Transit System (BATS)

BCSSI is a private non-profit organization that provides a myriad of services for older adults in Boone County with offices located in Lebanon, Indiana. BCSSI

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operates a public transportation service that is open to the general public in Boone County known as the Boone Area Transit System (BATS). BATS provides door-to-door and curb to curb demand response service and is available upon a first come, first-served basis throughout Boone County and the surrounding counties.

Additional information about the transportation services provided by BATS can be found at the Boone County Senior Services, Inc. Website: www.booneseniors.org.

Hamilton County

Hamilton County Express (HCE) operated by Janus Developmental Services, Inc.

Janus Development Services, Inc. (Janus), a non-profit human service agency, located in Noblesville, Indiana. Janus provides support for individuals with disabilities, and operates the public transportation services throughout the county as Hamilton County Express (HCE).

The public transportation services are open to the general public. Four (4) fixed route bus services provide transportation for the agency consumers, while the demand response service transports consumers to appointments and program activities. More information about the transportation services offered by Hamilton County Express can be found at their website: www.janus-inc.com.

Hancock County

Hancock County Senior Services/Hancock Area Rural Transit (HART)

Hancock County Senior Services is a private, non-profit organization that offers transportation, social services, and information and referral for older adults and transportation for the general public in Hancock County known as Hancock Area Rural Transit (HART). Hancock County Senior Services operates a demand-response mode of transportation and provides door-to-door, door thru door, and curb-to-curb service. HART also provides service to medical facilities in the surrounding counties.

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More information about the services provided by Hancock County Senior Services can be found at their website: www.hcssi.org.

Hendricks County

Hendricks County Senior Services/Sycamore Services (dba LINK)

Hendricks County Senior Services is a private, non-profit organization that offers transportation, social services, nutrition, information and referral, recreational, and in-home services/respite care for older adults and transportation for the general public in Hendricks County. Hendricks County Senior Services operates demand-response transportation. For older adults, the agency provides door-to-door transportation. For the general public, transportation service is curb to curb.

More information about the transportation services offered LINK can be found at their website: www.hcseniors.org/wp/transportation/.

Johnson County

Access Johnson County Public Transit

Access Johnson County (AJC) is a private non-profit organization that provides transportation, social and rehabilitation services, job placement, information/referral, and home health care in Johnson County. Access Johnson County contracts with ShelbyGo to provide transportation services for Shelby County residents (see Shelby County for information on those services). In 2007, AJC began providing service to Brown County.

AJC offers three different transportation services, including six fixed routes known as Zipline, a flexible paratransit service (Zip Connector), and zone-to-zone demand response in the County. Zip Connect is a demand-response service open to individuals with disabilities and the general public. Additional information about the transportation services provided by Access Johnson County can be found at its website: <http://www.accessjohnsoncounty.org>.

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Morgan County

Connect Morgan County Public Transit

Connect Morgan County Public Transit (CONNECT) is a collaborative effort between Sycamore Services and the Coordinated Aging Services of Morgan County (CASMC) to provide public transportation service for all persons of any age in the county. Offices are located in Martinsville, IN. CONNECT offers curb-to-curb and door-to-door demand response services throughout the county.

For more information on the transportation services they provide, call 765-352-2182 or 765-342-3007.

Shelby County

ShelbyGo/Shelby Senior Services, Inc.

Shelby Senior Services, Inc. is a private non-profit organization that provides transportation, social services, nutrition, counseling, information/referral, and recreational/social for older adults in Shelby County. Offices are located in Shelbyville, IN. This agency operates the public transportation service that is open to the general public in Shelby County known as ShelbyGo. ShelbyGo operates a fixed route in the city of Shelbyville and offers door-to-door demand response service throughout the county.

For additional information on the services provided by ShelbyGo and Shelby Senior Services, Inc., visit their website at www.shelbyseniorservices.org

Private Transit Providers

Intercity Bus Services

Intercity bus service from Indianapolis to cities such as Chicago, Louisville, Columbus, Atlanta or Nashville is provided by private operators such as Miller Trailways, MegaBus and Greyhound. Hoosier Ride offers weekday service connecting Indianapolis, Muncie, Evansville, South Bend, Terre Haute, Vincennes,

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Bloomington, Ft. Wayne, Gary, Anderson and other Indiana locations. There is also a Campus Commute service making four trips daily (Monday through Friday) between the IUPUI campus in Indianapolis and the Indiana University campus in Bloomington, Indiana.

Intercity Rail Service

Central Indiana is served by two Amtrak routes: the shorter Hoosier State and the Cardinal. Service on the Hoosier State is provided by Iowa Pacific Holdings. The Hoosier State runs four times a week from Indianapolis to Chicago. The Cardinal Rail Line connects Chicago, Indianapolis, Cincinnati, Washington D.C. and New York. The Cardinal operates three days a week with standard coach seating or sleeper/bedroom accommodations. The train station is located in downtown Indianapolis.

Other Private Services

Go Express Travel operates three fixed shuttle and express routes in the region:

- The Downtown Indy shuttle between the Indianapolis International Airport terminal and downtown Indianapolis, seven days per week, from 8am-11pm.
- The Campus Commute service between Indiana University in Bloomington, IN and Indiana University Purdue University Indianapolis (IUPUI) in downtown Indianapolis, Monday through Friday, from 6:30am-6:30pm.
- The Bloomington Shuttle between the Indianapolis International Airport terminal and Indiana University in Bloomington, IN, from 4:40am-12:30am every day.

In late 2015, Amazon.com, Inc. formed an agreement with the Central Indiana Regional Transit Authority (CIRTA) to contribute three years of funding toward the operation of the Whitestown connector, a local fixed transit route that connects to an Amazon distribution facility in Whitestown, IN.

SYSTEM OVERVIEW

Bicycle and Pedestrian Facilities

Bike Plan

The Indianapolis Regional Transportation Council (IRTC) adopted the 2015 Regional Bikeways Plan in February of 2016. The plan contains a snapshot of the existing bikeways network and recommendations for future investment in the bikeways system.

There are currently 613 miles of bikeways facilities in central Indiana (**Figure 1**). Over 22% of those were built in the last five years showing exceptional growth in the provision of safe bikeway facilities. The bulk of the current system is located in the north half of Marion County and in Hamilton County. Of the existing network 50% are located in Hamilton County, 27% in Marion County and 11% in Hendricks County.

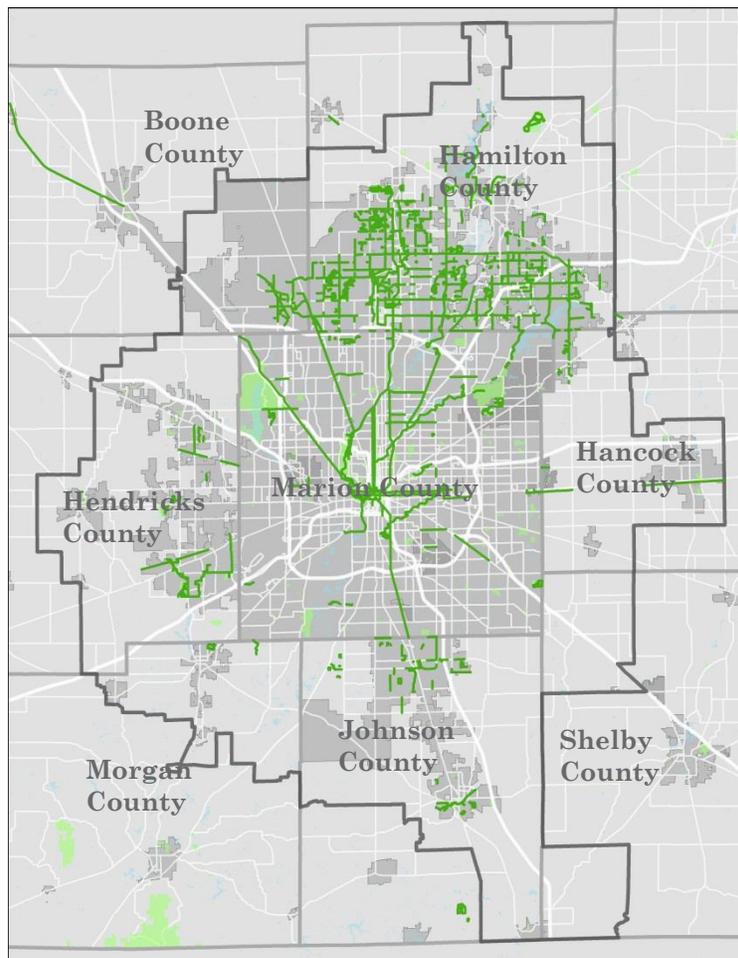


Figure 1 Map of Existing Bicycle Facilities in Central Indiana

The region is currently heavily invested in trails and side paths; bikeways facilities that are separated from automobile traffic. Bike lanes are a relatively newer type of bikeway that communities in Marion County and Hamilton County are starting to use. Bike lanes make up only 12% of the existing bicycle network.

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Pedestrian Plan

The MPO conducted a comprehensive evaluation of the regional pedestrian network between 2003 and 2006. The result was the Regional Pedestrian Plan. Contained within the plan are recommendations for MPO local public agencies (LPA) to improve pedestrian facilities, creating a comprehensive network. These recommendations were based on extensive data gathering and analysis, LPA staff input, and public input. The final *Regional Pedestrian Plan* can be found on the MPO website.

During 2015-2016, MPO staff participated as part of the project management team for the Indianapolis Pedestrian Plan. This plan is being managed by HealthbyDesign and funded by a grant from the Center for Disease Control through the American Planning Association. The plan attempts to prioritize limited future resources on proposed or planned pedestrian improvement projects. The MPO may use this as a model for regional pedestrian planning.

Complete Streets Policy

Beginning with the fall 2014 project funding call, Surface Transportation Program (STP) and Transportation Alternatives Program (TAP) projects in the urbanized area must adhere to the Indianapolis MPO Complete Streets Policy or seek exemption. Complete Streets provide facilities for all users of a roadway regardless of age or ability. In central Indiana, projects must include a sidewalk, or multi-use path on one side of the street or on-street bike lanes, with some exceptions. The policy encourages project sponsors to provide facilities for all users in their projects.

SYSTEM OVERVIEW

Street and Highway System

Central Indiana is served by one of the largest and most comprehensive networks of highways in the United States. The region is a mix of a large, rural grid with two-lane country roads and the grids familiar to more urban settings. Downtown Indianapolis experienced the same urban freeway building in the 1960s and 1970s as other United States cities; I-65 and I-70 both run through downtown Indianapolis. The largest circulator in the region is I-465, which is almost entirely in Marion County but serves to move traffic both in and around the central Indiana region.

Functional Classification System

The U.S. Department of Transportation (USDOT) organizes streets and highways into a hierarchal system called the Functional Classification System (FCS). The Federal Highway Administration (FHWA) provides guidance on determining the classification of a roadway. Based on its function within the regional road network determines the categorization of the roadway. Access is a key determinant for FCS: the higher a roadway's classification, the less access to the abutting land uses.² Seven categories comprise the current FCS: Interstate, Other Freeways & Expressways, Other Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local. See **Figure 2** for the FCS in central Indiana. Table 1 shows the breakdown by mileage for urban and rural classified roads within the Indianapolis MPA.

² For more information, see *Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition* produced by the Federal Highway Administration.
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fc_aaab.pdf

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Name	Urban Miles	Rural Miles
Interstates	95.58	33.54
Other		
Freeways/Expressways	15.35	0.00
Other Principal Arterials	119.69	11.53
Minor Arterials	235.83	42.23
Major Collectors	245.85	129.23
Minor Collectors	42.42	73.03
Locals	1570.34	333.78

Table 1. Functional Classification System Mileage by Functional Class

The process of designating the FCS in central Indiana is a coordinated effort between the local public agencies, the MPO, the Indiana Department of Transportation (INDOT), and the FHWA. The most recent update was approved in 2015. Amendments are considered year-round. The Indianapolis MPO uses the FCS in planning processes and project selection.

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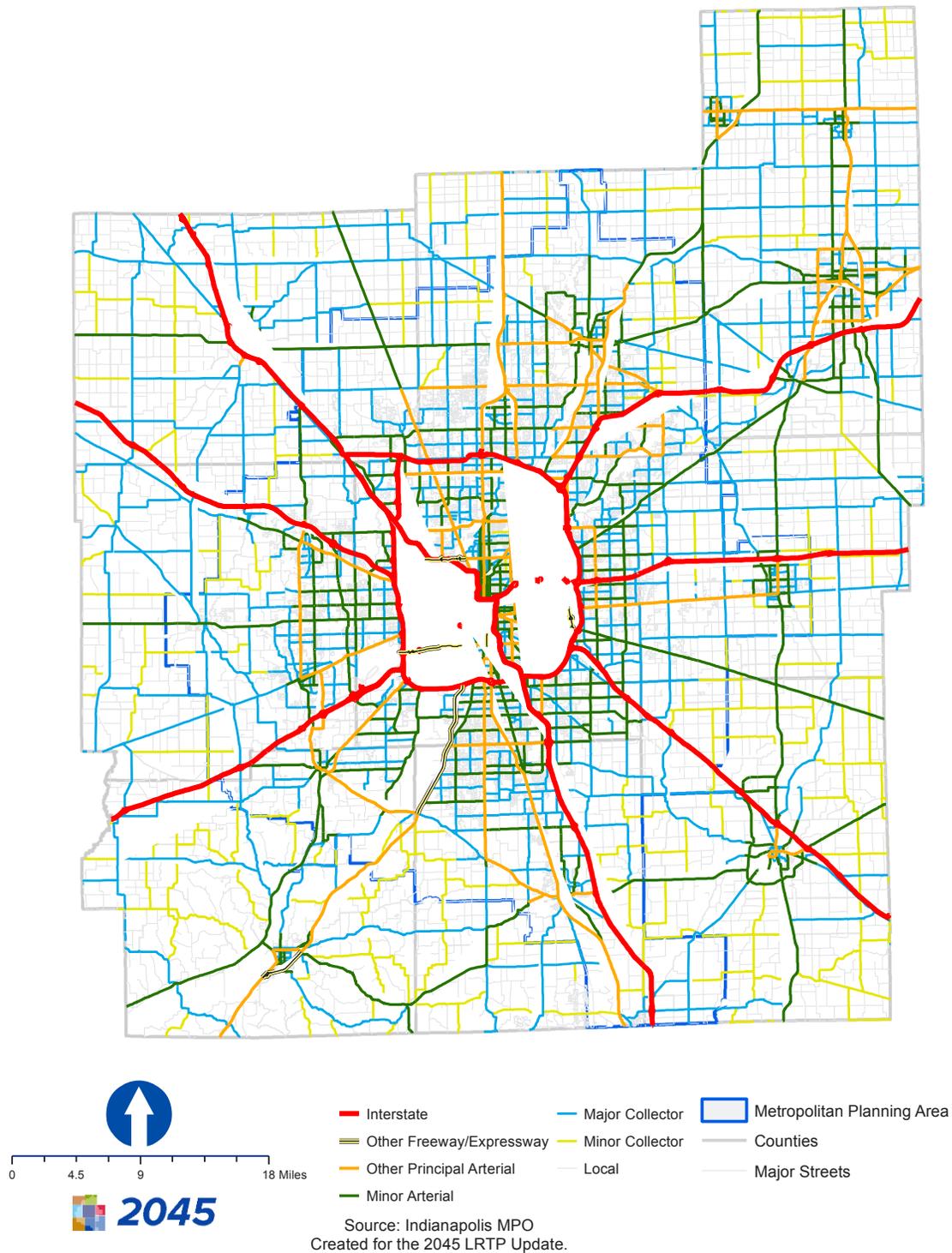


Figure 2 Functional Classification System

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National Highway System

The National Highway System (NHS) is a collection of roadways important to the national movement of goods, people, and defense.³ Interstates and Other Principal Arterials are two types of FCS roadways included in the NHS. Other subsystems include:

- Strategic Highway Network (STRAHNET): Highways important to the mobility of strategic defense resources within the United States.
- Major Strategic Highway Network Connectors: Highways that provide access between major military installations.
- Intermodal Connectors: Roadways that connect major intermodal facilities to the NHS.

In cooperation with INDOT and FHWA, the MPO and its local public agency (LPA) partners determined the appropriate system for the central Indiana region, recognizing the federal requirements of NHS roadways. Included in those requirements are certain annual and biennial data collections. NHS routes typically are state-owned and maintained, although the Intermodal Connectors are usually locally-owned and maintained roadways. The full extent of the NHS in central Indiana is displayed in **Figure 3**.⁴

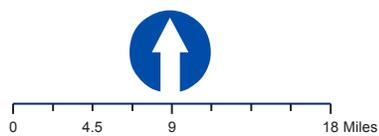
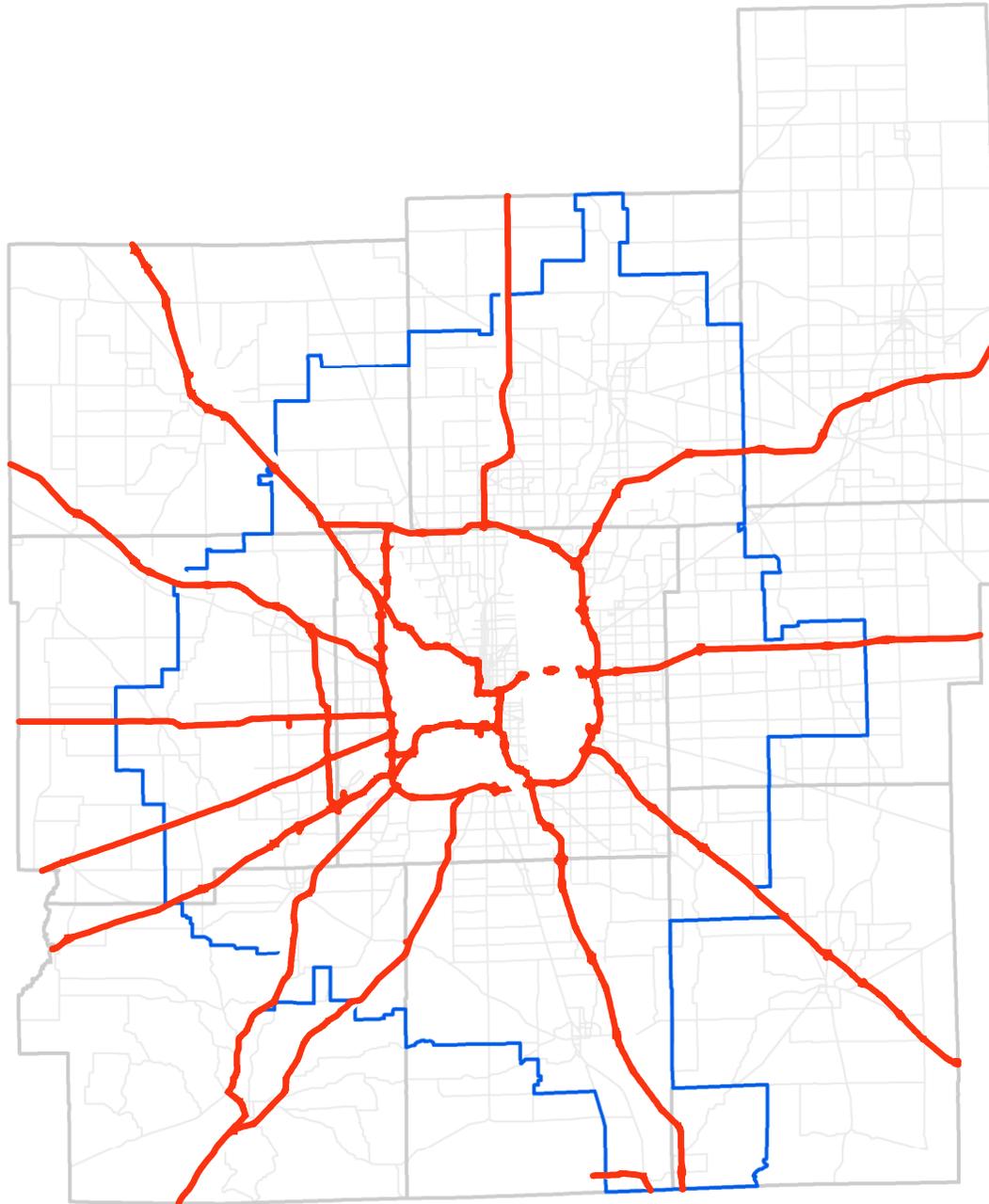
National Truck Network

The National Truck Network (NTN), also known as the National Network, serves to link principal cities on high volume routes utilized by large vehicles for interstate commerce. Traditionally, these roadways are primary movers of heavy trucks, such as tractor trailer combinations. In October 2015, the Indianapolis Regional Transportation Council (IRTC) Policy Committee approved a revised NTN in central Indiana that equaled the extents of the current NHS.

³ For more information on the NHS, including a history of the NHS, please refer to the FHWA's website: http://www.fhwa.dot.gov/planning/national_highway_system/

⁴ This map has been approved by the IRTC Policy Committee but not FHWA.

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 **2045**

Source: Indianapolis MPO
Created for the 2045 LRTP Update.

-  National Highway System
-  Metropolitan Planning Area
-  Counties
-  Major Streets

Figure 3 National Highway System

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Bridges

Approximately 2,900 bridges serve central Indiana residents, as shown in **Figure 4**. Bridges serve an important role in the transportation system, allowing access previously inaccessible, either due to a natural or human obstacle. The planning and construction of the Interstate Highway System in the middle of the twentieth century increased the number of bridges that were required for the grade-separated roadways.

Bridge Maintenance

A map of bridge maintenance responsibility clearly shows the location of interstates in central Indiana (**Figure 5**). With few exceptions, INDOT and counties are responsible for bridge maintenance in Indiana. In central Indiana, 400 bridges are maintained by INDOT, representing slightly over 40% of INDOT's regional bridge responsibility.

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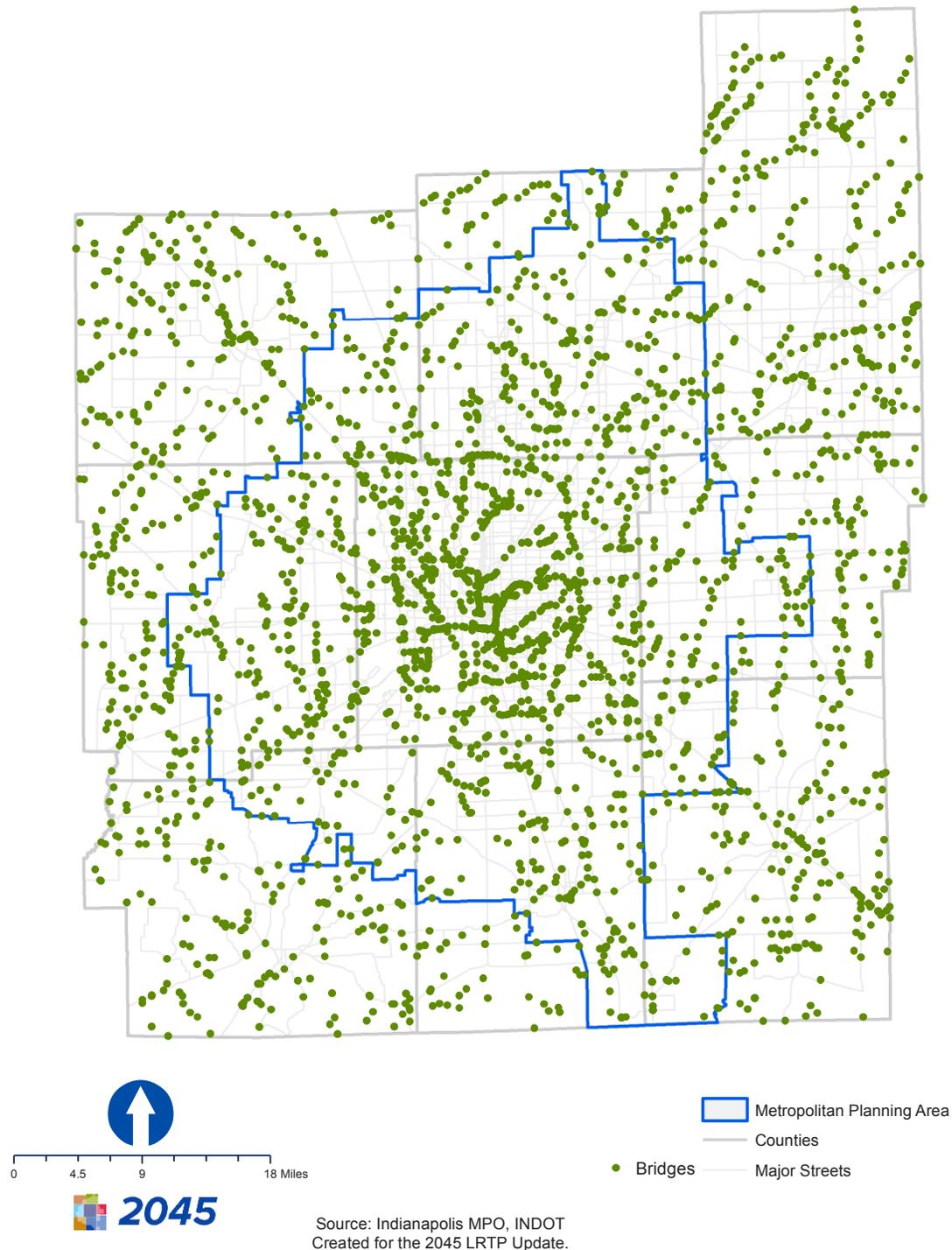


Figure 4 Bridges

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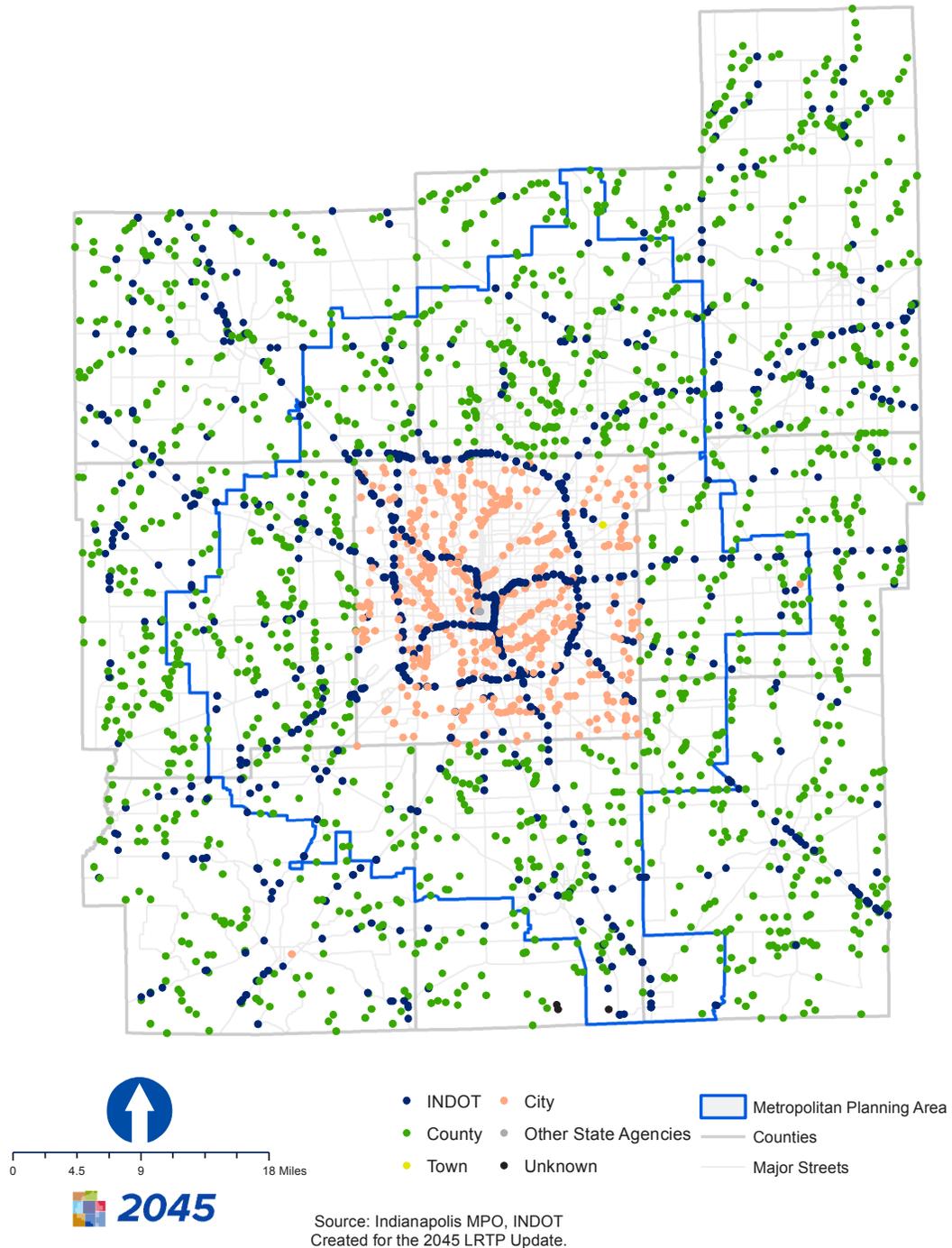


Figure 5 Bridges Shown by Maintenance Responsibility

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Transportation Projects Recently Completed or Underway

Numerous projects have been completed since the IRTC adopted the 2035 LRTP in 2011, as shown in **Figure 6**. The major transportation projects, or those that are considered regionally significant, follow the Policy Committee's objective of providing funding for projects that increase the regional mobility in central Indiana.

Interstate Projects

The Indiana Department of Transportation (INDOT) completed numerous interstate improvement projects between 2011 and 2015.

Various projects have been completed in recent years to accommodate increased travel demand in the region. Consistent with traffic growth patterns described in previous sections, many of these have occurred in suburban areas or on the Interstate Highway System. Some of the more notable projects that are recently completed or are underway are described below.

Interstate Highway System

Several large interstate projects were completed between 2011 and 2015. These projects add capacity to the interstate system and enhance the travel mobility options for the motoring public. INDOT continued its project of widening I-65 and I-70 across the state, widening pieces throughout the region. Portions of I-69 on the northeast side were widened or auxiliary lanes added to facilitate traffic movement through that corridor. Two I-465 interchanges were modified: Keystone Avenue and Allisonville Road.

Arterial Roadway System

Roadway projects that expand system capacity have been constructed throughout the nine-county area. These are the major projects constructed between 2011 and 2015 that contribute to regional transportation continuity:

Carmel

- Towne Road, 131st Street to 146th Street (2 to 4 lanes)

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- Illinois Street, Springmill Road to 106th Street (new construction)

Fishers

- 126th Street, State Road 37 to I-69 (2 to 4 lanes)

Hamilton County

- Olio Road, 96th Street to Olio Road Bridge (2 to 4 lanes)

Hendricks County

- Ronald Reagan Parkway, CR 200 S to CR 100 S (new construction)

Indianapolis

- Emerson Avenue, Shelbyville Road to I-65 (2 to 4 lanes)

Plainfield

- Perimeter Parkway (Phase 1), Township Line Road to US 40 (2 to 5 lanes)

Speedway

- 16th Street, Crawfordsville Road (New roundabout)

Zionsville

- Bennett Parkway (Phase 1), just south of 106th Street to 106th Street (new construction)

Indiana Department of Transportation – State Routes

- State Road 135, CR 700 N to CR 850 N (2 lanes to 5 lanes)
- State Road 39, SR 67 to south of White River bridge (Bridge replacement and widening)

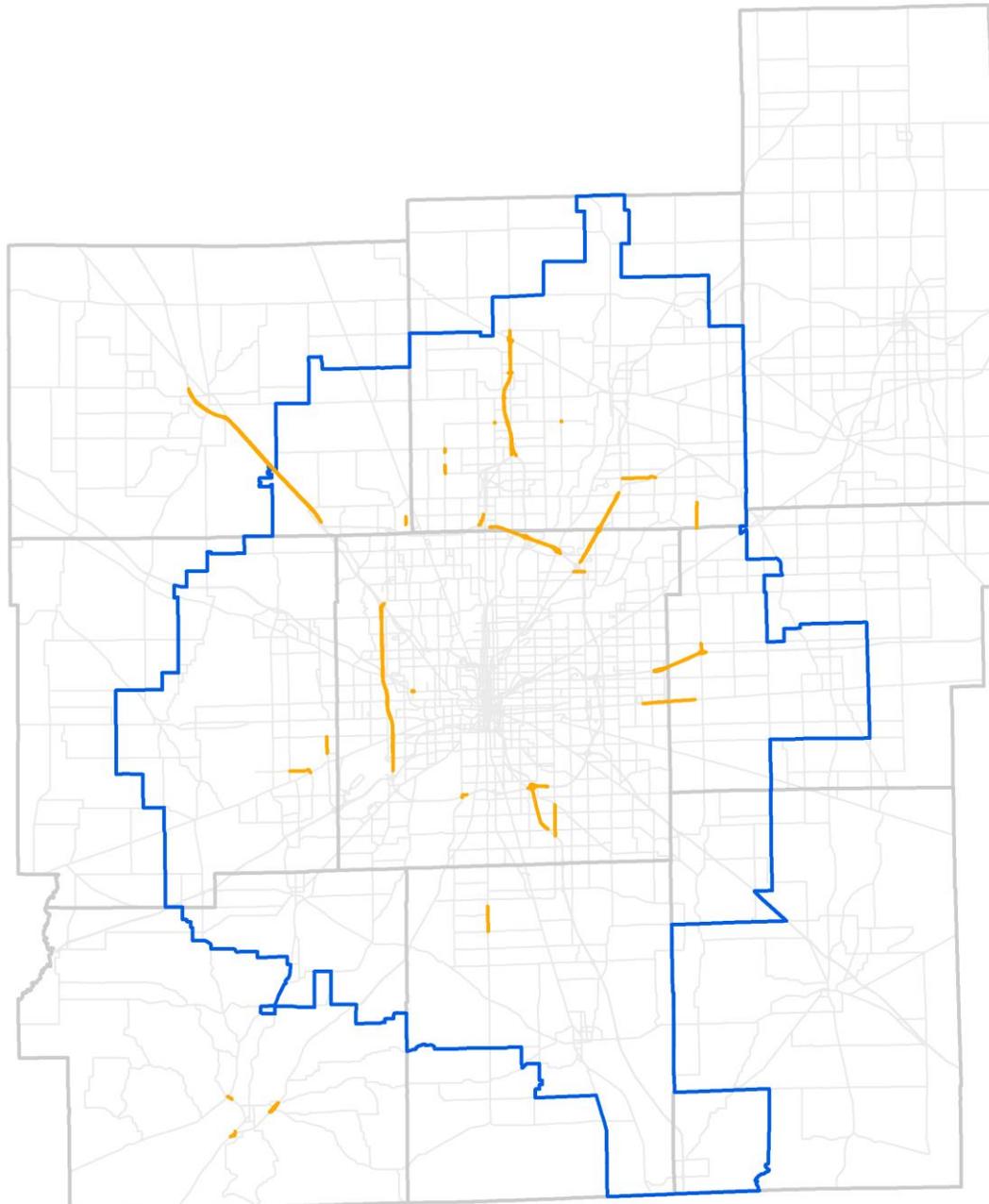
Indiana Department of Transportation – US Routes

- US 31, I-465 to 216th Street (4 to 6 lanes and new intersections)
- US 40, just west of Marion/Hancock county line to Buck Creek (4 to 5 lanes)

Indiana Department of Transportation – Other Projects

- 75th Street, Shadeland to SR 37 (2 to 4 lane divided)

SYSTEM OVERVIEW



-  Metropolitan Planning Area
-  2015
-  Counties
-  Major Streets

Source: Indianapolis MPO, INDOT
Created for the 2045 LRTP Update.

Figure 6 2035 LRTP Period 1 Completed Projects.

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Freight System

Central Indiana plays an important role in freight in the United States. The region functions as a Top 10 metropolitan area in freight, while being supported by the resources of the 32nd largest area in terms of population. Investment in the FedEx facility at the Indianapolis International Airport has resulted in significant air cargo opportunities unlike those found in most regions.

The region is truck dependent. In both tonnage and total value, over 80% of freight is carried by trucks. Three interstates provide through movement:

- I-70 – Maryland to Utah
- I-65 – Indiana (providing access to Chicago) to Alabama
- I-74 – North Carolina to Iowa

Another interstate provides movement around central Indiana (I-465). A fifth, I-69, connects central Indiana to Port Huron, Michigan, with planned extensions to Mexico. These interstate connections position Indiana uniquely to benefit from this through traffic by constructing warehousing and distribution centers.

The label “Crossroads of America” is commonly associated with the interstates, but the phrase was coined in reference to the numerous railroads serving the area. Today, central Indiana is served by several CSX lines and four “short-line” rail carriers. The busiest of these lines is the CSX St. Louis main line, which runs from St. Louis through Indianapolis and on to Cleveland, OH. Another line serves Chicago and Cincinnati, although with much lighter traffic. Indianapolis’ geography relative to Chicago and Ohio impedes expansion of rail traffic and facilities in central Indiana. Because of the large facilities in Chicago, there is little economic sense to shift significant traffic to Indianapolis. Instead, freight is unloaded in Chicago and trucked to central Indiana.

Air traffic continues to be a growth opportunity for central Indiana. Since FedEx moved into the Indianapolis International Airport in 1989, nearly \$750 million has

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been invested. IND airport has more than 10 cargo-based firms and offers over 165 flights per day and 10 large airline carriers which carry cargo in passenger planes.

As a result of a 2015 regional planning effort, routes considered significant to freight movement were identified and placed into tiers, as shown in **Figure 7**.

These tiers represent different levels of importance for roadways in moving freight.

Tier 1 roadways are Interstates on the Primary Freight Network (PFN), as identified by the Federal Highway Administration (FHWA). Tier 2 includes Interstates not on the PFN; although not identified by FHWA for inclusion, these routes are critical to freight movement. Tier 3 roadways have greater than 1,000 Average Annual Daily Traffic (AADTs) truck counts. Tier 4 includes roadways that connect to clusters of freight generating facilities, or freight clusters.

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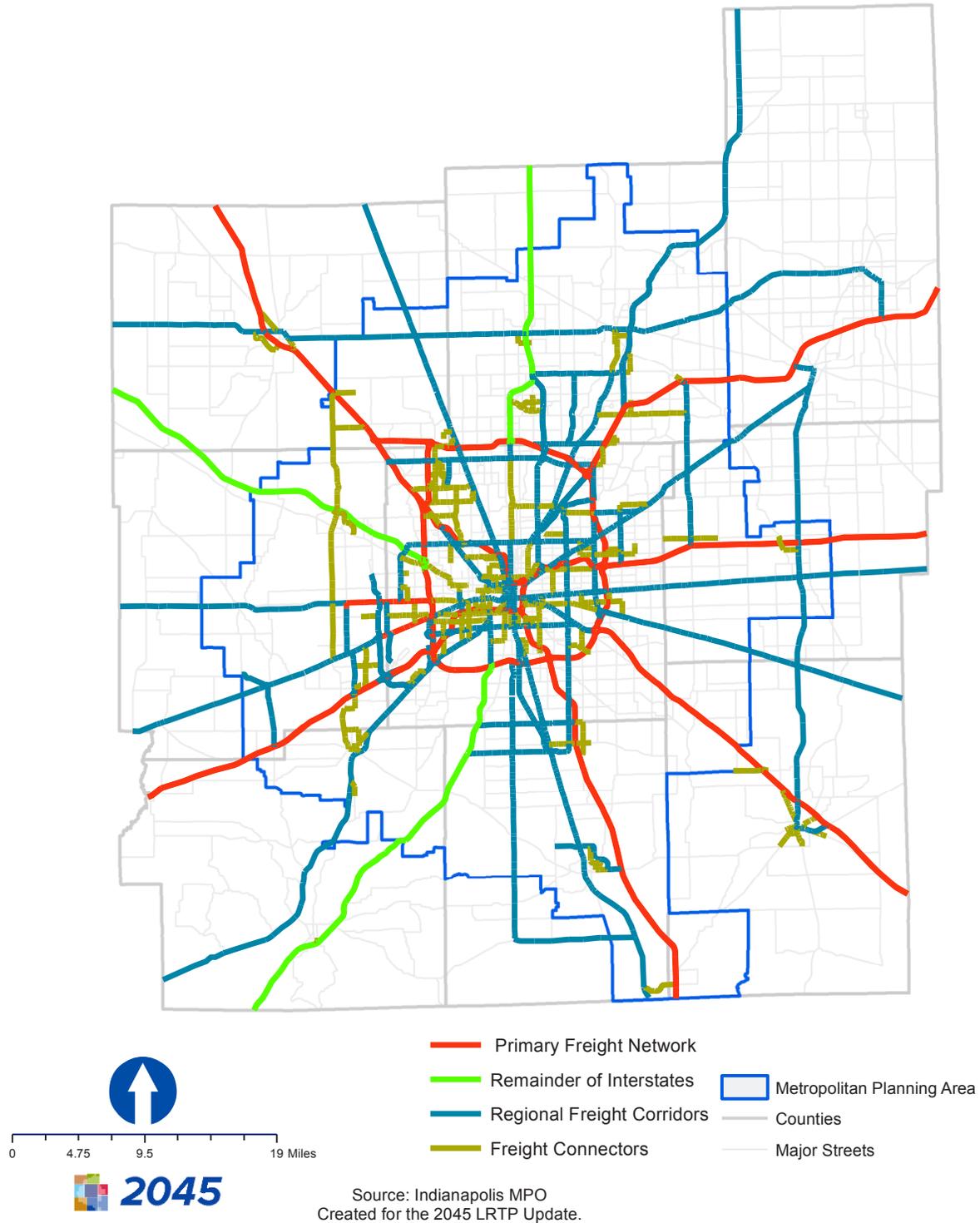


Figure 7 Regional Freight Network

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Regional Traffic Growth Trends

From 2006 to 2014, regional vehicle miles traveled (VMT) grew by 17.55%.⁵ Hamilton (42%), Hendricks (58%), and Johnson (46%) counties experienced the largest percent increases in VMT during that time period. The regional traffic growth trend for each county, the region (Grand Total) and the state can be seen in **Figure 8**.

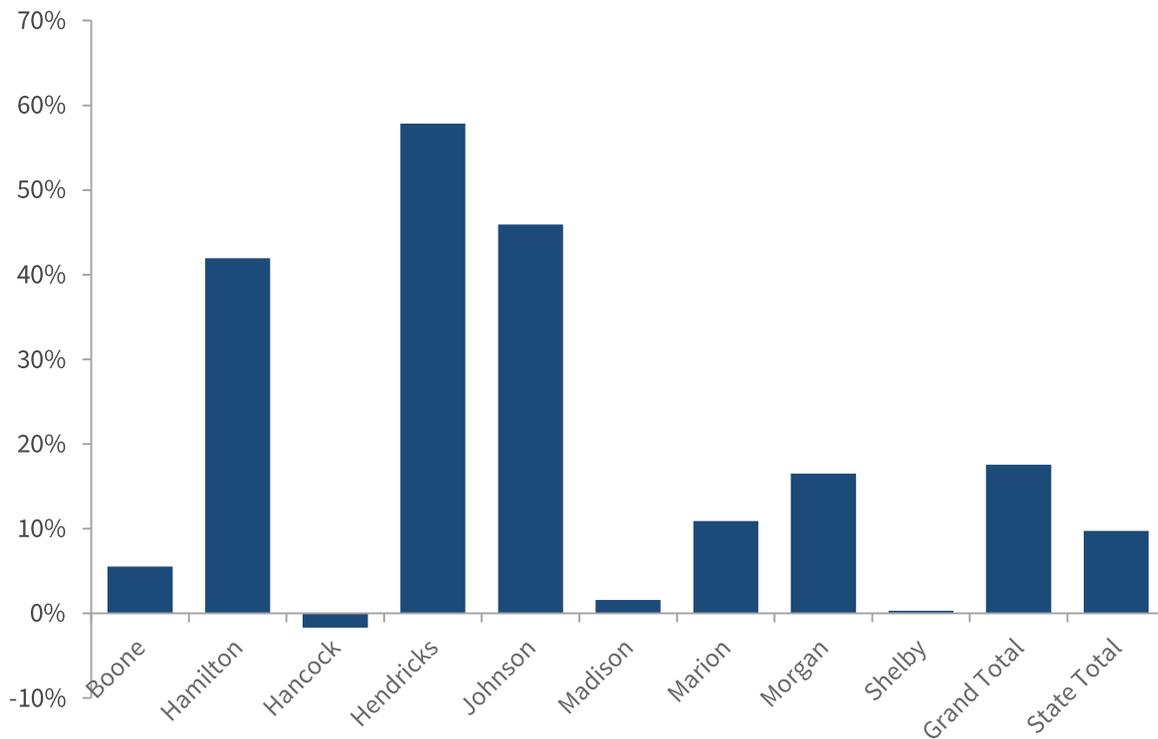


Figure 8 Daily VMT Growth, 2006 -2014.

Per Capita VMT growth is another important indicator for a transportation system. The daily VMT is reflective of a typical commuting day, ignoring weekends and holidays. From 2000 to 2010, daily per capita VMT decreased in the region by nearly 10%, but only two counties saw a per capita VMT increase: Marion (16%) and Madison (2%).

⁵ Traffic count data accessed 2/16/2016. www.in.gov/indot/2469.htm.

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Programmed Projects, 2012-Present

There is a larger cohort of projects that do not fit the definition of “capacity-enhancing” projects definition but are funded through federal funds. These projects are listed in the Indianapolis Regional Transportation Improvement Program (IRTIP) but are not listed in the LRTP. Through the 2035 LRTP planning process, the IRTC Policy Committee established funding allocation percentages. The 2035 LRTP used the funding allocation in project selection but the Indianapolis MPO also applied those same funding splits to select programming funding categories, namely Surface Transportation Program (STP) monies, providing a link between the LRTP and the IRTIP. See **Figure 9** to understand the funding split goals and realities over the last three approved TIPs. The funding below are funds administered by the MPO only.

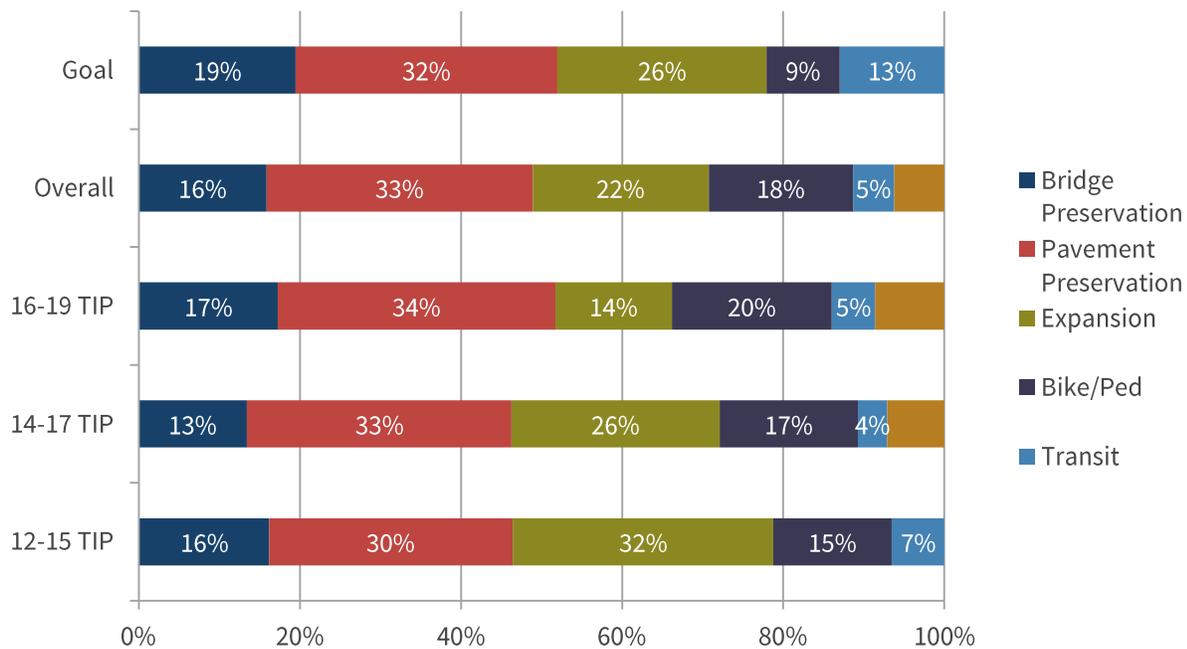


Figure 9 Programmed Projects, 2012-Present

As **Figure 9** shows, the IRTC Policy Committee established a funding goal of 19% for Bridge Preservation, 32% for Pavement Preservation, 26% for Road Expansion,

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9% for Bike/Pedestrian, and 13% for Transit.⁶ These funding splits provide the programming section a guideline to use when distributing federal funding.

⁶ Funding goals were set in the 2035 LRTP. These numbers reflect those funding splits, excluding Operation and Maintenance (O&M), which is not considered in programming.

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APPENDIX G

SYSTEM PERFORMANCE



Technical Memorandum: Regional System Performance

Continuing the series of technical memorandums concerning the 2045 Long Range Transportation Plan (LRTP), this memorandum presents the regional system performance in Central Indiana.

Performance Measures and Peer Comparisons

Peer Comparisons

Just as a review of historical trends in the region is valuable, so is a review of how Central Indiana performs in comparison to peer regions. The MPO believes there to be applicable peer comparisons, which can be categorized as either standard (similar) or aspirational (goal) in regards to population and employment figures. Indianapolis's standard peers include Cincinnati, Cleveland, and Columbus in Ohio; Grand Rapids, Michigan; Kansas City, Missouri; Louisville, Kentucky; and Milwaukee, Wisconsin. The three areas seen as aspirational peers are Charlotte, North Carolina; Denver, Colorado; and Nashville, Tennessee.

The Indianapolis MPO chose to compare data along four key transportation indicators, which include highway lane miles, daily vehicle miles traveled, transit service hours, and transit trips. These regional transportation network indicators are relevant because they help uncover the relationship between the accessibility (supply) and usage (demand) of various transport-based infrastructure within an urbanized area. The figures contained within the subsequent tables are presented normalized by population (per capita) and refer to Central Indiana's scores as the percent baseline.

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Highway lane miles (supply) and daily vehicle miles traveled (demand) are the determining factors in calculating Central Indiana's vehicle mobility. While the Figure 1 shows that the Indianapolis urbanized area has 2nd fewest lane miles per person, around 0.86 miles, it also sees the 2nd highest amount of daily travel distance, over 31 miles. This inverse relationship indicates something unique. At first glance, travelers within Central Indiana appear to be more efficient at traversing their region. However, when travel factors adversely change, such as increases in congestion or travel costs, Central Indiana travelers will be more heavily affected than drivers from other peer regions as it is illustrated in Figure 2.

Transit service hours (supply) and transit trips (demand) are the factors used to determine Central Indiana's public transit mobility. Figure 3 and Figure 4 reveal that the MPA lacks behind all peers in both categories, 0.45 service hours and 7,100 trips per capita respectively. This would initially indicate a generally lower interest in public transit; however, it worth mentioning that similar reports such as Nashville Region's Vital Signs acknowledge a direct link between convenience and usage. This demand follows supply scenario was coined "induced demand." This relationship is further supported when reviewing how the proportional disparity of Central Indiana when compared with its peers is graphically consistent across indicators.

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Highway Lanes Miles per capita compared with Indianapolis Urbanized Area

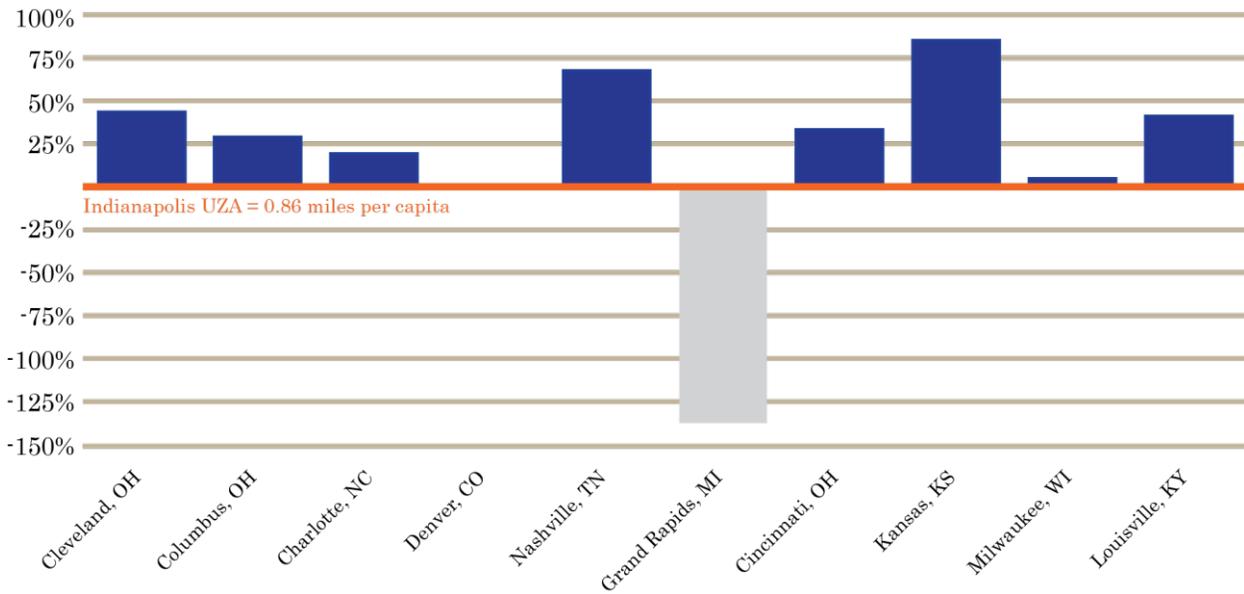


Figure 1: Federal Highway Administration (FHWA) 2014

Daily Vehicle Miles Traveled per capita compared with Indianapolis Urbanized Area

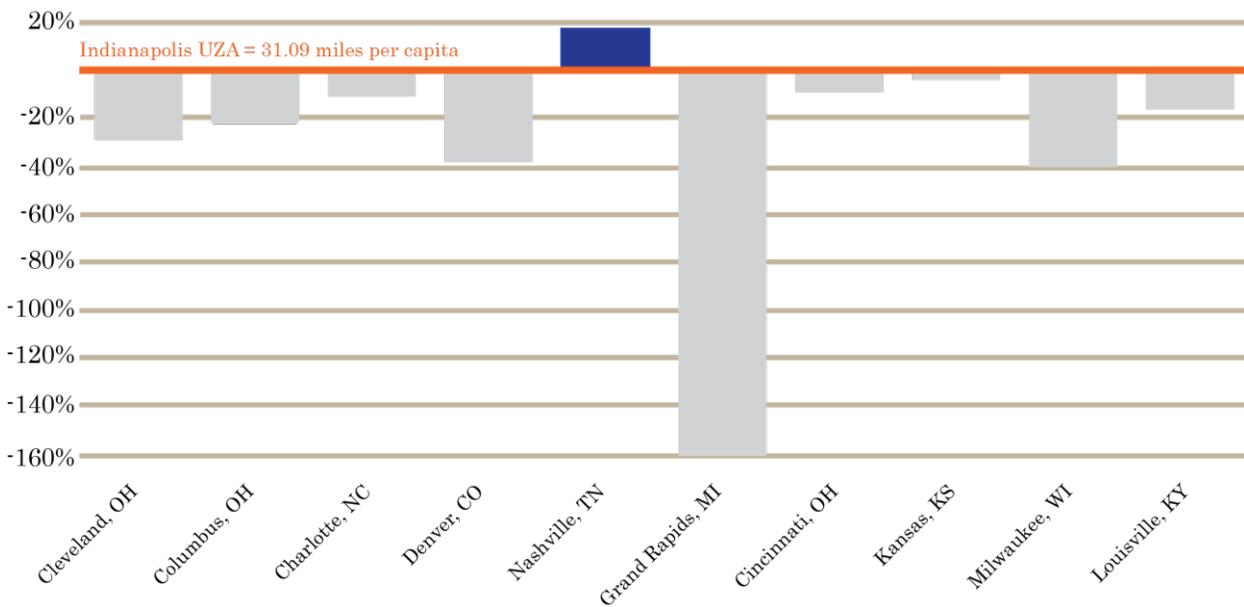


Figure 2: Federal Highway Administration (FHWA) 2014

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Transit Service Hours per capita compared with Indianapolis Urbanized Area

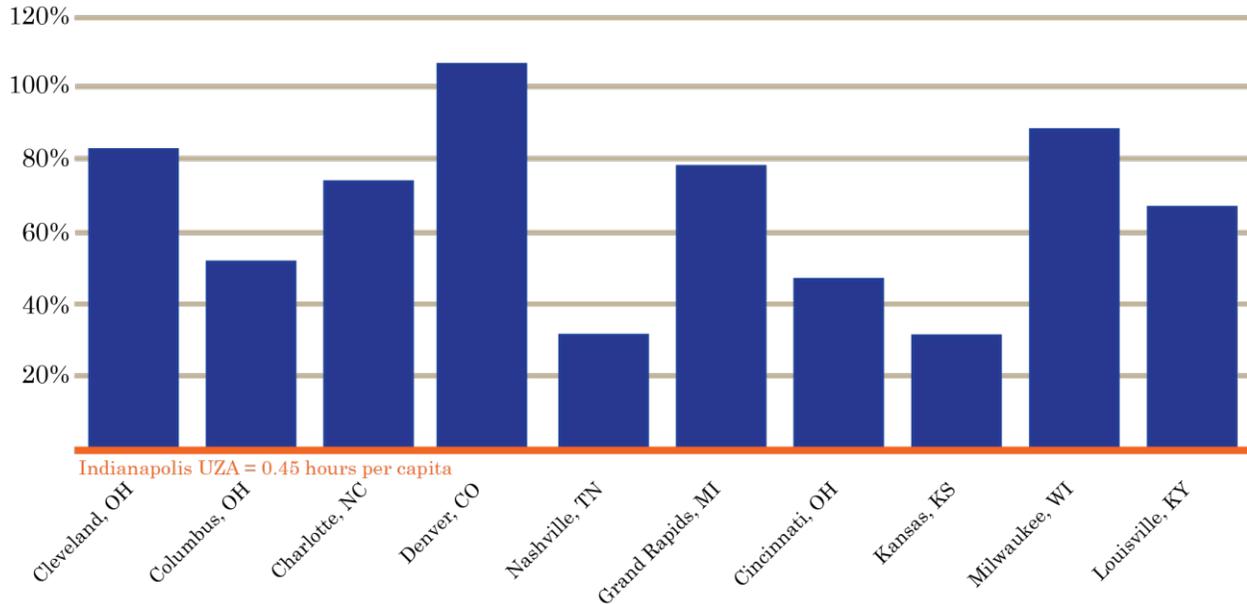


Figure 3: Federal Highway Administration (FHWA) 2014

Transit Trips per capita compared with Indianapolis Urbanized Area

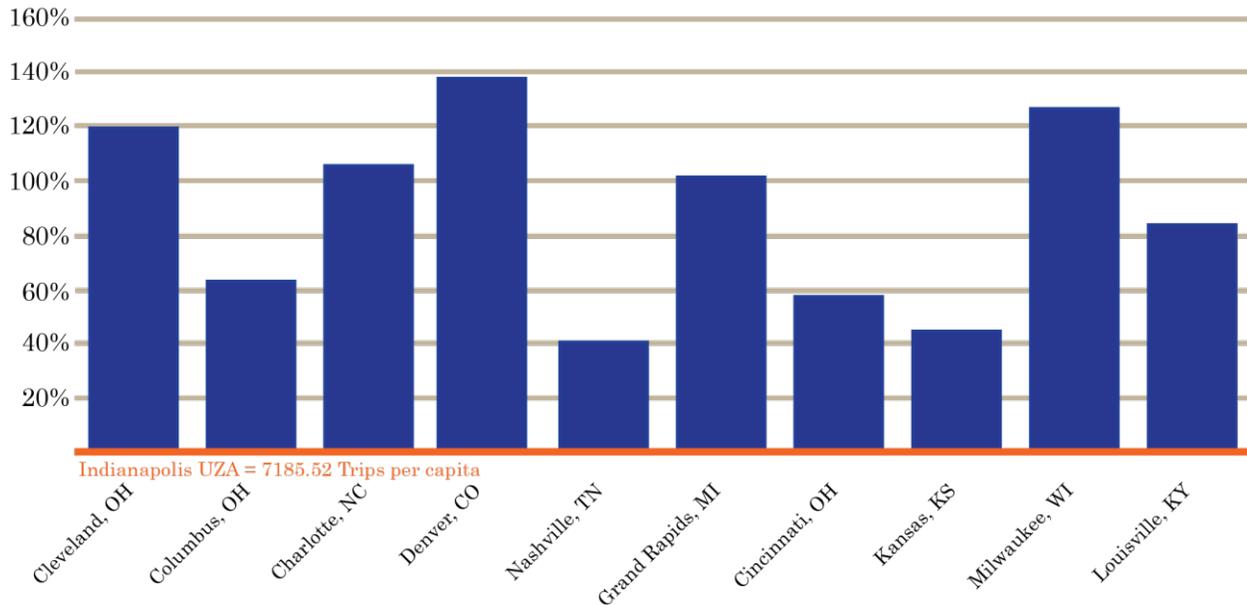


Figure 4: Federal Highway Administration (FHWA) 2014

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Highway Performance

Local region comparisons help to identify how sections of Central Indiana are affected by factors of congestion. Highway performance along a given road can be understood through the combination of four metrics: lane counts, vehicle miles traveled, vehicle hours of delay, and vehicle capacity. These figures are based on extractions from the MPO's travel demand model network, which uses count samples to generate data travel estimations for the entire system. As Central Indiana's transit network still has significant investment potential, the evaluations within this section focus on interpreting the regional vehicle-based travel.

Symbolizing the distribution of lanes counts within Central Indiana, shown in Figure 5, highlights where travel supply has been emphasized. In a general sense, the MPO region largely operates on an axial grid pattern, commonplace in the Midwest, with Indianapolis functioning as the central node of activity. North/south roadways are also given physical priority, likely due to the scale of regional commuter centers. Vehicle miles traveled counts indicate demand more aligns to arterial patterns. Figure 6 shows those highways and spoke arterials carry a majority of the regional traffic. Marion County local roads see significantly more traffic than local roads within the surrounding counties. These disproportions emphasize both Indianapolis's influence within the Central Indiana region and signifies a weak interrelationship amongst the surrounding counties.

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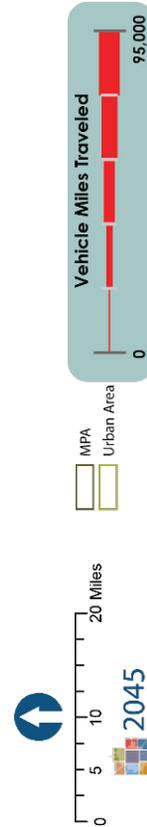
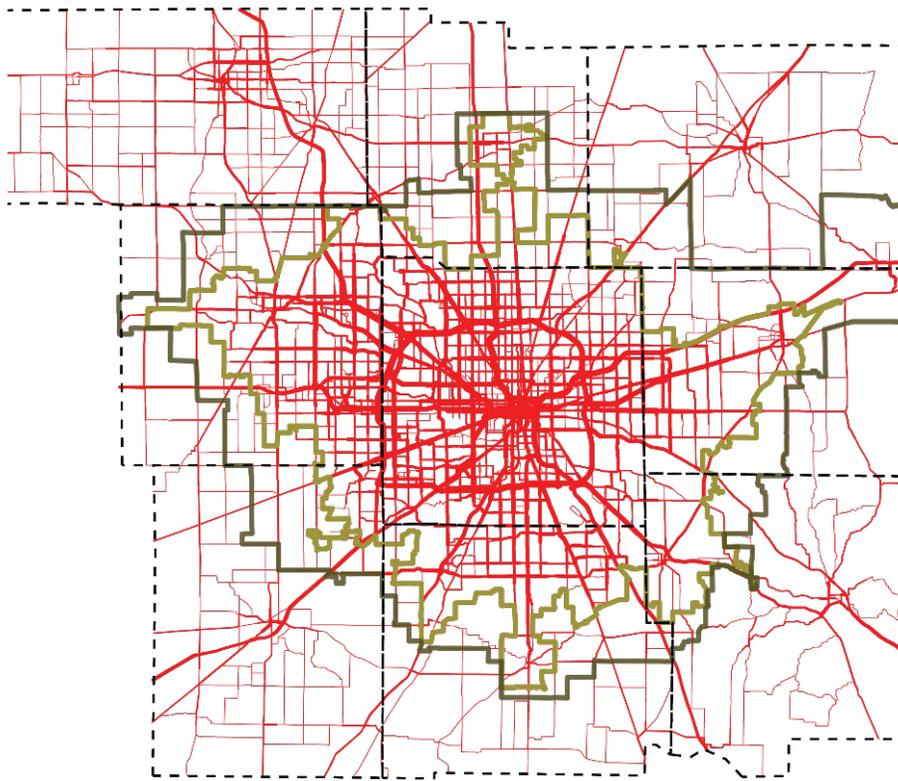


Figure 5: Indianapolis MPO Travel Demand Model

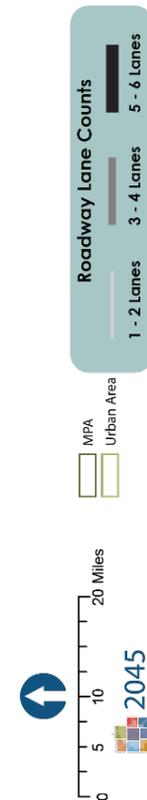
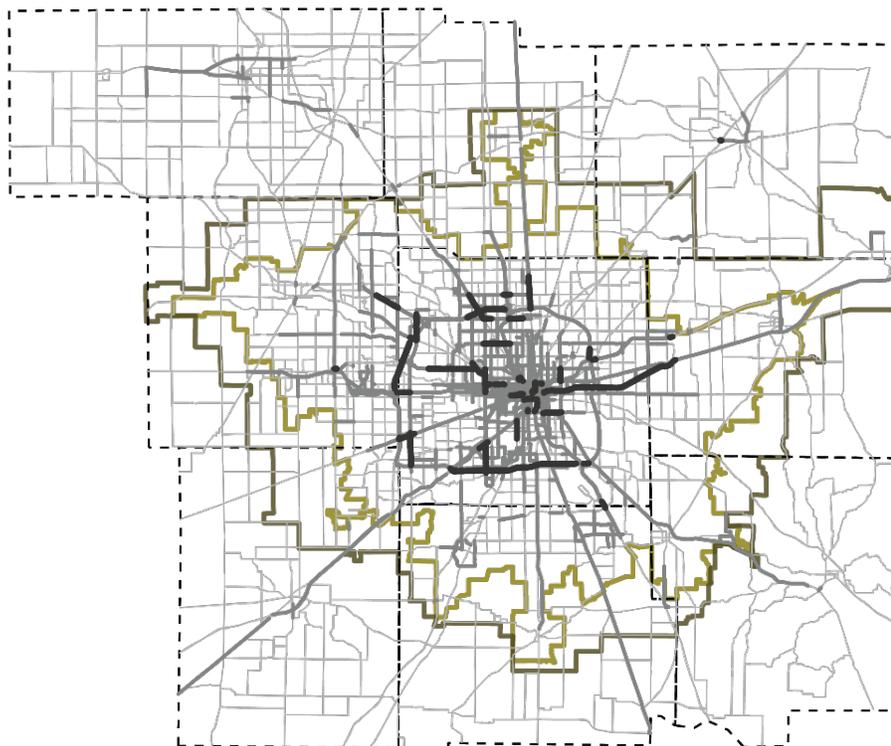


Figure 6: Indianapolis MPO Travel Demand Model

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Commuting Patterns and Travel Behaviors

The commuting pattern in Central Indiana is dominated by commuters traveling to Marion County jobs from surrounding counties. More than 40 percent of commuters from Hendricks (49%), Hancock (45%), Hamilton (43%), and Johnson (43%) commute into Marion County. Figure 7 shows that in general, the percentage of commuters from each county traveling into Marion County is slowly decreasing over time; a trend which could be significant if it continues. The next largest importer is Hamilton County, which now sees over 27,000 Marion County residents cross the county border to work in Hamilton County each day.

As indicated in Figure 10, the largest commuting flows in central Indiana are from Hamilton County to Marion County (60,268 commuters), Hendricks County to Marion County (35,146 commuters), Johnson County to Marion County (29,928 commuters) and Marion County to Hamilton County (27,400 commuters). The large exchange of commuters between Marion and Hamilton Counties frequently leads to noticeable congestion on I-69 and northeast I-465 during peak commute times.

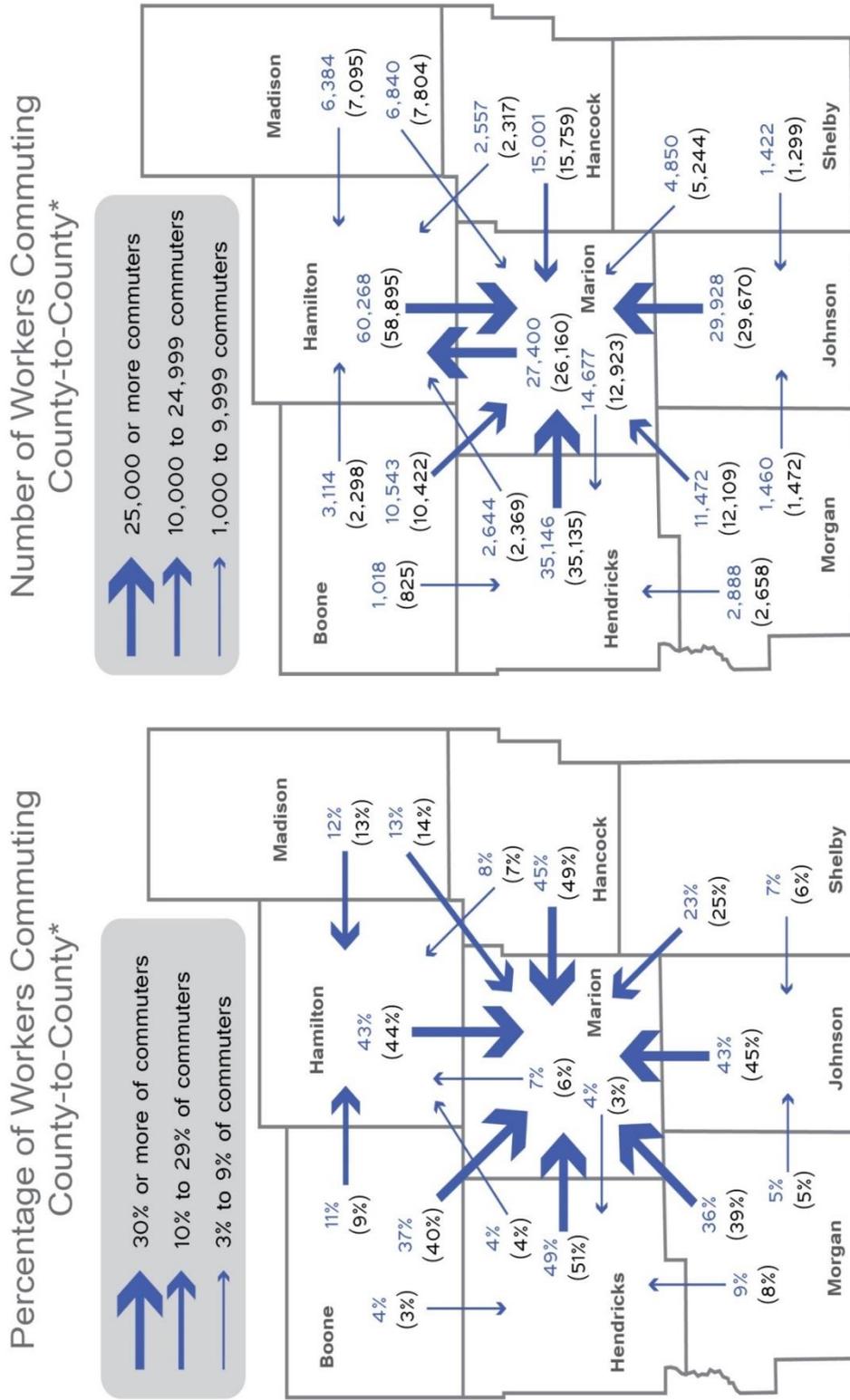
Commuters that stay within their county of origin also make up a significant portion of travel. Over 80% (344,154) of commuters that work in Marion County also live in Marion County. Other counties range between 38% and 62% of commuters that stay within their county of origin. Just over 4 percent of all commuters travel to counties outside of central Indiana.

Between 2000 and 2013, total regional commuting for work increased by nearly 62,000 workers, from around 770,000 to 829,000. Marion County saw a negligible gain in commuters but Hamilton and Hendricks County saw the greatest increases, 32,000 and 18,000 respectively. Commuters to Marion County have dropped between 2006 and 2009 from every county except Boone (1.2%), Hamilton (2.3%), and Hendricks (0.3%). In Hamilton County, commuting within the county increased 58.3% and commuters from Marion County to Hamilton County increased 10%.

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More workers commute to Hamilton County (98,616) than commute to Marion County (60,268). Hendricks County saw the greatest percentage increase and the county sending the most commuters to Hendricks County are Marion County; even higher than those from Hendricks County.

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Source: American Community Survey 2009-2014 (Blue), 2006-2010 (Black) *Commuter flows of 3% or more of total

Figure 7: ACS, 2009-2014; ACS 2006-2010

Figure 9: ACS, 2009-2014; ACS 2006-2010

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Travel Time Index (TTI)

Another method of measuring congestion is a travel time index (TTI). A travel time index is a ratio that expresses peak hour travel time (6:00-8:00 AM and 4:00-6:00PM) compared to free flow conditions. The most popular and well-known travel time index is generated by Texas A&M's Transportation Institute, in their annual Urban Mobility Scorecard. As explained in the 2015 Urban Mobility Report, "The ratio of travel time in the peak period to the travel time at free-flow conditions. A value of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period." (2015 Urban Mobility Report, page 19)

Since 2000, the TTI in Indianapolis has remained flat at 1.18. The region's rank in 2000 was 38 and in 2014 it dropped to 46, an indication that although congestion may occur in parts of Central Indiana, the time spent in congestion dropped compared to other regions.

Bicycle and Pedestrian Performance

Another important master plan for incorporation and consideration in the 2045 LRTP is the plan to address human-powered transportation and connectivity to transit. This update will increase the choices available to cyclists to encourage more trips by bike, and create a sustained network of bikeways that are integrated with a pedestrian, public transit, and automobile routes. The regional bikeways plan has been developed as a component of the Indianapolis MPO's 2035 Long Range Transportation Plan (LRTP). The resultant of the regional bikeways vision plan is 613.4 miles as of the year of 2015, an increase of 78% compared to bikeway facilities pre 2011. Figure 11 shows the pedestrian and bicycle facilities mileage included in the 2035 LRTP.

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Miles of Bicycle and Pedestrian Facilities

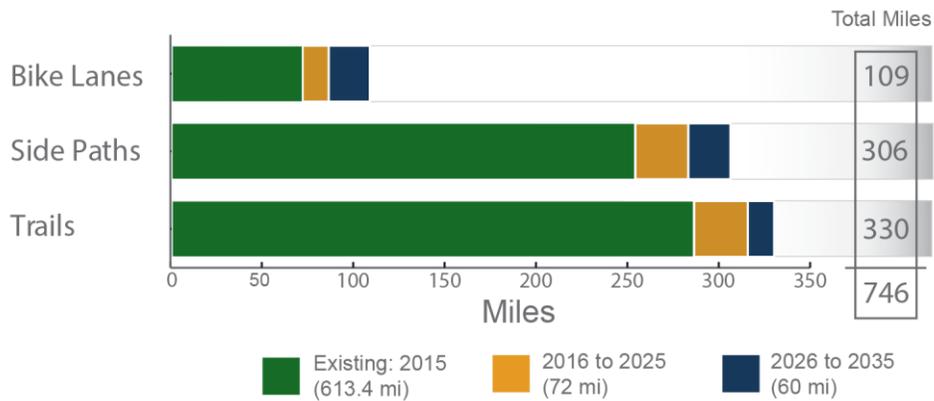


Figure 10: Bikeways Facilities Recommended by Regional Bikeways Plan (2015).

Table 1 illustrates that 2035 LRTP has dictates to assign \$209,686,686 for pedestrian’s and cyclist’s facilities through 2035. Expenditures do not exceed expected revenue.

Time Frame	Funding Target	Total Expenditure
2016 to 2025	\$94,615,563	\$93,912,580
2026 to 2035	\$116,965,730	\$115,774,106
Total	\$211,581,293	\$209,686,686

Table 1: Bikeways Facilities Recommended by Regional Bikeways Plan (2015).

Public Transit Performance

The public transit system within Central Indiana consists of two agencies, IndyGo and Central Indiana Regional Transportation Authority. The organizations combine to serve over 10 million rides annually. The performance of these public transit systems heavily impacts the mobility and opportunities available to riders; as many of whom currently partake have limited alternative transportation options. There are currently three modes of public transit supported within the Central Indiana area: fixed-route bus, demand response, and vanpool services.

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- **Fixed Route Bus:** Provides service along specific routes on a scheduled interval; with vehicles stopping to pick-up and drop-off passengers at destinations and locations.
- **Demand Response:** Provides service that does not follow a fixed route. Sometimes this service will be restricted to only support passengers with disabilities or seniors. Passenger departure and arrival information, such as boarding time or location, are prearranged with the supplier. Typically each trip is scheduled separately, but can be combined.
- **Vanpool:** Provides vehicles and financial incentives to groups, typically five to 15 people, sharing rides to a common destination or area not served by fixed-route transit service.

The transit system performance measures reported below for IndyGo and CIRT, which report to the Federal Transit Administration (FTA), are accessible through the National Transit Database (NTD).

IndyGo

IndyGo is a Municipal Corporation of Indianapolis-Marion County and is the largest public transit provider in the state of Indiana. IndyGo provides fixed-route and on-demand service (Open Door).

	Operating Cost	Fare Revenue	Ridership	Revenue Hours	Subsidy/ Passenger
Fixed Route Bus	\$51,385,452	\$10,389,901	10,292,610	488,534	\$3.98
Demand Response (Open Door)	\$8,785,932	\$964,675	234,071	166,662	\$33.41

Table 2: IndyGo 2013 NTD Operating Statistics

	Passenger/ Rev. Hour	Vehicles Available	Max Vehicles Operated at Once	Percent Spares	Average Fleet Age (in Years)
Fixed Route Bus	21.06	158	132	20%	10.2

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Demand Response (Open Door)	1.4	75	68	10%	3.9
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Table 3: IndyGo 2013 NTD Operating Statistics

CIRTA

The Central Indiana Regional Transportation Authority (CIRTA) is a quasi-governmental organization (IC 36-9-3) focused on bringing more transportation options to Central Indiana. CIRTA works to better address mobility needs in ten counties: Marion, Hamilton, Hancock, Shelby, Johnson, Morgan, Hendricks, Boone, Delaware, and Madison. CIRTA provides fixed-route and vanpool service.

	Operating Cost	Fare Revenue	Ridership	Revenue Hours	Subsidy/ Passenger
Fixed Route Bus	\$378,174	17,348	9,119	6,491	\$39.57
Vanpool	\$395,732	291,731	87,396	10,455	\$1.19

Table 4: IndyGo 2013 NTD Operating Statistics

	Passengers/ Rev. Hour	Max Vehicles Operated at Once	Average Fleet Age (in Years)
Fixed Route Bus	1.40	3	4.0
Vanpool	0.12	25	1.1

Table 5: IndyGo 2013 NTD Operating Statistics

Ridership Trends

Annual ridership on IndyGo service grew by 22% between 2007 and 2013. Since 2009, ridership has increased steadily about 6% per year; much faster than the rate of population growth (0.5% per year) or the nationwide ridership growth patterns (0.75%/year) during this timeframe. This increase in ridership has arisen despite the lack of significant increases in service provision between 2009 and 2013.

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The share of trips to work in Indianapolis that are taken by transit has also been increasing. Between 2009 and 2012, transit’s mode share grew from 1.99% to 2.34% (source: ACS 2013).

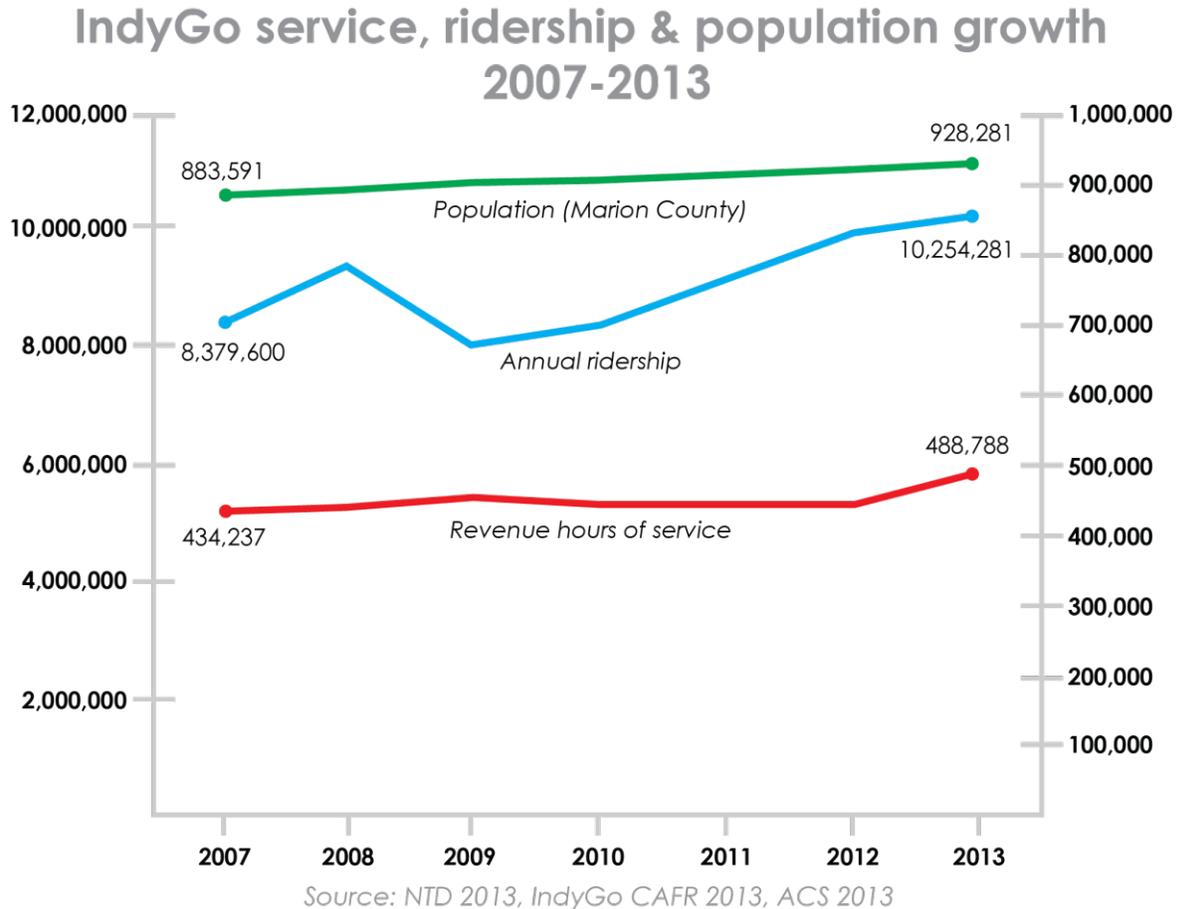


Figure 12: NTD 2013. IndyGo CAFR 2013, ACS 2013

When compared to several peer cities, Indianapolis shows relatively lower general transit investment per capita, which has an impact on system performance. Transit ridership is often determined by the convenience provided by the service; which makes generating ridership difficult when levels of service provided fall under a community’s threshold of “convenient”. A low level of transit investment can exacerbate the perception that the transit system is performing poorly on efficiency measures when in reality they are performing well considering the resources available.



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The typical productivity and efficiency measurement in transit is passengers per revenue hour. At 16 passengers per revenue hour, Indianapolis is tied with MTA Nashville for last in this measure.

Two related measures are farebox recovery ratio (the amount of fare revenue generated compared to total expenses) and subsidy per passenger. The transit system in Indianapolis is 7th out of all 10 peer cities in farebox recovery ratio (18.04%) and is second to last when compared by subsidy per passenger (\$4.84 per passenger).

Agency	Metro Area	UZA Population	Revenue Hours	Annual Ridership	Passengers / Revenue Hr
MTA	Nashville	969,587	596,725	9,619,309	16
CATS	Charlotte	1,249,442	1,022,595	29,438,356	29
TARC	Louisville	972,546	856,747	15,031,883	18
MCTS	Milwaukee	1,376,476	1,466,849	41,493,419	28
SORTA	Cincinnati	1,624,827	820,995	16,624,349	20
GCRTA	Cleveland	1,780,673	1,772,833	49,245,884	28
COTA	Columbus	1,368,035	1,051,182	19,327,199	18
TheRapid	Grand Rapids	569,935	600,180	12,524,771	21
IndyGo/CIRTA	Indianapolis	1,487,483	681,748	10,689,004	16
KCATA	Kansas City	1,519,417	791,290	16,313,457	21

Table 6: National Transit Database, 2015.

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Agency	Metro Area	Operating Expense	Farebox Recovery Ratio	Subsidy Per Passenger	Spending Per Capita
MTA	Nashville	\$66,688,699	18.64%	\$5.64	\$68.78
CATS	Charlotte	\$106,525,412	25.61%	\$2.69	\$85.26
TARC	Louisville	\$73,178,684	16.93%	\$4.04	\$75.24
MCTS	Milwaukee	\$149,011,187	27.95%	\$2.59	\$108.26
SORTA	Cincinnati	\$91,034,493	33.33%	\$3.65	\$56.03
GCRTA	Cleveland	\$226,172,919	22.38%	\$3.57	\$127.02
COTA	Columbus	\$106,978,041	19.68%	\$4.45	\$78.20
TheRapid	Grand Rapids	\$43,703,505	23.14%	\$2.68	\$76.68
IndyGo/ CIRTA	Indianapolis	\$63,087,110	18.04%	\$4.84	\$42.41
KCATA	Kansas City	\$81,633,616	14.83%	\$4.26	\$53.73

Table 7: National Transit Database, 2015.

Roadway Safety and Crash Rates

The safety of every user of the transportation network is paramount to transportation planning. Crashes are an unfortunate reality, especially on a large network exposed to weather fluctuations and driver inattention or error.

Serious Injuries and Fatalities, Motorists

Serious and fatal crashes require greater scrutiny by emergency personnel and transportation planners.

Serious crashes, the number of incapacitation injuries, and the number of fatalities are reported by police officers at the scene. The information is downloaded into a state database called ARIES. The Indianapolis MPO, through the help of a state consultant, requests this crash data for planning purposes. The following table presents the picture of crash data from 2006 to 2015.

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Year	Serious Crashes	Serious Injuries	Fatalities
2006	862	1,269	169
2007	842	1,238	178
2008	865	1,255	169
2009	794	1,149	128
2010	782	1,170	146
2011	803	1,156	149
2012	875	1,233	136
2013	777	1,120	148
2014	1,065	1,452	142
2015	2,829	3,942	163
Totals	10,494	14,984	1,528

Table 8: Central Indiana Crashes, 2006-2015

Crash data is compiled by the state department of transportation, but there are admitted weaknesses with this data set. Specifically, the location of the crashes has been an issue in the past. Recent efforts by police departments and individual officers have improved the accuracy of the data, but the Indianapolis MPO continues to approach the spatial accuracy of the crash data with caution.

The most recent data request revealed a quirk in the 2015 numbers. Serious Crashes and Serious Injuries recorded a significant rise from 2014 to 2015. After consulting with the party responsible for the database, the explanation of this significant increase is simple: clarified training for police officers. While police officers receive training on reporting, the system included a more precise definition of “Serious Injuries” than previously expressed. The Indianapolis MPO believes this is the primary reason for the nearly tripling of Serious Crashes and Serious Injuries from 2014 to 2015, as recorded in Table 8: Central Indiana Crashes, 2006-2015.

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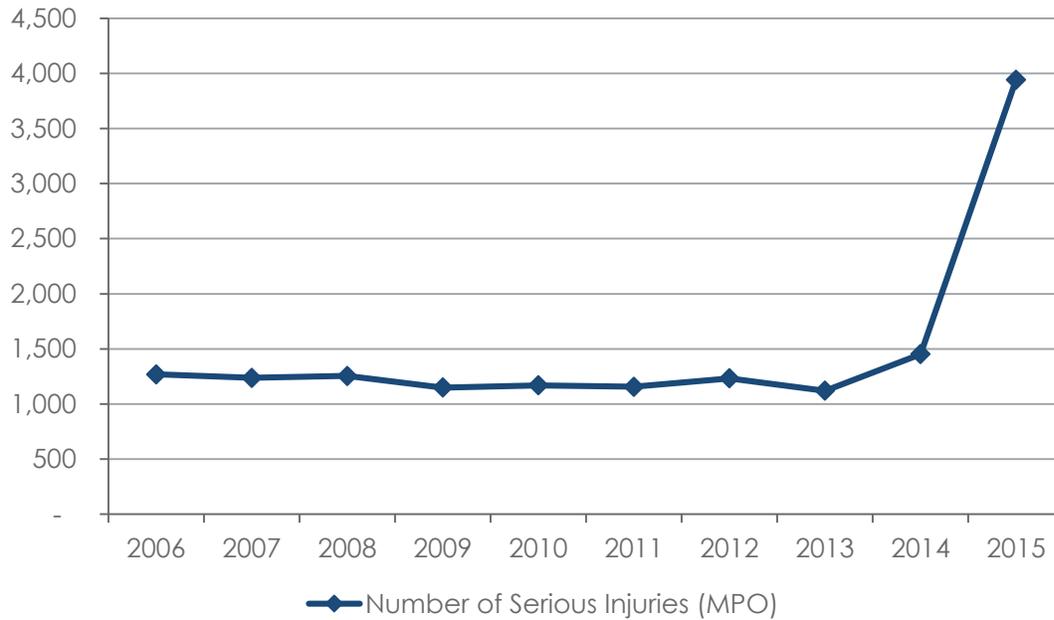


Figure 13: Number of Serious Injuries, 2006-2015

Figure 14 emphasizes that over the last 10 years, the number of Central Indiana fatalities as a percent of total Indiana fatalities has fluctuated between 18% and 21%. Marion County, the most populous county in Indiana, had the highest number of fatalities in 2014. Only Hamilton County was in the Top Ten Counties for 2014 with 14 fatalities (FARS).

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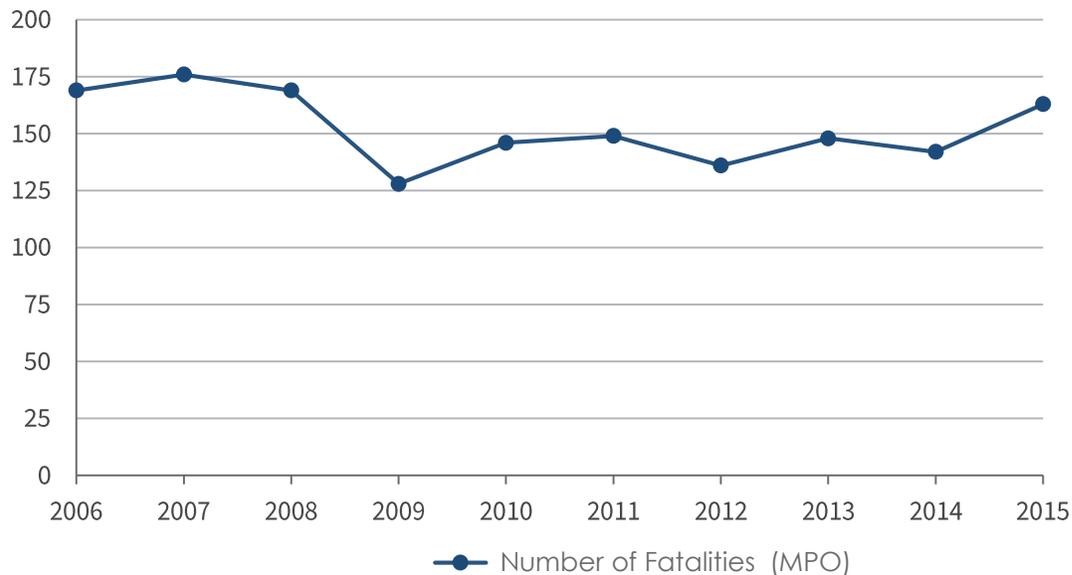


Figure 14: Number of Vehicular Fatalities. Source: ARIES, Indianapolis MPO

Pedestrian and Bicycle Safety

Serious injuries and fatalities involving pedestrians and bicyclists challenge development patterns and roadway design focused on moving motorists. More communities in Central Indiana are investing in walkable development and better facilities for bicyclists and pedestrians, but these efforts will need to accelerate to reverse an unfortunate trend upwards for pedestrian and bicycle safety. Evidence of the distance between the reality and ideal is Federal Highway Administration’s designation of the City of Indianapolis as a focus area for pedestrian safety.

Data for serious injuries and fatalities involving pedestrians and serious injuries is an issue of debate. MPOs, including the Indianapolis MPO, do not have good data on pedestrian and bicyclist fatalities and serious injuries unless those incidents involved a vehicle. The definition for “serious injury” is also an issue because unless a bicyclist was sent to the hospital, the injury may not have been recorded. Work completed for a recent pedestrian plan in Marion County highlighted some of the “shadow” injuries that the database the Indianapolis MPO has access to does not point out.

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Pedestrian and Bicyclist Serious Injuries

From 2010 to 2015, pedestrian and bicyclist serious injuries climbed from 87 to 139.

Pedestrian and Bicyclist Fatalities

From 2010 to 2015, fatalities rose from 27 to 33, a modest increase considering the population growth.

The federal performance measure for pedestrian and bicycle safety requires a combination of the two numbers, which is shown in the chart below.

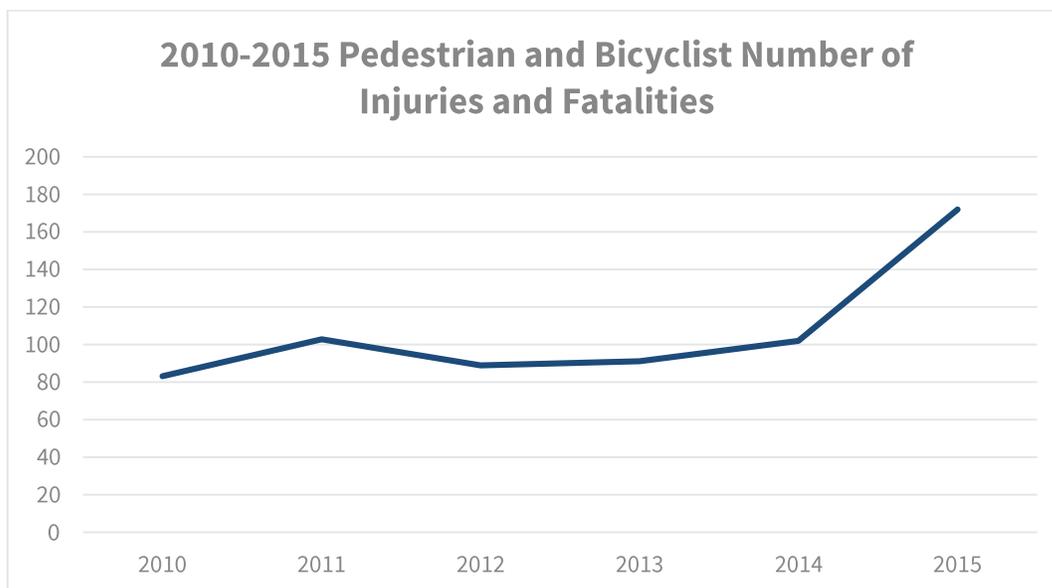


Figure 8. Number of Pedestrian and Bicyclist Serious Injuries and Fatalities. Source: Indianapolis MPO, ARIES.

Highway Rail Crossing Incidents

From 2012-2016, there were 60 incidents at railroad crossings in Central Indiana that involved either an injury or fatality. Of those incidents, 3 users or individuals attempting to cross the railroad, were killed and 40 were injured. The railroad crossing with the highest number of users killed and injured was in Morgan County at State Road 135.

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Freight and Goods Movement

From exporting manufactured goods to importing consumer goods, the freight system is the backbone of Central Indiana’s economy. The performance of the freight system is even more important considering the region’s identity as the “Crossroads of America” and its focus on growing the logistics sector.

Summary

Over 215 megatons of freight originated or arrived in the Indianapolis region in 2015, worth almost \$350 billion¹. Compared to peer cities, total freight volume is about average, but total value is 21 percent above average. The Indianapolis region ranks third against its peers in terms of total freight value.

The total value of imports and exports is even (at \$142 million each), but volume is not—the region imports 76 megatons and exports 48 megatons. This is similar to peer cities, which, on average, have balanced imports and exports in terms of value. The region’s exports are worth \$3 million per ton on average, while imports are worth only \$2 million per ton.

Mode of Freight Movement

Most of the region’s freight moves by truck (176 megatons), but much of it also moves by pipeline (25 megatons) and rail (10 megatons). Figure 15 shows that the modal share (the percentage of freight moved by each mode) is different for imports and exports. Truck shipments make up the majority of imports and exports. This mode is especially dominant for exports, where 83 percent of the volume is shipped by truck. The peer average is 63 percent. A pipeline is also an important mode in the region. Nearly one-third of the region’s import volume is via pipeline. All peers except Nashville import a greater share of freight by rail than the Indianapolis

¹ This includes intra-city freight shipped within the region. This total does not include through traffic that does not originate or arrive in the region.

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region. Rail exports, however, are above average compared to our peers—10 percent of exports are moved via rail, while the average of our peers is 6 percent.

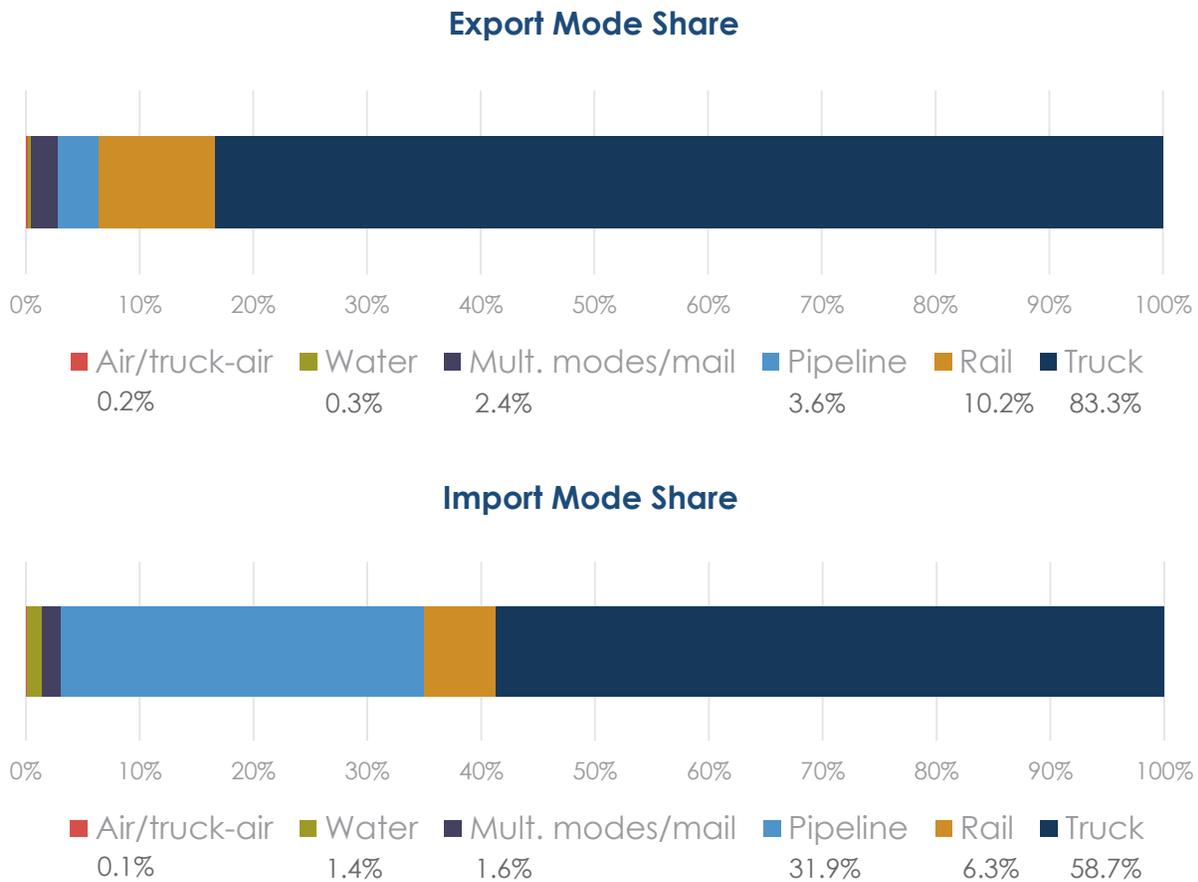


Figure 15: Export and Import Mode Share, 2015. Source: Freight Analysis Framework (FAF), FHWA. Air and multi-modal/mail shipments make up a small amount of the freight volume in the region, but these modes account for an outsized share of the total freight value. The region’s most valuable goods are shipped by air. While air freight is less than one-tenth of a percent of freight volume, that freight makes up 9 percent of freight value. Multi-modal and mail freight is only 1 percent of volume, but 13 percent of value. As can be seen in Figure 16, the average ton of goods shipped by air is worth \$193 million, compared to the region’s average of \$1.6 million across all

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modes.

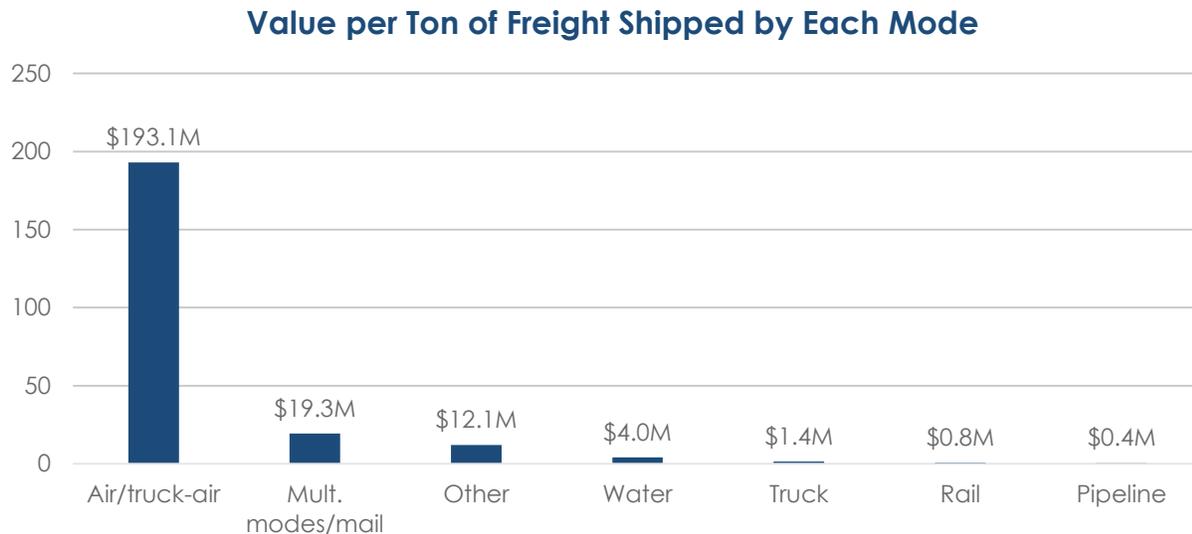


Figure 16: Value per Ton of Freight Shipped by Each Mode, 2015. Source: Freight Analysis Framework (FAF), FHWA.

On average, the region's freight is worth \$1.6 million per ton, but the value of freight differs widely between modes. Most freight is shipped by truck, and truck freight is worth, on average, \$1.4 million per ton. Goods and materials shipped by rail or pipeline are generally less valuable. Pipeline freight is worth \$362K per ton, and rail freight is worth \$767K per ton. Multi-modal and mail freight is worth \$19.3 million per ton, more than 13 times the value of truck freight. Air freight is worth even more, at \$193.1 million per ton. On average, one ton of air freight has the same value as 136 tons of truck freight.

Growth (2012-2015)

Since 2012, the region's total freight volume and value have grown by 9 percent. In terms of volume, pipeline and rail were the fastest growing modes. Pipeline volume grew by 24 percent and rail by 11 percent. Truck volume grew by a modest 7 percent. The total value of our region's freight traffic increased \$28 billion from 2012 to 2015.

The Fair Share Index has been developed to analyze which modes are gaining mode share of value (the share of total value shipped via each mode) and which are losing

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it. If all modes are attracting their “fair share” of growth, the Index will be 1.0 and no modes will gain or lose mode share of value. If a mode is attracting more than its fair share of growth, the Index will be above 1.0 and that mode will gain mode share of value. An Index below 1.0 shows that a mode is growing, but losing mode share of value. And Index of less than 0.0 shows the total value shipped by the mode is shrinking.

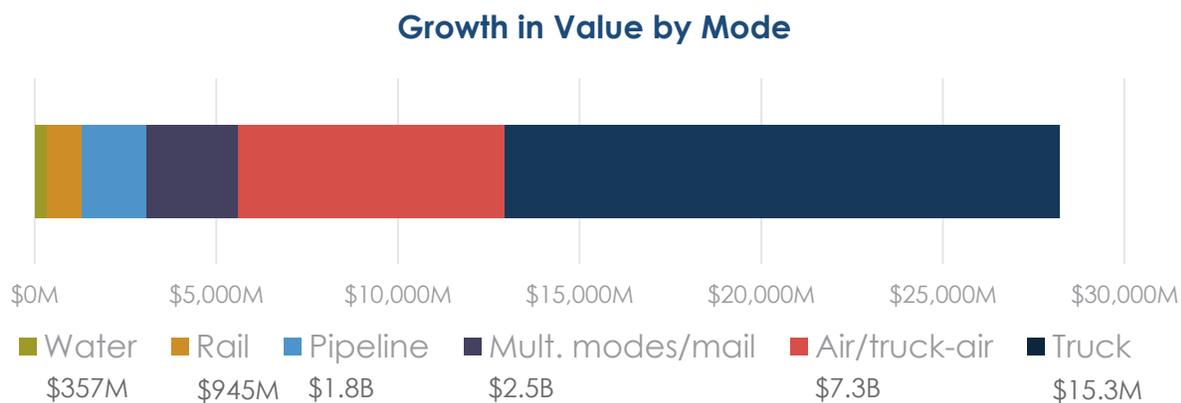


Figure 17: Growth in Value per Ton of Freight Shipped by Each Mode, 2015. Source: Freight Analysis Framework (FAF), FHWA.

Air, pipeline, and rail are all gaining mode share of value. The growth of air has been very significant, with an Index of 3.5. While air freight accounted for only 7 percent of total freight value in 2012, it has accounted for more than a quarter of the region’s growth in value since. The volume of freight shipped by air has not changed since 2012, but the value of that freight has increased by \$40 million per ton. This shift has increased the mode share of value for air freight from 7 percent in 2012 to 9 percent in 2015. In the case of material shipped by pipeline, the value per ton has held steady since 2012, but the volume shipped has increased by 24 percent. The growth of rail is mostly attributable to increased volume as well, which is up 11 percent since 2012.

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ulti-modal/mail and truck shipments are losing mode share of value. Truck

Mode	Share of Value	Share of Growth	Fair Share Index
	(2012)	(2012-2015)	
Air/truck-air	7.4%	26.0%	3.50
Multiple modes/mail	13.4%	8.9%	0.67
Pipeline	2.3%	6.3%	2.77
Rail	2.2%	3.3%	1.50
Truck	73.2%	54.1%	0.74
Water	1.3%	1.3%	0.94

Table 10: Fair Share Index – Growth in Value from 2012-2015. Source: Indianapolis MPO, FAF.

shipments account for three-quarters of total freight value, but only claimed about half of the region’s growth. The total value of truck shipping grew because volume grew (by 7 percent). The value per ton of truck freight is unchanged since 2012.

Commodities

The Indianapolis region’s top four exports make up over half of total export value. These are pharmaceuticals, motorized vehicles, mixed freight, and machinery. Imports are more diversified than exports, with less imbalance toward the top few commodities. The region’s top imports and exports are largely the same commodities, with the exception of electronics.

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Top 10 Imports

Top 10 Exports

Commodity	Pct. of Total Value	Commodity	Pct. of Total Value
Electronics	11%	Pharmaceuticals	19%
Pharmaceuticals	11%	Motorized vehicles	13%
Motorized vehicles	9%	Mixed freight	11%
Machinery	7%	Machinery	8%
Mixed freight	6%	Base metals	5%
Base metals	5%	Misc. mfg. prods.	5%
Coal-n.e.c.	5%	Precision instruments	5%
Plastics/rubber	4%	Electronics	4%
Precision instruments	4%	Textiles/leather	3%
Other foodstuffs	4%	Plastics/rubber	3%
Other	34%	Other	24%

Table 11: Top 10 Imports and Exports for Indianapolis MSA. Source: FAF, FHWA.

System Preservation and Maintenance

Pavement Condition

Indianapolis MPO included a pavement surface data collection survey in (INDOT 2014) and (MiTIP 2016) to determine the surface condition of selected roadway and pavements throughout Central Indiana. The pavement condition ratings for this report are derived from three measures: International Roughness Index (IRI), Pavement Condition Index (PCI), and Pavement Surface Evaluation and Rating (PASER).

Pavement Condition on State Maintained Roadways

As a federal requirement, INDOT uses the IRI, which measures the cumulative deviation from a smooth surface. The pavement in Good, Fair, and Poor condition is rated based on the following criteria: Good if IRI is less than 95; Fair if IRI is between 95 and 220; and Poor if IRI is greater than 220.

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Based on the data presented in Table 12, 63.5 percent of the total regional system is considered to be in “Good” pavement condition. Nearly 3 percent of the region’s pavement is considered to be in “Poor” condition, which is only nearly 40 miles out of 1,348 miles are considered to be in “Poor”. Figure 20 shows the map of average IRI score of pavement condition collected by INDOT in 2014.

2014 Percent of roadway Miles

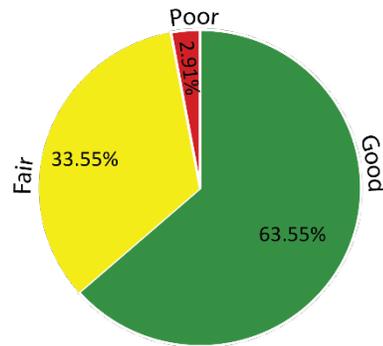


Figure 18: Pavement Condition in Central Indiana (select roads). Source: Indianapolis MPO.

Table 12 also shows the proposed thresholds for determining whether pavement segments of 0.1 miles are in good, fair or poor condition based on IRI matrices, and breakdown by percentage of line miles on the Interstate System, non-Interstate NHS, and on the State System.

Facility Type	Good (IRI < 95)		Fair (95 ≤ IRI ≤ 170)		Poor (IRI > 170)	
	Lane Miles	% Lane Miles	Lane Miles	% Lane Miles	Lane Miles	% Lane Miles
Interstate System	241.21	53.83%	184.64	41.21%	22.22	4.96%
NHS Non Interstate	222.32	67.96%	94.98	29.03%	9.85	3.01%
On State System	393.30	68.62%	172.74	30.14%	7.11	1.24%
Total	856.83	63.55%	452.3642	33.55%	39.17	2.91%

Table 12: 2014 Indianapolis Metropolitan Region Pavement Condition. Source: INDOT.

Pavement Condition on Locally Maintained Roadways

Further, MiTIP has supplied the MPO with Pavement Condition Index (PCI) data. The PCI is calculated based on the results of a detailed pavement distress survey that ranges from 0 for totally failed pavement to 100 being the best possible score a roadway can receive.

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Figure 19 shows that there were nearly 4,200 miles of a road network that were evaluated within Central Indiana. An analysis of the road condition identified 28.9 percent rated poor (PCI score of 41- 55) and below. The average inspected PCI was

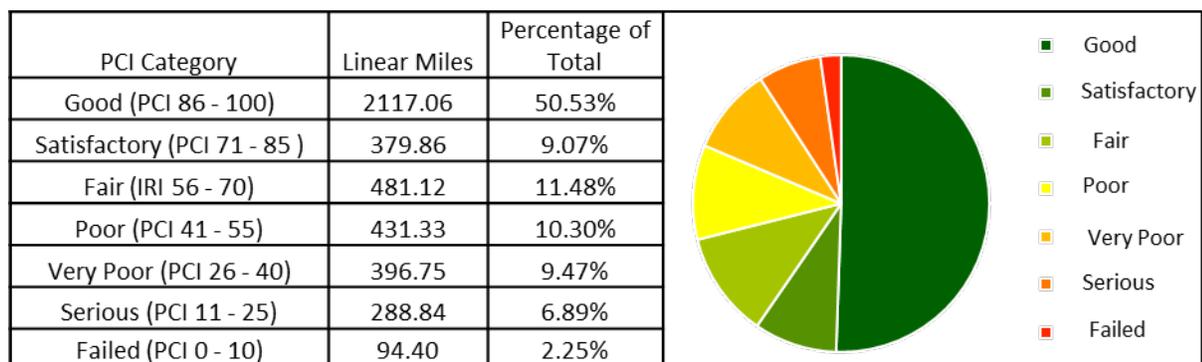


Figure 19: Total Linear Miles by PCI Category. Source: Indianapolis MPO.

70 for the entire region.

The result of the data collection and analysis is shown in Figure 21 displaying the PCI scores for Central Indiana.

International Roughness Index (IRI)

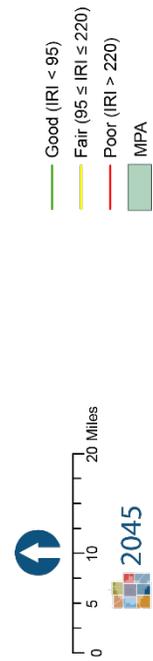
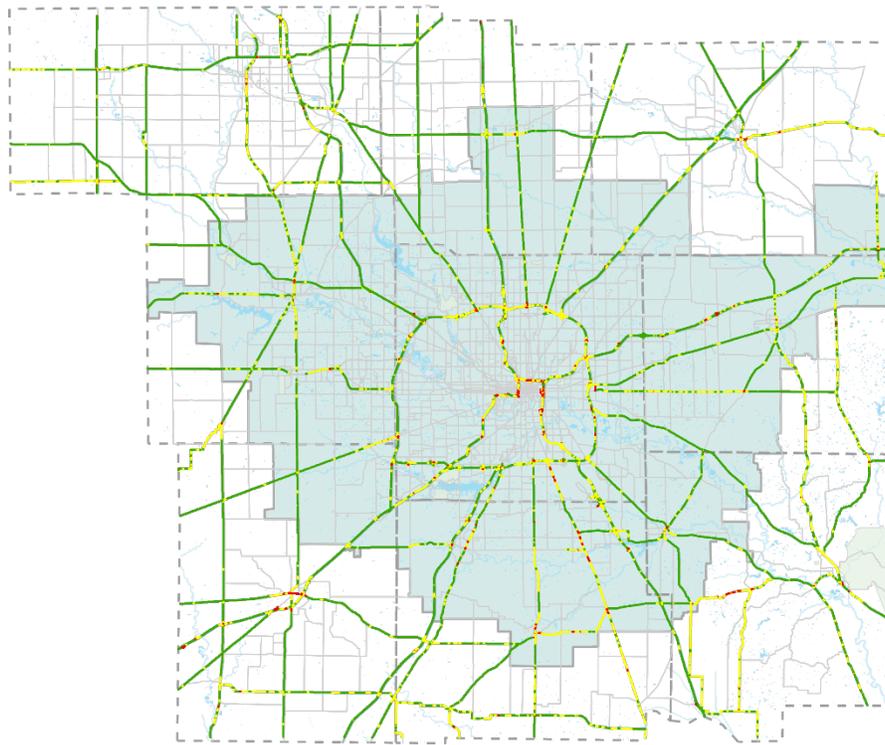


Figure 20: Pavement Condition (IRI). Source: INDOT.

Pavement Condition Index (PCI)

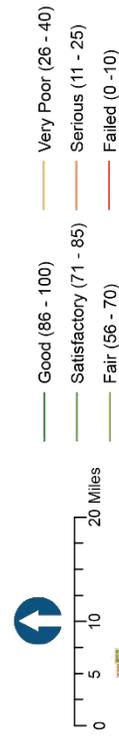
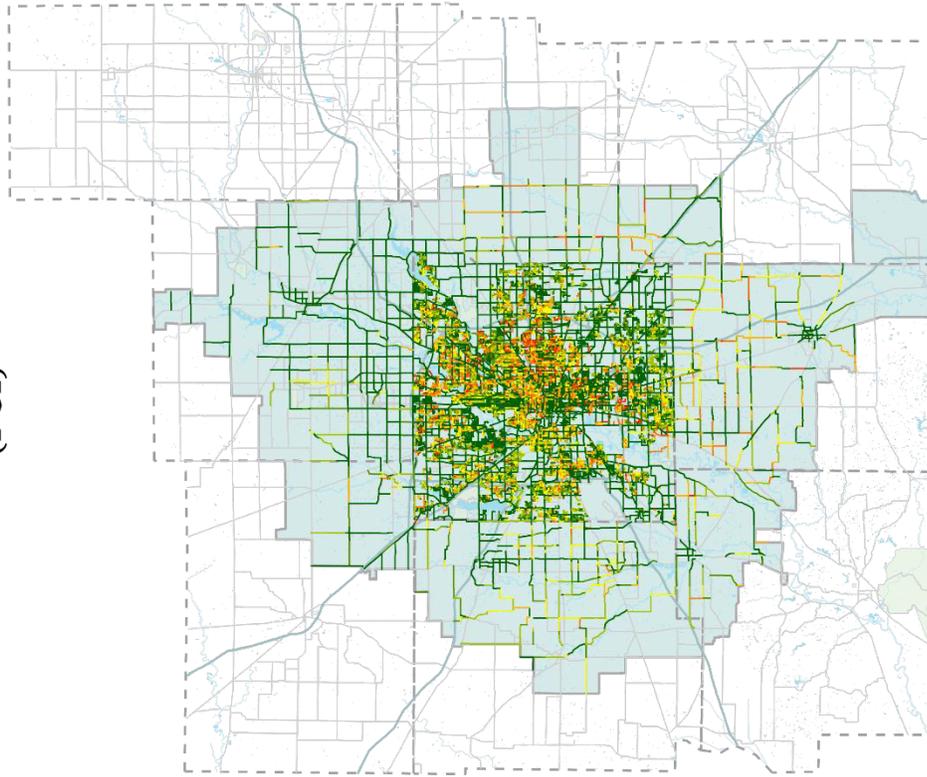


Figure 21: Pavement Condition (PCI). Source: Indianapolis MPO.

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Finally, PASER is an acronym for “Pavement Surface Evaluation and Rating” system and is used to evaluate the surface condition visually. PASER road rating system uses a 1 to 10 rating scale, with a value of 10 representing a new and excellent condition road; a value of 1 representing a failed road. Local agencies in Boone, Hamilton, Hancock, Johnson, and Hendricks collect PASER data through visual inspections and share the data with the MPO. Table 13 below illustrates the PASER rating distribution by county. It also shows that there is a significant percentage of roads that require structural improvements.

County	Good (PASER 8 to 10)		Fair (PASER 5 to 7)		Poor (PASER 1 to 4)	
	Lane Miles	% Lane Miles	Lane Miles	% Lane Miles	Lane Miles	% Lane Miles
Boone	2.03	0.52%	218.39	55.56%	172.66	43.92%
Hamilton	274.30	20.84%	936.56	71.14%	105.64	8.02%
Hancock	96.93	17.25%	430.71	76.64%	34.32	6.11%
Hendricks	57.70	49.25%	46.89	40.02%	12.56	10.72%
Johnson	95.94	16.65%	184.62	32.05%	295.47	51.29%
Total	526.89	17.77%	1817.17	61.29%	620.66	20.93%

Table 13: MiTIP 2016 PASER Rating. Source: Indianapolis MPO

Figure 22 below is a map of the three rating categories, showing that roads in good condition are relatively new or improved. Roads in fair condition are showing signs of maintenance, which can range from regular crack filling to grinding down the surface of the road and applying a new top layer. Roads in poor condition are the most problematic; deterioration has become so severe that simple maintenance will not fix the roadway.

Pavement Surface Evaluation and Rating (PASER)

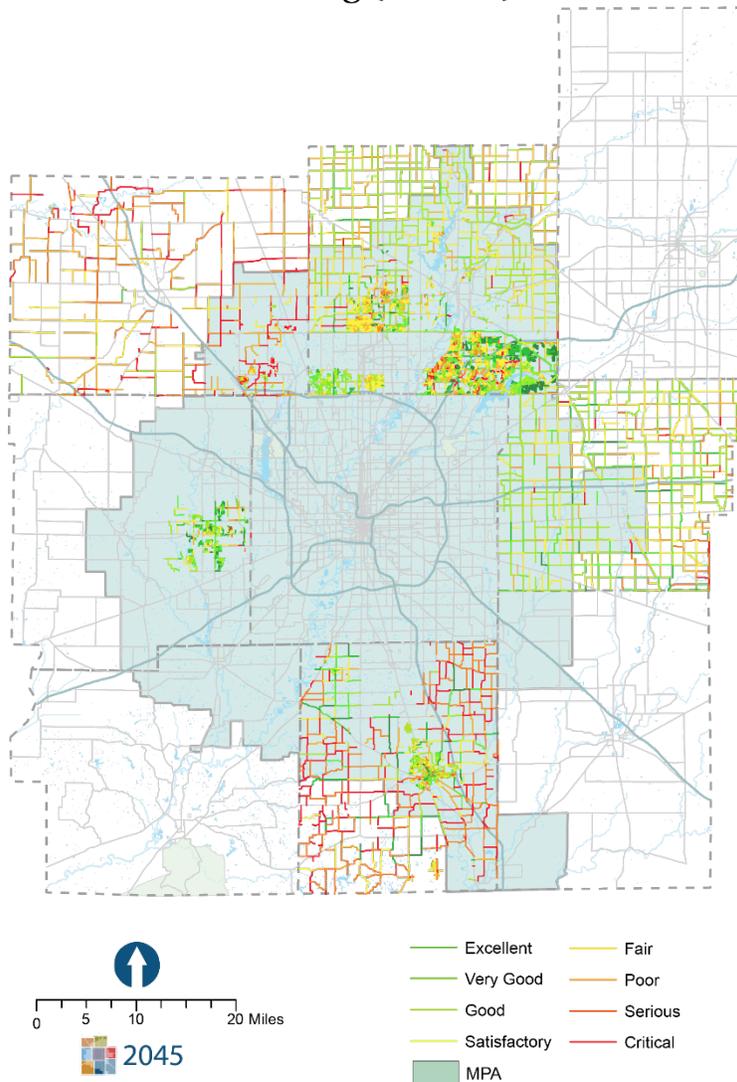


Figure 22: Pavement Condition (PASER). Source; Indianapolis MPO.

Bridge Conditions

Measurement of bridge conditions across the U.S. has been in place since the late 1960s. The inspection standards not only provide for an inventory of bridges, but also for reliable condition information and a high level of regularity in inspection practices and the information reported during these inspections. Maintaining good

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bridges is critical to preserving safe and reliable travel. Measuring the current health of Indianapolis region's bridge population enables the Indianapolis Department of Transportation to track conditions over time to regulate bridge rehabilitation and replacement needs. INDOT's 2015 Current Construction Projects summarizes condition ratings and performance measures based on National Bridge Inventory and INDOT data. Data from bridge inspections are maintained in the (NBI).

Age

The age of a bridge serves as an essential measure of the aggregate service provided during its service life besides an indication of the level of degradation and damage the bridge may have experienced without consideration of regular interventions for preservation, maintenance, repair, or major reconstruction. Also, Age data can be meaningful in regards to understanding the bridge materials, design standards, and specifications, and construction processes used in the building of a bridge. The overall performance of bridges of a certain age might be presumed to be poorer than that of bridges built after further recent advancements. Although, improvements generally correlate with better current and future performance. Usually, there is also the potential for significant damage from man-made hazards such as consequences by vehicular traffic, fires, chemical spills, or other events not considered common service factors.

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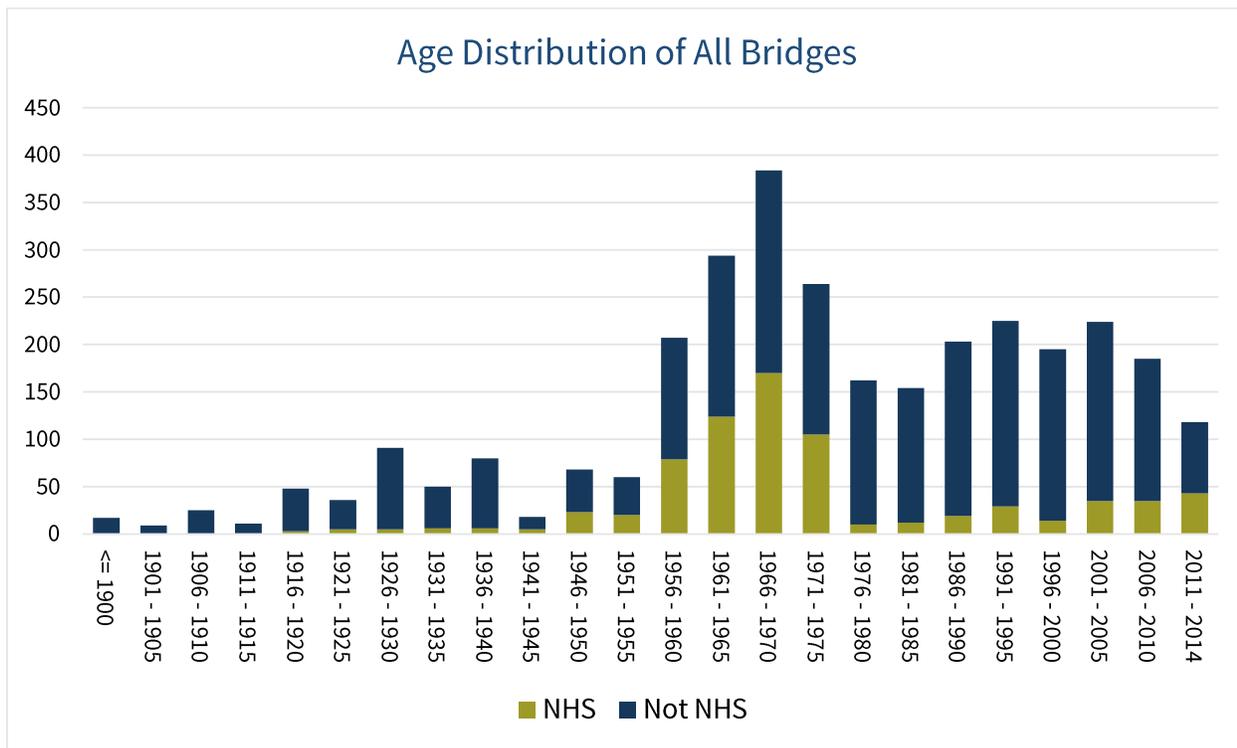


Figure 23: Age Distribution of All Bridges. Source: National Bridge Inventory (NBI) 2015

As of 2015, the average age of bridges in the area is 44 years. As can be seen in Figure 23, Today, 38% of the existing bridges exceed the 50-years average design life of bridges.

Condition

There are several different methods to measure bridge performance. Some of these measures are in the structure of an index value calculated from an interpreted formula using input data from NBI condition ratings and traffic volumes. The Federal Sufficient of Deficient Bridge (SR) is an index that was designed by FHWA and used to assess the eligibility of bridges for Federal highway bridge rehabilitation and replacement funds. On the resulting rating scale, 100 represents an entirely sufficient bridge, and 0 represents an entirely insufficient or deficient bridge. Numerical indices such as the Federal Sufficiency Rating (SR), has been used to define bridge performance. As detailed in Figure 24, a total of 178 bridges

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(5.7 percent) of bridges were in a serious condition. A Federal SR value of less than 50 records a low level of performance and ensures eligibility for rehabilitation.

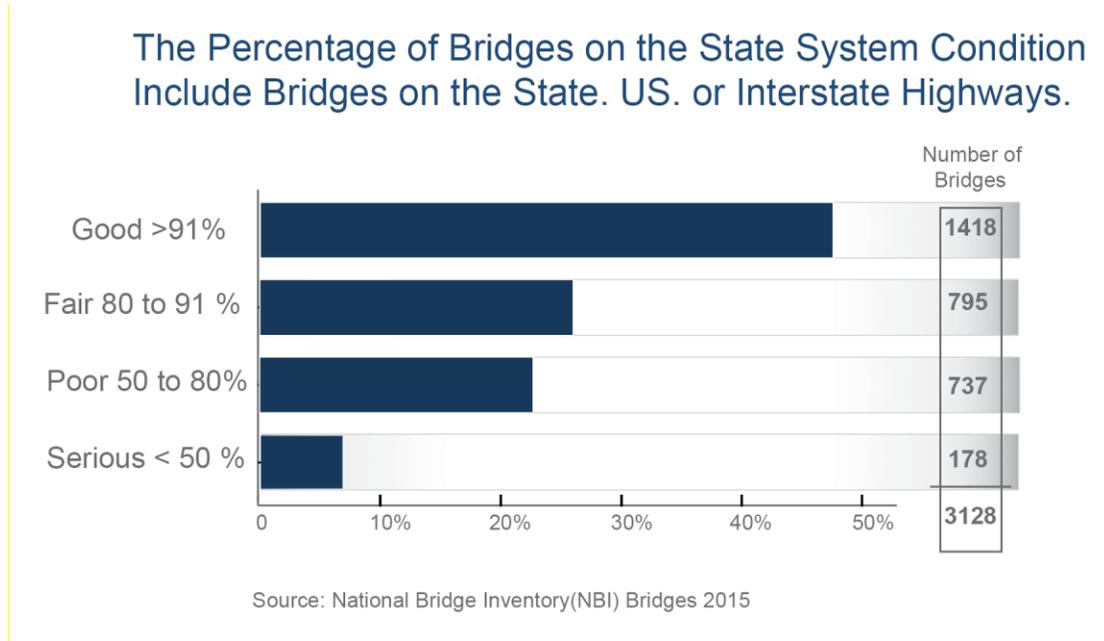


Figure 24: Overall Bridge Condition. Source: National Bridge Inventory (NBI) 2015

Deficient Bridges

Bridge condition data for Central Indiana was collected from the 2015 National Bridge Inventory (NBI) database. The data are submitted by INDOT to the FHWA as part of the national bridge inspection program.

The 8 county region has a total of 3,128 bridges. INDOT owns and maintains 30% of the bridges (985 bridges). County governments own and maintain half (1,579 bridges); city and municipal public works departments maintain 17 percent (537 bridges), and the remainder are owned by other agencies.

Structurally Deficient

Per the 2015 NBI Bridge Condition Data, 197 bridges (6.3 percent) of all bridges are deficient, as shown in Figure 26. Figure 25 indicates the percentage of deficient bridges by county. A deficient rating does not necessarily mean a bridge is unsafe,

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rather that there are components that are in need of maintenance and/or replacement.

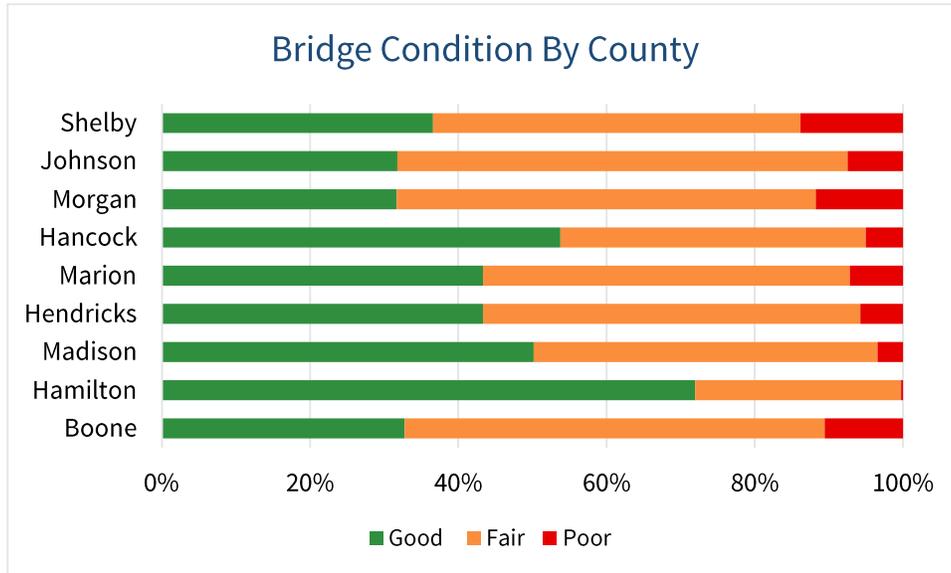


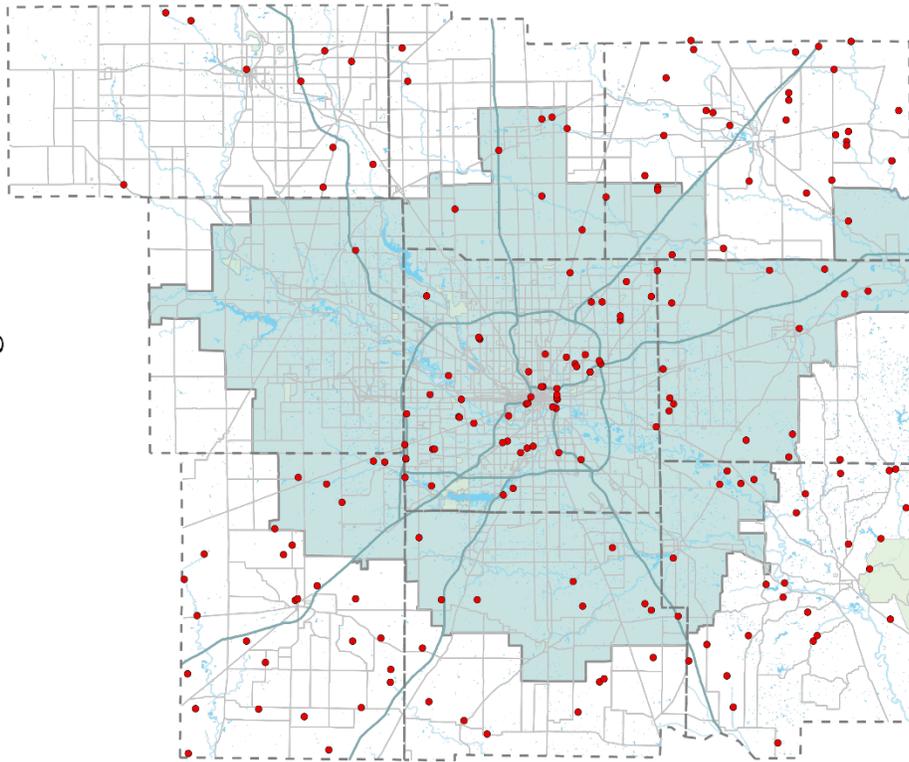
Figure 25: Bridge Condition by County, 2015. Source: National Bridge Inventory (NBI).

Functionally Obsolete

As shown in Figure 27, 593 bridges are “functionally obsolete” (19 percent). Functionally obsolete bridges are those that have elements that have older design features not built to today’s standards.

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Locations of Structurally Deficient Bridges



Locations of Functionally Obsolete Bridges

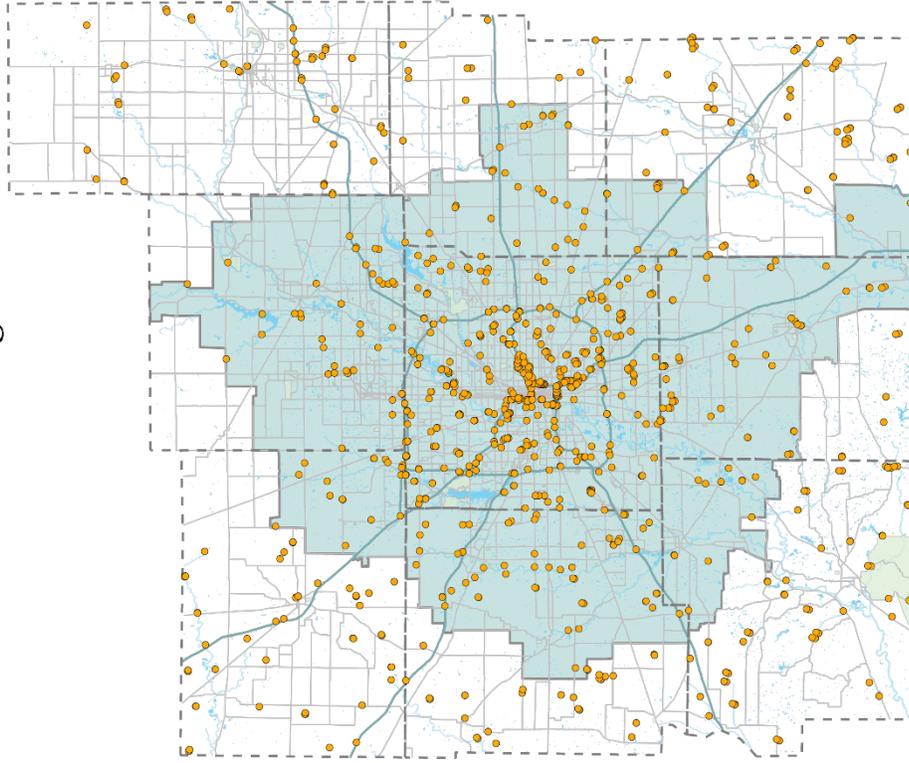


Figure 26: Locations of Structurally Deficient Bridges.
Source: National Bridge Inventory 2015

Figure 27: Locations of Functionally Obsolete Bridges.
Source: National Bridge Inventory 2015

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Regional Traffic Growth Trends

From 2006 to 2014, regional vehicle miles traveled (VMT) grew in Marion County by 17.55%.² Hamilton (42%), Hendricks (58%), and Johnson (46%) counties experienced the largest percent increases in VMT during that time period. The regional traffic growth trend for each county, the region (Grand Total) and the state can be seen in Error! Reference source not found..

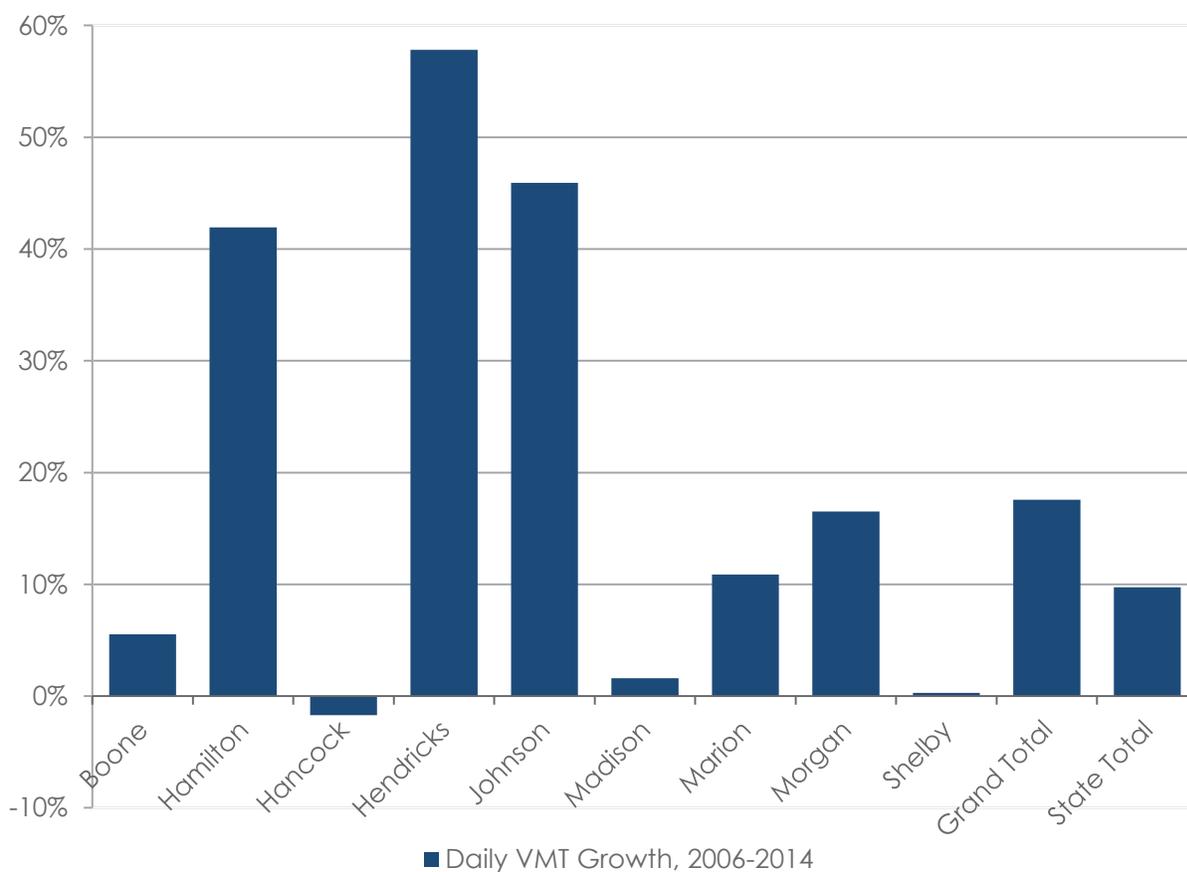


Figure 28: Daily VMT Growth, 2006 -2014. Source: FHWA.

Per Capita VMT growth is another important indicator for a transportation system. The daily VMT is reflective of a typical commuting day, ignoring weekends and

² Traffic count data accessed 2/16/2016. www.in.gov/indot/2469.htm.

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holidays. Figure 28 illustrates that from 2000 to 2010, daily per capita VMT increased in the region by 11.3%, but two counties experienced VMT declines: Marion (-15.97%) and Madison (-2.03%).

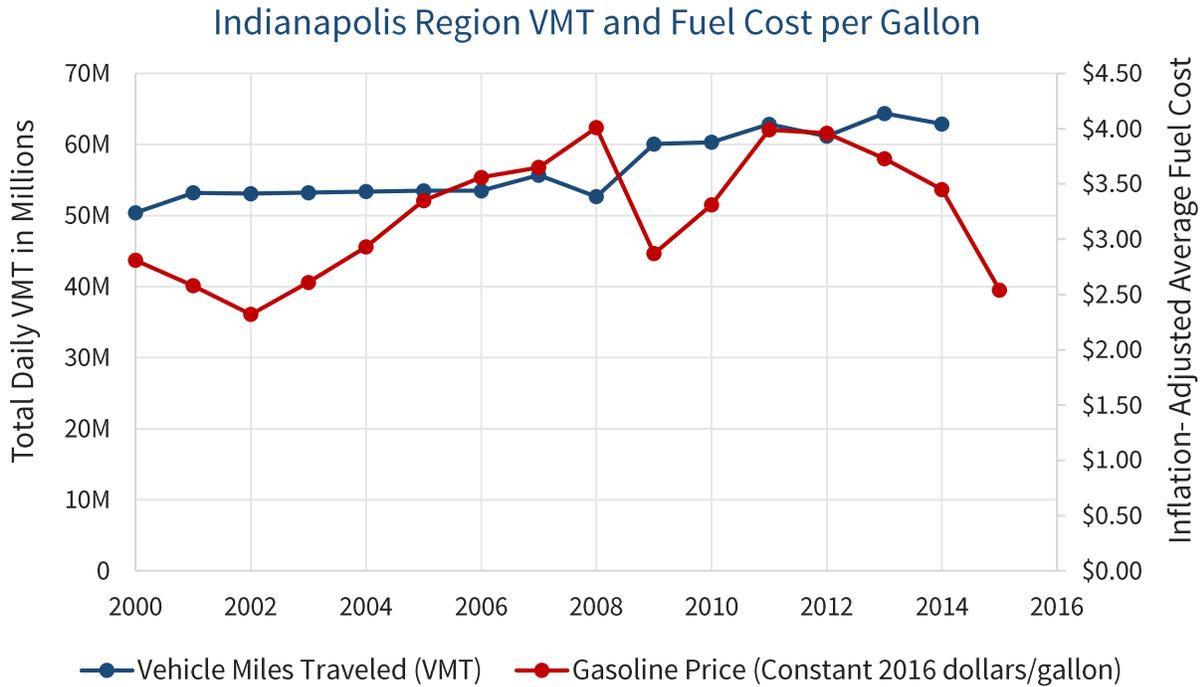


Figure 29: Indianapolis VMT compared to Cost per Gallon of Fuel. Source: **Office of Energy Efficiency and Renewable Energy 2016, Daily VMT Growth 2014.**

There is growing concern about the negative externalities associated with the region transportation system. Reducing the volume of vehicle miles of travel (VMT), air pollution, and traffic congestion, is one way to address these concerns. However, addressing the relationship between regional VMT, the economy, transportation options and fuel costs is important to assess to what extent the economic growth is associated with travel behavior. Thus, from records similar to those illustrated in Figure 29, it appears that the combination of a thriving economic, increased population, fuel costs have contributed to the increase VMT in the Indianapolis region.

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Air Quality

The Indianapolis Region MPO conducted an air-quality analysis for the 9-county region of Hancock, Hamilton, Johnson, Morgan, Madison, Marion, Boone, and Shelby Counties in the attainment of the annual National Ambient Air Quality Standard (NAAQS) for the current eight-hour ozone standard. The purpose of the analysis is to evaluate the air-quality impacts of the developing state implementation plans (SIP) of the projects included in the LRTP. The analysis evaluated the change in carbon monoxide (CO) and particulate matter (PM_{2.5}) emissions because of implementing the LRTP. The modeling procedures and assumptions employed in this air-quality analysis follow the EPA's conformity regulations. The primary test for showing conformity with the State Implementation Plan (SIP), for air quality, used MOVES software is demonstrating that the emissions generated by VMT in this LRTP are consistent with the emission budget outlined in the SIP. Emission estimates for the nine counties for various years are demonstrated in Figure 30 and Figure 31.

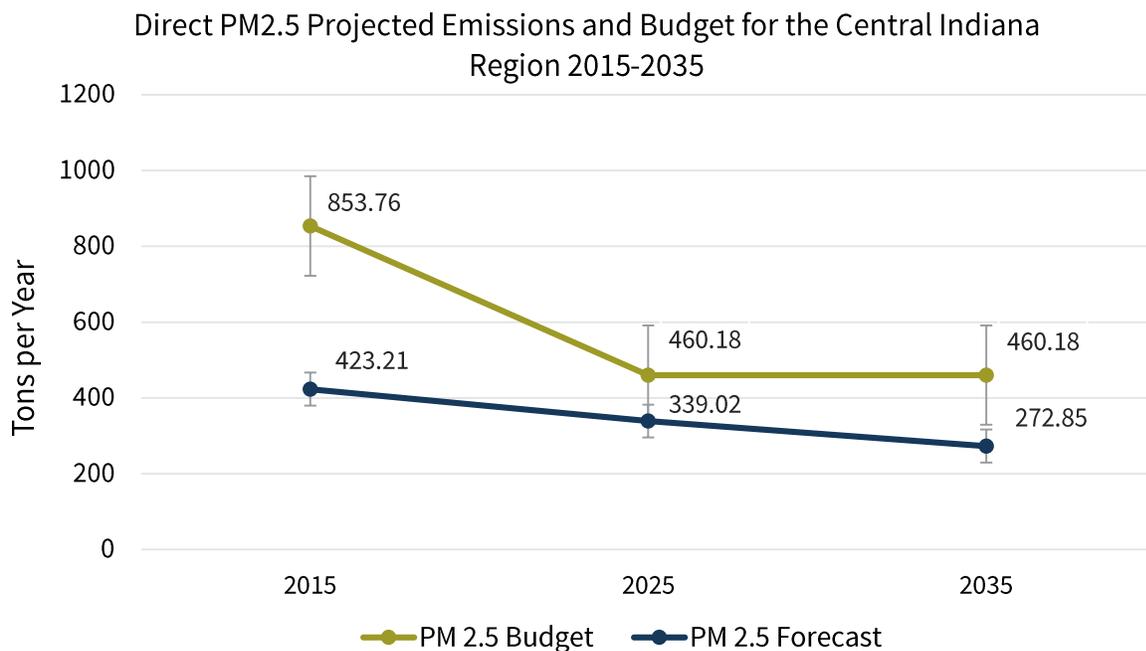


Figure 30: PM 2.5 Projected Emissions and Budget for Central Indian Region. Source: LRTP Conformity Determination on Plan 2035 and the FY 2016-2019 STIP

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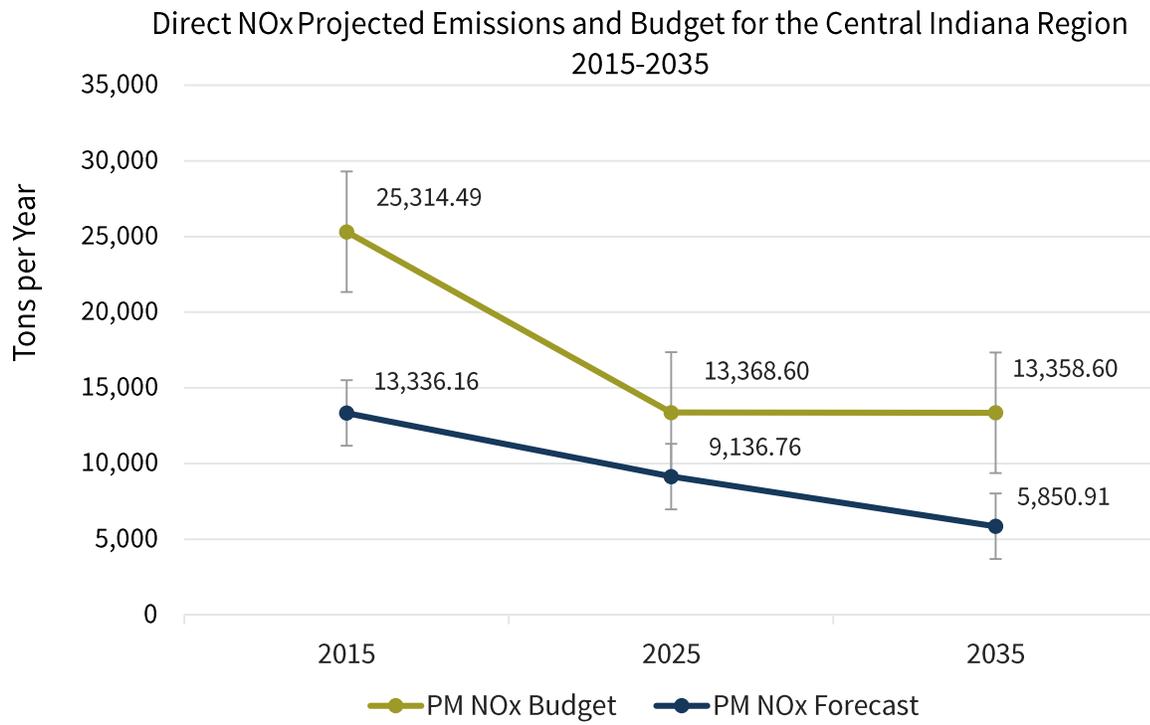


Figure 31: Direct NOX Projected Emissions and Budget for the Central Indiana Region, 2015-2035.
Source: LRTP Conformity Determination on Plan 2035 and the FY 2016-2019 STIP

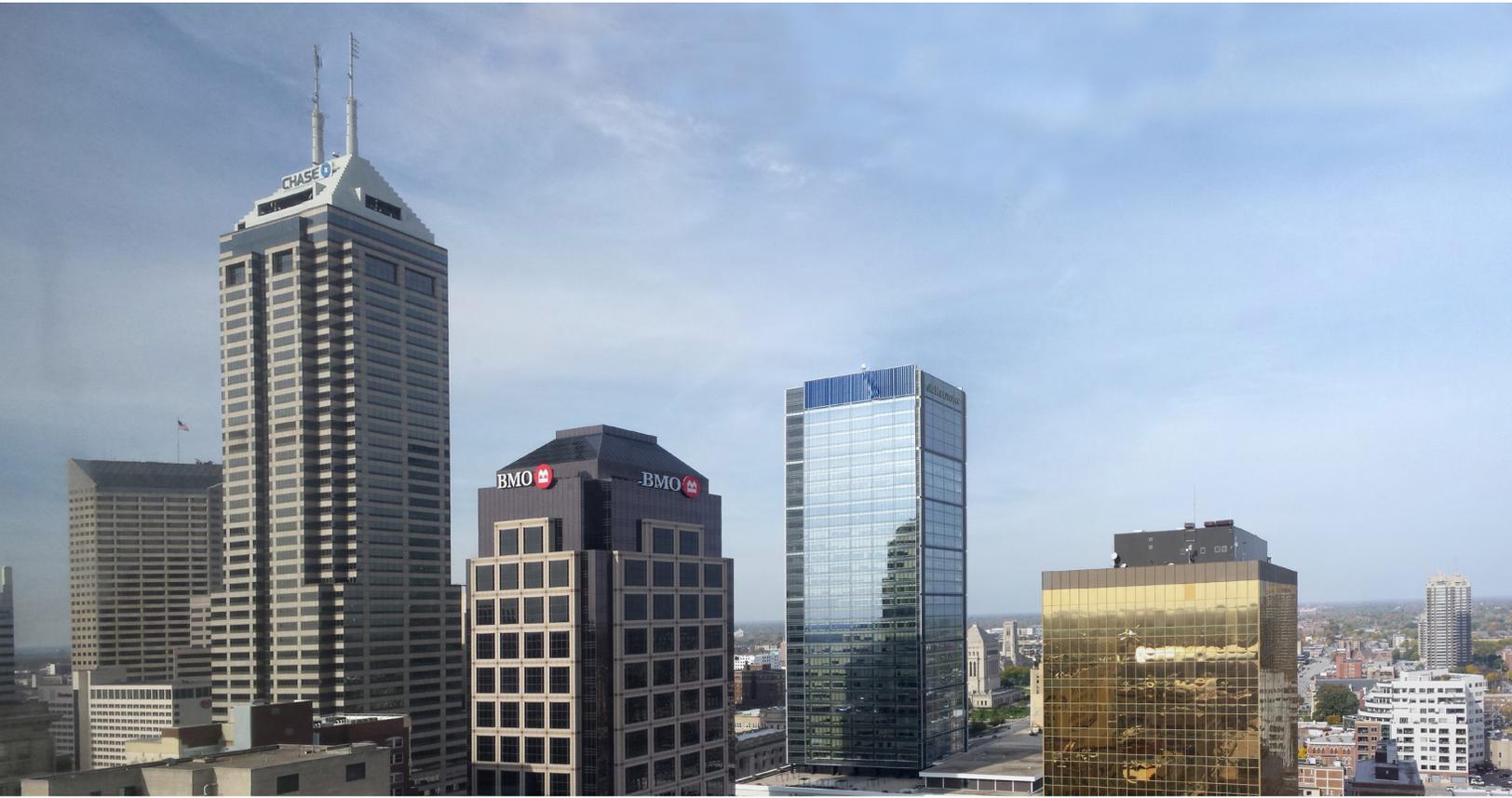
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PERFORMANCE MEASURES



Technical Memorandum: Performance Measures

This document includes guidance on what factors should be considered when establishing performance measures for a regional transportation plan. It includes the federal planning factors and the MPO's established Vision, Goals and Objectives. Also included are excerpts from two national based documents.

What Guides Us in Selecting our Performance Measures?

Federal Transportation Law

Legislation passed by Congress and signed into law by the President of the United States helps to guide transportation planning throughout the country. The scope of that transportation process include the following:

1. Economic vitality
2. Safety
3. Security
4. Accessibility and mobility
5. Environment, energy conservation, quality of life, growth patterns
6. Modal integration
7. Operational efficiencies
8. Preservation
9. Resiliency to natural disasters
10. Travel and tourism

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Indianapolis MPO and Indianapolis Regional Transportation Council's 2045 Long Range Transportation Plan's Vision, Themes, Goals and Objectives (approved by IRTC, May 2016; Amended in March, 2017)

Vision Statement

Preserve and enhance all available funding sources to develop a comprehensive, multimodal, regional transportation system that safely and efficiently addresses mobility needs over time, is economically viable, cost-effective, environmentally sustainable, supports regional prosperity and healthy lifestyles, and promotes the availability of travel choices throughout the communities in Central Indiana.

Themes

Move: Provide transportation choices for people to easily access homes, jobs, recreation and services.

Prosper: Foster shared economic vitality through strategic investments in regional infrastructure to increase competitiveness and affordability.

Make Safe: Support a safe travelling environment for all users. Making strategic investments in our region's infrastructure that preserve and enhance the condition of the existing system.

SUSTAIN: Ensure a convenient transportation network that offers healthy lifestyle options, is accessible to all people, and preserves or enhances the environment.

Goals and Objectives

Under each theme are goals; and under each goal are objectives that will include performance measures.

MOVE GOALS:

1) *To enhance transportation options and choices for all users.*

OBJECTIVES:

- a. Improve regional connectivity of the roadway system.
- b. Create a connected network of bikeways and pedestrian routes by expanding existing facilities and closing gaps.
- c. Support transit initiatives to improve service quality, access to and reliability of transit.

2) *To implement strategies that address congested transportation segments.*

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OBJECTIVE:

- a. Develop mobility strategies that address congested transportation segments.

PROSPER GOALS:

- 3) *To support economic mobility for all Central Indiana residents.*

OBJECTIVE:

- a. Increase opportunities for residents to reduce transportation costs.
 - b. Assure investments are applied equitably without disproportionately affecting disadvantaged populations.
 - c. Improve transit access to higher education/training centers.
- 4) *To improve job access for Central Indiana commuters.*

OBJECTIVE:

- a. Improve job access.

- 5) *To ensure the efficient movement of goods and freight.*

OBJECTIVE:

- a. Improve reliability, capacity and competitiveness for regional freight.

MAKE SAFE GOALS

- 6) *To improve safety for travelers system-wide through project investment.*

OBJECTIVES:

- a. Support projects and policies that reduce the number and rate of serious injuries and fatalities for all modes.
- 7) *To preserve or enhance the existing transportation system in a state of good repair.*

OBJECTIVE:

- a. Preserve or enhance the condition of on- and off-system bridges.
- b. Preserve or enhance the quality and condition of transit resources.
- c. Preserve or enhance the pavement conditions of the roadway network.

SUSTAIN GOALS

- 8) *To minimize negative impacts of the transportation system to the natural environment.*

OBJECTIVES:

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- a. Protect the natural environment through careful consideration of transportation impacts on projects.
- b. Support projects that improve air quality.
- 9) *To improve connectivity to healthy food choices, medical facilities, parks and community centers.*

OBJECTIVES:

- a. Improve access to grocery stores from bicycle, pedestrian or transit options.

From FHWA Performance-Based Planning and Programming Guidebook:

Chapter 4. SELECT PERFORMANCE MEASURES

Selection of performance measures is closely tied to development of goals and objectives, since performance measures are used to assess progress toward meeting objectives and in turn goals. Therefore, performance measures are central to implementing a performance-based planning process, since how performance is defined and measured will significantly affect the types of projects and strategies that are advanced. Moreover, performance results inform agencies if the types of projects and strategies that are implemented are in fact helping them achieve their strategic goals.

Roles of Performance Measures

Performance measures serve five critical purposes within PBPP – they are used:

1. **Clarify the definition of goals** – Performance measures are a tool that is used in converting broad goals into measurable objectives.
2. **To monitor or track performance over time** – Metrics are used to track performance on regular basis (e.g., yearly, monthly).
3. **As a reference for target setting** – Metrics are used as the basis for selecting a target that is intended to be achieved.

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4. **As a basis for supporting policy and investment decisions by comparing alternative options** – Metrics are used as a basis for comparing alternative investments or policies in order to make decisions.
5. **To assess the effectiveness of projects and strategies** – Metrics are what enable measurement to assess whether projects and strategies have worked to further goals.

Two well-known challenges associated with defining performance measures are difficulties associated with data availability and difficulties in developing quantitative measures for factors such as economic vitality and livability. Although performance-based planning and programming focuses on specific, quantifiable measures, it is not meant to discourage the inclusion or consideration of goals, principles, or policies that are difficult to measure or quantify, such as quality of life. Some key themes or lessons include the following:

- Although many State DOTs, MPOs, RTPOs, and transit agencies utilize performance measures, they traditionally have been used in different ways. State DOTs and transit agencies often have focused on measures of existing performance, and collect data to track trends in asset condition, use, or direct outcomes (e.g., pavement condition, bridge condition, revenue hours of service, transit ridership, number of toll transactions, fatalities, etc.). MPOs and RTPOs, in contrast, have often used performance measures as a means to evaluate plan alternatives using forecasting (e.g., forecasting mode share, congestion levels, air pollution, etc.). PBPP requires both tracking progress and forecasting performance under alternative scenarios.
- In some areas of system performance, such as safety, economic vitality, and environmental quality, transportation agencies play an important role but may not be the most important factor in regard to addressing outcomes. For instance, significant causes of fatal crashes include behavioral factors such as drunk driving, speeding, and lack of seatbelt or helmet use, and factors such as vehicle safety equipment also play an important role. Similarly, in regard to air pollution and greenhouse gas emissions, vehicle technology, fuel prices, and the economy play an

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important role in determining the level of on-road emissions. The growing interest by policy makers and the public in linking broader issues of health, environment, housing, the economy, and other topics with transportation has raised expectation that performance considerations used in long-range planning will address integrated strategies. Therefore, in defining objectives and performance measures, there is a question of whether the measure should be defined broadly to assess system-level outcomes, or more narrowly to try to isolate the role of transportation agencies in order to provide more direct accountability. Agencies need to consider what is most important to their stakeholders, and how they will use the performance measures to prioritize strategies and to report on performance results.

- Data and tools are important considerations in developing performance measures. Data must be available for tracking performance and tools should be available to forecast performance under different scenarios or strategies.

Factors to Consider in Selecting Measures

Selecting performance measures requires considering what specific metric will be used and how measurements will be taken. In selecting performance measures, several factors should be considered:

- **Does it represent a key concern?** The performance measure that is selected should play a role in decision-making within planning and programming and relate clearly to goals established in a performance-based planning process. Many measures are available and reflect data that can be collected, but it is important to focus on selecting the few that will be most important in driving decisions. Measures should be selected carefully to reflect key concerns of the public. For example, in seeking to measure congestion, there are a variety of potential measures, such as lane miles operating below a certain level of service, vehicle hours of delay, person hours of delay, etc. The measure that is selected will have important implications on strategies that are selected. For instance, measures of vehicle delay and volume/capacity measures of congestion will tend to favor capacity solutions; measures that focus on person-hour of delay or accessibility via multiple modes

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may encourage a broader set of strategies, such as bus rapid transit, bicycle infrastructure, and other options to be considered. It is important to consider tradeoffs associated with selecting different measures or using multiple measures.

Moreover, the selection of measures should address key issues, accounting for factors such as risk, importance to the public, and implications for policy. For example, system-wide pavement smoothness ratings do not distinguish heavily traveled Interstates from lesser-traveled state highways, nor crucial links from those that may have alternative routes. A selected measure, therefore, might focus on pavement quality on a subset of a state's most important roads. The relevance of the selected measure is an important consideration, given limited funding and the need to prioritize investments.

- **Is it clear?** Is the measure understandable to policy makers, transportation professionals, and the public? It is helpful to make sure that measures are clear and readily understood by the general public, avoiding technical terms if not necessary. Some DOTs have identified “storytelling potential” as a consideration in selecting performance measures, so that the measures can be used as an effective communication tool. [This concept is discussed further in Section 9 addressing performance reporting]²⁹
- **Are data available?** Transportation staff need to consider the feasibility and practicality to collect, store, analyze data and report performance information for the selected measures. Moreover, there should be a reasonable level of confidence that the data will be available for future analyses. The cost of data is also an important consideration. However, while data availability is important, it is important to also remember to not simply define the measure based on what data are readily available, but to consider what data could be collected that will best reflect issues of importance to the public and decision-makers.
- **Can it be forecasted?** Are there realistic methods to compare future alternative projects, investment approaches, or strategies using the measure? For instance, MPOs commonly use travel forecasting models combined with other tools (such as emissions models) to estimate traffic congestion, mode shares, and motor vehicle emissions. MPOs can also use crash frequency prediction methods, such as the Highway Safety

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Manual (HSM) and tools such as Safety Analyst, to quantify the effects of safety countermeasures and to help facilitate consideration of safety in planning.³⁰

- **Is the measure something the agency and its investments can influence?** A good measure does not need to be something that an agency controls. As noted earlier, most outcome-based measures of performance reflect system-wide considerations and may be influenced by many factors. At the same time, it will be important to select measures that can be influenced through policy and investment decisions in order for the measure to be useful in supporting investment decision-making.
- **Is the measure meaningful for the types of services or area?** While consistency in metrics can be valuable, it is also important to make sure that a measure is meaningful to the area or system to which it is applied. For instance, in examining investments in public transportation, DOTs often look beyond cost-efficiency measures (such as passengers per vehicle mile or operating cost per passenger) to non-traditional measures that incorporate social values. For instance, Minnesota DOT (MnDOT) specifically chose not to use ridership as one of its primary performance measures for rural public transportation but instead chose a measure tied to service hours to better reflect the primary concern about availability of public transportation service in rural areas.³¹ Care must be taken to keep the focus on customers (such as on people and rather than facilities and vehicles) to avoid unintended consequences. It is very easy to inadvertently bias measurements by the choice of reference units.
- **Improvement direction is clear.** In some cases, agencies choose measures but do not state clearly whether they desire the measure to increase or decrease, which is particularly problematic when the measure could be interpreted differently depending on one's perspective. While the number of fatalities is a measure with an obvious preferred direction (lower), other measures such as VMT per capita may not be as straightforward. While a decrease in VMT may indicate enhanced viability of alternative modes of travel, it can also be caused by declining economic or employment conditions. Thus, agencies

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should make the preferred direction clear in their publications, as well as provide justification for why this is preferred.

There often can be value in using multiple measures to address multiple dimensions of a problem. At the same time, it is advisable to start with a limited number of measures since it can be overwhelming to address hundreds of different measures. Experience suggests the importance of keeping the measures simple. It has been noted in many places: “Measure what is important; do not measure everything.” Traditionally, many measures used and reported by State DOTs and transit agencies reflect specific operational considerations (e.g., National Transit Database reporting measures, system usage measures) that provide useful information but may not be key considerations in relation to identified goals. Too many measures can be cumbersome to deal with, making an agency “data rich but information poor.”³²

While this discussion is focused on broad system-wide performance measures, it is important to recognize that the plan level measures used to evaluate investment scenarios and implementation level measures used to inform project selection and track performance over time may not be the same. One example is a performance measure, “share of population and employment within walking distance of a transit stop,” which may be used to support a regional goal related to livability or accessibility. The Atlanta Regional Council (ARC) used this metric in its 2030 Regional Transportation Plan to compare results for the current year (2005), for 2030 without strategies suggested by the plan; and for 2030 with the implementation of the plan. However, as a system-wide level, this metric cannot directly be used for project selection, except in a qualitative way to evaluate projects that support attainment of this measure.

Building on Public Concerns

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As with developing goals and objectives, it is also vital to engage the public and stakeholders in developing performance measures (in association with objectives). For some issues, such as safety, key concerns are generally well documented – i.e., reducing fatalities and injuries. For other issues, such as sustainability, livability, quality of life, and economic vitality, the most appropriate way to define an objective and associated performance measures is often unique to each state or region, so it is important to gain input from the public on what is most important to them.

Public engagement may take place through a variety of mechanisms including the public involvement aspects of the long-range transportation planning process, as well as through what stakeholders articulate at the local level, such as through corridor studies and project-related efforts. Some regions have also used public opinion surveys and social media tools to understand the priorities of the public, and stakeholder work groups as a basis for developing objectives.

As an example, the CMP traditionally has focused on traffic congestion and used engineering measures focused on motor vehicles, such as volume-to-capacity ratios. In defining appropriate congestion management objectives for a CMP, planners and decision-makers are beginning to consider questions such as: How high of a priority is traffic congestion in the region? What type of congestion is most problematic for the public and freight shippers? And what aspects of congestion are most important to address other goals, such as livability, safety, and economic vitality? Answering these questions can lead to objectives that are quite different from a traditional approach focusing on addressing level of service (LOS) deficiencies or easing vehicle traffic congestion. Moreover, given population growth, many transportation agencies recognize that reducing traffic congestion may be difficult to achieve, and that congestion may be a sign of economic vitality – as a result, some regions are focusing on improving transportation system reliability, increasing multimodal

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options so that people have greater choices and the ability to avoid traffic congestion, or focusing attention on strategic freight corridors or economic development corridors.

As an example, the Capital District Transportation Committee (CDTC), the MPO in the Albany, New York, region, recognized in its CMP that reducing traffic congestion was not the highest priority for the public, given limited funding to address all transportation needs. Through surveys and public involvement activities, CDTC has learned a key public opinion: the public has said that quality of life factors such as bike and pedestrian improvements, improved landscaping, and safety improvements were more important than reducing congestion in the metro area, and that travel time reliability is the most important congestion issue for travelers in the region. Consequently, CDTC has chosen to focus on “excess delay” and reliability/predictability of delay rather than aiming for free-flow traffic speeds during peak hours.³³

The following are excerpts from Transportation for America's “Planning for a Healthier Future” document distributed in 2016.

Performance-based planning has emerged over the last decade as an effective way to evaluate the tradeoffs of land use and transportation decisions. Put simply, it allows *stakeholders* and decision-makers to understand how a given investment, policy, or decision “performs” across certain measures over time — providing more clarity and transparency on what state or regional transportation dollars are accomplishing.

When used effectively, performance measures can help metropolitan planning organizations (MPOs) and other regional agencies better identify policies and projects that support their goals, enable more comprehensive evaluation across

PERFORMANCE MEASURES

multiple issue areas, demonstrate accountability and transparency, and communicate tradeoffs to stakeholders.

The role of regional governance

MPOs and other regional agencies play a critical role in supporting these decisions by establishing policies to best achieve desired outcomes, convening decision-makers and stakeholders, and allocating resources for transportation projects and other large projects. Because of the significant costs and impacts of infrastructure investments, it is particularly important for regional organizations to better understand the benefits and consequences of their resulting investment decisions.

Types of performance measures

There are several ways that regional agencies can incorporate performance measures to enhance their decision-making process. Three common ways measures are used in planning include:

Monitoring regional performance over time to track progress towards goals and set policies

Evaluating proposed projects to understand project impacts and prioritize funding

Comparing future scenarios of transportation networks and/or land use at the regional level (known as **scenario planning**)

Overcoming data and/or modeling constraints

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As outlined above, performance measures are commonly used to 1) monitor regional performance over time, to 2) evaluate specific projects, and to 3) compare the performance of modeled scenarios. This report focuses on the latter case: measures that can be used in a scenarios-driven process to forecast different outcomes from regional transportation planning (RTP), whether it is a full regional scenario or specific projects within a given transportation RTP. However, implementation of many relevant measures for equity and health considerations currently can be hampered by a lack of significant data or modeling limitations that make forecasting difficult. In these cases there are a number of options:

Identify proxy measures that address similar issues as the preferred measure, but with more readily available data or modeling techniques. In these cases, it is important to ensure that the proxy measure moves in similar directions as the preferred measure (e.g.: that the proxy measure performs better when one would expect the preferred measure to perform better). For example, regions that are not confident in their ability to predict bicycle and pedestrian trips with their transportation model could use the share of trips under 3 miles long as a useful proxy measure that addresses the viability of active transport trips.

Rely on monitoring measures that provide current snapshots of regional performance. These can be used to qualitatively evaluate past investments and identify policies that increased performance, and in turn inform modeling assumptions.

Availability of data and tools

Data and modeling capacity is one of the most significant factors when an MPO and region selects its performance measures. Tools and data can vary greatly by MPO, or even within a single region. That said, there are certain levels of modeling and data that have emerged as standard practice for many regions. For instance, measures such as mode share or vehicle miles traveled

PERFORMANCE MEASURES

can be calculated with data that is readily available by running a travel demand model. Below is a summary of the data and modeling requirements associated with the measures covered in this report (a more detailed review is provided for each measure in the next section).

A tiered approach to transportation performance measures:

Most, if not all, of the performance measures recommended in this report can be positioned along a spectrum of data/modeling sophistication and resource investment. **This means that MPOs and regions can choose measures that fit their own data and modeling capacity at any given time — including those that lack sophisticated modeling capacity.** For example, an MPO could determine a potential change in the number of homes within a half-mile of a proposed transit stop through relatively simple mapping work, while other MPOs with sophisticated models could do far more on analyzing the possible changes to emissions, accessibility, or air quality impacts.

If desired, regions can move along the gradient towards more sophisticated or nuanced measures over time. From least to most robust, the gradient of measures can be segmented into three main categories:

Necessities: Necessities comprise the least data-intensive measures, but must correspond to a public goal. These measures generally indicate how residents will be impacted by plans and investments. Most often, these measures are proxy calculations for desired outcomes. For example, a measure of how many residents live within a half-mile of a high quality transit stop can act as a proxy for network performance in providing residents access to destinations by non-vehicle options. There are many measures outside of those recommended in this report that would also fall in this category, such as the percentage of projects that contain pedestrian/bicycle infrastructure components or the percent of total funds spent of active transportation.

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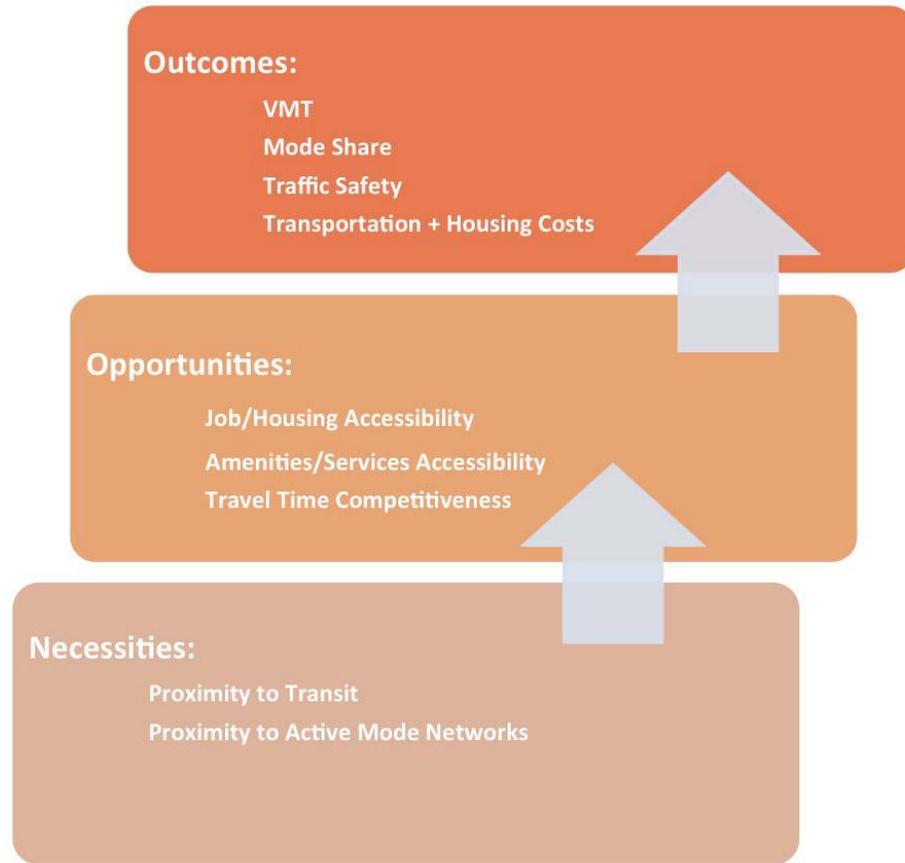
Opportunities: Opportunities are more specific measures for how well transportation investments perform, and require more data to model. Accessibility measures, for example, are a step up from simple proximity measures in that they incorporate transportation network analysis to quantify the proportion of regional population that networks can successfully connect to jobs, amenities, services, or other destinations. Similarly, travel time competitiveness by option can be measured in terms of time required or travel distance achievable by various modes to indicate the performance and viability of a multimodal system.

Outcomes: Outcomes are direct measures of regional plan impacts. Measures in this category may be the most sophisticated in terms of required data inputs and modeling capacity. Examples include calculations of region-wide vehicle miles travelled and vehicle miles traveled per capita, collision-related deaths and injuries, and greenhouse gas emissions.

The graphic below plots some of the recommended measures featured later in this report into this tiered gradient, and further discussion of this approach is included in the measures discussion itself.

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Graphic: A tiered approach to transportation performance measures



Gradient of performance measures on the basis of data/modeling sophistication

Reporting categories

How measures are reported can significantly clarify or obscure the insight the measure is intended to provide. Common reporting categories include:

1. Per capita or per household averages
2. Percent of total
3. Regional average
4. Subgroup comparison
5. Summing to a smaller geography

The ideal reporting category for a measure may depend on the scale of analysis. For example, whereas for a corridor-level analysis it may be useful to report the increase in the number of bicycle trips following the introduction of a

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bicycle lane, at the regional scale, it is likely more impactful to report the mode shift as a percentage change from the base year.

PERFORMANCE MEASURES

PERFORMANCE MEASURE	DEFINITION	CALCULATION
Regional Vehicle Connectivity	Average travel time between regional centers. Regional centers are defined as: towns, cities, county seats, and employment clusters.	Using the MPO TDM, average travel time from activity center to activity center.
Connected Bikeway	The portion of our region's population living close to a connected bikeway.	Using the bikeways file from the 2015 Regional Bikeways Plan, create small systems from connected portions of the system. Using those smaller systems, create a 1/2 mile buffer around the facilities and capture population within the buffer. This is the population that has access to a connected bikeway.
Connected Sidewalks	The portion of our region's population living close to a connected sidewalk.	Similar to Connected Bikeway but using the sidewalk inventory from the Regional Pedestrian Plan.
Transit Ridership Per Capita	The total number of transit trips taken in the region, per person.	Reference NTD statistics on IndyGo ridership and divide by regional population.
Access to fixed route transit	The portion of residents within the MPO's planning area that live within a half-mile of a transit line.	Using latest IndyGo shapefile on routes, create a 1/2 mile buffer around the route shapefile. Extract population within that shapefile and divide by regional population.
Transit Ridership Per Capita Along Frequent Routes	The total number of transit trips taken in the region along frequent routes, per person.	Similar to Transit Ridership Per Capita, but only evaluating frequent routes, defined by IndyGo.
% of Person-Miles Traveled on Interstate, Reliable	Percent of miles traveled by a person on the Interstate that are reliable.	Defined in 23 CFR 490.
% of Person-Miles Traveled on non-Interstate NHS, Reliable	Percent of miles traveled by a person on the non-Interstate NHS that are reliable.	Defined in 23 CFR 490.
Annual hours of Peak Hour Excessive Delay	Annual hours of delay experienced during the peak beyond normal peak travel.	Defined in 23 CFR 490.
Percent of non-SOV travel.	Percent of travel (commuting) by modes other than single occupant vehicle.	Defined in 23 CFR 490.
Transportation costs as a percentage of median income.	The cost of transportation as a percentage of median income.	Metric obtained from Housing and Transportation Index.
Equity Accessibility Gap	The difference in how many jobs can be accessed by transit from EJ areas compared to by car from other areas. Access is defined as 30 minutes by car or 60 minutes by transit.	Calculated through the MPO TDM.

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PERFORMANCE MEASURE	DEFINITION	CALCULATION
Percent of EJ population within 1/2 mile of frequent transit routes	Percentage of the EJ population that can access frequent transit routes.	Identify EJ population and use frequent transit route shapefile to extract population that can access routes; divide by total EJ population in the MPA.
Number of residents that can access higher education/training centers by transit	Number of residents that can access higher education and training centers by transit.	Identify higher education/training centers and shapefile for transit.
Automobile Job Accessibility Index	The percent of regional population that can reach enough jobs per household within a 30-minute car trip.	Through the MPO TDM.
Transit Job Accessibility Index	The percent of regional population that can reach enough jobs per household within a 60-minute transit trip.	Through the MPO TDM.
Truck Travel Time Reliability Index	Reliability of truck travel time in the MPA.	Defined in 23 CFR 490.
Number of serious injuries	Number of serious injuries in the MPA on all public roads.	Defined in 23 CFR 490.
Number of fatalities	Number of fatalities in the MPA on all public roads.	Defined in 23 CFR 490.
Rate of serious injuries	Rate of serious injuries in the MPA on all public roads.	Defined in 23 CFR 490.
Rate of fatalities	Rate of fatalities in the MPA on all public roads.	Defined in 23 CFR 490.
Number of nonmotorized fatalities, serious injuries	Number of nonmotorized fatalities and serious injuries in the MPA on all public roads.	Defined in 23 CFR 490.
Percentage of NHS bridges in Good condition	Percentage of NHS bridges in Good condition.	Defined in 23 CFR 490.
Percentage of NHS bridges in Bad condition	Percentage of NHS bridges in Bad condition.	Defined in 23 CFR 490.
Percentage of non-NHS bridges in Bad condition	Percentage of non-NHS bridges in Bad condition.	Definition is similar to the federal PM in 23 CFR 490.

PERFORMANCE MEASURES

PERFORMANCE MEASURE	DEFINITION	CALCULATION
Percentage of revenue vehicles exceeding Useful Life Benchmark	Percentage of revenue vehicles that do not meet a certain federal standard.	Defined in 23 CFR 490.
Percentage of Facilities below an acceptable TERM scale	Percentage of transit facilities below an acceptable federal standard.	Defined in 23 CFR 490.
Percentage of vehicles exceeding ULB	Percentage of transit vehicles falling below an acceptable standard.	Defined in 23 CFR 490.
Percentage of pavement on the Interstate System in Good condition	Percentage of pavement on the Interstate System considered in Good condition.	Defined in 23 CFR 490.
Percentage of pavement on the Interstate System in Bad condition	Percentage of pavement on the Interstate System considered in Bad condition.	Defined in 23 CFR 490.
Percentage of pavement on the non-Interstate System NHS in Good condition	Percentage of pavement on the non-Interstate System NHS considered in Good condition.	Defined in 23 CFR 490.
Percentage of pavement on the non-Interstate System NHS in Bad condition	Percentage of pavement on the non-Interstate System NHS considered in Bad condition.	Defined in 23 CFR 490.
Percentage of pavement on major roads in Central Indiana in Bad condition	Percentage of pavement on major roads in Central Indiana in Bad condition.	Evaluate roads on the TDM network and utilize local pavement rating scale to determine how many are considered in "Bad" condition.
Land Consumption	Consumption of land.	The difference between UABs from 2000 to 2010.
Total Emissions Reduction	Reduction in emissions by CMAQ projects, as calculated by the CMAQ calculator.	Defined in 23 CFR 490.
Percentage change in tailpipe emissions	Difference in tailpipe emissions from a 2017 baseyear.	Defined in 23 CFR 490.
Number of residents that can access grocery stores by bike, sidewalk, or transit.	Number of residents with access to grocery stores through non-automobile modes.	Similar to Access of education.

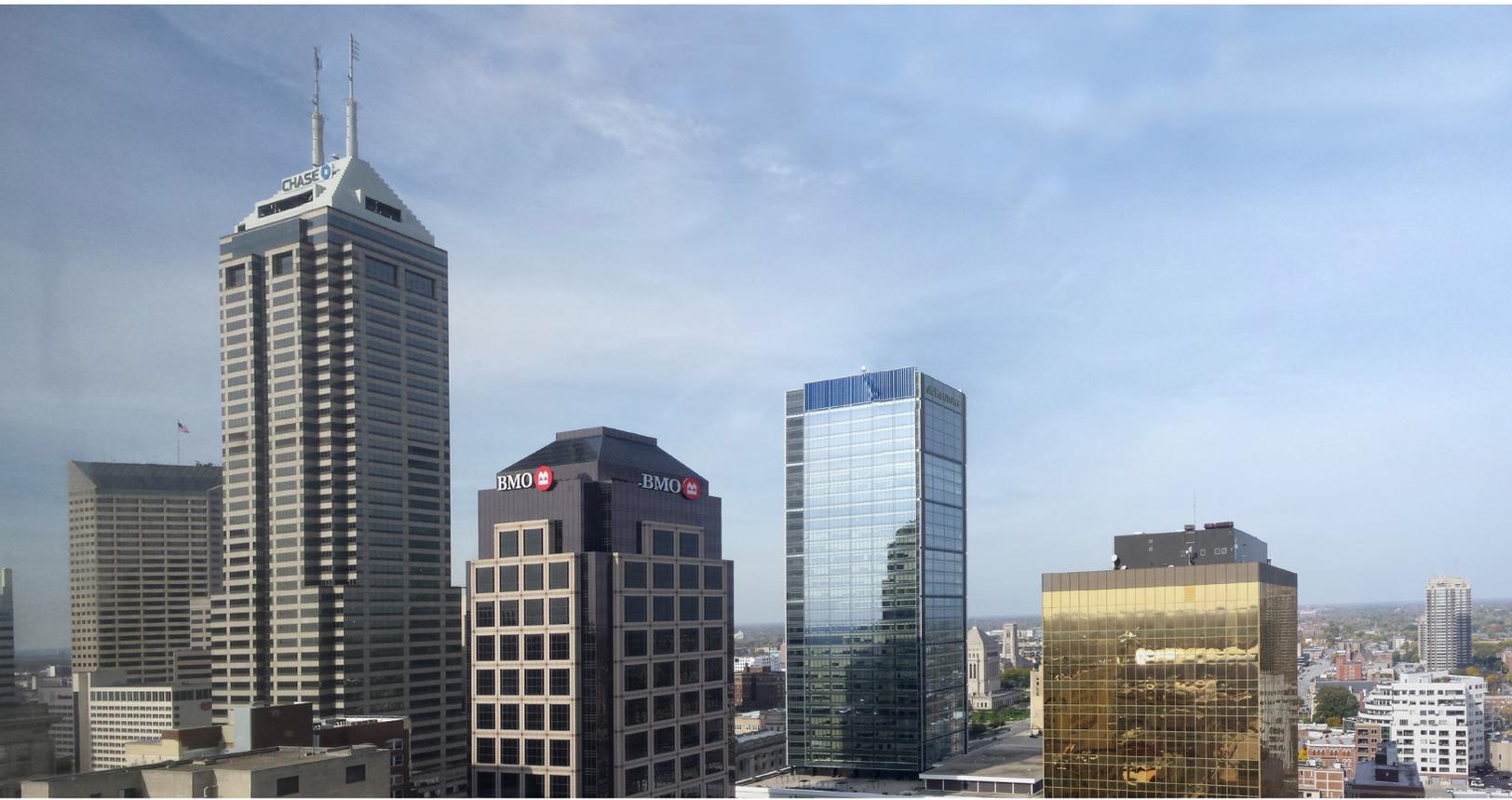
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APPENDIX I

FORECASTS



Employment and Population Forecasts

The Importance, and Necessity, of Travel Forecasting

Where people live and work and the transportation system available to them fundamentally affects travel. Travel forecasting helps transportation planners understand future travel demand based on future growth. Forecasting is dependent on understanding where people will live and work and how they choose to move around.

Travel Forecasting (Now) at the Indianapolis MPO

In our existing long range plan (2035 LRTP), the Indianapolis MPO used county growth rates forecasted by the Indiana Department of Transportation (INDOT). The INDOT forecasts were based on demographic modeling by the Indiana Business Research Center (IBRC) and INDOT-led econometric modeling using the REMI software package. These compound annual growth rates (CAGR) for each county, calculated from these INDOT forecasts, were applied to all Traffic Analysis Zones (TAZ) located in each county. Resulting values for each 5-year period were stored in a spreadsheet and exported to the Indianapolis MPO travel demand model (TDM) when inputs were needed for a travel forecast.

Travel Forecasting and the 2045 LRTP: Ensemble Population and Economic Forecasting

The Indianapolis MPO has been working for nearly three years to enhance our existing forecasts. Besides the existing forecasting discussed above, we had access to a land use simulation package called LUCI-2 we used to update the Metropolitan

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Planning Area (MPA) in 2012. The model developer retired and we wanted a model useful in exploring policy impacts that LUCI-2 was not designed to examine.

In our research of forecasting best practices, we found several models that fit our needs but we settled on a model called URBANSIM. We had a working model by the end of November 2015. Due to support issues with URBANSIM, however, we began development of a market-allocation model using a software package called Cube Land. Again, Cube Land had been used in several communities, and its use of market allocation theory was attractive.

The Indianapolis MPO developed a working Cube Land model by late fall of 2016. As the end of 2016 approached, however, we experienced unexpected forecasting allocations at the township level. In order to evaluate our efforts, Indianapolis MPO staff created a trend analysis model of township populations and employment. This model used data from the U.S. Census (all counties).

At an Indiana Model Users Conference in March of 2017, Indianapolis MPO staff were introduced to a style of forecasting called “ensemble forecasting”. In ensemble forecasting, a new model is created using the values generated by a set of models. In this case, the ensemble model was estimated using forecasts from the different Indianapolis MPO models together with the INDOT forecasts for the 4 counties included in the I-69 Extension study. The I-69 Study forecasts included input from land development experts in those 4 counties. The ensemble forecasts provided reasonable results. These township-level forecasts were presented to the LRTP 2045 Steering Committee on April 19th, 2017.

Special Note on Boone County Townships

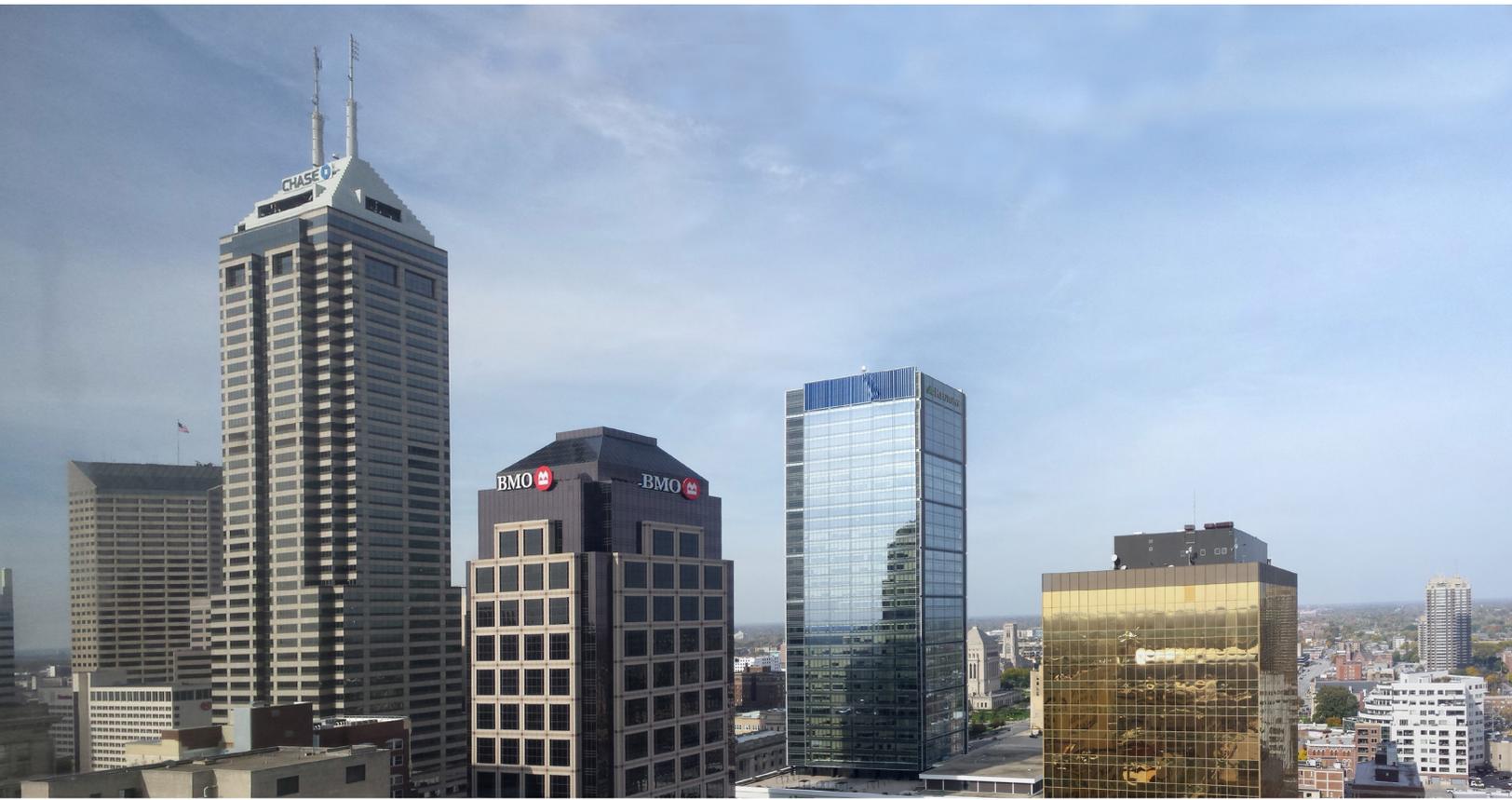
In creating the two maps, the southeastern portion of Boone County looks different in each map. The anomaly is due to available data sources. The employment forecasts came from a combination of three models. Additional information was obtained from the On The Map portal. Typically, the county subdivisions were identical to townships. However, for the southeastern portions of Boone County,

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this was not the case. The county subdivision boundaries reflected the corporate boundaries of the towns of Zionsville and Whitestown, as well as the remainder of Worth Township. Because data from the other two models were aggregated to the township level, the results for the three models could not be combined due to the differing geographies. For this reason, Eagle, Union, and Worth Townships were combined into a “Super-Township” known as Southeast Boone. When aggregating data from the INDOT growth rates and LUCI-2, the data for Eagle, Union, and Worth townships were added together. When aggregating the employment data from the Census Bureau, data for Zionsville, Whitestown, and the remainder of Worth Township were added together. This then allowed for the ensemble weights to be applied to the aggregated data, resulting in an employment forecast for the super-township.

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BUDGET ALLOCATION



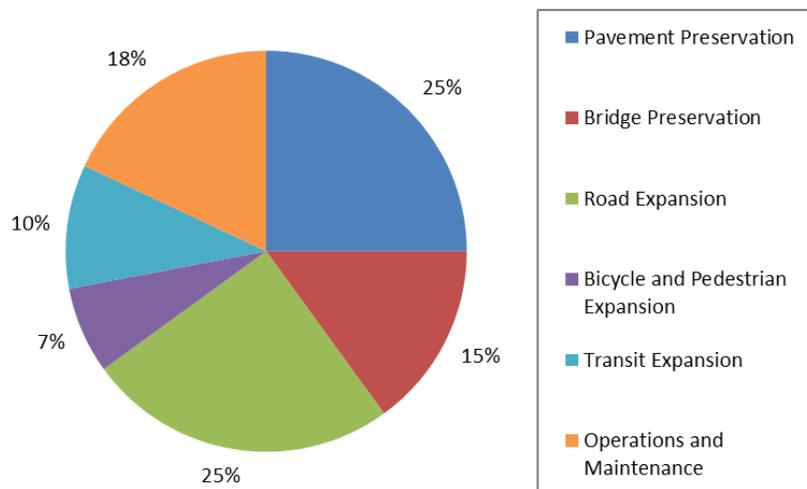
Memo

To: 2045 LRTP Steering Committee
From: Ryan Wilhite, Long Range Transportation Planning
Date: July 10, 2017
Re: Budget Allocation and Fiscal Constraint

A long range transportation plan is required to include a financial plan that demonstrates the financial resources available to implement the adopted plan.¹ Investment priorities established in an LRTP may also be carried over into the Transportation Improvement Program (TIP).

Existing Budget Allocation

The 2035 LRTP established priorities through a funding scenario analysis based on the condition of pavement and bridges in the region, reductions in congestion, transit expansion, and the cost of operations and maintenance. These funding scenarios were presented to the Indianapolis Regional Transportation Council (IRTC) Technical and Policy Committees; a survey was distributed to committee members and MPO staff. Participants ranked the four scenarios in order of preference, and filled in a new scenario that represented their preferred split of funds between the program areas. The following is the result of the survey:



In each Indianapolis Regional Transportation Improvement Program (IRTIP) developed since the adoption of the 2035 LRTP in 2011, the MPO programming staff has applied this budget allocation to the Surface Transportation Program (STP) monies allocated to the Indianapolis MPO. STP is the only one of four federal funding pots without project restrictions.

BUDGET ALLOCATION

For the 2045 LRTP, MPO staff is proposing to maintain the 2035 budget allocation for the 2045 LRTP.

The 2010 analysis was reinforced by the results of a statistically sound survey completed in 2016. The goals of this survey were to understand what consumers value for local transportation investment, determine the influence of issues surrounding transportation, and explore sentiment surrounding costs, options, and trade-offs. A total of 1,759 surveys were completed online, over landlines, and cellphones; surveys reflected a weighted geographic distribution and key demographics, to ensure a demographic and geographic representative sample.

The survey results reflected a similar breakdown of tradeoffs. When respondents answered the question of “how much of the local transportation budget should be allocated to the following?” Results were:

- 36% - Fixing and maintaining existing roads
- 23% - Building and/or widening roads
- 18% - Improving mass transit
- 13% - Building or enhancing pedestrian infrastructure (sidewalks, trails)
- 9% - Building or enhancing bike infrastructure (trails, bike lanes)

Most notably, this is not an apples to apples comparison to the breakdown in 2010, however it does reflect the continued interest in investments in non-motorized modes and transit. And, respondents continue to check the box for preservation and a quarter continue to desire new or widened roadways.

One of the bigger differences between the 2010 and 2016 is that bridge condition was not specifically addressed in 2016. We’re making an assumption that the 36% (clearly the largest percentage) includes fixing and maintaining existing roads AND bridges.

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APPENDIX K

REVENUE FORECASTS



Technical Memorandum: Revenue Forecast

Fiscal constraint is a requirement for every long range transportation plan (LRTP). Fiscal constraint can be defined as matching or not exceeding reasonable forecasted revenue sources with the projects selected for the plan.

LRTP 2045 Revenue Forecast Process

At the end of 2015, the Indianapolis MPO engaged Cambridge Systematics in a contract to forecast revenues for the period 2016-2045. The forecasts would include all available revenue sources for the Indianapolis metropolitan planning area (MPA); the Indianapolis MPO is tasked to plan for this area.

Cambridge Systematics and a team of Indianapolis MPO staffers evaluated available documents regarding federal, state, and local revenues. Documents referred to include, but are not limited to: Reports from the Department of Local Government Finance, Indianapolis MPO Transportation Improvement Program 2016-2019, and the City of Indianapolis budget. Cambridge Systematics built a financial model, “Indianapolis Revenue Projects Model”, that allows Indianapolis MPO staff the ability to modify the model as needed, for future planning efforts. Cambridge Systematics delivered the model and the attached report in December, 2015.

HEA 1002

In the interim, the Indiana state legislature’s discussion of additional road funding increased its momentum. During the 2017 legislative session, House Bill 1002 was proposed. HB 1002 through its various iterations was considered a generational funding bill. The authors intended the legislation to address long-standing deficits in transportation financing impacting roads and bridges throughout the state of Indiana. The legislation proposed significant increases in overall transportation funding, including an increase to the state gas tax and shifting money distributed to the general fund from a gasoline sales use tax to road accounts.

Marion County Transit Plan

In 2016, Marion County voters passed a referendum to increase taxes on income and dedicate the money towards improved transit services, including rapid transit. The City-County Council of Marion County and Indianapolis also voted to establish the income tax, altering the previous forecasts for transit funding in Central Indiana.

Considering the significance of HEA 1002 and the new Marion County income tax for transit, the Indianapolis MPO staff decided to update the model with the help of its on-call consultant, HNTB.

REVENUE FORECASTS

HNTB and its staff revised the existing revenue forecasting tool to include additional revenues from HEA 1002 and revenues for IndyGo from the transit referendum.

Revenue Forecast

In another section there will be a discussion on the changes to the Cambridge Systematics tool. In this portion, the revenue forecast, based on changes made to the CS tool, will be presented, including key assumptions.

Historical Revenue Sources

Revenue from 2008 on was evaluated, including all Federal Highway Administration, Federal Transit Administration, state, local, and miscellaneous (e.g. American Recovery Revitalization Act (ARRA)) funds were incorporated and evaluated. Local revenues were captured through reports from Indiana's Department of Local Government Finance (DLGF), including Motor Vehicle Highway Fund receipts and general revenue receipts. The average from 2008-2015 was calculated. A more detailed examination of funding from the Indianapolis Regional Transportation Improvement Program (IRTIP) 2016-2019 document was also included. The IRTIP review helped inform forecasts for federal sources of funding for state and local agencies.

Forecast of Federal Sources

Federal funding sources reflected in the model are primarily those included in the IRTIP. IndyGo sources are accounted for separately as noted in the IndyGo Revenues section that follows. This is a change from previous versions of the revenue model in which all federal sources were accounted for within the IRTIP.

The IRTIP revenues reflected in the financial model were updated by Indianapolis MPO staff in early 2017. HNTB made no additional updates to these numbers. Similarly, the baseline year for the financial model remained 2016, with 2017 being a forecast year. In Table 1, all Federal sources of revenue are shown. The column, State Federal and Local Federal, are disaggregates of the column Federal Sources. Disaggregating the revenues allows the Indianapolis MPO to present the Federal monies available to INDOT and to the local public agencies (LPAs) within the Indianapolis MPA.

Table 1. Federal Revenue Forecast, 2016-2045.

Time Period	Federal Sources	State Federal	Local Federal	State Match	Local Match
2016-2025	\$1,215,000,000	\$695,658,319	\$519,157,051	\$116,000,000	\$123,000,000
2026-2035	\$1,317,000,000	\$748,242,132	\$569,174,764	\$129,000,000	\$128,000,000
2036-2045	\$1,455,000,000	\$826,524,814	\$628,723,038	\$143,000,000	\$142,000,000
Total	\$3,987,000,000	\$2,270,000,000	\$1,717,000,000	\$389,000,000	\$393,000,000

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Forecast of INDOT Revenues

There are two key considerations for forecasting state revenues: Percentage of state-controlled funds expended in the Indianapolis region, and the impact of HEA 1002 on total INDOT funds as well as local (non-INDOT) funds raised by the state.

To estimate the impact of HEA 1002, HNTB updated the same CS-produced Indiana statewide revenue model originally created for INDOT in 2015, to reflect the legislative changes in HEA 1002. This same model was previously cited in the Indianapolis MPO revenue model forecast total INDOT funding. Of the total INDOT funding forecasted in that model, it was assumed that 26% of INDOT funds would be expended in the Indianapolis area. The percentage is based on the population of the 8 county area as a share of the statewide population. The previous long range transportation plan, the 2035 LRTP, also included a similar assumption. This assumption was not updated from the 2015 revenue model.

Total INDOT funds to be expended in the Indianapolis area are summarized in the table below:

Table 2. State Revenue Forecast with HEA 1002

Time Period	State Revenues
2016-2025	\$2,926,000,000
2026-2035	\$4,307,000,000
2036-2045	\$5,639,000,000
Total	\$12,873,000,000

HEA 1002 also results in increased funding for cities and counties

Forecast of Non-INDOT Revenues

Using the historical average from 2013-2015 as a base, local revenues (non-INDOT) were forecasted from 2016 to 2045 with a 1% annual growth rate. This local revenue total excludes the IndyGo forecasted revenue, which will be discussed below. It does include the local distribution of Local Road and Street (LRS) and Motor Vehicle Highway Fund revenues from the statewide collection of those funds. The assumed growth rate matches the growth rate INDOT assumed in its 2015 financial forecasting, led by Cambridge Systematics.

To estimate the impact of HEA 1002, the CS statewide model referenced in the previous section, which also forecasts local revenues from statewide funding sources such as fuel and motor vehicle taxes, was run twice, to determine the impact of the HEA 1002 changes. The total statewide amount of new local revenues resulting from HEA 1002 was multiplied by a factor of 20.3% to estimate the share expected to be distributed to cities and counties within the 8-county Indianapolis area. This 20.3% factor was based on the calendar year 2016 distribution of funds to the region as a percentage of the statewide total. The estimated increase in local funding resulting from HEA 1002 was added to the baseline growth forecast described in the previous paragraph.

REVENUE FORECASTS

The table below outlines local revenue by LRTP time period:

Table 3. Local Revenue Forecast with HEA 1002

Time Period	Local Revenues
2016-2025	\$2,148,000,000
2026-2035	\$2,709,000,000
2036-2045	\$3,306,000,000
Total	\$8,164,000,000

Forecast of IndyGo Revenues

The Indianapolis MPO coordinated with IndyGo, the local transit provider, to understand operating and capital expenditures. IndyGo provided a budget document for 2016 that forecasted the operating and capital program out to 2036. From 2037-2045, the base of 2036 was inflated by 1%. Operating revenue sources for IndyGo includes local property taxes, income tax, state transit funding (Public Mass Transportation Fund), federal sources, fare revenue, and other miscellaneous local funds such as TIF and City of Indianapolis funds for capital improvements. The capital program includes similar revenue sources, with the notable exception of potential bond issues.

To avoid a double-count of federal dollars, MPO-controlled federal sources, such as CMAQ and STP, identified in the IRTIP, are subtracted from the IndyGo total as these are already reflected as federal sources in the IRTIP. Conversely, because the IndyGo revenue forecast, newly added to the model, includes dedicated federal transit funds (Section 5307, 5310, 5311, and 5339), these funding sources were removed from the IRTIP totals to avoid double counting them.

Table 4. IndyGo Revenue Forecast

Time Period	IndyGo Revenues
2016-2025	\$1,773,000,000
2026-2035	\$1,852,000,000
2036-2045	\$2,127,000,000
Total	\$5,752,000,000

Update to Cambridge Systematics Tool

The introduction of HEA 1002 and success of the Marion County transit referendum necessitated a reexamination of the MPO forecasting tool. Working with HNTB, the Indianapolis MPO staff reviewed the Cambridge Systematics tool and updated it in the following ways. More detailed information is found in the modified revenue projects model.

1. From the historical analysis of City of Indianapolis funds, removed revenue and interfund transfer categories to only include Appropriations (eliminating a double-count).
2. Updated certain cells to change them from hard-coded values to formula-driven.

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3. Imported the statewide revenue model (from 2015 Cambridge Systematics INDOT study) for HEA 1002 scenario, included increased state revenues as well as estimated impact to local revenues.
4. Added IndyGo budget sheet and populated it from IndyGo information.
5. Revised some columns to reflect new assumptions.
6. Removed STP/CMAQ/TIGER funds from IndyGo totals as these are a subset of a larger value shown in the IRTIP.
7. Zeroed out current and future federal transit funding categories (5307, 5310, 5311, and 5339 funds) from IRTIP to avoid double-counting as these are reflected in IndyGo funding from IndyGo financial documents.
8. Updated Indy MPO share of statewide new local revenue per email from Rick Cockrum.
9. Created a new summary sheet detailing available revenues by time period, organized by INDOT, Non-INDOT, and IndyGo sources.

Indianapolis MPO Financial Plan Services

Revenue Projections FY 2016-2045

final report

prepared for

Indianapolis MPO

prepared by

Cambridge Systematics, Inc.

APPENDIX K



final report

Indianapolis MPO Financial Plan Services

Revenue Projections FY 2016-2045

prepared for

Indianapolis MPO

prepared by

Cambridge Systematics, Inc.

date

December 2015

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APPENDIX K



1.0 Introduction

This report provides long-term financial projections for the transportation revenue available in the Indianapolis Metropolitan Planning Organization (Indianapolis MPO) region from Fiscal Year (FY) 2016 through FY 2045. Revenue forecasts are derived from current baselines in Federal funding programs, State revenue sources, and local revenue sources to support highway and transit-related investments and their anticipated growth over the forecast period. Forecasts are presented in three programming tiers: FY 2016-2025, FY 2026-2035, and FY 2036-2045. This report identifies revenue sources that are reasonably expected to be available over the long-range planning period. All revenues are expressed in year-of-expenditure dollars.

In general, Metropolitan Planning Organizations (MPOs) receive funds in two broad categories: funding that finances MPO planning activities and daily operations; and funding for actual transportation projects. Federal, state, local, and in some cases regional funds are all available in varying degrees. In large urbanized areas, MPOs have direct programming authority over certain Federal funds, generally Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) funds. Other Federal funds are available, although in smaller amounts. State funds in common use include gas taxes, sales taxes, vehicle fees, and tolls.¹

Cambridge Systematics (CS) used the Indianapolis MPO FY 2008-2015 Annual Listing of Federally Obligated Projects and the Indianapolis MPO FY 2016-2019 TIP to develop the list of revenue categories for examination. Project lists were extracted from the all documents, and categories were grouped together into five main program categories: Federal Highway Funds, Federal Transit Funds, Federal Discretionary Funds, State Funds, and Local Funds. Each of the categories and the individual funds which make them up are discussed in their own section.

This review of revenue sources for the Indy MPO region looks at all projected available revenue for the region, regardless of whether it falls under the control of Indy MPO. This includes INDOT revenue which will be spent on INDOT's transportation facilities and local revenue which will be spent on local roads and streets. Following the review of all potential revenue, the funds controlled by Indy MPO are examined as a subset.

¹National Association of Regional Commissions. (2005). *Metro Funding*. Page 1.
http://www.narc.org/uploads/File/Transportation/Library/NCHRP_Metro_Funding.pdf

2.0 Federal Funding Sources

Indianapolis MPO relies on revenue from the Federal-aid highway program for a variety of its projects and annual programs. Federal funds are made available to the Indianapolis MPO through various programs administered by Indiana DOT for roadway construction and other multimodal projects including, but not limited to, pedestrian, bicycle, and transit facilities and major planning and/or environmental studies. For each state, Federal funding apportionments for roadways/highways from FHWA are divided among more than 100 individual programs, each having their own formula for distributing funding between states, MPOs, or to individual projects. Of the total amount of Federal funding that Indiana receives each year, INDOT typically receives 75 percent of total funding and local governments receive the remaining 25 percent. In the past decade, the amount of Federal-aid highway funds received by Indiana increased between FY 2005 and FY 2009 (from \$714 million to \$909 million), but remained flat after FY 2010, averaging \$916 million per year.

Since the 1960s, the Federal Highway Trust Fund (HTF) has been the primary source of transportation revenue in the nation, receiving money from the Federal fuel tax of 18.4 cents per gallon on gasoline and 24.4 cents per gallon on diesel fuel. In response to the looming insolvency of the HTF and need for a stable path going forward, Congress passed the Fixing America's Surface Transportation (FAST) Act in December 2015, the first long-term surface authorization since SAFETEA-LU in 2005.

Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit, and gives State DOTs the “certainty to plan and implement significant investments in the nation’s aging infrastructure.” The Act includes \$305 billion of Federal highway funds over the next five years and important environmental streamlining provisions that have the potential to speed up project delivery, saving time and taxpayer money. The FAST Act ensures the Highway Trust Fund is authorized to meet its obligations through FY 2020, and directs offsets into the HTF to ensure its solvency. The bill will continue to distribute nearly 93 percent of all Federal-aid Highway program contract authority to State DOTs through formula programs.

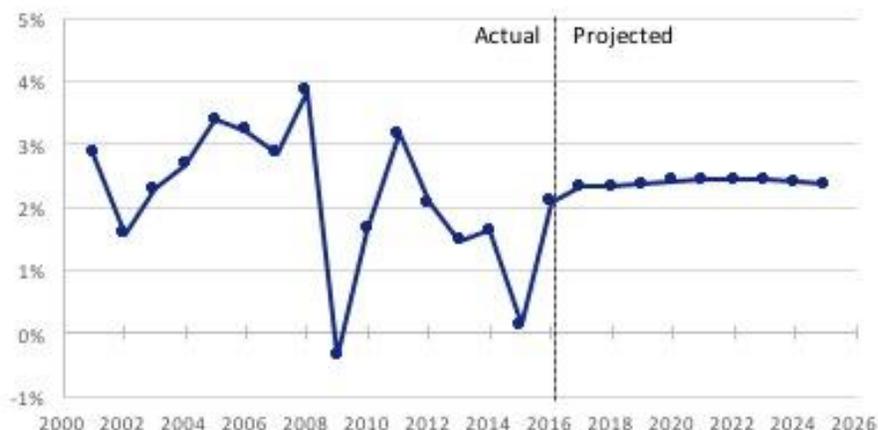
Most relevant to Indianapolis MPO and these financial projections, the FAST Act consolidates several funding programs into a new Surface Transportation Block Grant Program (STBGP). The new program contains the former Surface Transportation Program (STP) and the Transportation Alternatives Program (TAP), and increases the amount of STP funding that is distributed to local governments from 50 to 55 percent over the life of the bill, promoting an interest in increased metropolitan transportation funding. The new STBGP also provides states and local governments with increased flexibility by rolling the TAP into STP,

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and allowing 50 percent of the local's transportation alternatives funding to be used on any STP-eligible project.²

With any long range revenue forecast, the anticipated growth rates of revenue categories is a major driver. While recent Federal funding forecasts have generally been extremely pessimistic, the passage of the FAST Act demonstrates a willingness for the Federal government to maintain the HTF and continue the stable funding of state and regional transportation needs. Federal funding was assumed to grow at a rate which matches inflation at the average nationwide inflation rate of 2.4 percent per year (Figure 2.1).³ At this time, it is challenging to predict how these very recent changes will affect the consolidation of Indianapolis's MPO's current programs and projects, so this analysis is based off of the former funding categories used in MAP-21, the most recent Indiana DOT LRTP, STIP, and the Indianapolis MPO 2016-2019 TIP, which are universally predicted to pace inflation.

Figure 2.1 National Level Inflation⁴



Listed in Table 2.1 are summaries of the Federal funding projections covered in the remainder of this section, listed by revenue category. For Indianapolis MPO, an estimate value of **\$5.64 billion** in Federal funding is expected to be available in the region from FY 2016-2045, spanning across all Federal-aid highway and transit categories. All values are in year of expenditure (YOE) dollars.

² U.S. DOT. (2015, December). FAST Act Summary. <https://www.transportation.gov/fastact>

³ Inflation rate is calculated based on the Consumer Price Index (CPI). The August 2015 report of the Congressional Budget Office (CBO) – The Budget and Economic Outlook: 2015 to 2025 – estimates that CPI will be 2.1% in 2016, 2.3% in 2017 and 2018, and will remain at 2.4% afterwards until 2025.

⁴ Actual from Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers. Projected from Congressional Budget Office.

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Table 2.1 Federal Funding Projections

	2016-2025	2026-2035	2036-2045	Total	Annual Average
Federal Funds Total	\$1,429,320,000	\$1,774,950,000	\$2,250,010,000	\$5,454,280,000	\$181,690,000
Federal Highway Administration (FHWA)	\$1,226,480,000	\$1,522,320,000	\$1,929,770,000	\$4,678,570,000	\$155,860,000
National Highway Performance Program	\$378,680,000	\$473,720,000	\$600,520,000	\$1,452,930,000	\$48,430,000
Surface Transportation Program*	\$167,770,000	\$209,880,000	\$266,060,000	\$643,710,000	\$21,460,000
Surface Transportation Program I	\$286,980,000	\$359,010,000	\$455,090,000	\$1,101,080,000	\$36,700,000
Surface Transportation Program III	\$10,470,000	\$13,100,000	\$16,610,000	\$40,190,000	\$1,340,000
Surface Transportation Program IV	\$86,270,000	\$107,920,000	\$136,800,000	\$330,990,000	\$11,030,000
Highway Safety Improvement Program	\$85,240,000	\$106,640,000	\$135,180,000	\$327,060,000	\$10,900,000
Congestion Mitigation & Air Quality Improvement	\$112,690,000	\$140,970,000	\$178,700,000	\$432,350,000	\$14,410,000
Transportation Alternatives Program	\$30,850,000	\$38,590,000	\$48,920,000	\$118,350,000	\$3,950,000
Federal Earmarks/High Priority - Repealed programs	\$2,750,000	\$0	\$0	\$2,750,000	n/a
Discretionary Funds	\$35,920,000	\$72,490,000	\$91,890,000	\$200,310,000	\$6,680,000
Prior Year Balances	\$28,840,000	\$0	\$0	\$28,840,000	\$960,000
Federal Railroad Admin (FRA)	\$900,000	\$0	\$0	\$900,000	n/a
Federal Transit Admin (FTA)	\$201,940,000	\$252,630,000	\$320,240,000	\$774,810,000	\$25,830,000
Urbanized Area Formula	\$171,010,000	\$213,930,000	\$271,180,000	\$656,120,000	\$21,870,000
Enhanced Mobility for Older Adults and People with Disabilities	\$5,560,000	\$6,950,000	\$8,810,000	\$21,320,000	\$710,000
Rural Area Formula	\$24,820,000	\$31,050,000	\$39,360,000	\$95,230,000	\$3,170,000
Bus and Bus Facilities	\$560,000	\$700,000	\$880,000	\$2,140,000	\$70,000

*Refers to the anticipated statewide share of STP funds which INDOT would have available for the Indy MPO region.

2.1 SURFACE TRANSPORTATION PROGRAM

Now the Surface Transportation Block Grant Program (STBGP) as of the FAST Act, former Surface Transportation Program (STP) funding may be used by States and localities for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects and public bus terminals and facilities.

Each year, 80 percent of Indiana’s STP allocation is divided into a “statewide share” (37.5 percent), over which INDOT has discretion, and an “urban share” or “metropolitan suballocation” (62.5 percent), which goes to MPOs and small non-urban areas within the state. The other 10 percent is earmarked or dedicated for Transportation Alternatives (TA) and the other 10 percent for Safety projects. The

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suballocated funds are then further divided into three categories, according to population: Group I Urban (population over 50,000), Group III Urban (population between 5,000 and 50,000), and Group IV Rural (population below 5,000).

Group I Urban STP Program

The Group I STP Program funds projects in cities and towns with a population greater than 200,000. The funds for Group I STP are further divided into amounts for the individual MPOs based on their relative share of the population of the areas. Although the suballocation is based on the population within the urbanized area boundaries, suballocated funds may be obligated beyond the urbanized boundaries in the larger MPO planning area that encompasses contiguous area anticipated to become urbanized in the next 20 years. Historically, Indianapolis MPO revenue from the Group I STP Program has averaged around \$41.6 million per year.

Group III Urban STP Program

The Group III STP Program funds projects in cities and towns with a population between 5,001 and 200,000. Historically, Indianapolis MPO revenue from the Group III STP Program has averaged around \$272,000 per year.

Group IV Rural STP Program

The Group III STP Program funds projects in cities and towns with a population less than 5,000. Historically, Indianapolis MPO revenue from the Group IV STP Program has averaged around \$103,000 per year.

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$52.4 million per year for all STP Programs. To project revenue through FY 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$52.4 million, for a FY 2016-2045 total of \$2.1 billion in STP program funding, an annual average of \$71 million across all relevant Groups.

2.2 HIGHWAY SAFETY IMPROVEMENT PROGRAM

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program that emphasizes a data-driven, strategic approach to improving highway safety on all public roads. Under HSIP, every State is required to develop a Strategic Highway Safety Plan (SHSP) that lays out strategies to address these key safety problems. Every State now has an SHSP in place, and MAP-21 ensures ongoing progress toward achieving safety targets by requiring regular plan updates and defining a clear linkage between behavioral (NHTSA funded) State safety programs and the SHSP. A State that fails to have an approved updated plan will not be eligible to receive additional obligation limitation during the overall redistribution of unused obligation limitation that takes place during the last part

of the fiscal year. The SHSP remains a statewide coordinated plan developed in cooperation with a broad range of multidisciplinary stakeholders.

FHWA uses formulas to determine HSIP funding amounts for all States each year. From there, INDOT makes one-third of its total FHWA apportionment amount from HSIP available to local public agencies for safety projects on local system roads. Individual Metropolitan Planning Organizations (MPOs) receive annual apportionments of obligation authority, while predetermined amounts of obligation authority are set-aside for the use of rural public highway agencies. To receive HSIP funding, the program requires a 10% local match, and all project funding is authorized by the Indiana Highway Safety Advisory Committee (HSAC).

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$8.1 million per year for the HSIP program. To project revenue through FY 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$8.1 million, for a FY 2016-2045 total of \$327 million in HSIP program funding, an annual average of \$11 million.

2.3 CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM

The Congestion Mitigation and Air Quality Improvement Program (CMAQ), continued in MAP-21, provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) as well as former nonattainment areas that are now in compliance (maintenance areas).

Although CMAQ funds can be used only for projects that reduce vehicle emissions in metropolitan areas designated as air quality nonattainment or maintenance areas, there is no Federal requirement that state DOTs suballocate CMAQ moneys to MPOs for direct programming. Instead, CMAQ dollars flow from the Federal government to the states, and states are encouraged to consult with MPOs and local agencies to select CMAQ projects. Puentes and Bailey (2003) document that, although they are not required to, 26 states directly suballocate CMAQ funds to MPOs or local governments.

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$10.7 million per year for the CMAQ program. To project revenue through FY 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$10.7 million, for a

FY 2016-2045 total of \$432 million in CMAQ program funding, an annual average of \$14.4 million.

2.4 TRANSPORTATION ALTERNATIVES PROGRAM

The Transportation Alternatives Program (TAP), authorized in MAP-21 as a replacement for the Transportation Enhancement (TE) program, Recreational Trails Program (RTP), and the Safe Routes to School (SRTS) program, provides funding for programs and projects defined as transportation alternatives. These projects can include on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways. Formerly, separate programs existed for the TE, RTP, and SRTS programs, described below.

Currently, the TAP is funded at a level equal to two percent of the total of all MAP-21 authorized Federal-aid highway and highway research funds, with the amount for each State set aside from the State's formula apportionments. In Indiana, half of all TAP funds are sub-allocated to areas based on population, and then appropriated based on the project application process. Each year, eligible agencies with jurisdictions within Indy MPO's urbanized area boundary submit applications to Indy MPO for TE and SRTS programs. Eligible applicants include tribal governments, local governments, transit agencies, and school districts. The Indiana Department of Natural Resources in charge of the RTP.

Under MAP-21, all TAP projects and activities require a 20% local match, and funds must be used within a limited time frame. Competition for limited funds now includes most of the former TE project types. Now that the TAP Program is combined, the FY 2016-2019 TIP estimates an average revenue of \$7.60 million per year, a conservative forecast.

Transportation Enhancements

Before MAP-21, the Transportation Enhancement (TE) Program funded opportunities to help expand transportation choices and enhance the transportation experience through pedestrian and bicycle infrastructure and safety programs, scenic and historic highway programs, landscaping and scenic beautification, historic preservation, and environmental mitigation. The original TE activities remain eligible for TE funds that were previously apportioned until the TE funds are obligated, rescinded, or lapsed. In October 2012, TE became part of the new Transportation Alternatives Program (TAP). Historically, Indianapolis MPO's revenue from the TE Program has averaged around \$7.6 million per year.

Recreational Trails Program

Before MAP-21, the Recreational Trails Program (RTP) funded acquisition and/or development of motorized and non-motorized recreational trails projects. Eligible applicants include all units of government and 501(c) (3) non-profit organizations. RTP is a matching grant program (80% Federal/20% match) administered by the Indiana Department of Natural Resources. Greater detail on the RTP can be found at http://www.in.gov/dnr/outdoor/files/or-RTP_Manual.pdf. In October 2012, RTP became part of the new Transportation Alternatives Program (TAP). Historically, Indianapolis MPO's revenue from the RTP Program has averaged around \$142,000 per year.

Safe Routes to School

Created by SAFETEA-LU, the Safe Routes to School (SRTS) Program funded projects that were designed to make walking and bicycling to school safe and routine. Walking and bicycling are viable transportation alternatives for travel to and from school with significant potential benefits, among them reductions in motor vehicle traffic, associated fuel consumption for school trips and improved air quality. In October 2012, SRTS became part of the new Transportation Alternatives Program (TAP). According to the FY 2016-2019 Indianapolis MPO TIP, \$1,458,000 is projected to be available for the Safe Routes to School Program in FY 2016-19, all from Federal dollars. Historically, Indianapolis MPO revenue from the SRTS Program has averaged around \$120,000 per year.

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$2.9 million per year for the TAP program. To project revenue through FY 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$2.9 million, for a FY 2016-2045 total of \$118 million in TAP program funding, an annual average of \$4.0 million.

2.5 NATIONAL HIGHWAY PERFORMANCE PROGRAM

The National Highway Performance Program (NHPP) Program, developed in MAP-21, funds projects that (1) provide support for the condition and performance of the National Highway System; (2) provide support for the construction of new facilities on the National Highway System; and (3) ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in an asset management plan of a State for the National Highway System.

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$36.0 million per year for the NHPP program. To project revenue through FY 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$36.0 million, for a

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FY 2016-2045 total of \$1.45 billion in NHPP program funding, an annual average of \$48 million.

2.6 FEDERAL TRANSIT FUNDING SOURCES

Over the years, Indianapolis MPO has received Federal transit funding from several FTA funding programs, including: FTA Section 5307, FTA Section 5309, FTA Section 5310, FTA Section 5311, FTA Section 5312, FTA Section 5316, FTA Section 5317, and FTA Section 5339. The FY 2016-2019 TIP includes funding projections for FTA 5307 Urbanized Area Formula Grants, FTA 5310 Transportation for Elderly Persons and Persons with Disabilities, FTA 5311 Formula Grants for Rural Areas, and FTA 5339 Bus and Bus Facilities.

FY 2016-2045 Funding Projections

The Indianapolis MPO FY 2016-2019 TIP estimated an average of \$19.2 million per year for all FTA programs. To project revenue through 2045, a 2.4 percent growth rate was applied to the base year assumption value of \$19.2 million, for a FY 2016-2045 total of \$775 million in FTA program funding, an annual average of \$25.8 million. The Urbanized Area Formula is the greatest contributor to this revenue, accounting for 85% of average annual transit funding.

2.7 FEDERAL DISCRETIONARY SOURCES

The Indianapolis MPO region has historically received Federal discretionary grants to support planning and research activities, provide for transportation project development, and to repair Federal-aid highways or roads. Under MAP-21 and continuing under the FAST Act, FHWA administers the Federal discretionary grant program, under which states and localities are able to submit competitive applications for a variety of grant programs. In the past decade, Indianapolis MPO has received revenue from the following Federal discretionary sources, many of which have been repealed and discontinued:⁵

- **American Recovery and Reinvestment Act of 2009 (ARRA):** Indianapolis MPO received \$94 million during FY 2008-2015 in this active FHWA program. Funds for this program may be used for those activities included in 23 U.S.C. Sections 133(b) and passenger and freight rail transportation and port infrastructure projects eligible for assistance under subsection 23 U.S.C. 601(a)(8). Can include up to 100% Federal share.
- **Demonstration Project:** Indianapolis MPO received \$219,000 during FY 2008-2015 in this active FHWA program. The program funds "demonstration" or "demo" projects that demonstrate some new or innovative construction, financing, or other techniques on specific projects. Can include up to 80% Federal share.

⁵ FHWA. Projects. (2015). <http://www.fhwa.dot.gov/federalaid/projects.pdf>

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- **Elimination of Hazards at Railway-Highway Crossings:** Indianapolis MPO received \$80,000 during FY 2008-2015 in this active FHWA program. This program funds at-grade public crossing safety improvement projects including, but not limited to, the installation of protective devices, the elimination of hazards, and grade crossing separation. Can include up to 90% Federal share.
- **Equity Bonus (formerly Minimum Guarantee):** Indianapolis MPO received \$64.6 million during FY 2008-2015 in this now terminated program. This program ensures that each State receives a specific share of the aggregate funding for major highway programs, with every State guaranteed at least a specified percentage of that State's share of contributions to the Highway Account of the Highway Trust Fund. The specified percentage, referred to as a relative rate of return, is 90.5% for 2005 and 2006, 91.5% for 2007, and 92% for 2008 and 2009.
- **High Priority Projects (HPPs) Program:** Indianapolis MPO received \$15.9 million during FY 2008-2015 in this now terminated program. Can include up to 80% Federal share.
- **TIGER:** Indianapolis MPO received \$2.8 million over FY 2008-2015 in this continuing U.S. DOT program. This program funds capital investments in surface transportation infrastructure that will have a significant impact on the Nation, a region, or a metropolitan area. TIGER invests in transformative projects that will provide significant and measurable improvements over existing conditions.

FY 2016-2045 Funding Projections

In this analysis, discretionary Federal funds are not considered stable transportation funding sources. Funds received from discretionary programs were combined into a single group to develop a conservative forecast, and funding from the American Recovery and Reinvestment Act of 2009 were excluded, as this was considered a "one-time" funding source.

Since 2008, discretionary funds have accounted for a range FHWA revenue, ranging from 0.2 percent to 15 percent. To project revenue through 2045, Federal discretionary revenues were estimated at an average of 5 percent of the FHWA total each year (not counting FRA or FTA funding), for a FY 2016-2045 total of \$200 million in Federal discretionary program funding.

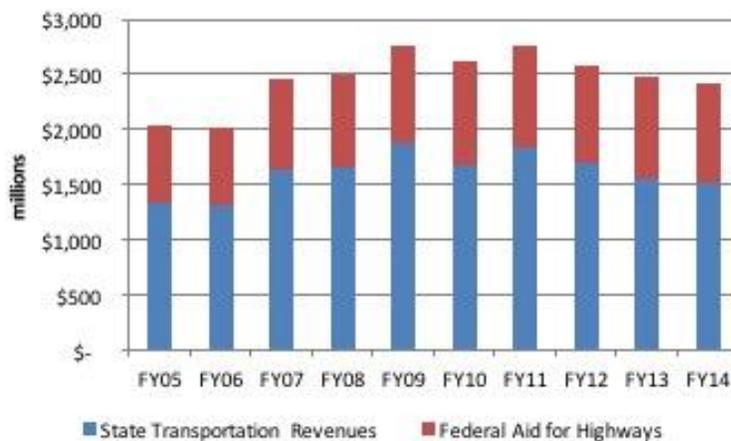
3.0 State Funding Sources

Highway transportation in Indiana is primarily funded from state dedicated revenues collected from taxes and fees related to the transportation sector, and formula Federal-aid funds. Once Federal-aid funds are obligated to Indiana DOT, they are distributed by formula to the localities within the State, including Indianapolis MPO.

In Indiana, the State and local transportation systems are funded primarily from two sources: State revenues collected through taxes and fees related to cars and commercial trucks, and Federal funds. Federal funds account for nearly 40 percent of INDOT's budget. The remaining portion consists of State transportation revenues. The largest source of State revenues is motor fuel taxes, which account for nearly 57 percent of INDOT's revenue. Vehicle fees contribute 17 percent. Toll proceeds account for another 17 percent. The remaining 9 percent come from a wide range of miscellaneous fees. Local transportation funds include a portion of both State revenues and Federal funds.

Highway funding increased from \$2,038 million in FY 2005 to \$2,761 million in FY 2009, and then declined to \$2,414 million in FY 2014. INDOT estimates that funding for roadways will increase from \$2,414 million in FY 2014 to \$2,508 in FY 2015, an increase of 3.9 percent. Approximately the same level of funding is projected by INDOT for FY 2016 (i.e. \$2,500 million), however, revenues in FY 2017 are projected to drop 14.1 percent as a result of the end of the Major Moves program in FY 2015.⁶ After FY 2015, INDOT estimates that roadway revenues from State and Federal sources will decline at an average annual rate of 0.4 percent.

Figure 3.1 All Federal and State Sources to INDOT



Source: INDOT Study of Funding Mechanisms: Technical Memo.

⁶ The Major Moves program was funded with revenues from the 75-year concession of the Indiana Toll Road (ITR).

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For INDOT revenues available within the Indianapolis MPO region, there are two key components: the local match to Federal funds and additional State funding which would be available to spend on INDOT roads in the region. This second portion would include projects that have no Federal funding component as well as the maintenance and operations of INDOT-owned. The second portion also includes the State Public Mass Transportation Fund (PMTF), discussed in greater detail below.

Listed below in Table 3.1 are summaries of the State funding projections covered in the remainder of this section, listed by revenue category. For the Indianapolis MPO region, an estimate value of \$6.5 billion in State funding is expected through FY 2045, spanning across all categories, an annual average of \$215 million.

Table 3.1 State Funding Projections

	2016-2025	2026-2035	2036-2045	Total	Annual Average
State Funds Total	\$1,950,240,000	\$2,142,540,000	\$2,366,700,000	\$6,459,470,000	\$215,310,000
State Funds Used for Federal Match	\$119,930,000	\$151,620,000	\$192,210,000	\$463,760,000	\$15,450,000
National Highway Performance Program	\$47,490,000	\$59,410,000	\$75,310,000	\$182,200,000	\$6,070,000
Surface Transportation Program*	\$36,200,000	\$45,280,000	\$57,400,000	\$138,870,000	\$4,630,000
Surface Transportation Program III	\$3,580,000	\$4,470,000	\$5,670,000	\$13,720,000	\$460,000
Surface Transportation Program IV	\$24,090,000	\$30,130,000	\$38,200,000	\$92,420,000	\$3,080,000
Highway Safety Improvement Program	\$2,610,000	\$3,270,000	\$4,150,000	\$10,030,000	\$330,000
Congestion Mitigation & Air Quality Improvement	\$1,480,000	\$0	\$0	\$1,480,000	\$50,000
FHWA Discretionary Funds	\$4,490,000	\$9,060,000	\$11,490,000	\$25,040,000	\$830,000
Other State Funds**	\$1,830,300,000	\$1,990,920,000	\$2,174,490,000	\$5,995,710,000	\$199,860,000

*Refers to the anticipated statewide share of STP funds which INDOT would have available for the Indy MPO region.

**Available for Non-Federal match spending on INDOT roads in the Indianapolis MPO region, includes State PMTF.

3.1 STATE MATCH TO FEDERAL FUNDS

To receive obligated funding for Federal-aid projects within the State, INDOT contributes State match funds, per legislated requirements under FHWA and FTA rules. Depending on the location and nature of the project, these State match funding sources come from a variety of programs and projects within the State.

FY 2016-2045 Funding Projections

In the Indianapolis MPO region, the amount of State match funds is dependent on the amount of Federal funding available to Indiana, and if Federal/Local funding requirements can be met (such as 90% Federal/10% Local or 80% Federal/20% Local requirements) on specific projects within the Indianapolis region.

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The assumption used for these projections is that INDOT will take advantage of Federal funds when they have the funding available to do so and will fully match available Federal funds in the region. Based on this assumption, INDOT is projected to provide \$358 million in Federal-aid State Match program funding from FY 2016-2045, an annual average of \$11.9 million.

3.2 OTHER STATE TRANSPORTATION FUNDING

The remainder of available State transportation funding in the region, after State matches have been met, would be spent on INDOT roads and assets within the region for preservation, maintenance, operations, preliminary engineering and right-of-way acquisition for projects with a Federal match, and capital projects with no Federal match.

In Indiana, the largest source of State revenues comes from motor fuel taxes, which account for nearly 57 percent of INDOT's revenue. Vehicle fees and toll proceeds account for 17 percent each of the total revenues and the remaining 9 percent comes from other miscellaneous fees. Over the past decade, Indiana has seen several rises and drops in amounts of both highway funding and State-generated transportation revenues.

Indiana currently has a gasoline excise tax of \$0.18/gallon, which is paid by fuel suppliers and passed on to drivers who purchase fuel in Indiana. Indiana also has a diesel fuel tax of \$0.16/gallon, a Motor Carrier Fuel Use Tax of \$0.16/gallon, and a Motor Carrier Surtax of \$0.11/gallon based on total fuel consumed and carrier's share of travel within the state.

Like most states, Indiana also brings in revenue from a variety of other State transportation programs, including: Operator (Driver) Licenses Fees, International Registration Plan (IRP) Fees, Sales Taxes on Auto Sales, Tire Taxes, Vehicle Law Enforcement Fees, General Sales Taxes, Oversize/Overweight Vehicle Fees, Rental Car Excise Taxes, and Rental Car Excise Taxes.

In 2005, Governor Mitch Daniels launched an aggressive 10-year, \$10 billion transportation plan, known as "Major Moves," to significantly improve and expand Indiana's highway infrastructure. A total of \$2.6 billion was committed to Major Moves from the long-term lease of the Indiana Toll Road. Backed by Major Moves funding, INDOT averaged more than \$1.5 billion in construction dollars invested annually between 2005 and 2012. In 2015, Indianapolis MPO received around \$137.6 million from MajorMoves before the program expired later in the calendar year. However, because MajorMoves expired in 2015, Indianapolis MPO can expect minimal revenue from this program through FY 2045.

The State PMTF, a fund allocated to public transit systems on a performance based formula, should provide additional revenue within the Indy MPO region, specifically going directly to IndyGo to support transit operations. In 2015 IndyGo received about \$10.7 million. The PMTF is described at

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<http://www.in.gov/indot/2821.htm> and the site includes a link to the performance based formula.

INDOT recently completed a study of potential revenue mechanisms to address the stagnant growth of important statewide revenue mechanisms like the motor fuel taxes. As part of this study, they projected a status quo scenario for statewide revenues if no changes were made to existing revenue mechanisms (such as fuel tax rates, registration fees, etc.). This scenario made the very conservative project, based on estimates for future vehicle miles traveled and other important revenue drivers, that INDOT revenues from non-Federal sources would experience minimal growth, close to zero.

For the purposes of this long range revenue projection, it is reasonable to assume that the status quo may change at some point in the next thirty years. Since motor fuels taxes have been long established, they has often cited as one of the most acceptable to modify for increased state/local transportation revenues. Many other states nationwide have passed motor fuels tax increases within the past few years, providing increased amounts of revenue for their state and localities. The 2015 INDOT Financial Report estimated that if the gasoline excise rate was nearly doubled, by \$0.17 up to \$0.35, approximately \$179 million in new revenue would be available to the State through 2035. Other suggested options include periodic increases to the gasoline tax, indexed for inflation such as the Consumer Price Index (CPI), though the tax would lose its purchasing power over time.

A one percent growth rate for State revenues was applied to baseline for this forecast. This reflects a balance between the conservative status quo utilized in the INDOT study and a more optimistic assessment that some change in statewide revenue structures may bring revenues closer to the value of inflation.

FY 2016-2045 Funding Projections

One major assumption for the FY 2016-2045 funding projections is discussed above: a one percent growth rate applied to the baseline.

Another major assumption is the percentage of statewide revenue which INDOT is likely to spend within the Indianapolis MPO region (beyond Federal matches and not including the PMTF). Following the lead of the prior LRTP for the Indianapolis region, the proportion of INDOT spending in the Indianapolis MPO region versus the rest of the State is expected to track closely with the percentage of State population in the region. About 26 percent of Indiana residents reside in the Indianapolis MPO region. It is assumed INDOT will spend approximately 26 percent of available State revenue in the region.

Based on these assumptions, INDOT is projected to provide \$5.6 billion in State funding for State-owned facilities and operations within the region from FY 2016-2045, an annual average of \$187 million, beyond the Federal match. In addition, the State PMTF is expected to provide IndyGo with \$372 million in funding for transit operations, an annual average of about \$12.4 million.

4.0 Local Funding Sources

The Indianapolis MPO region has an available pool of large amounts of funding from local sources, primarily for local transportation projects (both as local match funds for Federal-aid projects and for projects with no Federal component), maintenance and operations of non-INDOT roadways, and other local transportation needs.

4.1 LOCAL TRANSPORTATION FUNDING

The Indianapolis Metropolitan Planning Area (MPA) consists of 7 counties and 29 cities/towns within the Indianapolis region, listed in Table 4.1 below. Across the region, a variety of funding mechanisms and programs are used by municipalities to bring in transportation funding, listed in Table 4.2.

Table 4.1 Counties, Cities, and Towns within the Indianapolis MPA

Arcadia Civil Town	Fishers Civil City	Morgan County
Atlanta Civil Town	Franklin Civil City	New Palestine Civil Town
Avon Civil Town	Greenfield Civil City	Nobesville Civil City
Bargersville Civil Town	Greenwood Civil City	Pittsboro Civil Town
Beech Grove Civil City	Hamilton County	Plainfield Civil Town
Boone County	Hancock County	Shelby County
Brooklyn Civil Town	Hendricks County	Southport Civil City
Brownsburg Civil Town	Indianapolis Civil City	Speedway City Civil Town
Carmel Civil City	Johnson County	Westfield Civil City
Cicero Civil Town	Lawrence Civil City	Whiteland Civil Town
Cumberland Civil Town	McCordsville Civil Town	Whitestown Civil Town
Danville Civil Town	Mooreville Civil Town	Zionsville Civil Town

Table 4.2 Local Funds Allocated for Transportation

0101 - General Fund, 0524 - Street	9504 - Coit County Share	9602 -Highway
0205 - County Wheel Tax	9505 - I-70 TIF Fund	
0702 - Highway	9506 - Six Points TIF Fund	
0706 - Local Road & Street	9507 - US-40 TIF Fund	
0708 - Motor Vehicle Highway	9508 - SR-267 TIF Fund	
0790 - Cumulative Bridge	9509 - Avon Avenue	
0792 - County Major Bridge	9517 - Interstate Comp-State-Share	
2391 - Cumulative Capital Development, 0542 -Bridges	9528 - Wheel & Sur Tax Fund	
6380 - Transportation Bond	9537- TIF Guilford/Hartland	
9501 - Road Impact Fees	9541 - Wheel Sur/Tax County Portion	
9503 - Highway Inspection Fund		

Source: Analysis of IN Gateway for Government Units. (2015). https://gateway.ifionline.org/report_builder

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This next section explores a variety of local funds used for transportation in the Indianapolis MPA. Highlights of some of the most frequently-used funds are listed below. All values were extracted from the Indiana Local Technical Assistance Program's (LTAP) 2013 *Summary of Highway Revenues, Distributions & Expenses*, accessible at <http://docs.lib.purdue.edu/inltappubs/6>.

Local Option Highway User Tax (LOHUT)

The LOHUT is the only local optional tax specifically for road funding available to Indiana localities, since it was passed by the Indiana legislature in 1980. The LOHUT is composed of two different taxes: a county motor vehicle excise surtax, and a county wheel tax; which must be adopted concurrently by a county. Revenues from the tax are shared between counties, cities, and towns, and distributed by the Local Road & Street Formula. The County Motor Vehicle Excise Surtax is paid at the time of vehicle registration for automobiles, motorcycles, and trucks under 11,000 pounds, and ranges from 2% - 10% of the excise tax. The County Wheel Tax applies to all vehicles NOT subject to the excise surtax, essentially capturing the other segment of the county population that includes buses, recreational vehicles, semitrailers, tractors, trailers, and trucks (with a few exceptions include state-owned vehicles, or buses owned by religious or nonprofit youth organizations). Currently, five of the seven counties within the Indianapolis MPA have levied the LOHUT. As of 2011, 47 counties (51% of the State) currently have LOHUT, and at least 10 additional counties were considering adding the program. Annual LOHUT revenues averaged \$2.1 million for counties and \$776,000 for cities within the MPA in 2012.

Property Tax and Permits

Property taxes are currently levied by six counties and four cities within the Indianapolis MPA. Annual property tax revenues averaged \$2.3 million for counties and \$6.5 million for cities within the MPA in 2012. County permits are levied on road cuts, underground & driveway permits & right-of-way permits, are used in five counties within the MPA, excluding Hendricks and Morgan Counties. Annual county permit revenues averaged \$20,000 for counties within the MPA in 2012.

Commercial Vehicle Excise Tax (CVET) and Financial Institution Tax (FIT)

Commercial vehicle excise taxes (CVET) are currently levied by six counties and one city within the Indianapolis MPA, and apply to all Tractors, Trucks, and Truck-Tractors. Annual CVET revenues averaged \$14,000 for counties and \$4,800 for cities within the MPA in 2012. Financial institution taxes (FIT) are currently levied by seven counties and four cities within the Indianapolis MPA, and levy taxes on financial institutions, at a rate between 6.5 - 8.0 percent. Annual FIT revenues averaged \$3,000 for counties and \$145,000 for cities within the MPA in 2012.

4.2 LOCAL MATCH TO FEDERAL FUNDS

To receive Federal funding for Federal-aid projects each year, local agencies within the Indianapolis MPA contribute local match funds (ranging from 10-25% per project), per legislated requirements according to each program. Depending on the location and nature of the Federal-aid project, these local match funding sources can come from a variety of cities, counties, and towns within the MPA.

FY 2016-2045 Funding Projections

Similar to the State, the amount of Local Match funds are highly dependent on the amount of Federal funding available to Indiana DOT, and if Federal/Local funding requirements can be met (such as 90% Federal/10% Local or 80% Federal/20% Local requirements) on specific projects.

The assumption used for these projections is that local agencies will take advantage of Federal funds when they have the funding available to do so and will fully match available Federal funds. Local revenues spent on local match are subtracted from the overall pool of available local funding. Based on this assumption, local agencies are projected to provide \$855 million in Federal-aid Local Match program funding from FY 2016-2045, an annual average of \$28 million

4.3 LOCAL REVENUE BASELINE

In order to establish a baseline for local revenues in the Indianapolis MPA, figures were compiled for the counties, cities, and towns comprising the Indianapolis MPA for FY 2013, 2014, and 2015. A three-year average was taken in order to represent a typical funding level. For all of the counties, cities, and towns with the exception of Indianapolis, the budget details were available on the Indiana Gateway for Government Units website.⁷ The transportation funding for the city of Indianapolis was taken from the Adopted Budget Book for the years 2013, 2014, and 2015.⁸ The following line items were used to establish the transportation funding for the City:

- Transportation Adopted Appropriation
- Transportation Other Miscellaneous Revenue
- Transportation Inter-Fund Transfers

The most commonly used drivers of transportation revenue projections are population growth, inflation, and growth in line miles. In general, it can be assumed that the transportation revenues for the Indianapolis MPA will follow a similar growth rate to the transportation revenues of the State of Indiana. The

⁷ Indiana Gateway for Government Units. (2015). https://gateway.ifonline.org/report_builder

⁸ City of Indianapolis. (2012). *Adopted 2013 Budget for the Consolidated City of Indianapolis, Marion County.*

City of Indianapolis. (2013). *Adopted 2014 Budget for the Consolidated City of Indianapolis, Marion County.*

City of Indianapolis. (2014). *Adopted 2015 Budget for the Consolidated City of Indianapolis, Marion County.*

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inflation rates and growth in lane miles should be comparable in both the state and the MPA. However, the population growth in the Indianapolis MPO exceeds the population growth rate for the state. Therefore, it is reasonable to assume that the growth rate in transportation revenue for the MPA should exceed the growth rate for the state by the differential between their population growth rates.

According to the 2014 *Indianapolis Metropolitan Organization Annual Report*,⁹ within the MPA the Compound Annual Growth Rate (CAGR) in population for 2000-2010 was 1.3 percent. Based on the U.S. Census data for the same time period (2000-2010), the state population increased from 6,080,485 (in 2000) to 6,483,802 (in 2010) - translating to a CAGR of 0.64 percent.

Over the time period, population growth in the Indianapolis MPA exceeded the state population growth rate by 0.66 percent. As stated above, it is reasonable to assume that the growth rate in transportation revenue for the Indianapolis MPA will also exceed the state growth rate by 0.66 percent. Given the annual growth rate estimate for INDOT statewide revenue sources for this projection was one percent, a growth rate of 1.66 percent was utilized for local revenues.

Summaries of the local funding projections are listed in Table 4.4 by revenue category, annually averaging \$284 million. For the Indianapolis MPO region, an estimate value of \$8.5 billion in local funding is expected through FY 2045, spanning across all categories.

⁹ *Indianapolis MPO. (2014). Indianapolis Metropolitan Planning Organization Annual Report.*

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Table 4.4 Local Funding Projections

	2016-2025	2026-2035	2036-2045	Total	Annual Average
Local Funds Total	\$2,386,870,000	\$2,819,480,000	\$3,324,880,000	\$8,531,220,000	\$284,360,000
Local Funds Used for Federal Match	\$185,240,000	\$223,060,000	\$282,760,000	\$691,050,000	\$23,020,000
National Highway Performance Program	\$1,230,000	\$1,540,000	\$1,950,000	\$4,730,000	\$160,000
Surface Transportation Program I	\$92,320,000	\$115,490,000	\$146,400,000	\$354,220,000	\$11,810,000
Highway Safety Improvement Program	\$6,390,000	\$8,000,000	\$10,140,000	\$24,520,000	\$820,000
Congestion Mitigation & Air Quality Improvement	\$17,040,000	\$21,310,000	\$27,020,000	\$65,370,000	\$2,180,000
Transportation Alternatives Program	\$9,800,000	\$12,260,000	\$15,540,000	\$37,590,000	\$1,250,000
Federal Earmarks/High Priority - Repealed programs	\$730,000	\$0	\$0	\$730,000	n/a
FHWA Discretionary Funds	\$4,490,000	\$9,060,000	\$11,490,000	\$25,040,000	\$830,000
Prior Year Balances	\$8,860,000	\$0	\$0	\$8,860,000	\$300,000
Federal Railroad Administration	\$100,000	\$0	\$0	\$100,000	n/a
FTA, Urbanized Area Formula	\$42,750,000	\$53,480,000	\$67,800,000	\$164,030,000	\$5,470,000
FTA, Enhanced Mobility for Older Adults and People with Disabilities	\$1,390,000	\$1,740,000	\$2,200,000	\$5,330,000	\$180,000
FTA, Rural Area Formula	\$0	\$0	\$0	\$0	n/a
FTA, Bus and Bus Facilities	\$140,000	\$170,000	\$220,000	\$530,000	\$20,000
Other Local Funding	\$2,201,630,000	\$2,596,430,000	\$3,042,120,000	\$7,840,170,000	\$261,340,000

4.4 OTHER LOCAL REVENUE OPPORTUNITIES

In addition to the local share of statewide transportation funding mechanisms (such as state fuel taxes), there are various sources of surface transportation revenue at the disposal of units of local government for supplementing the funds from the State. Many local governments have implemented Tax Increment Finance districts, which capture growth in tax revenue for special assessment areas, to fund transportation improvements in economic development and redevelopment areas. These funds are often used in conjunction with bonding instruments, including general obligation bonds (backed by the full faith and credit of the local unit of government) and revenue bonds (backed by a specific funding source) to obtain funding upfront for a particular capital project.

As noted above, the anticipated growth rate for local funds is modest, falling below the rate of inflation. This reflects the stagnation of statewide revenue sources, such as the local share of fuel taxes. Within the Indianapolis MPO region, there may be some opportunity areas to improve available local revenue.

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- Within Indiana, there is an ongoing dialogue with state government to allow for a county-by-county referendum to levy an additional income tax for the purpose of expanding regional transit. As of this writing, there is no permission or timeframe for these referenda.
- Tax Increment Financing (TIF) is a tool commonly used by local governments to revitalize urban areas. Bonds are issued to pay for infrastructure improvements in the TIF district—a neighborhood or other portion of the urban area near the improvements—to help revitalize the area and spur redevelopment. Bonds are serviced from the ensuing incremental property tax revenue increases in the district. Thus, the TIF district captures the revenues produced by increases in property values resulting from redevelopment, and uses these revenues to pay for the bonds issued to construct the infrastructure improvements. Public roadways are eligible to be funded with TIF revenues; however, TIF application is limited typically by law to areas in need of redevelopment (“blighted areas”) and revenue uses may be limited to capital projects only. TIFs may also be controversial and can reduce resources for other local taxing bodies. Application to major state road construction may be limited, if not ineligible, under Indiana’s current TIF statute.
- Development exactions are transfers of goods or services made by individuals or groups who benefit substantially from a specific infrastructure project. They can take the form of land donations or in-kind donations, such as construction of public infrastructure, parks, or the provision of public services. They are project specific, and negotiated and agreed upon as part of the permitting process of a new development.
- Special Assessment Districts (SAD) are self-imposed by residents and/or business owners to support infrastructure needs. The cost of infrastructure is paid for by a special assessment on properties in the district which are deemed to benefit from the improvements. Revenues from special assessments are adequate for providing funding for capital improvements, but are generally not suitable as long term funding sources for transportation system operations and maintenance.
- INDOT’s Indiana’s Future Transportation Needs cites Tax-exempt Private Activity Bonds (PAB), issued by state and local governments to aid in financing privately funded transportation projects, as an available innovative financing tool.

FY 2016-2045 Funding Projections

The remainder of available local transportation funding in the region, after local matches have been met, would be spent on non-INDOT owned roads and assets within the region for preservation, maintenance, operations, preliminary

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engineering and right-of-way acquisition for projects with a Federal match, and capital projects with no Federal match.

Based on the assumptions, local agencies are projected to make available \$7.8 billion in local funding beyond the amount spent on Federal match for local transportation within the region from FY 2016-2045, an annual average of \$261 million.

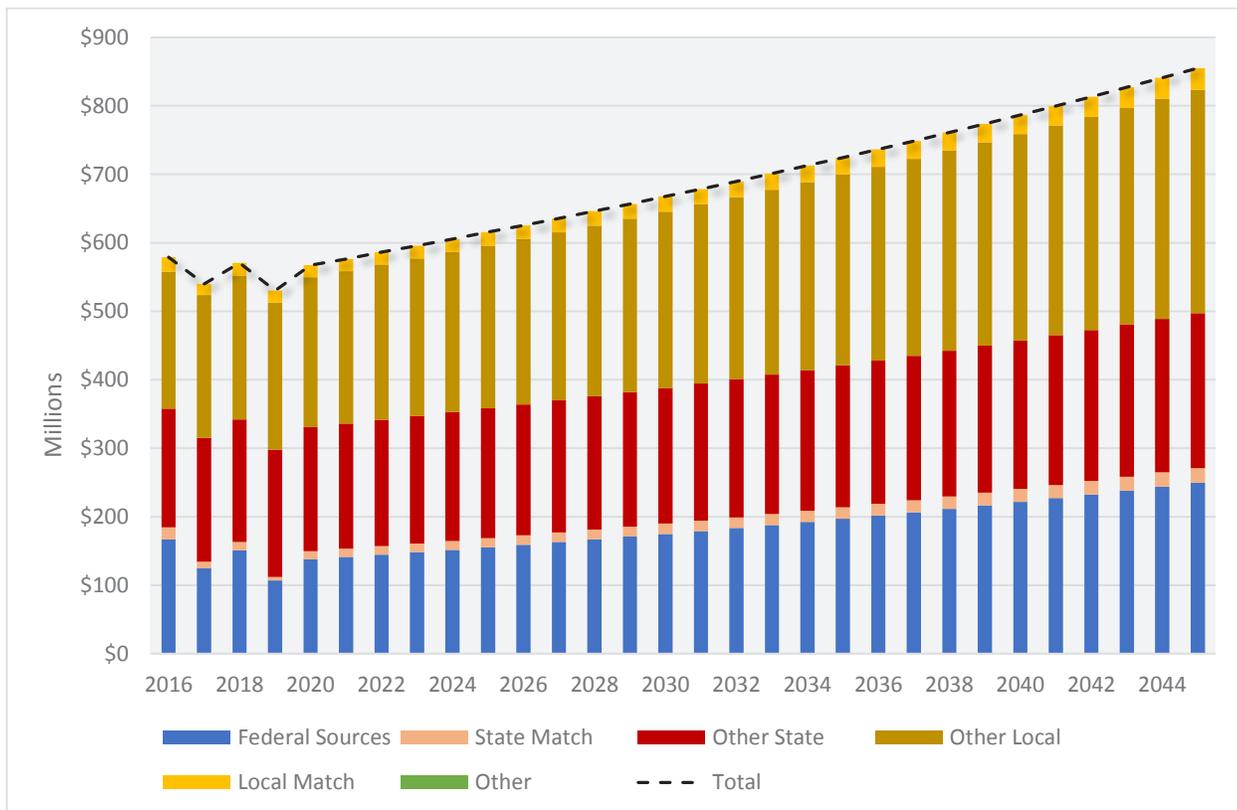
5.0 Summary of Projections

5.1 ALL AVAILABLE REGIONAL REVENUE

The transportation revenue projections for all Federal, State, and local revenue sources available in the Indianapolis MPO region for FY 2016-2045 are summarized in Table 5.1 and illustrated in Figure 5.1. While the trend looks positive, it is important to note that all dollars are in year of expenditure and inflation will erode purchasing power. Following the TIP years, overall growth of Indianapolis MPO region transportation revenues is projected to be around 1.7 percent a year. This is largely due to the slow growth of INDOT revenues, following the conservative projection of one percent growth.

Note that this review of revenue sources for the Indy MPO region looks at all projected available revenue for the region, regardless of whether it falls under the control of Indy MPO. This includes INDOT revenue which will be spent on INDOT’s transportation facilities, the State PMTF allocated to IndyGo for operations, and local revenue which will be spent on local roads and streets. The following section examines the Federal funds administered by Indy MPO as a subset of all available revenues.

Figure 5.1 Projected Available Transportation Revenue in Indianapolis MPO Region



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Table 5.1 Federal, State, and Local Funding Projections

	2016-2025	2026-2035	2036-2045	Total	Annual Average
Federal Funds Total	\$1,429,320,000	\$1,774,950,000	\$2,250,010,000	\$5,454,280,000	\$181,690,000
Federal Highway Administration (FHWA)	\$1,226,480,000	\$1,522,320,000	\$1,929,770,000	\$4,678,570,000	\$155,860,000
National Highway Performance Program	\$378,680,000	\$473,720,000	\$600,520,000	\$1,452,930,000	\$48,430,000
Surface Transportation Program*	\$167,770,000	\$209,880,000	\$266,060,000	\$643,710,000	\$21,460,000
Surface Transportation Program I	\$286,980,000	\$359,010,000	\$455,090,000	\$1,101,080,000	\$36,700,000
Surface Transportation Program III	\$10,470,000	\$13,100,000	\$16,610,000	\$40,190,000	\$1,340,000
Surface Transportation Program IV	\$86,270,000	\$107,920,000	\$136,800,000	\$330,990,000	\$11,030,000
Highway Safety Improvement Program	\$85,240,000	\$106,640,000	\$135,180,000	\$327,060,000	\$10,900,000
Congestion Mitigation & Air Quality Improvement	\$112,690,000	\$140,970,000	\$178,700,000	\$432,350,000	\$14,410,000
Transportation Alternatives Program	\$30,850,000	\$38,590,000	\$48,920,000	\$118,350,000	\$3,950,000
Federal Earmarks/High Priority - Repealed programs	\$2,750,000	\$0	\$0	\$2,750,000	n/a
Discretionary Funds	\$35,920,000	\$72,490,000	\$91,890,000	\$200,310,000	\$6,680,000
Prior Year Balances	\$28,840,000	\$0	\$0	\$28,840,000	\$960,000
Federal Railroad Admin (FRA)	\$900,000	\$0	\$0	\$900,000	n/a
Federal Transit Admin (FTA)	\$201,940,000	\$252,630,000	\$320,240,000	\$774,810,000	\$25,830,000
Urbanized Area Formula	\$171,010,000	\$213,930,000	\$271,180,000	\$656,120,000	\$21,870,000
Enhanced Mobility for Older Adults and People with Disabilities	\$5,560,000	\$6,950,000	\$8,810,000	\$21,320,000	\$710,000
Rural Area Formula	\$24,820,000	\$31,050,000	\$39,360,000	\$95,230,000	\$3,170,000
Bus and Bus Facilities	\$560,000	\$700,000	\$880,000	\$2,140,000	\$70,000
State Funds Total	\$1,950,240,000	\$2,142,540,000	\$2,366,700,000	\$6,459,470,000	\$215,310,000
State Funds Used for Federal Match	\$119,930,000	\$151,620,000	\$192,210,000	\$463,760,000	\$15,450,000
National Highway Performance Program	\$47,490,000	\$59,410,000	\$75,310,000	\$182,200,000	\$6,070,000
Surface Transportation Program*	\$36,200,000	\$45,280,000	\$57,400,000	\$138,870,000	\$4,630,000
Surface Transportation Program III	\$3,580,000	\$4,470,000	\$5,670,000	\$13,720,000	\$460,000
Surface Transportation Program IV	\$24,090,000	\$30,130,000	\$38,200,000	\$92,420,000	\$3,080,000
Highway Safety Improvement Program	\$2,610,000	\$3,270,000	\$4,150,000	\$10,030,000	\$330,000
Congestion Mitigation & Air Quality Improvement	\$1,480,000	\$0	\$0	\$1,480,000	\$50,000
FHWA Discretionary Funds	\$4,490,000	\$9,060,000	\$11,490,000	\$25,040,000	\$830,000
Other State Funds**	\$1,830,300,000	\$1,990,920,000	\$2,174,490,000	\$5,995,710,000	\$199,860,000

*Refers to the anticipated statewide share of STP funds which INDOT would have available for the Indy MPO region.

**Available for Non-Federal match spending on INDOT roads in the Indianapolis MPO region, includes State PMTF.

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	2016-2025	2026-2035	2036-2045	Total	Annual Average
Local Funds Total	\$2,386,870,000	\$2,819,480,000	\$3,324,880,000	\$8,531,220,000	\$284,360,000
Local Funds Used for Federal Match	\$185,240,000	\$223,060,000	\$282,760,000	\$691,050,000	\$23,020,000
National Highway Performance Program	\$1,230,000	\$1,540,000	\$1,950,000	\$4,730,000	\$160,000
Surface Transportation Program I	\$92,320,000	\$115,490,000	\$146,400,000	\$354,220,000	\$11,810,000
Highway Safety Improvement Program	\$6,390,000	\$8,000,000	\$10,140,000	\$24,520,000	\$820,000
Congestion Mitigation & Air Quality Improvement	\$17,040,000	\$21,310,000	\$27,020,000	\$65,370,000	\$2,180,000
Transportation Alternatives Program	\$9,800,000	\$12,260,000	\$15,540,000	\$37,590,000	\$1,250,000
Federal Earmarks/High Priority - Repealed programs	\$730,000	\$0	\$0	\$730,000	n/a
FHWA Discretionary Funds	\$4,490,000	\$9,060,000	\$11,490,000	\$25,040,000	\$830,000
Prior Year Balances	\$8,860,000	\$0	\$0	\$8,860,000	\$300,000
Federal Railroad Administration	\$100,000	\$0	\$0	\$100,000	n/a
FTA, Urbanized Area Formula	\$42,750,000	\$53,480,000	\$67,800,000	\$164,030,000	\$5,470,000
FTA, Enhanced Mobility for Older Adults and People with Disabilities	\$1,390,000	\$1,740,000	\$2,200,000	\$5,330,000	\$180,000
FTA, Rural Area Formula	\$0	\$0	\$0	\$0	n/a
FTA, Bus and Bus Facilities	\$140,000	\$170,000	\$220,000	\$530,000	\$20,000
Other Local Funding	\$2,201,630,000	\$2,596,430,000	\$3,042,120,000	\$7,840,170,000	\$261,340,000
Total Available Transportation Funding in Indianapolis MPO Region	\$5,766,420,000	\$6,736,970,000	\$7,941,580,000	\$20,444,970,000	\$681,360,000

5.2 FEDERAL FUNDS ADMINISTERED BY IMPO

The Federal transportation funds administered by Indy MPO is an important subset of all available regional funds. This value represents the revenue that Indy MPO will have at their disposal to utilize to meet regional transportation goals in coordination with the investments of their partner agencies (INDOT, counties, cities, and IndyGo, among others).

Based on the overall revenue projections, Indy MPO will administer an estimated \$1.9 billion of funds from 2016-2045, an annual average of about \$65 million. This revenue is based on a 2.4 percent growth rate, matching inflation.

Table 5.2 shows the breakdown of Indy MPO administered funds. STP Group 1 accounts for the largest share of available projected revenue. It is projected to be about 57% of all Indy MPO Federal funds, around \$1.1 billion. The CMAQ program is 21% of total funds at a total of around \$411 million. HSIP is projected to be about 16% of total funds at a total of \$311 million. TAP is projected to be about 6% of total funds at a total of \$118 million.

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Table 5.2 Indy MPO Administered Federal Funds by Fund Type

	STP 1	HSIP	CMAQ	TAP	Total	Annual Average
Total	\$1,101,080,000	\$310,710,000	\$410,730,000	\$118,350,000	\$1,940,870,000	\$64,700,000
2016-2025	\$286,980,000	\$80,980,000	\$107,050,000	\$30,850,000	\$505,860,000	\$50,590,000
2026-2035	\$359,010,000	\$101,310,000	\$133,920,000	\$38,590,000	\$632,820,000	\$63,280,000
2036-2045	\$455,090,000	\$128,420,000	\$169,760,000	\$48,920,000	\$802,190,000	\$80,220,000

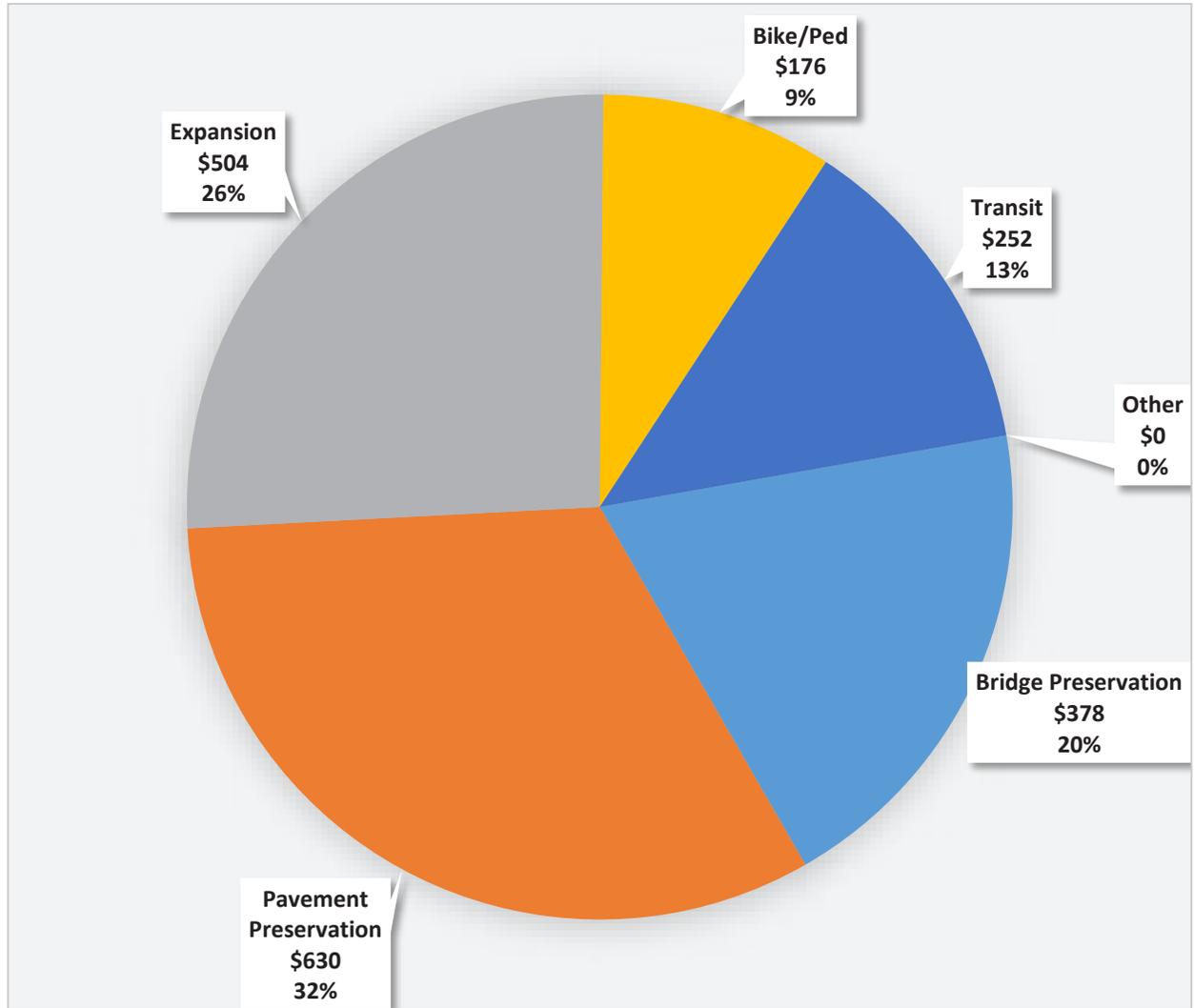
Table 5.3 shows how much revenue Indy MPO could potentially allocate to each of their key goals areas. This table assumes the revenue mechanisms are flexible enough to accommodate flexibility among the different categories (which is reflective of Federal funding trends). Available transit revenue does not include the State PMTF, which is anticipated to be allocated directly to Indy MPO. Note that there are minor variations in the totals and annual averages from Table 5.2 due to rounding. Figure 5.2 provides a graphical representation of the ideal allocation shown in Table 5.3.

Table 5.3 Indy MPO Administered Federal Funds if Spent to Target

	Target	2016-2025	2026-2035	2036-2045	Total	Annual Average
Total	100%	\$505,850,000	\$632,810,000	\$802,200,000	\$1,940,860,000	\$64,690,000
Bridge Preservation	19.5%	\$98,540,000	\$123,270,000	\$156,270,000	\$378,080,000	\$12,600,000
Pavement Preservation	32.5%	\$164,250,000	\$205,480,000	\$260,470,000	\$630,200,000	\$21,010,000
Expansion	26.0%	\$131,370,000	\$164,340,000	\$208,330,000	\$504,040,000	\$16,800,000
Bike/Ped	9.1%	\$45,980,000	\$57,520,000	\$72,920,000	\$176,420,000	\$5,880,000
Transit	13.0%	\$65,710,000	\$82,200,000	\$104,210,000	\$252,120,000	\$8,400,000
Other	0.0%	\$0	\$0	\$0	\$0	\$0

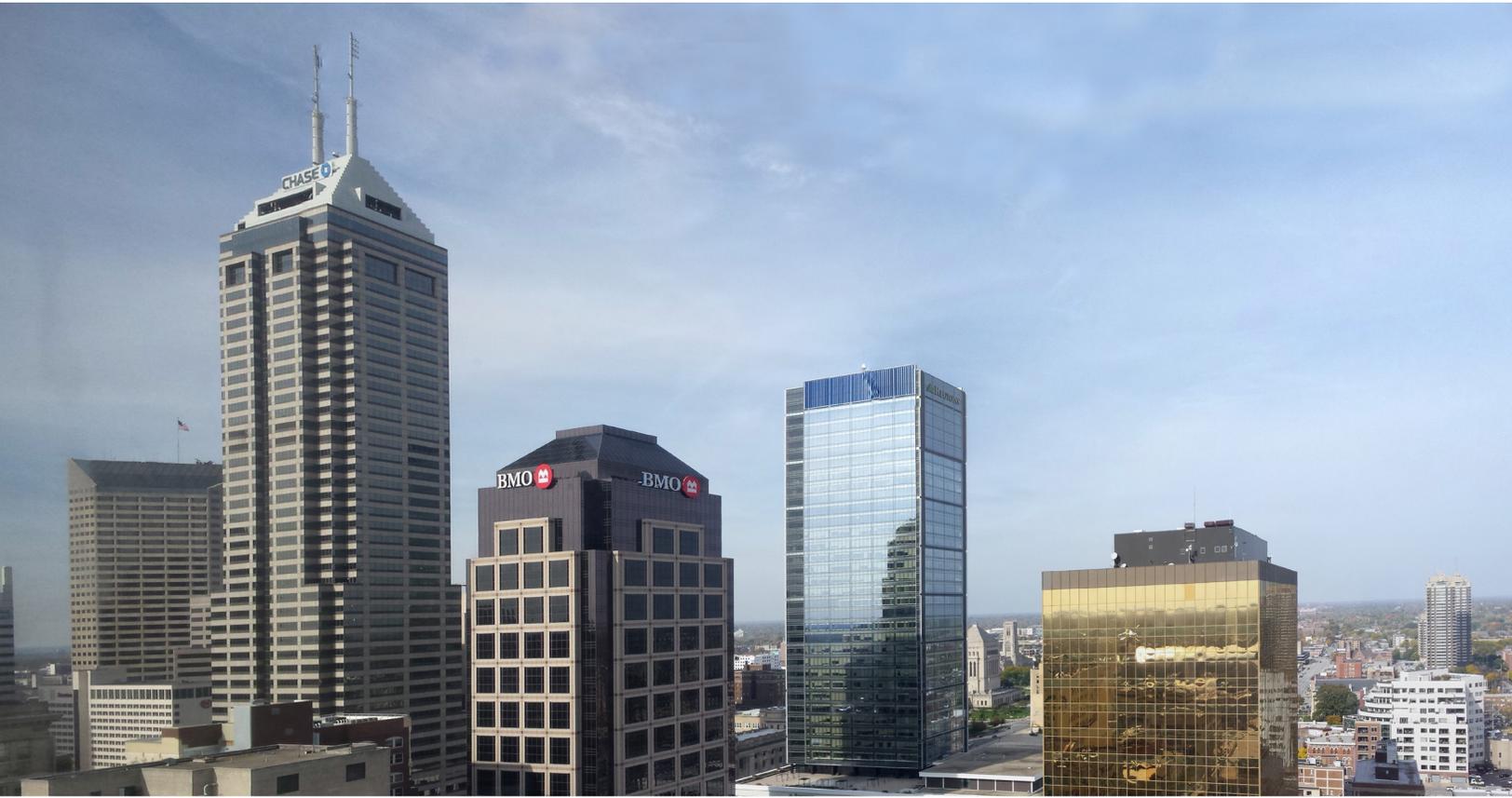
APPENDIX K

Figure 5.2 Indy MPO Administered Federal Funds if Spent to Target (millions)



APPENDIX L

EXISTING AND COMMITTED





Memo

To: 2045 LRTP Steering Committee
From: Ryan Wilhite, Long Range Transportation Planning
Date: December 5, 2017
Re: Existing and Committed Projects

Project screening allows the Indianapolis MPO to select the best package of projects based on criteria and available revenue. For the 2045 LRTP, project sponsors submitted needed and illustrative projects to the 2045 horizon year. Additionally, unbuilt projects in the 2035 LRTP were migrated into the 2045 project list.

Some projects submitted for inclusion in the 2045 LRTP will not be screened. These include existing and committed projects. Each project type, and the project list, are included below.

This memo is an update of a July memo on Existing and Committed projects.

Existing and Committed Projects

Existing projects are projects from the previous transportation improvement program (TIP) that have gone to letting or are in construction but are not open to traffic. Committed projects are projects in the new TIP. The current TIP is the 2018-2021 TIP and it was adopted by the Indianapolis Regional Transportation Council (IRTC) Policy Committee on May 24, 2017. The Indianapolis MPO will not screen these projects for the 2045 LRTP because the IRTC Policy Committee approved them. The complete Existing and Committed project list can be found in Table 1.

EXISTING & COMMITTED

Table 1. Existing and Committed Project List

L RTP Number	Project Sponsor	Project Name	Project Description
1002	INDOT	I-65/SR 267 Interchange Modification	I-65/SR 267 Interchange Modification, 4.5 miles north of I-865
1103	Boone Co.	400S / 300S Connector	This project will become part of the Ronald Reagan Parkway. It will connect 400S to 300S east of 650E to bypass downtown Whitestown.
1201	Zionsville	North-South Connector	New 2-lane roadway from Oak Street to CR 550 S. Includes multi-use pathway.
2014	INDOT	Added Travel Lanes on I-69 N from SR 37 N jct to 0.50 mile N of Old SR 238 in Hamilton County	Added lanes on I-69 North from SR 37 N jct to 0.50 mile N of Old SR 238 in Hamilton County
2015	INDOT	Added Travel Lanes on I-69 N from 0.50 North of Old SR 238 to 0.50 mile N of SR 13 in Hamilton and Madison Counties	Added lanes on I-69 North from 0.50 North of Old SR 238 to 0.50 mile N of SR 13 in Hamilton and Madison Counties
2016	INDOT	I-69 Added Travel Lanes - Madison Co.	Added Travel Lanes from SR 13 to SR 38 in Madison Co.
2018	Fishers/INDOT	SR 37 Corridor Improvements from 126th Street to SR 32/38	Reconstruction of four existing at-grade signalized intersections to interchanges to improve safety and mobility. The intersections of SR 37 with 126th Street, 131st Street, 141st Street and 146th Street will be improved. The existing intersection of 135th Street and SR 37 will be converted to a right-in/right-out intersection.
2104	Fishers	96th Street Added Travel Lanes	Added Travel on 96th Street from just east of Lantern Road to just west of Cumberland Road.
2110	Hamilton Co.	West 146th Street - Phase II - Towne Road to Ditch Road	Reconstruction of 146th Street from the existing two-lane facility to the proposed four-lane, curbed facility. This project is Phase II of a regionally significant corridor.

APPENDIX L

LRTP Number	Project Sponsor	Project Name	Project Description
2111	Hamilton Co.	146th St. Phase III Towne Road to Shelborne Road	The intent of this project is to continue the 146th St corridor improvement for Phase III, approximately 1 mile in length from just west of Shelborne Road to just west of Towne Road in western Hamilton Co.
2112	Hamilton Co.	146th Street - Phase IV Shelborne Road to Hamilton / Boone County Line	The intent of this project is to continue the 146th Street corridor improvement for Phase IV, approximately 1 mile in length from just west of Shelborne Road to just west of the Hamilton / Boone County Line in western Hamilton County.
2211	Carmel	96th Street and Keystone Parkway Interchange	96th Street and Keystone Parkway Interchange Roundabout. Includes new at grade roundabout, roadway reconstruction, curb and gutter, storm sewer installation and multi-use path.
2408	Westfield	Westfield Boulevard Connector	The Westfield Boulevard Connector Project (formerly known as Poplar Street Extension) from the newly constructed Poplar Street Boulevard intersection at Park Street and running south to David Brown Drive or 169th Street. This section is estimated at 0.7 miles long.
2423	Westfield	Ditch Road Extension	New 2 lane Roadway from the intersection of Ditch Road at SR 32 running north and easterly to connect into a new roundabout with Casey Road. Once open, Casey Road at SR 32 will be closed. Existing City project - completed in 2017.
3101	Hancock Co.	600W from 300N to CR400N (Segment A)	Add travel and turning lanes to increase capacity and safety for commercial and commuter traffic.
3108	Hancock Co.	CR 300 N Widening, Segment G	This project will relocate a reimbursable utility (Vectren) and install a large storm sewer and some roadway improvement. This construction is a portion of the overall widening project from 600W to east of 500W on 300N.
3108	Hancock Co.	Bridge 63 Widening (Segment G)	This Project will widen bridge Number 63, part of LRTP # 3108 Added Travel Lanes project (Segment G)

EXISTING & COMMITTED

L RTP Number	Project Sponsor	Project Name	Project Description
4001	INDOT	I-70 @ SR 39 Interchange Modification + Added Travel Lanes (I-70)	Interchange Modification and Added Travel Lanes from Ronald Reagan Parkway to Hazelwood Rd.
4002	INDOT	US 36 Added Travel Lanes	Added Travel Lanes between Raceway Rd. and Shiloh Crossing Drive
4104	Hendricks Co.	Ronald Reagan Pkwy from CR 300 N to US 136	Construct new roadway from current northern terminus of the Parkway at CR 300 N to the existing Parkway interchange at Interstate 74, making the connection just north of US 136.
4302	Brownsburg	East Northfield Drive (CR 300 North to CR 400 North)	This project is a new road alignment that completes the eastern bypass connecting South Green Street and North Green Street. The project encompasses East Northfield Drive between CR 300 North and CR 400 North. The improvement with this project include: divided single travel lanes both
5004	INDOT	I-69 Indy to Evansville	New freeway from I-465 to SR 39 in Martinsville
5108	Johnson Co.	Worthsville Road Connector from Griffith Rd. (CR 325E) to Franklin Rd. (CR 440E)	New 2-lane roadway extending Worthsville Rd. to Franklin Rd.; part of the East-West Corridor
5202	Greenwood	Worthsville Road Reconstruction - Section 3	Section 3 is the third portion of the Worthsville Road corridor from SR 135 to Five Points Road. This section, stretching from Averitt Road to US 31, will include a two-lane section with curb and multi-use path that has the ability to widen to the inside to become a four or five-lane section in the future.
5206	Greenwood	E-W Corridor - Section 2	Section 2 is a continuation of the development of the E-W Corridor. This section, stretching from Honey Creek Road to Averitt Road, will include a two-lane section with curb and multi-use path that has the ability to widen to the inside to become a four or five-lane section in the future (4 lane ROW).

APPENDIX L

L RTP Number	Project Sponsor	Project Name	Project Description
6004	INDOT	I-465 Added Travel Lanes from White River Bridge to I-69	I-465, I-465 from 2.25 mi W of I-69 (White River Bridge/Allisonville Rd) to I-69
6005	INDOT	I-69 & I-465 Interchange Modification	Added Travel Lanes: I-69 from I-465 to 1 mile North of I-465 (82nd Street) Northbound Only
6025	INDOT	I-70 Added Travel Lanes	Exit ramp from EB I-70 to Post Road
6036	INDOT	Added Travel Lanes on I-65 in South Indianapolis	Added Travel Lanes on I-65 from 0.20 mile N of I-465 to 0.05 mile No of I-70 in South Indianapolis
6037	INDOT	I-69 & I-465 Interchange Modification and Added Travel Lanes on I-465	I-465, I-69 to bridge over Fall Creek Rd. 2.00 miles south of I-69
6039	INDOT	I-65/I-70 Interchange Modification & Bridge Rehabilitation	This project combines an interchange modification of the I-65/I-70 north split with a bridge rehabilitation project. The interchange modification encompasses a footprint from Central Avenue to Commerce Avenue to Vermont Street. There will be several new bridges and alignment changes within the interchange modification footprint. The aim is to provide an interchange that allows traffic to flow smoother than it presently flows.
6040	INDOT	I-69 North	Added Travel Lanes: I-69 at I-465 from I-465 to 1.55 miles N of I-465 Southbound only.
6113	Indianapolis DPW	82nd St. Widening - Phase I - from Hague Rd. to Lantern Rd.	82nd St. Widening from Hague Rd. to Lantern Rd. from 2 to 4 lanes
6113	Indianapolis DPW	82nd Street - Phase II - Lantern Road to Fall Creek Road	The 82nd Street project shall include the following: pavement rehabilitation from Lantern Rd to Morel Dr., pavement reconstruction from Morel Dr. to Fall Creek Rd., added travel lanes throughout the project limits, sidewalk installation, storm water improvements, vertical grade correction, signage and striping.

EXISTING & COMMITTED

LRTP Number	Project Sponsor	Project Name	Project Description
6163	Indianapolis DPW	Market Street Reconstruction, Pennsylvania to Alabama (PE/CN/CE)	Travel Lane Width Reduction, Sidewalk Expansion, Upgraded ADA ramps & Associated Amenities. Design - Market from Pennsylvania to Alabama; Construct - Market from Delaware to Alabama.
9003	IndyGo	Red Line BRT - Phase 1	Build phase 1 of a 13-mile BRT project in Marion County, IN.

APPENDIX L

Existing and Committed – Special Projects

Two projects submitted for, and received, federal monies in the last Indianapolis MPO funding call. These projects, Westfield’s East Street (#2425) and Indianapolis’ Emerson Avenue Widening (#6166), are treated as Existing and Committed projects and not screened for the purposes of the 2045 LRTP.

Table 2. Existing and Committed Projects -- Special Projects

L RTP #	Project Name	Project Description	Project Sponsor
2425	East Street North Extension North East Street Extension (196 th to SR 38)	New roadway to connect East Street from 196 th to SR 38	Westfield
6166	Emerson Avenue Widening (Stop 11 to Southport Crossing)	Widen 2 to 4 lanes from Stop 11 to Southport Crossing.	Indianapolis

Transit Projects

Excluding Red Line – Phase 1, an existing and committed project, the Indianapolis Public Transportation Corporation submitted four additional projects for inclusion into the 2045 LRTP, shown in the table below. These projects will be placed into the appropriate time period based on fiscal constraint but will not be screened alongside the changing capacity roadway projects.

Table 3. Transit Projects

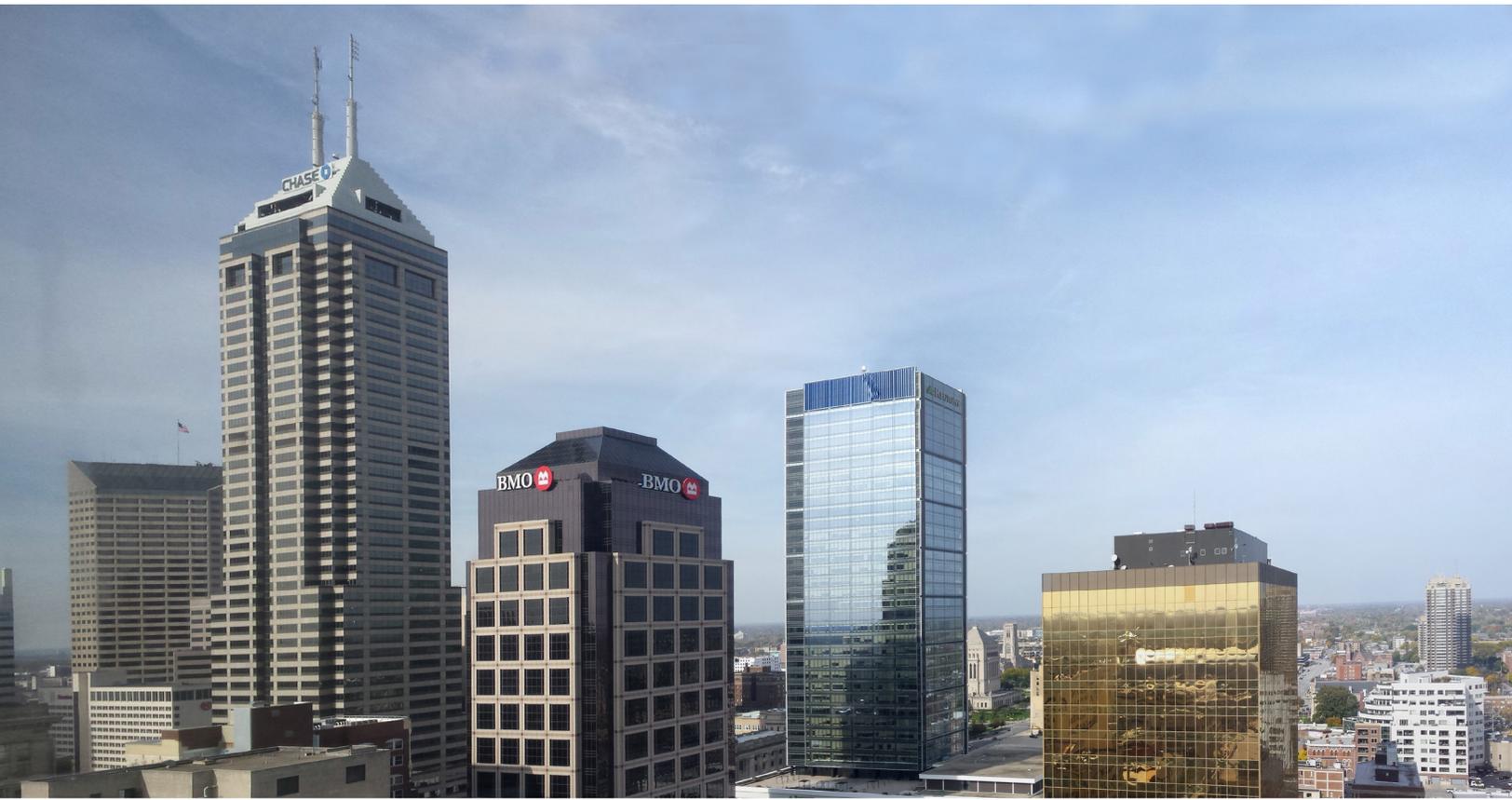
L RTP #	Project Name	Project Description	Project Sponsor
9004	Red Line BRT – Phase 2	New bus rapid transit capital costs from Broad Ripple to Westfield	IndyGo
9005	Red Line BRT – Phase 3	New bus rapid transit capital costs from the University of Indianapolis to Greenwood	IndyGo
9006	Blue Line BRT	New bus rapid transit capital costs running along Washington Street, from the west side of Marion County to the east side of Marion County.	IndyGo
9007	Purple Line BRT	New bus rapid transit line from Downtown Transit Center (DTC) in Indianapolis to Lawrence.	IndyGo

Other Project

Another project removed from project screening is the reconstruction of Monument Circle (LRTP# 6167). Indianapolis DPW carried forward the Monument Circle projects from the 2035 LRTP into the 2045 LRTP. This project is considered regionally significant but has no identified funds tied to it, necessitating an “Illustrative” designation.

APPENDIX M

CONGESTION MANAGEMENT PROCESS



APPENDIX M

Overview of the Congestion Management Process

The concept of a Congestion Management Process or CMP was originally developed by FHWA in the 1990's to provide and promote alternatives to the traditional means of addressing congestion; the expansion of physical road capacity. The Indianapolis MPO has had different approaches to the CMP (or Congestion Management System as it was initially identified) since the concept was first promulgated under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, but all have involved three basic steps. These are:

- Define congestion.
- Identify where congestion is occurring.
- Require local public agencies developing road capacity expansion projects located in congested locations to examine alternatives to that expansion.

Over the years, the CMP concept has expanded from a simple project-by-project evaluation to include region-wide strategies that reduce congestion system-wide. The performance measures in this broader concept of CMP become regional, not simply a project-by-project measure. As such, the CMP has become an integral part of the Long Range Transportation Plan process.

In addition to a broadening of the CMP concept, the Indianapolis MPO has developed several initiatives in recent years that provide alternatives to be considered when addressing congestion relief. The Indianapolis MPO has adopted a Complete Streets policy, a Regional Bikeways and Regional Pedestrian Plan, and a Regional Transit Plan (Indy Connect) that provide a framework for considering these multimodal options in regional project development. The Indianapolis MPO has also consistently supported regional ridesharing and van pooling services provided by the Central Indiana Regional Transportation Authority (CIRTA).

Federal CMP Requirements

The Congestion Management Process (CMP) is required of Transportation Management Areas (TMAs)¹, per Title 23, Part 450, Section 322 of the Code of Federal Regulations (CFR). The FHWA has identified a series of eight (8) key steps that should be included in every CMP. These are:

1. Develop Regional Objectives for Congestion Management – First, it is important to consider, “What is the desired outcome?” and “What do we want to achieve?” It may not be feasible or desirable to try to eliminate all congestion, and so it is important to define objectives for congestion management that achieve the desired outcome. Some MPOs also define congestion management principles, which shape how congestion is addressed from a policy perspective.
2. Define CMP Network – This action involves answering the question, “What components of the transportation system are the focus?”, and involves defining both the geographic scope and system elements (e.g., freeways, major arterials, transit routes) that will be analyzed in the CMP.
3. Develop Multimodal Performance Measures – The CMP should address, “How do we define and measure congestion?” This action involves developing performance measures that will be used to measure congestion on both a regional and local scale. These performance measures should relate to, and support, regional objectives.

¹ TMAs are urbanized areas with populations over 200,000.

4. Collect Data/Monitor System Performance – After performance measures are defined, data should be collected and analyzed to determine, “How does the transportation system perform?” Data collection may be on-going and involve a wide range of data sources and partners.

5. Analyze Congestion Problems and Needs – Using data and analysis techniques, the CMP should address the questions, “What congestion problems are present in the region, or are anticipated?” and “What are the sources of unacceptable congestion?”

6. Identify and Assess Strategies – Working together with partners, the CMP should address the question, “What strategies are appropriate to mitigate congestion?” This action involves both identifying and assessing potential strategies, and may include efforts conducted as part of the LRTP, corridor studies, or project studies.

7. Program and Implement Strategies – This action involves answering the question, “How and when will solutions be implemented?” It typically involves including strategies in the LRTP, determining funding sources, prioritizing strategies, allocating funding in the Transportation Improvement Program (TIP), and ultimately, implementing these strategies.

8. Evaluate Strategy Effectiveness – Finally, efforts should be undertaken to assess, —What have we learned about implemented strategies?” This action may be tied closely to monitoring system performance under Action 4, and is designed to inform future decision making about the effectiveness of transportation strategies.

APPENDIX M

Indianapolis MPO CMP Process

Develop Regional Objectives for Congestion Management and Develop Multimodal Performance Measures

The current process is an update to the 2035 LRTP process. New objectives for congestion management are being developed as part of the Performance Measures initiatives of the 2045 Long Range Transportation Plan update under the direction of the 2045 LRTP steering committee. The performance measures specifically related to congestion are identified in Table 1

2045 Long Range Transportation Plan		
Objective 2a: <i>Develop mobility strategies that address system performance and congested transportation segments</i>		
PM1	Percent of the Interstate System providing for reliable travel times.	
PM2	Percent of the non-Interstate National Highway System providing for reliable travel times.	
PM3	Annual hours of excessive delay per capita	
Objective 5a: <i>Improve reliability, capacity, and competitiveness for regional freight.</i>		
PM1	Percent of the Interstate System mileage providing for reliable truck travel times.	
PM2	Percent of the Interstate System Mileage uncongested	
Regional Freight Plan (2015)		
	LOS (VHD) on intermodal connectors and other key linkages	
	LOS (VHD) on Regional Freight System	

Table 1. Regional Objectives and Performance Measures for Congestion Management

Define Congestion Management Process Network

The CMP area for Indianapolis is the Indianapolis Metropolitan Planning Area (MPA) as defined in 23 CFR 480.104. The model network and transit network represented in the Indianapolis MPO Travel Demand Model (TDM) will be the CMP network, as shown in Figure 1. Transportation system elements that will be analyzed in the CMP will include National Highway System (NHS) and some non-NHS freeways, major arterials, transit routes and some other streets required for TDM model execution.

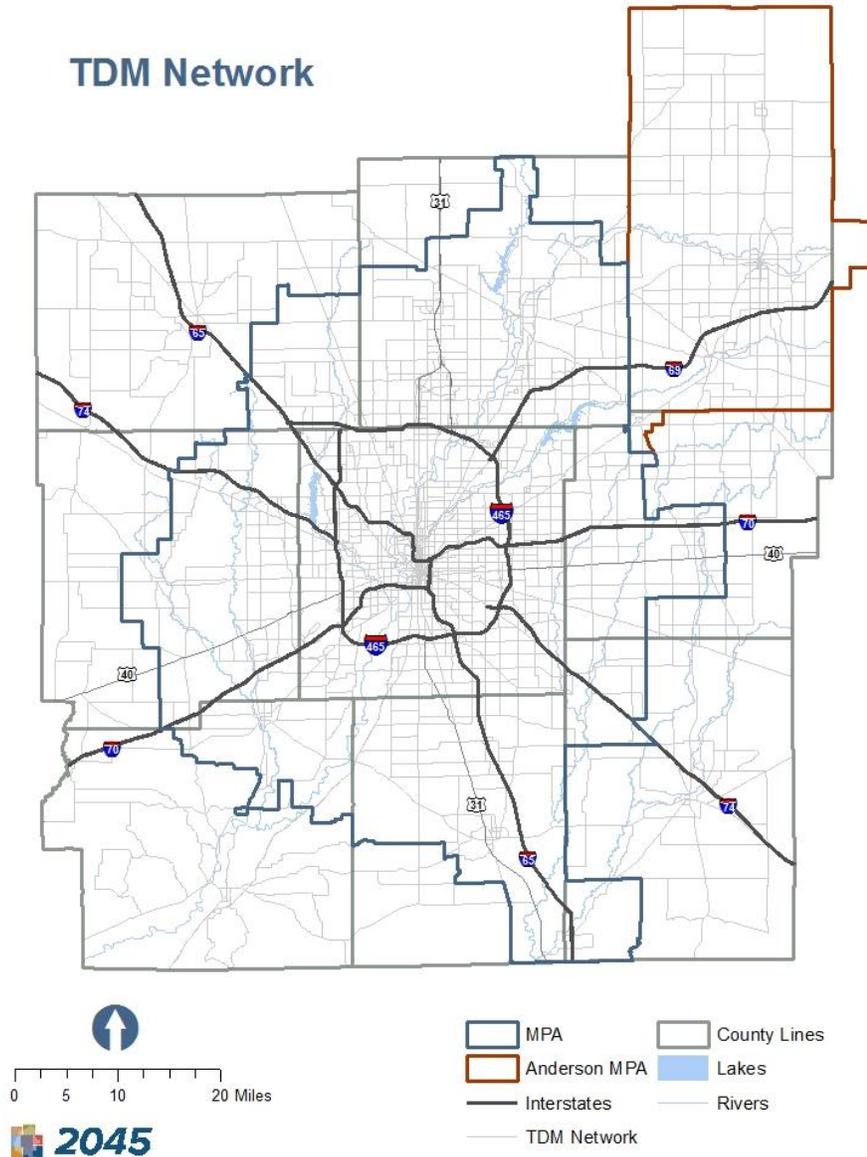


Figure 1. Congestion Management Network for Central Indiana. Source: Indianapolis MPO

APPENDIX M

Corridors

Major facility planning typically involves a detailed corridor study. As part of the CMP, MPO staff identified corridors with completed studies. Identifying these planning corridors helps MPO and local public agency staff understand the context of their individual project in a larger corridor. See Figure 2 for a map of the identified planning corridors.

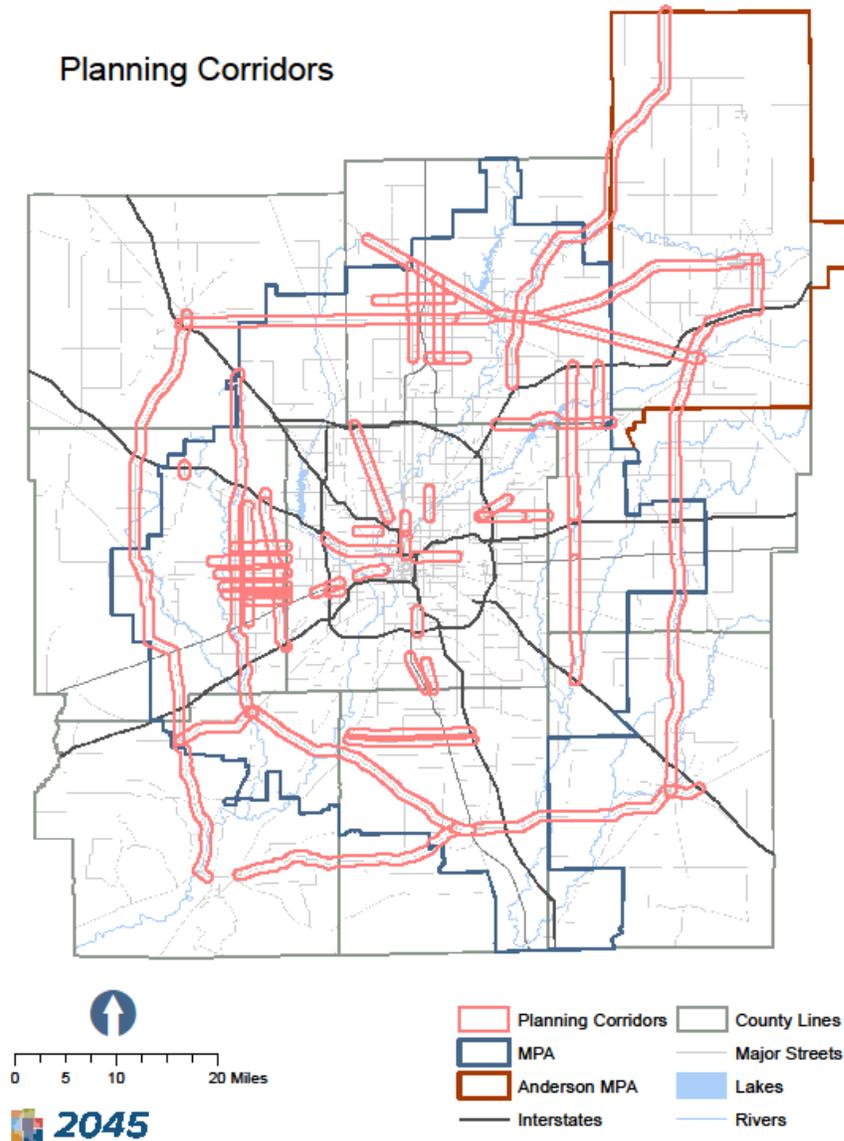


Figure 2. Planning Corridors in Central Indiana.

Collect Data/Monitor System Performance

The CMP is a data-intensive process that relies on multiple data sources for its analytical output. At the present, the Indianapolis MPO is utilizing its travel demand model (TDM) to analyze congestion and performance on its roadways. Monitoring the system and understanding performance measures progress may require the Indianapolis MPO to expand its data sets. See Table 2 for a complete list of data.

Sources of Information Used for Determining Congestion and Testing Results of Modeled Strategies		
Type of Information	Detailed Specifics	Source of Information
Traffic Counts	Roadway segment counts	IMPO local traffic counts, INDOT counts, and other sources as available.
Link and Corridor Volume/Capacity Analysis	Volume/Capacity ratios from the Travel Demand Model output using the current official CMP Network. Will be used for comparing forecasted results from a future year's analysis to test modeled results from adopted measures where appropriate.	IMPO Travel Demand Model to determine current congestion levels. TDM results for areas not currently congested or to test results of implemented measures.
Vehicle Hours of Delay (VHD)	Difference between freeflow and congested travel times	IMPO Travel Demand Model
Vehicle Hours Traveled (VHT)	Total vehicle hours using link congested travel times and vehicle flows	IMPO Travel Demand Model
Select Link Analysis (SLA)	Targeted Origin-Destination analysis to determine source of trips to a given link or corridor	StreetLight Data or Travel Demand Model
Speed Differential (SD)	Difference between freeflow and Congested speeds	NPMRDS, other speed data as available, or Travel Demand Model
Projected changes in land use intensity	Anticipating future growth areas	Land Use Model Forecasts
Percentage of Freight Traffic on major roadways	Heavy truck traffic as a percentage of total traffic along a major roadway. At this time, the best available data is provided on NHS roadways.	INDOT traffic counts and other data sources as available
Urbanized Area	The approved adjusted urbanized area boundary (UAB) for the Indianapolis MPA.	Indianapolis MPO
Proposed Rapid Transit Stations	The proposed station locations for rapid transit in Central Indiana.	Indianapolis MPO; IndyGo
Emissions	Emissions for the link, corridor, and network.	Indianapolis MPO TDM
Vehicle Occupancy	Single occupancy vehicles are estimated by the TDM.	Indianapolis MPO TDM

Table 2. Sources of Information Used for Testing Modeled Strategies

APPENDIX M

Analyze Congestion Problems and Needs

The primary data source for the measurement of existing congestion for roads will be output from the Travel Demand Model. The type of data provided by the model will be measured in terms of model flow volume over link capacity and in calculations of vehicle hours of delay. The precise method will be described in detail in following sections.

Congested Facilities and Corridor Problems

The definition of congestion can differ based on the location or facility. For the purposes of the Indianapolis MPO's Congestion Management Plan, congestion occurs when the Travel Demand Model indicates that a facility has a forecasted volume over capacity (VOC) ratio at or greater than 0.08 (≥ 0.80) in the AM or PM modeled time periods. The goal is to achieve a forecast for VOC that is less than 0.08 (< 0.80) and to increase level of service (LOS) or decrease VHD (Vehicle Hours of Delay) in identified congested locations.

The following tables summarize the number of congested links using both a 0.8 criteria and a 0.9 criteria, which represents severe congestion. These are compared across all congested links, NHS links, and non-NHS links. As there are links found in both criteria any comparison across groupings or between congestion measures must be avoided. This summarizes output from the most recent run of the 2016 Base Year scenario.

All Congested Links and Lane Miles					
VOC Criteria	Congested Lane Miles	Congested Lane Miles %	Congested Link VMT (24 Hour)	Congested Link VMT %	Congested AM Peak VHD
0.8	1,672	15%	19,587,044	36%	148,206
0.9	948	9%	12,392,005	23%	139,071

Source: Indianapolis MPO TDM run on April 4, 2017.

NHS Congested Links and Lane Miles					
VOC Criteria	Congested Lane Miles	Congested Lane Miles %	Congested Link VMT (24 Hour)	Congested Link VMT %	Congested AM Peak VHD
0.8	660	6%	10,625,387	19%	20,497
0.9	446	4%	7,629,833	14%	18,882

Source: Indianapolis MPO TDM run on April 4, 2017.

Non NHS Congested Links and Lane Miles					
VOC Criteria	Congested Lane Miles	Congested Lane Miles %	Congested Link VMT (24 Hour)	Congested Link VMT %	Congested AM PK VHD
0.8	1,001	9%	8,961,657	16%	127,709
0.9	501	5%	4,762,171	9%	120,188

Source: Indianapolis MPO TDM run on April 4, 2017.

Congested Facilities

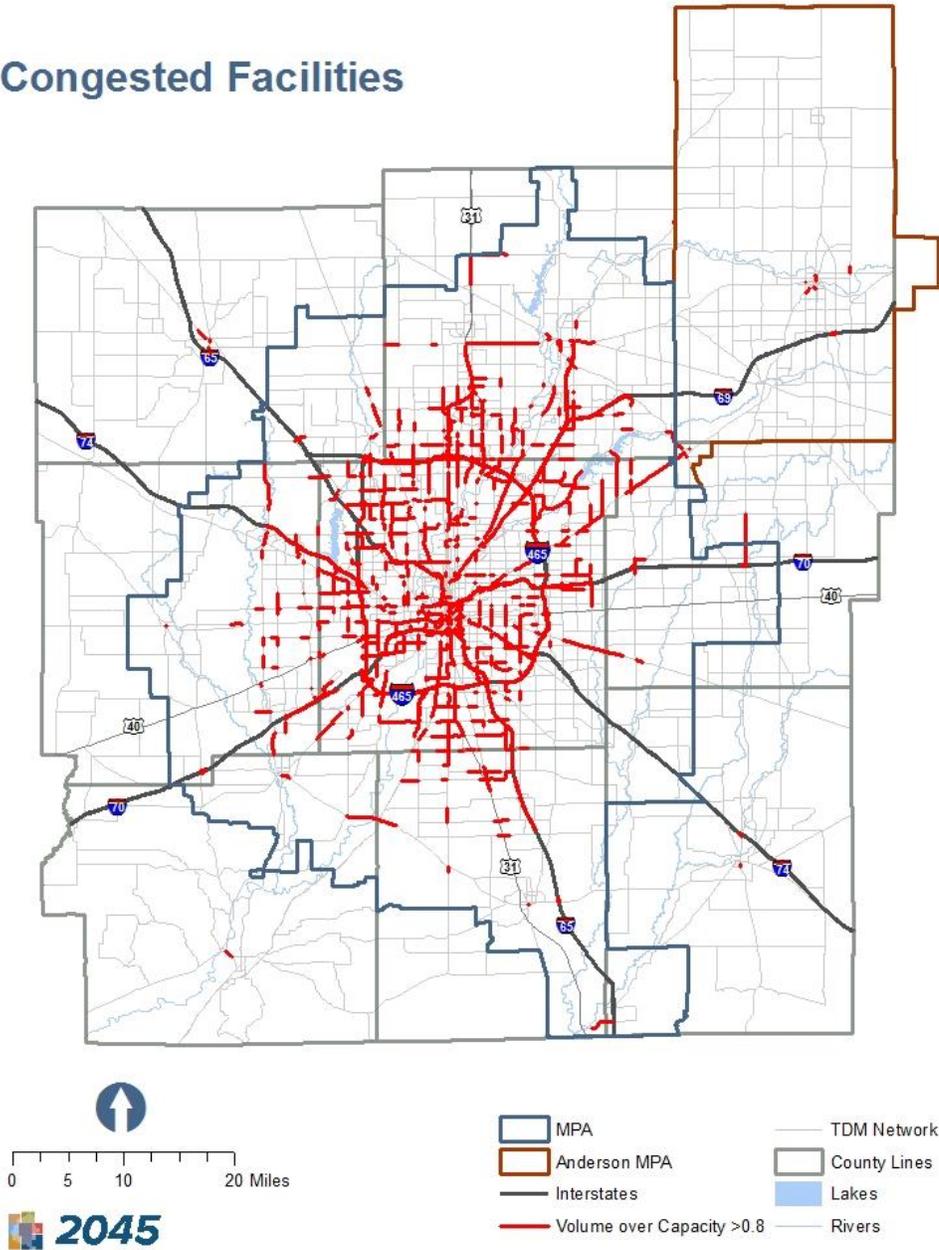


Figure 3. Congested Facilities in Central Indiana. Source: Indianapolis MPO

APPENDIX M

Identify and Assess Strategies

Strategies to reduce congestion fall into four general categories:

1. Growth management/better access.
2. Shifting trips from the single occupancy vehicle.
3. Improving roadway operations.
4. Adding capacity.

Depending on the specific project, and the specific agency, the strategy tends to focus on only one of these categories.

Growth Management / Accessibility

Transportation and land use are, and always will be, linked. A comprehensive plan and zoning ordinance that supports one form of transportation over another, will inevitably require investment in the supported mode. The CMP is concerned with mitigating congestion, which is best mitigated by reducing generation of vehicular traffic. Good land use policies and investment in areas with a diversity of uses will reduce or eliminate the need for vehicular trips around the region. The strategy of land use management is the most difficult but most powerful of the tools in the CMP toolbox.

Shifting trips from the single occupancy vehicle

Specifically, the CMP is concerned with reducing single occupancy vehicle trips. Reducing trips made using an automobile, whether SOV or not, is another powerful tool in mitigating congestion or the individual's congestion experience. There are several tactics to encourage this shift: public transit capital improvements, public transit operational improvements, encouragement of non-motorized modes, and transportation demand management (TDM). All four require some sort of public investment, although the costs and time to implement vary. TDM covers a wide gamut of tactics, but the most common include carpooling, vanpooling, parking management, and telecommuting.

These tactics are best paired with strong land use plans that encourage density and diversity of uses. This strategy allows the creation of centers of activity, whether they are employment-based, recreation-based, or a mixture.

Improving roadway operations

Roadway operations can also be improved to reduce congestion along a corridor. Or, at the very least, increase congestion reliability on a facility. These tactics vary from minor infrastructure upgrades (design improvements) to intelligent transportation systems (signal coordination), incident management, and access management. The type of facility and land use in a specific corridor, not forgetting the financial capacity of the maintenance agency, are all determining factors in which roadway operation tactic should be applied.

Adding capacity

Congestion can, for a short time, be mitigated by adding capacity to a specific facility. The added capacity project is readily accepted by most of the motoring public and elected officials. Limited public right of way and ongoing environmental, financial, and social equity concerns present themselves as challenges to the decades-old tactic of congestion mitigation.

<p><u>LEVEL 1</u> Reduce trips / trip length</p>	<p>Growth Management</p>
<p><u>LEVEL 2</u> Shift trips from automobiles to other modes</p>	<p>Public Transit Capital Improvements</p>
	<p>Public Transit Operational Improvements</p>
	<p>Encourage the use of non-motorized modes</p>
	<p>Transportation Demand Management</p>
<p><u>LEVEL 3</u> Improve roadway operations</p>	<p>Traffic Operational Improvements</p>
	<p>Incident Management</p>
	<p>Access Management</p>
<p><u>LEVEL 4</u> Add capacity</p>	<p>Addition of General Purpose Lanes</p>

Table 3. General Strategies to Mitigate Congestion

APPENDIX M

Program and Implement Strategies

As a critical part of a Transportation Management Area's (TMA) responsibility, the CMP should be referenced by, included in, or a filter for the long range transportation plan and the transportation improvement program. The strategies for including the CMP into those fundamental ongoing efforts is describing below:

Long Range Transportation Plan

The LRTP provides the policy direction and capacity needs for the region and the CMP should relate to it.

- The definition of congestion and use of congestion criteria in the screening process will be derived from the CMP.
- Expansion projects included in the final, fiscally-constrained plan must include a completed worksheet, as outlined in the CMP and its appendices.
 - Projects proposed in an area with an identified corridor plan can use the alternatives considered in the plan as their documentation, with a brief summary narrative about the results of the corridor study.
 - All other projects must use the completed worksheet.
- When projects have been approved, model runs will be made to determine anticipated future congestion for future evaluations.
- For major updates of the LRTP, during project prioritization and period assignments, projects will be given scores for change in Congested Lane Miles (CLM) and Vehicle Hours of Delay (VHD).

Long Range Transportation Plan Amendments

As policies, priorities, and funding change between LRTP updates, amendments are required to reflect those changes.

- Whenever an amendment to the LRTP is under consideration, any physical roadway expansion project submitted will be required to provide an analysis of different congestion reduction strategies, documented in the Congestion Management Project Worksheet found in Appendix B.

Transportation Improvement Program

The Transportation Improvement Program (TIP) lists all federally-funded projects, including capacity-expanding, in the MPA.

- Any capacity-added project in the TIP must have a completed CMP worksheet, as found in this document.

Evaluate Strategy Effectiveness

Data collected for the Collect Data/Monitor System Performance activity will be stored over time and used to evaluate changes in congestion in the region, particularly in the locations which were defined as congested in earlier years and where LPAs have executed congestion mitigation projects. The data table presented under "Collect Data" within this document will be the base source of information for evaluation purposes.

Appendix A: Congestion Strategy Toolbox

Local project sponsors should evaluate these strategies during the project development process while considering solutions to congestion problems. These strategies should be used as a checklist to consider and document whether or not each strategy has the potential to provide benefit to the corridor or location in question. (See **Appendix B: Congestion Management Process Worksheet** for the Congestion Management Project Worksheet)

Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Growth Management	Land Use Plans	City, town, and county comprehensive plans, including the land use portion, outline the public's vision for growth in an area.	<ul style="list-style-type: none"> Can reduce vehicle ownership and travel and increase use of alternative modes. 	The cost to develop the plan and implement it, with the plan taking from 1 year to 3 and implementation being a long-term endeavor
	Land Use Policies	Specific policies established by a community surrounding land use.	<ul style="list-style-type: none"> Reducing VMT Encouraging alternative modes 	Same as above
Public Transit Capital Improvements	Implementing Park-and-Ride Lots	These can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful for encouraging HOV use for longer distance commute trips.	<ul style="list-style-type: none"> Reduce congestion by increasing transit ridership Vehicle occupancy rate Increase mobility and transit efficiency 	Capital costs for the lots
	Implementing Rapid Transit (BRT, LRT, etc.)	Rapid Transit improves the travel time, comfort, and attractiveness of transit. Bus rapid transit provides a cheaper alternative to light rail in exchange for future capacity.	<ul style="list-style-type: none"> Increase transit ridership Generate development at station locations Reduce daily VMT 	New systems require large upfront capital outlays and ongoing sources of operating revenues, in addition to funds that may be obtained from federal sources
	Increasing Bus Route Coverage	This provides better accessibility to transit to a greater share of the population.	<ul style="list-style-type: none"> Increase transit ridership Reduce daily VMT 	<ul style="list-style-type: none"> Capital costs per passenger trip Operating costs per trip New bus purchases likely
Public Transit Operational Improvements	Increasing Bus Route Frequency	Increasing frequency makes transit more attractive to use.	<ul style="list-style-type: none"> Increase transit ridership Decrease travel time Reduce daily VMT 	<ul style="list-style-type: none"> Capital costs per passenger trip Operating costs per trip New bus purchases likely
	Geometric Improvements for Transit Service	This includes providing for transit sites that do not affect the flow of traffic but improved sight lines, and improve merging and diverging of buses and cars.	<ul style="list-style-type: none"> Increase mobility Reduce congestion by improving bottlenecks Increase traffic flow and improve safety 	Costs vary by type of design
Encourage non-motorized use	New Sidewalks and Designated Bicycle Lanes on Local Streets.	Enhancing the visibility of bicycle and pedestrian facilities increases the perception of safety. In many cases, bike lanes can be added to existing roadways through re-striping.	<ul style="list-style-type: none"> Increase mobility and access Increase non-motorized mode shares Separate slower moving bicycles from motorized vehicles thereby reducing incidents 	<ul style="list-style-type: none"> Design and construction costs for paving, striping, signals, and signing ROW costs if widening necessary Bicycle lanes may require improvements to roadway shoulders to ensure acceptable pavement quality
	Improved Bicycle Facilities at Transit Stations and Other Trip Destinations.	Bicycle racks and bike lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.	<ul style="list-style-type: none"> Increase bicycle mode share Reduce motorized vehicle congestion on access routes 	Capital and maintenance costs for bicycle racks and lockers, locker rooms

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Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Encourage non-motorized use	<i>Bike Share</i>	Bike sharing services encourage both work and casual ridership by providing a well-maintained, convenient bicycle for a low fee.	<ul style="list-style-type: none"> Reduce non-SOV mode share Reduce VMT emissions 	<ul style="list-style-type: none"> Capital costs largely borne by private sector; developer incentives may be necessary Public sector may be responsible for some capital and/or maintenance costs associated with right-of-way improvements Ordinance development and enforcement costs
	<i>Design Guidelines for Pedestrian-Oriented Development.</i>	Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.	<ul style="list-style-type: none"> Increase pedestrian mode share Discourage motor vehicle use for short trips Reduce VMT emissions 	<ul style="list-style-type: none"> Increased monitoring and maintenance costs Capital costs of sidewalk improvements and additional traffic control devices
	<i>Improved Safety of Existing Bicycle and Pedestrian Facilities.</i>	Maintaining lighting, signage, striping, traffic control devices, and pavement quality, and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.	<ul style="list-style-type: none"> Increase non-motorized mode share thereby reducing incidents 	<ul style="list-style-type: none"> ROW Costs Construction and engineering Costs Maintenance Costs
	<i>Exclusive Non-Motorized Rights-of-Way.</i>	Abandoned rail rights-of-way and existing parkland can be used for medium- to long-distance bike trails, improving safety and reducing travel times.	<ul style="list-style-type: none"> Increase mobility Increase non-motorized mode shares Reduce congestion on nearby roads Separate slow moving bicycles from motorized vehicles thereby reducing incidents 	
	<i>Reducing Transit Fares</i>	This encourages additional transit use, to the extent that high fares are a real barrier to transit.	<ul style="list-style-type: none"> Reduce daily VMT Reduce congestion Increase ridership Loss in revenue per rider Capital costs per passenger trip 	<ul style="list-style-type: none"> Operating costs per passenger trip Operating subsidies needed to replace lost fare revenue Alternative financial arrangements need to be negotiated
Transportation Demand Management	<i>HOT (or HOV) Lanes</i>	This increases corridor capacity while at the same time provides an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, and rideshare matching services.	<ul style="list-style-type: none"> Reduce Congestion by reducing VMT Reduce regional trips Increase vehicle occupancy Improve travel times Increase transit use and improve bus travel times 	<ul style="list-style-type: none"> HOV/HOT, separate ROW costs HOV, barrier separated costs HOV, contra flow costs Annual operations and enforcement Possible environmental and community impacts
	<i>Alternative Work Hours</i>	This allows workers to arrive and leave work outside of the traditional commute period. It can be on a scheduled basis or a true flex-time arrangement.	<ul style="list-style-type: none"> Reduce peak-period VMT Improve travel time among participants 	<ul style="list-style-type: none"> No capital costs Agency costs for outreach and publicity Employer costs associated with accommodating alternative work schedules
	<i>Telecommuting</i>	This involves employees to work at home or regional telecommute center instead of going into the office. They might do this all the time, or only one or more days per week.	<ul style="list-style-type: none"> Reduce work VMT and VHD Reduce vehicle trips 	<ul style="list-style-type: none"> First-year implementation costs for private-sector (per employee for equipment) Second-year costs tend to decline

Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Transportation Demand Management	<i>Ridesharing</i>	This is typically arranged/encouraged through employers or transportation management agencies (TMA), which provides ride-matching services.	<ul style="list-style-type: none"> Reduce work VMT Reduce vehicle trips 	<ul style="list-style-type: none"> Savings per carpool and vanpool riders Costs per year per free parking space provided Administrative costs
	<i>Congestion Pricing</i>	This involves pricing facilities to encourage off-peak or HOV travel, and includes time-variable road, and cordon (area) tolls, high occupancy/toll (HOT) lanes and vehicle-use fees.	<ul style="list-style-type: none"> Reduce peak period VMT and VHD Reduce vehicle trips 	<ul style="list-style-type: none"> First-year implementation costs for public-sector
	<i>Traffic Signal Coordination</i>	This improves traffic flow and reduces emissions by minimizing stops on arterial streets.	<ul style="list-style-type: none"> Improve travel time Reduce the number of stops Reduce VMT, VHD and VHT by vehicle miles per day, depending on program 	<ul style="list-style-type: none"> O&M costs per signal Signalized intersections per mile costs are variable
Traffic Operational Improvements	<i>Freeway Incident Detection and Management Systems</i>	This is an effective way to alleviate non-recurring congestion. Systems can include video monitoring, dispatch systems, and sometimes roving service patrol vehicles.	<ul style="list-style-type: none"> Reduce non-recurring delay Reduce crash clearance time Reduce travel time Reduce VHT and VHD 	<ul style="list-style-type: none"> Capital costs variable and substantial Annual operating and maintenance costs
	<i>Highway or Advanced Traveler Information Systems</i>	This provides specific data to travelers, such as real time speed estimates, and transit vehicle schedule progress that can then be used to make trip and route decisions.	<ul style="list-style-type: none"> Reduce travel times and delay some peak-period travel shift 	<ul style="list-style-type: none"> Design and implementation costs variable Operating and maintenance costs variable
	<i>Reversible Traffic Lanes</i>	These are appropriate where traffic flow is highly directional.	<ul style="list-style-type: none"> Increase peak direction capacity Reduce peak travel times Improve mobility 	<ul style="list-style-type: none"> Barrier separated costs per mile Operation costs per mile Maintenance costs are variable
	<i>Ramp Metering</i>	Ramp metering This allows freeways to operate at their optimal flow rates, thereby speeding travel and reducing collisions.	<ul style="list-style-type: none"> Decrease travel & crashes Improve traffic flow on major facilities 	<ul style="list-style-type: none"> O&M costs Significant costs associated with enhancements to centralized control system Capital costs
Left Turn Restrictions; Curb Cut and Driveway Restrictions	<i>Left Turn Restrictions; Curb Cut and Driveway Restrictions</i>	Turning vehicles can impede traffic flow and are more likely to be involved in crashes.	<ul style="list-style-type: none"> Increased capacity and efficiency on arterials Improved mobility on facility Improved travel times and reduced delay for through traffic Fewer crashes 	<ul style="list-style-type: none"> Implementation and maintenance costs vary; range from new signage and striping to costlier permanent median barriers and curbs.
	<i>Turn lanes and New or Relocated Driveways and Exit Ramps</i>	In some situations, increasing or modifying access to a property can be more beneficial than reducing access.	<ul style="list-style-type: none"> Increased capacity, efficiency Improved mobility and safety on facility Improved travel times and reduced delay for all traffic 	<ul style="list-style-type: none"> Additional ROW costs Design, construction, and maintenance costs

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Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Traffic Operational Improvements	<i>Minimum Intersection/ Interchange Spacing.</i>	Reduces number of conflict points and merging areas, which in turn reduces incidents and delays.	<ul style="list-style-type: none"> • Increased capacity, efficiency • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents 	<ul style="list-style-type: none"> • Part of design costs for new facilities and reconstruction projects.
	<i>Geometric Improvements for Roads</i>	This includes widening to provide shoulders, additional turn lanes at intersections, improved sight lines, auxiliary lanes to improve merging and diverging.	<ul style="list-style-type: none"> • Increase mobility • Reduce congestion by improving bottlenecks • Increase traffic flow and improve safety 	<ul style="list-style-type: none"> • Costs vary by type of design
Add Capacity	<i>Super Street Arterials</i>	This involves converting existing major arterials with signalized intersections into “super streets” that feature grade-separated intersections.	<ul style="list-style-type: none"> • Increase capacity and improve mobility 	<ul style="list-style-type: none"> • Construction and engineering substantial for grade separation • Maintenance variable based on area
	<i>Roadway Widening by Adding Lanes</i>	This is the traditional way to deal with congestion.	<ul style="list-style-type: none"> • Increase capacity, reducing congestion in the short term • Long-term effects on congestion depend on local conditions 	<ul style="list-style-type: none"> • Costs vary by type of highway constructed; in dense urban areas can be very expensive • Can create environmental and community impacts

Appendix B: Congestion Management Process Worksheet

CMP Worksheet

Project Sponsor:	
Project Manager Name and Contact Information:	
Project Type:	Choose an item.
Project Name (roadway or transit line name including beginning and end points):	
Project description (include full detailed description of the project including number of lanes and interchange locations, and project's regional significance to the transportation system):	
L RTP # (if exists):	
DES # (if exists):	
Number of Current & Proposed Lanes:	
Show/describe project location in existing plans (local thoroughfare plan, state plan, etc.):	
Project Purpose:	
Project on CMP Network (Travel Demand Model Network)?	Choose an item.
Is Project on an identified congested link or in an identified corridor?	Choose an item.

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Identify which congestion management strategies below are currently in place for the project, or have been considered for the project or considered in an adopted plan for your community. Refer to the 2045 LRTP's [Congestion Management Strategies](#) and [Congestion Strategy Toolbox](#) for more information.

Type of Improvement	Specific Strategy	Description	Currently in Place	Considered
Growth Management	<i>Land Use Plans</i>	City, town, and county comprehensive plans, including the land use portion, outline the public's vision for growth in an area.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Land Use Policies</i>	Specific policies established by a community surrounding land use.	<input type="checkbox"/>	<input type="checkbox"/>
Public Transit Capital Improvements	<i>Implementing Park-and-Ride Lots</i>	These can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful for encouraging HOV use for longer distance commute trips.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Implementing Rapid Transit (BRT, LRT, etc.)</i>	Rapid Transit improves the travel time, comfort, and attractiveness of transit. Bus rapid transit provides a cheaper alternative to light rail in exchange for future capacity.	<input type="checkbox"/>	<input type="checkbox"/>
Public Transit Operational Improvements	<i>Increasing Bus Route Coverage</i>	This provides better accessibility to transit to a greater share of the population.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Increasing Bus Route Frequency</i>	Increasing frequency makes transit more attractive to use.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Geometric Improvements for Transit Service</i>	This includes providing for transit sites that do not affect the flow of traffic but improved sight lines, and improve merging and diverging of buses and cars.	<input type="checkbox"/>	<input type="checkbox"/>
Encourage non-motorized use	<i>New Sidewalks and Designated Bicycle Lanes on Local Streets.</i>	Enhancing the visibility of bicycle and pedestrian facilities increases the perception of safety. In many cases, bike lanes can be added to existing roadways through re-striping.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Improved Bicycle Facilities at Transit Stations and Other Trip Destinations.</i>	Bicycle racks and bike lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Bike Share</i>	Bike sharing services encourage both work and casual ridership by providing a well-maintained, convenient bicycle for a low fee.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Design Guidelines for Pedestrian-Oriented Development.</i>	Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Improved Safety of Existing Bicycle and Pedestrian Facilities.</i>	Maintaining lighting, signage, striping, traffic control devices, and pavement quality, and installing curb cuts, curb extensions, median	<input type="checkbox"/>	<input type="checkbox"/>

		refuges, and raised crosswalks can increase bicycle and pedestrian safety.		
	<i>Exclusive Non-Motorized Rights-of-Way.</i>	Abandoned rail rights-of-way and existing parkland can be used for medium- to long-distance bike trails, improving safety and reducing travel times.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Reducing Transit Fares</i>	This encourages additional transit use, to the extent that high fares are a real barrier to transit.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Transportation Demand Management</i>	<i>HOT (or HOV) Lanes</i>	This increases corridor capacity while at the same time provides an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, and rideshare matching services.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Alternative Work Hours</i>	This allows workers to arrive and leave work outside of the traditional commute period. It can be on a scheduled basis or a true flex-time arrangement.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Telecommuting</i>	This involves employees to work at home or regional telecommute center instead of going into the office. They might do this all the time, or only one or more days per week.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Ridesharing</i>	This is typically arranged/encouraged through employers or transportation management agencies (TMA), which provides ride-matching services.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Congestion Pricing</i>	This involves pricing facilities to encourage off-peak or HOV travel, and includes time-variable road, and cordon (area) tolls, high occupancy/toll (HOT) lanes and vehicle-use fees.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Traffic Operational Improvements</i>	<i>Traffic Signal Coordination</i>	This improves traffic flow and reduces emissions by minimizing stops on arterial streets.	<input type="checkbox"/>
<i>Freeway Incident Detection and Management Systems</i>		This is an effective way to alleviate non-recurring congestion. Systems can include video monitoring, dispatch systems, and sometimes roving service patrol vehicles.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Highway or Advanced Traveler Information Systems</i>		This provides specific data to travelers, such as real-time speed estimates, and transit vehicle schedule progress that can then be used to make trip and route decisions.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Reversible Traffic Lanes</i>		These are appropriate where traffic flow is highly directional.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Ramp Metering</i>		Ramp metering This allows freeways to operate at their optimal flow rates, thereby speeding travel and reducing collisions.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Left Turn Restrictions; Curb Cut and Driveway Restrictions</i>		Turning vehicles can impede traffic flow and are more likely to be involved in crashes.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Turn lanes and New or Relocated Driveways and Exit Ramps</i>		In some situations, increasing or modifying access to a property can be more beneficial than reducing access.	<input type="checkbox"/>	<input type="checkbox"/>

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	<i>Minimum Intersection/Interchange Spacing.</i>	Reduces number of conflict points and merging areas, which in turn reduces incidents and delays.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Geometric Improvements for Roads</i>	This includes widening to provide shoulders, additional turn lanes at intersections, improved sight lines, auxiliary lanes to improve merging and diverging.	<input type="checkbox"/>	<input type="checkbox"/>
<i>Add Capacity</i>	<i>Super Street Arterials</i>	This involves converting existing major arterials with signalized intersections into “super streets” that feature grade-separated intersections.	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Roadway Widening by Adding Lanes</i>	This is the traditional way to deal with congestion.	<input type="checkbox"/>	<input type="checkbox"/>

If Added Capacity is proposed for this project, explain why added capacity is needed (related to the cause and severity of current and future congestion) as opposed to the implementation of any of the strategies listed above:

If any of the strategies above will be implemented, explain in what way:

**** Send completed worksheet to Jen.Higginbotham@IndyMPO.org ****

Appendix C: Reference for LPAs & Regional Trends

Regionally Approved Plans and Links

- **Complete Streets Policy (MPO)**
<https://www.indympo.org/how-we-work/mpo-policies-procedures>
 - Applies to Local Roadway Design for projects funded through the MPO
 - Bicycle, pedestrian, transit, and ADA accessibility
 - The Cities of Indianapolis, Whitestoen, and Westfield also have approved Complete Streets policies
- **Regional Transit Planning**
<https://www.indympo.org/whats-completed/regional-plans/transit-plans>
 - IndyGo Bus Plans (also at www.IndyGo.net)
 - Rapid transit studies (also at www.IndyConnect.org)
 - Central Indiana Transit Plan (also at www.IndyConnect.org)
 - Economic Impact Analysis
 - Transit Oriented Development Plan
 - Multimodal Corridor and Public Space Design Guidelines
 - Coordinated Public Transit – Human Services Plan
- **Local and Regional Bikeway & Pedestrian Planning**
 Regional: <https://www.indympo.org/whats-completed/regional-plans/bike-pedestrian-plans>
 Local: <https://www.indympo.org/whats-completed/local-plans/bikeways-walkways-transit>
 - Regional Bikeways Plan
 - Regional Pedestrian Plan
 - Carmel, Fishers, Noblesville, Greenfield, McCordsville, Avon, Brownsburg, Greenwood, Beech Grove, Indianapolis, Lawrence, Southport, Morgan County
- **Regional Network Analysis**
 - Compare Build and No Build effects to the regional transportation network for:
 - large additional capacity projects in congested locations or corridors
 - new roads that extend more than ½ mile
 - large-scale conversion from 1-way to 2-way traffic flows or similar projects that change the flow pattern
 - Use either a third-party consulting firm or analyze special run results provided by the IMPO Travel Demand Modeling staff.
 - If requesting a model run, please allow 2 weeks for this information.
- **Intelligent Transportation Systems Recommendations**
<https://www.indympo.org/whats-completed/regional-plans/intelligent-transportation-system>
 - For both State and Local Roadways (Prioritized ITS recommendations available in the ITS Regional Architecture Report)
- **Access Management Strategies**
 - for State and Local Roadways (Most frequently recommended Access Management Strategies are listed in Appendix A)
- **Transportation System Management Strategies**
 - At the Local and Regional Level (Appendix A)
- **Transportation Demand Management Strategies**
 - At the Local and Regional Level (Appendix A)

APPENDIX M

Regional Trends in Congestion Management

- **Reducing Trips / Trip Length**
 - Land Use Plans
 - All of the MPO's city and town members have created comprehensive plans to manage growth. Effective comprehensive plans and zoning codes can enable more efficient land use, leading to an increase in the mix of land uses and shortening or eliminating vehicle trips.

- **Shifting Trips from autos to other modes**
 - Public transit
 - The funding and implementation of the Marion County Transit Plan will make public transportation options more attractive to auto-commuters by decreasing headways, extending service hours, and offering rapid transit lines.
 - Transit planning efforts in Hamilton, Johnson, and Hancock counties hope to make available the same opportunities being provided by transit enhancements in Marion County.
 - IndyGo is conducting a fare-study to explore ways to reduce the cost of fares or make the payment process easier for riders. IndyGo is exploring partnerships with local school districts to provide transit passes to students, and has just launched a program to provide free bus fare to all US veterans.
 - Other regional transit providers are similarly exploring ways to streamline and make more efficient their fare programs.
 - Ridesharing
 - CIRTAs continues to provide the Commuter Connect program, which includes assistance for coordinating carpools and vanpools among private citizens, or engaging with major employers to coordinate pools among their employees.
 - Bike / Walk
 - Complete Streets policies have been created by the MPO, cities of Indianapolis and Westfield, Town of Whitestown, and INDOT. Complete Streets are designed and to enable safe access for users of all ages and abilities, including pedestrians, bicyclists, motorists and transit riders. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. These organizations have enabled policies to promote complete streets in their areas.
 - Several communities within the MPA (Indianapolis, Carmel, Avon, Westfield, Greenwood, etc.) have begun to construct multi-use pathways alongside improved roadways, and designate painted or protected bike lanes on existing roadways.
 - A few communities within the MPA have implemented bikeshare programs, to provide low-cost access to bicycles for either recreational or transportation uses.
 - Several communities within the MPA have completed or are conducting analysis plans to identify the most desired or suitable spots for pedestrian and/or bicycle improvements.
 - Organizational Support
 - The MPO sponsors events that enable more people to experience for the first time, and regularly use, their sidewalks, bikeways, streets, and transit options.

- Example: Annual Bike to Work Day; Biennial Indiana Bike & Walk Summit; the Pedal & Park program (free, secure bike parking at major regional events); and others.
- **Improving Roadway Operations**
 - Traffic Operational Improvements
 - Implementation of innovative intersection designs, such as the roundabouts and diverging diamond intersections implemented by INDOT and local governments, which are designed to promote safety while increasing traffic flow.
 - Reversible traffic lanes have been in operation in a few areas of the MPA for many years.
 - Left turn restrictions are in place in some areas during certain hours of the day. Left turn restrictions, along with left/U-turn signal lights, will be used heavily within the new rapid transit line corridors to prevent motorists from turning left in front of rapid transit vehicles that use dedicated lanes that are either centered or off-center within the roadway.
 - INDOT is currently studying the potential costs and benefits of providing HOV/HOT lanes on state facilities.
 - INDOT has been upgrading some of the more heavily traveled major arterials into “super streets”, grade-separating previously signalized intersections
 - Incident Management
 - INDOT has effectively used variable message boards and dynamic message signs. Use of driver GPS and crowd sourced data has enabled motorists to choose more efficient routes and respond to unexpected traffic delays.

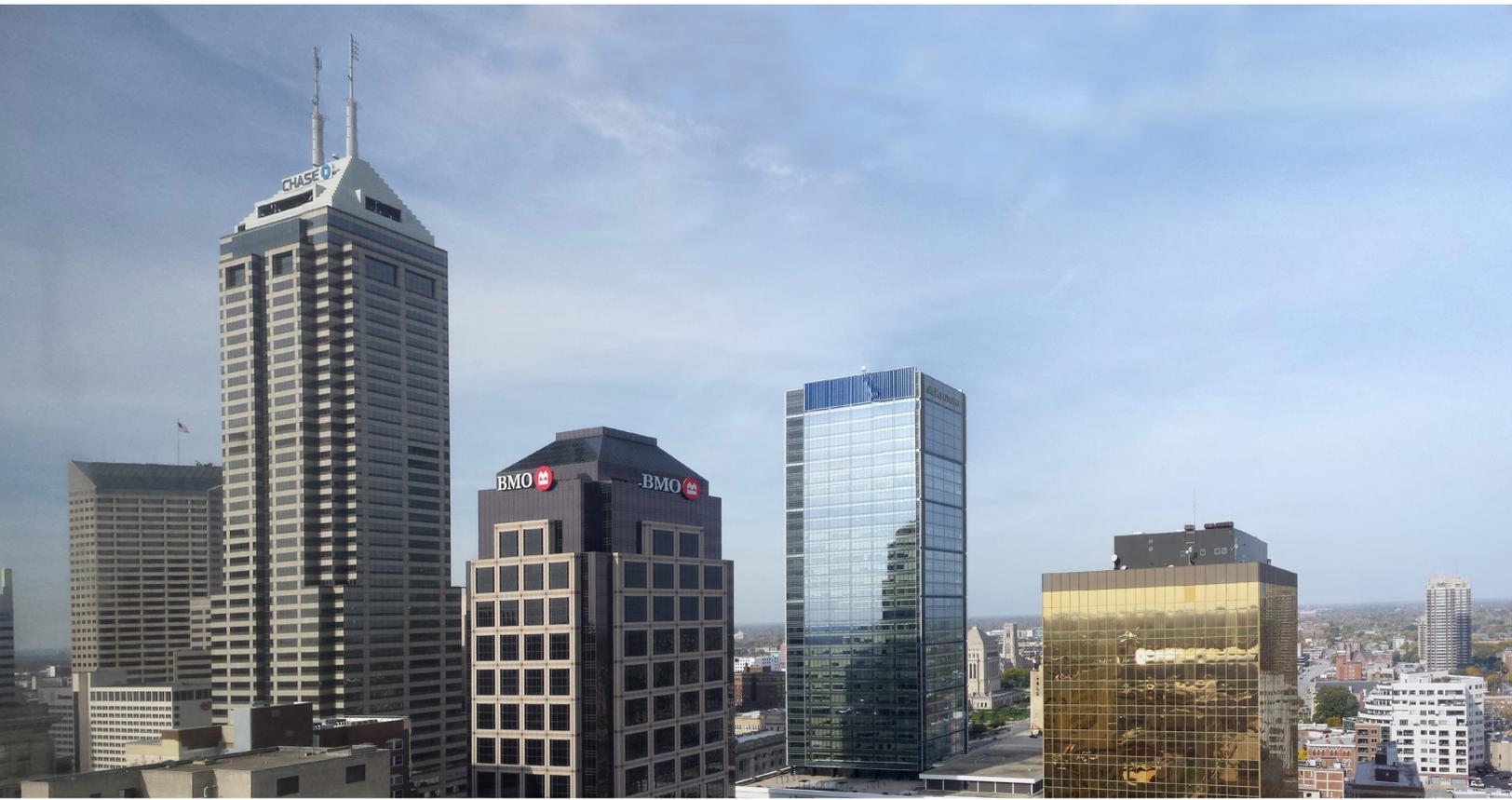
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APPENDIX N

ROADWAY PROJECT SCREENING



Memo

To: 2045 LRTP Steering Committee
From: Ryan Wilhite, Long Range Transportation Planning
Date: July 7, 2017
Re: Project Screening

A key part of the 2045 LRTP process is fiscal constraint. Federal regulations require that all long range transportation plans be fiscally constrained; simply put, project costs suggested in the LRTP are not above the anticipated revenue for a region. Fiscal constraint requires regions to prioritize or screen projects to determine which projects can be funded by the plan. For the 2045 LRTP, the Indianapolis MPO used its Goals and Objectives, the established Performance Measures, and available data to construct project screening criteria.

Proposed Process

These criteria will be used to screen projects and determine which projects will be included in the 2045 LRTP. MPO staff will also rely on project sponsor time periods to determine the project's LRTP time period. The LRTP is divided into three time periods: 2016-2025, 2026-2035, and 2036-2045. Total revenue is forecasted for each time period. Projects will be prioritized and then assigned a time period.

As part of the project application for the LRTP, project sponsors provided an estimated open to traffic date and corresponding time period for the project. Project sponsors were given a fourth option: illustrative. Illustrative projects are determined by the LPA to be a need, but potentially not before the horizon year of the LRTP. A lack of revenue is another possibility for a project sponsor to believe a project is illustrative.

For the purposes of the 2045 LRTP, projects assigned to the Illustrative list are unable to be funded with the forecasted revenues; these projects are not part of the fiscally-constrained LRTP. In the 2035 LRTP, for these projects to be placed into the fiscally-constrained years of the LRTP, the project sponsors must present new revenue sources. As part of the 2045 Update, we will be revisiting our amendment process.

PROJECT SCREENING

Throughout the memo, the highest scoring project, Carmel's 96th Street Added Travel Lanes (ATL), will be used as an example to provide a direct application of the scoring process. The project scored a 74 (rounded) out of a possible 100 points. The 96th Street ATL is LRTP Project # 2217 and widens 96th Street from 4 lanes to 6 lanes from Priority Way West Dr. to the White River Bridge. The cost is estimated at nearly \$44 million in current year dollars.

Functional Classification System

The federal functional classification system (FCS) places every roadway in a hierarchy, from an Interstate to a Local. A roadway's classification in the FCS is dependent on a number of criteria, including, but not limited to, number of lanes, traffic volumes, and network role. This network is approved by the Indiana Department of Transportation (INDOT). The Indianapolis MPO and the INDOT work closely, along with local public agencies (LPAs), to determine the classification of a roadway. The last major update of the FCS was completed between 2013 and 2014 with the close coordination of LPAs, the MPO, and INDOT.

For the purpose of the project screening criteria, the FCS provides the region with a first filter at the regional significance or importance of the roadway. Note, however, that a roadway with a functional classification of Local will not qualify for federal funding, but is included in the travel demand model.

Federal Functional Classification	Score
Other Principal Arterial (OPA)	15
Minor Arterial (MA)	11.25 (75% of the maximum score)
Major Collector	7.5 (50% of the maximum score)
Minor Collector	3.75 (25% of the maximum score)
Local	1.875 (12.5% of the maximum score)

Notes: For new roads submitted to the LRTP that do not have an approved federal functional classification, MPO staff provided a classification similar to the same process for an existing roadway.

Project Scoring Example

96th Street along the project corridor is classified as an Other Principal Arterial, or OPA. The project is awarded 15 points for this criteria, the maximum number of points available.

Consistent Number of Lanes

A facility with a consistent design provides a more connected region by reducing choke points and reducing congestion along a corridor. For this criteria, projects with a similar number of lanes at the beginning and end of the project are awarded the maximum number of points.

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Yes, on both ends	10 (Maximum score)
Yes, but only on one end	5
No	0

Notes: New roads were evaluated in context with other submitted projects.

Project Scoring Example

An aerial inspection revealed that the number of lanes would only match on one end of the project. The project is awarded 5 points.

Change in Vehicle Hours of Delay

Vehicle hours of delay is a measure of hours of delay experienced on a roadway, or portion of a roadway. For project screening purposes, vehicle hours of delay is computed by the travel demand model and reported by link for the AM and PM peak periods. The project that reduces the most hours of delay receives the maximum amount of points. All other projects receive points proportionally based on their delay removed. Projects that add delay are deducted five points from their total score.

Vehicle Hours of Delay	Score
Maximum amount of delay removed	5
Other projects removing delay	Proportional
Adding delay	-5

Notes: Because new roads are not on the base network or part of a “No Build” scenario, new road vehicle hours of delay are determined by comparing the 2035 demographics to the 2045 demographics. Existing roadways undergoing an expansion are evaluated by comparing the no build vehicle hours of delay to the full build vehicle hours of delay.

Project Scoring Example

The 96th Street project is anticipated to relieve nearly 1,200 vehicle hours of delay, nearly the maximum score for this criteria. The maximum is -1,223. 96th Street’s reduction is approximately 97% of the maximum, awarding the project 9.7 points out of a possible 10.

Change in Congested Lane Miles

Another factor in addressing congestion is the ability of the project to reduce congestion over time. This criteria, change in congested lane miles, evaluates whether a project is reducing or adding congestion between two different time periods.

PROJECT SCREENING

MPO. Project links with a volume over capacity greater or equal to .8 are determined to be congested. Volume over capacity is another measure of congestion and refers to the volume of traffic versus the capacity of a particular facility. The volume over capacity, or V/C, in this example is modeled from the Indianapolis MPO's travel demand model (TDM).

Similar to Change in VHD, projects are scored against the project with the maximum amount of reduced congested lane miles and projects that add congested lane miles are distributed five negative points.

Vehicle Hours of Delay	Score
Maximum amount of lane miles reduced	10
Other projects removing congested lane miles	Proportional
Adding congested lane miles	-5

Notes: For a few projects, vehicle hours of delay may decrease while congested lane miles may increase, and vice versa. Due to the small number of projects and sensitivity of the travel demand model, MPO staff concluded that this issue will be evaluated but scores will not be altered for the 2045 LRTP screening process.

Project Scoring Example

96th Street would add approximately 3 congested lane miles, resulting in negative 5 points for the project.

Proximity to Existing Economic Clusters

The work commute is a key focus for any region. Clusters of employment significantly affects the direction and volume of traffic, both of people and goods. Through the 2045 LRTP planning process, the Indianapolis MPO and 2045 Steering Committee identified clusters through a spatial, statistical process. Areas are considered a cluster if there are other areas around it with a significant amount of employment. This process may leave out small areas with large employment but no areas around it with significant employment. The maximum score for a project is 10 points.

Project screening evaluated the travel demand model network (all major roadways) based on a link's proximity to an existing employment cluster.

Project Scoring Example

The 96th Street project is close to an existing economic cluster; close enough that it receives a .92 out of 1. This nearness score is then multiplied by the maximum score for the category. The maximum for this category is 10, providing a score of 9.2. Unlike

APPENDIX N

category.

Proximity to Emerging Economic Clusters

Through the 2045 LRTP planning process, the Indianapolis MPO and 2045 Steering Committee identified emerging clusters through a spatial, statistical process. Areas are considered an emerging cluster if they do not exist in 2016 (base year) but develop in 2045 (horizon year). The maximum score for a project is 10 points.

Project Scoring Example

The 96th Street project is also close to an emerging cluster, scoring .99 out of 1. The maximum score for this criteria is 10, so the project receives 9.9 points.

Improve a Roadway on the Regional Freight Network

The Regional Freight Plan process defined a Regional Freight Network. The hierarchical network places roadways into different tiers based on truck traffic counts and proximity to logistics clusters. These facilities vary from the backbone of the freight network to the first and last mile connectors. Projects submitted to the 2045 LRTP are evaluated based on the freight tier they fall under.

Tier	Points
Tier 3	10
Tier 4	5
Not on freight network	0

Note: Unlike other screening criteria, there was no accommodation or adjustment for new roads because the Regional Freight Network is an existing network from an MPO planning process.

Project Scoring Example

This project is a Tier 3 on the Regional Freight Network and is awarded 10 points.

Proximity to Safety Area of Concern

Safety is a key concern in constructing and maintaining a transportation network. Using safety crash data from 2012 to 2016, the Indianapolis MPO established a methodology for identifying safety areas of concern using two metrics: number of fatalities and serious injuries, and rate of fatalities and serious injuries. Areas above a certain threshold were triggered as areas of concern. Similar to the economic cluster analysis, project distance to the safety areas of concern were determined and used for scoring.

Project Scoring Example

The project is close to a safety area of concern, scoring a nearness score of .99 and resulting in 9.9 points for the project.

PROJECT SCREENING

Intersections can be a weak spot in a network. Improving the safety at an intersection can significantly improve regional safety. In 2016, the Indianapolis MPO engaged a consultant to evaluate 50 intersections with perceived or real safety concerns. As part of the project selection process, projects with a dangerous intersection within its limits or at its edges are awarded points. High crash intersections are awarded the maximum possible points. These are defined as intersections with a crash cost index above 2 and a crash factor index above 2.

Top 50	Points
High crash intersection	10
Top 50 but not high crash intersection	5
Zero Top 50 intersections	0

Project Scoring Example

The project does not have any Top 50 intersection within the project limits and receives no points.

Within Urbanized Area

Two different administrative boundaries dictate a significant amount of MPO work: the urbanized area boundary and the metropolitan planning area boundary. The urbanized area boundary is defined by the U.S. Census Bureau and delineates urban versus rural development. The metropolitan planning area boundary is the area believed to become urbanized in the next twenty years. In the 2045 LRTP planning process, the 2045 LRTP Steering Committee and the IRTC Policy and Technical Committees all supported understanding the land consumption of development within the region. Projects within or along the urbanized area boundary are awarded the maximum amount of points; projects split receive a proportion of the maximum; and projects outside receive zero points.

Urbanized Area	Points
Within	10
Not entirely within	% in the urbanized area multiplied by maximum points available
Outside	0

Project Scoring Example

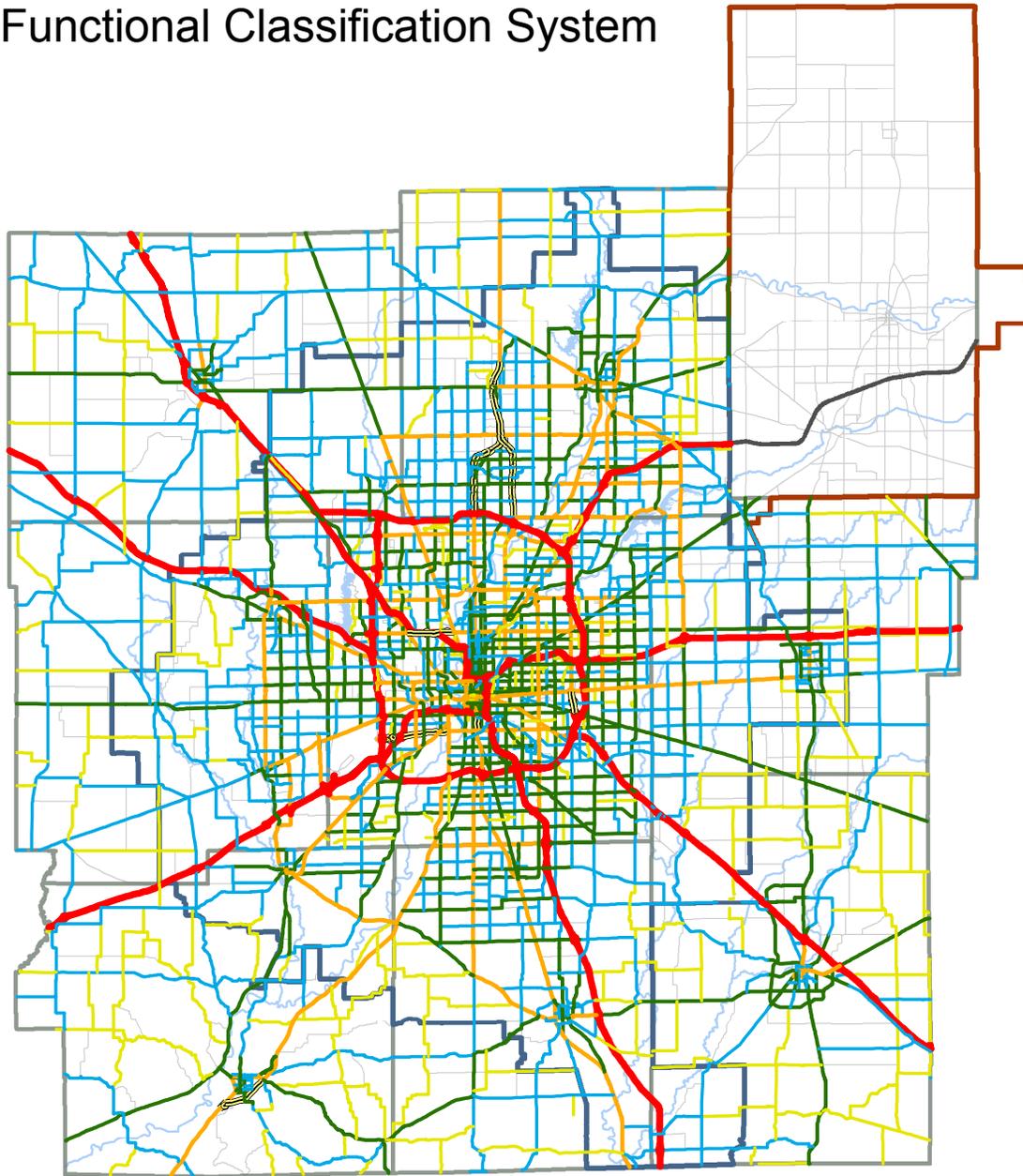
The 96th St. project is within the urbanized area boundary, scoring an additional 10 points.

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Criteria	Attribute	Project Score	Maximum Score
Functional Classification	Other Principal Arterial	15	15
Consistent Number of Lanes	Yes, but on one side	5	10
Change in Congested Lane Miles	2.7	-5	5
Change in Vehicle Hours of Delay	-1,184	9.68	10
Proximity to Existing Economic Cluster	.92	9.2	10
Proximity to Emerging Economic Cluster	.99	9.9	10
Improve a Roadway on the Regional Freight Network	Yes; Tier 3	10	10
Proximity to Safety Area of Concern	9.9	9.9	10
Addresses Top 50 Intersection	No	0	10
Within Urbanized Area	Yes	10	10

PROJECT SCREENING

Functional Classification System



Legend

- Interstate
- Other Freeway/Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- MPA
- Anderson MPA
- Interstates
- County Lines
- Lakes
- Rivers

0 5 10 20 Miles



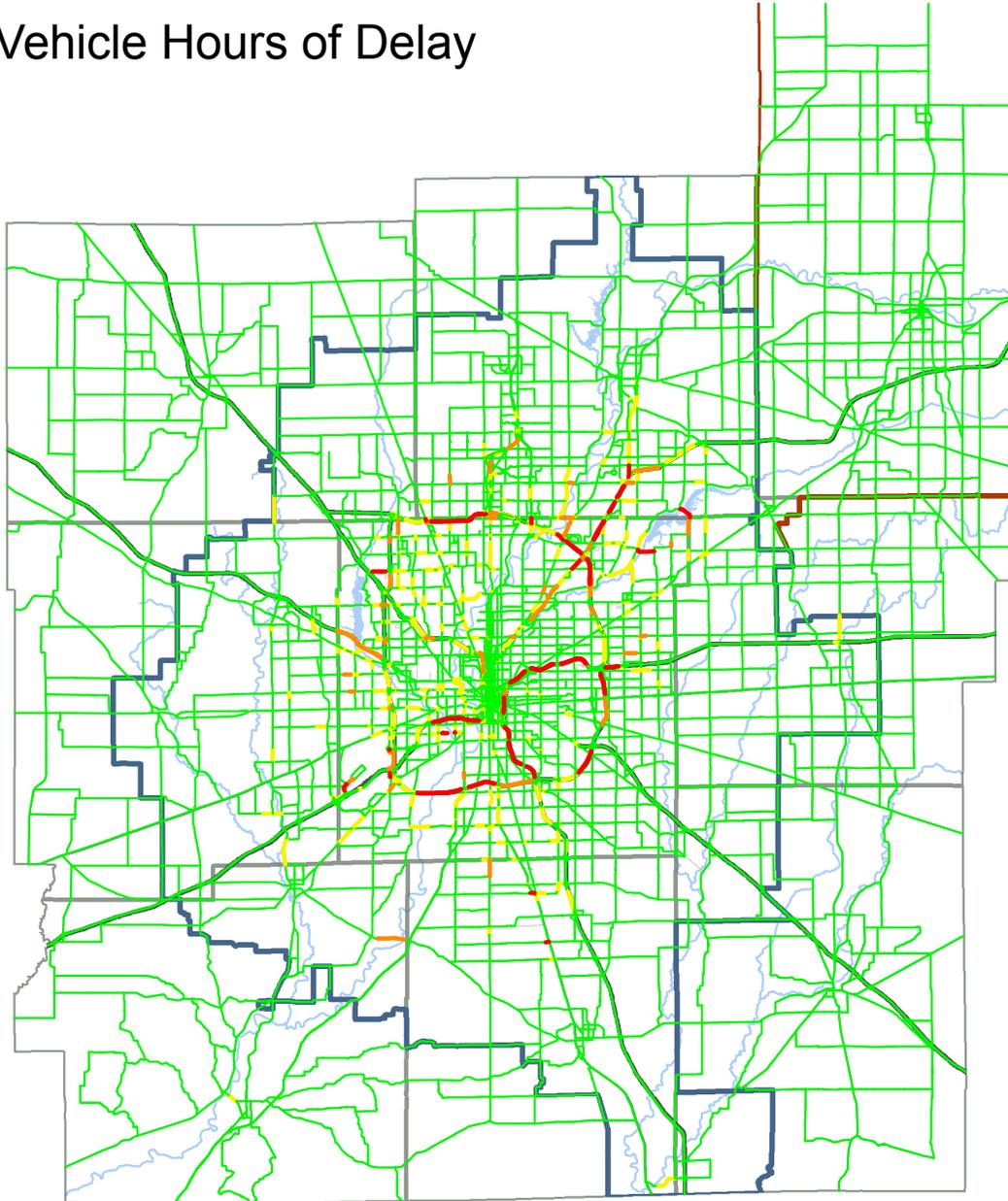
This map is intended for informational purposes only.

Source: Indianapolis MPO

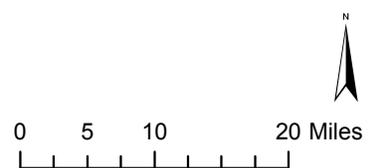
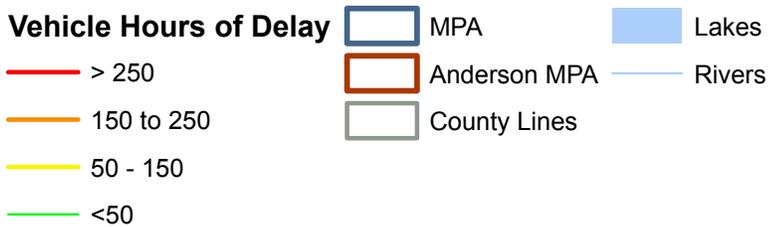


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Vehicle Hours of Delay



Legend

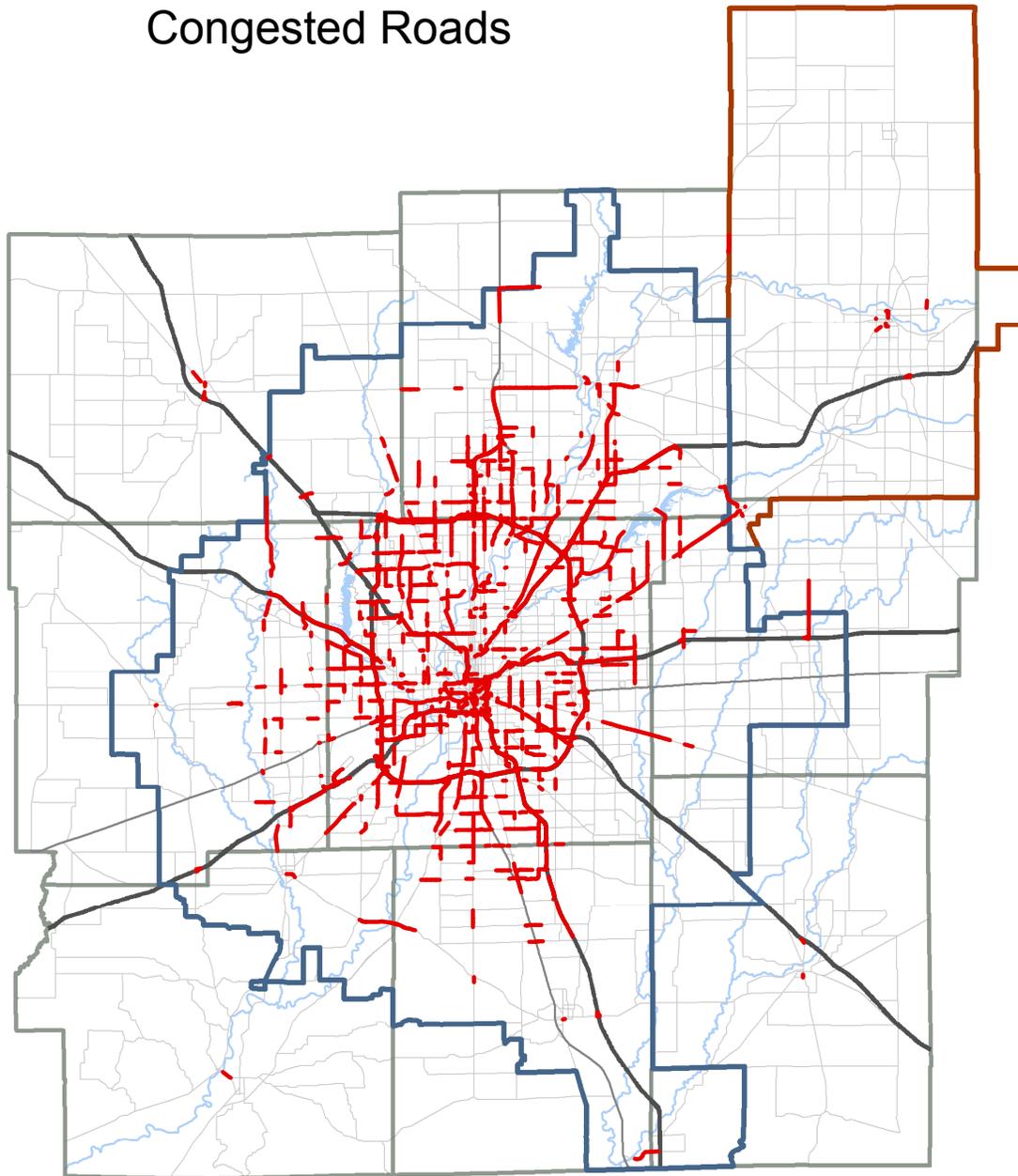


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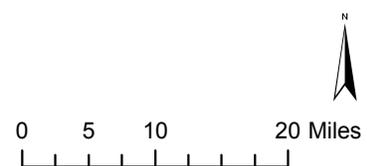
PROJECT SCREENING

Congested Roads



Legend

- MPA
- Anderson MPA
- Interstates
- County Lines
- Major Streets
- Lakes
- Rivers
- Congestion



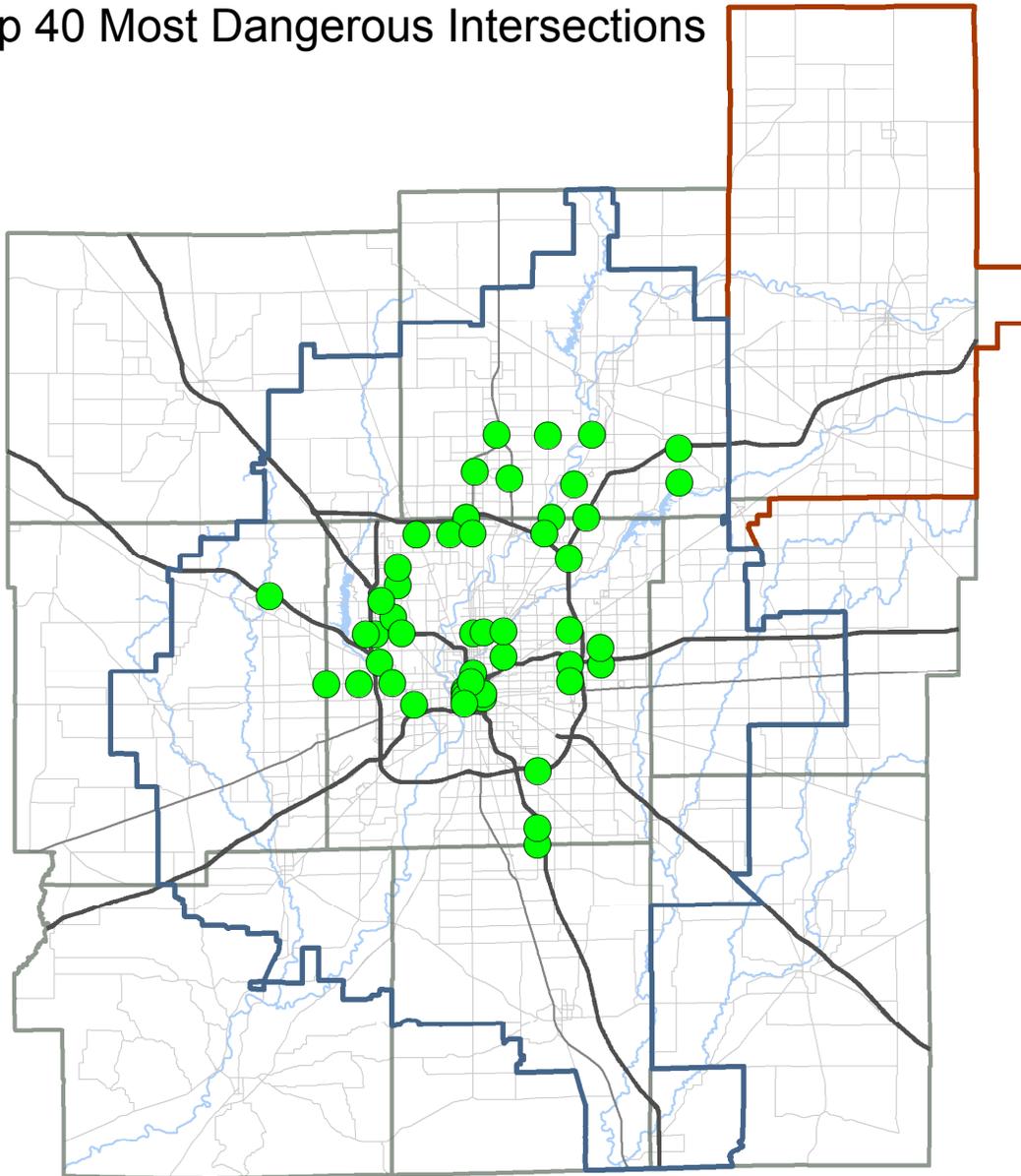
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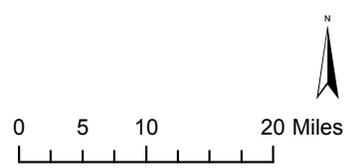
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Top 40 Most Dangerous Intersections



Legend

- MPA
- Anderson MPA
- County Lines
- Lakes
- Rivers
- Dangerous Intersection

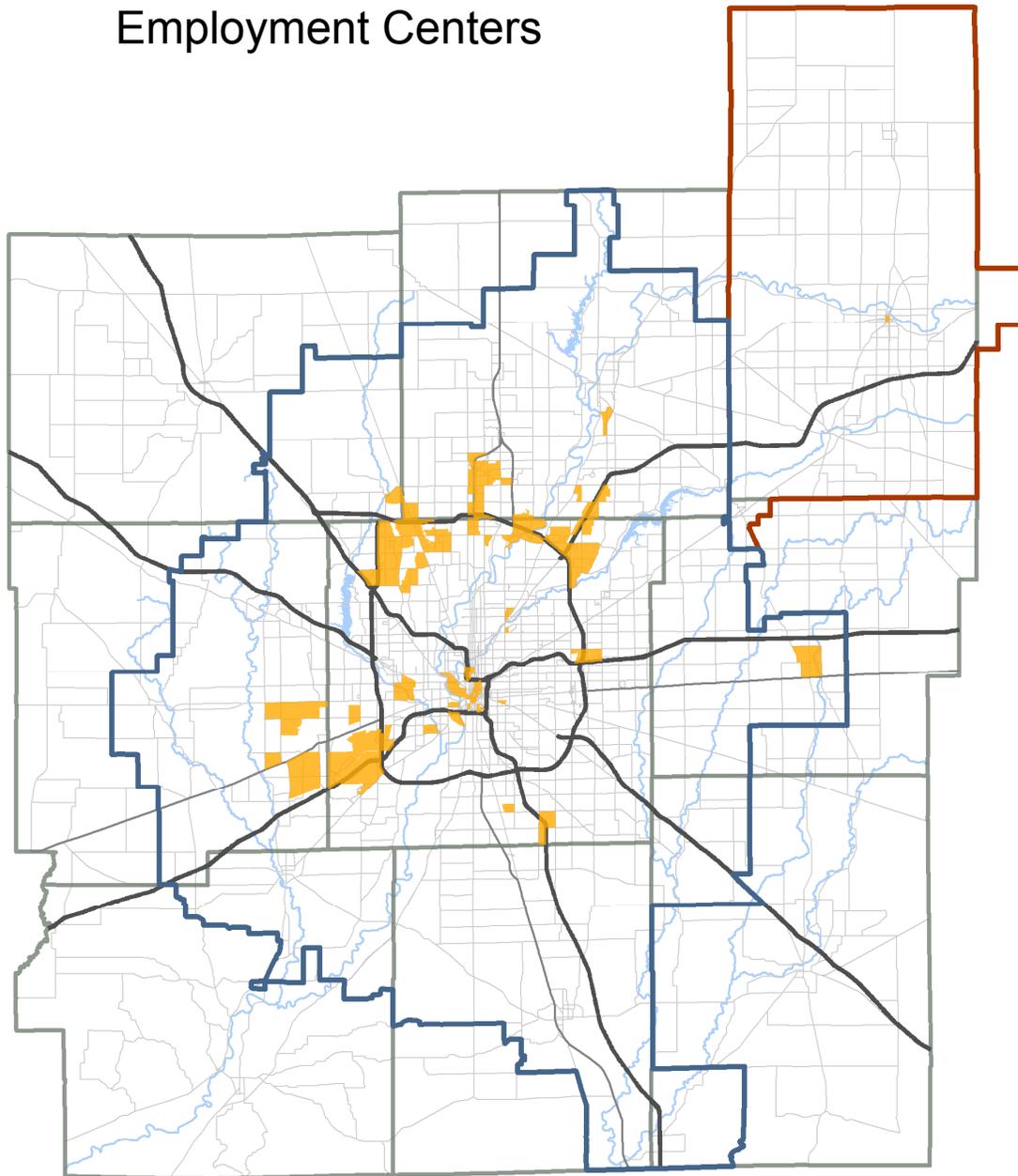


This map is intended for informational purposes only.

Source: Indianapolis MPO

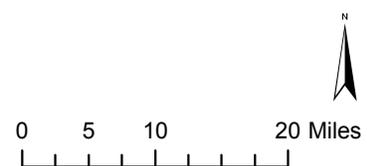
PROJECT SCREENING

Employment Centers



Legend

-  MPA
-  Anderson MPA
-  County Lines
-  Lakes
-  Rivers
-  Employment Centers



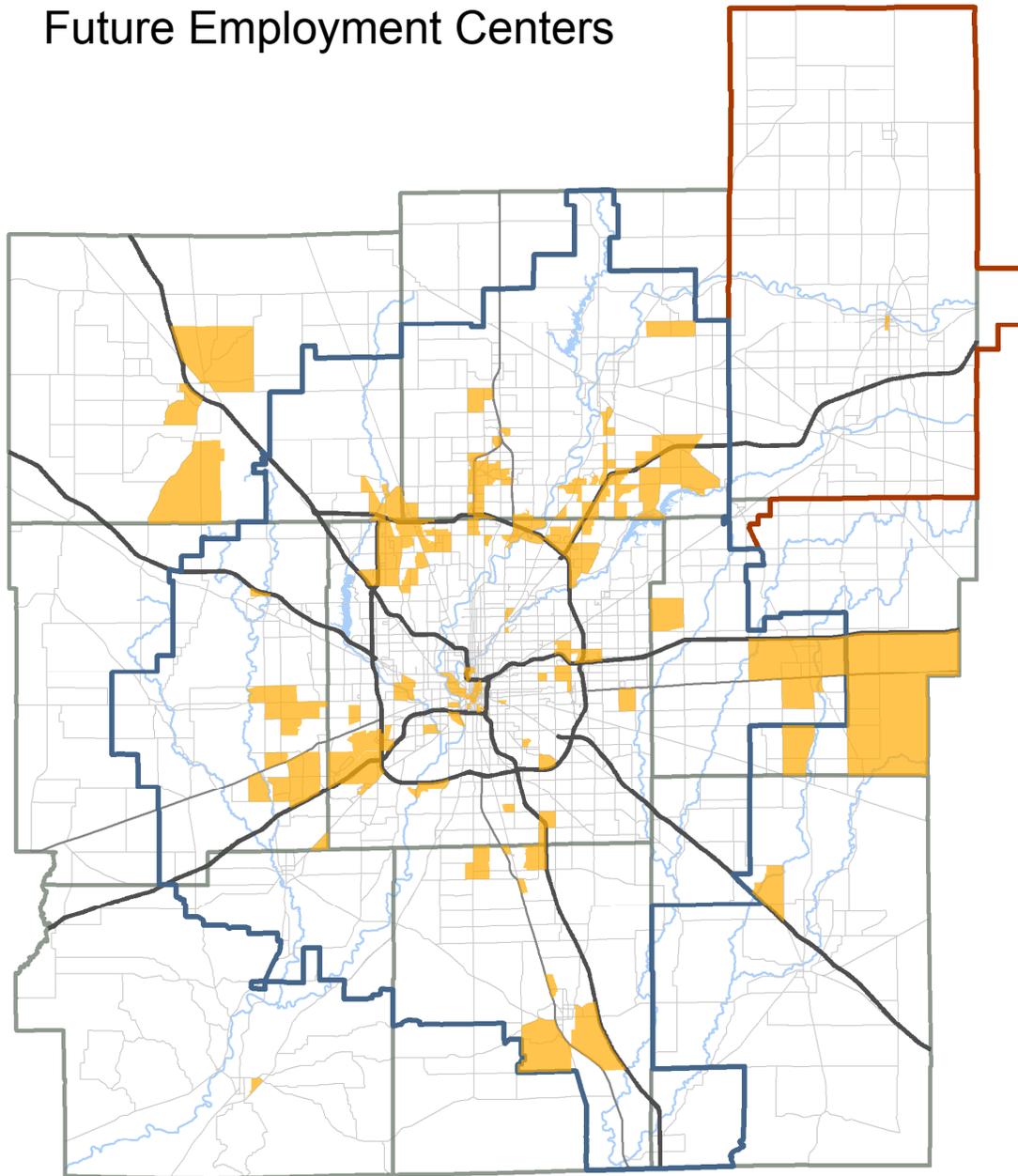
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Source: Indianapolis MPO



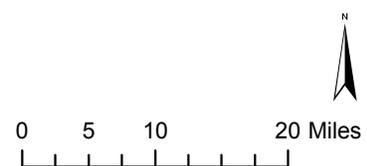
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Future Employment Centers



Legend

-  MPA
-  Anderson MPA
-  County Lines
-  Lakes
-  Rivers
-  Future Employment Centers



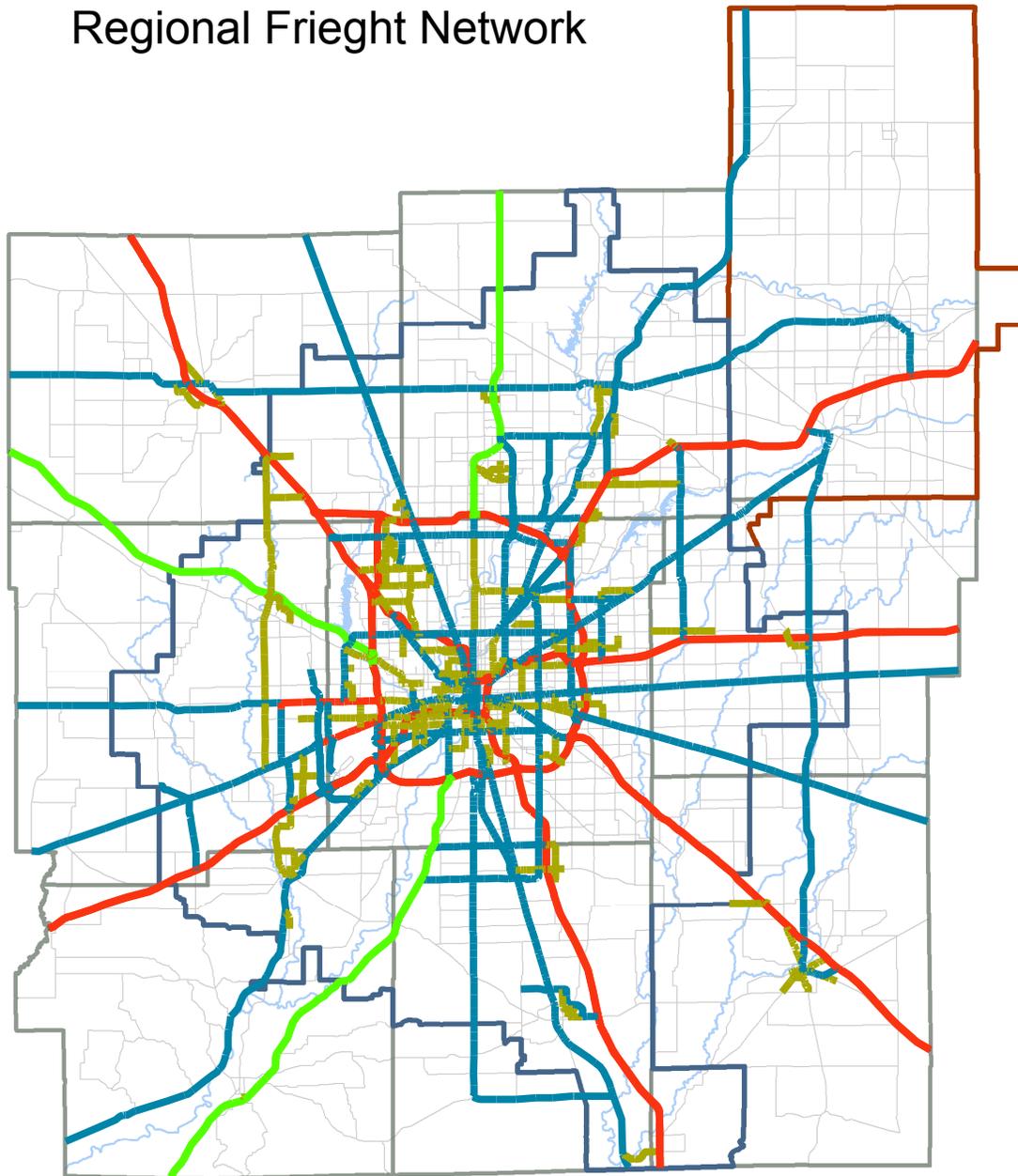
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Source: Indianapolis MPO



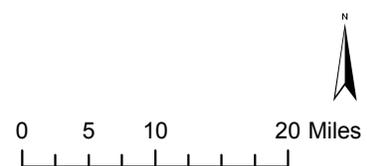
PROJECT SCREENING

Regional Freight Network



Legend

- Primary Freight Network
- Remainder of Interstates
- Regional Freight Corridors
- Freight Connectors
- MPA
- Anderson MPA
- County Lines
- Lakes
- Rivers



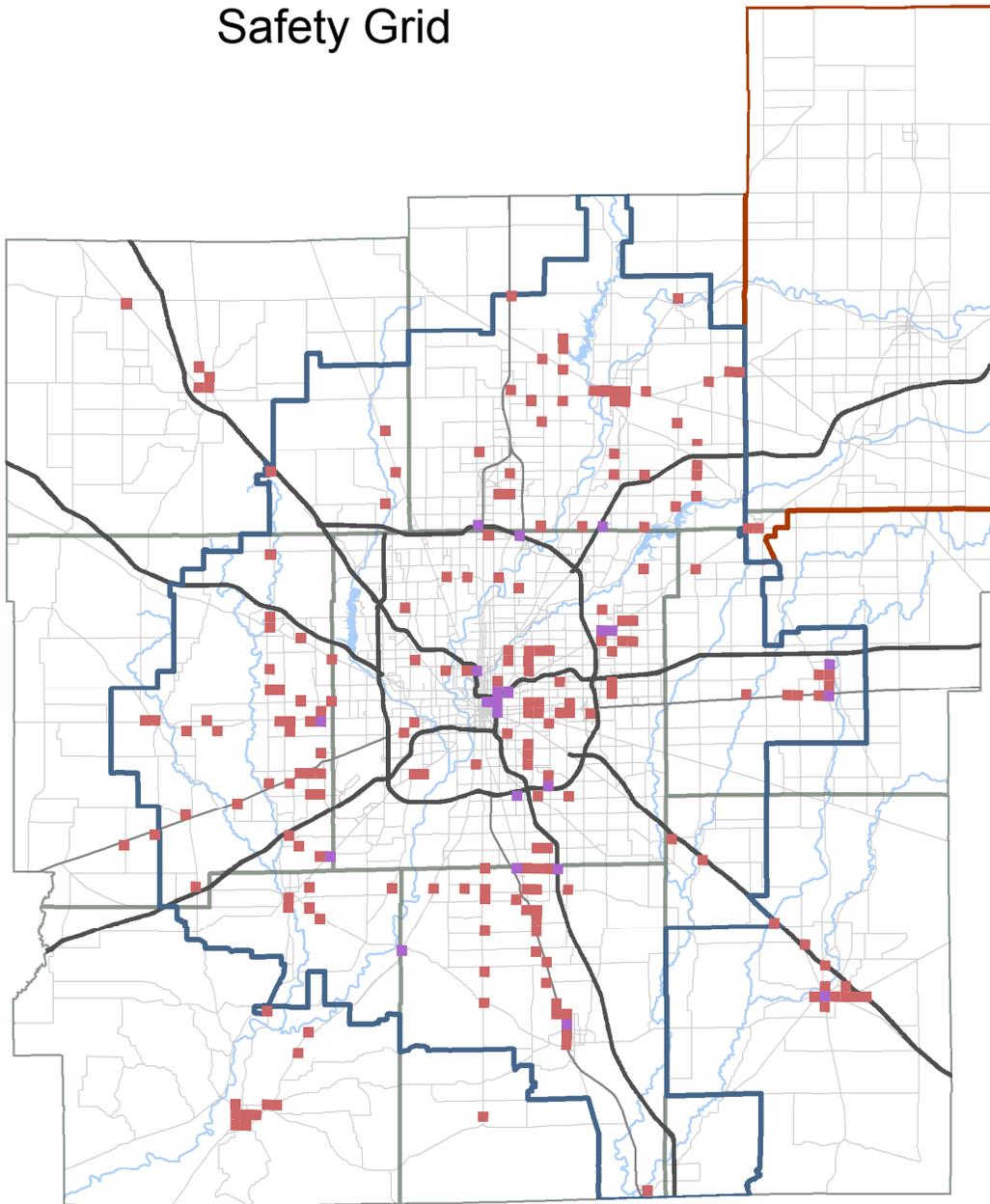
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Source: Indianapolis MPO



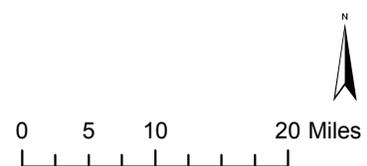
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Safety Grid



Legend

- | | |
|--|--|
|  MPA |  Lakes |
|  Anderson MPA |  Rivers |
|  County Lines |  KSIover30 |
| |  KSIperVMTover2RR |



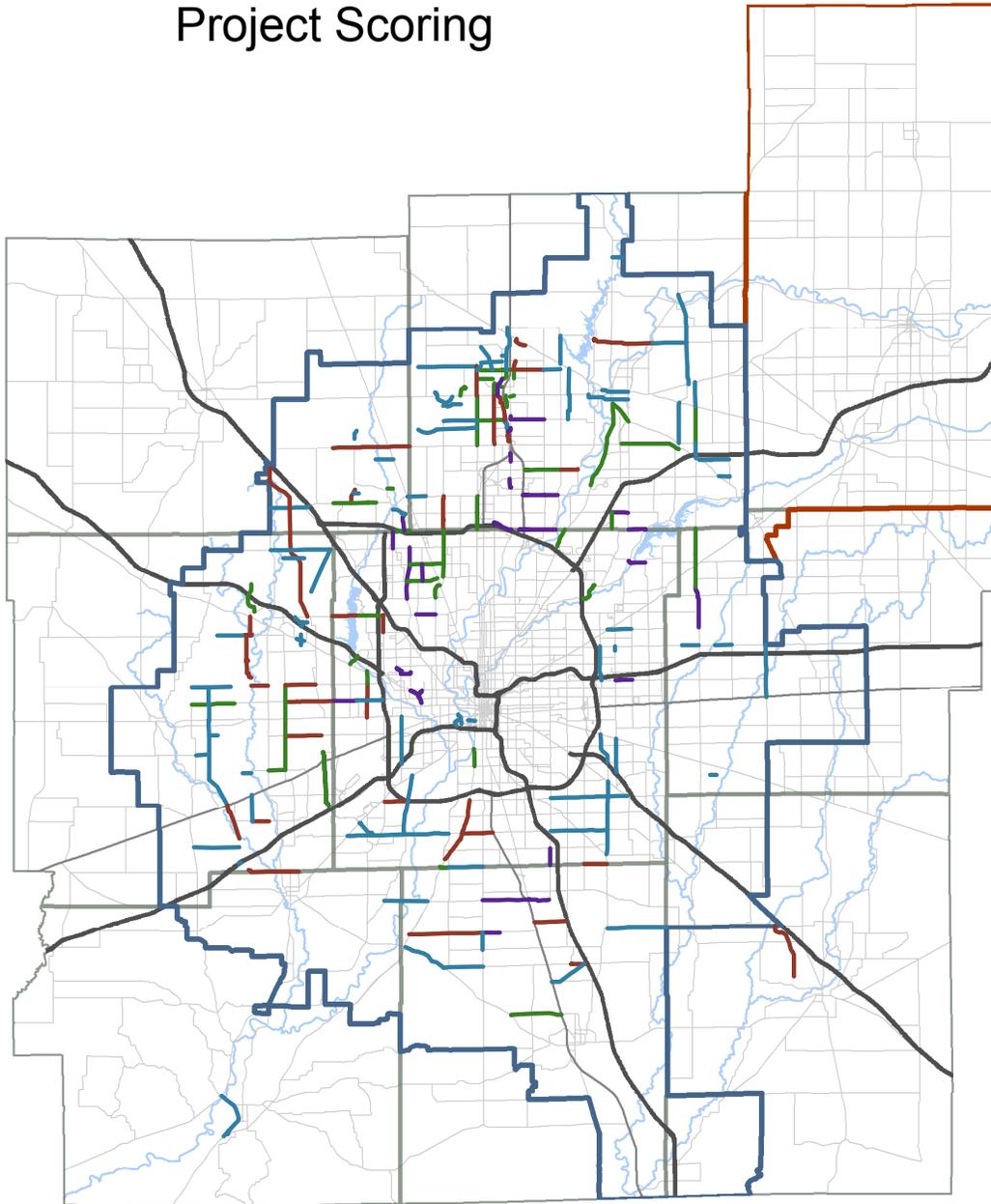
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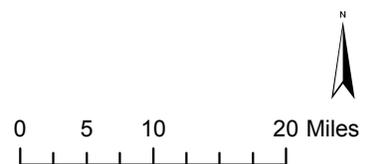
PROJECT SCREENING

Project Scoring



Legend

- Existing and Committed
- 2016-2025
- 2026-2035
- 2036-2045
- Illustrative
- MPA
- Anderson MPA
- County Lines
- Lakes
- Rivers



This map is intended for informational purposes only.

Source: Indianapolis MPO



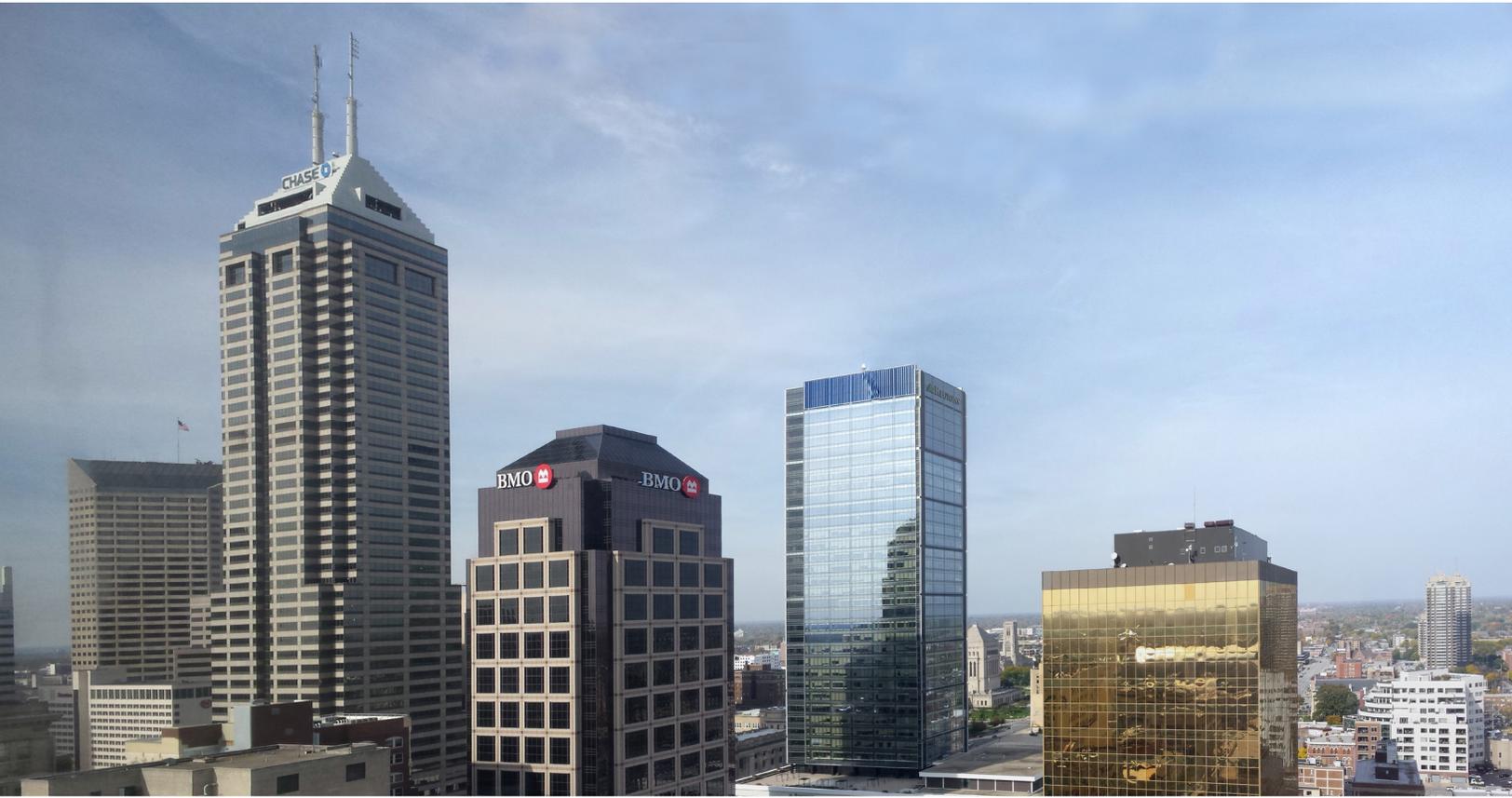
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APPENDIX O

ROADWAY SCORING



APPENDIX O

The project scoring list provides details on how each project scored in the prioritization process. Fiscal constraint information, including time period for each project, is not included in this list but can be found in the body of the 2045 LRTP.

1/4/2018

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L RTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
4201	CR 800E (Dan Jones Rd.) Widening	Widen 2-In. to 4-In. Blvd from CR 300 S to CR 200 N Except segment from US 36 to CR 100 S	Avon	Added Travel Lanes	\$ 39,273,268	2026-2035	43	Minor Arterial	11.25
4204	Dan Jones Rd - US 36 to CR 100 S	Widen from 2 In to 4 lane Blvd	Avon	Added Travel Lanes	\$ 8,248,000	2016-2025	46	OPA	15
4203	CR 100S (Morris St.) Widen 2-In. Blvd to 4-In. Blvd	Widen 2-In. Blvd to 4-In. Blvd	Avon	Added Travel Lanes	\$ 9,000,000	2026-2035	34	Major Collector	7.5
4202	CR 200 N (21st St) Widen 2-In to 4-In. Blvd	Widen 2-In Blvd to 4-In. Blvd	Avon	Added Travel Lanes	\$ 9,778,211	2026-2035	32	Major Collector	7.5
4105	CR 100 N (10th St.) Widening	Widen 2-In. to 4-In. Blvd from Raceway Rd. to SR 267	Avon	Added Travel Lanes	\$ 34,954,792	2016-2025	26	Minor Arterial	11.25
1105	CR 300S Expansion From Whitestown to Hamilton County Line	Expansion of CR 300 South from Whitestown Town Limits to the Boone/Hamilton county Line. This joint project between Boone County and the Town of Zionsville will create a 4-lane	Boone Co.	Added Travel Lanes	\$ 45,300,000	2016-2025	26	OPA	15
1104	Whitestown Parkway (CR 650 S) from SR 267 to I-65		Boone Co.	Added Travel Lanes	\$ 4,917,658	Illustrative	13	Minor Arterial	11.25
4303	C.R. 625 East / Witham Rd. New alignment and bridge over I-74	New alignment and bridge over I-74	Brownsburg	New Bridge	\$ 13,460,016	2026-2035	42	Major Collector	7.5
4306	Co. Rd. 900 E. Intersection Safety Improvement	Separate the crossing of Co. Rd. 900 E. and E. US Hwy 136 from the CSX Railroad by elevating the roadways and constructing two RABs at the northeast and southwest	Brownsburg	Intersection	\$ 8,830,000	Illustrative	38	OPA	15
4307	Northfield Drive Extension (SW Leg)	Completion of the final segment of Northfield Drive, the bypass around the heart of Brownsburg. This project will extend from the existing terminus of W. Northfield Dr. at W.	Brownsburg	New Road	\$ 18,792,000	2026-2035 Illustrative	34	Major Collector	7.5
4305	Co. Rd. 900 E. Bridge at I-74	Connecting two segments of Co. Rd. 900 E., divided by I-74, by constructing a bridge over the interstate and re-aligning adjacent road segments to improve north-south connectivity	Brownsburg	New Bridge	\$ 10,384,500	Illustrative	33	Major Collector	7.5
2217	96th St. Widening	Widen 4-In. to 6-In. div from Priority Way West Dr. to the White River Bridge	Carmel	Added Travel Lanes	\$ 43,696,800	2016-2025	74	OPA	15
2216	96th St. Widening	6 In div. with intesection improvements and multi-use paths from Haverstick Rd. to Priority Way West Drive	Carmel	Added Travel Lanes	\$ 17,996,500	2016-2025	69	OPA	15
2207	Range Line Rd. Widening	Widen 2-In. to 4-In. div. from 136th St. to US 31	Carmel	Added Travel Lanes	\$ 10,142,500	2016-2025	55	Minor Arterial	11.25
2208	116th St. Widening	Widen 2-In. to 4-In. from Keystone Ave. to Hazel Dell	Carmel	Added Travel Lanes	\$ 10,142,500	2016-2025	51	OPA	15
2219	96th St extension from Westfield Blvd to College Ave	New roadway extending 96th St from Westfield Blvd to College Ave including new roundabout at the College and 96th/Penn. Pkwy intersection.	Carmel	New Road	\$ 18,010,238	2016-2025	47	Major Collector	7.5
2214	Spring Mill Rd. Widening	W 2 to 4 In. div. from 96th St. to 116th St.	Carmel	Added Travel Lanes	\$ 27,450,000	2026-2035	47	Major Collector	7.5
2204	Veteran's Way from Executive Dr. to City Center Dr.	New 3-In roadway.	Carmel	New Road	\$ 7,140,000	2016-2025	41	Local	1.875
2218	116th St. Widening	Reconstruct and widen 116th St. to a 4-In. div. road from Michigan Rd. to Shelborne Rd.	Carmel	Added Travel Lanes	\$ 18,750,000	Illustrative	40	Minor Arterial	11.25
2210	131st St. Widening	Reconstruct and widen 131st St. to a 4-In. div. road from Keystone Ave. to Hazel Dell Rd.	Carmel	Added Travel Lanes	\$ 20,285,000	2016-2025	35	Minor Arterial	11.25
2213	Towne Rd. Widening	Widen 2-In. to 4-In. div. from 96th St. to 116th St.	Carmel	Added Travel Lanes	\$ 19,067,900	2016-2025	32	Minor Arterial	11.25
2215	131st St. Widening	W 2 to 4 In. div. from Hazel Dell to River Ave.	Carmel	Added Travel Lanes	\$ 18,528,750	2026-2035	31	Minor Arterial	11.25
2306	Added Travel Lanes on Allisonville Road from 131st Street to 146th Street	Added Travel on Allisonville Road from 131st Street to just south of 146th Street. This project will add roadway capacity between these intersections and will include improvements	Fishers	Added Travel Lanes	\$ 10,850,000	2026-2035	71	OPA	15
2307	Added Travel Lanes on Allisonville Road from 2430' South of 126th Street to 131st Street	Added Travel on Allisonville Road from just south of 126th Street to and through 131st Street. This project will add roadway capacity between two intersection improvement	Fishers	Added Travel Lanes	\$ 10,600,000	2026-2035	63	OPA	15



ROADWAY SCORING

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	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
	No	0	10.1	-5	-449	3.67	0.02	0.22	0.33	3.26	Tier 3	10	0.94	9.38	No	0	Yes	10
	Yes, on both Ends	10	2	-5	34	-5	0.00	0.00	0.10	1.01	Tier 3	10	1.00	10.00	No	0	Yes	10
	Yes, but on one End	5	5.3	-5	-35	0.29	0.00	0.01	0.16	1.64	Tier 4	5	0.97	9.66	No	0	Yes	10
	Yes, but on one End	5	0	0.0	-39	0.32	0.00	0.00	0.00	0.00	No	0	0.93	9.28	No	0	Yes	10
	Yes, but on one End	5	9.8	-5	86	-5	0.00	0.00	0.00	0.00	No	0	0.99	9.89	No	0	Yes	10
	Yes, but on one End	5	4.5	-5	-644	5.27	0.00	0.01	0.00	0.00	No	0	0.56	5.59	No	0	No	0
	Yes, but on one End	5	0.8	-5	14	-5	0.00	0.00	0.00	0.00	Tier 4	5	0.13	1.27	No	0	No	0
	No	0	0	0.0	0	0.00	0.81	8.09	0.81	8.08	No	0	0.81	8.09	No	0	Yes	10
	Yes, on both Ends	10	1.1	-5	32	-5	0.21	2.08	0.10	0.95	No	0	1.00	9.96	No	0	Yes	10
	Yes, but on one End	5	0	0.0	0	0.00	0.31	3.10	0.20	2.01	No	0	0.61	6.12	No	0	Yes	10
	Yes, on both Ends	10	1	-5	5	-5	0.37	3.65	0.31	3.11	No	0	0.86	8.65	No	0	Yes	10
	Yes, but on one End	5	2.7	-5	-1184	9.68	0.92	9.18	0.99	9.88	Tier 3	10	0.99	9.89	No	0	Yes	10
	Yes, but on one End	5	-0.3	0.2	-69	0.56	1.00	10.00	0.82	8.17	Tier 3	10	1.00	9.99	No	0	Yes	10
	Yes, but on one End	5	-0.3	0.2	-133	1.09	0.99	9.94	0.83	8.31	No	0	0.88	8.76	No	0	Yes	10
	Yes, on both Ends	10	4.2	-5	-919	7.51	0.54	5.35	0.25	2.50	No	0	0.56	5.57	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	16	-5	1.00	10.00	0.51	5.08	No	0	0.97	9.68	No	0	Yes	10
	No	0	0.6	-5	-280	2.29	0.99	9.91	0.83	8.28	No	0	0.89	8.93	Yes	5	Yes	10
	No	0	0	0.0	0	0.00	1.00	9.98	0.96	9.63	No	0	1.00	9.98	No	0	Yes	10
	No	0	-2.2	1.6	-254	2.08	0.80	8.00	0.16	1.61	No	0	0.54	5.38	No	0	Yes	10
	Yes, but on one End	5	1.8	-5	-303	2.48	0.47	4.69	0.22	2.25	No	0	0.47	4.69	No	0	Yes	10
	Yes, but on one End	5	1.7	-5	-114	0.93	0.61	6.12	0.17	1.72	No	0	0.18	1.82	No	0	Yes	10
	Yes, but on one End	5	0	0.0	-28	0.23	0.09	0.87	0.17	1.69	No	0	0.17	1.69	No	0	Yes	10
	Yes, on both Ends	10	3.2	-5	-635	5.19	0.22	2.25	0.89	8.92	Tier 3	10	0.94	9.37	Yes	5	Yes	10
	Yes, on both Ends	10	3	-5	-448	3.66	0.51	5.14	0.72	7.16	Tier 3	10	0.71	7.11	No	0	Yes	10



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LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	
2308	Added Travel Lanes on Lantern Road from 96th Street to 106th Street	Added travel lanes on Lantern Road from 96th Street to 106th Street. This project will add capacity on a roadway that is anticipated to see commercial growth and	Fishers	Added Travel Lanes	\$ 16,012,500	2026-2035	52	Major Collector	7.
2305	96th Street from Cumberland Road to Fall Creek Road	Added Travel Lanes on 96th Street from just east of Cumberland Road to just west of Fall Creek Road.	Fishers	Added Travel Lanes	\$ 9,500,000	2016-2025	52	OPA	1.
2303	106th Street between Lantern Road and Cumberland Road.	Added Travel on 106th Street from just east of Lantern Road to just west of Cumberland Road.	Fishers	Added Travel Lanes	\$ 8,575,000	2016-2025	51	Minor Arterial	11.
2309	New Road Construction on 126th Street from Southeastern Parkway to Cyntheanne Road	New Road Construction on 126th Street from Southeastern Parkway to Cyntheanne Road	Fishers	New Road	\$ 9,637,500	Illustrative	28	Minor Collector	4.5
2304	Added Travel Lanes on 136th Street from Southeastern Parkway to Cyntheanne Road	Added capacity to 136th Street to improve safety and mobility for the growing Med Tech corridor area.	Fishers	Added Travel Lanes	\$ 12,900,000	2026-2035	26	Major Collector	7.
5203	Smith Valley Rd. Widening	W 2-In. to 4-In. div. from SR 135 to S. Emerson Ave.	Greenwood	Added Travel Lanes	\$ 41,024,910	2016-2025	62	Minor Arterial	11.
5205	E-W Corridor (Stones Crossing Road segment) - Section 1	Section 1, stretching from SR 135 to the Honey Creek Road intersection improvement along Stones Crossing Road.	Greenwood	Added Travel Lanes	\$ 11,898,100	2016-2025	44	Minor Arterial	11.
5201	Worthsville Rd. Widening	Widen 2-In. to 4-In. divided from I-65 to US 31	Greenwood	Added Travel Lanes	\$ 15,774,594	2016-2025	31	Major Collector	7.
2108	146th St. Widening	Widen 4-In. to 6-In. from SR 37 to Boden Rd.	Hamilton Co.	Added Travel Lanes	\$ 34,255,038	2026-2035	48	OPA	1.
2106	Olio Rd. Widening	Widen 2-In to 4-In from Tegler Ave. to SR 38	Hamilton Co.	Added Travel Lanes	\$ 27,907,500	2026-2035	48	Minor Arterial	11.
2105	206th St. re-alignment I	New alignment of 206th St from the Hague/Carrigan Rd roundabout to SR 19. Four lane cross section with multiuse path. Portion of existing 206th St to be removed.	Hamilton Co.	Added Travel Lanes	\$ 9,889,300	2026-2035	34	Minor Arterial	11.
2113	206th Street widening III	206th Street from Cumberland Road to SR 37	Hamilton Co.	Added Travel Lanes	\$ 9,300,000	2026-2035	33	Minor Arterial	11.
2103	206th St. re-alignment II	New alignment of 206th from SR 19 to Cumberland Road. Four lane cross section with multiuse path. Portions of existing 206th to be removed.	Hamilton Co.	Added Travel Lanes	\$ 9,715,000	2026-2035	33	Minor Arterial	11.
2118	Olio Road Extension Phase IV	New road/bridge connection of an improved North-South Corridor, From Strawtown Ave across the River connecting at the SR 37/SR213 intersection.	Hamilton Co.	New Road	\$ 15,540,000	Illustrative	25	Minor Collector	4.5
2114	206th Street widening IV	206th St from SR 37 to an improved N-S corridor (Olio Rd extension)	Hamilton Co.	Added Travel Lanes	\$ 10,125,000	2026-2035	22	Major Collector	7.
2107	Olio Road from SR 38 to SR 32	New 4-In road from SR 38 to SR 32	Hamilton Co.	New Road	\$ 31,293,000	2026-2035	21	Major Collector	7.
2117	Olio Road extension Phase III	Improved North - South corridor from 206th St to Strawtown Ave	Hamilton Co.	New Road	\$ 21,400,000	Illustrative	21	Minor Collector	4.5
2116	Olio Road Extension II	Olio Rd corridor extension , SR 32 to 206th St	Hamilton Co.	New Road	\$ 22,630,000	2026-2035	15	Minor Collector	4.5
2115	256th Street Connection	256th from SR19 to Mt. Pleasant Road (E. 95th St.). This fills a small gap in this East -West corridor with a structure over Big Cicero Creek and roadway connections/improvements. .	Hamilton Co.	New Road	\$ 10,360,000	2026-2035	12	Local	1.8
3104	Mt Comfort Road/CR 600 W Widening, Segment D	Widen 2-In. to 4-In. div. from CR 650 N to CR 850 N	Hancock Co.	Added Travel Lanes	\$ 40,029,623	2026-2035	52	OPA	1.
3105	Mount Comfort Section E	Widen 2-In. to 4-In. div. from CR 850 N to CR 1000 N	Hancock Co.	Added Travel Lanes	\$ 12,203,544	2026-2035	51	OPA	1.
3102	Mt Comfort Road/CR 600 W Widening, Segment B	Widen 2-In. to 4-In. div. from CR 400 N to CR 600 N	Hancock Co.	Added Travel Lanes	\$ 19,691,308	2016-2025	43	OPA	1.
3103	Mt Comfort Road/CR 600 W Widening, Segment C	Widen 2-In. to 4-In. div. from CR 600 N to CR 650 N	Hancock Co.	Added Travel Lanes	\$ 9,167,449	2016-2025	42	OPA	1.
3110	200W from 300N to US40	increase the capacity of the roadway when a new interchange is built.	Hancock Co.	Added Travel Lanes	\$ 21,000,000	Illustrative	26	Major Collector	7.

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ROADWAY SCORING

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FCI Score	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
5	No	0	0	0.0	0	0.00	0.99	9.88	1.00	9.96	Tier 4	5	0.99	9.85	No	0	Yes	10
5	Yes, but on one End	5	-2	1.4	-68	0.56	0.40	3.96	0.63	6.26	No	0	0.98	9.84	No	0	Yes	10
25	No	0	1.9	-5	-789	6.45	0.99	9.89	1.00	10.00	No	0	0.80	8.01	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.64	6.39	No	0	0.64	6.39	No	0	No	0
5	No	0	0	0.0	0	0.00	0.00	0.00	0.92	9.19	No	0	0.92	9.19	No	0	No	0
25	Yes, but on one End	5	8.9	-5	-847	6.93	0.56	5.58	0.84	8.38	Tier 3	10	0.99	9.86	No	0	Yes	10
25	Yes, on both Ends	10	0	0.0	-20	0.16	0.23	2.29	0.07	0.70	No	0	1.00	9.96	No	0	Yes	10
5	Yes, but on one End	5	5.2	-5	-12	0.10	0.01	0.08	0.41	4.10	No	0	0.93	9.33	No	0	Yes	10
5	Yes, but on one End	5	13.1	-5	-213	1.74	0.05	0.50	0.81	8.14	Tier 4	5	0.72	7.20	No	0	Yes	10
25	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.74	7.40	No	0	0.89	8.92	Yes H	10	No	0
25	Yes, on both Ends	10	0	0.0	0	0.00	0.03	0.27	0.04	0.37	No	0	0.24	2.36	No	0	Yes	10
25	Yes, on both Ends	10	0	0.0	-26	0.21	0.05	0.48	0.04	0.37	No	0	0.05	0.49	No	0	Yes	10
25	Yes, on both Ends	10	0	0.0	0	0.00	0.05	0.48	0.05	0.47	No	0	0.05	0.48	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	1.00	10.00	No	0	No	0
5	Yes, on both Ends	10	0	0.0	-36	0.29	0.01	0.08	0.00	0.02	No	0	0.06	0.62	No	0	0.376	3.76
5	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.01	0.04	0.42	No	0	0.83	8.25	No	0	No	0
5	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.60	6.00	No	0	No	0
5	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.02	0.00	0.01	No	0	0.52	5.17	No	0	No	0
75	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.00	0.01	No	0	No	0
5	Yes, on both Ends	10	2.9	-5	-242	1.98	0.00	0.00	0.00	0.02	Tier 3	10	0.99	9.86	No	0	Yes	10
5	Yes, on both Ends	10	4	-5	-352	2.88	0.00	0.00	0.17	1.71	Tier 3	10	0.67	6.72	No	0	Yes	10
5	Yes, on both Ends	10	1.9	-5	-96	0.78	0.00	0.00	0.00	0.00	Tier 3	10	0.18	1.84	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	-13	0.11	0.00	0.00	0.00	0.00	Tier 3	10	0.66	6.65	No	0	No	0
5	No	0	-4.3	3.1	-154	1.26	0.00	0.02	0.01	0.12	No	0	0.44	4.39	No	0	Yes	10



APPENDIX O

1/4/2018

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LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
3107	CR 300 N Widening, Segment H	Widen 2-In. to 4-In. div. from CR 500 W to CR 400 W	Hancock Co.	Added Travel Lanes	\$ 10,520,013	2016-2025	22	Minor Arterial	11.25
3106	CR 300 N Widening, Segment F	Widen 2-In. to 4-In. div. from CR 700 W to CR 600 W	Hancock Co.	Added Travel Lanes	\$ 16,939,178	2016-2025	22	Minor Arterial	11.25
3112	Stinemyer Rd Connection	Connect Stinemyer to 500W to bypass traffic from US52 around New Palestine. Particularly School traffic	Hancock Co.	New Road	\$ 1,850,000	2026-2035	17	Local	1.875
1107	Ronald Reagan Parkway Extension	Ronald Reagan Parkway between 600 N (Hendricks Co.) and I-65 @ SR 267 Interchange (Boone Co.), New Alignment	Hendricks Co.	New Road	\$ 84,800,000	2016-2025	41	OPA	15
4112	CR 200 N extension from CR 600 E to Avon Avenue	Construct CR 200 N on new alignment from CR 600 E to Avon Avenue	Hendricks Co.	New Road	\$ 3,045,000	2026-2035	28	Major Collector	7.5
4118	Widening of Hendricks County Road	Widen south County Line Road from CR 525 E to CR 925 E from 2 lanes to 4 lanes	Hendricks Co.	Added Travel Lanes	\$ 6,880,000	2016-2025	27	Major Collector	7.5
4107	Connector road from Miles Road at US 40 to CR 300 E at CR 350 S	Construct new road connecting proposed extension from interchange at CR 525 E/I 70 to CR 300 E	Hendricks Co.	New Road	\$ 14,840,000	Illustrative	26	Major Collector	7.5
4108	CR 100 N widening from CR 200 E to CR 500 E	Widen CR 100 N from 2 lanes to 4 lanes between CR 200 E and CR 500 E	Hendricks Co.	Added Travel Lanes	\$ 5,160,000	2016-2025	25	Major Collector	7.5
4106	CR 1000 N Widening	Widen 2-In. to 4-In. from Raceway Rd. to SR 267	Hendricks Co.	Added Travel Lanes	\$ 29,327,900	Illustrative	25	Major Collector	7.5
4111	CR 200 N extension from CR 225 E to CR 475 E	Extend existing CR 200 N from where it ends at CR 225 E to where it begins again at CR 475 E	Hendricks Co.	New Road	\$ 8,120,000	2026-2035	20	Major Collector	7.5
4117	Widen CR 300 E from CR 350 S to CR 200 N	Widen CR 300 E from 350 S to 200 N	Hendricks Co.	Added Travel Lanes	\$ 9,460,000	2026-2035	18	Major Collector	7.5
4109	CR 100 S extension from CR 300 E to CR 400 E	Extend CR 100 S from where it ends at CR 300 E to where it begins again at CR 400 E	Hendricks Co.	New Road	\$ 2,030,000	2026-2035	17	Local	1.875
4116	CR 950 N extension from CR 800 E to CR 925 E	Extend CR 950 N on new alignment from CR 800 E to it's current terminus at CR 925 E.	Hendricks Co.	New Road	\$ 5,075,000	2026-2035	15	Local	1.875
4114	CR 500 N from CR 575 E to CR 400 E	Extend CR 500 N from CR 400 E to the proposed Brownsburg bypass at approximately CR 575 E	Hendricks Co.	New Road	\$ 7,105,000	2026-2035	14	Major Collector	7.5
4110	CR 1000 E from CR 750 N to CR 1000 N	Extend CR 1000 E from it's current terminus at CR 750 N to CR 1000 N	Hendricks Co.	New Road	\$ 10,150,000	Illustrative	13	Minor Collector	4.95
4115	CR 750 S extension to Interchange Connector road	Improve and extend CR 750 S from SR 39 to the proposed connector road from the proposed I-70 interchange at CR 525 E	Hendricks Co.	New Road	\$ 10,150,000	Illustrative	12	Minor Collector	4.95
4113	CR 200 S extension from CR 225 E to CR 300 E	Extend existing 200 S from where it currently ends at CR 225 E to where it begins again at CR 300 E.	Hendricks Co.	New Road	\$ 3,045,000	2026-2035	10	Minor Collector	4.95
6165	Emerson Avenue from County Line Road to Southport Crossing Place	Roadway Widening -2 to 4 lane roadway with flush median (two way left turn lane) and sidewalks on both sides of the roadway	Indianapolis	Added Travel Lanes	\$ 14,098,634	2016-2025	72	Minor Arterial	11.25
6131	Allisonville Rd. Widening	Widen 4-In. div. to 6-In. div. from 96th St. to 86th St.	Indianapolis	Added Travel Lanes	\$ 9,300,000	2026-2035	69	Minor Arterial	11.25
6160	Co. Line Rd. Widening	W 2-In. to 4-In. div. from Morgantown to SR 135	Indianapolis	Added Travel Lanes	\$ 18,000,000	Illustrative	62	OPA	15
6104	Georgetown Rd. Widening	Widen 2-In. to 4-In. div. from 62nd St. to 86th St.	Indianapolis	Added Travel Lanes	\$ 27,625,000	2016-2025	60	Minor Arterial	11.25
6156	Zionsville Rd. Widening	Widen 2-In. to 4-In. div. from 86th St. to 96th St. *Employment Centers	Indianapolis	Added Travel Lanes	\$ 7,250,000	2016-2025	59	Minor Arterial	11.25
6146	Lynhurst Widening	W 2-In. to 4-In. div. from I-70 to Rockville Rd.	Indianapolis	Added Travel Lanes	\$ 21,120,000	Illustrative	58	Minor Arterial	11.25
6140	Franklin Rd. Widening	W 2-In. to 4-In. div. from 38th St. to 21st. St.	Indianapolis	Added Travel Lanes	\$ 17,800,000	Illustrative	55	Minor Arterial	11.25



ROADWAY SCORING

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	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.00	0.00	Tier 4	5	0.03	0.27	No	0	No	0
	Yes, but on one End	5	0	0.0	-5	0.04	0.00	0.00	0.00	0.00	Tier 4	5	0.02	0.21	No	0	No	0
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.00	0.00	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	190	-5	0.06	0.62	0.09	0.90	Tier 3	10	0.62	6.16	No	0	0.369	3.69
	Yes, on both Ends	10	2	-5	4	-5	0.00	0.01	0.00	0.00	No	0	1.00	10.00	No	0	Yes	10
	No	0	0	0.0	0	0.00	0.00	0.00	0.00	0.03	Tier 4	5	0.43	4.32	No	0	Yes	10
	Yes, but on one End	5	0	0.0	8	-5	0.00	0.00	0.01	0.13	No	0	0.81	8.07	No	0	Yes	10
	No	0	0	0.0	-11	0.09	0.00	0.00	0.00	0.00	No	0	0.78	7.76	No	0	Yes	10
	No	0	-3	2.1	-398	3.25	0.00	0.04	0.01	0.06	No	0	0.57	5.66	No	0	0.63	6.3
	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.27	2.65	No	0	No	0
	No	0	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.79	7.92	No	0	0.236	2.36
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	1.00	10.00	No	0	No	0
	Yes, but on one End	5	0	0.0	0	0.00	0.01	0.05	0.03	0.32	No	0	0.76	7.58	No	0	No	0
	Yes, but on one End	5	0.6	-5	3	-5	0.20	1.98	0.10	0.97	No	0	0.28	2.75	No	0	0.569	5.69
	Yes, but on one End	5	0	0.0	23	-5	0.02	0.18	0.03	0.32	No	0	0.03	0.26	No	0	0.693	6.93
	Yes, on both Ends	10	0	0.0	14	-5	0.00	0.00	0.00	0.01	No	0	0.16	1.59	No	0	No	0
	Yes, on both Ends	10	1.5	-5	3	-5	0.00	0.00	0.00	0.00	No	0	0.53	5.30	No	0	No	0
	Yes, on both Ends	10	2	-5	-160	1.31	1.00	10.00	0.97	9.67	Tier 3	10	1.00	10.00	Yes	5	Yes	10
	Yes, but on one End	5	2.2	-5	-1223	10.00	0.97	9.68	0.70	6.99	Tier 3	10	0.65	6.46	Yes	5	Yes	10
	Yes, on both Ends	10	4	-5	-260	2.13	0.48	4.85	0.73	7.30	Tier 3	10	0.81	8.11	No	0	Yes	10
	Yes, but on one End	5	5.7	-5	-183	1.50	0.98	9.81	0.31	3.05	Tier 3	10	0.43	4.31	Yes H	10	Yes	10
	Yes, on both Ends	10	2	-5	-228	1.86	1.00	9.99	0.89	8.87	Tier 3	10	0.24	2.36	No	0	Yes	10
	Yes, on both Ends	10	-3.6	2.6	-94	0.77	0.93	9.31	0.00	0.00	Tier 4	5	0.91	9.07	No	0	Yes	10
	Yes, but on one End	5	0	0.0	-12	0.10	0.96	9.55	0.00	0.00	Tier 3	10	0.93	9.33	No	0	Yes	10

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APPENDIX O

1/4/2018

DRAFT

LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
6168	South Street/Harding Street Addition	South Street/Harding Street from I-70 to West Street (G.M. Stamping Plant)	Indianapolis	New Road	\$ 40,350,000	Illustrative	55	Minor Arterial	11.25
6126	71st St. Widening	Widen 2-In. to 4-In. div. from Georgetown Rd. to Michigan Rd.	Indianapolis	Added Travel Lanes	\$ 18,000,000	2026-2035	54	Minor Arterial	11.25
6116	County Line Rd. Widening	W 2-In. to 4-In. div. from Morgantown to SR 135	Indianapolis	Added Travel Lanes	\$ 5,380,000	2026-2035	53	OPA	15
6114	Bluff Rd. Widening	Widen 2-In. to 4-In. div. from West St. to Troy Ave.	Indianapolis	Added Travel Lanes	\$ 17,100,000	2026-2035	51	Minor Arterial	11.25
6107	21st St Widening	Widen 2-In. to 4-In. div. from Post Rd. to Mitthoeffer	Indianapolis	Added Travel Lanes	\$ 9,615,000	2016-2025	51	Minor Arterial	11.25
6169	Thompson Road Widening	Thompson Road from Emerson Avenue to Southeastern Avenue, widening from 2 to 4 lanes	Indianapolis	Added Travel Lanes	\$ 44,000,000	Illustrative	50	Minor Arterial	11.25
6115	Cooper Road from Michigan Rd. to 62nd St.	New 2-In. on 4-In. div. from Michigan Rd. to 62nd St.	Indianapolis	New Road	\$ 5,960,000	2026-2035	48	Minor Arterial	11.25
6101	10th St. Reconstruction and Widening	Reconstruction and Widening to 4-In. div. from Raceway Rd. to Tomahawk	Indianapolis	Added Travel Lanes	\$ 24,005,000	2016-2025	47	Minor Arterial	11.25
6102	79th St. Widening	Widen 2-In. to 4-In. div. from Fall Creek to Sunnyside	Indianapolis	Added Travel Lanes	\$ 12,235,000	2016-2025	47	Minor Arterial	11.25
6155	West St. Widening	Widen 2-In. to 4-In. div. from Raymond St. to Bluff St.	Indianapolis	Added Travel Lanes	\$ 5,940,000	2026-2035	46	Minor Arterial	11.25
6149	Payne Rd. from 71st to 79th	New 2-In. on 4-In. div. road from 71st to 79th	Indianapolis	New Road	\$ 5,075,000	2016-2025	45	Major Collector	7.5
6119	Mann Rd. Widening - Phase 1	W 2-In. to 4-In. div., from Kentucky Rd. to I-465	Indianapolis	Added Travel Lanes	\$ 12,550,000	Illustrative	45	Minor Arterial	11.25
6106	Township Line Rd.	New 4-In. div. Roadway from 71st St. to 79th St.	Indianapolis	New Road	\$ 6,380,000	2026-2035	42	Minor Arterial	11.25
6112	79th St. Widening	Widen 2-In. to 4-In. div. from Michigan Rd. to Township Line Rd.	Indianapolis	Added Travel Lanes	\$ 7,765,000	2026-2035	42	Minor Arterial	11.25
6108	56th Street Widening	Widen 2-In. to 4-In. div. from Guion Rd. to Kessler	Indianapolis	Added Travel Lanes	\$ 8,885,500	2016-2025	42	OPA	15
6117	Dandy Trail Rd. Widening	Widen 2-In. to 4-In. div. from Crawfordsville Rd. to 34th St.	Indianapolis	Added Travel Lanes	\$ 5,240,000	2016-2025	41	Minor Arterial	11.25
6111	79th St. Widening	Widen 2-In. to 4-In. div. from Georgetown Rd. to Michigan Rd.	Indianapolis	Added Travel Lanes	\$ 14,580,000	2026-2035	40	Minor Arterial	11.25
6164	Division Street Addition	Division Street from I-70 to Washington Street, new 2 lane roadway (new alignment for G.M. Stamping Plant)	Indianapolis	New Road	\$ 65,700,000	Illustrative	40	Minor Arterial	11.25
6125	Township Line Rd. Widening	Widen 2-In. to 4-In. div. from 79th St. to 96th St.	Indianapolis	Added Travel Lanes	\$ 17,750,000	2026-2035	38	Minor Arterial	11.25
6152	Southport Rd. Widening	W 2-In. to 4-In. div. from Emerson Ave. to Franklin Rd.	Indianapolis	Added Travel Lanes	\$ 29,300,000	Illustrative	38	Minor Arterial	11.25
6129	46th Street Widening	W 2-In. to 4-In. div. from Pendleton Pike to Mitthoeffer Rd. Consistent Facility type*	Indianapolis	Added Travel Lanes	\$ 12,100,000	Illustrative	37	Major Collector	7.5
6110	56th St. Widening	Widen 2-In. to 4-In. div. from Dandy Trail Rd. to I-465	Indianapolis	Added Travel Lanes	\$ 7,530,000	2016-2025	37	OPA	15
6122	Southport Rd. Widening	Widen 2-In. to 4-In. div. from Bluff Rd. to SR 135	Indianapolis	Added Travel Lanes	\$ 11,225,000	2016-2025	35	Minor Arterial	11.25
6139	Fall Creek Rd. Widening	Widen 2-In. to 4-In. div. from Hague Rd. to Shadeland	Indianapolis	Added Travel Lanes	\$ 12,035,500	2026-2035	35	Minor Arterial	11.25



ROADWAY SCORING

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	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
	Yes, on both Ends	10	0	0.0	2	-5	0.98	9.85	0.00	10.00	No	0	0.41	4.11	Yes	5	Yes	10
	Yes, but on one End	5	-1.3	0.9	-243	1.99	0.80	8.05	0.04	0.36	Tier 4	5	0.67	6.66	Yes	5	Yes	10
	Yes, on both Ends	10	1	-5	-507	4.15	0.09	0.91	0.13	1.33	Tier 3	10	0.65	6.46	No	0	Yes	10
	Yes, but on one End	5	0	0.0	-16	0.13	1.00	10.00	0.00	0.00	Tier 4	5	0.99	9.94	No	0	Yes	10
	No	0	0	0.0	-67	0.55	0.97	9.67	0.00	0.00	No	0	0.97	9.67	Yes H	10	Yes	10
	Yes, on both Ends	10	-2	1.4	-112	0.92	0.04	0.44	0.00	10.00	No	0	0.62	6.21	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	0	0.00	0.31	3.14	0.01	0.09	Tier 4	5	0.88	8.79	No	0	Yes	10
	Yes, on both Ends	10	2.8	-5	-204	1.67	0.01	0.07	0.00	0.00	Tier 4	5	0.88	8.84	Yes	5	Yes	10
	Yes, on both Ends	10	2	-5	-936	7.65	0.24	2.42	0.05	0.46	NO	0	1.00	10.00	NO	0	Yes	10
	Yes, but on one End	5	0.4	-5	-14	0.11	1.00	10.00	0.00	0.00	Tier 4	5	0.98	9.80	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	0	0.00	0.97	9.70	0.26	2.62	No	0	0.51	5.14	No	0	Yes	10
	Yes, but on one End	5	-2.9	2.1	-92	0.75	0.59	5.87	0.00	0.00	No	0	1.00	9.95	No	0	Yes	10
	Yes, but on one End	5	0	0.0	1	-5	0.98	9.78	0.15	1.46	No	0	1.00	10.00	No	0	Yes	10
	Yes, but on one End	5	1.3	-5	-124	1.01	0.97	9.73	0.14	1.36	No	0	0.90	9.02	No	0	Yes	10
	Yes, but on one End	5	-2.3	1.6	-270	2.21	0.10	0.95	0.00	0.00	No	0	0.70	7.04	No	0	Yes	10
	Yes, but on one End	5	0.8	-5	-432	3.53	0.00	0.01	0.00	0.00	Tier 3	10	0.65	6.53	No	0	Yes	10
	Yes, but on one End	5	3.2	-5	-106	0.87	0.98	9.80	0.28	2.80	No	0	0.51	5.15	No	0	Yes	10
	Yes, but on one End	5	0	0.0	0	0	0.99	9.87	0.00	0.00	No	0	0.34	3.39	No	0	Yes	10
	Yes, but on one End	5	4.9	-5	-70	0.57	0.99	9.94	0.19	1.94	No	0	0.47	4.74	No	0	Yes	10
	Yes, but on one End	5	0	0.0	-192	1.57	0.49	4.86	0.08	0.75	No	0	0.41	4.09	No	0	Yes	10
	No	0	-0.2	0.1	-71	0.58	0.93	9.29	0.00	0.00	No	0	0.99	9.87	No	0	Yes	10
	Yes, on both Ends	10	2.5	-5	-98	0.80	0.30	3.00	0.00	0.00	No	0	0.27	2.73	No	0	Yes	10
	Yes, on both Ends	10	2.5	-5	-392	3.21	0.33	3.34	0.06	0.55	No	0	0.20	2.00	No	0	Yes	10
	No	0	2.4	-5	-333	2.72	0.85	8.47	0.00	0.02	No	0	0.77	7.72	No	0	Yes	10

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APPENDIX O

1/4/2018

DRAFT

LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
6137	County Line Rd. from Five Points to Franklin Rd.	New 2-In. on 4-In. div. from Five Points to Franklin Rd.	Indianapolis	New Road	\$ 15,325,000	2026-2035	35	Minor Arterial	11.25
6121	Southport Rd. Widening	W 2-In. to 4-In. div. from Mann Rd. to SR 37	Indianapolis	Added Travel Lanes	\$ 21,950,000	Illustrative	33	Minor Arterial	11.25
6158	10th St. Widening, I-465 to Tomahawk	Widen 4-In. to 6-In. div. from I-465 to Tomahawk	Indianapolis	Added Travel Lanes	\$ 38,100,400	Illustrative	32	Minor Arterial	11.25
6157	High School Rd Widening	Widen 2-In. to 4-In. div. from 46th St. to 56th St.	Indianapolis	Added Travel Lanes	\$ 11,285,000	2026-2035	32	Major Collector	7.5
6136	Camby Rd Extension, Mooresville to Mann	New 4-In. div. ROW from Mooresville Rd. to Mann Rd.	Indianapolis	New Road	\$ 12,500,000	Illustrative	31	Minor Arterial	11.25
6109	56th Street Widening	Widen 2-In. to 4-In. div. from Raceway Rd. to Dandy Trail Rd.	Indianapolis	Added Travel Lanes	\$ 6,690,000	2016-2025	31	OPA	15
6118	Girls School Rd. Widening	Widen 2-In. to 4-In. div. from Rockville Rd. to 21st St.	Indianapolis	Added Travel Lanes	\$ 16,850,000	2026-2035	29	Minor Arterial	11.25
6123	Southport Rd. Widening	Widen 2-In. to 4-In. div. from SR 135 to US 31	Indianapolis	Added Travel Lanes	\$ 4,510,000	2016-2025	29	Minor Arterial	11.25
6124	Thompson Rd. Widening	Widen 2-In. to 4-In. div. from High School Rd. to Mann Rd.	Indianapolis	Added Travel Lanes	\$ 14,500,000	2026-2035	27	Minor Arterial	11.25
6134	Bluff Rd. Widening	Widen 2-In. to 4-In. div. from Thompson Rd. to SR 37	Indianapolis	Added Travel Lanes	\$ 34,850,000	2026-2035	27	Minor Arterial	11.25
6141	Franklin Rd. Widening	W 2-In. to 4-In. div. from Brookville Rd. to Troy Ave.	Indianapolis	Added Travel Lanes	\$ 16,800,000	Illustrative	26	Minor Arterial	11.25
6147	Mann Rd. Widening - Phase II	W 2-In. to 4-In. div. from Southport to I-465	Indianapolis	Added Travel Lanes	\$ 15,850,000	Illustrative	25	Minor Arterial	11.25
6144	Girls School Rd Widening	Widen 2-In. to 4-In. div. from Crawfordsville Rd. to 21st St.	Indianapolis	Added Travel Lanes	\$ 7,410,000	2026-2035	24	Minor Arterial	11.25
6120	Post Rd. Widening	W 2-In. to 4-In. div. from Brookville Rd. to I-74	Indianapolis	Added Travel Lanes	\$ 17,550,000	Illustrative	23	Minor Arterial	11.25
6142	Franklin Rd. Widening	W 2-In. to 4-In. div. from Southeastern to Shelbyville	Indianapolis	Added Travel Lanes	\$ 35,330,000	Illustrative	22	Minor Arterial	11.25
6162	Ameriplex Parkway/ Camby Road Connector New 4-lane Roadway	New 4-lane Roadway	Indianapolis	New Road	\$ 31,550,000	Illustrative	22	Minor Arterial	11.25
6135	Camby Rd Widening, Kentucky to Mooresville	W 2-In. to 4-In. div. from Kentucky Ave. to Mooresville Rd.	Indianapolis	Added Travel Lanes	\$ 16,300,000	Illustrative	20	Minor Arterial	11.25
5106	CR 200 N Widening	Widen 2-In to 4-In div. from SR 144 to US 31	Johnson Co.	Added Travel Lanes	\$ 7,548,750	2026-2035	52	Major Collector	7.5
5104	CR 144 Widening from SR 37 to Whiteland Rd.	Widen 2-In to 4-In div.	Johnson Co.	Added Travel Lanes	\$ 9,100,000	Illustrative	38	Minor Arterial	11.25
5102	Stones Crossing Widening	Widen 2-In to 4-In div. from SR 37 to SR 135	Johnson Co.	Added Travel Lanes	\$ 19,489,500	2026-2035	32	Minor Arterial	11.25
5105	Whiteland Rd Widening	Widen 2-In to 4-In div. from CR 144 to SR 135	Johnson Co.	Added Travel Lanes	\$ 6,500,000	Illustrative	31	Minor Arterial	11.25
5101	Smith Valley Rd. from Mann Rd. to SR 37	New 2-In. on 4-In. div. ROW	Johnson Co.	New Road	\$ 11,500,000	Illustrative	30	Minor Arterial	11.25
5107	Whiteland Rd Widening	Widen 2-In to 4-In div. from CR 225 E to I-65	Johnson Co.	Added Travel Lanes	\$ 10,467,600	2026-2035	26	Minor Arterial	11.25
5103	Clark School Rd Widening	Widen 2-In to 4-In div. from Franklin Rd. (CR 440E) to the Johnson/Shelby County Line.	Johnson Co.	Added Travel Lanes	\$ 26,260,500	2026-2035	8	Major Collector	7.5



ROADWAY SCORING

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	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
	Yes, but on one End	5	0	0.0	0	0.00	0.18	1.80	0.18	1.80	No	0	0.47	4.69	No	0	Yes	10
	Yes, on both Ends	10	2.8	-5	-515	4.21	0.20	1.96	0.00	0.02	No	0	0.02	0.17	No	0	Yes	10
	Yes, but on one End	5	3.2	-5	-269	2.20	0.11	1.10	0.00	0.00	Tier 4	5	0.26	2.58	No	0	Yes	10
	Yes, but on one End	5	-2	1.4	-33	0.27	0.25	2.54	0.00	0.00	No	0	0.53	5.28	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.05	0.00	0.01	No	0	0.02	0.18	No	0	Yes	10
	Yes, but on one End	5	3.2	-5	-462	3.78	0.12	1.20	0.00	0.01	No	0	0.12	1.18	No	0	Yes	10
	No	0	2.8	-5	-48	0.39	0.09	0.86	0.00	0.00	No	0	0.19	1.92	Yes H	10	Yes	10
	Yes, but on one End	5	1.2	-5	-165	1.35	0.40	4.05	0.06	0.58	No	0	0.21	2.10	No	0	Yes	10
	No	0	-1.2	0.9	-41	0.34	0.14	1.38	0.00	0.01	No	0	0.32	3.25	No	0	Yes	10
	No	0	6	-5	-461	3.77	0.50	4.96	0.05	0.45	No	0	0.14	1.44	No	0	Yes	10
	No	0	-1.3	0.9	-64	0.52	0.01	0.05	0.00	0.00	No	0	0.30	3.01	No	0	Yes	10
	Yes, but on one End	5	0.6	-5	-191	1.56	0.06	0.63	0.00	0.00	No	0	0.20	2.04	No	0	Yes	10
	Yes, but on one End	5	1.5	-5	-114	0.93	0.04	0.36	0.00	0.00	No	0	0.17	1.72	No	0	Yes	10
	No	0	-0.8	0.6	-47	0.38	0.00	0.03	0.00	0.00	No	0	0.10	1.02	No	0	Yes	10
	No	0	0	0.0	-22	0.18	0.00	0.04	0.00	0.01	No	0	0.09	0.90	No	0	Yes	10
	Yes, but on one End	5	0	0.0	59	-5	0.01	0.07	0.02	0.19	No	0	0.05	0.50	No	0	Yes	10
	Yes, but on one End	5	1.4	-5	6	-5	0.01	0.15	0.05	0.49	No	0	0.26	2.64	No	0	Yes	10
	No	0	-3.5	2.5	-102	0.83	0.64	6.38	0.66	6.61	Tier 3	10	0.79	7.86	No	0	Yes	10
	No	0	-5.4	3.9	-781	6.39	0.00	0.00	0.00	0.00	No	0	0.64	6.40	No	0	Yes	10
	No	0	-3	2.1	-143	1.17	0.09	0.88	0.00	0.05	No	0	0.70	6.96	No	0	Yes	10
	No	0	-0.6	0.4	-31	0.25	0.00	0.01	0.00	0.00	No	0	0.86	8.59	No	0	Yes	10
	Yes, but on one End	5	0	0.0	107	-5	0.01	0.06	0.00	0.03	No	0	0.89	8.89	No	0	Yes	10
	No	0	0	0.0	-4	0.03	0.00	0.04	0.03	0.28	No	0	0.48	4.82	No	0	Yes	10
	No	0	0	0.0	-4	0.03	0.00	0.00	0.00	0.00	No	0	0.00	0.03	No	0	No	0



APPENDIX O

1/4/2018

DRA

L RTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	ERC Score
2502	Allisonville Rd Widening	Widen 2-In. to 4-In. from 146th St. to Greenfield Rd.	Noblesville	Added Travel Lanes	\$ 37,071,033	2026-2035	62	OPA	11.0
2508	Pleasant Street Corridor Improvements and Midland Trace Trail	Pleasant Street Corridor Improvements, SR 37 to Hague Road, with Midland Trace Trail Component	Noblesville	Added Travel Lanes	\$ 53,130,345	Illustrative	58	Minor Arterial	11.0
2501	Greenfield Widening	Widen 2-In. to 4-In. from Allisonville Rd. to Cumberland Rd.	Noblesville	Added Travel Lanes	\$ 17,594,105	2026-2035	52	OPA	11.0
2507	Olio Road from 141st Street to 146th Street	Roadway Corridor, Intersection, and Safety Improvements for traffic, bicycles and pedestrians.	Noblesville	Added Travel Lanes	\$ 4,547,727	Illustrative	37	Minor Collector	4.5
2505	Little Chicago Road from SR 38 to Carrigan Road	Existing roadway capacity improvement with a intersections, pedestrian and bicycle facilities	Noblesville	Added Travel Lanes	\$ 16,400,673	Illustrative	36	Minor Arterial	11.0
2503	191st Street from Little Chicago Road to Moontown Road	Added travel lanes and intersection improvements from Little Chicago Road to Moontown Road.	Noblesville	Added Travel Lanes	\$ 7,871,855	Illustrative	33	Major Collector	7.0
2504	Boden Road Improvements from Greenfield Ave/146th Street to SR 38	Added travel lanes, intersection improvements, and pedestrian and bicycle improvements.	Noblesville	Added Travel Lanes	\$ 23,085,619	Illustrative	28	Major Collector	7.0
2506	Mill Creek (Seminole Road) Added Travel, Bicycle and Pedestrian Lanes	Added travel lanes on bicycle and pedestrian lanes along corridor from 161st St. to SR 38. It will also improve turning radii, sight distance, and safety at intersections and correct	Noblesville	Added Travel Lanes	\$ 19,323,127	Illustrative	28	Major Collector	7.0
4509	Ronald Reagan Parkway, South Widening	Widen the Parkway from 4-lane to 6-lane section from I-70 Interchange to Bradford Road. Note that improvements to the intersection with US-40 would be expected to be	Plainfield	Added Travel Lanes	\$ 14,999,000	2026-2035	56	OPA	11.0
4504	Perimeter Pkwy NE, Phase 2, Widening	Widen 2-In. to 5-In. from Avon Ave. to Dan Jones Rd.	Plainfield	Added Travel Lanes	\$ 6,793,288	2026-2035	46	Major Collector	7.0
4506	Perimeter Pkwy NW Widening	W 2-In. to 4-In. from Vestal Rd. to Saratoga Parkway. Consider alternative alignment to connect Saratoga to CR 300 S.	Plainfield	Added Travel Lanes	\$ 6,575,000	Illustrative	33	Local	1.8
4505	Perimeter Pkwy SW (CR600S) Widening	Widen 2-In. to 4-In. from Center St. to Moon Rd.	Plainfield	Added Travel Lanes	\$ 8,254,506	2026-2035	30	Major Collector	7.0
4510	US 40 to I-70 Connector: CR 525 E to Miles Road	Create a 2-lane N/S roadway connection between CR 525 E to Miles Road	Plainfield	New Road	\$ 3,827,500	2026-2035	26	Major Collector	7.0
4507	Perimeter Pkwy SW (Moon Rd.) Widening	W 2-In. to 4-In. from S. approach at US 40 to Hadley Rd.	Plainfield	Added Travel Lanes	\$ 7,092,000	Illustrative	26	Major Collector	7.0
8001	Fairland Road Extension	New 2-lane Roadway from CR 400 N to CR 100 N	Shelby Co.	New Road	\$ 23,763,600	2016-2025	31	Minor Arterial	11.0
6403	25th St. Georgetown Rd. Connector	New 4 In. Road	Speedway	New Road	\$ 10,597,956	2016-2025	58	Minor Arterial	11.0
6405	Holt Rd. Realignment and Extension	Realignment and Extension - 4 In. from S. of 10th St. to 16th St.	Speedway	Added Travel Lanes	\$ 17,618,235	2016-2025	51	OPA	11.0
6401	16th St. Realignment	Realignment from Main St. to east town limits	Speedway	Realignment	\$ 48,711,187	2016-2025	49	OPA	11.0
6404	Lynhurst Dr. from 26th St. to 30th St.	New 4 In. Road from 26th St. to 30th St.	Speedway	New Road	\$ 11,218,853	2016-2025	46	Minor Arterial	11.0
2403	161st St. Widening	Widen 2-In to 4-In from Union Street to Gray Rd.	Westfield	Added Travel Lanes	\$ 22,176,916	2016-2025	51	Major Collector	7.0
2439	Westfield Road Connector	Westfield Boulevard Connector Westfield Boulevard Connector Expansion. Westfield Boulevard Connector is expected to be built by 2019 (des 1401650) as a two lane	Westfield	New Road	\$ 7,400,000	2026-2035	48	Minor Arterial	11.0
2431	Oak Ridge North Extension	New Roadway extending Oak Ridge Road at SR 32 northerly to connect into Grand Park Boulevard. This will be a planned 4 lane roadway but built initial with 2 lanes. This will include	Westfield	New Road	\$ 9,000,000	2026-2035	45	Major Collector	7.0
2440	Westfield Boulevard Extension (151st to 156th at US 31)	New 2 lane Roadway from 151st Street (just west of US 31) running north and connecting to Union Street at US 31 underpass bridge.	Westfield	New Road	\$ 5,416,900	2016-2025	45	Major Collector	7.0
2441	Wheeler Road (32 to 186)	Widen Wheeler to a 4 lane roadway with turn lanes from SR 32 to just north of 186th Street. Will include intersection improvements	Westfield	Added Travel Lanes	\$ 8,000,000	2016-2025	44	Minor Collector	4.5

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ROADWAY SCORING

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TCJ Score	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
5	Yes, but on one End	5	3.4	-5	-416	3.40	0.56	5.55	0.98	9.85	Tier 4	5	0.85	8.55	Yes	5	Yes	10
25	Yes, on both Ends	10	1.2	-5	-63	0.52	0.73	7.33	0.91	9.08	Tier 4	5	0.99	9.94	No	0	Yes	10
5	No	0	3.5	-5	-439	3.59	0.91	9.12	1.00	9.97	No	0	0.92	9.19	No	0	Yes	10
5	Yes, on both Ends	10	-1.8	1.3	-91	0.74	0.00	0.00	0.99	9.92	No	0	1.00	10.00	No	0	No	0
25	Yes, but on one End	5	0	0.0	-8	0.07	0.00	0.00	0.00	0.03	No	0	1.00	10.00	No	0	Yes	10
5	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.01	0.03	0.29	No	0	1.00	10.00	No	0	Yes	10
5	Yes, but on one End	5	4.8	-5	-400	3.27	0.01	0.13	0.72	7.15	No	0	1.00	10.00	No	0		0
5	No	0	0	0.0	0	0.00	0.01	0.09	0.05	0.50	No	0	0.99	9.88	No	0	Yes	10
5	No	0	2.5	-5	-174	1.42	0.54	5.41	0.87	8.74	Tier 3	10	1.00	9.98	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	-1	0.01	0.08	0.84	0.90	9.02	No	0	0.91	9.08	No	0	Yes	10
75	Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.02	0.38	3.75	No	0	0.73	7.27	No	0	Yes	10
5	Yes, but on one End	5	0.2	-5	-361	2.95	0.05	0.50	0.33	3.30	No	0	0.61	6.08	No	0	Yes	10
5	Yes, on both Ends	10	2.1	-5	37	-5	0.00	0.00	0.02	0.22	No	0	0.85	8.54	No	0	Yes	10
5	No	0	6.2	-5	-34	0.28	0.01	0.06	0.40	4.05	No	0	0.87	8.74	No	0	Yes	10
25	Yes, but on one End	5	0	0.0	1	-5	0.00	0.00	0.00	10.00	No	0	0.93	9.31	No	0	No	0
25	Yes, on both Ends	10	0	0.0	0	0	0.80	7.98	0.00	10.00	No	0	0.84	8.41	No	0	Yes	10
5	Yes, but on one End	5	0.9	-5	-21	0.17	1.00	10.00	0.00	10.00	No	0	0.63	6.30	No	0	Yes	10
5	Yes, on both Ends	10	0.5	-5	30	-5	1.00	9.98	0.00	10.00	No	0	0.39	3.91	No	0	Yes	10
25	No	0	0	0.0	0	0	0.70	6.99	0.00	10.00	No	0	0.79	7.89	No	0	Yes	10
5	Yes, but on one End	5	-4	2.9	-355	2.90	0.55	5.54	0.84	8.41	No	0	0.87	8.65	No	0	Yes	10
25	Yes, but on one End	5	0	0.0	0	0.00	0.19	1.86	1.00	10.00	No	0	0.96	9.57	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	0	0.00	0.04	0.35	0.97	9.71	No	0	0.78	7.77	No	0	Yes	10
5	Yes, but on one End	5	0	0.0	0	0.00	0.97	9.72	0.99	9.90	No	0	0.29	2.87	No	0	Yes	10
5	Yes, on both Ends	10	0	0.0	0	0.00	0.03	0.30	0.94	9.36	No	0	0.91	9.12	No	0	Yes	10



APPENDIX O

1/4/2018

DRAFT

LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
2402	161st St. Widening	Widen 2-In to 4-In from Springmill to US 31	Westfield	Added Travel Lanes	\$ 20,816,253	2026-2035	43	Major Collector	7.5
2438	Westfield Road Connector (161st to 169th)	New Roadway (built initial as 2 lanes expandable to 4 lanes) that will be a western frontage road of US 31 from 191st and Chad Hittle, north to connect to SR 38.	Westfield	New Road	\$ 8,600,000	2016-2025	43	Major Collector	7.5
2430	Grand Park Boulevard South Extension to 181st	New 3-lane commercial extension of Grand Park Boulevard from Wheeler Road to 181st Street at Sun Park Drive.	Westfield	New Road	\$ 2,140,000	2016-2025	41	Local	1.875
2428	East Street/Jersey Street Extension From SR 32 to Union	New 2 lane roadway that will extend East Street Southwesterly from SR 32 to the intersection of Union at Jersey Street.	Westfield	New Road	\$ 4,600,000	2016-2025	40	Minor Collector	4.95
2421	Chad Hittle Extension (191st Street to Tomlinson Road)	New roadway extending Chad Hittle at 191st Street south westerly to connect to Tomlinson Road near 186th Street. This roadway will be planned as 4 lanes but constructed	Westfield	New Road	\$ 4,800,000	2016-2025	40	Minor Collector	4.95
2426	East Street Widening 186th to 191st Street	Widen existing East Street from 2 lanes to 4 lanes from 186th Street to 191st Street. This will include intersection improvements	Westfield	Added Travel Lanes	\$ 2,800,000	2026-2035	37	Major Collector	7.5
2415	191st Street Widening (west)	Roadway widening of 191st west of US 31 to Horton Road. This Project adds capacity from 2 lanes to 4 lanes along 191st Street to Horton Road. The City is building with local	Westfield	Added Travel Lanes	\$ 13,500,000	2016-2025	37	Major Collector	7.5
2419	Buena Vista Ext	New 2 lane roadway extending Buena Vista Road Southerly (south of 161st Street) to new West Access Road. This will include a major bridge and intersection improvements	Westfield	New Road	\$ 7,500,000	Illustrative	37	Minor Collector	4.95
2412	186th Street Widening Project	To widen 186th Street from Grand Park Boulevard Roundabout to the New Roundabout at Spring Mill. Bike and Ped facilities are located presently along 186th Street	Westfield	Added Travel Lanes	\$ 1,800,000	2026-2035	36	Minor Collector	4.95
2405	Springmill Road Widening	Widen 2-In to 4-In div from 146th St. to SR 32	Westfield	Added Travel Lanes	\$ 27,187,700	2016-2025	36	Major Collector	7.5
2406	Western Way from S. Union St. to Western Way	New 4-In. roadway	Westfield	New Road	\$ 58,968,090	2026-2035	35	Major Collector	7.5
2418	Aurora Extension Roadway	New SR 38 frontage (south side) that will run along the Aurora PUD and connect into the East Street North Extension project.	Westfield	New Road	\$ 3,600,000	2026-2035	33	Major Collector	7.5
2432	Oak Ridge Widening 146th Street to SR 32	Widen existing Oak Ridge Road to 3 lanes from 146th Street north to SR 32. This will include 2 major intersection improvements	Westfield	Added Travel Lanes	\$ 16,400,000	2026-2035	33	Major Collector	7.5
2422	Dean Road South Extension to 161st	New 3-lane frontage roadway along the west side of US 31 that will connect SR 32 and 161st interchanges and provide a perfect economic frontage corridor.	Westfield	New Road	\$ 5,600,000	2026-2035	32	Minor Collector	4.95
2427	East Street Widening 191st Street to 196th Street	Widen East Street from 2 lanes to 4 lanes from the 191st Street to 196th Street	Westfield	Added Travel Lanes	\$ 2,500,000	2026-2035	31	Major Collector	7.5
2433	Spring Mill Road Widening SR 32 to 191st Street	Widen Spring Mill Road from a 2 lane roadway to a 3 lane roadway with intersection improvements from SR 32 to 191st Street. New Roundabout is planned for 186th and	Westfield	Added Travel Lanes	\$ 13,800,000	2026-2035	29	Major Collector	7.5
2413	191st Street East Roadway Widening	To widen 191st Street east of US 31 to Moontown Road. This project would transform this roadway from a 2 lane roadway to 4 lanes with major intersection improvements.	Westfield	Added Travel Lanes	\$ 16,150,000	2026-2035	28	Major Collector	7.5
2410	161st Street Added Travel lanes Spring Mill to Towne Road	added travel lane project (two -four lanes) along 161st from Spring Mill Road to Towne Road. This project will include intersection improvements.	Westfield	Added Travel Lanes	\$ 10,600,000	2026-2035	24	Major Collector	7.5
2437	Western US 31 Frontage Road West (191st to SR 38)	New Roadway (built initial as 2 lanes expandable to 4 lanes) that will be a western frontage road of US 31. This roadway will start at the new planned roundabout at 191st and Chad	Westfield	New Road	\$ 28,300,000	2016-2025	22	Minor Collector	4.95
2420	Centennial Road Realignment to SR 32	New 2 lane roadway connection from SR 32 and new interchange of the 169/171st west extension project and running northwesterly connecting into Centennial Road.	Westfield	New Road	\$ 3,340,000	2026-2035	22	Local	1.875
2414	191st Street to 193rd Connection Roadway (X)	The construction of a new 4 lane roadway starting at 191st and Horton Road and running Northwesterly to connect to at the existing intersection of 193rd and Spring Mill Road.	Westfield	New Road	\$ 5,380,000	2016-2025	19	Minor Collector	4.95
2434	Spring Mill to Horton Road Connection (X)	This new 4 lane roadway project will connect the existing intersection of 191st and Spring Mill and run northeasterly to Horton Road. This will include a major new intersection	Westfield	New Road	\$ 5,380,000	2016-2025	19	Minor Collector	4.95
2411	169th/171st Street Western Extension	New built 2 -4 lane roadway extending 169th/171st Street North Westerly from Ditch Road to SR 32. This will include a bridge over Little Eagle Creek and intersection	Westfield	New Road	\$ 10,600,000	2016-2025	18	Minor Collector	4.95
2429	Grand Park Boulevard North Extension	New Roadway from 191st Street to Horton Road. This new roadway will be built as a 2 lane roadway with intersection improvements.	Westfield	New Road	\$ 10,200,000	2016-2025	17	Major Collector	7.5



ROADWAY SCORING

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Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
Yes, on both Ends	10	0	0.0	-21	0.17	0.51	5.09	0.75	7.48	No	0	0.31	3.06	No	0	Yes	10
Yes, but on one End	5	0	0.0	0	0.00	0.61	6.12	0.93	9.34	No	0	0.50	4.97	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.01	0.15	0.92	9.18	No	0	0.97	9.73	No	0	Yes	10
Yes, but on one End	5	0	0.0	0	0.00	0.07	0.66	0.97	9.68	No	0	1.00	9.97	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.02	0.61	6.08	No	0	0.92	9.15	No	0	Yes	10
Yes, but on one End	5	0	0.0	0	0.00	0.00	0.02	0.54	5.42	No	0	0.93	9.30	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.36	3.60	No	0	0.61	6.06	No	0	Yes	10
Yes, on both Ends	10	1	-5	6	-5	0.90	9.00	1.00	10.00	No	0	0.31	3.07	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.02	0.60	6.00	No	0	0.55	5.46	No	0	Yes	10
Yes, but on one End	5	-1.4	1.0	-55	0.45	0.17	1.72	0.47	4.70	No	0	0.55	5.55	No	0	Yes	10
No	0	0	0.0	2	-5	0.99	9.87	0.99	9.91	No	0	0.31	3.10	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.01	0.09	No	0	0.59	5.87	No	0	Yes	10
Yes, but on one End	5	1.7	-5	9	-5	0.53	5.26	0.87	8.70	No	0	0.63	6.33	No	0	Yes	10
No	0	0	0.0	6	-5	0.39	3.87	0.99	9.92	No	0	0.81	8.09	No	0	Yes	10
Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.26	2.60	No	0	0.63	6.32	No	0	Yes	10
Yes, but on one End	5	0	0.0	0	0.00	0.01	0.05	0.42	4.23	No	0	0.21	2.06	No	0	Yes	10
No	0	0	0.0	0	0.00	0.00	0.00	0.22	2.22	No	0	0.83	8.30	No	0	Yes	10
Yes, but on one End	5	0	0.0	-1	0.01	0.07	0.68	0.16	1.65	No	0	0.25	2.47	No	0	0.644	6.44
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.13	1.30	No	0	0.37	3.73	No	0	0.227	2.27
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.00	0.02	No	0	0.01	0.06	No	0	Yes	10
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.22	2.23	No	0	0.21	2.07	No	0	No	0
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.00	0.20	1.95	No	0	0.18	1.83	No	0	No	0
Yes, on both Ends	10	0	0.0	0	0.00	0.00	0.02	0.05	0.48	No	0	0.02	0.19	No	0	0.259	2.59
Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.19	1.88	No	0	0.30	3.01	No	0	No	0



APPENDIX O

1/4/2018

DRAFT

LRTP #	Project	Description	Project Sponsor	Project Type	Cost	LPA Proposed Period	Score	Functional Classification	FCS Score
2409	156th Street West Extension	New 2 lane roadway from Towne Road westerly to 156th at Joilet Road. This will include a bridge crossing of Little Eagle Creek with three intersection improvements	Westfield	New Road	\$ 15,400,000	Illustrative	14	Local	1.875
2435	Towne Road Realignment	New Roadway to realign Towne Road from just north of 166th Street northeasterly to connect into Eagletown Road at SR 32. This will include intersection improvements	Westfield	New Road	\$ 13,500,000	2026-2035	13	Major Collector	7.5
2444	196th St. Extension	New connection between Horton Rd. and Tomlinson Rd. on 196th St.	Westfield	New Road	\$ 100	Illustrative	12	Local	1.875
2417	199th Street Extension East	New 2 lane roadway connection from the intersection 199th street and Tomlinson Road to the new Western Frontage Road (connecting SR 32 to SR 38)	Westfield	New Road	\$ 2,380,000	2026-2035	10	Local	1.875
2416	193rd Widening Project from Spring Mill Road (existing) to Joilet Road	Widen existing 193rd Street from a 2 lane roadway to a 4 lane roadway. Roadway will start at the nex Roadway segment of 191st to 193rd extension at Spring Mill Road and	Westfield	Added Travel Lanes	\$ 28,000,000	Illustrative	8	Major Collector	7.5
2436	Western Frontage Road Northern Expansion	New 3-lane Roadway starting at the intersection of SR 38 and Western Frontage Road running northerly to 216th Street.	Westfield	New Road	\$ 5,100,000	2026-2035	7	Minor Collector	4.95
5301	Whiteland SE Bypass	Engineering and construction of a south east bypass of the Town of Whiteland. Plans to include truck route, pedestrian accommodations / bike lanes as well as an overpass of the	Whiteland	New Road	\$ 100	2026-2035	40	OPA	15
1203	96th St. Widening	Widen 2 to 4 ln. from Zionsville Rd. to Hamilton Co. line with multi-use pathway	Zionsville	Added Travel Lanes	\$ 15,341,460	2026-2035	52	Major Collector	7.5
1208	Bennett Pkwy from 96th St. to 106th St.	New 2-lane road from 0.5 miles south of 106th St. to 96th St.	Zionsville	New Road	\$ 16,755,000	2016-2025	43	Major Collector	7.5
1209	106th St. from Bennett Parkway to Zionsville Rd.	Added travel lanes and new roundabout	Zionsville	Added Travel Lanes	\$ 3,811,000	Illustrative	43	Major Collector	7.5
1210	Oak St. from Ford Rd. to Whitestown Corp. limits	Added lanes 2 to 4 with multi use pathways and intersection improvement (roundabout) and bridge replacement	Zionsville	Added Travel Lanes	\$ 14,632,400	2026-2035	40	Minor Arterial	11.25
1206	Templin Rd. from Mulberry St. to Willow Rd.	New 2-lane roadway	Zionsville	New Road	\$ 9,058,500	2026-2035	36	Major Collector	7.5
1201	North-South Connector from Oak St. to CR 550 S	New 2-lane roadway with multi-use pathway	Zionsville	New Road	\$ 5,280,000	2016-2025	25	Major Collector	7.5
1202	CR 600 S. from Cooper Rd. to CR 900 E	New 2-lane roadway	Zionsville	New Road	\$ 1,890,000	Illustrative	17	Local	1.875
1205	CR 375 from CR 1000 W to US 421	New 2-lane roadway	Zionsville	New Road	\$ 13,596,900	2026-2035	11	Local	1.875
1207	CR 875 from CR 250 S to CR 200 S	New 2-lane roadway	Zionsville	New Road	\$ 6,325,250	2026-2035	10	Local	1.875
					\$ 2,842,138,652				



ROADWAY SCORING

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	Number of Lanes	Number of Lanes Score	Change in Congested Lane Miles	CLM Score	Change in VHD	VHD Score	Proximity Score - Existing Clusters	Current Employment Score	Proximity Score - Emerging Clusters	Future Employment Score	Improve a roadway on the Regional Freight Corridor?	Freight Corridor Score	Proximity Score - Safety Area of Concern	Safety Score	Addresses Top 50 Intersection	TOP 50 Score	Urbanized Area	UAB Score
	Yes, on both Ends	10	0	0.0	37	-5	0.07	0.65	0.08	0.84	No	0	0.34	3.45	No	0	0.262	2.62
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.03	0.30		No	0	0.01	0.10	No	0	No	0
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.17	1.66		No	0	0.36	3.60	No	0	No	0
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.08	0.77		No	0	0.26	2.57	No	0	No	0
	No	0	0	0.0	0	0.00	0.00	0.03	0.33		No	0	0.03	0.26	No	0	No	0
	No	0	0	0.0	0	0.00	0.00	0.00	0.01		No	0	0.23	2.29	No	0	No	0
	Yes, on both Ends	10	0	0.0	86	-5	0.05	0.54	0.19	1.90	No	0	0.72	7.23	No	0	Yes	10
	Yes, but on one End	5	-2	1.4	-82	0.67	0.98	9.81	0.99	9.88	Tier 4	5	0.32	3.20	No	0	Yes	10
	Yes, but on one End	5	0	0.0	47	-5	1.00	10.00	0.96	9.64	No	0	0.60	5.97	No	0	Yes	10
	No	0	0	0.0	-9	0.07	1.00	9.98	0.65	6.48	No	0	0.90	8.96	No	0	Yes	10
	Yes, but on one End	5	-7	5.0	-251	2.05	0.11	1.14	0.04	0.37	No	0	0.54	5.41	No	0	Yes	10
	Yes, but on one End	5	0	0.0	0	0.00	0.46	4.64	0.05	0.52	No	0	0.88	8.79	No	0	Yes	10
	Yes, on both Ends	10	0	0.0	30	-5	0.01	0.12	0.00	0.03	No	0	0.28	2.75	No	0	Yes	10
	No	0	0	0.0	0	0.00	0.03	0.29	0.00	0.05	No	0	0.43	4.32	No	0	Yes	10
	No	0	0	0.0	0	0.00	0.01	0.14	0.00	0.00	No	0	0.92	9.23	No	0	No	0
	Yes, but on one End	5	0	0.0	0	0.00	0.00	0.00	0.00	0.00	No	0	0.35	3.51	No	0	No	0

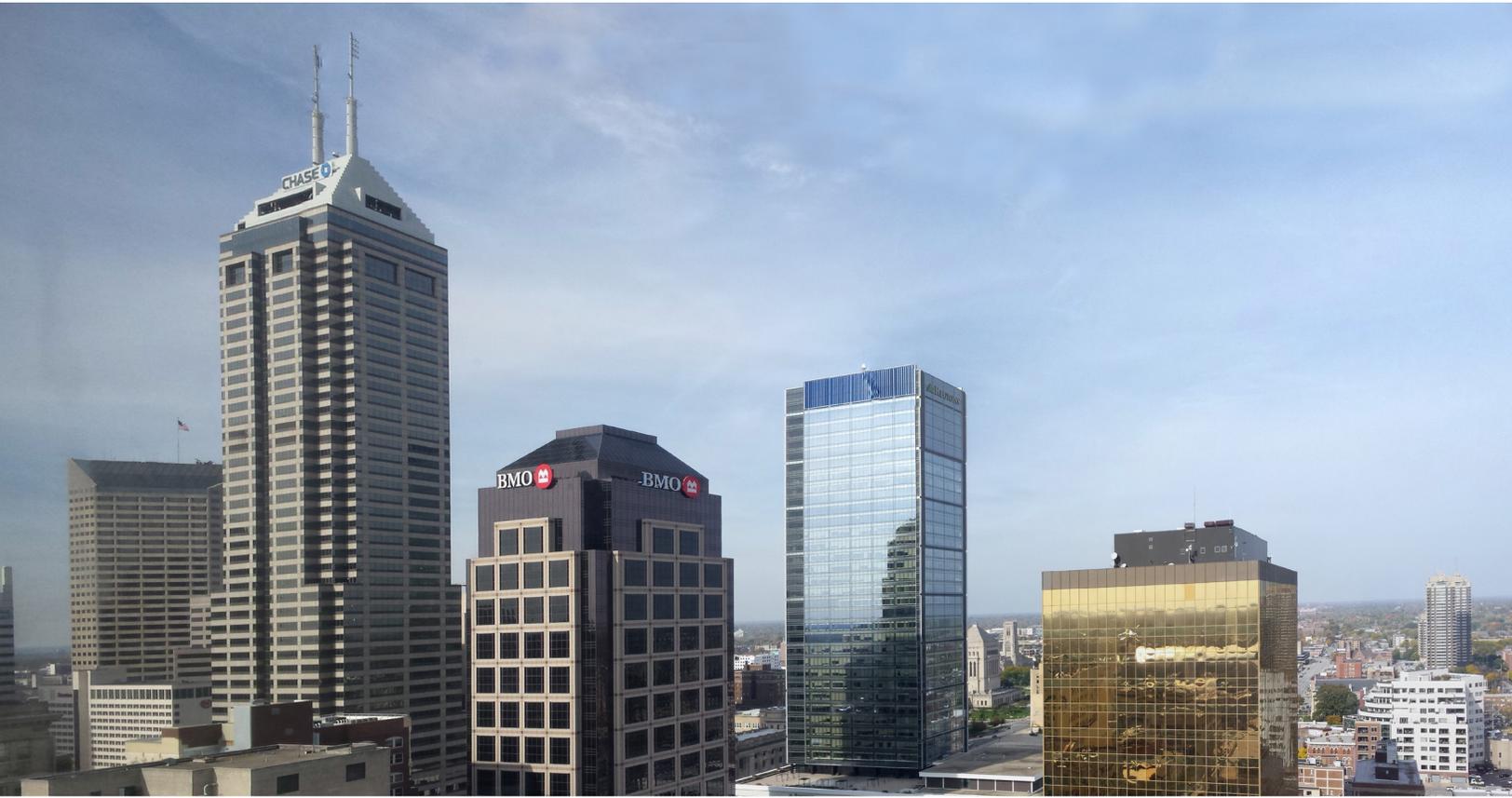


APPENDIX O

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APPENDIX P

PREFERENCE SURVEY



LONG RANGE TRANSPORTATION PLAN

RESEARCH REPORT / JUNE 2016



BACKGROUND & OBJECTIVES

The Indianapolis Metropolitan Planning Organization (MPO) is charged with developing and implementing the region's Long Range Transportation Plan. The plan currently lays out the region's transportation goals, objectives, and performance measures through 2035 but is being revised to look ahead another 10 years. As part of this process, the MPO undertook a public input process to understand residents' priorities surrounding transportation issues. While this often involves public meetings, the MPO wanted to hear from a broader range of voices.

To do this, the MPO conducted a region-wide survey of residents to gain insight into their understanding of transportation issues, the importance of enhanced transportation options, and their willingness to invest in their development.

The specific goals of this research were:

- Understanding what consumers value in local transportation – including building new roads, fixing and maintaining existing roads, improving mass transit, building bike infrastructure, and enhancing the area's sidewalks;
- Determining the level of influence of issues surrounding transportation, especially safety, clean air, congestion, and economic development; and
- Exploring sentiment surrounding the costs associated with developing and maintaining transportation systems, including potential trade-offs among the options.



BACKGROUND & METHODOLOGY

- The MPO contracted with Indianapolis-based Strategic Marketing & Research Insights (SMARInsights) to conduct the research.
- For this project, SMARInsights employed a mixed methodology that utilized both online surveys and phone surveying, which included land lines and mobile phones. A total of 788 online surveys were conducted, along with 669 landline and 302 cell phone surveys. This multi-modal approach was necessary to help ensure representativeness of the population.
- A total of 1,759 surveys were completed. These were distributed across all of Central Indiana, with a quota of 200 established for each county and 350 in Marion County. Upon completion of the data collection process, the results were weighted to accurately reflect the geographic distribution of the counties as well as to adjust for key demographic considerations.



3



RESEARCH FINDINGS

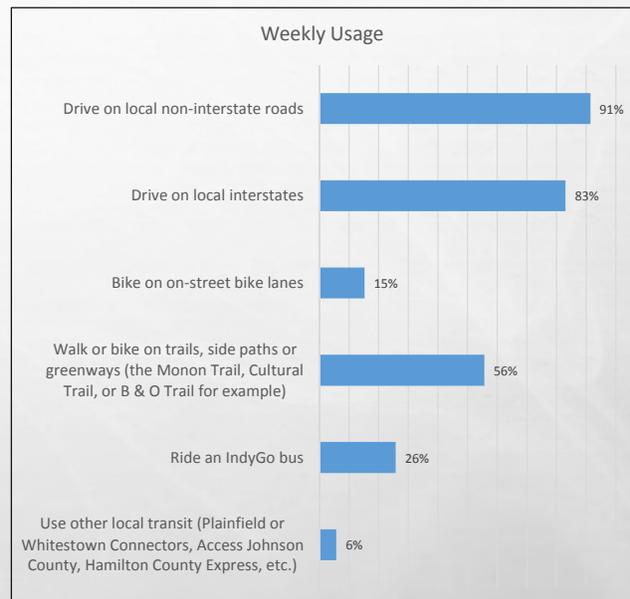


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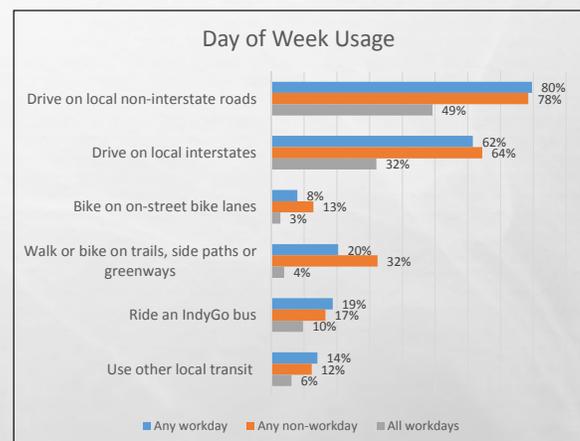
OVERALL USAGE

- Planning for long-term transportation needs requires context such as current usage levels. Understanding current behavior can be an important ingredient in attitudes as well. For example, non-drivers probably care less about the condition of the roads.
- When considered in terms of any weekly use, it's not surprising that driving completely dominates. Walking and biking on trails and paths, however, has more than half of the population participating. More than a quarter claims bus usage.



WORK VS NON WORK DAYS

- Of course, high reported usage can be a function of mere occasional usage and not particularly high demand.
- Differences by day of week show automobile usage is fairly consistent.
- Biking and path usage are clearly more leisure oriented with higher non-workday use.
- Transit options are more workday focused.



PREFERENCE SURVEY

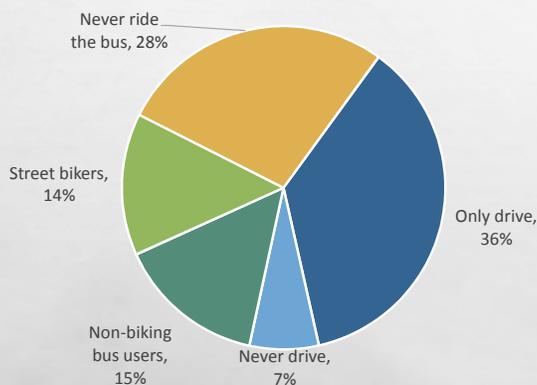
IDEAL USAGE

- This data was captured in terms of the number of days in a week different transportation modes are used. Respondents also were asked how this would differ if the quality of these options were as it should be. The response indicates that the ideal would include less driving and more use of other options

Potential Change in Usage if Improvements Made	Current			Ideal			Change
	Workdays per week	Non-workdays per week	TOTAL	Workdays per week	Non-workdays per week	TOTAL	
Drive on local non-interstate roads	3.6	2.0	5.6	3.3	2.0	5.3	-28%
Drive on local interstates	2.5	1.4	3.9	2.6	1.5	4.1	18%
Bike on on-street bike lanes	0.3	0.3	0.5	0.6	0.6	1.2	67%
Walk or bike on trails, side paths or greenways	0.6	0.7	1.3	1.0	1.1	2.1	85%
Ride an IndyGo bus	0.2	0.2	0.4	0.7	0.4	1.1	68%
Use other local transit	0.2	0.1	0.3	0.5	0.3	.8	50%

USAGE GROUPS

Usage Segments



- Attitudes need to be considered in light of usage habits. To this end, respondents were sorted into some large behaviorally skewed groups.
- These were developed to serve as a context for reviewing attitudinal differences but also show some interesting population considerations.
- More than a third of the population uses a car and no other option.
- Alternatively, 7% never drive.
- 15% use the bus as their alternative mode. A similar number uses the in-street bike lanes.
- The remaining 28% never ride a bus.

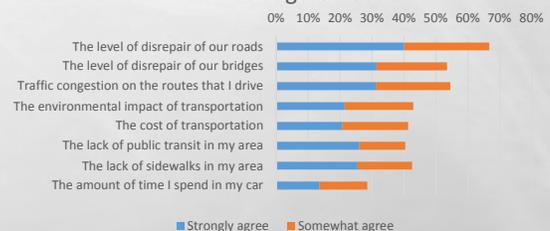
TRANSPORTATION ATTITUDES

- In light of the high penetration of driving, it is not surprising that the key concerns center on the infrastructure that supports that option – roads and bridges – and congestion. At the same time, the concern about spending too much time in the car is minimal.
- However, these agreement levels are generally quite weak. Typically 4.0+ is strong, and many of these merely skew toward indifference (3.0). In fact, a majority agree with only the top three statements.

Local Transportation Concerns
5-point agreement scale



Concern Agreement



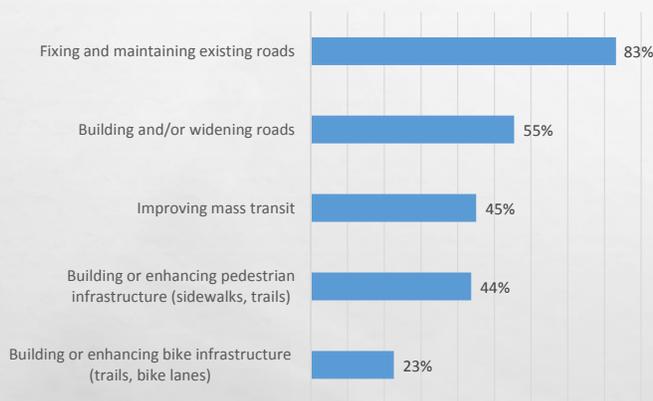
TRANSPORTATION PRIORITIES

The key issue relative to long-term transportation planning has to do with the allocation of resources. Five key priorities were identified and serve as the focus of the remainder of this analysis.

- Building and/or widening roads
- Fixing and maintaining existing roads
- Improving mass transit
- Building or enhancing bike infrastructure (trails, bike lanes)
- Building or enhancing pedestrian infrastructure (sidewalks, trails)

These will be evaluated in terms of share of resources, trade-offs, and the ability to meet goals.

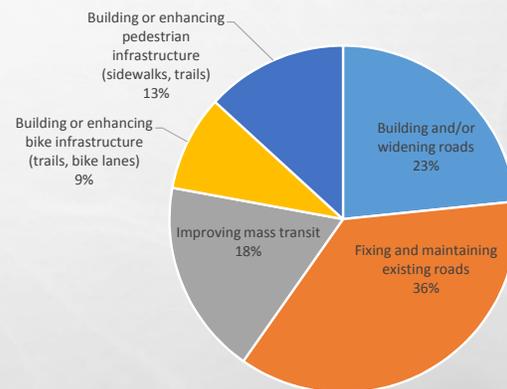
TRADE-OFF ANALYSIS



- Respondents were asked which of a pair of priorities was more important. Every priority was compared with every other of the five priorities. A key measure of importance is the share of times a priority is selected.
- The results of this clearly illustrate that this measure of importance closely parallels the usage profile, with driving infrastructure the most important followed by mass transit and paths.

BUDGET ALLOCATION

- To get an additional sense of the perceived importance of each of these priorities, respondents were asked how they would distribute budget dollars among them.
- The result is directionally similar to the trade-off review but provides a richer distribution of importance.



IMPROVEMENT OBJECTIVES

- Obviously, improvements to the transportation infrastructure do more than address individuals' needs – it can deliver intangibles like safety and quality of life.
- Understanding what objectives are important and how the priorities relate to them provides another lens to improve our perspective on the community's attitudes.
- Interestingly, while there was very weak agreement regarding concerns, these objectives are all rated quite highly.
- The strongest agreement is for intangibles, with only the most practically rated items receiving the lowest evaluations.
- By considering how well each of the potential improvement priorities performs on the objectives, additional perspective on their strengths and weaknesses is provided.

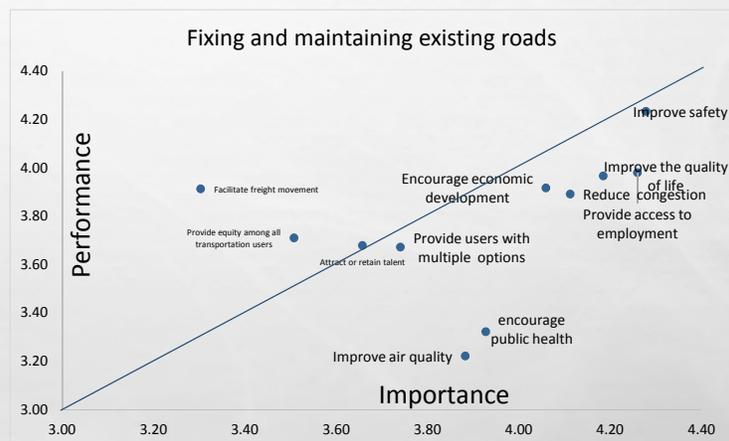
Importance of Transportation Infrastructure Objectives	Mean
Improve safety	4.28
Provide access to employment	4.26
Improve the area's quality of life	4.19
Reduce roadway congestion	4.11
Encourage economic development	4.06
Promote or encourage public health	3.93
Improve air quality	3.88
Provide users with multiple transportation options	3.74
Attract or retain talent in the area	3.66
Provide equity among all transportation users	3.51
Facilitate freight movement	3.30

IMPACT OF IMPROVEMENTS

- How residents think improvements to different parts of the transportation infrastructure will affect these objectives needs to be considered by each individual priority.
- In order to do so, a scatter chart plotting the importance and performance for each priority was created. In each of the charts on the following pages, the farther right an attribute is placed, the more important it is viewed by residents. The higher the placement, the more residents think improvements in this area will achieve the attribute. For those that fall above the line, the potential performance outpaces importance. For those that fall below the line, potential performance lags importance.

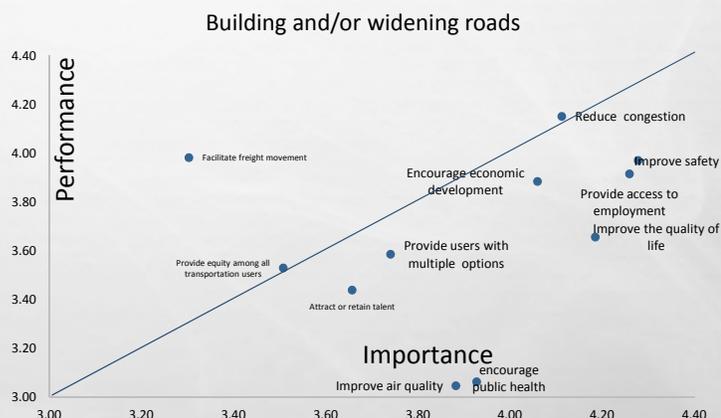
FIXING AND MAINTAINING EXISTING ROADS

- The top priority for the public of taking care of existing roads seems driven mostly out of self interest since it fails to meet any but objectives of the lowest importance.



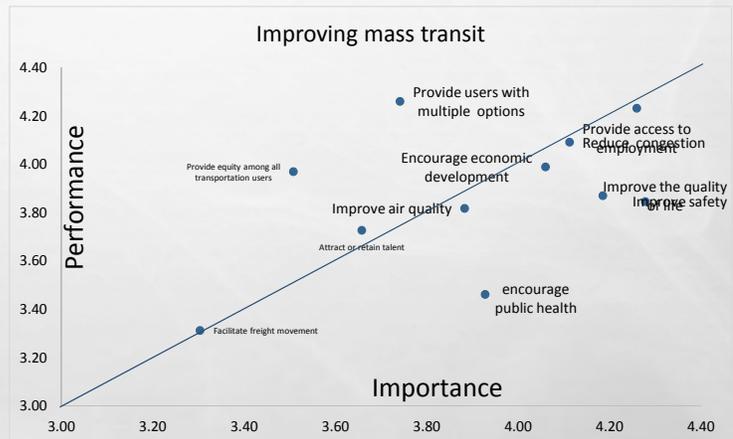
BUILDING AND/OR WIDENING ROADS

- Building new roads does a good job of meeting the important objective of reducing congestion.



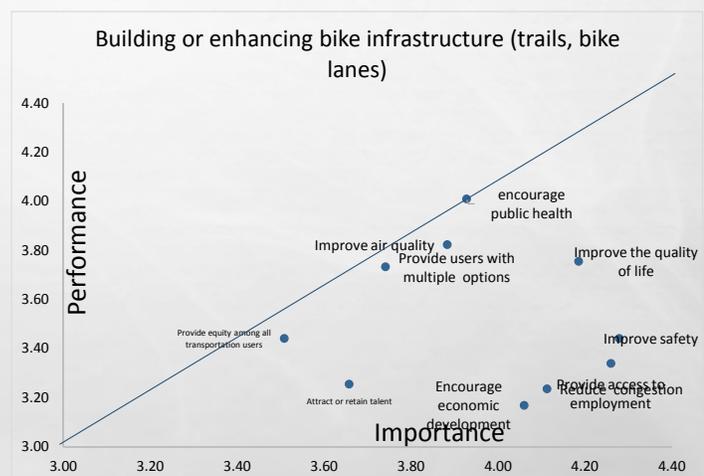
IMPROVING MASS TRANSIT

- Mass transit, while viewed as a less important priority, does well (with performance nearly matching importance) in terms of meeting important objectives from access and congestion to economic development and providing options.



BUILDING OR ENHANCING BIKE INFRASTRUCTURE

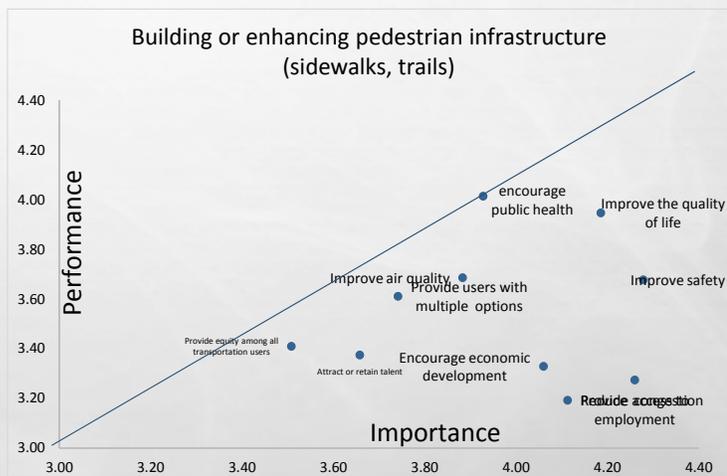
- Cycling is seen as being more about health than transportation, with encouraging health and air quality being its strongest performance.



PREFERENCE SURVEY

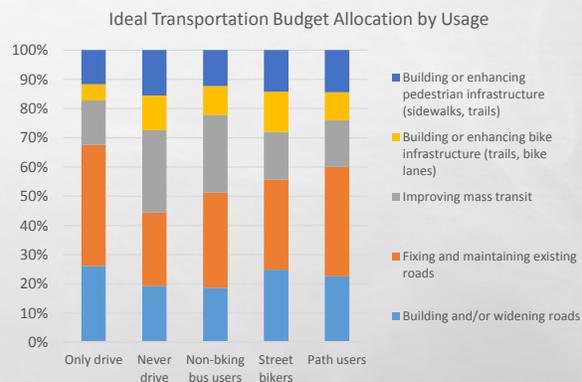
BUILDING OR ENHANCING PEDESTRIAN INFRASTRUCTURE

- Pedestrian infrastructure performs similarly, with encouraging health representing its strongest impact.



ROLE OF SELF INTEREST

- Usage behaviors are of critical importance from the perspective that people want that which addresses their current interest.
- When we consider usage groups, this becomes clear:
 - Drivers want roads
 - Non-drivers want alternative infrastructure
- Obviously, priority may change as behaviors do.

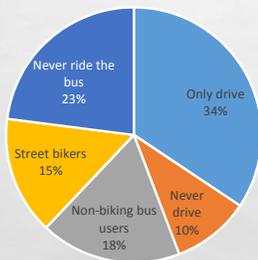


REGIONAL REVIEW

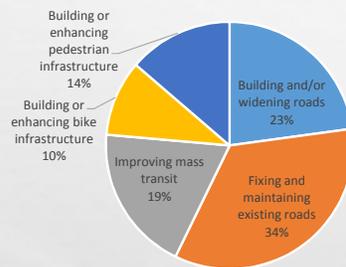


MARION COUNTY

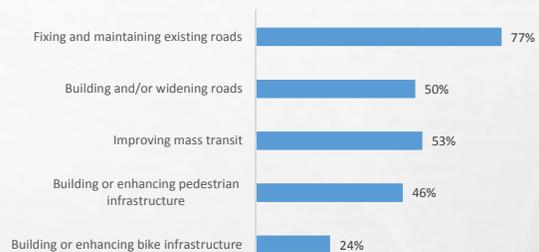
Marion County Usage Segments



Marion County Ideal Budget Allocation



Marion County Trade-off Preferences



Marion County – Importance of Objectives

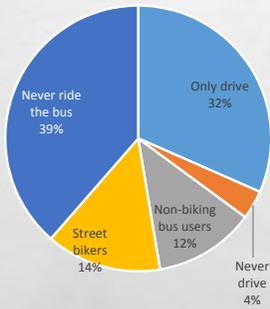
To provide access to employment	4.30
To improve safety	4.28
To improve the area's quality of life	4.21
To reduce roadway congestion	4.10
To encourage economic development	4.07
To promote or encourage public health	4.00
To improve air quality	3.92
To provide users with multiple transportation options	3.80
To attract or retain talent in the area	3.68
To provide equity among all transportation users	3.62
To facilitate freight movement	3.31



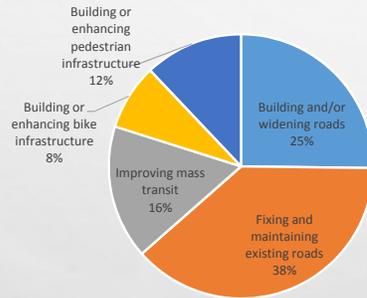
PREFERENCE SURVEY

BOONE COUNTY

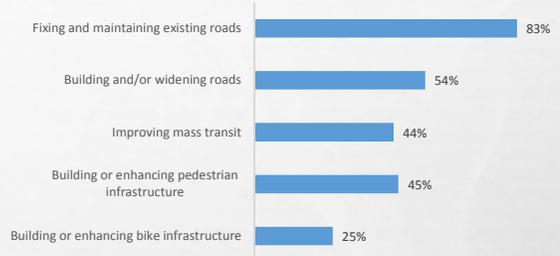
Boone County Usage Segments



Boone County Ideal Budget Allocation



Boone County Trade-off Preferences



Boone County – Importance of Objectives

To improve safety	4.20
To improve the area's quality of life	4.05
To provide access to employment	4.02
To encourage economic development	4.01
To reduce roadway congestion	3.98
To promote or encourage public health	3.79
To attract or retain talent in the area	3.71
To improve air quality	3.61
To provide users with multiple transportation options	3.51
To facilitate freight movement	3.34
To provide equity among all transportation users	3.05

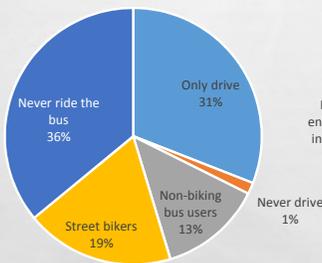


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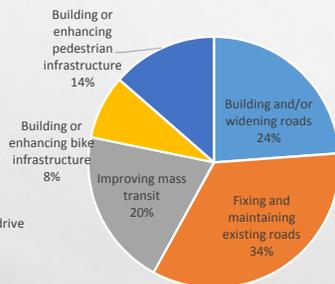


HAMILTON COUNTY

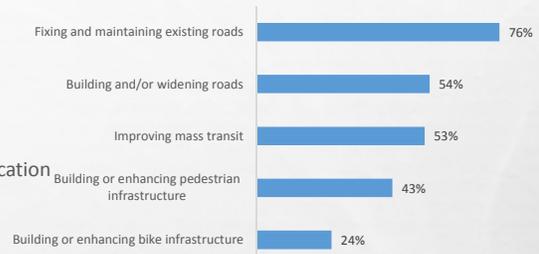
Hamilton County Usage Segments



Hamilton County Ideal Budget Allocation



Hamilton County Trade-off preferences



Hamilton County – Importance of Objectives

To reduce roadway congestion	4.30
To provide access to employment	4.25
To improve safety	4.25
To improve the area's quality of life	4.20
To encourage economic development	4.12
To improve air quality	3.93
To provide users with multiple transportation options	3.83
To promote or encourage public health	3.80
To attract or retain talent in the area	3.72
To provide equity among all transportation users	3.43
To facilitate freight movement	3.27



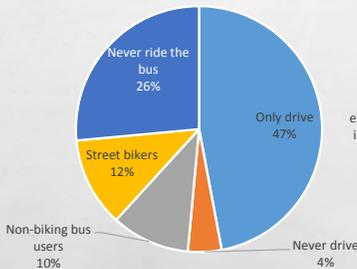
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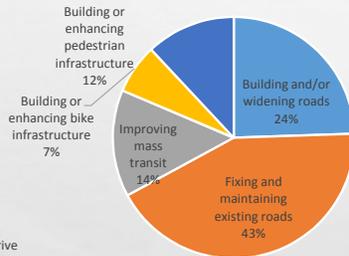
APPENDIX P

HANCOCK COUNTY

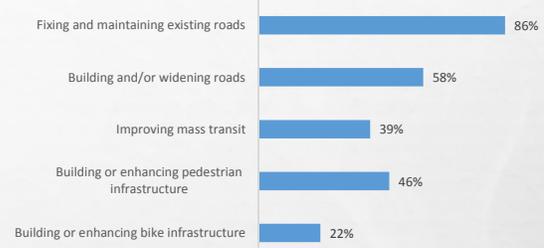
Hancock County Usage Segments



Hancock County Ideal Budget Allocation



Hancock County Trade-off Preferences



Hancock County – Importance of Objectives

To improve safety	4.29
To provide access to employment	4.18
To improve the area's quality of life	4.07
To encourage economic development	3.98
To reduce roadway congestion	3.90
To promote or encourage public health	3.82
To improve air quality	3.73
To attract or retain talent in the area	3.59
To provide users with multiple transportation options	3.40
To facilitate freight movement	3.29
To provide equity among all transportation users	3.20

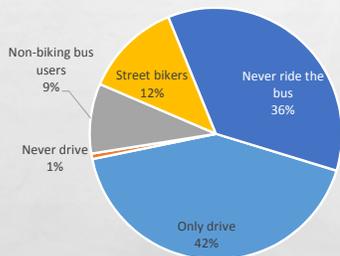


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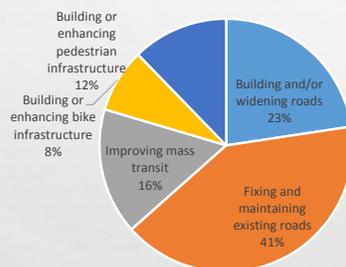


HENDRICKS COUNTY

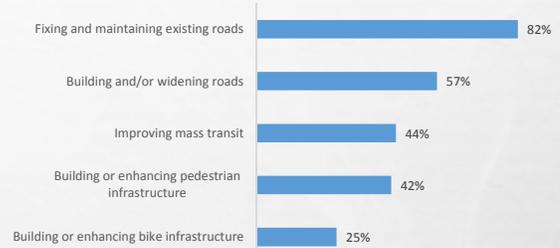
Hendricks County Usage Segments



Hendricks County Ideal Budget Allocation



Hendricks County Trade-off preference



Hendricks County – Importance of Objectives

To improve safety	4.32
To provide access to employment	4.24
To improve the area's quality of life	4.20
To encourage economic development	4.04
To reduce roadway congestion	3.99
To promote or encourage public health	3.95
To improve air quality	3.87
To provide users with multiple transportation options	3.70
To attract or retain talent in the area	3.61
To provide equity among all transportation users	3.36
To facilitate freight movement	3.29



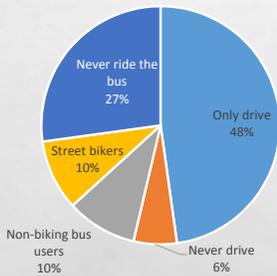
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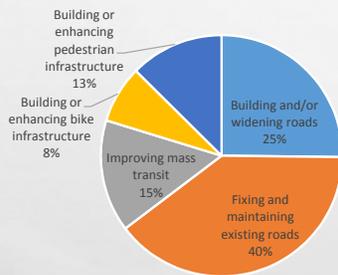
PREFERENCE SURVEY

JOHNSON COUNTY

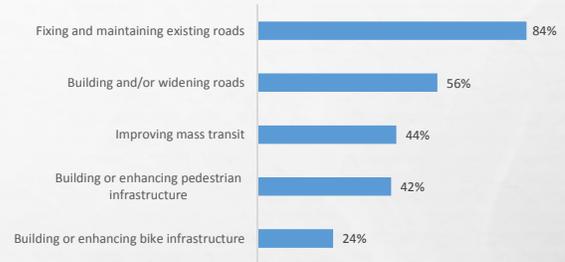
Johnson County Usage Segments



Johnson County Ideal Budget Allocation



Johnson County Trade-off preference



Johnson County – Importance of Objectives

To improve safety	4.27
To provide access to employment	4.16
To reduce roadway congestion	4.16
To encourage economic development	4.08
To improve the area's quality of life	4.08
To improve air quality	3.74
To promote or encourage public health	3.71
To provide users with multiple transportation options	3.63
To attract or retain talent in the area	3.58
To provide equity among all transportation users	3.45
To facilitate freight movement	3.32

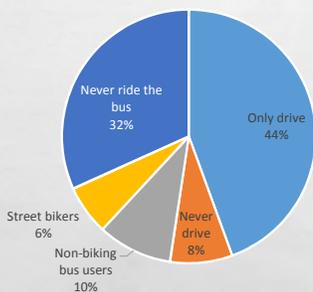


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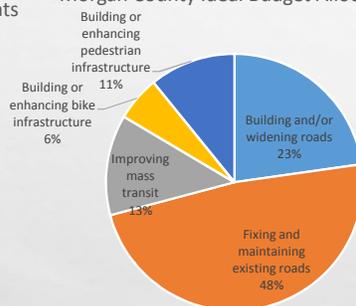


MORGAN COUNTY

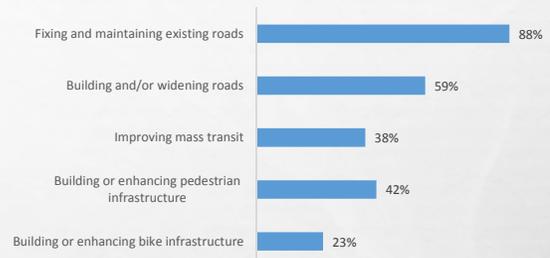
Morgan County Usage Segments



Morgan County Ideal Budget Allocation



Morgan County Trade-off Preference



Morgan County – Importance of Objectives

To improve safety	4.31
To provide access to employment	4.29
To improve the area's quality of life	4.12
To reduce roadway congestion	4.08
To encourage economic development	3.91
To improve air quality	3.87
To promote or encourage public health	3.84
To provide users with multiple transportation options	3.42
To provide equity among all transportation users	3.42
To attract or retain talent in the area	3.35
To facilitate freight movement	3.30

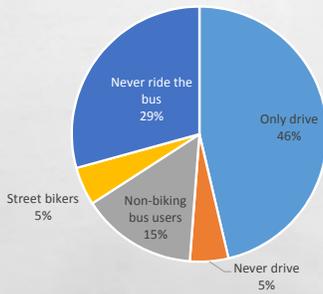


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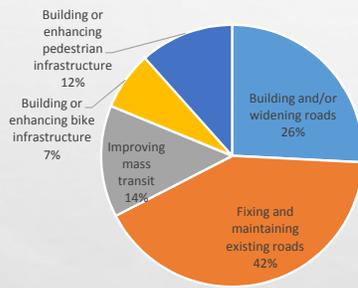


SHELBY COUNTY

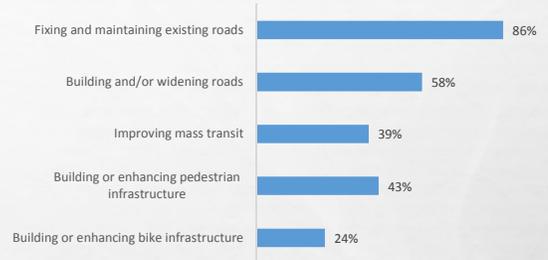
Shelby County Usage Segments



Shelby County Ideal Budget Allocation



Shelby County Trade-off preference



Shelby County – Importance of Objectives

To improve safety	4.39
To provide access to employment	4.30
To improve the area's quality of life	4.24
To promote or encourage public health	4.14
To reduce roadway congestion	3.92
To encourage economic development	3.92
To improve air quality	3.89
To attract or retain talent in the area	3.70
To provide users with multiple transportation options	3.59
To provide equity among all transportation users	3.43
To facilitate freight movement	3.31

APPENDIX QUESTIONNAIRE

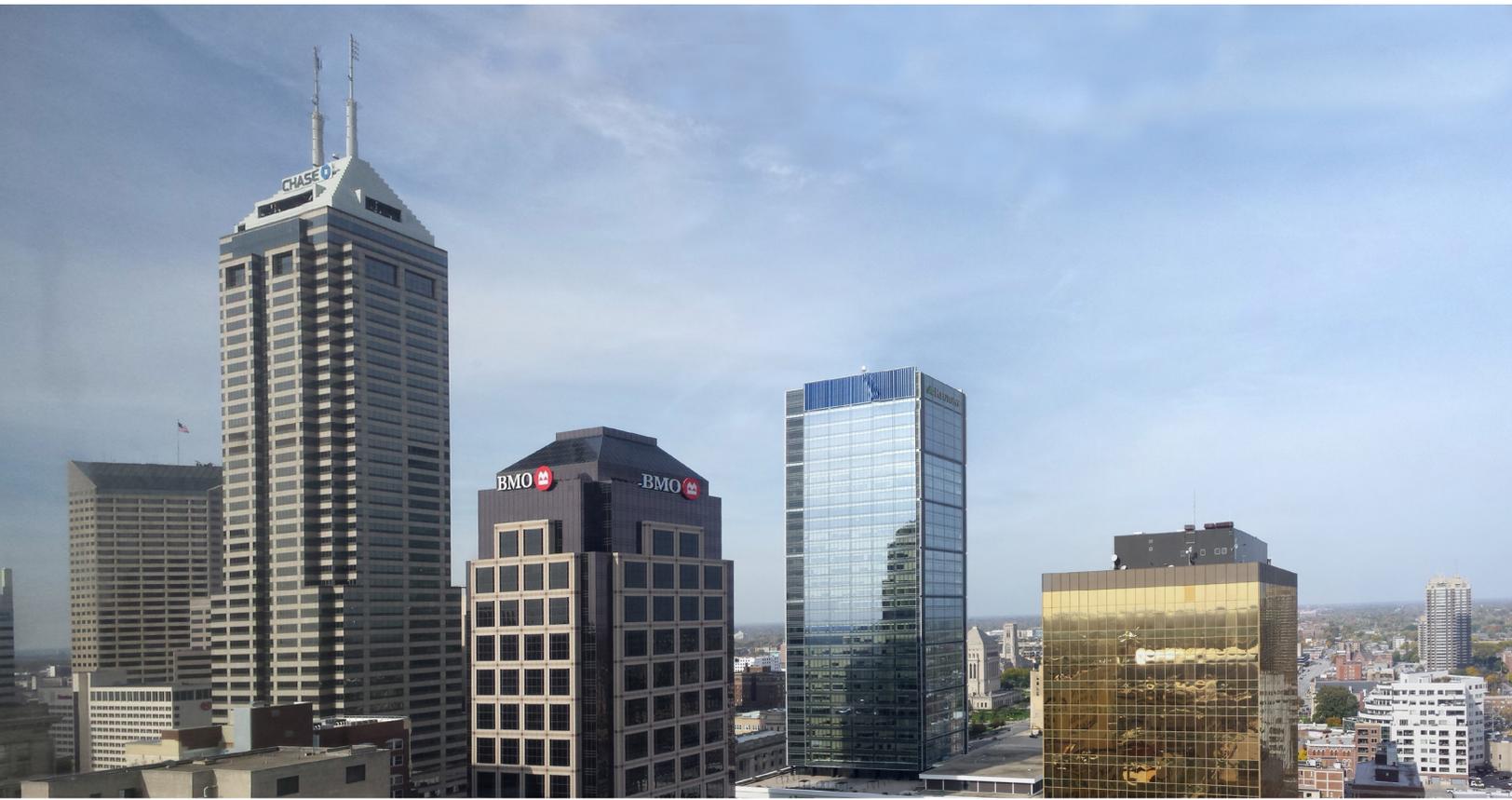
APPENDIX P

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APPENDIX Q

PUBLIC COMMENTS



APPENDIX Q

2045 LRTP | Fall Public Meetings Feedback

Updated: October 2, 2017

Summary

During September 2017, a total of sixteen meetings were held in locations throughout Central Indiana, at varying times and on varying days of the week. Feedback was received via comment sheets at meetings, an online comment form, and Facebook comments that were posted to meeting advertisements.

Meeting Promotion and Advertisement

During September 2017, a total of sixteen meetings were held in locations throughout Central Indiana, at varying times and on varying days of the week, attended by a total of 59 people. There was an [official news release](#), an [email](#) to the MPO's subscription list, a [posting](#) to the [2045 LRTP's project website](#), and much meeting advertisement via facebook using [regular posts](#) and [sponsored posts](#), some directed to the entire region and some directed to each meeting's immediate geography.

- Sept. 11, 5:30-6:30 p.m., Hussey-Mayfield Memorial Public Library, 250 N. 5th St., Zionsville
- Sept. 12, Noon-1 p.m., Julia M. Carson Transit Center – 2nd floor meeting room, 201 E. Washington St., Indianapolis
- Sept. 12, 5:30-6:30 p.m., Pike Branch Library, 6525 Zionsville Rd., Indianapolis
- Sept. 13, 5:30-6:30 p.m., Hancock County Public Library, 900 W. McKenzie Rd., Greenfield
- Sept. 14, 5:30-6:30 p.m., Mooresville Public Library, 220 W. Harrison St., Mooresville
- Sept. 16, 3-4 p.m., Franklin Branch Library, 5550 S. Franklin Rd., Indianapolis
- Sept. 18, 5:30-6:30 p.m., Avon Town Hall, 6570 E. US Highway 36, Avon
- Sept. 19, Noon-1 p.m., Central Library, 40 E. St. Clair St., Indianapolis
- Sept. 20, 6:30-7:30 p.m., Lawrence Branch Library, 7898 Hague Rd., Indianapolis
- Sept. 21, 5:30-6:30 p.m., Noblesville City Hall – 2nd floor meeting room, 16 S. 10th St., Noblesville
- Sept. 25, Noon-1 p.m., Decatur Branch Library, 5301 Kentucky Ave., Indianapolis
- Sept. 25, 5:30-6:30 p.m., Washington Township Trustee Office, 1549 E. Greyhound Pass, Carmel
- Sept. 26, 5:30-6:30 p.m., Johnson County Public Library – Franklin Branch, 401 State St., Franklin
- Sept. 27, 5:30-6:30 p.m., Johnson County Public Library – White River Branch, 1664 Library Blvd., Greenwood
- Sept. 28, 5:30-6:30 p.m., CAFE – Community Alliance of the Far Eastside, 8902 E. 38th St., Indianapolis

In addition, [a recording of the presentation](#) was created and uploaded to YouTube. The link to that presentation, along with links to the [handouts](#), [map posters](#), and [feedback opportunities](#) were posted to the MPO's website in the same place as the announcement for the meetings above.

Below are lists of comments collected during public meetings, online, and via facebook. Comments marked with a (*) appeared to be answering a question other than the one the comment was written under, and were moved to the relevant question as appropriate. The comment itself was not edited.

PUBLIC COMMENTS

Questions and comments on the MPO-provided handout from the public meetings:

28 people answered the questions on the handout during the meetings. (responses have been categorized)

- **What would you like to see studied?**

- General

- Affordable Living
- How INDOT funding works
- Bicycle commuting to work trends
- Autonomous Vehicles Mass Transit
- 1. Compare transportation plans in aspirational cities to our MSA; 2. Compare data on mass transit vs. roadways - what are the cost comparison, health outcomes, safety factors.
- Non-contiguous bike lanes deter biking*

- Multi-Jurisdictional / Regional

- 24/7 bus routes for all counties
- NE Rail Transit Options; Central Indiana Regional Rail Transit
- Grade separated mass transit option, such as heavy rail to reduce transit times, congestion, etc.
- More commuter bus/van lines from donut counties to multiple sites in Marion County - not just to downtown bus stops

- Boone County

- Feasibility of constructing sidewalks from west side of Zionsville to Boone village
- I-865 extend west to R. Reagan and SR 267

- Hamilton County

- SR 32 through Westfield - make it more walkable; Complete street friendly - not expanded to 5 lane roadway
- put left turn light on SR32 at N/S Union Street to move traffic smoothly during A.M. & P.M. busy times. No problem during the rest of the time*
- study on roundabouts for the next 5 years (Carmel)
- What impact has roundabouts had in Hamilton Co.
- Bike infrastructure connecting Carmel and Fishers 106th St Path

- Marion County

- Make Allisonville flow. Bus to Hamilton County
- Make 465 safe @ Binford
- 67 (Pendleton Pike) - Lawrence thru exit to I-69
- Carroll Rd - Pendleton Pike (21st st North on Carroll Rd)
- expansion of transit. Broader coverage to lesser secondary routes. More route coverage will provide for more users and a greater cost share by users
- Removal of the DT legs of I-65 & I-70 and replace w/ multimodal multilane boulevard the rings DT Indy
- Complete network of protected bike lanes so there is a physical separation between bikes and vehicles
- The public roads (all) in Franklin Township. The need to be widened and resurfaced.
- 10th st (w) too congested - roundabouts @ all intersections
- Bridge project! Sidewalks Mendenhall Rd West Newton Area
- Why there aren't left turn flashing lights on 67, maybe four cars make it thru the light @ Camby & 67. Leads to frustration and accidents.

APPENDIX Q

- Who made the decision to deny flashing turn light at 37 and Southport - sit thru light 4 - 6x - Help NOW!!
 - We are ignored. Money goes north. EX: 69 @ IKEA - that was done quickly. Bike trails are north.*
- Johnson County
 - Supports projects 5104 & 5105 - both are needed
 - Connecting Johnson County Bike/Pedestrian trails across the county way earlier than 2045 please.
 - The biggest bike lane need in Johnson County is from Madison and County Line Rd to Worthsville Rd, which would connect a large residential area with paths to the existing Marion County bike lanes
- **Disruptors: Do any of the uncertain future disruptors apply to you? Which ones?**
 - None
 - No
 - Housing Preferences
 - Housing preferences - may downsize
 - Commuter Travel Preferences
 - Commuter travel preference - I would like to be more productive during my commute
 - Autonomous Vehicles
 - Autonomous Vehicles - Expect to get one when available for personal use.
 - Ebikes - Some experts believe e-bikes may have more of an impact than autonomous cars
 - Climate Change
 - Climate Change
 - Multiple/Other
 - Housing and Commuter Preference
 - Not including Population Growth
 - Dense development - increase traffic both for vehicles and pedestrians
 - I would seriously consider moving out of Hamilton County if there are not changes made. I would love to have any mass transit options in our area.
 - E-Commerce, Baby boomer retirement, housing close to public transp. (Access Johnson Co., if not red line). We still need to educate/convince J. County about advantages of buses!
- **Connectivity: Where do you experience delays when you travel? Frustrations?**
 - General / Regional
 - pre interstate travel - better access to interstates
 - Noblesville to Downtown Indy
 - Traffic reports are usually an hour behind. Google maps is better than the radio.
 - Delays due to congestion on major highways and main roads. Lack of sidewalks/trail or unconnected trails.
 - Marion County
 - 622nd & Allisonville; 465 @ Binford*
 - Allisonville!!! Roundabouts - too dangerous
 - 465 & I-70*
 - Railroad crossing @ E New York and E Michigan downtown Indy. The only main RR crossings where tracks aren't elevated*
 - Lack of north/south bike infrastructure east and west of Monon trail in Indy. Lack of bike infrastructure on south side of Indy.

PUBLIC COMMENTS

- W 86th between Keystone and Michigan Rd.*
- Southport & 37 Backups*
- I465 North exit to I69
- Fall Creek from Hague Rd to past Lee Rd.
- 86th street between Bash and Shadeland
- Non-auto travel is still mostly not feasible in Indy. Connect Bike lanes. Improve transit frequency and connectivity. Improve pedestrian safety and experience.
- Sidewalks would be an asset. Round-a-bouts would help. Bike trails not being part of roadway.
- 37 and Southport
- Southport and 135; 67 South of Kentucky; Stop11 and Railroad Road
- Boone County
 - Light at Kissel Road and Oak St - need a turn lane; widen road to incorporate left turn from Oak Street onto Cooper Road.
 - 465 during rush hour - high way seems to be operating beyond capacity
- Hendricks County
 - US 136 and CR 900 intersection during high traffic times*
 - SR 267 and Northfield Dr.*
 - US 36 in Avon; Dan Jones Rd
 - Improved bicycle connectivity is needed from the western suburbs to downtown, particularly from Plainfield.
 - US 36 West - 465 to Danville - always congested
- Hamilton County
 - NE Corridor I-70, I-69, 37; Usually congested near peak commuting times and now IKEA and Top Golf are expected to bring 3M annual visitors
 - Rush Hour Traffic = 146th st & 32 Westfield and Indiana
 - 96th and Allisonville; 116th and Allisonville; 96th and Keystone; 37 and 146th
- Morgan County
 - 37 between Martinsville and Bloomington
- Johnson County
 - It would be so great to have a parking area so that we could hop on the redline (either @ County Line or into Johnson County) & have frequent stops for us to get downtown Indy and Carmel

Questions and comments on the MPO-provided handout provided in the online form:

32 people responded to the questions in the online form. (responses have been categorized)

- **What would you like to see studied?**

- General
 - I would like to see less studying and more doing. Half the money spent on considerations could finance several basic changes in infrastructure. I understand the need to know where we want to go, but we should know enough to move forward on our established goals.
 - The effect of adding the road maintenance cost up front to developers on density/sprawl. A map of cost/tax revenue per square mile.
- Regional
 - Roadways
 - Complete the Northeast Freeway which was planned in the 1960s to go from I-69 in Castleton to the I-65/I-70 North Split in downtown Indy. The north side of

APPENDIX Q

Indy, Fishers and Noblesville have no direct route to downtown Indy, and this is the most populous section of town. Binford blvd is a nightmare with stop and go traffic and poorly timed stoplights, and the rest of the roads south of Binford are just as poor in making an easy commute downtown. The I-65/I-70 North Split was designed anticipating this Freeway as the ramps have been sitting there waiting for the freeway to connect for nearly 50 years. With INDOT just announcing they will redesign the North Split now is the time to make progress on the freeway before INDOT removes the connecting ramps for good.

- Bikeways / Trailways

- I would like to see biking infrastructure studied.
- Regional Trail and Bicycle Connectivity
- Ways to encourage bicycle travel and promote cyclist safety.
- Bicycle safety on all streets
- Connecting all the parts of the Pennsy Trail
- More protected bike lanes and locations of such.

- Railways / Transit

- Local and Long distance passenger rail service and interurban motor cars.
- Bus travel between towns such as Noblesville, Carmel, Greenwood and other areas in and around Indianapolis on a regular basis.
- Equitable and easy/rapid access of public transportation to our communities who most need it.
- The possibility of running a train from Noblesville to down town Indy. The nickel plate could help increase visitors to down town Indy.
- I would like to see how the Nickel Plate Rail line could be used to transport people to downtown Indy events from Hamilton County.
- Train service through to downtown Indianapolis from at least Noblesville.
- Railroad, lowering carbon footprint drastically (leading for once)
- Commuter train from Fishers; increase choices/ reduce congestion/environmental impact
- Repair, restoration, and expansion of light rail, particularly between Hamilton and Marion Counties.
- Light rail from Noblesville to downtown Indianapolis
- I would like to keep the Nickle Plate Railroad with The Indiana Transportation Museum as the operator. Colts, Pacer, Events and Convention trains running from Logansport to downtown Indianapolis.
- Rail transportation from Noblesville to Downtown Indy.
- Would love to see the Nickel Plate Road back in use with ITM trains. Trails are a waste of taxpayers' money and invite trouble, especially at night with no lights and or security cameras or emergency call boxes.
- Alternatives in Mass Transit- what was will not be in 50 years. Let's not invest billions into a dying method.

- Marion County

- Bike lane on Allisonville
- Bike path along 71st Street and Lee Road, from 71st & Fall Creek Road to 59th Street.
- a trail way plan from east to west for commuting safely the Monon is awesome but I need to travel West
- Cost and opportunity to retrofit basic sidewalks on at LEAST one side of each residential street throughout ALL of Marion County; not just the wealthy or trendy neighborhoods.

PUBLIC COMMENTS

Strange how places like Pike and Wayne Townships are ignored when it comes to bike ped access. Walk from almost any apartment complex on the west side of the City toward any nearby Park, shopping area, or public building; what sidewalks there are, are frequently "sidewalks to nowhere" that dead end in grass.

- A elevated transit inside 465 from North to South and East to West.
- Pennsy trail expansion from Shortridge road to German Church road.
- Complete the Pennsy Trail from Cumberland to Shortridge road. Bike lanes on Washington Street. There is a dearth of North / South bike lanes on the East Side (Shadeland Avenue is wide open for development) Police patrols on bikes warning/ticketing aggressive drivers. I still get honked at regularly for being on the road.
- Hamilton County
 - Commuter rail on Nickel Plate; Improved 69; Fast track 37 roundabouts
 - I would love to see the viability of a rail option. As construction and traffic gets worse and worse for the Fishers area, the need for alternate means of transportation is a must!
 - Train transportation like the Nickle Plate...don't remove rails. Stop the roundabouts and synchronize the lights. Make bicyclists ride on bike paths, not in the street.
- Johnson / Morgan county
 - Interstate 69; an outer loop connecting 70 ,74 ,65 ,69; on the south, instead of putting all that traffic onto 465, you have four interstate ramps that bottle neck into 465 - don't make good sense to create a bigger problem.
- **Disruptors: Do any of the [uncertain future disruptors](#) apply to you? Which ones?**
 - None
 - None apply.
 - Unsure
 - I'm not sure
 - I don't think so.
 - Housing Preferences
 - We have downsized but have huge homes going in around us. I would like to be able to walk to a grocery or small stores but things are just too far apart.
 - Housing as we move towards down sizing
 - Housing preferences. Would like to downsize into a single story residence. In the downtown area or even in the city this option is limited.
 - Commuter Travel Preferences
 - Commuter travel preferences
 - The commuter travel preferences disruptor applies to me as I strongly prefer not to drive if possible.
 - Yes, Commuter Travel Preferences.
 - Sharing Culture
 - I love being able to walk to work and biking as my primary way to get elsewhere. I'm looking forward to the red line extending where i can get on my bike. The network of bike routes and fast, dependable transit is insufficient so far, so I'm forced to still own a car.
 - E-Commerce
 - My family relies on regular e-commerce deliveries. If the market allows for it we would like to relocate more centrally and walk or bike to work.

APPENDIX Q

- I'm fearful that e-commerce will continue to shut down very important brick and mortar stores. There are lots of items I can't easily shop for unless I can visit an actual store (i.e. clothing and shoes).
- Climate Change
 - Climate Change
 - Global warming
- Multiple/Other
 - Autonomous vehicles, climate change
 - NOT in favor of taking up parking spaces for electric cars - let those who own them pay for them. Need much more affordable housing in Central Indiana. Need more jobs that pay more than minimum wage.
 - DPW, and therefore the MPO need to understand that street flooding from sudden, hard rains seems to be more common now; drainage and water flow are far cheaper to fix proactively, rather than post-disaster.
 - Urban sprawl is eating us alive. Beautiful farm land and quaint towns are being converted to spacious lots with mega-mansions for the wealthiest at the expense of low and moderate income families' tax money used for more and more pavement suitable for individual transportation. Inner city development and diverse residential development is irrelevant if light rail and multi-use corridors are in place.
 - Lack of coordination with major transportation projects. INDOT commonly neglects bicycle and pedestrian connectivity in their projects. (I-69 and SR 37 are very good examples). Planning local improvements with INDOT lack of understanding of local transportation needs is a significant barrier.
 - The biggest disrupter is distracted/aggressive driving. There needs to be a sea change if we really want to encourage bike usage.
 - Hamilton County and the HHPA trying to remove 9 miles of track in the center of the Rail line going from Tipton to Downtown Indy
 - The removal of the Nickel Plate rail line in Fishers is short-sighted and will be disastrous for future growth. Even a trolley type use would help in reducing traffic in the congested 37 corridor.
 - The disruptors are the politicians from Fishers and Noblesville. They care nothing about what the people that elected them want. Heritage and History mean nothing to them. If History means nothing then there would be no Conner Prairie, Smithsonian, Museum of Science and Industry etc.
 - HORRIBLE traffic in Fishers at all times of the day. (Esp the I-69 corridor.) LACK of other transit options that make sense, like rail service INSTEAD of busses. LACK of planning on the part of Noblesville and Fishers leaders to make plans to alleviate the traffic issue before it got to the point where it is today. LACK of listening from the Fishers and Noblesville government on what WE the residents want, not what THEY want.
- **Connectivity: Where do you experience delays when you travel? Frustrations?**
 - Regional
 - In Central Indiana, pretty much the entire region, terrible and slow bus service and no passenger trains or interurbans or commuter trains at all.
 - Traffic in central towns is terrible.
 - There are few bike lanes outside of the Downtown Indianapolis and even fewer protected lanes or trails, which frustrates me.
 - Interconnection of different modes of public transportation and bicycle and pedestrian facilities must be coordinated by a regional plan.
 - 65/70 split (what I've been told was once called the spaghetti bowl)

PUBLIC COMMENTS

- I-69, 37, 465
- Ingress and egress by auto between Noblesville and Indianapolis are increasingly difficult and congested. Future generations will thank us if we are forward thinking in how we connect multi-commuter systems of transport such as the existing Rail line that could easily be repaired and beefed up. Events such as Colts games, etc. could be more easily accessed as well as regular workday commuter traffic.
- Being retired I only experience delays on interstates where poorly planned designs and poor quality road surfaces must be constantly reworked. My junction with frustration is primarily in the area of education; of motorists, bicyclists, and pedestrians. Having a motorcycle endorsement, I believe all motorists should be held responsible for the same information on an operator's license test. I also believe bicyclists should be licensed and parents should be held responsible for the youthful bicyclists they provide bicycles to. At least one semester of recess/physical education should be required and dedicated to cycling education, on-bike skills, and pedestrian survival instruction.
- Live 7 miles from work, no major delays. Frustrations occur from lack of turn lanes that keep traffic flowing.
- Marion County
 - Binford blvd is a disaster with poorly timed stoplights and long delays.
 - IUPUI campus. Normal 7-minute commute home and can take as long as 25+ minutes during rush hour times - especially evening rush hour
 - The state fair traffic was a mess this year. Waited in line for an hour. The HHPA suspended the train. My family has and would still utilize that. Also, traffic and parking in Downtown could be eased by the train
 - Traffic delays and parking just as there was at the Indiana State Fair without the Fair train running. Traffic and parking going to downtown events etc.
 - 71st street I feel is unsafe for that bike lane
 - Downtown gridlock at rush hour.
 - Zero safe bike/ped connectivity from central Wayne Township to downtown. Try crossing Holt road east or west -bound on foot or on a bike. Run the B & O trail down the existing abandoned rail bed all the way to downtown, and eliminate the worst of this problem.
 - People drive like shite. Downtown is the worst! Bike safety is needed.
 - I wish there was a bike safe route along Michigan road.
 - Fortunately, I live a mile from downtown and am able to ride my bike about 9 months of the year. I do not have to get on highway. There is tremendous congestion at IUPUI area most of the time.
 - When attempting to ride my bicycle anywhere other than Irvington, Downtown, and the North side of town.
 - I can make my way to work but need an east/west connector over Binford. A bike line up Fall Creek from Shadeland avenue this would connect the East Side to Castleton. Fall Creek and Boy Scout Road intersection is so dangerous it needs to be turned into a traffic circle. I feel I must use the sidewalks on Washington Street from Cumberland or risk my life. Washington through Irvington as well is dangerous. 82nd through Castleton is getting sidewalks but no bike lanes...this is another very dangerous road with no option other than sidewalk or risk your life
 - Interstate 69 and 465 bottle neck onto 465 need to bypass this problem with outer loop of 69
- Hamilton County



APPENDIX Q

- 37s from Noblesville; 69n and 106th/116th/37n exits; 69s and 96th/82nd/465; Allisonville s and n at 146th/131st/126th; 70w and 465; 70e and Emerson
 - It is extremely backed up at 126th and Allisonville during rush hours. The traffic light is way too short going east and west on 126th. Also - we really need a left turn signal for the light exiting the Wal-Mart Neighborhood Market onto east bound 131st Street. Traffic gets extremely backed up northbound Cumberland Road at 131st Street. Somedays that intersection's traffic light doesn't even turn green for Cumberland road. The volume of traffic is much heavier at 4:30 pm - 5:00 pm on Cumberland Road than it is on 131st Street and I often have to sit through 2 or 3 cycles of lights.
 - State road 37 merging onto 69
 - Down 37 from Noblesville, and 465 on east and north sides. 146th street from 37 to 31. 32 between Westfield and Noblesville
 - State Road 37 is incredibly congested. Saw three accidents within one mile near Noblesville in one commute.
 - I-69 at the 116th street corridor. Also ALL routes trying to get to Carmel from Noblesville/Fishers area b/c of construction on ALL roads.
 - The roundabout at 96th & Ditch is only one lane and should be two lanes - traffic frequently backs up all the way to Spring Mill. The intersection at 96th & Meridian is HIGHLY dangerous with people cutting into other lanes because of the way they back up and only 3-4 cars can get through the light. Leave East 96th alone - NO roundabouts - synchronize the lights instead. Either bring in traffic control or set the lights to let more than 3-4 cars get on 465 at Michigan...and start ticketing people who block the Michigan going north at 96th Street so no one can get through.
 - Any time I go to the north side, it's like driving into Hell.
- **General Feedback**
 - Regional
 - I want to see the Passenger service restored to pre-war condition or as close as we can get, with local, regional and interstate passenger service nearly equal to that of Japan and Asia and Europe
 - I sure would love public transportation.
 - I think the rail road could be used as a great asset for all the towns it runs through. From Tipton to down town Indy. Just think of the people who don't drive down town Indy because of traffic, parking and safety.
 - The MPO should realize and recognize interference and disruption caused by proponents of the Fair Train and the ITM are not actual root cause advocates and supporters of transit and connectivity. This vocal minority are only attempting to use advocacy for support of alternative transportation to support a secondary agenda. A true real mass transit system cannot not be accomplished in conjunction with accommodating their hobby as part of realistic plan or agenda. There is a false belief being circulated that transit could support both the ITM and transit. A historical understanding of their operation would suggest to the contrary. The MPO should be wary of entertaining any plan that supports or partners with a singular agenda.
 - Would like to see a mass transit backbone (preferably train) that is augmented by other methods of travel (bus, taxi, lyft, etc) and covers a wide area (inter-urban size eventually) Similar to the southern California method of train then transferring to a bus system (side note* think we had the right idea at one time but let distractions get in the way of stability)
 - Educate motorist to share the road with bicycles.

PUBLIC COMMENTS

- In general, I am greatly disappointed in the slow change of attitudes regarding the urgency to end climate changes caused by internal combustion transportation.
- Need committed funding for transit and cycling infrastructure. I would have paid triple what as asked if it included dedicated bike lanes. Need more trails opportunities on utility easements
- Thank you!!
- Marion County
 - While in recent years Hamilton county continues to get their roads converted to freeway status (Keystone Parkway, US 31, and now soon SR 37 in Noblesville), Indianapolis has had no conversion to freeway improvements at all. Binford blvd sorely needs to be upgraded to freeway status.
 - Start fixing the streets - Michigan Road south of 86th Street is horrible. Meridian Street is dangerous with people who turn left during rush hour and when the outside lanes are blocked. 16th and 38th streets need repair desperately both east and west. Take 96th back from Hamilton County - it's an after-thought for them. Need more street lights in neighborhoods.
 - Realize that outside the cultural trail, bike/ped access between the townships and downtown is awful. Take a look at bike/ped access to the Parks; tried to walk down Vermont Street to Thatcher Park recently? Outside the urban core, the City is built like it's 1950; WHY???
 - Why is Indy so far behind in bike commuting? Parking passes for commuters in parks are sorely needed for unforeseen issues which cause delays in arriving to vehicle in a timely fashion--no tickets/towing
 - I love all the work being done on the bike lanes. If I never have to get in my car again, I'd be thrilled. Keep up the great work making Indy more progressive and bike/pedestrian friendly!
 - City streets are horrible.
 - Indy has come a long way toward becoming a pedestrian and bicycle friendly city. Please keep up the good work. It will make for a healthy, happier and more prosperous city.
- Hamilton County
 - We need Stop signs in our neighborhood (Harrison Green) at the intersection of Lantern Road and Harrison Parkway. This needs to be a 3-way stop. It is extremely dangerous as cars park on Harrison Parkway along the curb (each direction) and you can't see around them to see oncoming traffic when you turn off Lantern Road onto Harrison Parkway. People tend to fly through the neighborhood as well since Harrison Parkway is a "main" artery as well.
 - -Center medians need room for a car width on 69 approaching and exiting Indy. My cousin was permanently disabled due to narrow median, traffic volume and distracted drivers. -Why allow Fishers, Noblesville and Ham Co destroy the future of transit along Nickel Plate? Short sighted. -The commute to and from Indy is brutal. 37 and 69 are totally pointless. Will it ever be adequate and function efficiently? So depressing.
 - With the Nickel plate being such a great asset, it could easily be reconnected to downtown and the national rail system. It could also be repaired to run to Kokomo. Think of the traffic that could be alleviated for events and general transportation.
 - Nickel Plate project feels forced on citizens, sketchy decisions
 - What can be done to halt the removal of the Nickel Plate rail line in Fishers?
 - With over 15,000 signatures on partitions. It's clear that the people of Hamilton County and Indianapolis want to "SAVE THE TRAIN"!

APPENDIX Q

- Instead of Central Indiana being ahead of the traffic issue, we are now going to play catch up to something that could have been avoided. In 20 years the problem will only have gotten worse so by time we have a 'system' in place, it will already need to be updated to continue with the population boom. There is also a HUGE problem in Fishers and Noblesville leadership. The current administrations should be investigated for shady dealings that have been happening in those areas for a few years now.
- Need to fix the need of outer loop to take traffic from a crowded 465.

Questions and comments posted to MPO Facebook meeting advertisements:

Comments in Facebook posts varied from transportation feedback to other conversations.

Transportation feedback included the following comments:

- General
 - PLEASE PLEASE more BICYCLE LANES, PUBIC TRANSPORTATION and GREEN SPACES!!
 - Street light on Mann road by Manchester village apt. It is impossible to get onto Mann road at times
 - Here is a great idea...scrap the redline and create more parking downtown. Then people can drive themselves
- Roadways
 - I cant attend i would like to see the west sides roads there terrible. Be nice if they fixed the roads on the west stde. We pay gas tax just like the north side. The black top they use is so cheap. Check west washington st going west on holt rd. It's awful.
 - I agreed. Money talks .Need outer loop to bypass the problem on northwest 69 and 465 intersection.
 - I'd like to see and hear a lot of news on an outer loop even if the actual route is not disclosed
- Transit
 - We need mass transit now, not in 2045. For the sake of sustainability, we cannot just expand our roads, we a rail system with park-and-ride stations throughout the city.
 - What we need is to get rid of STUPID ideas like The Red Line.
 - Just keep ignoring the mass transit options and keep installing more roindabouts. That way the traffic problems will continue well into the future !
 - Rail system please to easy some traffic. Like to keep some gas money in my pocket.
 - Lite rail from Downtown Indy to Noblesville and to Greenwood. Save the Nickel Plate railway.
 - Spiral rail system!
- Bicycling & Walkways
 - Bike lanes along all roads. People have to walk on 67...a lot of Pedestrian and bike traffic
 - Bike paths & sidewalks from 465 to Ameriplex on Kentucky Ave and on High School from Kentucky Ave to Mills Rd. You would have some VERY happy residents!
 - How about some more sidewalks where bus stops are. Can't tell you how many stops I see where it's just a field on the side of the road.
 - Roundabouts are a menace to cyclists. Keep them out of the city's transportation plans.
 - and, a lot of times cyclists are a menace to us drivers!! Just my opinion..making our roads/streets smaller so you can ride a bike is scary..I don't live in the "City" but I do travel the streets..there is barely enough room for regular cars then add a bike lane, which are very confusing, makes for a disaster waiting to happen. I know not all cyclists are wrong/bad but when you encounter one that causes HAVOC while they ride, it gives a bad name to all!
 - Some folks on bicycles seem to think the rules don't apply to them. I know a local cyclist who is constantly bellyaching about careless drivers. I've also seen him blow through stop signs like they're not even there!

PUBLIC COMMENTS

Transcripts of actual Facebook posts and comments follow:

- **Sept. 27 Meeting Announcement Post**

- Indianapolis Metropolitan Planning Organization shared their event.
- Written by Liechty Media LLC ·
- Help drive the location of future roadways and transit and learn about major projects in your area. Meeting at Decatur Branch Library. Meeting at White Water Branch Library, Greenwood.
- SEP 27 Our Long-Range Transportation Plan: Your Ideas
- Wed 5:30 PM · White River Branch - Johnson County Public Library · Greenwood
- 17,234 people reached
- 21 reactions
- Comments:
 - OUR INPUT IS NOTHING AND DON'T THINK THAT WE HAVE ANY SAY IN THEIR POLITICS! THEY HAVE THEIR AGENDA AND WE DO NOT MATTER!
 - (image posted)
 - (tagged a friend) I thought you might like to know about this.
 - Here is a great idea...scrap the redline and create more parking downtown. Then people can drive themselves
 - I just saw this and won't be able to make it but PLEASE PLEASE more BICYCLE LANES, PUBIC TRANSPORTATION and GREEN SPACES!!
 - (MPO Replied) Thanks!
 - (MPO Commented) Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
 - Bite me

- **Sept. 25 Meeting Announcement Post**

- Indianapolis Metropolitan Planning Organization shared their event.
- Written by Liechty Media LLC ·
- Help drive the location of future roadways and transit and learn about major projects in your area. Meeting at Decatur Branch Library.
- SEP 25 Our Long-Range Transportation Plan: Your Ideas
- Mon 12 PM · Decatur Branch Library - 5301 S Kentucky Ave, Indianapolis, IN
- 16,826 people reached
- 34 reactions
- Comments:
 - ...day always buys da land what da politicians owns...
 - (image reply)
 - Why would you schedule a meeting on a workday during hours where the majority of people that work would like to attend but cannot because of the scheduled meeting time. Do you expect working people to take a day off from work?!?!?!
 - And the question is answered
 - Having this in the middle of a workday is ridiculous. You ate failing the community by not having a later meeting.
 - (MPO Replied) We hosted 15 meetings in Central Indiana with two at lunch time for folks that couldn't attend after work. It is a hard balancing act. Next week there are four more meetings after work, two are in Johnson County. IF that won't fit your schedule, you can watch the presentation online and give

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feedback. Learn more at <http://www.indympo.org/whats-underway/lrtp-2045....> Thanks for the interest!

- Why don't you host a lunchtime and an evening session at the Decatur Library? I have a limited data so online doesn't work for me. Needing to drive over an hour isn't an option for me or many others. Now you're discriminating because of my socioeconomic class...
 - (image reply)
- I know..Why don't they hold one every hr, 24 hrs a day 7 days a week..You know so they can please every whiny ass baby in the city...smfh
- ONE meeting! Noon ~ people are working at that time.
- Bike lanes along all roads. People have to walk on 67...a lot of Pedestrian and bike traffic
- Why not have it on a Sat. when more township people can attend instead of middle of the day when people are working? Less controversy at that time?
- Bike paths & sidewalks from 465 to Ameriplex on Kentucky Ave and on High School from Kentucky Ave to Mills Rd. You would have some VERY happy residents!
- Street light on Mann road by Manchester village apt. It is impossible to get onto Mann road at times
- (MPO) Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
 - Thank you!
- **Sept. 28 Meeting Announcement Post**
 - Indianapolis Metropolitan Planning Organization shared their event.
 - Written by Liechty Media LLC ·
 - Help drive the location of future roadways and transit and learn about major projects in your area. Meeting at Decatur Branch Library. Meeting at Community Alliance of the Far East Side (CAFE).
 - SEP 28 Our Long-Range Transportation Plan: Your Ideas
 - Thu 5:30 PM · Community Alliance of the Far East Side · Indianapolis
 - 21,619 people reached
 - 37 reactions
 - **Comments:**
 - How about some more sidewalks where bus stops are. Can't tell you how many stops I see where it's just a field on the side of the road.
 - (MPO Reply) Thank you for the feedback. Yes, a lot of work has been recently done on documenting where sidewalk improvements are needed in Marion County. IndyGo will be doing some improvements at BRT stations, but most sidewalk work is done by the local communities, not transit agencies. We'll add your concern about sidewalks to the report.
 - Where can I see the ideas when I can't attend your meetings?
 - (MPO Reply) Go to this link and you can see the handouts, give feedback, and see the presentation on YouTube. Thanks so much for the interest!
<http://www.indympo.org/whats-underway/lrtp-2045...>
 - (MPO) Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
- **Car Free Day Indy Post**
 - Indianapolis Metropolitan Planning Organization

PUBLIC COMMENTS

- Published by Jen Schmits Thomas ·
- Come see us on Monument Circle for #CarFreeDayIndy. Free food and music until 1P.
- 1,284 people reached
- 4 reactions
- Comments:
 - As long as the overwhelming majority of MPOs LTRP proposal calls for road widening, freeway widening, and new roads, than no one can really believe that MPO supports #CarFreeDayIndy
 - (MPO Reply) Thanks for the comment. The LTRP includes projects mainly proposed by our local communities, along with federal mandates. These projects primarily favor moving people by automobile. However, local communities are showing favor towards more choices an...See More
 - (MPO) Indianapolis Metropolitan Planning Organization Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
- **General Meetings Post**
 - Indianapolis Metropolitan Planning Organization
 - Written by Liechty Media LLC ·
 - Discuss the 2045 Long Range Transportation Plan & learn about major projects in your area.
 - 106 reactions
 - 39 Shares
 - Comments:
 - Heck, just close the city down and spend six months building roudabouts!
 - Roundabouts are a menace to cyclists. Keep them out of the city's transportation plans.
 - and, a lot of times cyclists are a menace to us drivers!! Just my opinion..making our roads/streets smaller so you can ride a bike is scary..I don't live in the "City" but I do travel the streets..there is barely enough room for regular cars then add a bike lane, which are very confusing, makes for a disaster waiting to happen. I know not all cyclists are wrong/bad but when you encounter one that causes HAVOC while they ride, it gives a bad name to all!
 - Some folks on bicycles seem to think the rules don't apply to them. I know a local cyclist who is constantly bellyaching about careless drivers. I've also seen him blow through stop signs like they're not even there!
 - (MPO Comment) Good one!
 - Great idea to have information meetings. However there is such a thing as prior notice to let people put it in their schedules not after they've been held.
 - That would not be in keeping with the long standing tradition of short notice at obscure locations during working or commuting times. 🙄
 - Schedule it when people are off work. I wish Johnson county would stop being marion counties bitch.
 - 2045 ha...yeah right
 - Why have a meeting they do what ever they want !!!!!0
 - True

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- They have these stupid meetings to give us the illusion we have a choice or its what everyone wants anyway. How about finishing the projects all the way you have going on right now and give us a break for a while with the massive construction ideas.
- My experience says that once the public is invited to a meeting, the deal is already written in stone. Don't bother.
- Wyd I thought they just fixed 465
- We need mass transit now, not in 2045. For the sake of sustainability, we cannot just expand our roads, we a rail system with park-and-ride stations throughout the city.
 - Good luck... Hoosiers are against roundabouts...
- Happy birthday Mark Love you
- 2045? Won't we have flying cars by then?
- What we need is to get rid of STUPID ideas like The Red Line.
- ...the land has already been purchased from city leaders of the community...
- sounds like the family meetings we used to have that went something like this we've seen a problem and have addressed it and heres how it will be handled any questions?
- Just keep ignoring the mass transit options and keep installing more roindabouts. That way the traffic problems will continue well into the future !
- No! Hire more police officers!!!
- 2045,are ya kidding?
- Well, I'll be 87 then, so I probably won't need to worry too much about gettin' around anyway.
- May his soul rest in peace
- I cant attend i would like to see the west sides roads there terrible. Be nice if they fixed the roads on the west stde. We pay gas tax just like the north side. The black top they use is so cheap. Check west washington st going west on holt rd. It's awful.
 - Thank you for specific comments about the west side. It is appreciated
- (MPO) Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
- **Sept. 21 Meeting Announcement Post**
 - Indianapolis Metropolitan Planning Organization shared their event.
 - Written by Liechty Media LLC ·
 - Help drive the location of future roadways and transit and learn about major projects in your area. Meeting at Noblesville City Hall.
 - SEP 21 Our Long-Range Transportation Plan: Your Ideas
 - Thu 5:30 PM · Noblesville City Hall; 2nd Floor; 16 S. 10th Street, Noblesville
 - 15,202 people reached
 - 33 reactions
 - **Comments:**
 - (tagged a friend)
 - Like tear out the rails?
 - My voice doesn't count, the city will sneak around to get what they want. Why bother??
 - Rail system please to easy some traffic. Like to keep some gas money in my pocket.
 - (MPO) Thank you to everyone who came to a meeting, shared about the meeting, or posted comments online. We really appreciate your ideas and observations. If you couldn't attend, but would like to see the presentation and comment, please go to <http://bit.ly/2wYcCOi> You have until Monday, October 2!
- **Sept. 20 Meeting Announcement Post**

PUBLIC COMMENTS

- Indianapolis Metropolitan Planning Organization shared their event.
- Written by Liechty Media LLC ·
- Help drive the location of future roadways and transit and learn about major projects in your area. Meeting at Lawrence Library.
- SEP 20 Our Long-Range Transportation Plan: Your Ideas
- Wed 6:30 PM · Lawrence Library · Indianapolis
- 21,468 people reached
- 45 reactions
- Comments:
 - Tax & Spend us into Oblivion just like Chicago. <http://www.taxrates.com/state-rates/illinois/cities/chicago/>
 - Lite rail from Downtown Indy to Noblesville and to Greenwood. Save the Nickel Plate railway.
 - (MPO Reply) Thanks for the suggestion to include light rail in the upcoming Long-Range Transportation Plan. Unfortunately, the local owners of the Nickel Plate corridor decided to go a different direction. At the LRTP meetings, we'll explain the regional planning process and our transportation network's future to meet the needs of our growing area. Hope you can join us.
 - Disasters in motion.
 - Spiral rail system!
- **General Meetings Post**
 - Indianapolis Metropolitan Planning Organization
 - Written by Liechty Media LLC ·
 - Discuss the 2045 Long Range Transportation Plan & learn about major projects in your area.
 - 17 reactions
 - Comments:
 - I will not waste my time, the MPO could care less what any of us think or desire, after all we are just the dumb ass's that are working every day paying tax's to support there wasteful spending
 - Fanning's Folly.
 - They don't care they do what they want.
- **General Meetings Post**
 - Indianapolis Metropolitan Planning Organization
 - Written by Liechty Media LLC ·
 - Discuss the 2045 Long Range Transportation Plan & learn about major projects in your area.
 - 14 reactions
 - Comments:
 - What a waste of our time, MPO Could care less what we the tax payer thinks or wants !!!!
 - ...days buys da land from da city fathers who buys da land day wants...day alls get rich...
- **General Meetings Post**
 - Indianapolis Metropolitan Planning Organization
 - Written by Liechty Media LLC ·
 - Discuss the 2045 Long Range Transportation Plan & learn about major projects in your area.
 - 28 reactions
 - Comments:
 - Beautiful family...

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- The MPO doesn't really want input from the People. They want the money to do what they, the unelected and unaccountable members of "The Organization" want done that will further THEIR ambitions and not ours.
 - I agreed. Money talks .Need outer loop to bypass the problem on northwest 69 and 465 intersection.
 - I'd like to see and hear a lot of news on an outer loop even if the actual route is not disclosed
 - Lots of people would lose their homes-no one wants it in their backyard.
 - Why waste the time the council has made it clear what they want and to hell with public input if you don't like it leave or live with it
 - Wish I was there my friends.
 - Oh boy. Get ready to open your wallets. Toll Roads for all! Been almost 30 years and 69 isnt complete through the state, 465 is still being tore up every other year, 65 is still screwed up....but let's talk about 'tge future'. How about completing the stuff already started in the present? I mean seriously, if NY can complete the new Tappan Zee in about 4 years, there is zero reason for IN to take a year or more to build a little bridge over a creek!
 - Toll roads are reason for walls all bridges south are now toll
- **General Meetings Post**
 - Indianapolis Metropolitan Planning Organization
 - Written by Liechty Media LLC ·
 - Discuss the 2045 Long Range Transportation Plan & learn about major projects in your area.
 - 17 reactions
 - Comments:
 - Don't fall for this well worded sales pitch... It's not at all what they're selling it to be... It's another tactic to have us dependent on the government... They want to take away our vehicles so we have to use they're transportation... That way they know everywhere we go...

PUBLIC COMMENTS

30 Day Public Comment Period

The following table includes public comments received during the public comment period (October 8-November 10) of the draft 2045 LRTP and MPO staff responses to the comments. Commenters placed their comments in a digital copy of the draft, through a website called CiviComment.

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
10/22/2017 - 12:44pm	eaharvey	Suggestion	LRTP # 5203 - This project is premature and the design features are inadequate to mitigate the impact of 4 lanes to this residential corridor. Except for intersections, this corridor is residential. We submitted a letter from 4 homeowner's associations regarding this plan as it relates to east of Meridian, and there was not even an acknowledgement of receipt of the letter. We identified several pedestrian and vehicular hazards with the design and pointed out that clearly this is all about cars without regard to the impact to homes, arts trail, and pedestrians. Greenwood is bordered on the north by a 4 - lane Countyline Road and to the south Worthsville Road that is going to become a FedEx hub. Making Smith Valley a 4-lane east west corridor is short sighted. Eric Harvey - Greenwood	Thanks for your comment. We will forward to the City of Greenwood.
11/08/2017 at 2:29pm	Snowbirds	Suggestion	Please, please, please. Look into making Emerson avenue a 4 lane road from Southport road to the light going into the Kroger store just south of Todd road, I have been hit twice and witnessed several accidents here. The reason for the accidents were due to people in a "right turn only" lane wanting to go straight and force their way over wether there is a car there or not. I see close calls every single time I travel south, which is every day and sometimes more They rebuilt the bridge over INT 65 several years ago. The talk on the south side was whoever the planners were did not research carefully with what Greenwood was doing or their plans for Emerson Ave. from INT 465 to Southport road. The plans were already there. Why then was the bridge not made into 4 lanes then? They could have made two lanes closed off until the planned 4 lane change on Emerson was completed. The perso or persons responsible for this should have been let go because due dilougance was not done	Thanks for your comment. Project #'s 6165 and 6166 will make Emerson 4 lanes from Southport to County Line Rd.
11/07/2017 at 4:25pm	MrQ5525	Suggestion	PLEASE, PLEASE, PLEASE do something about the on and off ramps at the State Rd 67. It is awful and nothing has been done to it in YEARS, but all of 465 and I believe all other exits have all been redone. It looks horrible and drives horrible. When your driving it feels like a bunch of little speed bumps. My son and I even went up and cleaned the medians on both exits this spring. Please look into it. Thank you Steve	Thanks for your comment. We will forward to the Indiana Dept. of Transportation (INDOT).

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DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
11/05/2017 at 3:11pm	milichal	Suggestion	Two ideas: 1. Widen Emerson from Southport to County Line. Even just a bump out near Todd Road would suffice. I hate when I hold up traffic because I want to turn left onto Todd. 2. Widen Todd Road a little bit. It would be nice to not feel like I'm driving off the side of the road when another vehicle is traveling in the opposite direction. A light at Todd would be nice, but with the two previously mentioned ideas would make traffic flow better.	Thanks for your comment. Project #'s 6165 and 6166 will make Emerson 4 lanes from Southport to County Line Rd. We will forward your comment regarding Todd Rd. to the Indianapolis Dept. of Public Works.
11/01/2017 at 5:29am	davidw221	Suggestion	I-465 northwest at bridge 47 is the same configuration as designed in 1965 and opened in 1971, I-465 northbound is 5 lanes then goes to 2 lanes as it turns to the east, this doesn't make any sense at all. The Westbound lanes of I-465 to southbound is the same way the road goes from 4 lanes to 2. Designing the Road to accommodate the current and future traffic flow would help the commuting public.	Thanks for your comment. We will forward to the Indiana Dept. of Transportation (INDOT).
11/01/2017 at 5:29am	davidw221	Suggestion	The exchange at 56th & I-465 west is the same original scheme as in 1964. there is no access to I-465 North bound nor exit southbound, The environmental groups surrounding Eagle Creek Park have prevented this from happening. There is also a bottle neck on I-465 at I-65 both directions, Reconstruction of the I-65 bridge to allow more lanes, and more lanes.	Thanks for your comment. We will forward to the Indiana Dept. of Transportation (INDOT).
11/01/2017 at 5:33am	davidw221	Suggestion	56th ST from Raceway Road to I-465 along Eagle Creek is a bottle neck, Hendricks County is good faith built 56th St from Raceway Rd to Brownsburg, and the City of Indianapolis was suppose to continue the 4 lane Road to Lafayette Rd, this never happened thus causing traffic issues along 56th St in both directions. Solution, is to build out 56th St. as the City promised 12 years ago!	Thanks for your comment. Project #'s 6109 and 6110 include the widening of 56th Street from 2 lanes to 4 lanes. We will forward your comment to the Indianapolis Dept. of Public Works.

PUBLIC COMMENTS

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
10/29/2017 at 9:42pm	jayneel	Suggestion	I was disappointed to see that no project is planned to add travel lanes on Interstate 465 between 86th Street (Exit 23) and U.S. 421/Michigan Rd. (Exit 27). This section of I-465 gets congested pretty much everyday during rush hour. I especially notice this on the northbound lanes during the afternoon rush hour. This is because I-465 northbound goes from 4 mainline lanes before losing a lane as it goes over 86th Street and then losing another lane as the far left lane turns into an exit lane to westbound I-865 (Exit 25). So in short, 465 northbound goes from 4 mainline lanes to 2 mainline lanes thus causing a bottleneck for traffic. This would help the congestion on Zionsville Road between 86th Street and 96th Street as currently much of the traffic on it during rush hour is Marion County and Hamilton County vehicles using Zionsville Road to avoid the 465 congestion. (I notice a lot of 49 (Marion County) and 29 (Hamilton County) numbers in the lower right-hand corners of license plates, so that is how I know that much of the traffic on Zionsville Road is from Marion and Hamilton counties.) I notice that these Marion Co. and Hamilton Co. vehicles turn east at 96th Street or 106th Street. If I-465 were improved in the portion I suggest, I think more traffic would use it and get off at Exit 27 (U.S. 421/Michigan Rd.).	Thanks for your comment. We will forward to the Indiana Dept. of Transportation (INDOT).
11/01/2017 at 1:43am	jayneel	Suggestion	The bridge on Moore Road just north of 88th Street needs to be widened to allow two lanes of traffic. It is rumored that Traders Point Creamery has lobbied to make sure this bridge isn't widened. I don't know if this is true, but regardless, they should not have veto power of any potential project here. This project is desperately needed as it is unsafe and is a major throughfare for commuters.	Thanks for your comment. We will forward to the Indianapolis Dept. of Public Works.
11/05/2017 at 9:46pm	R u s s e l l Menyhart	Suggestion	Does this imply that the only long-term growth plan can be towards adding capacity? "Changing capacity" can also mean reducing capacity ("road diets") if it improves safety or gives existing lanes to multimodal transit. This implies adding lanes and roads is the only path forward, but it may not be.	Thanks for your comment. We did not mean to imply that adding lanes/capacity is the only road forward. The MPO is in support of improving transit and making all modes of transportation as safe as possible.

APPENDIX Q

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
11/5/2017	R u s s e l l Menyhart	Suggestion	p. 25 - under Congested Facilities/discussion of VOC ratios: Using peak travel time VOC measures has been shown to sometime not be the best metric for traffic planning because it infers longer-term congestion from what may be only be short-term congestion. A resulting major expansion may lead to overcapacity and induced demand, and be a less effective means of addressing short-term congestion than other methods (such as HOV lanes, freight lanes, mass transit, etc.). This section says this is "one congestion metric" MPO uses, but because map is based on this fairly aggressive measure of "congestion" it results in a map that, if taken in isolation, makes it appear that most major roads in Marion County are congested, when we know that for most of the day they are not.	Thanks for your comment. We don't disagree and continue to refine our travel demand modeling to better define congested areas.
11/06/2017 at 8:58pm	robbyslaughter	Suggestion	p. 32 under Autonomous Vehicles: This is the most important part of the future of transportation, and yet it gets a laughably small mention. Autonomous vehicles are already being piloted. None of them require infrastructure support. Every major manufacturer has announced them. By 2045 they will be the dominant form of transportation. Ford, Fiat Chrysler, GM, Honda, Toyota and more have some features today. The median age of cars is 11.5 years, which means by 2028 more than half of all cars on the road have not yet been built. You're missing out. Plan for the future.	Thanks for your comment. This plan will be updated again in 4 - 5 years; we agree that autonomous vehicles will have a huge impact on our future transportation system.
11/8/2017	Kate_r	Suggestion	On pg. 27 under "Pedestrian and Bicycle Safety," the plan states: "However, as more communities in Central Indiana invest in walkable development and better bicycle facilities, additional emphasis needs to be placed on protecting the most vulnerable users of the network." It would be great to specifically call out this emphasis on bicycle and pedestrian safety under the "Make Safe" performance measure.	Thanks for your comment. Please note that under the "Make Safe" theme, performance measure 5 includes number of pedestrians and bicyclists seriously injured or killed.
11/08/2017 at 10:17pm	R u s s e l l Menyhart	Suggestion	p. 33 - under MOVE - Implementing strategies that address congested segments: Is it possible to note that strategies should "address congested transportation sections" but without encouraging greater commuting times (and hence congestion)? The errors of the past have been addressing congestion by adding auto capacity, leading to the now proven concept of "induced demand" and ever growing commute lengths. If MPO accepts that has been an issue, I think important to be clear what limitations exist on how to "address" congestion.	Thanks for your comment; we don't disagree. As a planning document, the LRTP attempts to address issues at a high level. Individual solutions may exist for individual roadway segments.

PUBLIC COMMENTS

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
11/07/2017 at 5:56am	rosha	Suggestion	I'm a bit confused by the data represented in this section. I'm assuming the Federal Data will be filled in at some point, and that the baseline data is current data -- will there also be data points representing goals next to the baseline data?	Thanks for your comment. In 2018 the MPO will begin setting targets (goals) for performance measures.
11/07/2017 at 5:58am	rosha	Suggestion	Under MOVE, Objective 1B, PM 2 - It would also be interesting to have a specific goal around curb-separated bike lines, emphasizing safety alongside connectivity.	Thanks for your comment. For more specific plans on bicycle infrastructure, see the MPO's Regional Bikeways Plan. It will be updated in 2018.
11/08/2017 at 12:12pm	Kate_r	Suggestion	What does "connected" mean? What does "close" mean? Can these terms be defined somewhere in the plan? Also, does quality of bike facility or sidewalk matter?	Thanks for your comment. "Connected" is defined as being part of a larger system. "Close" is defined as within 1/2 mile of a connected bikeway; or within 200 feet of a connected sidewalk. The existence of a facility is the focus of this planning document.
11/08/2017 at 11:28pm	R u s s e l l Menyhart	Suggestion	p. 34, under Goal Two, PMI - What does "reliable" mean in this context?	Thanks for your comment. Specifically, "Travel Time Reliability" is defined in 23 CFR Part 490 as the consistency or dependability of travel times from day to day or across different times of day.
11/08/2017 at 11:27pm	R u s s e l l Menyhart	Suggestion	p. 34, under Goal One, PM2 - Percent of regional population with access to fixed route transit line - "high-quality" route perhaps? It seems this should distinguish between a bus line that runs once an hour, versus ones with 15 minutes or less frequency.	Thanks for your comment. We balanced metrics on transit. Another performance measure examines transit ridership per capita on frequent transit routes and another tracks environmental justice population access to frequent transit. We appreciate your feedback on this particular performance measure.

APPENDIX Q

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
11/08/2017 at 11:30pm	R u s s e l l Menyhart	Suggestion	p. 34, under Goal Two PM3 - What does "excessive delay" mean? Is it measured as delay over if the person took another route? if they were alone on the freeway on off-peak times (in which case the comparison is unrealistic, as any system will have some congestion and delay at peak hour). Designing highways for peak hour alone is what leads to excess capacity, resulting in higher construction and maintenance costs. Increasingly congestion is accepted as something better mitigated by providing transit alternatives and grid connectivity.	Thanks for your comment. Excessive delay is defined in 23 CFR part 490, specifically 490.511 "Calculation of National Highway System performance metrics." The metric requires a calculation of the normal travel time of a link. The "Normal Travel Time" is compared to the 80th percentile. It is not measured as delay over if the person took another route, but only examines the average annual travel time on a particular link.
11/08/2017 at 11:26pm	R u s s e l l Menyhart	Suggestion	P. 34, UNDER Goal One, Objective IA, PMI - Should this specify that it should include analysis of resilient connectivity (meaning multimodal options for connecting between regional centers, rather than solely private vehicle)? This metric seems designed to focus on freeway expansion, at the expense of connectivity to grid.	Thanks for your comment. This metric is designed to look only at vehicle access but we will take your suggestion into consideration when evaluating performance measures for the future.
11/08/2017 at 1:24pm	Kate_r	Suggestion	p. 40 Under Complete Streets - Clarify that Complete Streets are context-sensitive, so they can take various forms depending on the need/use. Transit access is also part of some Complete Streets.	Thanks for your comment. The MPO's Complete Street Policy is context sensitive.
11/08/2017 at 11:36pm	R u s s e l l Menyhart	Suggestion	p. 41 under Growth Management/Better Access - Excellent as to prioritization of different ways to address congestion.	Thanks for your comment.
11/08/2017 at 2:00pm	Kate_r	Suggestion	p. 47, under Addresses Top 50 Dangerous Intersections -Could you specify the types of crashes - car-only, bike, pedestrian, etc?	Thanks for your comment. The Top 50 Dangerous Intersections analyzed vehicular crashes, specifically the potential frequency of crashes and severity.

PUBLIC COMMENTS

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
10/29/2017 at 9:19pm	jayneel	Suggestion	p. 48 - LRTP #6156 (Zionsville Rd. widen 2 to 4 lanes between 86th and 96th St.)- I fully support this project. It is long overdue. In the meantime, the Indianapolis DPW should modify the stoplight at the entrance to Dow Chemical property and the Panhandle Eastern Pipe Line Co. LP property. It should be changed from a simple timing mechanism to only turn red to Zionsville Road traffic when there is traffic coming from Dow or the pipeline. It is so frustrating having to stop on Zionsville Road when there is no traffic coming from these businesses. It's like some planner wanted to slow down traffic so he just plopped a stoplight down there.	Thanks for your comment. We will forward to the Indianapolis Dept. of Public Works.
11/08/2017 at 11:42pm	R u s s e l l Menyhart	Suggestion	p. 48 - Recommended project list - These many "added travel lanes" projects seem inconsistent with the above-stated strategy of adding capacity being the last resort as a means of managing congestion.	Thanks for your comment. The LRTP document is required to list all projects submitted by local project sponsors. While we recognize that adding capacity should be the last resort, the project list reflects the priorities of each local government in the planning area.
10/29/2017 at 9:49pm	jayneel	Suggestion	p. 50 LRTP#6004 - I-465 from White River bridge to I-69 - I fully support this project. It is important that there are four travel lanes in each direction (8 total) under Allisonville Road. Interstate 465 gets rather congested going eastbound on 465 since currently it loses a lane.	Thanks for your comment. We will forward to the Indiana Dept. of Transportation (INDOT).
11/08/2017 at 2:03pm	Kate_r	Suggestion	p. 47 - Bicycle and Pedestrian priorities - suggestion that we organize document so as to not break up the narrative so much. (the project list is several pages long)	Noted. Thanks for your comment.
11/09/2017 at 11:08am	R u s s e l l Menyhart	Suggestion	p. 63 under Better Understand the location of Jobs and Places - Unclear what these two numbers refer to -- if 11% is Central Indiana, what is the 20% statistic from? State? Nation?	Thanks for your comment. The 20% statistic is national.
11/05/2017 at 9:28am	indybob	Suggestion	The entire document is difficult to read because of all the JARGON. Way short on specifics concerning Public Transit Goals, Freight and Truck travel and future modes of transportation such as selfdriving vehicles.	Noted. Thanks for your comment.

APPENDIX Q

DATE POSTED	USER	TYPE	COMMENT	REPLY (PARENT COMMENT ID)
10/25/2017 at 8:17 PM	Jay Neel	Suggestion	<p>"Dear Ms. Stephanie Belch,</p> <p>This is my comment concerning Appendix R (Red Flag Investigations) which is found at https://d16db69sqbolil.cloudfront.net/mpo-website/downloads/LRTP-2045/Appendix_RFI.pdf For some reason,inside the document,it is calledAppendixA even though there is anotherAppendix A and even though it is called Appendix R on http://www.indympo.org/whats-underway/lrtp-2045#draft-plan so I hope it is clear what document I am speaking to. It makes it all rather confusing for me as a layperson.</p> <p>LRTP # 6123 (pp. 339-349) concerns the widening of Southport Road between State Road 135 (Meridian St.) and U.S. 31. It notes that two religious facilities were located but then notes that additional research found three more religious facilities within a half-mile radius. These three religious facilities are Trinity Southern Baptist Church, South Central Church of Christ, and Reformed Presbyterian Church of Southside Indianapolis. The discussion finds that these facilities may have an impact on the project.</p> <p>In contrast, in the discussion of LRTP # 6122 (pp. 464-474), which concerns the widening of Southport Road between Bluff Road and State Road 135 (Meridian St.), none of the religious facilities found after additional research in LRTP # 6123 are mentioned. The Reformed Presbyterian Church is almost certainly within the half-mile radius of the LRTP # 6122 because it sits at the northeast corner of the intersection of SR 135 and Southport Road. I believe the other churches are also within a half-mile radius. South Central Church of Christ is closer to the project area than Trinity Southern Baptist Church. As a layperson, some or all of these religious facilities should be discussed and listed under LRTP # 6122.</p> <p>Both of these projects seem good to me since this road has a high volume of traffic but I believe it is best to have accurate information. I hope this comment is helpful to our transportation agencies in central Indiana.</p> <p>"</p>	Thanks for your comment. We changed the Red Flag Investigations appendix to Appendix R. We will forward your project comments to the Indianapolis Dept. of Public Works.

PUBLIC COMMENTS



2045 LONG RANGE
TRANSPORTATION PLAN

Meeting Notes
2045 LRTP Major Update
Stakeholder Meeting
November 2, 2017
1:30pm – 3:00pm

Attendees:

- Stephanie Belch, MPO
- Ryan Wilhite, MPO
- Ward Kennedy, MPO
- Jennifer Pyrz, HNTB
- Kristin Brier, Freight Manager, INDOT
- Kate Riordan, Health by Design
- Alison Redenz, Health by Design
- Tim Maloney, Hoosier Environmental Council
- Stacie Hurrle, Marion Co. Health Dept.
- Beth White, Greater Indianapolis Progress Committee
- Ron Gifford, Jump IN for Healthy Kids
- Lacey Everett, Metropolitan Indianapolis Board of Realtors (MIBOR)
- Philip Roth, Central Indiana Regional Transportation Authority (CIRTA)

The agenda consisted of a review of the 2-year planning process (including the September 2016 Stakeholder Outreach, performance measures and project screening, community outreach meetings, and transportation funding forecast; recommendations and conclusions and next steps). See Agenda on next page.

The MPO staff fielded questions from attendees regarding the funding forecast and budget allocation, the differences between INDOT funding and local public agency funding, the relationship between INDOT projects and federal-aid local projects, performance measures and project screening, and public involvement.



2045 Long Range Transportation Plan Stakeholder Meeting

November 2, 2017 1:30 p.m. – 3:00 p.m.

MIBOR (Metropolitan Indianapolis Board of Realtors)
1912 N. Meridian St., 2nd Floor Conference Room B
Indianapolis, IN

AGENDA

1. Introductions
2. Review of the 2045 LRTP Planning Process
 - September 2016 Stakeholders Outreach
 - Performance measures finalized
 - Transportation funding forecast update
 - Community Outreach Meetings
3. Public Involvement Requirements
 - 30-Day Public Review
 - Responses to public comment
4. 2045 LRTP Recommendations and Conclusions
5. Next Steps for MPO, IRTC, and Stakeholders
 - After Action Report
 - Performance Measures Target Setting

PUBLIC COMMENTS

Public Hearing

The following letter is the only public comment received during the public hearing on December 13, 2017 at the Joint IRTC meeting in Beech Grove.

KIM IRWIN -- HEALTH BY DESIGN

12/13/17 IRTC LRTP Testimony:

Good morning. I am Kim Irwin, executive director of Health by Design. We work at the intersection of the built environment and public health to ensure that communities here in Central Indiana and around the state have neighborhoods, public spaces and transportation infrastructure that promote physical activity and healthy living.

Thank you for the opportunity to provide public comment on the 2045 Long Range Transportation Plan. First and foremost, I want to commend MPO staff and IRTC members who have worked diligently to develop this plan, including expanded and more robust data and research in the plan, and offering various ways for key stakeholders and members of the public to provide input.

We are pleased, of course, to see walking, biking and transit featured prominently within the plan and the recognition of the contributions these modes make to the overall health, wellbeing, resiliency and competitiveness of the region. We encourage individual communities and the region as a whole to further prioritize investments in these modes, and to continue developing systems for monitoring and evaluating their safety, accessibility and effectiveness.

My final comments today will sound very familiar to those of you who have heard me speak over the past ten years on various planning initiatives. I will admit, it feels a bit futile to stand here before you again this morning with the same comments I make every time, which seem to go largely unheeded. That said, I believe it is a critically important message, and one that represents not just the general wishes of many of the people you all represent, as indicated by the survey that was conducted as part of this process, but one that is consistent with the best evidence and strategic thinking of professional peers working nationally and in regions, cities and towns across the country.

This plan perpetuates overinvestment in system expansion, at the expense of maintenance and transportation options that serve everyone, regardless of age, ability or income. We do not have the money we need to take care of the assets we have, despite the recent infusion of funding; and given that, I would say it's arguably negligent to continue to pour dollars – hundreds of millions of dollars – into assets that essentially serve a single mode – single occupancy vehicles – which is considered the least effective, efficient and equitable mode of transportation.

Given the funding uncertainty we face, particularly federally. Given the absence at this time of comprehensive and coordinated land use policy and transportation policy here within the region, which sets us up to perpetuate sprawl. And given what we know, based on evidence, about the lack of congestion relief that comes with expansion. You've probably all heard it over and over that widening roads to reduce congestion is like loosening your belt to lose weight. It doesn't work.

Given all of those things, I would urge that we collectively work to find ways to take action and to be intentional about maximizing the assets we already have, making them safer and in better condition, and minimizing new and increased capacity throughout the region. Thank you.

APPENDIX Q

Changes Incorporated in Final

Following the public comment period, minor modifications were made to the document prior to presentation to the IRTC for approval. The memo below outlines those changes.

Memo

To: IRTC Representatives
From: Ryan Wilhite, Indianapolis MPO
Date: December 22, 2017
Re: Modifications to the 2045 LRTP

The Indianapolis MPO released the draft 2045 LRTP for its required 30-day public comment period. Concurrently, MPO staff requested that IRTC representatives review and provide comments on the draft plan. Following the closing of the public comment period, MPO staff updated the 2045 LRTP Steering Committee as to the general nature of comments received and modifications requested. This memorandum serves as a detailed listing of the changes made to the draft 2045 LRTP, as it was distributed in October 2017.

- Minor grammar and spelling corrections.
- Updated maps (Map 3-3, Map 3-4) to match map templates.
- Updated tables (Table 5-3, Existing and Committed Project List, 2045 LRTP Recommended Project List) to reflect changes to projects noted below. Appendices were also updated to reflect the project list.
- Updated project map (Map 5-1) to reflect changes noted below.
- Public comments added as an Appendix.
 - The MPO Public Involvement Plan requires that a major update to the LRTP have a 30-day public comment period and a public hearing. The public comment period closed on November 9th, following a 30-day period. Public comments were reviewed. All comments are addressed in the Appendix of the plan.
- Project changes.
 - After a request to review Freight Scoring by an IRTC representative, the following changes were made:
 - LRTP 1107, Ronald Reagan Parkway Extension, changed from “No” to “Tier 3” status for the Regional Freight Plan, adding 10 points to its prioritization score.
 - LRTP 5101, Smith Valley Road, changed from “Tier 3” to “No”, removing 10 points from its prioritization score.
 - LRTP 6101, 10th Street Reconstruction and Widening, changed from “No” to “Tier 4”, adding 5 points to its prioritization score.
 - LRTP 4204, Dan Jones (US 36 to CR 100S), changed from “No” to “Tier 3”, adding 10 points to its prioritization score.

PUBLIC COMMENTS

- A couple projects are now being funded 100% local and are either under construction or committed for construction by the local agency. These projects are considered “Existing and Committed” and removed from prioritization.
 - Project 1201 became a priority for Zionsville. Zionsville is moving this project forward with 100% local funding, with an anticipated opening date of 2020.
 - Project 2434, Ditch Road Extension, is under construction.
- As a result of the updated scoring and movement of local projects as Existing and Committed, project prioritization was reviewed. The same approach for the initial prioritization (i.e. Highest scoring project prioritized) necessitated changing the prioritization of a few projects. No projects were removed from the plan.
 - LRTP 1107, Ronald Reagan Parkway Extension, Hendricks County – From Period 3 to Period 2
 - LRTP 4204, Dan Jones (US 36 to CR 100S), Avon – From Period 2 to Period 1
 - LRTP 2405, Springmill Road Widening, Westfield – From Period 2 to Period 3
 - LRTP 2210, 131st St. Widening, Carmel – From Period 2 to Period 3
 - LRTP 1206, Templin Road, Zionsville – From Period 2 to Period 3
 - LRTP 6139, Fall Creek Rd. Widening, Indianapolis DPW – From Period 2 to Period 3
 - LRTP 6144, Girls School Rd Widening, Indianapolis DPW – From Period 2 to Period 3
- A review of Existing and Committed projects necessitated the addition of three projects. The addition of these projects does not impact non-INDOT, roadway project prioritization.
 - LRTP 4002, US 36 (Rockville Road)
 - LRTP 6040, I-69 Added Travel Lanes
 - LRTP 9007, Purple Line.

APPENDIX Q

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION
INDIANAPOLIS REGIONAL TRANSPORTATION COUNCIL
POLICY COMMITTEE

Resolution Number 17-IMPO-013

A RESOLUTION to approve the 2045 Long Range Transportation Plan (LRTP) for the Indianapolis Metropolitan Planning Area.

WHEREAS, the 2045 LRTP incorporates surface transportation projects proposed by local and state governments and transit agencies within the Indianapolis Metropolitan Planning Area; and

WHEREAS, the projects contained in the proposed 2045 LRTP have been reviewed as to their impact and importance to the continued improvement of the surface transportation system operating within the area; and

WHEREAS, changing conditions and federal regulations necessitate periodic updates of the LRTP; and

WHEREAS, the 2045 LRTP uses performance measures for project evaluation as determined in conjunction with the 2045 LRTP Steering Committee; and

WHEREAS, the MPO staff held fifteen community meetings across the metropolitan region to gather input on the proposed 2045 LRTP, convened a 2045 LRTP Steering Committee comprised of elected officials and technical experts, and conducted a regional transportation preference survey; and

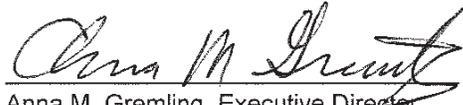
WHEREAS, the proposed 2045 LRTP was made available for public comment and comments received were provided to the Indianapolis Regional Transportation Council Policy Committee (IRTC); and

WHEREAS, the Indianapolis Regional Transportation Council (IRTC) Policy Committee is the approval body for all transportation-related activities of the Metropolitan Planning Organization for the Indianapolis Urbanized Area under applicable U.S. Department of Transportation regulations;

NOW, THEREFORE, BE IT RESOLVED, that the IRTC Policy Committee hereby approves the 2045 Long Range Transportation Plan as shown in this document.

The IRTC Policy Committee adopted the above and foregoing resolution this 13th day of December 2017.

12/13/17
Date


Anna M. Gremling, Executive Director
Indianapolis MPO
For the IRTC Policy Committee Chair