



5.3 Social/Economic Impacts

The improvement of US 31 to a freeway facility whether on new terrain or utilizing existing right-of-way will have both negative and positive social impacts to communities within the limits of the relocated highway. In general, the changes in accessibility along the new facility will create a number of social impacts to local communities. Local residents wanting to access the new facility will have to use the interchanges to reach the proposed highway. This will alter existing travel patterns, increasing local travel times in some instances and decreasing travel times for longer north-south trips.

With any large highway project such as this, one of the main impacts is the relocation of homes and businesses. It is often difficult and emotional for people affected by the process of land acquisition. The following sections discuss the possible displacements resulting from this project. It should be noted that the right-of-way and relocation costs and displacements contained in this chapter include those associated with the alternatives as-well-as the Local Roadway Improvement Projects (see Chapter 3.5) for the alternatives.

5.3.1 Relocations

Impacts were assessed using alignments depicted on aerial photos for the alternatives. Generally, a 300 to 350-foot total right-of-way width was used for assessing impacts; however, right-of-way width variations were made depending on terrain and accessibility. Some properties that were close but outside of the working alignment were assumed to be acquired. The actual right-of-way width will vary depending on terrain, stream crossings and placement of frontage roads. More detailed right-of-way determinations will be made during the design phase.

The numbers shown for relocations are based on the working alignment for the alternatives. The homes and businesses were field checked. Neighborhoods and communities that were impacted by the roadway or through lost access were also evaluated in the field.

Table 5.3.6: Right-of-Way and Relocation Costs by Alternative	
Alternatives	Costs
Alternative Cs	\$45,700,000
Alternative Es	\$73,800,000
Alternative G-Cs	\$48,900,000
Alternative G-Es (Preferred)	\$74,800,000

As a fully access controlled grade separated facility, no direct access to the new facility will be allowed. Any build alternative on a new alignment would likely cause some properties to become landlocked. The right-of-way and relocation costs shown in Table 5.3.6 includes right-of-way and relocation costs associated with Local Road Improvement Projects (see Chapter 3.5) and the reconstruction of U.S. 20 for the alternatives but do not include damages to landlocked or severed properties that have not yet been identified. There will be no relocations for the No-Build Alternative.

The projected relocation and right-of-way acquisition costs include right-of-way costs for acreage and improvements required for actual construction, relocation costs, costs for acquiring structures and improvements due to lost access and administrative fees. These costs are estimates only and are based on a field survey. An INDOT approved appraiser conducted a windshield survey of the properties that would be impacted by the various working alignments and categorized properties into a range of values. Utility facility relocation costs have not been included in these estimates. Final right-of-way requirements have not yet been determined and are only estimated at this time. These costs are for comparison purposes only. They could change after more precise right-of-way



requirements have been determined.

Residential Displacements:

Residential displacements for the alternatives are shown in the Table 5.3.7. There will be no displacements for the No-Build alternative. Alternative Es and G-Es have the greatest number of residential displacements because they would utilize existing right-of-way along US 31 north of Kern Road, thus requiring the acquisition of homes on either side of existing US 31. Following review of the DEIS, a decision was made to add access improvements in the vicinity of Johnson Road, and from Jackson Street to the north over US20, near the northern terminus for Alternatives Es and G-Es. These access improvements increased the number of residential relocations above what was originally predicted in the DEIS. Impacts to individual neighborhoods are discussed in Section 5.3.4, Neighborhoods and Community Cohesion.

A home was considered displaced if it was located within the project right-of-way or if reasonable access to the property could not be maintained. The displacement of residences is estimated based upon predicted right-of-way requirements. Right-of-way requirements may be further revised during the design phase when more detailed engineering decisions are made.

Price Range	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred) ¹
\$0 - \$50,000	2	3	2	3
\$50,000 - \$100,000	5	28	6	25
\$100,000 - \$150,000	17	38	16	40
\$150,000 - \$200,000	9	28	12	26
\$200,000 - \$250,000	8	14	11	14
\$250,000+	9	17	12	16
Total Residences	50	128	59	124

¹ See Table 3.6.41 for Summary of Impacts Associated with Preferred Alternative G-Es following additional, in-depth studies.

Discussion of Preferred Alternative G-Es:

Following the identification of Alternative G-Es as the Preferred Alternative, additional, in-depth studies were performed on the alternative. Included in these additional studies were minor refinements of the local access plan and associated proposed right-of-way requirements and number of relocations. The results of the additional analysis (See table 3.6.41) showed that Preferred Alternative G-Es has a total of approximately 127 residential relocations. The decision to utilize the existing US 20 and US 31 interchange at the north terminus requires a higher number of residential relocations due to the higher density housing that currently exists along US 31, especially in the area north of Kern Road. This alternative also would impact a proposed subdivision platted for approximately 250 homes and a proposed 350-unit apartment complex located south of Kern Road and west of existing US 31. As of February 2005, there were no completed homes or apartments in this area and the developers were aware of the proposed US 31 improvement project.

A review of 2000 US Census Bureau Block Statistics for the areas impacted by Alternative G-Es revealed that 92.6% of the occupied homes in the corridor area were owner-occupied, while only 7.4% were renter-occupied. The following table summarizes the housing characteristics for the census blocks within the identified census tracts along the G-Es corridor.



Geographical Area	Owner-Occupied	Renter-Occupied	White Head of Household	Non-White Head of Household	Over 65 Head of Household
North of Kern Road (census tract 118)	92.7%	7.3%	96.6%	3.4%	25.6%
Kern Road to New Road (census tract 119)	95.3%	4.7%	97.5%	2.5%	24.4%
New Road to County line (census tract 123)	92.4%	7.6%	97.5%	2.5%	15.3%
County line to 7 th Road (census tract 202.1)	80.3%	19.7%	100%	0%	19.7%
7 th Road to south project limits (census tract 207.01)	94%	6%	100%	0%	12.5%
Totals for Alternative G-Es Corridor Area	92.6%	7.4%	97.5%	2.5%	23.1%
Saint Joseph County	71.7%	28.3%	84.4%	17.6%	13.6%
Marshall County	76.8%	23.2%	96.9%	3.1%	22.9%
State of Indiana	71.4%	28.6%	87.5%	12.5%	12.4%

Source: 2000 US Census Bureau

Generally, the housing characteristics within the G-Es corridor show a high percentage of owner-occupied homes when compared to the statistics for the State of Indiana or when compared to Marshall and St. Joseph County statistics. The corridor area has only 2.5% of minority residents which compares to a rate of 12.5% for the State of Indiana as a whole. The G-Es corridor area does show a slightly higher than normal percentage of householders over the age of 65. The corridor as a whole has approximately 23.1% over the age of 65 compared to the State of Indiana rate of 12.4% over the age of 65. This higher percentage is likely attributed to the fact that there is a high percentage of owner-occupied homes and the area as a whole has long established neighborhoods where residents tend to stay in place. Long term or elderly residents often have more difficulty adjusting to a required relocation. It is often difficult for these people to adjust to new surroundings and possibly to establish new social ties.

Census statistics for the G-Es project area show that there are very few residents in this area living below the poverty level. The percentage below poverty level for the project area is between 3.4% and 5.3%. This compares with a poverty rate of 9.5% in the State of Indiana as a whole. It is not expected that this project will have a disproportionate impact on any low-income populations.

The high number of residential relocations associated with Alternative G-Es is a negative impact that can only be mitigated by providing good relocation advisory services and adequate compensation. Potential social and psychological impacts to displaced residents pertain to the changes in the living environment and the emotional attachment to a particular home or neighborhood. There can be negative financial impacts if the displaced resident incurs increased living expenses, increased property taxes, moving costs or increased travel costs to and from work. There can also be some potential positive relocation impacts, including the sale of a home which may have been difficult to sell on the open market or the relocation to a better home and better neighborhood. Negative financial impacts are handled in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. The availability of replacement housing and a discussion of relocation assistance can be found in the Mitigation Section 6.1.



Commercial and Institutional Displacements:

The greatest impacts to commercial enterprises would occur with any alternative that utilizes the existing US 31 corridor. The No-Build alternative would have no impacts to commercial establishments. Table 5.3.9 depicts the alternatives and shows that Alternatives Es and G-Es have the greatest impacts to commercial establishments.

Type of Business	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred) ¹
Office or Professional Service	1 displaced	19 displaced 3 damaged	1 displaced	19 displaced 3 damaged
Industrial or Warehouse	1 displaced 3 damaged	4 displaced	1 displaced 3 damaged	4 displaced
Hospitality and Lodging		2 damaged		2 damaged
Retail	1 damaged	5 displaced 5 damaged	1 damaged	5 displaced 4 damaged
Restaurant		1 displaced 1 damaged		1 displaced 1 damaged
Agricultural-Related	4 displaced 1 damaged	4 displaced	2 displaced 1 damaged	3 displaced 1 damaged
Gas or Auto Related		5 displaced 2 damaged		5 displaced 2 damaged
Specialty Business	1 displaced	2 displaced	1 displaced	2 displaced
Total	7 displaced 5 damaged	40 displaced 13 damaged	5 displaced 5 damaged	39 displaced 13 damaged

¹ See Table 3.6.41 for Summary of Impacts Associated with Preferred Alternative G-Es following additional, in-depth studies.

Alternative Es follows the same new terrain alignment as Alternative Cs in the southern portion of the project area while Alternative G-Es follows the Alternative G-Cs route. Both of these Alternatives then join the existing US 31 alignment just north of Kern Road and follow existing right-of-way until the northern terminus at US 20. This would require the acquisition of most of the businesses and residences located on either side of US 31 north of Kern Road. Mitigation of commercial displacements is discussed in Section 6.1 Mitigation.

A business is considered displaced if it was located within the project right-of-way or if reasonable access to the property could not be maintained. A business is considered damaged if the proposed right-of-way takes a portion of the property and impacts the value or utility of the improvement but does not take the entire parcel. The displacement of business establishments is estimated based upon predicted right-of-way requirements. Right-of-way requirements may be revised during the design phase when more detailed engineering decisions are made.

The project area supports a very active farming community, although the number of active farms is higher in the southern reaches of the project area and begins to dwindle as one approaches the South Bend Metropolitan Area. The area also supports various agricultural-related businesses such as horse boarding operations. If an alternative appeared to displace or acquire the operational components of a large farm or horse boarding operation (including large barns, silos, etc.), it was included as a displaced or damaged agricultural-related business. It is expected that additional small farming operations will be impacted. All displaced farm structures would be fully evaluated during the right-of-way acquisition stage. A more detailed discussion of farmland impacts can be found in Section 5.5.



All four of the Alternatives will likely displace a small church located on the south side of US 6. The New Philadelphia Church utilizes a former office building. A survey sent to the church office was not returned. Other attempts to contact someone at the church were not successful. The church appears to own several acres at its current location. It may be possible to construct a new church building on the remaining acreage depending on the final right-of-way requirements for the US 6 Interchange.

Summary of Preferred Alternative G-Es

Following the identification of Alternative G-Es as the Preferred Alternative, additional, in-depth studies were performed on the alternative. Included in these additional studies were minor refinements of the local access plan and associated proposed right-of-way requirements and number of relocations. The results of the additional analysis (See table 3.6.41) showed that Preferred Alternative G-Es has a total of approximately 127 residential relocations. This alternative also would impact a proposed subdivision platted for approximately 250 homes and a proposed 350-unit apartment complex located south of Kern Road and west of existing US 31. As of February 2005, there were no completed homes or apartments in this area and the developers were aware of the proposed US 31 improvement project. Generally, the housing characteristics within the G-Es corridor show a high percentage of owner-occupied homes when compared to the statistics for the State of Indiana or when compared to Marshall and St. Joseph County statistics.

Because Preferred Alternative G-Es utilizes the existing US 31 corridor, it will have comparatively high business relocations. Preferred Alternative G-Es is estimated to displace 39 businesses and damage 13 businesses.

Preferred Alternative G-Es will also likely displace the New Philadelphia Church located on the south side of US 6.

5.3.2 Economic

5.3.2.1 Local Tax Revenue Impacts

The acquisition of right-of-way for a new US 31 facility will result in a loss of property tax revenues. All Marshall County and St. Joseph County property owners pay State, County, township school, library, and in some cases fire and airport property taxes. Those who live within municipal boundaries also pay municipal tax rates. Total tax rates vary depending on the township, school district, library district and fire district. Projected property tax impacts were estimated using current assessed values of land and improvements for each county as a whole and compared to estimated losses in assessed value from right-of-way acquisition for each alternative. The resulting property tax impacts are shown in Tables 5.3.10 and 5.3.11. The estimated loss in the Gross Levy (total income raised from property taxes) is a small percentage of the total tax base for Marshall and St. Joseph Counties. The No-Build Alternative would not impact property tax revenue.

	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred)
Estimated Loss in Assessed Value Centre and North Townships	\$4,130,850	\$3,930,850	\$4,250,650	\$3,950,650
Total Assessed Value of Land and Improvements in Marshall County*	\$2,229,507,365	\$2,229,507,365	\$2,229,507,365	\$2,229,507,365
Estimated Percent Loss in Assessed Value from Right-of-Way Acquisition	0.18%	0.19%	0.18%	0.19%
Gross Levy (Total Income Raised from Property Taxes in Marshall County)*	\$48,072,441	\$48,072,441	\$48,072,441	\$48,072,441
Estimated Loss in Gross Levy from Right-of-Way Acquisition	\$86,530	\$91,338	\$86,530	\$91,338

* Source: Indiana Handbook of Taxes, Revenues, and Appropriations – Fiscal Year 2004 (2003 taxes payable in 2004)



	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred)
Estimated Loss in Assessed Value Centre and Union Townships	\$8,846,150	\$23,420,550	\$9,370,750	\$23,394,800
Total Assessed Value of Land and Improvements in St. Joseph County*	\$8,869,647,768	\$8,869,647,768	\$8,869,647,768	\$8,869,647,768
Estimated percent loss in Assessed Value from Right-of-Way Acquisition	0.1%	0.26%	0.1%	0.26%
Gross Levy (Total Income Raised from Property Taxes in St. Joseph County)*	\$322,686,491	\$322,686,491	\$322,686,491	\$322,686,491
Estimated Loss in Gross Levy from Right-of-Way Acquisition	\$322,686	\$838,985	\$322,686	\$838,985

* Source: Indiana Handbook of Taxes Revenues, and Appropriations – Fiscal Year 2004 (2003 taxes payable in 2004)

5.3.2.2 Local Business Economic Impacts

The No-Build Alternative would not have local business economic impacts, however, the freeway alternatives for the US 31 project will have an impact on local businesses and on highway users. The alternatives will impact businesses that are dependent on pass-by traffic.

There are two possible impacts on highway-oriented businesses within a community as a result of a major transportation investment:

- **Nearby Roadside Business Impacts**, which relate to the effects of the alternatives *on abutting businesses*, and
- **Remote Roadside Business Impacts**, which relate to the effects on businesses along other major transportation corridors as a result of traffic diversion.

US 31 is the primary north-south corridor in St. Joseph and Marshall counties, and there are no other parallel State-wide Mobility Corridors. Accordingly, the diversion of traffic from parallel Statewide Mobility Corridors is not possible, and remote roadside business impacts were not considered an issue.

On the other hand, Nearby Roadside Business Impacts are of concern in the US 31 corridor. Accordingly, this impact analysis focuses on the potential change in sales for businesses abutting the route of each alternative. The measure accounts for two potentially offsetting effects:

- **Access Restrictions** – Businesses along a two-lane or four-lane highway that is converted to a fully access controlled highway may experience losses in sales because access from passing traffic is made more difficult.
- **Increased Traffic** – Businesses along the new fully access controlled freeway may experience gains in sales because of increases in pass-by traffic volumes.

The specific impact on abutting businesses will depend heavily upon the actual alignment of the new freeway as well as the location of interchanges. Thus, two distinct scenarios are evaluated:

- **Adjacent Scenario** - Assumes the new freeway is built directly adjacent to all or portions of existing four-lane US 31. The impact on businesses along such segments would be an increase in pass-by traffic volume combined with a decrease in access.



- **Non-Adjacent Scenario** - Assumes the new freeway is built at enough of a distance (1/4 mile away or more) from the existing road that businesses will not benefit from increased traffic volume on the freeway. The primary impact on business sales will be due to a diversion of traffic from the existing roadway to the parallel facility.

The impacts on specific businesses will vary based on the dependence of the business on pass-by traffic. Gas stations and convenience stores, for example, are heavily dependent upon pass-by traffic and may benefit from greater traffic volumes but also may be impacted more by access restrictions. More specialized stores are less dependent on highway visibility. Specific business impacts may also vary widely depending upon other factors, such as the local population base served.

The methodology to estimate impacts on nearby businesses of the proposed US 31 Improvement Project was based on research conducted for National Cooperative Highway Research Program Project (NCHRP) 25-4¹, as follows:

- Businesses along existing US 31 were inventoried through field surveys and the American Business Directory, and were classified into eight establishment types with common characteristics, including their dependence on pass-by traffic. The percentage change in business sales due to reduced highway access was calculated for each establishment type based on the relative importance of convenient customer access to each type of business.
- The percent change in business sales due to increased or decreased average daily traffic volume was calculated for establishment type based on the percent change in traffic volume along each route segment adjustment for the relative dependence of each type of business on pass-by traffic.
- Finally, the percentage change in business sales due to access restrictions and the percentage change in business sales due to changes in traffic volume were combined to determine an overall percentage impact on sales for each type of business along the proposed alignment.

For the segment of US 31 from the US 30 interchange to the intersection with Michigan Road, existing US 31 with partial access control will be upgraded to a freeway with a possible intermediate interchange between US 30 and Michigan Road. Because only one bar and three business services are in the vicinity of this segment of US 31 and none directly abut US 31, local business impacts were considered minimal as a result of the potential conversion of this segment of US 31 from partial to full access control.

For the segment of US 31 from Michigan Road to Roosevelt Road, the Build Alternatives are located a distance of 1/4 mile or more away from the existing US 31, and divert significant traffic away from highway-oriented business along existing US 31.

For the segment of US 31 from Roosevelt Road to the US 20 Bypass, highway-oriented business impacts may be a result of traffic diversion from existing US 31 in the case of Alternatives Cs and G-Cs or the result of access restrictions in the case of Alternatives Es and G-Es which follow existing US 31 from north of Kern Road to the US 20 Bypass.

The result of the impact analysis on sales for each of the alternatives appears in Table 5.3.12. For the segment of US 31 from the US 30 interchange to Michigan Road (about 6 miles), there are few businesses that partially depend on pass-by traffic. While business access is further reduced by conversion of this portion of US 31 to full access control, a significant increase in traffic on US 31 (particularly at the intermediate interchange between US 30 and US 6) and minor growth (3%) over 30 years result in a significant sales benefit for highway-oriented uses.

¹ Highway Access Restriction Estimator (HARE) model, by Glen Weisbrod, December 1997.



Table 5.3.12: Nearby Business Sales Impacts by Alternative
(Total Estimated Sales Shown, a Comparison to the No-Build Reveals the Impact)

Segment	Option/Use	No-Build	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred)
US 30 to Michigan Road (6 miles)	Restaurant/Bar	\$250,000	\$389,000	\$389,000	\$389,000	\$389,000
	Services	\$1,250,000	\$1,718,000	\$1,718,000	\$1,718,000	\$1,718,000
	Subtotal	\$1,500,000	\$2,107,000	\$2,107,000	\$2,107,000	\$2,107,000
	Change over No-Build		+ \$607,000	+ \$607,000	+ \$607,000	+ \$607,000
Michigan Road to Roosevelt Road (12 miles)	Grocery-Convenience	\$2,000,000	\$162,000	\$148,000	\$193,000	\$162,000
	Non-Durables Retail	\$23,000,000	\$12,091,000	\$11,751,000	\$12,836,000	\$12,097,000
	Durables Retail	\$1,000,000	\$942,000	\$935,000	\$959,000	\$943,000
	Gas Station	\$8,250,000	\$668,000	\$610,000	\$797,000	\$669,000
	Restaurant/Bar	\$7,250,000	\$5,110,000	\$5,022,000	\$5,301,000	\$5,111,000
	Services	\$16,000,000	\$15,239,000	\$15,117,000	\$15,506,000	\$15,241,000
	Specialty Retail	\$7,250,000	\$7,661,000	\$7,624,000	\$7,742,000	\$7,662,000
	Subtotal	\$64,750,000	\$41,873,000	\$41,207,000	\$43,333,000	\$41,885,000
	Change over No-Build		- \$22,877,000	- \$23,543,000	- \$21,417,000	- \$22,865,000
Roosevelt Road to US 20 Bypass (2 miles)	Grocery-Convenience	\$0	\$0	\$0	\$0	\$0
	Grocery-Supermarket	\$0	\$0	\$0	\$0	\$0
	Non-Durables Retail	\$13,750,000	\$10,356,000	\$13,750,000	\$10,675,000	\$13,750,000
	Durables Retail	\$11,000,000	\$11,776,000	\$11,000,000	\$11,906,000	\$11,000,000
	Gas Station	\$3,750,000	\$703,000	\$3,750,000	\$745,000	\$3,750,000
	Restaurant/Bar	\$1,500,000	\$1,342,000	\$1,500,000	\$1,371,000	\$1,500,000
	Hotel	\$2,000,000	\$1,173,000	\$2,000,000	\$1,214,000	\$2,000,000
	Services	\$17,500,000	\$18,933,000	\$17,500,000	\$19,143,000	\$17,500,000
	Specialty Retail	\$4,250,000	\$4,890,000	\$4,250,000	\$4,924,000	\$4,250,000
	Subtotal	\$53,750,000	\$49,172,000	\$53,750,000	\$49,977,000	\$53,750,000
	Change over No-Build		- \$4,578,000	+ \$0	- \$3,773,000	+ \$0
All	Total	\$120,000,000	\$93,152,000	\$97,064,000	\$95,417,000	\$97,742,000
	Change over No-Build		- \$26,848,000	- \$22,936,000	- \$24,583,000	- \$22,258,000



From Michigan Road to Roosevelt Road (about 12 miles), the impact on highway-oriented business sales depends on the extent to which traffic is diverted from existing US 31 by each Build Alternative and the offset by area growth of 33% over 30 years for all alternatives. Alternative Es results in the greatest diversion of traffic through LaPaz and Lakeville, and has the greatest adverse impact on pass-by traffic dependent businesses, a 36% decline. On the other hand, Alternative G-Cs is the least effective in diverting traffic through LaPaz and Lakeville, and has the least impact on highway-oriented businesses, a 33% decline. Alternatives Es and G-Es result in a 35% decline in sales for highway-oriented businesses.

From Roosevelt to the US 20 Bypass (about two miles), the impact on highway-oriented business sales is radically different due to the Build Alternative alignments that divert different amounts of traffic from existing US 31 businesses. Growth in this segment of US 31 at 36% over 30 years offsets much of the loss of traffic to businesses. Alternative Cs diverts the most traffic from existing US 31, and has the greatest adverse impact on highway-oriented businesses, a 9% decline. Alternative G-Cs results in about a 7% decline in sales for highway-oriented businesses.

In the case of Alternatives Es and G-Es, several highway-oriented businesses along existing US 31 will be displaced, but these businesses are assumed to relocate in the immediate area with little or no loss in business in the long-term. For those highway-oriented businesses not displaced (such as Wendys, Phillips 66, Sunoco, Drake Motel and Shirley Motel), the loss of immediate access to these business will be offset by proximity to the proposed Kern Road interchange, and greater traffic flows are likely near these remaining businesses than the No-Build Alternative. As a result of these assumptions, Alternatives Es and G-Es are anticipated to have no adverse impact on highway-oriented businesses on the stretch of existing US 31 from Roosevelt Road to the US 20 bypass.

In conclusion, for the entire corridor, Alternative Cs is projected to have the greatest long-term adverse impact on highway-oriented business sales; and Alternative G-Es is projected to have the least adverse impact. The No-Build Alternative would not have local business economic impacts.

5.3.2.3 Highway User Benefits

The alternatives will also impact user travel benefits. These savings in user benefits typically result in reductions in the cost of doing business and thereby stimulate business development. The No-Build Alternative would not have local business economic impacts.

To examine highway user benefits associated with the US 31 Improvement Project, the net benefit-cost program Net_BC was applied to the US 31 Improvement Program Travel Demand Model traffic assignments for the Build Alternatives in comparison to the No-Build Alternative. The benefit-cost program generates the net present value of user benefits (travel time, vehicle operating cost and accident cost reductions) compared to the net present value of the capital investment and maintenance costs for each Build Alternative. Examining a period of 30 years of benefits, basic assumptions include a discount rate of 7%, the initiation of improvement construction in the year 2011 and the opening of the facility to traffic in the year 2016. As shown in Table 5.3.13, Alternative Es generated the most user benefits in the opening year, followed by Alternatives Cs, G-Es and Alternative G-Cs.

Table 5.3.13: Highway User Benefits Over No-Build Alternative				
Alternative	Cs	Es	G-Cs	G-Es (Preferred)
Mobility (Travel Time Savings)	\$9,311,504	\$14,295,853	\$5,842,316	\$7,390,865
Vehicle Operating Benefit	- \$11,127,480	- \$9,067,746	- \$11,638,570	- \$13,109,003
Safety Benefit	\$14,513,333	\$16,455,683	\$11,098,942	\$14,105,272

Note: Positive numbers represent a cost benefit and negative numbers represent a cost expenditure for the assumed opening year of the facility of 2016.

Source: US 31 Improvement Project Travel Demand Model for 2030 and Net_BC post-processor



The benefits of the Build Alternatives over the No-Build Alternative result in substantial benefits that directly accrue to the highway user in terms for travel time, vehicle-operating cost and accident cost reductions. These savings to the highway user also translate into reductions in the cost of doing business, and result in business expansions and attractions as a result of the reduced transportation costs associated with business.

5.3.3 Land Use and Zoning

Table 5.3.14 shows the direct land use impacts of Alternatives Cs, Es, G-Cs and G-Es. Alternative G-Cs would require the most land for right-of-way with an estimated 1,012 acres while Alternative Cs would require the least land with an estimated 961 acres. The Preferred Alternative G-Es will nearly require as much land for right-of-way as Alternative G-Cs with 1,011 acres. Alternative G-Cs would require the most acres of agricultural land with an estimated 504 acres while alternatives Cs and Es would require an estimated 390 and 395 acres of agricultural land, respectively. Preferred Alternative, G-Es will nearly require as much agricultural land as Alternative G-Cs with an estimated 503 acres. Transportation acres refer to land that is presently used for right-of-way for transportation facilities like US 20 and US 31. The No-Build Alternative would have no direct impacts to land use in the area.

Land Uses	Alternative Cs (Acres)	Alternative Es (Acres)	Alternative G-Cs (Acres)	Alternative G-Es (Preferred) ¹ (Acres)
Agricultural (row crop)	390	395	504	503
Commercial	15	23	16	23
Church/Religious	2	2	2	2
Herbaceous Cover	51	48	68	52
Open Water	<1	<1	<1	<1
Pasture	14	12	3	4
Transportation	213	220	217	222
Residential	51	86	55	77
Scrub/Shrub	38	46	31	36
Woodland	186	135	115	91
Total	961	968	1012	1011

¹ See Table 3.6.41 for Summary of Impacts Associated with Preferred Alternative G-Es following additional, in-depth studies.

Following the identification of Alternative G-Es as Preferred Alternative G-Es, additional, in-depth studies were performed on the alternative. Included in these additional studies were minor refinements of the local access plan and associated proposed right-of-way requirements and number of relocations. The results of the additional analysis (see Table 3.6.41) showed that Preferred Alternative G-Es has direct land use impacts totaling 1,051 acres including 503 acres of Agricultural (row crops), 503 acres of Commercial, 2 acres of Church/Religious, 52 acres of Herbaceous Cover, <1 acre of Open Water, 4 acres of Pasture, 220 acres of Transportation, 77 acres of Residential, 36 acres of Scrub/Shrub and 91 acres of Woodland (Wetland & Non-Wetland) (Forested).



5.3.4 Neighborhoods and Community Cohesion

5.3.4.1 Neighborhoods

Impacts to the various neighborhoods and subdivisions by the freeway alternatives are discussed below. Varying levels of noise impacts will occur in neighborhoods along the length of any new facility, with those neighborhoods closest to the highway seeing the highest noise levels. The No-Build Alternative would result in no significant impacts to neighborhoods. A complete discussion of Noise Impacts can be found in Section 5.8, Highway Noise.

- *LaPaz Incorporated Area* – This town is located approximately one mile west of the alternatives. It is not expected that the new facility will have negative impacts to the LaPaz community.
- *Meadow Lane Subdivision* – This small subdivision (ten homes) is located on the south side of US 6 approximately 1500 feet west of Alternatives Cs, Es, G-Es and G-Cs. There will be no displaced homes or lost access from this neighborhood. The proposed interchange at US 6 will likely increase traffic along the portion of US 6 in the vicinity of this neighborhood.
- *Lakeville Incorporated Area* – The alternatives will not involve any displacements from the incorporated area of Lakeville. Alternatives Cs and Es pass just south and west of the Town, while Alternatives G-Cs and G-Es pass approximately one mile east of Lakeville.
- *Riddles Lake Subdivisions* – There are several subdivisions located south of Lake Trail and west of Kenilworth Road along the north side of Riddles Lake near the Town of Lakeville. Alternatives G-Cs and G-Es would cross Lake Trail approximately 1,600 feet east of this subdivision. There would be no relocations or lost access from the Riddles Lake Subdivisions.
- *Robin Hood Subdivision* – This small subdivision is located north of New Road less than one mile east of existing US 31. The original Alternative G-C would have required the acquisition of four out of seven homes from this subdivision. The revised Alternatives G-Cs and G-Es (preferred) were both shifted approximately 900 feet east of the original alignment in the vicinity of this subdivision. Preferred Alternative G-Es does not involve the acquisition of any homes from this subdivision, although the new roadway will be located approximately 700 feet east of the subdivision.
- *Colburn Subdivision* – This subdivision is located north of Lakeville and south of Osborne Road just west of US 31. Alternatives Cs and Es crossed Osborne Road approximately 500 feet west of this neighborhood. Preferred Alternative G-Es is approximately 3.4 miles east of this subdivision. There will be no displacements or lost access from the Colburn Subdivision as a result of Preferred Alternative G-Es.
- *Southern Acres Subdivision* – This subdivision is located north of Madison Road and just west of US 31 in St. Joseph County (Centre Township). Alternative Cs would cross Madison Road approximately 600 feet west of this subdivision, but would require no relocations or lost access.

Alternative Es would cut through the western portion of Southern Acres Subdivision taking approximately twelve homes along the west end of the neighborhood. Southern Acres Drive would be eliminated and Roycroft Drive and Louise Drive would dead-end at the new facility. Access would still be available to Madison Road from the middle north-south drive which Ts onto Madison Road. Madison Avenue will cross over the new facility at this location. Preferred Alternative G-Es passes approximately 1.3 miles east and north of this subdivision. There will be no displacements or lost access resulting from Preferred Alternative G-Es.



- *Sun Communities Mobile Home Park* – This mobile home park is located along the east side of Locust Road between Madison and Roosevelt Road. Alternative Cs will pass immediately east of the back of this mobile home park. There will be no relocations or lost access. Alternative Es will pass approximately 1600 feet east of this mobile home park. Preferred Alternative G-Es passes approximately 2.6 miles east of this mobile home park. No significant impacts are expected as a result of Preferred Alternative G-Es.
- *Barber Mobile Home Park (Sunset Trailer Village)*– This small mobile home park is located on the west side of Locust Road between Roosevelt and Kern Road. Alternative Cs passes approximately 300 feet east of this mobile home park. Preferred Alternative G-Es is located approximately 2.6 miles east of the park. There will be no relocations or lost access resulting from Preferred Alternative G-Es.
- *Kern Road Subdivision* – This subdivision is located on the south side of Kern Road between Locust Road and US 31 across from Whispering Hills Subdivision. Alternative Cs will cross Kern Road approximately 700 feet west of this subdivision, while Preferred Alternative G-Es is located approximately 1.9 miles east of this subdivision. There will be no relocations or lost access from the Kern Road Subdivision. The proposed Kern Road Interchange should provide improved access and mobility for residents in this area.
- *Sycamore Hills Subdivision* – This subdivision is located along the east side of Lilac Road between Kern and Johnson Roads. Alternative Cs cuts just east of this subdivision and would require one residential relocation due to interchange construction at Kern Road. The access point at Lilac and Kern Road would remain unchanged. Preferred Alternative G-Es will pass approximately 3 miles east of the Sycamore Hills Subdivision. Area residents will have access to the new facility at the proposed Kern Road Interchange.
- *Whispering Hills Subdivision* – This large subdivision is located between Johnson Road and Kern Road less than one mile west of existing US 31. Alternatives Cs and G-Cs would cut across the western edge of this subdivision with impacts on Quiet Ridge Court, Soft Wind Court and Hush Breeze Court. Alternative Cs would displace a total of five homes and Alternative G-Cs would displace approximately nine homes out of this neighborhood of approximately 125 homes. The access point at Whispering Hills Drive and Kern Road would remain unchanged. Preferred Alternative G-Es will pass approximately 1.7 miles east of this subdivision. There will be no direct displacements or lost access as a result of Preferred Alternative G-Es. Residents of Whispering Hills will have access to the new facility at Kern Road, while Johnson Road is proposed to cross over the improved US 31.
- *Baneberry Hills Subdivision* – This subdivision with approximately 80 homes is located adjacent and south of US 20 on the west side of Linden Road. Alternative Cs and G-Cs would tie into US 20 approximately 1000 feet east of this subdivision of approximately 80 homes. Preferred Alternative G-Es is located approximately 3.2 miles east of this subdivision. There will be no displacements or lost access from this neighborhood from Preferred Alternative G-Es.
- *Weller's Heights Subdivision* – This is a small subdivision located adjacent and west of US 31 just north of Roosevelt Road. Alternative Es will pass approximately 300 feet west of the northwest corner of this subdivision. Alternative G-Cs would cross Roosevelt Road at the southwest corner of the neighborhood. Neither of these alternatives would displace any homes within the boundaries of this subdivision. Preferred Alternative G-Es circles around the neighborhood on the south and west side of the subdivision. Alternative G-Es will require the acquisition of several homes along Roosevelt Road, but is not expected to displace any homes within the Weller's Heights Subdivision. The access point on existing US 31 is expected to remain unchanged. US 31 south of the subdivision and Roosevelt Road are both proposed to remain open and cross under the new facility with a grade separation.



- *Gilmer-South Michigan Subdivision* – This neighborhood is located just west of US 31 between Kern and Johnson Road. Alternative Es and Preferred Alternative G-Es cross the southeast corner of this subdivision as they begin to converge onto the existing US 31 corridor. It is expected that approximately 7 homes from this subdivision will be acquired. Gilmer Street and Pulling Street will likely have new access to a relocated Main Street that will pass under the new facility and connect to existing US 31.
- *Gilmer Park Neighborhoods* – These subdivisions include Gilmer Park, Forest Park and Hartman Terrace, all located east of US 31 and north of Kern Road. Alternative Es and Preferred Alternative G-Es utilize the existing US 31 right-of-way in this area and will, therefore, require the acquisition of all residences on either side of US 31 north of Dice Street. The Jackson Street access improvements that are now proposed for Alternatives Es or G-Es (following review of the DEIS) would require the acquisition of additional homes in the Gilmer Park neighborhood. Approximately 14 homes would be acquired along the east side of existing US 31 and along the northbound to eastbound US 20 entrance ramp in this area. Additionally, it appears likely that three homes would be displaced along Carroll Street in the vicinity of the Southeast Little League Park. The access improvements would include the extension of Carroll Street/Fellows Street across US 20 to improve north - south connectivity in this area.
- *Jewell's Dixie Gardens Subdivision* – This older neighborhood is located west of US 31 and north of Johnson Road and has approximately 120 homes. Alternative Es and Preferred Alternative G-Es utilize the existing US 31 right-of-way in this area and will, therefore, require the acquisition of all residences on either side of US 31 north of Dice Street. The access improvements now proposed for this area with Alternatives Es and G-Es will require the acquisition of additional homes in this area, above the number originally predicted in the DEIS. Approximately 21 homes will be acquired west of existing US 31 in this neighborhood.
- *Fellows Street and Main Street Neighborhoods North of US 20* – There is a small cluster of homes located north of US 20 along Main Street in the area west of US 31. The proposed reconstruction of the southbound to westbound US 20 entrance ramp from US 31 will likely require the displacement of approximately 8 homes in this area. The extension of Carroll Street/ Fellows Street across US 20, east of US 31 will likely displace 4 to 5 homes in the area north of US 20

5.3.4.2 Community Cohesion

The relocation of households, businesses and community facilities can negatively impact the normal functions of a community. Relocating households from a neighborhood can reduce the amount of social support and neighbor-to-neighbor interaction. This in turn reduces the cohesiveness of the community or neighborhood. The removal of businesses and institutions can result in the loss of local facilities on which neighborhood residents rely for essential services and can reduce the sense of community in the subject area.

The No-Build Alternative would result in no significant impacts to community cohesion within the project area. The main impacts from the various alternatives will result from the acquisition of homes from the outer perimeter of the various subdivisions. Based upon field observations and available US Census data, there are lower-than-average numbers of low-income or minority populations that would be impacted by the alternatives.

Alternative Cs would have community cohesion impacts to Sycamore Hills Subdivision and Whispering Hills Subdivision. This alternative would pass between these two subdivisions resulting in the possible acquisition of one home from Sycamore Hills and five homes from the western edge of Whispering Hills. It is not anticipated that this would result in a significant change in community cohesion since the majority of both neighborhoods would remain intact and the subdivisions would not be bisected. The setting of both neighborhoods would change with the placement of a freeway facility along the perimeter of the subdivision.



Alternative G-Cs would also have community cohesion impacts to Whispering Hills Subdivision. This alternative passes between Sycamore Hills and Whispering Hills subdivisions in a similar fashion as Alternative Cs. Alternative G-Cs displaces nine homes from Whispering Hills Subdivision, but should not directly impact Sycamore Hills. It is not anticipated that this would result in a significant change in community cohesion since the majority of this neighborhood would remain intact and the subdivision would not be bisected. The setting of the neighborhood would change with the placement of a freeway facility along the perimeter of the subdivision.

Alternative Es would have community cohesion impacts to Southern Acres Subdivision. This alternative would cut through the western portion of Southern Acres Subdivision taking approximately twelve homes along the west end of the neighborhood. It is not anticipated that this would result in a significant change in community cohesion since the remainder of the neighborhood would remain intact and the subdivision would not be bisected. The setting of this neighborhood would change with the placement of a freeway facility on the western perimeter.

Alternatives Es and G-Es would also acquire homes from the Gilmer South Michigan Subdivision, the Jewell's Dixie Gardens Subdivision and the Gilmer Park Subdivisions along existing US 31 north of Kern Road. These subdivisions will not be bisected, but will be changed substantially by the number of homes displaced (see discussion of neighborhoods). The proposed access changes that are described under the Discussion of Preferred Alternative G-Es will substantially change the traffic patterns and functionality of the neighborhoods north of Kern Road. These neighborhoods are already subject to the high traffic volumes and congestion associated with existing US 31, but the cohesiveness of the immediate neighborhoods will likely be reduced by either Alternative Es or G-Es.

Discussion of Preferred Alternative G-Es

Following publication of the DEIS, City of South Bend officials expressed concerns with Preliminary Alternative Es and subsequently, Preferred Alternative G-Es, related to the proposed facility being an elevated roadway, constructed on retaining walls, from Kern Road northward to the US 31/US 20 interchange. Along with this, they were also concerned with local access to the subdivisions on the east and west sides of the new facility between Kern Road and the US 31/US 20 interchange. Local officials in South Bend met with the Project Management Team on two occasions to discuss these concerns and potential modifications to the alternative to address these concerns. Through the course of discussions at these meetings, modifications were made to the alternative as well as the local access plan that was in the best interests of both the City of South Bend and INDOT. These modifications included revising the alternative between Kern Road and the US 31/US 20 interchange to be an "at grade" facility and not an elevated roadway, constructed on retaining walls. A revised local access plan was developed to improve north-south connectivity between Kern Road and Ireland Road, just north of US 20, that included two separate grade separated crossings of US 20, one on the west side of US 31 at Scott Street and the other on the east side of US 31 at Fellows Street. East-west connectivity across US 31 was improved with the addition of grade-separated crossings at Johnson Road and Jackson Road and the extension of Main Street southward, under the proposed US 31, to existing US 31 near Kern Road.

The revised local access plan has both negative and positive impacts to the immediate neighborhoods along US 31, north of Kern Road. Negative impacts are primarily related to the higher number of displaced households. This will result in a loss of community cohesion and may reduce the sense of community in this area. Positive impacts will include improved accessibility to existing US 31 and across US 20 to Ireland Road for residents in the immediate neighborhoods and for the community as a whole. The trade-off of higher residential relocations for an improved local access plan is expected to result in long-term benefits for the community as a whole.

As discussed in Chapter 8 – Comments and Coordination, there has been a high degree of public involvement in the decision making process. There have been four Community Advisory Committee (CAC) meetings and eight individual Stakeholder meetings over the course of the project. The Stakeholder meetings included the Residents and Businesses Opposed to Alternative Es and the Whispering Hills Subdivision Task Force. The CAC consisted of



approximately 25 members, representing a diverse cross section of the public, elected officials and appointed officials, and was a valuable source of information and direction to the US 31 Project Management Team. As the project progressed and the areas of impact became more localized, new members representing various groups (i.e.: neighborhood or business associations) were added to the CAC upon their request. There have also been three public information meetings and one official public hearing where residents, business owners and interested groups could express their opinions and provide input regarding the selection of a preferred alternative.

5.3.5 Environmental Justice

The purpose of Executive Order 12898 (February 11, 1994) is to identify, address and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Environmental Justice has three fundamental principles:

- To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations,
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process, and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

As per Executive Order 12898, the study area was assessed for compliance with Environmental Justice. Information on low-income and minority populations was used to assess the impacts of the proposed alternative on these populations. Target areas with concentrations of low-income and minority populations were identified as part of the analysis for St. Joseph County and Marshall County combined. Alternatives Cs, Es, G-Cs, and G-Es were overlaid onto the low income and minority maps, respectively, to show the relationship between the proposed routes and the target populations. On each figure, the maximum percentage of minority and low-income population is noted in the legend.

Figure 5.3.1 illustrates the distribution of low-income households in relation to the proposed alternatives recommended in the US 31 Improvement Project. Based on 2000 Census data, overall representation of low-income populations along the proposed alternatives are within or below the range of 9.83%. According to census data, there are no disproportionate impacts to low-income households within the project area. Using the Census data for 2000, Table 5.3.15 shows the total poverty status of individuals for Indiana, for all of Marshall and St. Joseph Counties, and for just the census tracts of Marshall and St. Joseph Counties within the project study area through which Alternative G-Es passes.

Table 5.3.15: Poverty Level	
Geographic Area	Percent Below Poverty Level
Indiana	9.5%
Marshall County	6.8%
Marshall County and Census Tract 202.01 Within Study Area and G-Es	3.6%
Marshall County and Census Tract 207.01 Within Study Area and G-Es	4.8%
St. Joseph County	10.4%
St. Joseph County and Census Tract 118 Within Study Area and G-Es	3.4%
St. Joseph County and Census Tract 119 Within Study Area and G-Es	5.3%
St. Joseph County and Census Tract 123 Within Study Area and G-Es	3.4%



US 31 - Poverty by Blockgroups

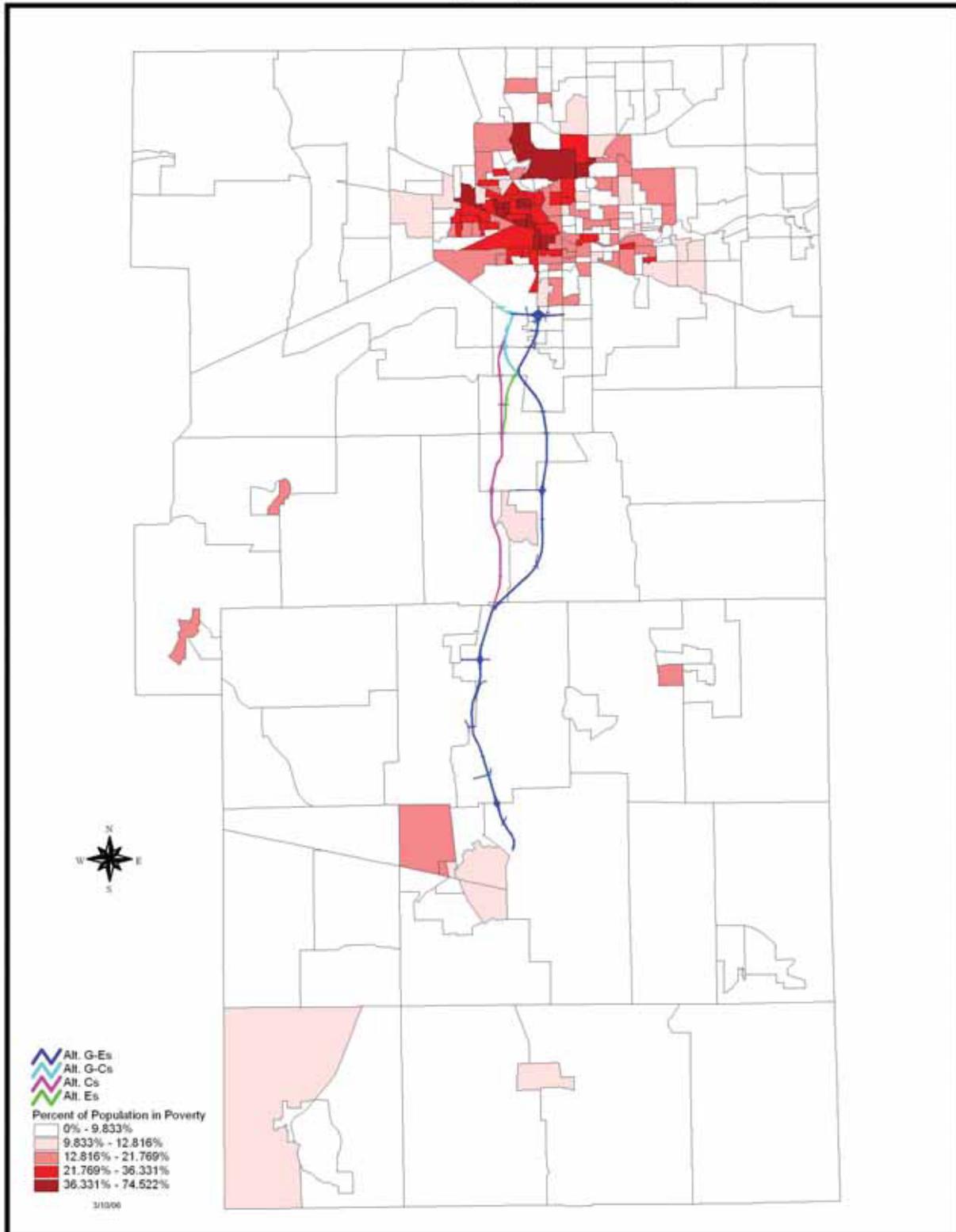


Figure 5.3.1 – Low-income Households in Relation to the Proposed Alternatives by Census Tract



Figure 5.3.2 identifies the proposed alternatives in relation to areas with concentrations of minorities, which includes all other non-white populations combined in the St. Joseph and Marshall counties areas. Based on 2000 Census data, overall representation of minorities along the proposed alternatives are within or below the range of 15.7%.

According to census data, there are no disproportionate impacts to minority households within the project area. Using the Census data for 2000, Table 5.3.16 shows the total white and non-white housing units for Indiana, for all of Marshall and St. Joseph Counties, and for just the portion of Marshall and St. Joseph Counties within the project study area through which Alternative G-Es passes.

Table 5.3.16: White and Non-White Housing Units		
Geographic Area	% of Housing Units Occupied by White Households	% of Housing Units Occupied by Non-White Households
Indiana	87.5%	12.5%
Marshall County	96.9%	3.1%
Marshall County Within the Project Study Area and G-Es	100.0%	0.0%
St. Joseph County	82.4%	17.6%
St, Joseph County Within the Project Study Area and G-Es	97.2%	2.8%

Data from the census reports were verified by discussion with St Joseph and Marshall counties planning staff and field observations. Based on this information, the residential displacements from any of the alternatives do not disproportionately impact any minority or low-income populations. Moreover, based upon this information, none of the neighborhoods or communities identified in or adjacent to Alternatives Cs, Es, G-Cs and G-Es have been recognized as containing a high percentage of low-income or minority populations. The No-Build Alternative would result in no significant impacts to any minority or low-income populations.

Summary of Preferred Alternative G-Es

Preferred Alternative G-Es will have an impact on local businesses and on highway users. Impacts depend on the type of business, such as businesses dependent on pass-by traffic, and the location of businesses in the vicinity of a particular section of the proposed US 31. For the segment of US 31 from the US 30 interchange to Michigan Road (about 6 miles), Preferred Alternative G-Es is unlikely to negatively impact businesses because there are few businesses present and the significant increase in traffic on US 31 and minor growth over 30 years will result in a sales benefit for highway-oriented uses. From Michigan Road to Roosevelt Road, Preferred Alternative G-Es will result in a 35% decline in sales for highway-oriented businesses.

From Roosevelt to the US 20 Bypass (about two miles), for Preferred Alternative G-Es, several highway-oriented businesses along existing US 31 will be displaced, but these businesses are assumed to relocate in the immediate area with little or no loss of business in the long-term. For those highway-oriented businesses not displaced (such as Wendys, Phillips 66, Sunoco, Drake Motel and Shirley Motel), the loss of immediate access to these business will be offset by proximity to the proposed Kern Road interchange, and greater traffic flows are likely near these remaining businesses than the No-Build Alternative. As a result of these assumptions, Preferred Alternative G-Es is anticipated to have no adverse impact on highway-oriented businesses on the stretch of existing US 31 from Roosevelt Road to the US 20 bypass.

In conclusion, for the entire corridor, Preferred Alternative G-Es is projected to have the least adverse impact on businesses.



US 31 - Minorities by Blocks

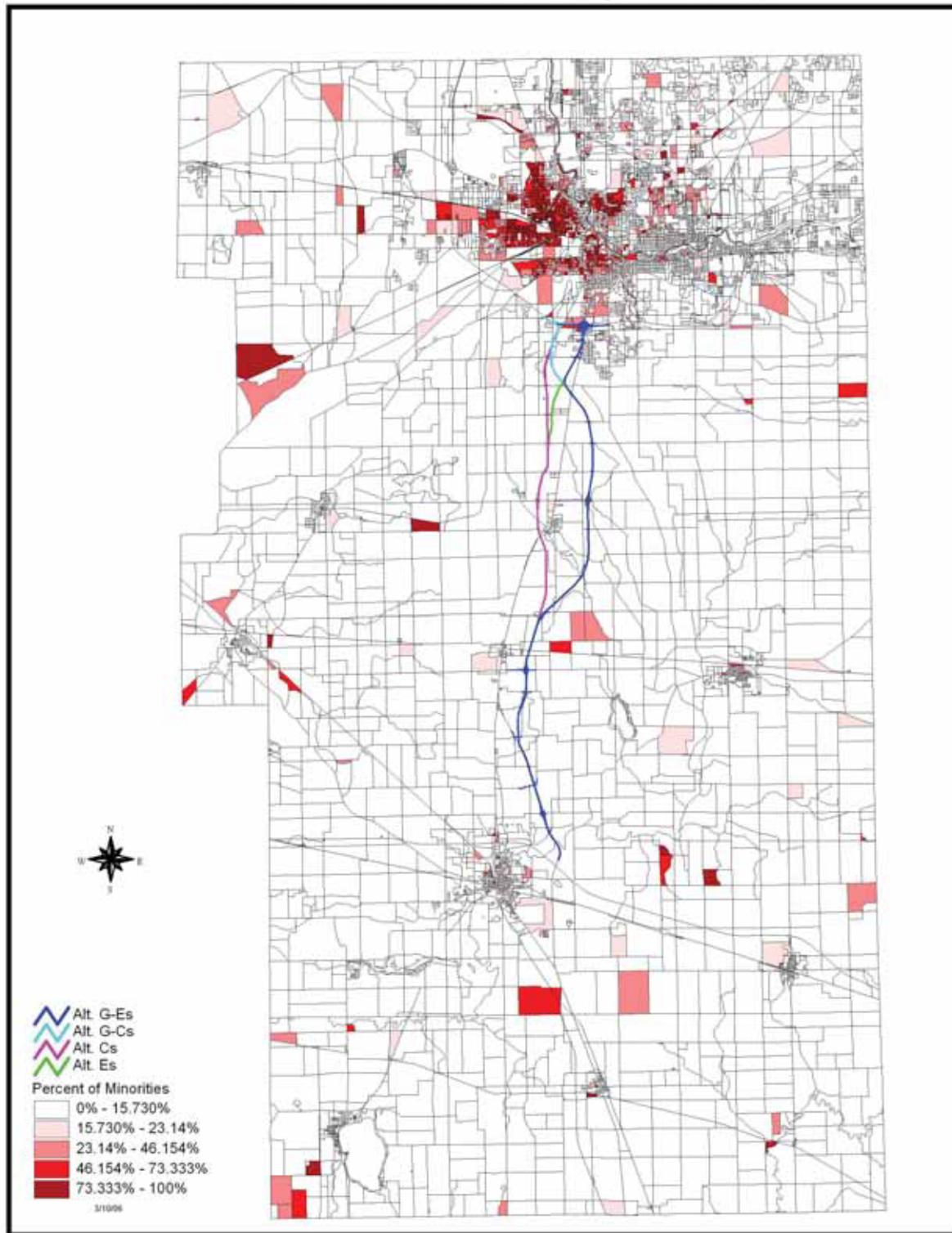


Figure 5.3.2 – Minority Concentrations in Relation to the Proposed Alternatives by Census Block



Preferred Alternative G-Es will also result in highway user benefits. Benefits include reduced travel time, vehicle-operating costs and accident cost reductions. Preferred Alternative G-Es is expected to result in a travel time savings of \$7,390,865 in travel time savings, -\$13,109,003 in vehicle operating benefit, and \$14,105,272 in safety benefit over a 30 year period.

Preferred Alternative G-Es will directly impact the following neighborhoods: Gilmer-South Michigan Subdivision, Gilmer Park Neighborhoods, Jewell's Dixie Garden Subdivision and the Fellows Street and Main Street Neighborhoods north of US 20. Preferred Alternative G-Es will come into close proximity and potentially indirectly impact the following neighborhoods: Meadow Lane Subdivision, Riddles Lake Subdivisions, Robin Hood Subdivision and Weller's Heights Subdivision.

Preferred Alternative is not expected to result in any Environmental Justice issues. The residential displacements resulting from Preferred Alternative G-Es do not disproportionately impact any minority or low-income populations. Moreover, based upon this information, none of the neighborhoods or communities identified in or adjacent to Preferred Alternative G-Es have been recognized as containing a high percentage of low-income or minority populations.