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5.6 Traffic Impacts

Since the Draft Environmental Impact Statement (DEIS) was published, the following substantive changes have been made to this section:

- The sections describing traffic operations methodology (**Section 5.6.2.1**) and results (**Section 5.6.3**) have been updated to describe adjustments to the traffic forecasts made after the DEIS was published.
- The sections describing the traffic safety analysis methodology (**Section 5.6.2.2**) and results (**Section 5.6.4**) have been updated to describe revisions to the traffic safety analysis made after the DEIS was published.
- The section describing access impacts of the alternatives (**Section 5.6.5.2**) has been updated to include the Refined Preferred Alternative (RPA).

5.6.1 Introduction

This section examines the traffic impacts of the I-69 Section 6 build alternatives. Traffic impacts are defined as changes in traffic conditions on roadways that occur due to the addition of I-69 Section 6 to the transportation network. This section examines impacts to traffic operation (congestion), impacts to traffic safety, and impacts to travelers' ability to access land in the I-69 Section 6 corridor. Negative impacts would occur when a build alternative results in a higher level of congestion, more traffic crashes, or less direct highway access compared to the no-build scenario. For example, if a road would operate in uncongested conditions in the no-build scenario, but it becomes congested in the build scenario, that congestion is considered a negative traffic impact.

This section summarizes and documents traffic impacts associated with each of the build alternatives as compared to the no-build scenario. The assumptions associated with these two conditions are described below.

5.6.1.1 No-Build Scenario

The future no-build (no-action) scenario is represented by the existing roadway network plus committed and programmed capacity expansion projects (i.e., new roadways, added through travel lanes, and new interchanges) other than I-69 Section 6. Committed and programmed capacity expansion projects were identified from the most recent relevant statewide and metropolitan transportation planning documents prepared pursuant to 23 CFR 135 §450.200 and 23 CFR 135 §450.300 and available at the time of analysis. These include the Indianapolis MPO 2014-2017 Indianapolis Regional Transportation Improvement Program (IRTIP) and the 2035 Long Range Transportation Plan (LRTP), the Statewide Transportation Improvement Program (STIP), and the INDOT Five-Year construction program.



INDOT recognizes the need for improvements on several segments of I-465 to improve operations and meet the long-term transportation needs of the region in both the no-build and build scenarios. The build alternatives of the I-69 Section 6 project include improvements to satisfy the purpose and need of this project. Additional improvements are currently in the corridor development process to ensure that acceptable service levels will be achieved on areas of I-465 outside the I-69 Section 6 project.

The future no-build scenario assumes that the first five Tier 2 sections (Sections 1 through 5) are completed for I-69 between Evansville and Martinsville. It does not assume that I-69 from Henderson, Kentucky, to Evansville, Indiana (SIU number 4 of the National I-69 project) is completed, as this bridge over the Ohio River was not included in adopted transportation plans when modeling was conducted. Recognizing that this project may be added to INDOT plans during the period of this study,¹ a sensitivity analysis was conducted to determine how traffic levels would be affected if this link was in place. It was found that traffic would increase by one to two percent, depending on the location, on I-69 Section 6. The future no-build scenario does not include the upgrading of SR 37 to a freeway between Martinsville and Indianapolis and only assumes routine maintenance projects along SR 37.²

5.6.1.2 Build Alternatives

The build alternatives for I-69 Section 6 all assume upgrade of SR 37 to an interstate facility. This involves removing all at-grade intersections and individual parcel access drives from SR 37, and providing grade-separated interchanges at key crossroads. Access from businesses and residential properties would be provided by local roads that connect to the proposed interchanges. The forecasted traffic volumes for the build alternatives assume that all the six Tier 2 sections are completed for I-69 between Evansville and Indianapolis, but the I-69 Ohio River new bridge crossing project between Henderson, Kentucky and Evansville, Indiana, is not complete.

A comparison of the access provided by each build alternative to adjacent properties along I-69 Section 6 is also included in this section. Additional information comparing the performance of the alternatives for the build condition relative to traffic congestion and traffic safety measures may be found in **Chapter 6, Comparison of Alternatives**.

¹ I-69 from Henderson to Evansville was amended into the Evansville TIP on November 3, 2016, and into the INDOT Statewide TIP on November 18, 2016. This project was not assumed in roadway network modeling for the RPA due to its negligible impact on Section 6 traffic volumes and the desire for assumptions to be comparable with other alternatives. SR 37 was not assumed to be upgraded to a freeway despite being included in local plans since by definition, the proposed action is not assumed to exist in the no-build condition.

² Capital improvements on SR 37 were included in preliminary build alternatives B, D, K3, and K4 (See **Section 3.4**) to meet the I-69 Section 6 project purpose and need. These alternatives placed I-69 outside the SR 37 corridor and high volumes of traffic stayed on SR 37. Unlike “build” projects where improvements are made to meet traffic level of service objectives, “no-build” is defined to include only currently programmed and committed capacity improvement projects, even if service is poor.



5.6.2 Methodology

5.6.2.1 Traffic Operation

Level of Service (LOS) is a measure of the operational performance of a transportation facility commonly used by the transportation industry. As defined in the Highway Capacity Manual (HCM), “LOS is used to translate complex numerical performance results into a simple A-F system representative of travelers’ perceptions of the quality of service provided by a facility or service.”³

LOS is not just a function of traffic volumes. The geometrics of a roadway, the amount of access provided, and intersection traffic control can all affect LOS. For example, a two-lane roadway with many driveways could have a lower LOS than another roadway with the same volume but fewer driveways because the traffic entering and exiting driveways will contribute to congestion.

HCM procedures produce ratings of A through F to represent different levels of service. LOS A provides the best performance, while LOS F provides the poorest performance. The specific methods of measuring LOS differ depending on the type of road, but generally LOS A corresponds to free-flowing traffic and short delays at intersections, while LOS F corresponds to “stop and go” traffic, long queues, and long intersection delays.

The Indiana Design Manual specifies desirable and minimum acceptable LOS for the design of Indiana roadways.⁴ For the analysis in this section, roadways are determined to be congested if they operate below the minimum acceptable LOS. Depending on the type of road and whether it is a new facility or an existing facility, either LOS C or LOS D is the minimum acceptable.

The traffic operation analysis includes roadways within the project area that are part of the proposed build alternatives and non-project roadways that are expected to have the greatest changes in traffic volume due to the addition of the build alternatives to the network. These road links would either access I-69 at an interchange, cross I-69 at a grade separation, feed traffic to and from these roadways, or provide an alternative to using I-69.

The traffic operation impacts of the build alternatives are determined by forecasting the expected traffic demand for each of the alternative roadway networks using the I-69 Corridor Travel Demand Model (corridor model). This computerized travel forecasting model is based on the Indiana Statewide Travel Demand Model (ISTDM), which is maintained by INDOT and was used in the I-69 Tier 1 study. The corridor model has been enhanced to provide a more detailed highway network than the ISTDM within the I-69 Section 6 corridor and throughout the four-county (Hendricks, Johnson, Marion, and Morgan) study area.

³ Highway Capacity Manual, Transportation Research Board, 2010, page 5-3.

⁴ Indiana Design Manual, 2013, Figures 53-1 through 53-9, Figure 54-2A, and Figures 55-3A through 55-3H, specify desirable and minimum design criteria for various types of roads. These criteria include desirable and minimum LOS.



All corridor model development and adjustments have been conducted in coordination with INDOT and the Indianapolis MPO. Neither the ISTDM nor the Indianapolis MPO travel demand model was capable of forecasting travel to a horizon year of 2045 at the time of this analysis. The corridor model was adjusted to forecast preliminary horizon year (2045) traffic volumes for the alternative roadway networks, including the I-69 Section 6 mainline and interchanges as well as other parallel and crossing streets in the corridor.

The forecast volumes from the corridor model and LOS for affected roadways are used to compare the traffic operation impacts of the alternatives. The LOS is estimated using generalized service volume tables. The tables are based upon the Highway Capacity Manual (HCM) and assumptions about roadway characteristics, traffic demand, and traffic control characteristics for each facility type. Adjustments were made to account for typical conditions in Indiana.⁵ This level of analysis is appropriate for a planning level analysis comparing the impacts of the project alternatives throughout the study area.

Adjustments were made to traffic forecasts on I-465 and its access ramps after publication of the DEIS. Traffic engineering staff of INDOT, FHWA, and the project team reviewed the traffic analysis in greater detail to confirm assumptions and procedures, and to look for opportunities to reduce cost and/or impact while still meeting the project purpose and need. As the traffic forecasting process was being reviewed, it was determined that some base year traffic counts used in modeling I-465 were taken during periods of I-465 construction. The construction was outside the I-69 Section 6 project area, but traffic volumes in the project area were lower than normal as traffic diverted to other routes to avoid the construction areas. Using these base year traffic counts for modeling resulted in artificially low volume forecasts.

I-465 base year and future year volumes were adjusted to reflect more recent and appropriate traffic counts, and traffic forecasts were adjusted for the no-build scenario and all alternatives, including the RPA. Since the adjustments were the same for all alternatives, the revision would not have affected the relative comparison of Alternatives C1 through C4 or the selection of a preferred alternative in the DEIS. For additional information regarding I-69 Corridor Travel Demand Model development, traffic forecasting methodology, and forecast adjustments made to I-465, refer to **Appendix Y**.

5.6.2.2 Traffic Safety

Traffic safety impacts are determined using the crash prediction module of the Interactive Highway Safety Design Model (IHSDM) software.⁶ This IHSDM module uses information about roadway type, traffic volumes, and geometric features to predict the number of crashes that will occur on a specific existing or planned roadway facility. The comparison of IHSDM crash

⁵ 2013 *Quality/Level of Service Handbook*. State of Florida Department of Transportation.

⁶ Federal Highway Administration. *Interactive Highway Safety Design Model (IHSDM) – Highway Safety Manual (HSM) Predictive Method 2016 Release (version 11.1.0)*. March 2016. Available online at: <http://www.ihsdm.org>



predictions between the no-build scenario and the build alternatives provides an estimate of the safety improvements that could be expected by implementing I-69 Section 6. The comparison of predicted crashes among the I-69 Section 6 alternatives reflects differences in freeway alignment, median and shoulder width, interchange type, and the amount of travel on local service roads. The analysis is useful as a comparative tool among the alternatives as it can demonstrate relative differences in crash numbers.

Crash analysis was previously conducted at a regional level as part of the preliminary alternatives screening process, and the results are shown in **Table 3-1**. The previous analysis indicated the potential for I-69 Section 6 alternatives in the SR 37 corridor (Preliminary Alternative C) to reduce crashes in the four-county study area by over 1,300 crashes per year. The crash analysis methodology used during preliminary alternatives screening, however, did not reflect sufficient detail to distinguish among the reasonable alternatives in the DEIS, which all follow the same alignment. The IHSDM provides the level of detail necessary for this analysis.

As with the traffic operation analysis, the corridor model horizon year (2045) traffic volume forecasts for the alternative roadway networks are used as the basis of the traffic safety analysis. The current forecasted volumes, along with detailed road geometry and intersection information, are entered into the IHSDM. For each alternative, the model provides a prediction of year 2045 crashes on the I-69 Section 6 and I-465 mainline, interchanges, and key intersections constructed with the project. For the no-build scenario, the model provides a prediction of year 2045 crashes on SR 37, including its intersections.

Crash predictions were developed for the no-build scenario and Alternatives C1, C2, C3, and C4 to support identification of Alternative C4 as the preferred alternative in the DEIS. The RPA was developed after the DEIS was published and the IHSDM was rerun for the RPA using the traffic forecasts and roadway network described in **Section 5.6.2.1**.

Access impacts of the I-69 Section 6 alternatives are identified by a comparative review of how the different alternatives would change local road connectivity and access to property in the I-69 Section 6 corridor. The specific layout of Alternatives C1, C2, C3, C4, and the RPA are presented in detail in the map sets presented at the end of **Chapter 3, Alternatives**. These maps show proposed configurations for I-69 Section 6 and local service roads, as well as the right of way for each alternative. These figures include the proposed locations of interchanges, grade separations, local service roads, and road closures associated with each alternative.

5.6.3 Traffic Operation Analysis

Future 2045 traffic conditions were analyzed for the Alternatives C1 through C4 and the RPA. Daily 2045 forecast volumes for each of the alternatives were compared to 2010 base year volumes and 2045 no-build traffic volumes. All volumes were forecasted using the I-69 Corridor Travel Demand Model, with adjustments described in **Section 5.6.2.1**.



Table 5.6-1 compares average daily traffic (ADT) volumes on SR 37 and I-69 Section 6 with the various alternatives. A small variation in traffic volume forecasts exists among the build alternatives due to differences in interchange configuration and local street connectivity. As discussed in **Chapter 3, Alternatives**, I-69 Section 6 would be constructed with sufficient travel lanes to meet the requirement of providing LOS C or better for a new freeway.

In the DEIS, Alternatives C1, C2, C3, and C4 provided four lanes on I-69 south of SR 144, six lanes between SR 144 and Southport Road, and eight lanes between Southport Road and I-465. In their review after the DEIS was published, traffic engineering staff of INDOT, FHWA, and the project team determined that I-69 could be reduced from six lanes to four lanes between SR 144 and Smith Valley Road while still meeting the project purpose and need. This adjustment was incorporated into the RPA, and the results can be seen in **Table 5.6-1**. Providing four lanes instead of six lanes in the RPA would still provide LOS C on this section, which is acceptable for a new freeway (see **Section 5.6.2.1**).

As shown in **Table 5.6-1**, there is little variation in forecasted traffic volumes among the alternatives except where the RPA has fewer lanes between SR 144 and Smith Valley Road. Given the similar forecasts and LOS at all other locations, it is reasonable to assume that reducing the number of lanes on this segment would have the same effect on any of the alternatives. The LOS would drop from B to C, which is still acceptable. The effect of the reduced capacity can be seen on some other segments, where RPA forecasts are lower than the other alternatives. The LOS is the same on all segments except between SR 144 and County Line Road, which includes the change in lanes with the RPA. The differences are relatively small, and all segments of all alternatives in **Table 5.6-1** operate at an acceptable LOS.

One other adjustment was made based on the traffic engineering review conducted after the DEIS was published. It was determined that four lanes in each direction would only be necessary from Southport Road to Epler Avenue instead of extending to I-465, and this lane configuration was incorporated in the RPA. It did not change the overall LOS for this segment in comparison with the other alternatives.

Figure 5.6-1 through **Figure 5.6-4** at the end of this section show the forecasted 2045 ADT volumes for the no-build scenario and the RPA. Forecasts are shown on each segment of I-69 Section 6, at the local road approach to each interchange, at each crossroad with a grade separation at I-69, and at other major local roadways.

LOS for all segments of I-69 Section 6 build alternatives, including the RPA, were found to meet minimum acceptable LOS standards identified in the Indiana Design Manual. As shown in **Table 5.6-1**, forecasted 2045 no-build volumes on SR 37 through Martinsville are 60 percent to 95 percent greater than the 2010 base year volumes. The forecasts confirm that the opening of the first five sections of I-69 will increase traffic volumes through Martinsville whether or not I-69 Section 6 is constructed. LOS on SR 37 in Martinsville would become unacceptable by 2045 in the no-build scenario due to the increased traffic at the signalized intersections.



Year 2045 traffic levels through Martinsville are forecasted to be 10 percent to 25 percent higher with I-69 compared with the no-build forecast for SR 37, but I-69 would still provide a better LOS. The elimination of access points and removal of traffic signals with the freeway would provide more than enough additional capacity to offset the higher traffic volume.

North of Martinsville, the differences between the no-build and build forecasts become larger, as more traffic originating within the I-69 Section 6 study area is attracted to the higher level of service and mobility provided by the I-69 freeway. The segment from Smith Valley Road to I-465 would have the highest volumes on I-69 between Evansville and Indianapolis. This high level of demand is a function of the density of housing and employment in the Indianapolis area, growth and development expected in the region between now and 2045, and the high speed and capacity of I-69 compared to SR 37 and other parallel routes.

The segment labeled as Southport Road to I-465 in **Table 5.6-1** is the northernmost segment where I-69 Section 6 traffic would use the current SR 37 alignment. I-69 would leave the SR 37 alignment north of Edgewood Avenue. Volumes for existing SR 37 between this location and I-465 are shown in **Figure 5.6-4** and **Table 5.6-3**.

Table 5.6-2 compares forecasted ADT volumes and LOS on I-465 among the various I-69 Section 6 alternatives. As discussed in **Section 5.6.2.1**, the preliminary traffic forecasts on I-465 were adjusted for all build alternatives after identification of the preferred alternative in the DEIS. **Table 5.6-2** shows the base year volumes adjusted to 2017, along with the 2045 no-build and build traffic volume forecasts for all alternatives, including the RPA. See **Appendix Y** for a description of traffic forecast refinements.

I-465 through and adjacent to the I-69 Section 6 project area currently operates at or near capacity. LOS is expected to worsen between the base year and 2045 in the no-build scenario due to additional traffic demand, with unacceptable LOS from Mann Road to I-65 by 2045. The addition of I-69 is expected to increase I-465 traffic volumes by an additional 30 percent between SR 67 and I-69 and an additional 15 percent to 20 percent between I-69 and US 31.

Despite this additional traffic, the analysis indicates that LOS would improve on I-465 between Mann Road and US 31 because added travel lanes would be provided as part of the I-69 Section 6 project. I-465 would be widened to provide four through travel lanes in each direction, with auxiliary lanes for smooth merging and diverging at interchange ramps. This configuration would meet the requirement to provide LOS D or better for an existing freeway. The improvements between Mann Road and US 31 are needed to meet the purpose and need of the I-69 Section 6 project and are included in all alternatives. East of US 31 and west of Mann Road, INDOT recognizes the need for additional improvements to I-465 to improve operations in both the no-build and build scenarios. Projects are currently being evaluated by INDOT for future programming to ensure that acceptable LOS will be maintained on these sections of I-465.

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Table 5.6-1: Forecasted I-69 Section 6 Daily Traffic Volumes and LOS by Alternative

Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
Indian Creek to SR 39	24,400	B	46,900	D	52,300	C	51,500	C	52,900	C	52,900	C	53,000	C
SR 39 to Ohio St	23,100	C	39,400	F	47,000	C	43,700	C	46,600	C	46,500	C	46,700	C
Ohio St to SR 252	25,300	C	41,100	F	46,800	C	43,700	C	47,100	C	47,000	C	46,500	C
SR 252 to SR 44	18,600	C	31,500	C	38,600	B	36,700	B	38,600	B	38,500	B	38,200	B
SR 44 to Henderson Ford Rd	22,400	B	36,300	C	47,400	C	46,400	C	46,800	C	47,100	C	46,900	C
Henderson Ford Rd to SR 144	21,500	B	35,800	C	48,300	C	47,600	C	48,300	C	47,900	C	47,800	C
SR 144 to Smith Valley Rd	29,400	B	43,000	C	59,000	B	58,400	B	58,500	B	58,400	B	55,100	C
Smith Valley Rd to County Line Rd	27,700	C	38,700	C	67,100	C	68,100	C	67,500	C	66,300	C	65,000	B
County Line Rd to Southport Rd	33,600	C	41,500	F	80,600	C	78,100	C	77,400	C	79,100	C	78,200	C
Southport Rd to I-465	42,600	F	44,000	F	96,100	C	91,500	C	91,400	C	92,900	C	91,100	C

LOS Key: A - C = Acceptable for all facilities. D = Acceptable for existing facilities only. E - F = unacceptable



Table 5.6-2: Forecasted I-465 Daily Traffic Volumes and LOS by Alternative

Segment	Base Year 2010	2016-2017 Counts	No-Build 2045 ²	ALT C1 2045 ²	ALT C2 2045 ²	ALT C3 2045 ²	ALT C4 2045 ²	RPA 2045
SR 67 to Mann Rd	71,100 C	95,400 D	102,700 D	131,000 F	130,900 F	130,800 F	131,800 F	133,700 F
Mann Rd to SR 37/I-69 ¹	87,800 C	106,300 D	112,500 E	146,300 D	146,100 D	146,000 D	147,200 D	147,900 D
SR 37/I-69 to US 31 ¹	86,700 C	110,600 E	117,200 E	139,400 C	140,900 D	140,900 D	141,400 D	140,700 D
US 31 to I-65	86,000 C	111,000 E	117,400 E	134,600 F	134,900 F	134,900 F	135,100 F	134,500 F

LOS Key: A - C = Acceptable for all facilities. D = Acceptable for existing facilities only. E - F = unacceptable

Note: 1) Widened as part of the I-69 Section 6 project.

2) Traffic forecasts for I-465 were adjusted after the DEIS because 2016-2017 counts were considered a more accurate forecast basis than 2010 base counts.



Table 5.6-3 compares forecasted ADT volumes on existing roads that cross SR 37 and would cross I-69 Section 6 in some or all the alternatives. Current and future volumes on existing SR 37 north of Edgewood Avenue are also shown in **Table 5.6-3**. In the Martinsville area, volumes on some roads would be lower with the build alternatives than with the no-build condition because of the additional crossing opportunity provided at Grand Valley Boulevard with the build alternatives. Volume differences on Martinsville area roads among the build alternatives are caused primarily by differences in access provisions:

- Whether Ohio Street has an interchange with I-69 or a grade separated crossing,
- Whether Burton Lane has a grade separated crossing or a closure,
- Whether Grand Valley Boulevard is extended to Cramertown Loop, and
- Whether access between Ohio Street and the Grand Valley commercial area is provided by reconstructing and extending Commercial drive or by a new road, Artesian Avenue.

In the rural area between SR 44 and SR 144, existing traffic volumes are relatively low and would not be expected to change significantly with future development or with I-69 Section 6. Differences in forecasted volumes among the build alternatives reflect differences in local road connectivity as overpass and interchange locations alter travel patterns.

From SR 144 north to I-465, volumes on crossing roads would generally be higher with I-69 Section 6. SR 144 west of SR 37 provides an important crossing of the White River and establishes a connection to Mooresville from I-69. This segment is expected to experience similar growth with or without I-69 Section 6.

Southport Road in the vicinity of SR 37 is also expected to experience similar traffic growth with or without I-69 Section 6 since increased traffic volumes are largely a result of ongoing and planned land development. It is expected that three road segments east of SR 37—Johnson County Road 144, Smith Valley Road, and County Line Road—would experience the largest growth in traffic demand with I-69 Section 6.

Table 5.6-4 compares forecasted ADT volumes and LOS on other interstate and local road segments. Many of these roads are parallel to SR 37 and would experience a decline in traffic levels as motorists respond to the better service offered by I-69. US 31, SR 135, Bluff Road, and SR 67 would all experience a decline in volumes with the construction of I-69, in spite of the growth in population and employment expected in these areas. SR 135 is the only parallel facility that is forecasted to have unacceptable LOS in 2045. This would occur whether or not I-69 Section 6 is built and is not caused by I-69 Section 6.

Forecasted ADTs are shown for the no-build scenario and the RPA in **Figure 5.6-1** through **Figure 5.6-4**, provided at the end of this section. These figures show forecasts on each segment of I-69 Section 6, each roadway approaching an I-69 Section 6 interchange, each crossroad passing over or under I-69, and on other selected local roadways.



Table 5.6-3: Forecasted Cross Road Daily Traffic Volumes and LOS by Alternative

Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
SR 39	North of Rogers Rd	4,200	B	7,300	B	7,800	B	11,700	C	8,200	B	8,200	B	8,600	C
Burton Ln	East of SR 37/I-69	2,400	B	3,300	B	2,700	B	3,200	B	2,800	B	2,700	B	920	B
Ohio St/ Mahalassville Rd	West of SR 37/I-69	10,000	C	10,200	C	9,800	C	6,100	B	9,600	C	9,600	C	10,600	C
	East of SR 37/I-69	2,800	B	3,600	B	9,300	C	6,100	B	9,600	C	9,600	C	9,400	C
	East of Schwab Dr	2,300	B	3,300	B	5,700	B	4,300	B	5,700	B	5,700	B	4,300	B
Grand Valley Blvd/ South St	West of Ohio St	1,600	B	1,600	B	4,800	B	5,200	B	4,600	B	4,600	B	6,000	B
	Home Ave to Flag Stone Dr/Birk Rd ¹	--	--	--	--	8,600	C	9,200	C	8,500	C	8,500	C	9,600	C
	Flag Stone Dr/Birk Rd to Cramertown Loop ¹	--	--	--	--	4,700	B	7,000	B	4,500	B	4,600	B	7,200	B
SR 252/ Hospital Dr	West of SR 37/I-69	10,500	C	11,300	C	8,600	C	8,200	B	8,200	B	8,900	C	9,100	C
	East of SR 37/I-69	12,000	C	15,500	C	13,200	C	13,800	C	13,500	C	13,700	C	14,100	C
SR 44/ Reuben Dr	West of SR 37/I-69	6,300	B	6,300	B	5,500	B	6,700	B	6,000	B	5,300	B	5,400	B
	East of SR 37/I-69	2,800	B	2,700	B	3,400	B	3,000	B	3,200	B	3,100	B	3,100	B
Egbert Rd	West of Centennial Rd	1,500	B	1,400	B	2,000	B	2,000	B	2,000	B	2,000	B	2,000	B
	East of Centennial Rd	820	B	780	B	2,600	B	2,600	B	3,000	B	1,700	B	1,800	B
Henderson Ford Rd/ Centennial Rd	West of SR 37/I-69	3,800	B	3,300	B	3,200	B	3,100	B	3,100	B	3,200	B	3,300	B
	East of SR 37/I-69	--	--	--	--	5,800	C	5,700	C	6,200	C	5,100	C	5,100	C
Perry Rd	East of SR 37/I-69	790	B	750	B	1,400	B	1,300	B	300	B	1,400	B	1,000	B
Tunnel Rd/ Big Bend Rd	West of SR 37/I-69	40	B	40	B	1,200	B	610	B	960	B	760	B	50	B
Waverly Rd	West of SR 37/I-69	260	B	430	B	3,400	B	3,700	B	3,700	B	4,200	B	4,500	B
	East of SR 37/I-69	1,200	B	900	B	1,400	B	3,000	B	1,500	B	3,000	B	3,200	B

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Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
Whiteland Rd	East of SR 37/I-69	2,700	B	4,300	B	3,200	B	1,600	B	3,200	B	2,300	B	2,400	B
SR 144	West of SR 37/I-69	14,600	C	17,000	D	17,900	D	17,800	D	17,600	D	17,500	D	19,700	D
	East of SR 37/I-69	5,100	B	8,400	C	14,100	C	14,200	C	13,900	C	14,100	C	18,300	D
Stones Crossing Rd	East of SR 37/I-69	2,900	B	4,500	B	6,100	B	6,200	B	6,000	B	6,100	B	5,900	B
Smith Valley Rd	West of SR 37/I-69	2,000	B	2,500	B	2,500	B	3,300	B	2,700	B	3,300	B	3,500	B
	East of SR 37/I-69	9,900	C	9,700	C	20,800	D	22,000	D	21,500	D	21,000	D	21,100	D
	East of Mullinix Rd	7,800	B	7,800	B	14,600	C	15,800	D	15,500	C	13,000	C	14,200	C
County Line Rd	West of SR 37/I-69	--	--	--	--	5,100	B	5,000	B	4,500	B	5,300	B	5,200	B
	East of SR 37/I-69 ²	10,200	C	12,400	B	23,000	B	25,800	B	25,700	B	20,800	B	22,300	B
	East of Morgantown	8,200	B	9,500	C	15,200	C	15,800	C	15,700	C	13,800	C	14,900	C
Wicker Rd/ Bluff Rd	West of County Line Rd Ext	2,200	B	3,400	B	4,900	B	5,500	B	5,100	B	5,000	B	5,100	B
	East of SR 37/I-69	2,300	B	4,000	B	2,600	B	1,800	B	1,700	B	2,600	B	2,600	B
Southport Rd	West of Tibbs Ave	11,600	C	14,800	C	12,400	C	12,100	C	12,400	C	11,500	C	12,400	C
	Wellingshire Blvd to Tibbs Ave	17,800	D	21,500	D	23,400	D	22,700	D	23,000	D	21,400	D	23,900	D
	SR 37/I-69 to Wellingshire Blvd ³	20,700	D	24,800	F	27,400	C	26,700	C	26,900	C	23,600	C	26,600	C
	East of SR 37/I-69	15,100	C	20,200	C	31,700	C	31,700	C	31,100	C	29,900	C	29,400	C
	East of Bluff Rd ²	14,100	C	24,000	C	26,100	C	25,900	C	25,900	C	26,000	C	25,900	C
Banta Rd	West of SR 37/I-69	4,600	B	5,300	B	5,800	B	7,200	B	7,200	B	5,400	B	5,300	B
	East of Harding St	6,700	B	5,600	B	5,700	B	6,600	B	6,600	B	6,300	B	5,900	B
Edgewood Ave	West of Harding St	4,900	B	4,900	B	4,800	B	3,700	B	3,600	B	3,700	B	3,600	B
	East of Harding St	5,100	B	4,800	B	4,300	B	3,600	B	3,600	B	4,100	B	4,200	B
Epler Ave	East of Warman St	2,500	B	4,000	B	5,400	B	6,600	B	6,600	B	6,000	B	6,100	B
	West of Harding St/ SR 37	5,100	B	7,100	B	6,800	B	8,000	B	8,000	B	11,900	C	13,400	C



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Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
	East of Harding St/ SR 37	3,900	B	4,100	B	6,800	B	4,900	B	4,900	B	3,400	B	3,400	B
SR 37/ Harding St	Edgewood Ave to I-465	55,600	F	61,200	F	31,600	C	26,800	C	24,100	C	26,800	C	26,800	C

LOS Key: A - C = Acceptable for all facilities. D = Acceptable for existing facilities only. E - F = unacceptable

Notes: 1) New facility built as part of the I-69 Section 6 project. 2) Widened as a committed project before 2045. 3) Widened as part of the I-69 Section 6 project

Table 5.6-4: Forecasted Parallel Road Daily Traffic Volumes and LOS by Alternative

Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
I-65	I-465 to Southport Rd ²	108,600	D	136,200	D	136,200	D	136,300	D	136,300	D	136,200	D	135,600	D
	Southport Rd to County Line Rd ²	92,500	D	129,400	D	128,400	D	128,500	D	128,600	D	128,400	D	128,400	D
I-70	I-465 to Indianapolis Int'l Airport	78,100	B	90,700	B	92,800	B	92,700	B	92,800	B	92,900	B	95,800	B
	Ameriplex Pkwy to SR 267	55,700	B	66,700	C	67,100	C	67,000	C	67,100	C	67,100	C	68,500	C
US 31	South of Thompson Rd	40,600	C	39,200	C	37,300	C	37,200	C	37,200	C	37,300	C	36,900	C
	South of Southport Rd	31,700	C	33,200	C	31,400	C	31,500	C	31,600	C	31,600	C	31,600	C
	South of County Line Rd	30,200	C	31,900	C	31,500	C	31,600	C	31,600	C	31,600	C	31,700	C
	South of Smith Valley Rd	38,100	C	40,500	C	40,000	C	40,000	C	40,000	C	40,000	C	39,900	C
SR 67	I-465 to High School Rd	37,500	C	38,600	C	39,000	C	39,000	C	39,000	C	39,200	C	39,100	C
	South of Ameriplex Pkwy	31,800	C	39,600	D	37,200	C	37,200	C	37,200	C	37,300	C	37,600	C

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Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
	North of SR 144	22,500	B	28,700	B	25,100	B	25,200	B	25,200	B	25,200	B	25,600	B
	North of SR 39	10,900	B	16,500	B	12,700	B	12,900	B	13,000	B	12,900	B	13,100	B
SR 135	South of Thompson Rd	19,900	C	19,200	C	17,100	C	17,700	C	17,700	C	17,500	C	17,400	C
	South of Southport Rd	33,400	C	38,800	C	37,000	C	37,200	C	37,200	C	37,100	C	37,100	C
	South of County Line Rd	39,800	D	44,300	F	43,000	F	43,500	F	43,500	F	43,200	F	43,200	F
	South of Smith Valley Rd	26,700	C	35,200	C	33,900	C	34,100	C	34,100	C	33,900	C	34,000	C
Artesian Avenue	Mahalasville Rd to Grand Valley Blvd ¹	--	-	--	-	--	-	--	-	--	-	--	-	2,900	B
Bluff Rd	South of Thompson Rd	8,300	B	13,800	C	11,200	C	10,400	C	10,400	C	11,400	C	10,500	C
	South of Southport Rd	6,000	B	10,000	C	6,500	B	6,700	B	6,900	B	7,000	B	7,000	B
Cramertown Loop	Mahalasville Rd to Voyles Rd	160	B	400	B	290	B	540	B	290	B	290	B	170	B
	Voyles Rd to Grand Valley Blvd	90	B	200	B	1,100	B	1,400	B	1,100	B	1,100	B	970	B
	Grand Valley Blvd to SR 252	400	B	670	B	4,300	B	6,900	B	4,200	B	4,300	B	4,500	B
Harding St	North of I-465	20,200	B	17,900	B	23,100	B	21,000	B	21,000	B	17,600	B	23,000	B
	South of Epler Ave	4,800	B	6,900	B	8,700	C	6,800	B	6,800	B	8,200	B	8,900	C
	South of Banta Rd	2,800	B	7,300	B	6,800	B	8,500	C	8,400	B	6,300	B	6,200	B
	South of Southport Rd	6,800	B	9,500	C	11,100	C	11,600	C	11,600	C	11,100	C	11,100	C
Mann Rd	South of I-465	10,200	C	11,600	C	10,600	C	10,600	C	10,600	C	10,500	C	10,700	C
	South of Southport Rd	4,800	B	7,100	B	5,600	B	5,600	B	5,600	B	5,600	B	5,800	B
	North of SR 144	1,700	B	2,800	B	1,600	B	1,600	B	1,600	B	1,600	B	1,500	B



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Road	Segment	Base Year 2010		No-Build 2045		ALT C1 2045		ALT C2 2045		ALT C3 2045		ALT C4 2045		RPA 2045	
Morgantown Rd	South of County Line Rd	13,600	C	14,200	C	14,400	C	15,700	C	15,700	C	14,200	C	14,200	C
	South of Smith Valley Rd	8,300	B	10,400	C	10,800	C	10,800	C	10,900	C	10,600	C	10,800	C
	North of SR 144	3,500	B	7,000	B	6,700	B	6,700	B	6,700	B	6,700	B	6,500	B
Mullinix Rd	South of Smith Valley Rd	2,900	B	4,200	B	8,900	C	8,800	C	8,800	C	8,900	C	9,500	C
Old SR 37	North of SR 144	740	B	840	B	7,000	B	6,700	B	6,800	B	6,700	B	2,500	B
	South of SR 144	1,800	B	1,900	B	8,100	B	8,300	B	7,500	B	8,300	B	7,800	B

LOS Key: A - C = Acceptable for all facilities. D = Acceptable for existing facilities only. E - F = unacceptable

Notes: 1) New facility built as part of the I-69 Section 6 project. 2) Widened as a committed project before 2045. 3) Widened as part of the I-69 Section 6 project.



5.6.4 Traffic Safety Analysis

The traffic safety analysis was used to predict total 2045 crashes on roadways constructed as part of I-69 Section 6, including the mainline, ramps, interchanges, and local service roads. An analysis of the no-build scenario was conducted to predict the total 2045 traffic crashes on SR 37 and crossing streets through the I-69 Section 6 project area. The I-69 Section 6 project area includes the SR 37 corridor from SR 39 in Martinsville to I-465 in Indianapolis, and the I-465 corridor between Mann Road and US 31.

Crash predictions presented in the DEIS supported the recommendation of Alternative C4 as the preferred alternative in the DEIS. After the DEIS, refinements were made in Alternative C4 to define the RPA (see Section 3.8), and the IHSDM was re-run for the RPA. Because the network area was larger and I-465 forecasts had been adjusted (see Section 5.6.2.1), the no-build scenario was also re-run to provide a common set of base conditions for comparison to the RPA.

Table 5.6-5 compares the predicted 2045 crashes for the no-build scenario and Alternatives C1 through C4. These crash predictions are useful for comparing the relative safety performance of the alternatives. Crashes are broken down by severity (fatal/injury and property damage), total number of crashes, and crash rates (crashes per million vehicle-miles).

Table 5.6-5: 2045 Predicted Crashes for Alternatives C1-C4

Location	No-Build	Alt C1	Alt C2	Alt C3	Alt C4
Crash Severity					
Fatal/Injury	237	181	191	196	186
Property Damage Only	453	383	387	397	385
Total Number of Crashes	690	564	578	593	571
Crash Rate (crashes per million vehicle-miles)	1.01	0.61	0.64	0.64	0.63

As shown in Table 5.6-5, all build alternatives are predicted to have fewer crashes than the no-build scenario, even though traffic volumes are forecasted to be much higher on many sections of I-69 (see Table 5.6-1). Freeways are safer than divided arterial highways such as SR 37 because the absence of traffic signals allows more consistent speeds and they generally have wider safety clearance areas. Within these clearance areas, engineers design flatter slopes, remove dangerous objects, and provide guardrail as needed to minimize the severity of crashes when vehicles leave the road. The benefits of these safety features are apparent in the crash rates in Table 5.6-5.

Predicted annual crashes for the build alternatives range from 564 for Alternative C1 to 593 for Alternative C3. Some of the variation in predicted crashes among the alternatives can be attributed to differences in I-69 mainline curvature, typical section, and traffic volumes among the alternatives, including the amount of travel on local service roads. To a large degree, the



variation can be attributed to differences in the number and types of intersections and interchanges.

Alternatives C1, C4, and the RPA include roundabouts rather than traffic signals at ramp intersections with County Line Road, which would reduce intersection crashes. At Southport Road, the diverging diamond interchange in Alternative C1 would be the safest since it would eliminate left turn movements, while the single point interchange in Alternative C2 would create a larger number of conflicts, which would increase the number of crashes.

In terms of crash rates, Alternatives C1 through C4 would be 35 to 40 percent safer than the no-build scenario. The ratio of fatal and injury crashes to total crashes is approximately the same for all alternatives and the no-build scenario. All alternatives would reduce both fatal and injury crashes and property damage only crashes compared to the no-build scenario.

The IHSDM was run for the RPA using the adjusted traffic forecasts and extended roadway network described in Section 5.6.2.1. For comparison, the model was run for the no-build scenario using the same assumptions. I-465 traffic forecasts were adjusted to better reflect recent traffic counts, and the modeling area of the IHSDM was adjusted to represent roadway extensions in the RPA. Roadway mileage was added for Artesian Avenue and adjacent existing roads such as Mahalassville Road. The project limits were extended on I-465 to include lane transitions west of Mann Road.

The results of the updated IHSDM run are presented in Table 5.6-6, showing a comparison of 2045 predicted crashes for the RPA and the updated no-build scenario. Predicted crashes are broken down by severity (fatal/injury and property damage), total number of crashes, and crash rates (crashes per million vehicle-miles).

Overall, fewer crashes are expected to occur in 2045 on the RPA road network than would occur in the no-build scenario, as shown in Table 5.6-6. Fatal/injury and property damage only crashes would be lower with the RPA, and the crash rate per million vehicle-miles of roadway travel would be much lower with the RPA than with the no-build scenario. These results are similar to those shown for Alternatives C1 through C4 in Table 5.6-5.

Table 5.6-6: 2045 Predicted Crashes for the RPA

Location	No-Build ¹	RPA
Crash Severity		
Fatal/Injury	286	236
Property Damage Only	572	502
Total Number of Crashes	858	738
Crash Rate (crashes per million vehicle-miles)	1.19	0.69

¹Crash totals are higher than those shown in Table 5.6-5 due to larger RPA road network and adjusted I-465 traffic forecasts.



Because the RPA is the same as Alternative C4 at most locations, a comparison of Alternative C4 predicted crashes (**Table 5.6-5**) with RPA predicted crashes (**Table 5.6-6**) shows the impact of the adjustments in the baseline assumptions of the two modeling scenarios. In both cases, the relative difference in predicted crashes between the no-build scenario and I-69 build alternatives, including the RPA, are estimated to be approximately 120 crashes per year, with about 50 of those being fatal or injury crashes. In both cases, the reduction in crash rates per million vehicle miles is around 40 percent. Clearly, I-69 Section 6 would provide major safety benefits for users compared with the no-build scenario.

5.6.5 Access Analysis

I-69 Section 6 would be a fully-controlled access facility with entry and exit only at interchanges. Decisions on interchange locations, grade separations, and local service roads were based on engineering analysis of operations and local conditions, and input from the public, local participating agencies, and resource agencies. Maintaining access for emergency vehicles, school transportation, and commercial deliveries were key considerations, along with cost and impacts. See **Chapter 3, Alternatives** and **Chapter 11, Comments, Coordination, and Public Involvement** for details of how the build alternatives were developed and how the public and agencies informed the process.

I-69 Section 6 access decisions were made with the intent of maintaining travel patterns and public road connectivity as needed to serve local and regional needs. Grade separations to allow cross travel and access to land uses were discussed throughout the I-69 Section 6 public and stakeholder involvement process. Access was one of the topics most often raised by local government officials, business owners, and residents. Access to I-69 Section 6 and maintaining access to land within the I-69 Section 6 corridor are key factors in defining the preferred alternative for I-69 Section 6.

5.6.5.1 Access Considerations

Currently there are approximately 84 streets, ramps, roads, or driveways with access to existing SR 37 between Martinsville and Indianapolis. In order to meet interstate standards, all existing driveways and public roads that intersect SR 37 would be closed. Grade separations would be constructed at various locations where I-69 Section 6 would cross existing state highways and local roads, while at other locations local roads would be closed, realigned, or relocated using a local service road. Changes at the crossings of these roadways may adversely alter some local travel patterns and public road connectivity, but in combination with I-69 Section 6 they are intended to improve overall mobility and safety.

Improving the ability of emergency responders to reach major medical centers in Martinsville, Bloomington, and Indianapolis; employees and residents to reach regional commercial and employment centers; and local products to reach regional markets are among the positive traffic benefits of I-69 Section 6. Through careful selection of access points and provision of adequate



local road connections, a fully-controlled access facility would result in a substantial travel time savings (see preliminary alternative screening factors in **Section 3.4**). Additionally, limited access along I-69 Section 6 would reduce vehicle conflict points, provide for more uniform travel speeds, and improve safety for all corridor users. Community related impacts, including beneficial and adverse impacts, are discussed in **Section 5.3**.

The closure or rerouting of some local public roads, however, would require motorists to change established routes and adjust travel patterns to familiar destinations. This adjustment could have negative impacts for some trips, even as they reduce travel times for other trips. In some cases, the change in travel patterns related to road closings could produce longer trips and slower response times for emergency responders. Some businesses, residents, and community facilities would lose direct access to exiting SR 37, resulting in longer trips. Farm operators, many of whom must access widely scattered fields with large, slow-moving farming equipment, would have longer trips, resulting in lost time, reduced productivity, and higher costs. Balancing these potential negative impacts with the benefits of I-69 Section 6 was a primary objective in defining access features of the corridor.

The ability to access parcels that currently have driveways onto SR 37 is a consideration when developing and evaluating alternatives. At some locations, short segments of roadway would be constructed to provide access to properties. At other locations, it may be more cost-effective and appropriate to landlock a parcel and acquire the entire property. The decision whether to provide access to or acquire specific landlocked parcels, uneconomic remnants,⁷ and/or severed parcels may not be addressed until after the Record of Decision (ROD), during final design of this project.

Changes in access and travel patterns are specific to each residence, business, and community facility for each alternative. The discussion below and the illustrations of the alternatives in the map sets at the end of **Chapter 3, Alternatives**, provide a review of how the alternatives are configured to maintain or improve local access with I-69 Section 6 construction, and how major public and private land use features would be served.

5.6.5.2 Access Impacts for the Alternatives

The I-69 Section 6 alternatives, as presented to the public at the April 2016 public information meetings, included three initial alternatives (Alternatives C1, C2, and C3) with various combinations of interchanges and grade separations. Based on input from the public, project advisory committees and agencies, a hybrid alternative (Alternative C4) was formulated, and designated as the preferred alternative in the DEIS. After the DEIS was published, adjustments were made to Alternative C4 to form the RPA, based on public and agency comments, more

⁷ According to INDOT appraisal guidelines, an uneconomic remnant is “a parcel of real property in which the owner is left with an interest after the partial acquisition of the owner’s property, and which the Agency has determined has little or no value or utility to the owner.”



detailed engineering, and value engineering studies. See **Chapter 3, Alternatives**, for a full description of how the alternatives were developed. See **Chapter 11, Comments, Coordination, and Public Involvement**, for a description of the public and agency input process.

Section 3.6 provides a detailed description of interchanges, grade separations, and local service road configurations of Alternatives C1, C2, and C3. **Section 3.7** describes these features for Alternative C4. Adjustments made to Alternative C4 to create the RPA are described in **Section 3.8. Table 3-9** provides a summary comparison of the access configuration of each alternative, including the RPA, and shows roadways that would be terminated at I-69 Section 6.

Interchange locations are consistent for all the alternatives with exceptions at Ohio Street in Martinsville and at Epler Avenue in Indianapolis. The alternatives include interchanges at all the locations listed below unless otherwise noted.

- SR 39
- Ohio Street (Alternatives C1, C3, C4, and the RPA)
- SR 252 and SR 44 (combined interchange)
- Henderson Ford Road
- SR 144
- Smith Valley Road
- County Line Road
- Southport Road
- Epler Avenue/Existing SR 37 (Alternatives C1, C2, C4, and the RPA)
- I-465

Following is a discussion of the corridor access and travel patterns of the I-69 Section 6 alternatives by subsection. Detailed map sets showing the configuration of local service roads, driveways, cul-de-sacs, and other access features of each alternative are provided at the end of **Chapter 3, Alternatives**. These maps show the interchange locations and local service road configurations for the four build alternatives in relation to the surrounding area.

Subsection 1: Indian Creek to SR 39

Interchanges:	SR 39 (all alternatives)
Overpasses/Underpasses:	None
Terminated Roadways:	Old SR 37 (all alternatives)

This is a short subsection at the south end of Martinsville with sparse development on both sides of existing SR 37. The primary access issue related to the construction of I-69 in this subsection is maintaining connectivity to the City of Martinsville. The east side of SR 37 is separated from



Martinsville not only by the highway but also by the immediately adjacent Indian Creek. A crossing of Indian Creek is provided at Burton Lane, located just north of the SR 39 interchange.

This subsection would include one interchange, which is a modification of the existing SR 39 interchange. When I-69 Section 6 is completed, local land access and connectivity to Martinsville would continue to be provided by Burton Lane and Jordan Road east of I-69 and by Rodgers Road and SR 39 west of I-69.

A few properties adjacent to SR 37 currently have direct access to SR 37 from Old SR 37, which is approximately 0.75 miles south of SR 39. This access would be closed and a new connection would be provided to Rogers Road west of I-69 with all alternatives, including the RPA. The properties east of I-69 and north of Indian Creek would be provided a new local service road connection to the SR 39 interchange with Alternatives C1 and C2, but would be landlocked with Alternatives C3, C4, and the RPA. Alternative C2 would also extend this service road across Indian Creek with a new bridge, which would improve local connectivity from the SR 39 interchange to property south of the creek.

Several businesses and government facilities located along Rodgers Road use SR 39 to access SR 37. These include the Martinsville wastewater treatment plant, the Martinsville School District bus maintenance facility, IMI Irving Materials, Morgan County Sand and Gravel, and several commercial businesses. Access to these locations from I-69 via SR 39 would not change with any alternative, although the intersection of SR 39 and Rogers Road would be made safer.

Subsection 2: SR 39 to Morgan Street / Twin Branch Road (Martinsville)

Interchanges:	SR 39 (all alternatives) Ohio Street (Alternatives C1, C3, C4, and the RPA) SR 252/Hospital Drive (all alternatives) SR 44/Rueben Drive (all alternatives)
Overpasses/Underpasses:	Burton Lane (Alternatives C1, C2, C4) Ohio Street (Alternative C2) Grand Valley Boulevard (all alternatives)
Terminated Roadways:	Burton Lane (Alternative C3 and the RPA) Industrial Drive (all alternatives) Glenn Street (all alternatives) Morgan Street/Twin Branch Road (all alternatives)

This subsection is within the developed area of Martinsville. Primary access objectives are to provide safe and efficient connections for local Martinsville traffic to cross I-69 and to provide access to I-69 for trips into and out of Martinsville. There is already a high degree of access control on SR 37 through Martinsville. Most arterials within this subsection would retain access to the new I-69. A split diamond interchange would be provided to connect SR 252 and SR 44 with I-69, and in some alternatives, an interchange would also be provided at Ohio Street.



Special emphasis is given to enhancing opportunities for non-vehicular travel across I-69 in all alternatives, including the RPA.

Alternatives C1, C2 and C4 would maintain connectivity across I-69 at Burton Lane via a grade separated crossing. Access across I-69 at Burton Lane is not provided in Alternative C3 or the RPA. With Alternative C3, properties on the east side of I-69 at Burton Lane would utilize Southview Drive and Ohio Street to access I-69 or downtown Martinsville. Because Burton Lane would not have direct access to I-69 with any alternative, trips from Martinsville Plaza and other businesses along Burton Lane would access I-69 using SR 39, requiring additional indirect travel. With the RPA, Burton Lane is terminated on either side of I-69. Access to Burton Lane on the north side of I-69 would be available from the SR 39 interchange, and on the south side by the Ohio Street interchange via Southview Drive for traffic to and from the north, or the Liberty Church Road interchange for traffic to and from the south.

An interchange would be provided at Ohio Street with all alternatives except Alternative C2, which would have an Ohio Street overpass. The result of providing an overpass instead of an interchange at this location would be longer, less direct travel for some trips to businesses in the vicinity of Ohio Street and less exposure for the businesses to drive-by traffic.

Industrial Drive currently provides direct access from SR 37 to various industrial businesses on the east side of the highway and the Spring Valley mobile home community on the west side (this access drive is currently gated). This access would be closed with all alternatives, including the RPA. Access between downtown Martinsville or I-69 and the industrial business would be via Ohio Street. With Alternative C2, however, where an interchange is not provided at Ohio Street, access to I-69 would require use of Grand Valley Boulevard and Cramertown Loop to travel to the SR 252 interchange. Trips from the mobile home community across I-69 would use Ohio Street, and trips to I-69 would use the Ohio Street interchange or, in Alternative C2, would access I-69 via Poston Street and SR 39.

The Walmart SuperCenter at 410 Grand Valley Boulevard is one of area's largest employers, as well as a high traffic generator for regional shopping trips. The Walmart, along with several restaurants and other retail businesses in the Grand Valley Center commercial area, currently has access to SR 37 at Grand Valley Boulevard. All alternatives, including the RPA, would provide a grade separated crossing of I-69 that connects Grand Valley Boulevard to South Street. Persons traveling between the Grand Valley Center and the urbanized area of Martinsville could use this new connection, Ohio Street, or SR 252 to cross I-69.

Several options could be available to access Walmart and the Grand Valley Center from I-69, depending on the alternative, as described below.

- Alternatives C1, C3, or C4: Ohio Street interchange to Commercial Boulevard
- RPA: Ohio Street interchange and Artesian Avenue (a new roadway extending east and north from Mahalasville Road to align with the existing Walmart entrance at Grand Valley Boulevard)



- Alternatives C2, C4, RPA: SR 252 interchange to Cramertown Loop to Grand Valley Boulevard

Commercial Boulevard would be realigned in the RPA to provide access north from the interchange, but unlike Alternative C4, new construction would stop at Industrial Drive. James Baldwin Drive and Robert Curry Drive would provide access to nearby businesses, as they do now. Artesian Avenue would be constructed in the RPA to access Grand Valley Boulevard.

Refinements to the Grand Valley Boulevard overpass in the RPA would allow Birk Road and Flag Stone Drive to be used as north/south connections, eliminating the need for a new intersection further east as in Alternative C4. The alignment of Grand Valley Boulevard between Walmart and Cramertown Loop is also adjusted in the RPA to align with a proposed development that has been platted in that area.

Martinsville High School is located on the west side of SR 37, between Ohio Street and Hospital Drive. Access to the school from I-69 would be the same as it is today from SR 37. However, access to the Grand Valley Center commercial area on the east side of I-69 from the school and nearby neighborhoods west of I-69 would be improved with the Grand Valley Boulevard grade crossing of I-69. The grade crossing would include pedestrian facilities in all alternatives, including the RPA, with a new sidewalk connection to the Martinsville High School property between South Street and York Street. Martinsville East Elementary and Charles L Smith Elementary are also located west of SR 37 in the vicinity of the High School. Both are south of Hospital Drive and would most directly access I-69 at its interchange with SR 252/Hospital Drive.

IU Health Morgan Hospital serves residents of the study area and is also one of largest employers in the study area. Its campus is located near the southwest quadrant of the intersection of SR 37 and SR 252. Access from SR 37 is presently available from Hospital Drive. Trips to and from IU Health Morgan Hospital are not expected to be negatively impacted by any of the alternatives, as access points immediately adjacent to that campus, at SR 252 and SR 44, would be served by I-69 interchanges. Access to I-69 would be most direct via the SR 252 interchange.

Other major facilities located near the hospital would also experience no change in accessibility with any alternative. These include the Morgan County Fairgrounds, Morgan County Emergency Management, the National Guard armory, and the YMCA. The entrance to Bynum's Steakhouse from Hospital Drive immediately east of the hospital may be closed, in which case access to this business would be relocated or provided from Columbus Street.

The Washington Township Fire Station, located immediately east of SR 37 on SR 44, serves several communities and facilities west of SR 37. The fire station would have access to and across I-69 from SR 44 with all alternatives, including the RPA. Design of the SR 44 interchange would allow right turns from westbound Reuben Drive to northbound Kristi Road, thus allowing fire trucks to continue to use Kristi Road for emergency runs to the Foxcliff neighborhoods and surrounding areas.

At the north end of Subsection 2, Morgan Street, Twin Branch road and the north unit of the Cikana State Fish Hatchery would no longer have access to SR 37 with any alternative. Morgan



Street would be extended north along the west side of I-69 to connect to Old SR 37. On the east side of I-69, Twin Branch Road would be closed where it intersects SR 37, and a driveway would be provided to the north unit of the Cikana State Fish Hatchery. This driveway access would replace the current driveway from SR 37 that is approximately 900 feet north of the intersection. Twin Branch Road would be extended south to Old SR 44 along the east side of I-69 with Alternatives C1, C2, C4, and the RPA. It would be extended to the east around the south unit of Cikana State Fish Hatchery with Alternative C3. Access from I-69 to either unit of the hatchery would use the SR 44 interchange with any alternative.

Subsection 3: Morgan Street to Henderson Ford Road

Interchanges:	None (Henderson Ford Road Interchange included in Subsection 4)
Overpasses/Underpasses:	Teeters Road (all alternatives) Old SR 37/Myra Lane (all alternatives) Old SR 37/Egbert Road (all alternatives)
Terminated Roadways:	Country Club Road (all alternatives)

This subsection lies north of the developed area of Martinsville. Land use along this subsection is mainly residential to the west of SR 37, with the Martinsville Golf Club located at its south end. To the east, land use consists of commercial fisheries and some low density residential and agriculture properties. Primary access issues in this subsection include adequate commercial vehicle access to the fisheries and east-west connection to and across I-69 for residents and other businesses. There are no interchanges proposed within this subsection, but grade separated crossings of I-69 would be provided at Teeters Road, Myra Lane, and Egbert Road with all alternatives, including the RPA.

The Martinsville Golf Club, in the vicinity of Teeters and Country Club Roads, would not have direct access to I-69 with any of the alternatives. Its closest access point to I-69 would be at the SR 44 interchange, approximately 1.5 miles south. With all alternatives, including the RPA, access would be from the extension of Morgan Street and connection to Old SR 37 along the west side of I-69.

Access to and from Ozark Fisheries and the Martinsville First United Methodist Church would be longer and less direct with all the build alternatives. The existing Ozark Fisheries drive to SR 37 opposite Country Club Road would be closed and a new driveway would be constructed from Myra Lane, near the location of the existing First United Methodist Church drive. All access to these properties would use the Myra Lane grade separation to Old SR 37 on the west side of I-69. Since Myra Lane would not have direct access to I-69, access to I-69 would be via local roads to reach either the SR 44 or Henderson Ford Road interchanges.

Foxcliff is a large residential subdivision west of SR 37 and north of the Martinsville Golf Club. Access from this subdivision to SR 37 is currently via Maple Turn Road and Old SR 37. With



the construction of I-69, all alternatives, including the RPA, would provide an overpass of I-69 that connects Old 37 to Egbert Road. This would provide connectivity across I-69 and access to I-69 at the Henderson Ford Road interchange.

The White River Greenway multi-use trail is proposed on the West side of I-69 through this subsection, providing pedestrian and bicycle access along the bank of the White River. This greenway is described in more detail in **Section 8.2** and is shown in **Figure 8-1**. Access points for the trail would be the same with each alternative. None of the I-69 alternatives would be expected to impact trail operation.

Subsection 4: Henderson Ford Road to Banta Road (Morgan County)

- Interchanges: Henderson Ford Road (all alternatives)
- Overpasses/Underpasses: Perry Road/Old SR 37 (Alternatives C1, C2, C4, and RPA)
Big Bend Road (Alternatives C1, C2, C3, and C4)
Waverly Road (Alternatives C2, C4, and RPA)
Whiteland Road (Alternatives C1, C3)
- Terminated Roadways: Ennis Road (all alternatives)
New Harmony Road (all alternatives)
Cragen Road (all alternatives)
Perry Road/Old SR 37 (Alternative C3)
Big Bend Road (RPA)
Waverly Road (Alternatives C1, C3)
Whiteland Road (Alternatives C2, C4, and RPA)

A primary access issue within this subsection is facilitating travel to Martinsville as well as Johnson and Marion Counties. Land use is mostly mixed low density residential and agricultural. Through much of the subsection, the proximity of the White River and its floodplain have limited development west of SR 37, and there is minimal local road infrastructure. This has resulted in greater reliance on SR 37 for short trips to and from properties in this subsection, so maintaining access to these properties is also an issue. These properties are primarily farm fields and gravel pits, but they also include the community of Waverly.

One interchange, at Henderson Ford Road, would be provided in this subsection. Henderson Ford Road is one of only five roads crossing the White River in Morgan County, and it provides a connection to the town of Brooklyn. South of I-69, the interchange would connect to Centennial Road, which is a rural arterial serving eastern Morgan County.

With no connection to I-69 between Henderson Ford Road and SR 144, access to properties in this subsection would be more reliant on local roads compared with the current use of SR 37. Grade separated crossings at Perry Road (Alternatives C1, C2 and C4), Big Bend Road (all alternatives except the RPA), Waverly Road (Alternatives C2 and C4), and Whiteland Road (Alternatives C1 and C3) would maintain local road connectivity and allow access to the



community of Waverly. Old SR 37 would serve as a parallel route for local travel on the west side of I-69.

The Big Bend Road overpass was eliminated in the RPA in response to public opposition from nearby property owners. A review of mobility opportunities in the surrounding area determined that other options would provide suitable service. Connectivity across I-69 will be available at nearby overpasses at Perry Road and Waverly Road.

Traffic to and from the community of Waverly, including traffic to Martin Marietta Aggregates/Waverly Aggregates (8520 Old SR 37), would access I-69 via the SR 144 interchange with all alternatives, including the RPA.

On the east side of I-69, local road changes would need to compensate for the loss of direct access to existing SR 37 and the interruption of Ennis, New Harmony, and Cragen roads. All alternatives, including the RPA, would extend New Harmony Road across Stotts Creek to provide access to properties between the creek and I-69. This would replace a local bridge that previously existed at this location. Alternative C3 would extend a new local service road parallel to I-69 from the interchange at Centennial Road to Ennis Road to provide more direct access to residential properties. Alternatives C2 and C4 would extend this local service road farther north to New Harmony Road, improving access as far east as Perry Road. With Alternative C1, all access to the freeway would be via Egbert Road, resulting in longer travel distances.

On the west side of I-69, all alternatives, including the RPA, would extend Old SR 37 south from where it currently intersects SR 37 near Crooked Creek to a cemetery at the former Mt. Zion Church near Cragen Road. This local service road could also be used to access a future trail head for the White River Greenway multi-use trail. Access to and from the trail is not expected to be restricted with any of the alternatives.

The service road extension from Old SR 37 to the former Mt. Zion Church would also provide access to the JW Jones Gravel Pit, which is located at 5506 SR 37, on the west side of SR 37 between Cragen Road and Perry Road. With all I-69 Section 6 alternatives, including the RPA, the existing driveway to this facility from SR 37 would be closed. The new service road would provide access to SR 144.

Subsection 5: Banta Road (Morgan County) to Fairview Road

Interchanges:	SR 144 (all alternatives) Smith Valley Road (all alternatives)
Overpasses/Underpasses:	Stones Crossing Road (Alternatives C1, C2, C3, C4) Olive Branch Road (Alternative C3) Fairview Road (Alternative C1, C3)
Terminated Roadways:	Stones Crossing Road (RPA) Banta Road (all alternatives) Travis Road (all alternatives)



Olive Branch Road (Alternatives C1, C2, C4, and RPA)
Bluff Acres Drive (all alternatives)
Bluffdale Road (all alternatives)
Fairview Road (Alternative C2, C4, and RPA)

There is an increasing level of development on the east side of I-69 within Subsection 5, as land uses transition to more suburban development with closer proximity to Indianapolis. I-69 interchanges would be provided at SR 144 and Smith Valley Road with all alternatives, including the RPA. Residential properties in the vicinity of Olive Branch Road and Stones Crossing Road would change their travel paths, but travel times would not necessarily be longer. Residents north of Smith Valley Road would use Morgantown Road or Bluff Road to access I-69 via the Smith Valley Road or County Line Road interchanges. Some of these trips would be less direct than the current use of Fairview Road or Bluffdale Road to access SR 37.

The Stones Crossing Road overpass is eliminated in the RPA. Instead, the local service road proposed in Alternative C4 from CR 144 to Travis Road is extended north to Stones Crossing Road to provide access to properties east of I-69. Eliminating the overpass allows the west local service road to be realigned to link directly with Old SR 37 at Stones Crossing Road.

Little developed land exists in Subsection 5 on the west side of SR 37 due to the proximity of the White River and its floodplain. The local road network between SR 37 and the White River is fragmented, and access to properties is currently dependent on connection to SR 37. North-south travel, especially of farm equipment, is a concern in this subsection.

With the closure of access to SR 37, access and circulation on the west side of I-69 would be provided by a combination of improvements to Old SR 37, construction of new local service road, and connections to the east side of I-69 via overpasses. Alternatives C2, C4, and the RPA would provide a continuous service road along the west side of I-69 from SR 144 to Wicker Road. Alternatives C1 and C3 would combine shorter service road segments with grade separated crossings of I-69 to provide for local travel and access.

Three quarries requiring substantial material transport and hauling by truck would access I-69 Section 6 within this subsection. Irving Materials' Greenwood Plant is located at 6695 W. Smith Valley Road. Trips to and from this plant would use the Smith Valley Road interchange to access the new I-69. This is the same access point that they currently use to access SR 37. VNCA Prairie LLC/Mooresville Plant (8366 East SR 144), and Beaver Gravel Corporation/Waverly Plant (8553 E State Road) would not be directly impacted by I-69 Section 6. Trucks using these facilities would access I-69 via the SR 144 interchange with all alternatives, including the RPA. This is the same location as they currently use for access to SR 37.

The Morgan County Public Library has a branch facility in the northwest quadrant of the SR 37 and SR 144 intersection, referred to as the Waverly Branch. This facility would be impacted and require relocation with Alternatives C1 and C3. With Alternatives C2, C4, and the RPA, the use of steep embankment slopes and guardrail along SR 144 would reduce the impacts to the library site and allow it to remain in place with a modified access drive to Old SR 37.



White River Township Fire Station Number 53 is located near the intersection of SR 37 and Smith Valley Road. With Alternatives C2, C4, and the RPA, the fire station would be directly impacted by the Smith Valley Road interchange, and it would need to be relocated. With Alternatives C1 and C3, the station building would not be directly impacted, but site circulation and access would need to be revised. All access would be from Mullinix Road instead of Smith Valley Road. The WRTFD indicated that the change of circulation patterns and the anticipated increased traffic volumes associated with I-69 could delay responding to an emergency incident. They indicated that the relocation of its Fire Station Number 53 at 850 S. Mullinix Road to a previously purchased parcel along Morgantown Road would allow it to provide more effective EMS services regardless of the selected alternative.

Alternatives C1 and C3 would provide an overpass of I-69 at Fairview Road and a new local service road along the west side of I-69 for access to McCarty Mulch and Stone, Indy Family Farms, and other adjacent properties. A separate local service road extending north from Smith Valley Road would provide access to the Center Grove Little League baseball fields and nearby properties. Alternatives C2, C4, and the RPA would not provide a crossing of I-69 at Fairview Road. Properties on the west side of I-69 in this vicinity would instead be accessible from the continuous service road that would be constructed from SR 144 to Wicker Road with access to I-69 at Smith Valley Road and County Line Road to the north.

The White River Greenway multi-use trail is proposed on the West side of I-69 through this subsection, providing pedestrian and bicycle access along the bank of the White River. As in other subsections, access to and from the trail is not expected to be restricted with any of the alternatives.

Subsection 6: Fairview Road to Wicker Road

- Interchanges: County Line Road (all alternatives)
- Overpasses/Underpasses: Wicker Road (all alternatives)
- Terminated Roadways: Glens Valley Lane (all alternatives)

An interchange at County Line Road would provide good accessibility for the suburban residential development east of I-69, supported by a grid network of collector roads with one-mile spacing. The White River and its floodplain continue to influence the rate and location of development on the west side of I-69, although this area is more urbanized than subsections immediately south. The County Line Road interchange would connect with Wicker Road west of I-69, providing good access to the large Southern Dunes development. Another local service road on the west side of I-69 would provide access to properties south of County Line Road. With Alternatives C1 and C3, this local service road would extend approximately one-half mile south of County Line Road. With Alternatives C2 and C4, this local service road would be part of a continuous service road that extends all the way to SR 144.



Trips between I-69 and the commercial and residential properties east of I-69 near Fairview Road would require longer travel times than currently experienced with direct access from SR 37 to Fairview Road.

The White River Greenway multi-use trail is proposed on the west side of I-69 through this subsection. As with other subsections, it is not anticipated that any of the alternatives would restrict access to and from the trail.

Subsection 7: Wicker Road to Banta Road (Marion County)

Interchanges: Southport Road (all alternatives)

Terminated Roadways: Belmont Avenue (all alternatives)

Southport Road and Belmont Avenue are the only public roads that currently intersect SR 37 within this subsection. With all alternatives, including the RPA, an interchange would be provided at Southport Road, and Belmont Road would be closed where it intersects SR 37, approximately one-half mile south of Southport Road.

The key access issue in this subsection is the provision of alternate access to Southport Road for businesses and residences where existing access would be restricted by the I-69 interchange. Access would be slightly different with each alternative due to the different configurations of the Southport Road interchange. Access to Southport Road from local land uses would be shifted away from the interchange in order to provide acceptable traffic operations.

Access to the Aspen Lake apartments east of SR 37 would require a new public road connection into the adjacent Perry Commons neighborhood with Alternatives C1 and C3. The sole access to the apartments would be provided by Perry Commons Avenue and Blankenship Drive. Since Perry Commons Avenue would be too close to the I-69 interchange (less than 800 feet) to allow for left turns onto Southport Road, a right turn only restriction would be enforced for exiting traffic.⁸ This configuration would cause a large increase in traffic through the Perry Commons neighborhood. It would also require acquisition of property from one land owner to provide access to another land owner, which is not allowable for INDOT.

The Aspen Lake apartments would be acquired in their entirety with Alternative C2 or C4A, so no alternate access for the apartments would be required. Southport Road would be realigned with Alternative C4B and the RPA, and the existing alignment of Southport Road would be used to provide a public road connection to the relocated Southport Road from both Aspen Lakes apartments and the Perry Commons neighborhood.

West of I-69, the existing Belmont Avenue intersection would be closed north of Southport Road with any alternative because it would be too close to the interchange. Access from Southport

⁸ *Access Management Manual, Transportation Research Board, 2003, Table 9-14.*



Road to Belmont Avenue and to the Southport Commons shopping center would be relocated further west along Southport Road. Limited access right of way is proposed between I-69 and Wellingshire Boulevard.

Banta Road is included in Subsection 8, but changes at Banta Road would impact access and travel through Subsection 7. Development along Banta Road would lose direct access to SR 37 at Banta Road with all alternatives, including the RPA. I-69 would be accessible from these properties using Harding Street to Southport Road or to I-465. Trips to properties along Banta Road west of I-69 would either use the Banta Road underpass of I-69 to Harding Street or would use Concord Street to Epler Avenue.

I-69 would cross a designated U.S. Bicycle Route at Southport Road and a planned trail along Little Buck Creek, both of which would be accommodated during design of the selected alternative. As with other locations, adequate access to and from the White River Greenway multi-use trail would be provided for in the construction of I-69 in this subsection.

Subsection 8: Banta Road (Marion County) to I-465

- Interchanges: Epler Avenue (Alternative C2, C4, and RPA)
I-69/I-465 (all alternatives)
I-465/Harding Street linkage (all alternatives)

- Overpasses/Underpasses: Banta Road (all alternatives)
Edgewood Avenue (Alternatives C1, C4, and RPA)
Epler Avenue (Alternatives C1, C3)

- Terminated Roadways: Edgewood Avenue (Alternatives C2, C3)
Thompson Road (all alternatives)

Several industrial and highway-oriented commercial businesses exist within this northernmost subsection. The Sunshine Gardens residential neighborhood is also located within this subsection, west of SR 37 and immediately south of I-465. Access to and through this area would change with the construction of the I-69/I-465 interchange. It would be important to maintain appropriate access to remaining properties, as well as to the Indianapolis Fire Station 34 and the Perry Township Schools bus facility that are both located on Edgewood Avenue east of SR 37.

The proposed I-69/I-465 system interchange is located within this subsection, as well as a local interchange to access existing SR 37 and Harding Street. Alternative C3 would provide all local access to existing SR 37 and Harding Street at the existing I-465/Harding Street interchange. Alternative C1 would provide local access to this area from the south using a pair of ramps to and from I-69 south near Edgewood Avenue. This would result in more efficient access for businesses along existing SR 37 and I-69 to the south because travelers would not have to travel through the I-465/Harding Street interchange to get to I-69 south. Alternatives C2, C4, and the RPA would provide access similar to Alternative C1, but the ramps would terminate at Epler Avenue.



Businesses along Belmont Avenue west of I-69 would remain open with Alternative C1. These include the Martin Marietta Belmont Plant (5620 S. Belmont Avenue), Milestone Contractors (5950 S Belmont Avenue) and Mobile Mini (2104 W Epler Avenue). These businesses would have access across I-69 at Banta Road, Edgewood Avenue, and Epler Avenue. They would access I-69 by using Harding Street to link with Southport Road or I-465. With Alternatives C2, C3, C4, and the RPA, the businesses along Belmont Avenue north of Edgewood Avenue would be relocated. The Martin Marietta plant would still be accessible from Epler Avenue.

Access to businesses along the east side of SR 37 north of Edgewood Avenue, and along both sides of SR 37 north of Epler Avenue, would be similar to existing. These businesses include Stoops Freightliner, one of study area's largest employers, located west of SR 37 on Thompson Road. It also includes ERMCO, an electrical contractor with a similarly large labor force, which is located adjacent to Stoops. Both businesses would retain access to I-465 and I-69 northbound at the existing I-465/Harding Street interchange with all alternatives, including the RPA. Access to I-69 southbound would also be at the current I-465/Harding Street interchange with Alternative C3. With Alternatives C1, C2, C4, and the RPA, access to southbound I-69 would require traveling south on existing SR 37 to interchange ramps provided at or near Epler Avenue.

Access to Sunshine Gardens would be equally impacted by any of the alternatives. Sunshine Gardens is currently accessible from the east on Thompson Road or Epler Avenue, or from the south on Concord Street. With construction of the I-69/I-465 interchange, Thompson Road would be closed west of I-69, and much of the road would be removed. Most properties fronting Thompson Road would be acquired. The Sunshine Gardens neighborhood would remain accessible from Epler Avenue and Concord Street.

In each of the alternatives, local travelers near Harding Street or existing SR 37 would access I-69 north using the existing I-465/Harding Street interchange. I-69 would be signed along I-465 to the east.

5.6.6 Mitigation

Potential road closures and the provision of adequate access in the study area were discussed in meetings with city and county engineers and planners, emergency service providers, government officials, school officials, resource agencies, project advisory committees, utility providers, and various stakeholder groups at the local level. See **Appendix B** for a listing of Community Advisory Committees (CAC) and Stakeholder Working Group (SWG) members.

Drawing from public meetings and discussions with stakeholders, local roads that would access I-69 Section 6, those crossing the facility, and those to be closed by I-69 Section 6 were carefully selected with recognition of local travel patterns, available alternative routes and interchange spacing. In some cases, local service roads or grade separations were provided to avoid landlocking properties or to lessen impacts on emergency response times. The final decision to provide access will be made as a result of the final right of way acquisition analysis.



Possible grade separations and road closures proposed for each alternative were presented to the CAC and SWG during the alternatives screening process, presented at public meetings in April 2016, and presented at the public hearing. Additional detailed analysis of the local service roads, grade separations and road closures that differ from those presented at the public information meeting are identified in **Chapter 3, Alternatives**.

5.6.7 Summary

Traffic impacts are defined as changes in traffic conditions on roadways that occur due to the addition of I-69 Section 6 to the roadway network. Negative impacts would occur when a build alternative results in a higher level of congestion, increase in crashes, or less direct highway access compared to the no-build scenario.

Travel patterns and traffic volumes on state highways and local roads would change when I-69 Section 6 is constructed. The impact of these changes on traffic operation was estimated by forecasting and examining Year 2045 traffic volumes and levels of service (LOS) on segments of I-69 Section 6 and other roads in the study area. The roads included in this analysis are those forecasted to have the greatest changes in volume and thus the most likely to be impacted by the build alternatives. These road links would either access I-69 at an interchange, cross I-69 at a grade separation, feed traffic to and from these roadways, or provide an alternative to using I-69.

This analysis indicates that if I-69 Section 6 is constructed, no road segment would experience an unacceptable LOS with any alternative. There would be little difference in overall traffic operation among the I-69 Section 6 build alternatives.

Traffic safety impacts were determined using the crash prediction module of the Interactive Highway Safety Design Model (IHSDM) software. This IHSDM module uses information about roadway type, traffic volumes and geometric features to predict the number of crashes that will occur on a specific existing or planned roadway facility.

The IHSDM crash prediction results showed that all build alternatives would provide significant safety benefits by replacing the existing highway with a new I-69 Section 6 freeway. The safety benefits of the I-69 alternatives primarily result from a reduction in intersection crashes compared to the no-build scenario. There is not a large difference in safety among the I-69 Section 6 alternatives. However, roundabout interchanges and diverging diamond interchanges are associated with greater safety benefits than standard diamond interchanges.

Since I-69 Section 6 is a fully-controlled access facility, the only access would be at interchanges. Several grade separations are proposed to maintain public road connectivity. Local service roads are proposed where road closures are required, and many existing roadways would be relocated or have sections realigned. All alternatives, including the RPA, would provide an acceptable level of access to I-69 Section 6 with a sufficient number of interchanges to handle the forecasted travel demand.



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Some differences do exist among the alternatives with respect to access. Locating interchanges nearest to major destinations, residential areas and employment centers would make the overall transportation network more efficient as drivers travel fewer miles to make their desired trip. Providing an interchange at Ohio Street is expected to result in more efficient access to businesses in Martinsville. Providing an interchange south of I-465 to allow access to businesses along the existing SR 37/Harding Street corridor is expected to be more efficient than routing all traffic through the existing I-465/Harding Street interchange.

Providing strategically located local service road crossings of I-69 and more continuous local service road linkages along I-69 would maintain the efficiency of local travel and property access. This is especially true along much of the west side of I-69, where the existing road network is sparse due to limited development and the proximity of the White River.



Figure 5.6-1: Forecasted 2045 Traffic Volumes, SR 39 to Egbert Road

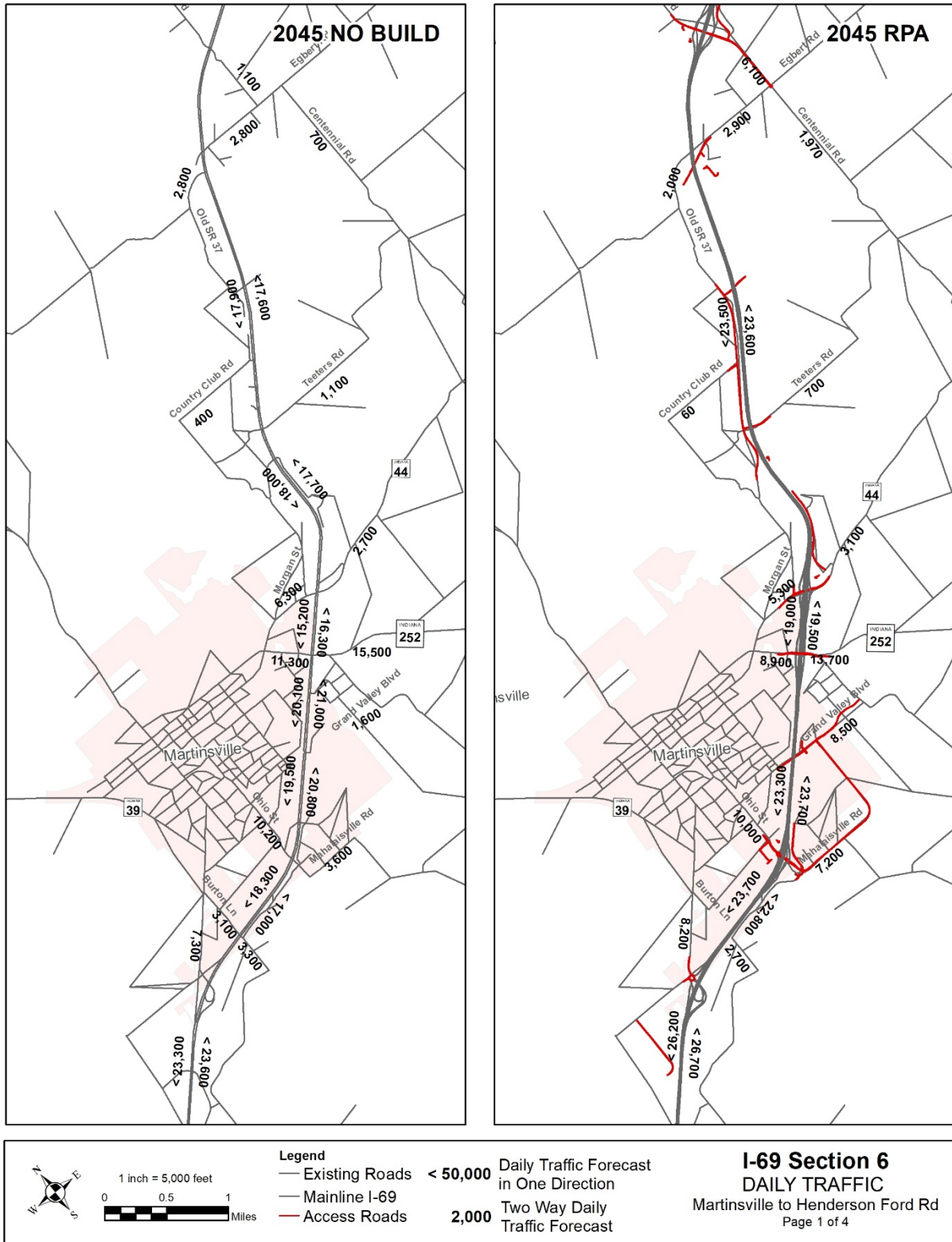


Figure 5.6-2: Forecasted 2045 Traffic Volumes, Egbert Road to SR 144

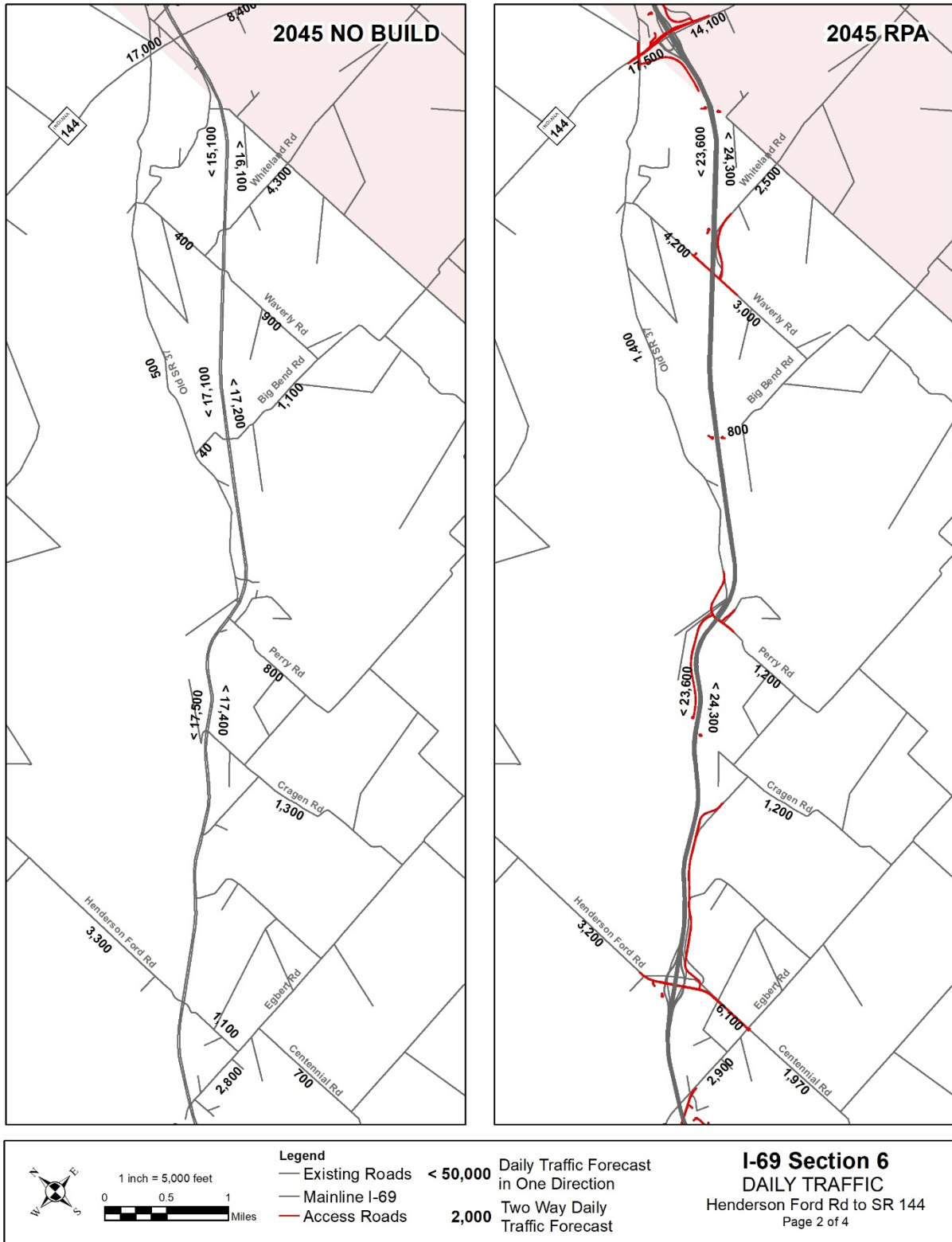




Figure 5.6-3: Forecasted 2045 Traffic Volumes, SR 144 to Banta Road

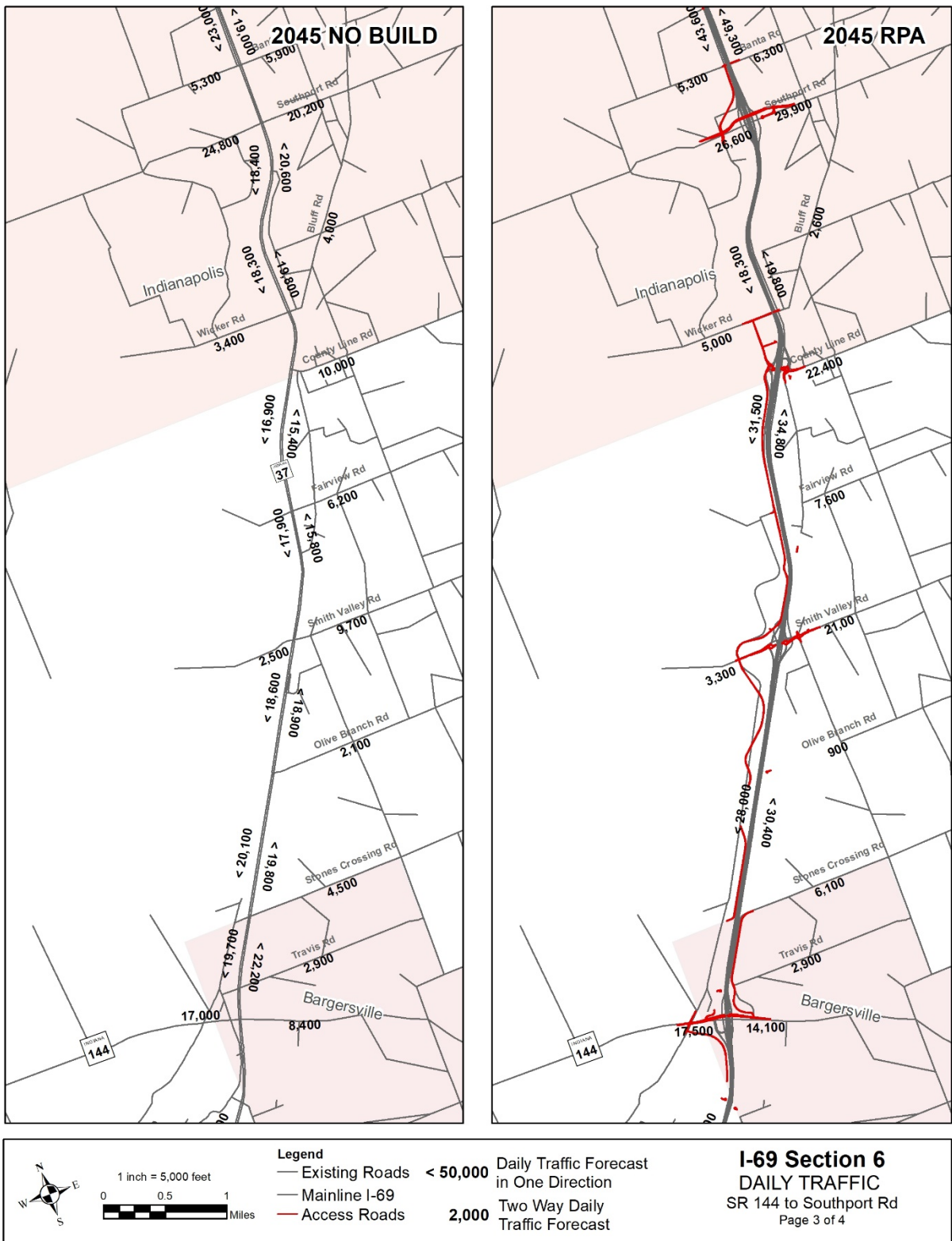


Figure 5.6-4: Forecasted 2045 Traffic Volumes, Banta Road to I-465

