CISTMS modeling to date indicates that even at interstate standards, an outer belt would not attract traffic at the level of other regional interstate highways. With one exception, an outer belt would not greatly reduce traffic volumes on any other roadway. This applies to parallel state highways through the counties served, as well as to I-465 in Marion County. The exception is I-69/I-465 south of Anderson, where the outer belt segment linking I-69 to I-70 would provide a new option for accessing downtown Indianapolis.

Likewise, an outer belt would apparently have little effect on the location and intensity of regional urbanization (land use). The conclusion that the Outer Belt Alternative would have only minor impacts on land use development patterns was duplicated when a longer-term analysis (to the year 2040) was conducted.

The relatively low traffic forecasts and the lack of associated land use impact may be surprising, given the “build it and they will come” view shared by many people with respect to new roadways. However, there are some reasons as to why the roadway’s usage and its impacts on urban growth may indeed be relatively small:

- The outer belt would be located relatively far from the center of the Indianapolis region and would remain well beyond the edge of the urbanized area even in 2040.
- With one or two possible exceptions, it would provide little accessibility benefit to existing employment centers, such as downtown Indianapolis, the airport and Hamilton County near I-465, U.S. 31 and SR 431.
- There is a significant amount of land available for development closer to the urban core. These areas will continue to have a higher accessibility to employment, even with the proposed transportation improvements.

These results should not diminish the importance of sound local planning in advance of any highway or other transportation investment. Land use planning can help ensure that future development, when it does occur, will be located for optimum transportation access and designed to create minimum demands on the transportation system. It can also ensure fiscal prudence through the timing of other infrastructure investment and provision of appropriate utilities.

In summary, forecasts indicate that it will literally be decades before growth and development pushes the urban fringe to the CISTMS study corridors. Even then, there is no indication that an outer belt will be needed.

**NEXT STEPS**

Now that the results are in on the “bookend” alternatives, the next steps in the CISTMS study will be to continue modeling and testing to identify anticipated future problems, and to develop year 2025 recommendations for the four corridors under study. These will be the primary topics of the next issue of the CISTMS newsletter.
ALTERNATIVES EVALUATION

In this study, a year 2000 baseline scenario was developed for comparison with year 2025 projections. Table 1 illustrates some key statistics that indicate changes forecasted between 2000 and 2025 if only minimal changes are made to study corridor routes (Current Plan Alternative).

Table 1: FORECASTED TRAVEL GROWTH, 2000 – 2025 (Current Plan Alternative)

<table>
<thead>
<tr>
<th>2000</th>
<th>2025</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Trips</td>
<td>6.1 million</td>
<td>37% increase in person trips</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>5.2 million</td>
<td>38% increase in vehicle trips</td>
</tr>
<tr>
<td>Vehicle Miles of Travel (VMT)</td>
<td>46.5 million</td>
<td>53% increase in daily vehicle miles traveled</td>
</tr>
<tr>
<td>Average Trip Length (mi)</td>
<td>8.86</td>
<td>12% increase in trip length</td>
</tr>
<tr>
<td>Miles at LOS E or Worse1</td>
<td>414</td>
<td>-11.6% increase in significantly congested roadways</td>
</tr>
</tbody>
</table>

1 Level of Service E on a multi-lane highway represents conditions that are at or near capacity; an unstable level of traffic flow.

To assess the impact associated with the construction of a freeway option within the study area corridors, an outer belt was formed by upgrading and linking all four corridors within the 2025 travel forecast model network. This was assumed to be an interstate-type facility with four lanes for movement of traffic and grade-separated interchanges at all state highways, interstate highways, and other limited-access highways. Table 2 compares the changes between the Current Plan (Minimum Change) Alternative and the Outer Belt (Maximum Change) Alternative. Figures 2 and 3 illustrate forecasted daily traffic volumes for the Current Plan and Outer Belt alternatives, respectively.

Table 2: FORECASTED 2025 CONDITIONS (Current Plan and Outer Belt Alternatives)

<table>
<thead>
<tr>
<th>Current Plan</th>
<th>Outer Belt</th>
<th>Percent Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Trips</td>
<td>6.4 million</td>
<td>-3% decrease in person trips</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>7.0 million</td>
<td>-15% decrease in vehicle trips</td>
</tr>
<tr>
<td>Vehicle Miles of Travel (VMT)</td>
<td>45.2 million</td>
<td>-5% decrease in daily vehicle miles traveled</td>
</tr>
<tr>
<td>Average Trip Length (mi)</td>
<td>9.00</td>
<td>10% decrease in trip length</td>
</tr>
<tr>
<td>Miles at LOS E or Worse1</td>
<td>393</td>
<td>-18.9% decrease in significantly congested roadways</td>
</tr>
</tbody>
</table>

1 Level of Service E on a multi-lane highway represents conditions that are at or near capacity; an unstable level of traffic flow.

LAND USE ANALYSES AND FINDINGS

A regional land use model has been developed by the Center for Urban Policy and the Environment at IUPUI to evaluate the effects of policy alternatives in Central Indiana. The model, titled Land Use in Central Indiana (LUCI), is calibrated based on historical patterns of land conversion to urban areas, and considers factors such as availability of water and sewer and environmental constraints on developable land. A version referred to as LUCI/IT incorporating transportation accessibility measures was used to analyze future land use impacts in the CISTMS study.

As a point of reference, the nine-county Indianapolis region included approximately 550 square miles of urbanized land in 2000. Of this total, nearly half (255 square miles) was in Marion County. In the eight surrounding counties, urbanized land ranged from a high of 69 square miles in Hamilton County to a low of 14 square miles in Shelby County.

To a lesser extent, the future I-69 south exhibits a similar pattern. Some motorists would use a segment of the outer belt to access I-70 on the southwest side. Traffic on I-69 would be reduced by 23,000 vehicles/day.

Generally, the outer belt would not greatly affect state highway volumes in the study corridors. The greatest traffic volume reductions would occur in the southwest (Morgan Co.) on SR 67 (12,000 vehicles/day), SR 267 (6,000 vehicles/day), and SR 39 (6,000 vehicles/day).

Some reduction in traffic volumes would occur on I-465. The greatest reductions would occur on the west and northwest sections (7,000 – 18,000 vehicles/day), and on the east side north of I-70 (13,000 vehicles/day).

LAND USE FINDINGS FOR THE CURRENT PLAN ALTERNATIVE

The 2025 Current Plan forecast shows an increase in urbanized land area of 299 square miles (54%), bringing the total urbanized land area in the region to 849 square miles. Marion and Hamilton Counties are forecast to experience the largest magnitude of urbanization, with each developing between 60 and 65 square miles of land or just more than 20 percent of regional new land urbanized. The forecasted growth in urbanized land for each county is listed below:

**Urban Growth by County, 2000 – 2025** (Current Plan Alternative)

- Marion: 63 square miles
- Hamilton: 63 square miles
- Hendricks: 51 square miles
- Johnson: 33 square miles
- Hancock: 28 square miles
- Boone: 23 square miles
- Morgan: 15 square miles
- Madison: 14 square miles
- Shelby: 9 square miles

**Total:** 299 square miles urbanized

*Figure 4 depicts the location and density of urbanization with the 2025 Current Plan Alternative.*

LAND USE FINDINGS FOR THE OUTER BELT ALTERNATIVE

Expressed as population density by location, Figure 5 illustrates forecasted 2025 urbanization with an Outer Belt in place. It assumes that the outer belt is a multi-lane roadway at interstate standards. Forecasts use future employment allocations as projected by the regional panel of experts.

Evaluated at the county level, the land use modeling for the Outer Belt Alternative shows negligible change in total urbanized land area in comparison to the Current Plan Alternative (See Figures 4 and 5). The difference is less than 0.1 square mile per county.

The very small difference in land use patterns suggests that the CISTMS alternatives would have only minor impacts on land use development patterns when viewed from a regional perspective. This conclusion was also reached when a longer-term analysis was conducted, showing little impact on development out to the year 2040, after the outer belt freeway had theoretically been in place for 15 years.

It should be noted that although the regional impact would be limited, an outer belt freeway would affect localized land use patterns. Development would likely occur around major interchanges, especially highway-oriented establishments such as restaurants and gas stations, as well as warehousing and distribution centers. Some smaller office parks may also locate near major interchanges such as a new I-69/outer belt interchange in the northeast.