APPENDIX V

INDOT'S LONG RANGE PLAN UPDATE

SENSITIVITY ANALYSIS

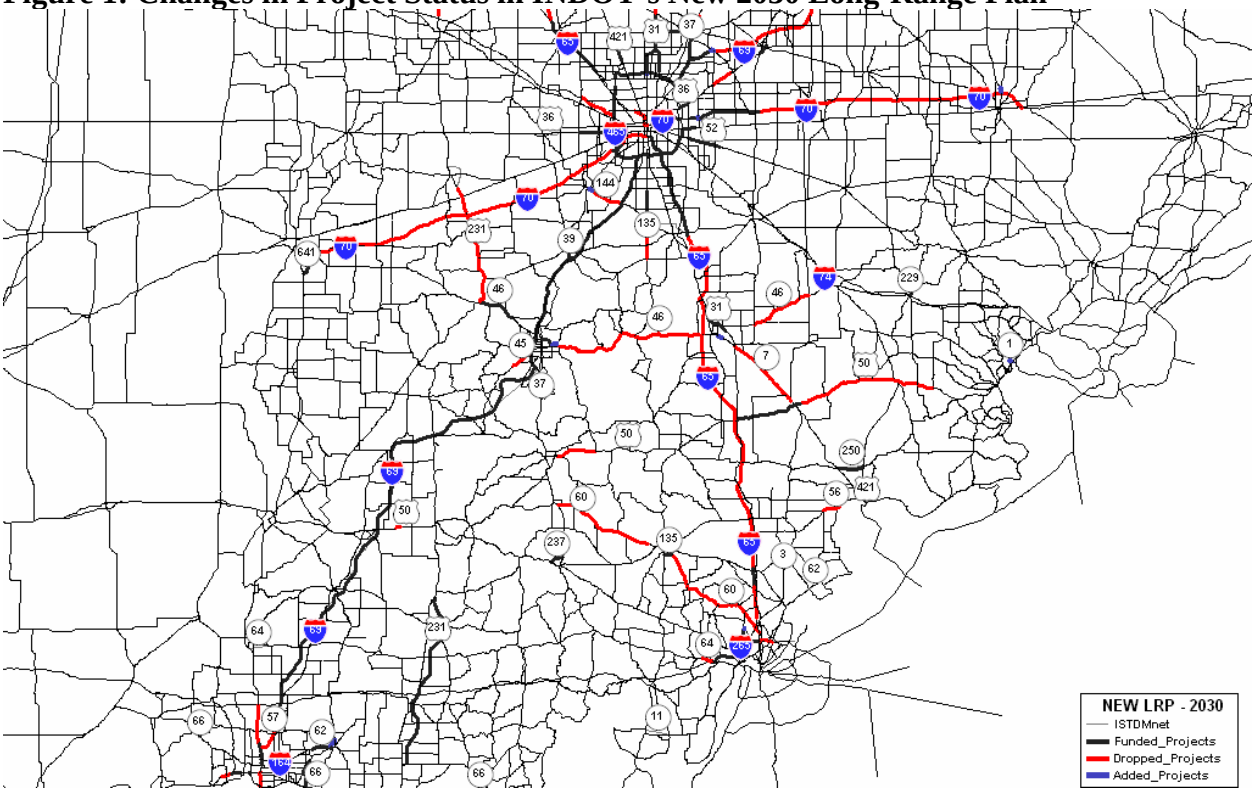
Purpose of the Technical Memorandum

In June 2007, INDOT issued a new statewide long-range transportation plan (LRP) for 2030. The net effect of the new LRP was to designate a large number of previously planned projects as "unfunded". Generally, the previously planned projects had been assumed to be built for purposes of the I-69 Tier 2 2030 traffic forecasts. This change in the LRP assumptions raises a question about the validity of the Section 2 forecasts and their associated levels of service (LOS). Given this question, a comparison between the traffic forecasts on I-69 under both sets of assumptions regarding the LRP projects was undertaken. This memorandum describes the analysis and conclusions of that comparison.

Affected Projects

The following figure depicts: the funded projects in the new LRP; the dropped (i.e., "unfunded") projects; and the added projects. As the graphic shows, there actually are ***no*** changes within the Section 2 "study area" (i.e., Gibson, Pike and southern Daviess counties) due to the new LRP.

Figure 1: Changes in Project Status in INDOT's New 2030 Long-Range Plan



The only major project in the vicinity of Section 2 – the US 231 upgrade in Spencer County and the bypasses of Huntingburg and Jasper in Dubois County – is unaffected by the Plan changes. In its previous Plan Update, INDOT included a set of projects to add capacity to US 50 from Washington to the east as

far as SR 37 at Bedford. The 2007 Plan Update dropped this expansion of US 50, due in part to environmental concerns. While preparing the version of the Indiana Statewide Travel Demand Model (ISTDM) to be used for I-69 forecasts, the environmental issues associated with this US 50 upgrade were identified. The determination was made ***not*** to include this US 50 upgrade in the model used for I-69 forecasts. Accordingly, as the map shows, there is no difference (in this regard) between the assumptions used in the model which provided I-69 forecasts, and the committed projects in INDOT's 2007 Plan Update.

Analysis

For this analysis, the Indiana Statewide Travel Demand Model (ISTDM v4) was run for the year 2030 with all projects in Southwestern Indiana represented in the network as they are currently planned in the new LRP. I-69 was represented as completed between Evansville and Indianapolis. The resulting total traffic volumes on I-69 in Section 2 were then compared with the traffic volumes on the same links of I-69 under the previous scenario in which all of the "dropped projects" were represented in the network.

Table 1: 2030 Traffic Forecasts Before and After INDOT Long-Range Plan Changes[1]

	Before	After
SR 57 Connector to US 50	23,581	23,588
Pike CR 600 N to SR 57 Connector	26,445	26,449
SR 56 / 61 to Pike CR 600 N	26,435	26,109
SR 64 to CR 56 / 61	27,218	27,080

The particular I-69 alternative that was modeled assumed the placement of three interchanges between the section's southern terminus at SR 64 and its northern terminus at US 50. These three interchanges are at: SR 56 / 61, the North Pike County Interchange (at CR 600 N) and the SR 57 Connector in southern Daviess County.

Using the forecasted traffic volumes provided in Table 1, a paired Student's t test was computed to determine if there is a statistically significant difference between the mean forecasted traffic volume in Section 2 before and after changes were made in INDOT's Long-Range Plan. With a t-statistic of 1.44 and 3 degrees of freedom, the probability of this result happening by chance is 0.245. Applying the typical probability 0.05 for rejecting the null hypothesis, one must conclude that there is not a statistically significant difference between the mean "before" and "after" forecasted traffic volumes in Section 2.

[1] Traffic forecasts represent 24-hour total volumes obtained from the Indiana Statewide Travel Model (v.4). File: Section_General\Old Model & New LRP_Reasonable_Interchange_Placements-070808 and Section_General\Old Model & Old LRP & Reasonable_Interchange_Placements-103108.

Conclusion

The conclusion of this analysis is that the change in INDOT's Long Range Plan has no material effect on the long-range forecast traffic or level of service in Section 2.

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