

To

Chris Chritton, WisDOT

From

Eric Youngblom
Jerry Shadewald



Jennifer Murray, WisDOT

Date

February 4, 2013

Subject

WIS 96 Peak Hour Traffic Forecasts

HNTB Job Number

44386

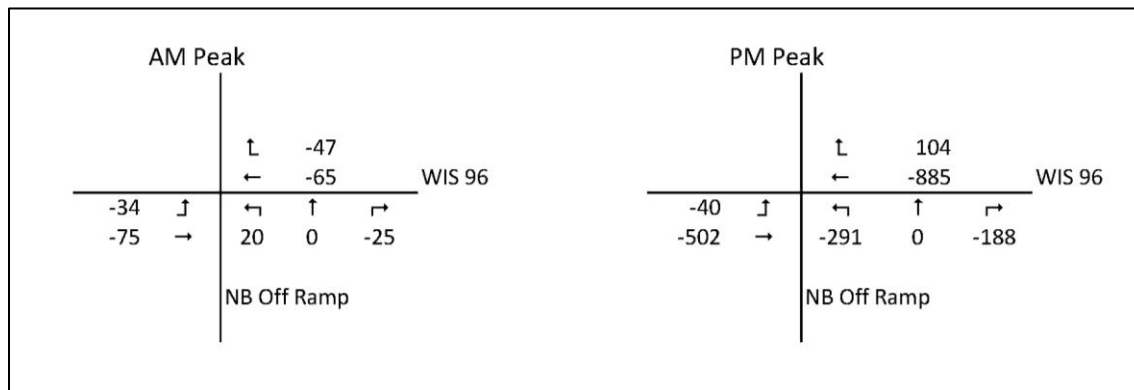
Technical Memorandum

Introduction

This technical memorandum presents updated 2038 peak hour traffic forecasts for WIS 96 at the US 41 interchange. Year 2038 forecasts were previously completed in 2012 for this interchange by HNTB based on traffic counts at WIS 96/US 41 NB ramps, which was taken on December 1, 2011. The traffic counts in 2011 showed unusually high growth rates from traffic counts taken at the interchange in 2005. It was hypothesized this high growth rate was due to holiday shoppers accessing the shopping mall near the interchange. Because of the inconsistencies between 2005 and 2011 traffic counts it was recommended that the US 41 NB ramp/WIS 96 intersection be recounted and the peak hour forecasts be reevaluated. A new traffic count was taken at the WIS 96/US 41 NB ramps intersection on January 16, 2013.

Comparison of 2011 and 2013 Traffic Counts

A comparison of the 2011 and 2013 traffic counts taken at US 41 NB ramps and WIS 96 are shown in Figure 1.

Figure 1: Difference in Traffic Counts from 2011 to 2013 at WIS 96/US 41 NB Ramp Intersection

The traffic count comparison shows the AM Peak is relatively consistent between 2011 and 2013 with a slight decrease for most turning movements. The comparison of the PM peak shows large decreases in volume from 2011 to 2013. These differences in volume are consistent with the scenario of inflated traffic during the 2011 traffic count due to holiday shoppers.

Balanced 2013 Traffic Volumes

The balanced 2013 traffic volumes were based on the 2013 traffic counts at US 41 NB ramps/WIS 96, and 2005 traffic counts (most recent) at Greenville Boulevard, US 41 SB ramps/WIS 96, and Westhill Drive. The 2005 traffic counts are similar to the 2013 traffic count at US 41 NB ramps, which indicates no growth along WIS 96 from 2005 to 2013. AADT traffic counts taken in 2004, 2007, and 2010 also show stagnant or declining traffic growth on WIS 96 and the US 41 ramps.

The traffic counts along WIS 96 were balanced around the 2013 traffic count at US 41 NB ramp by proportionally decreasing or increasing approach volumes at Westhill Boulevard, US 41 SB ramp, and Greenville Drive intersections. The 2005 and 2013 traffic counts and the balanced 2013 traffic volumes are shown in Figure 2 (AM peak) and Figure 3 (PM peak).

Figure 2: AM Peak Hour Traffic Counts and 2013 Balanced AM Peak Hour Traffic Volumes along WIS 96

Traffic Counts																							
Greenville						US 41 SB Off			US 41 NB On			Westhill											
*2005 Counts 3/31/2005 at 7:00 - 8:00 am						*2005 Counts 2/22/2005 at 7:00-8:00 am			*2013 Counts 1/16/2013 at 7:15-8:15 am			*2005 Counts 3/22/2005 at 7:30-8:30 am											
<div><div><div>0</div><div>←</div></div><div><div>29</div><div>↓</div></div><div><div>204</div><div>↘</div></div></div> <div><div>1</div><div>↘</div></div> <div><div>370</div><div>→</div></div> <div><div>15</div><div>↙</div></div>						<div><div>125</div><div>↖</div></div> <div><div>382</div><div>←</div></div> <div><div>130</div><div>↙</div></div> <div><div>11</div><div>↖</div></div> <div><div>1</div><div>↑</div></div> <div><div>6</div><div>↗</div></div>			<div><div>195</div><div>↖</div></div> <div><div>0</div><div>↓</div></div> <div><div>197</div><div>↘</div></div> <div><div>467</div><div>→</div></div> <div><div>150</div><div>↙</div></div>			<div><div>511</div><div>←</div></div> <div><div>247</div><div>↙</div></div> <div><div>89</div><div>↖</div></div> <div><div>542</div><div>→</div></div>			<div><div>53</div><div>↖</div></div> <div><div>540</div><div>←</div></div> <div><div>200</div><div>↖</div></div> <div><div>0</div><div>↑</div></div> <div><div>390</div><div>↗</div></div>			<div><div>558</div><div>←</div></div> <div><div>133</div><div>↙</div></div> <div><div>717</div><div>→</div></div> <div><div>181</div><div>↙</div></div> <div><div>75</div><div>↖</div></div> <div><div>153</div><div>↗</div></div>			WIS 96		
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						US 41 SB On			US 41 NB Off														

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2038 Peak Hour Forecasts

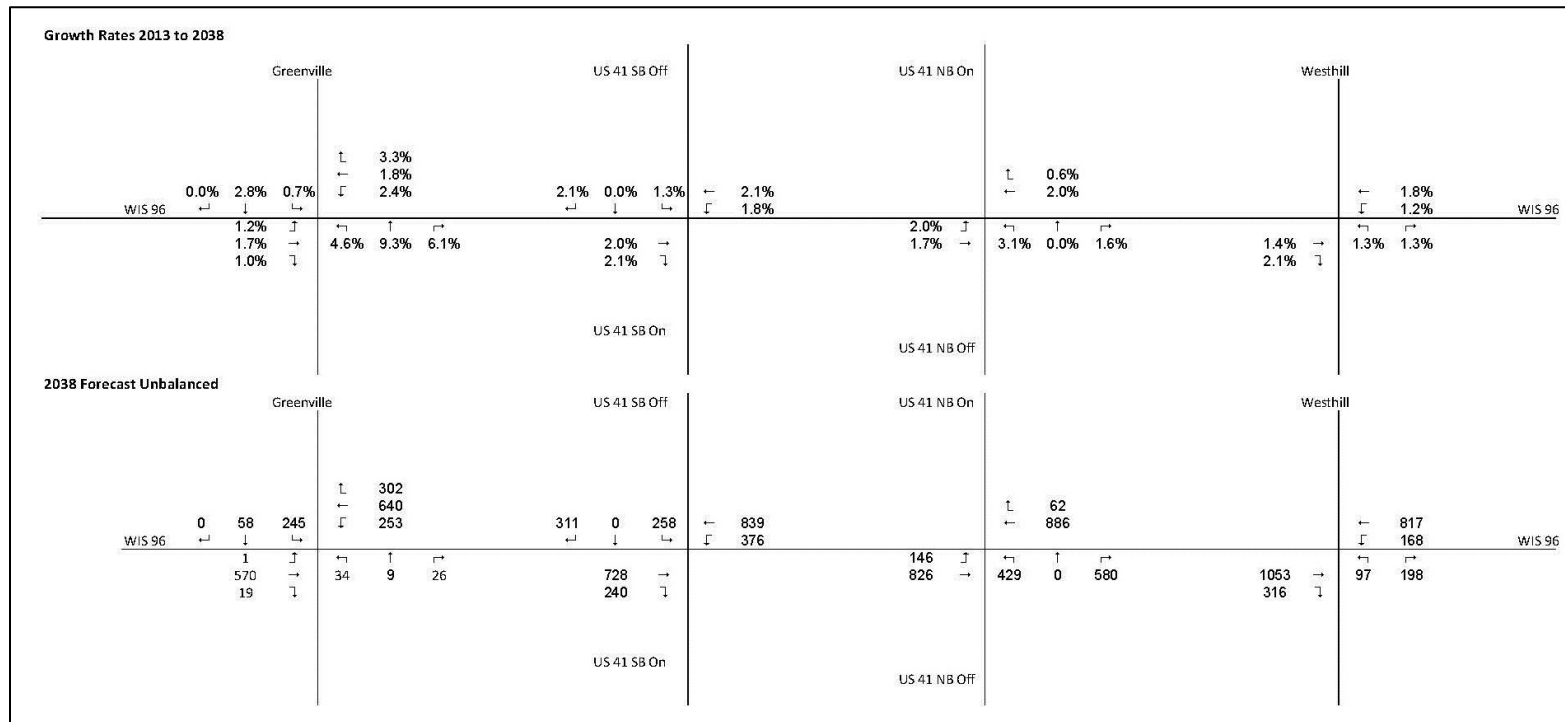
Traffic projections were previously developed in 2012 for the WIS 96 corridor. The projections were developed using the NE Region TDM and the US 41/WIS 441 Paramics model. That process forecasted growth rates for each turning movement within the interchange. These growth rates are being applied to the balanced 2013 traffic counts to estimate the 2038 traffic projections. For more information on the development of the growth rates, reference the “Traffic Forecasting Methodology Report” for US 41 and WIS 441 submitted by HNTB in May of 2012. The unbalanced forecasts and unbalanced growth rates are shown in Figure 4 (AM peak) and Figure 5 (PM peak). The balanced forecasts and balanced turning movement growth rates are shown in Figure 6 (AM peak) and Figure 7 (PM peak).

Observations

The PM EBR at SB ramp movement was reduced during the balancing exercise to better match growth rates of other movements in the interchange area.

Additional Notes

The updated forecasts at US 41/WIS 96 interchange are not being incorporated back into the US 41 corridor forecasts, meaning ramp projections from the updated forecast may not match the ramp projections for the overall corridor document.

Figure 4: 2038 AM Peak Hour Unbalanced Forecasts and Growth Rates

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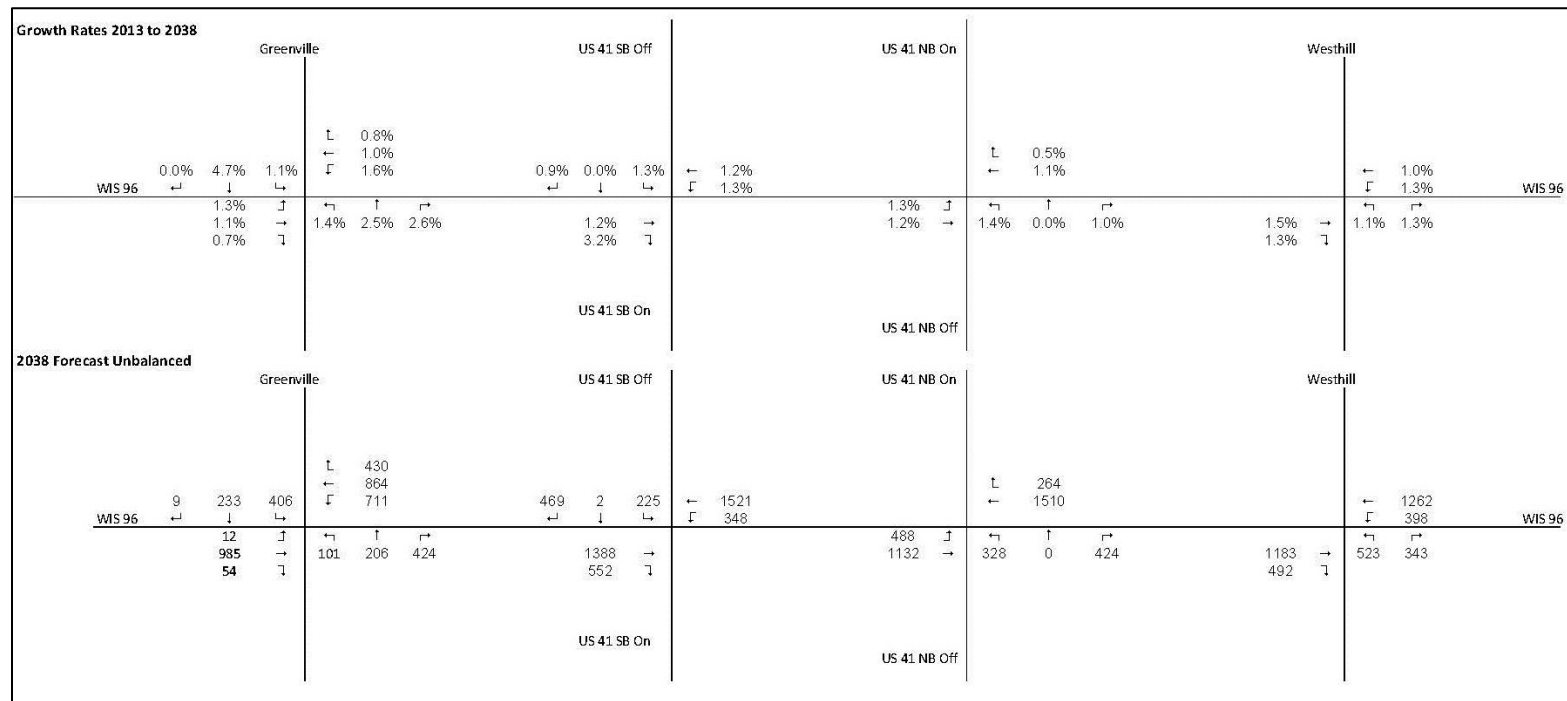


Figure 6: 2038 AM Peak Hour Balanced Forecasts and Growth Rates

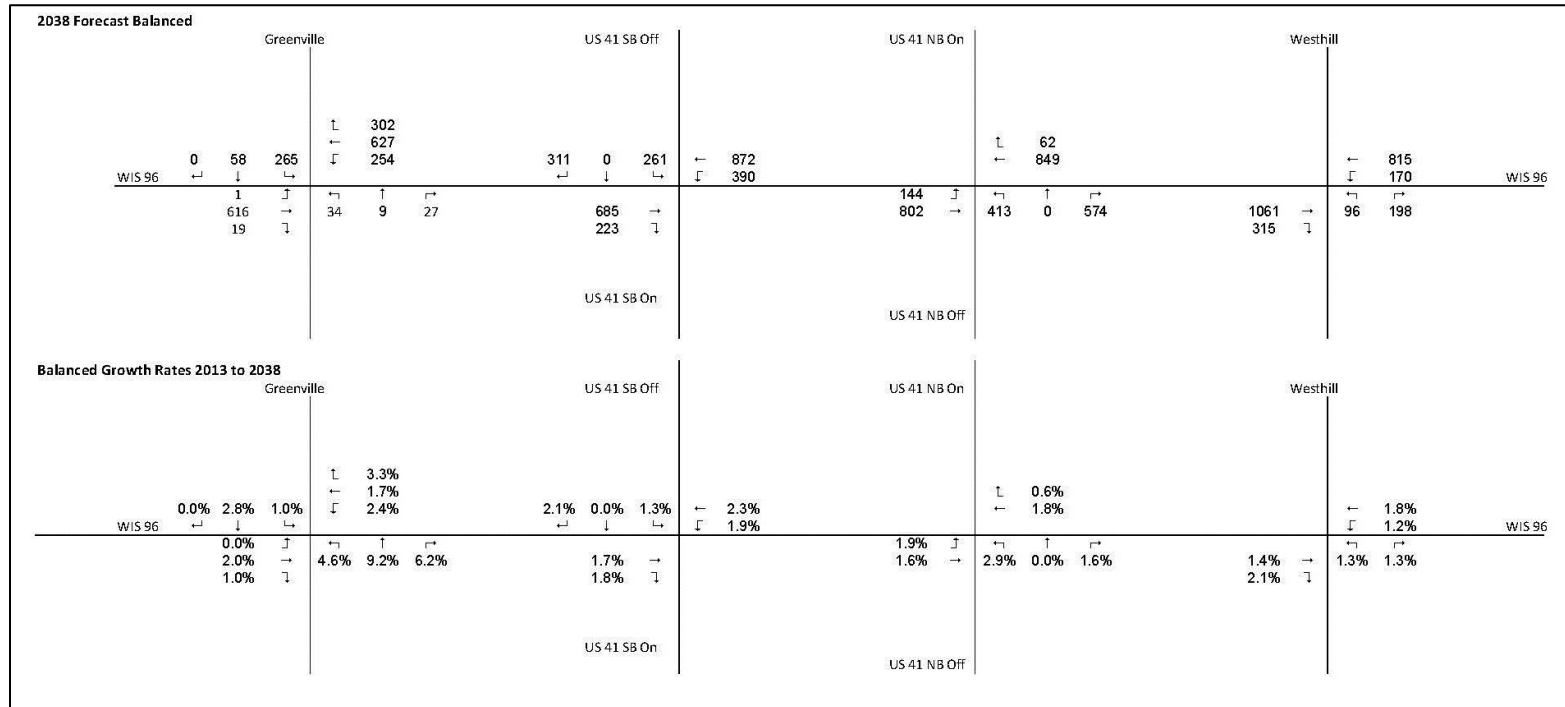


Figure 7: 2038 PM Peak Hour Balanced Forecasts and Growth Rates

