

Attachment F – Assessment of Potential Vehicle Traffic Impacts

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The assessment of potential traffic impacts was based on the transportation planning and engineering concept of level of service (LOS) found in the *Highway Capacity Manual*.

The *Highway Capacity Manual* (Transportation Research Board 2000) outlines methods for evaluating the operational conditions within a traffic stream. These methods take into account average highway speed, lane widths, shoulder widths, and alignment among other inputs. These methods define six LOS, using the letters A through F:

- LOS A is defined as the highest quality of service that a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles.
- LOS B is a zone of stable flow. The restriction on maneuverability is negligible, and there is little probability of major reduction in speed or flow.
- LOS C is a zone of stable flow, but at this volume and density level, most drivers are becoming restricted in their freedom to select speed, change lanes, or pass.
- LOS D approaches unstable flow. Tolerable average operating speeds are maintained but could be subject to considerable and sudden variation. This condition is tolerable for short periods.
- LOS E is unstable with lower operating speeds and some momentary stoppages. There is little independence of speed selection and maneuverability. The upper limit of this level is the capacity of the facility.
- LOS F indicates forced-flow operations at low speeds. The level of density increases to the effect of a traffic jam.

Table A contains the Average Annual Daily Traffic (AADT) from 2007 with projected 2010 traffic data and LOS data from the analyses. The projected values for 2010 include: (a) a 7 percent annual increase in AADT and (b) a 7 percent annual increase in AADT plus the additional traffic due to operation of the proposed facility. The analyses assume that 100 percent of the additional traffic would use Mississippi State Route (SR) 25, SR 350 or Tennessee SR 57. No data were available for industrial park roads.

Table A. 2010 Projected Data and Level of Service From the Analyses

Route	Number of Lanes	Traffic Data 2007 AADT	Projected 2010 Traffic	LOS	Traffic 2010 With Increase	LOS	Comments
Mississippi SR 25	2	2,900*	3,553	C	3,626	C	Common Access Road from Park
Mississippi SR 350	2	1,100*	1,348	A	1,421	A	Common Access
Tennessee SR 57	2	3,255**	3,727	C	3,800	C	

Note: * Indicates AADT data from Mississippi Department of Transportation 2007 were used for Mississippi SRs 25 and 350

**Indicates AADT data from Tennessee Department of Transportation 2008 were used for Tennessee SR 57

As seen in Table A, there are no drops in LOS for the various routes analyzed. The increases in AADT range from approximately 2 to 5.5 percent of the total AADT and do not result in an increased LOS rating. According to the *Highway Capacity Manual*, most design or planning efforts typically maintain service rates at LOS C or D, to ensure an acceptable operating service for facility users that minimizes the inconveniences resulting from traffic delays.

Based on the above data, the slight increase in traffic would not significantly affect congestion or reduce average speeds. The roads in the area are fully capable of absorbing the additional traffic.

References:

Mississippi Department of Transportation. *2007 Traffic Counts*. Available online from <<http://www.gomdot.com/Divisions/IntermodalPlanning/Resources/Maps/CountyAADT2007.aspx>>.

Tennessee Dept. of Transportation. *2008 Traffic Counts*. Available online from <<http://www.tdot.state.tn.us/projectplanning/trafficmaps.htm>>.