

1.0 EXECUTIVE SUMMARY

Tupelo is a community with a population of approximately 35,000 located in the northeast region of Mississippi and is the region's major employment center. During the daytime, the population of the city multiplies between two to three times. Assets of the community include a regional hospital, which employs approximately 4,600 people, and an active furniture manufacturing community. The city's employment base is presently expanding at a rate of approximately 1,000 jobs per year and mobility is an important issue in sustaining the local economy. Tupelo is also a thriving community that is significant to the state's economy.

Two rail lines pass through Tupelo, the Burlington Northern Santa Fe Railway (BNSF) main line and the Kansas City Southern Railway (KCS) branch line. The BNSF currently operates approximately 20 to 25 trains per day through the city and the KCS operates approximately 2 to 3 trains per day. The two railroads have an interchange near downtown Tupelo. There are approximately 16 at-grade highway/rail crossings near the interchange in downtown Tupelo. Congestion and delays to highway traffic are caused by the movement of trains in and through the city.

This Feasibility Study is the first phase of the Tupelo Railroad Relocation Planning and Environmental Study and is intended to determine the feasibility of alternatives to alleviate roadway congestion caused by the existing rail lines through the City of Tupelo and to quantify the actual cost of congestion in the future.

It has been estimated that the volume of the BNSF trains could grow to 40 trains per day in the year 2030. The KCS is estimated to grow to approximately 4 trains per day in the year 2030. With this increased volume of trains, the cumulative cost of congestion from year 2005 to year 2030 at the at-grade crossings and near-by intersection is **\$1.25 billion** in 2030 dollars or **\$597 million** in 2005 dollars.

This Feasibility Study examines operational improvements to the existing rail lines, the addition of grade separations at select locations along the existing rail corridor, the construction of new railroad corridors, and/or a combination of these alternatives.

Operational Improvement

The existing railroad operations were examined for potential improvements to reduce the auto traffic delay at various at-grade crossings, particularly at the Main Street and Gloster Street crossing. The proposed operational improvement is relocation of the BNSF and KCS interchange to the southeast at a location south of the Pvt. John Allen National Fish Hatchery and north of US Highway 45. The total construction cost estimate for the operational improvement is estimated to be approximately **\$70.7 million** in 2005 dollars.

In-Town Alternative

The objective of this alternative is to improve the operating speed of rail traffic to reduce auto traffic delay along its existing route through Tupelo. The Crosstown intersection was identified as a primary location for improvements to enhance safety and mobility by eliminating the conflicts between trains and vehicular traffic. Several alternative concepts were developed for the intersection and are provided in the “Feasibility of ‘In-Town’ Alternative Technical Memorandum” in **Appendix F**. These are summarized in **Section 8.2**.

The total construction cost estimate of the required improvements to the downtown roadway network and rail improvements is estimated to be between **\$64 and \$110 million** in 2005 dollars depending on the estimates for right-of-way and business damage costs.

New Railroad Alignments

Five (5) new railroad alignments were examined to determine feasibility of relocating the rail operation around Tupelo. These corridors were examined for impacts to the human, natural, and physical environments. Preliminary construction cost estimates were prepared for each of the new alignments. The costs include construction, professional services, and right-of-way costs. The total construction cost estimates of the new rail alignments including rail, roadway, and right-of-way are estimated to range from approximately **\$328 million to \$747 million** in 2005 dollars. These initial cost estimates are deliberately very conservative in order to not understate the potential costs at this stage of the study.

An operating analysis of the rerouted trains on these railroad alignments was completed based on the additional train miles. The proposed railroad alignments analyzed are longer than the existing corridor. However, the new alignments would permit an average increase in operating speed over the entire corridor. The additional annual operating costs that would result from rerouting trains onto the new alignments are estimated to range from approximately **\$2.1 million to \$8.7 million** in 2005 dollars using 2030 rail volumes.

Each of the alternatives was examined to determine the ability of each alternative to remove exposure to the traffic conflict of trains and automobiles at at-grade crossings. Although this benefit cannot be measured from a cost perspective, it is easy to conclude that less exposure of automobile trips and train trips at at-grade intersections would result in an additional benefit of enhanced safety and reduced traffic delay. The traffic conflict removed from the each of the study alternatives ranges from approximately **700,000 to 4.1 million** per day.

The benefits of rerouting the trains out of the downtown Tupelo area are significant as identified in the savings in congestion costs and traffic delay. However, the congestion benefits are not the only benefits of rail relocation. The BNSF and KCS will also be able to complete interchange operations without disrupting the roadway users and emergency response time, especially at the Crosstown intersection. Other potential benefits include safety (removal of automobile/train conflicts), environmental benefits for locomotive

emissions, general roadway network improvements, and property value increases. These potential benefits have not been calculated at this time.

Based upon the results of the analyses contained within this document, it appears that a rerouting option is feasible and should be studied in further detail in the Environmental Impact Statement (EIS). Additionally it appears that an operational or an in-town improvement, including a grade separation, is also feasible and should also be studied further in the EIS. The additional detailed analysis will be completed as part of the EIS to finalize specific alternatives, and subsequently, determine the benefits and impacts from each of the alternatives.