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Poster Summary:

The need to integrate freight traffic into transportation planning has become more prominent in recent years, although its inclusion in most transportation plans and models has predominantly been limited in scope. The Alabama Department of Transportation (ALDOT) recognizes the need for research in freight transportation and the associated interrelationships between economic growth and transportation infrastructure. Identifying freight related constraints and potential improvements to the State’s transportation system can facilitate freight mobility. This in turn may support economic development initiatives at the state and local level.

To this end, ALDOT initiated the Alabama Statewide Freight Study and Action Plan in April 2009. Current and future multimodal freight movements into and out of the state, as well as the condition, operations and safety of the multimodal system, were analyzed. All modes of freight movement—truck, rail, air and water—were examined as a part of this study. Freight transportation operations are unique in that they are composed of both public and private system ownership supporting a multimodal network. Of the four modal elements, only highway infrastructure falls under the direct responsibility of ALDOT. Due to its significance with regard to share of overall freight movement and impact on the general traveling public, truck freight movement underwent analysis at an additional level of detail.

This study reviewed freight movements and commodities that travel Alabama's interstates and major freight routes. A review of specific commodities and routes taken is helpful in understanding deficiencies along a route. Similarly, using criteria to determine congestion, safety and truck concentrations on the Alabama Highway Network assists in identifying deficient locations in the freight highway network. Understanding the total character of freight movements along a corridor—its prevalent commodities and potential safety and operational constraints—is helpful in refining possible recommendations and improvements for increasing system efficiency and safety.

ALDOT has a proactive program of projects in its Comprehensive Project Management System (CPMS), with projects identified for many locations where freight system deficiencies were found. Freight is a primary “customer” of the highway network and the State’s program to improve safety and intermodal connections is reflected in the current program of projects that address many of the freight transportation needs. In locations where rail, ports and inland river ports, and air cargo facilities are located in proximity to highways, there is additional opportunity to consider highway improvements to facilitate intermodal freight options and/or mode switch.

The study findings are intended to provide information to a number of parties—decision makers at ALDOT, other agencies and the private sector—as they continue looking for ways to accommodate the ever increasing volume of freight on the state’s highways. ALDOT will take a lead role in ensuring the accumulated data on freight movement is maintained for use by the Department and others. In particular, ALDOT will be able to use the information regarding
existing and future needs in developing its construction program. Because freight movement is heavily driven by the private sector, the role of public agencies, including ALDOT, is primarily supportive of the objectives. Freight mobility is a multifaceted transportation challenge, and improving its efficiency and safety represent similar hurdles for public and private stakeholders. Ultimately, market factors drive mode choice decisions in freight movement.

The following steps outline recommended actions for ALDOT and others in the continued future use and maintenance of the freight information prepared during this study.

1. Regularly update/maintain data used in the analysis. ALDOT’s established monitoring programs provide a wealth of information reflecting the State’s road system, its operations, condition and safety. The value of this information is recognized in planning and programming improvements. These existing data sources were applied during the Freight Study effort to develop a “freight sensitivity module” that recognized the level and type of freight transportation in identifying and evaluating freight transportation needs. The Department’s incorporation of a freight sensitivity component in its assessment of transportation needs will maintain awareness of freight needs as an ongoing part of ALDOT’s transportation program.

2. Coordinate ALDOT’s schedule for updates of the CPMS and development of the STIP. In addition, freight transportation assessments should be incorporated as a distinct element of annual assessment processes regarding prioritization and selection of programmed projects. In doing so, planning input and findings would reflect the most current freight transportation data regarding safety and systems operations.

3. Continue coordination with Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs), on any particular freight related issue (specific to Alabama) for their modes, facilities, and organizations. Feedback is informative of trends and future directions being considered or in development by freight transportation operators.

4. Make a directory of the data available to non-ALDOT users, including the MPOs and RPOs. Freight movements are a key element of safe and efficient transportation in local areas, in addition to being important to the local economy. Making this data available to local planning partners and interested stakeholders will help improve local planning and result in better local transportation decision making. Freight modal operators are continuously assessing options for improving their operating efficiency and competitive advantage. Sharing information with the private sector modal operators will improve their understanding of current conditions in the State’s transportation network. In addition, it will facilitate their assessment of available options for the most efficient use of that network. Private sector modal operators are a major user of the road network; the more informed the user, the better the working relationship and system operations. Alternate routing, modal shifts/linkage, and identification of new opportunities are all examples of potential improvements to freight transportation which benefit from the involvement of all users, public and private.