



PURPOSE AND INTRODUCTION

The Mississippi Department of Transportation (MDOT) has initiated the development of the *Mississippi Unified Long Range Transportation Infrastructure Plan* (MULTIPLAN), a comprehensive analysis of transportation infrastructure and needs throughout the state. The MULTIPLAN, with a horizon year of 2030, will guide MDOT efforts and initiatives to develop an efficient and effective intermodal transportation network for Mississippi's citizens and economic development interests. The MULTIPLAN will be re-evaluated on an approximate 5-year interval to extend the horizon year and insure that the Plan reflects the current situation.

The MULTIPLAN articulates the current status of transportation in Mississippi, reviews the status and progress in comparison to goals established in the 1996 *Long Range Transportation Plan* (LRTP), assesses modal deficiencies, and integrates Metropolitan Planning Organization (MPO) Plans, while providing MDOT's customers with exciting, innovative ways to participate in the transportation planning process.

The MULTIPLAN addresses transportation needs and desires across multiple levels, analyzing all modes of travel for their responsiveness to local, regional and statewide needs, ability to further economic development objectives, contribution to environmental stewardship ideals, and the overall impact on the quality of life of Mississippi's citizenry. A key component to addressing these needs is the efficiency and effectiveness of MDOT operational and management processes.

This Phase I document is the culmination of an interactive process representing the interests of a large cross-section of Mississippi, from which the Goals, Strategies and Action Steps from the 1996 LRTP were studied for their present appropriateness. Phase II will involve the development of Measures of Effectiveness initiated in Phase I to ensure successful implementation. Assessments of each transportation mode have been conducted as a determinant of system condition, with specific facilities within each mode identified as being of state interest and therefore components of the Statewide Transportation Framework. Additionally, Intelligent Transportation Systems (ITS) have been explored and detailed for their application in enhancing Mississippi's transportation network. Finally, the MULTIPLAN process involves the coordination of statewide and regional planning efforts between MDOT and the four Metropolitan Planning Organizations (MPOs) within Mississippi.

The Phase I document will act as an interim plan, and will serve as the state's transportation blueprint until the MULTIPLAN's more extensive Phase II work is finished in 2004.

BEST PRACTICES

The information gained and lessons learned from state DOTs and other organizations throughout the nation have been integrated throughout the MULTIPLAN, and applied in a manner in which the specific transportation needs of Mississippi are addressed. A number of issues have begun to emerge recently in statewide transportation planning practices, the more prominent of which include the following:

- Performance-based planning
- Land use considerations
- Planning and NEPA linkages
- Environmental Justice
- Air quality issues
- Freight movement issues
- Innovative finance options
- Management and operations
- Safety
- Impacts of technology

Though each of these issues is addressed within the MULTIPLAN, performance-based planning has taken on increased significance, for reasons including: accountability, efficiency, effectiveness, communications, clarity and timely improvement.

MULTIPLAN GOALS AND STRATEGIES

The Goals, Strategies and Action Steps of the 1996 LRTP have been examined in detail for their relevance and appropriateness to the current and future transportation needs of the state. This examination has taken into consideration actions that have occurred since they were originally developed, as well as changing priorities and foci. The examination incorporated input gathered from MDOT staff, Commissioners, and appropriate stakeholders through a number of interviews, along with research into external factors affecting implementation.

MDOT has reviewed and revised the goals and strategies, and with Phase I initiated the development of a three-tier approach to appropriate Measures of Effectiveness with which to monitor successful implementation. This development will undergo further refinement and completion within Phase II.

From the nine goals and 63 strategies of the 1996 LRTP, revisions have been made that result in the seven goals and 54 strategies for the MULTIPLAN, as detailed in **Table E-1**. In certain instances the changes are simply organizational in nature, while in others the revisions or restructuring occurred to allow for more precise measurement and subsequently better monitoring and evaluation.

**Table E-1
MULTIPLAN GOALS, STRATEGIES, ACTION STEPS**

Goals	Strategies	Action Steps
<p style="text-align: center;">ACCESSIBILITY AND MOBILITY</p> <p style="text-align: center;">IMPROVE ACCESSIBILITY AND MOBILITY FOR MISSISSIPPI'S PEOPLE, COMMERCE AND INDUSTRY</p>	<p>1.1 Provide reasonable access to the state's highway system to all citizens</p>	<p>1) Complete construction and open to traffic Phases II-IV of the Four-Lane Highway Program by the adopted schedule dates</p>
	<p>1.2 Improve accessibility and mobility through roadway design of selected arterial and collector routes</p>	<p>1) Adhere to a prioritization and construction program for provision of widening and paving shoulders on rural and urban arterials and collector streets to improve mobility for vehicles, pedestrians and bicycles</p>
	<p>1.3 Maintain the state's participation in research and implementation of Intelligent Transportation Systems</p>	<p>1) Continue to participate in cooperative programs with other states to study and implement system improvements in mobility, operational efficiency and safety based on emerging new technologies and operational management systems known as Intelligent Transportation Systems-ITS</p> <p>2) Continue implementation of ITS technologies, including automated weigh stations, video surveillance devices and signal systems with two-way communications</p>
	<p>1.4 Establish coordinated regional public transportation processes that involve the needs of the communities</p>	<p>1) Promote and support the development of regional, full service transit systems that have the ability to meet a variety of customer needs within and across urban and rural areas</p> <p>2) Develop a strategic marketing plan and support public transportation development plans</p> <p>3) Continue to work with service providers and others to ensure that Mississippi's people with disabilities have equal access to public transportation services</p>
	<p>1.5 Support airport improvements and development that address increasing air traffic</p>	<p>1) Monitor and inventory the air system to determine areas of increasing traffic</p> <p>2) Support the ongoing development of capacity planning efforts for airports in areas of increasing traffic</p> <p>3) Support highway planning for airport access as a workable intermodal system</p>
	<p>1.6 Promote increased use of the state's freight and passenger rail system</p>	<p>1) Continue to improve the MDOT program to fund acquisition and rehabilitation of branch lines as well as special rail-related construction projects</p> <p>2) Eliminate railroad clearance restrictions (tri-level, double-stack and Amtrak Superliner), remove speed restrictions where it is feasible and cost beneficial, and increase capacity where constrained</p> <p>3) Encourage more widespread use of intercity rail service</p>

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Goals		Strategies	Action Steps
ACCESSIBILITY AND MOBILITY	(Continued)	1.7 Encourage continued use of the state's water ports	1) Promote the preservation and enhancement of port operational capacity
			2) Promote highway and rail access to port facilities and coordinate marine interests with other modes
		1.8 Address integration of bicycle and pedestrian concerns into the statewide transportation planning process	1) Integrate bicycle and pedestrian movement into the areas of design standards, facilities, policies, parking, transit access, safety, funding and implementation
			2) Increase awareness of state and local engineers and planners regarding bicycle and pedestrian needs
			3) Coordinate bikeway planning with the Department of the Interior and the National Park Service with respect to the Natchez Trace Parkway
		4) Investigate opportunities for making bridges accessible to bicycles	
		5) Encourage use of the bicycle as an access and egress mode to and from public transit stations, rail stations and airports	

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Goals		Strategies	Action Steps
SAFETY	ENSURE HIGH STANDARDS OF SAFETY IN THE TRANSPORTATION SYSTEM	2.1 Design and implement a Strategic Safety Plan (SSP) that will assist in reducing fatalities, injuries and property damage accidents on the highway system	1) Create a comprehensive SSP addressing the driver, roadway, vehicle and emergency medical response
			2) Establish mechanisms for the most cost-effective, cooperative efforts to identify safety deficiencies and develop effective countermeasures
			3) Identify causes of past accidents and implement countermeasures. Improve crash location in accident files.
			4) Continue to meet all design standards for safety, fully commit safety program funds, and pursue safety initiatives as authorized and funded annually
		2.2 Encourage a secure and safe environment for public transportation that includes operationally safe equipment, facilities and personal security	1) Sponsor safety training and awareness programs on passenger relations, personal security, emergency and accident handling procedures, safe driving, and special assistance for older adults and people with disabilities
			2) Require the development and implementation of public transportation safety program plans
		2.3 Support statewide improvements to rail crossings and corridors	1) Identify and systematically reduce the number of at-grade rail-highway grade crossings
			2) Develop safety corridor projects that will benefit rail and highway users, and evaluate private grade crossings as they relate
			3) Coordinate the establishment of engineering standards for railroad-highway grade crossings
			4) Upgrade existing rail-highway grade crossings through the systematic installation of electronically activated gates and flashing lights
			5) Improve crossings to insure safe pedestrian and nonmotorized vehicle movement
			6) Encourage local communities to improve sight distances at all crossings
		2.4 Participate in transportation planning to preserve existing and provide for future corridors for airport arrival and departure traffic	1) Monitor and work with airport authorities to protect airspace around airports

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Goals		Strategies	Action Steps
SAFETY	(Continued)	2.5 Support measures to ensure waterway safety and to reduce conflicts between recreational boating and commercial shipping	1) Support actions of the Department of Wildlife, Fisheries and Parks to improve and maintain recreational boater education programs
			2) Recommend establishment by appropriate officials of adequate capabilities for law enforcement and marine patrols in commercially navigable waters frequented by recreational boaters
			3) Evaluate critical commercial navigation areas and recommend to the proper officials recreational restrictions to promote safety
		2.6 Provide safe travel for pedestrians and bicyclists along corridors and within existing communities and new developments	1) When major streets and highways are renovated, consider inclusion of bike lanes, and design of intersections to reduce pedestrian-bicycle and pedestrian-vehicle accidents
			2) Where feasible, install sidewalks on Mississippi's urban arterials and collectors to reduce pedestrian-bicycle, and pedestrian-vehicle accidents
			3) Develop criteria for provision of and implement widening and paving of shoulders on rural and urban arterials and collector streets to improve safety for nonmotorized uses

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Goals		Strategies	Action Steps
MAINTENANCE AND PRESERVATION MAINTAIN AND PRESERVE MISSISSIPPI'S TRANSPORTATION SYSTEM	3.1	Complete reconstruction and relocation of deficient segments of state highways	1) Implement a comprehensive evaluation and implementation program for the segments of arterial highways that require reconstruction and/or relocation as identified
	3.2	Implement a program for widening and paving of shoulders on selected arterial and collector routes	1) Implement construction of widening and paving shoulders on rural and urban arterials and collector streets to provide protection for the structural integrity of roadbeds and to improve maintainability of roads and rights-of-way
	3.3	Implement capital preventive maintenance in a timely and systematic manner, and at an investment level that minimizes life-cycle costs	1) Utilize the Pavement Management System to identify the optimum pavement preservation strategy
			2) Utilize the Bridge Management System to identify the optimum bridge preservation strategy
			3) Develop an annual maintenance needs budget based on standards and workloads
			4) Develop and provide a maintenance training program to improve performance where needed
	3.4	Enforce pavement and bridge weight and size regulations to avoid loads which would result in premature deterioration and implement preventive measures	1) Expand the system of permanent scales and extend the hours of operation at those locations where there is the greatest likelihood of significant volumes of overweight and oversize vehicles
			2) Routinely evaluate the program for deploying portable scales to maximize its contribution to overall weight enforcement on the state highway system
			3) Cooperate with each county and city to identify and replace hazardous and deficient bridges
	3.5	Support improved maintenance and planned replacement of public transportation equipment and facilities	1) Support the construction of regional maintenance centers for nonurban public transportation systems
			2) Support the planned replacement of buses and vans based on life-cycle cost considerations
			3) Estimate assistance costs, identify funding sources, and establish budget line items
	3.6	Support development and maintenance of intermodal facilities and linkages	1) Support efforts for identifying locations for intermodal facility use and implement appropriate land preservation strategies
			2) Support the development of planned maintenance procedures
			3) Estimate assistance costs, identify funding sources, and establish budget line items

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Goals		Strategies	Action Steps
MAINTENANCE AND PRESERVATION	(Continued)	3.7 Support rail corridor and infrastructure maintenance and preservation programs	1) Identify endangered railroad lines critical to the transportation interests of the state that could be preserved only by state participation in assistance funding
			2) Evaluate potential future use and expand criteria and funding for preserving ROW, trackage and facilities
			3) Implement the rails-to-trails program through identification and development of previously identified rail corridors
			4) Estimate assistance costs, identify funding sources, and establish budget line items
		3.8 Support airport development and maintenance programs	1) Assist in grant acquisition for airport improvement and maintenance programs
			2) Support the development of planned maintenance procedures and pavement management programs
		3.9 Support waterway port development, maintenance and preservation programs	1) Establish mechanisms for identifying waterfront land that may be needed for port or marine transport use and take appropriate steps to preserve the availability of land for such use
			2) Assist in grant acquisition for port improvement and maintenance programs
			3) Support the development of planned maintenance procedures

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Goals		Strategies	Action Steps
ENVIRONMENTAL STEWARDSHIP	ENSURE THAT TRANSPORTATION SYSTEM DEVELOPMENT IS SENSITIVE TO HUMAN AND NATURAL ENVIRONMENT CONCERNS	4.1 Consider short and long term environmental and social impacts and follow appropriate MDOT procedures for all transportation projects	1) Apply systematic practices to ensure that the adopted procedures are followed, including adherence to MDOT's defined project development process 2) Determine a methodology for environmental justice testing of proposed projects and planning policies
		4.2 Implement state standards and initiatives which incorporate air quality and energy consumption regulations in transportation planning policy	1) Coordinate with and support MPO efforts to ensure that air quality requirements are met 2) Pursue modifications to state vehicle management programs to achieve cost-effective introduction of low-emission or alternatively-fueled vehicles 3) Support transit, ride share, van pooling, car pooling, bicycling and walking as travel modes that reduce congestion and maintain good air quality 4) Encourage the use of energy efficient modes including public transportation, rail and water transport 5) Support vehicle Inspection and Maintenance Program to reduce motor vehicle emissions 6) Consider the role of alternative fuels in public transit fleet operations
		4.3 Work with other agencies to encourage environmentally responsible and aesthetically pleasing transportation systems	1) Work with local governments and appropriate state and federal environmental agencies during route location planning to enhance environmental protection and to avoid conflicts and costly delays in transportation project construction 2) Work with appropriate agencies to explore and implement cost-effective and creative alternatives to replace or mitigate unavoidable impacts to sensitive environments 3) Continue the Adopt-A-Highway program to remove roadside debris and to maintain roadside aesthetics
		4.4 Link public transportation, energy conservation and environmental awareness to enhance and preserve the natural resources of Mississippi	1) Work with the Mississippi Dept. of Environmental Quality to initiate a public awareness program designed to educate the citizens of Mississippi of the importance of public transportation in energy conservation and the preservation of Mississippi's air and water resources 2) Encourage employer-sponsored activities and other travel demand management strategies designed to reduce single occupant vehicle travel

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Goals		Strategies	Action Steps
ENVIRONMENTAL STEWARDSHIP	(Continued)	<p>4.5 Work toward resolution of the complex problems surrounding dredging of channels and dredge spoil disposal</p>	1) Support state and local efforts with respect to the national dredging policy
			2) Support clarification of the roles and policies of state and federal agencies involved in the process and the responsibilities of various permitting agencies
			3) Support "wetlands mitigation banking" which would consist of land acquired in advance of the need for wetlands mitigation, and held for use as needed
		<p>4.6 Work toward reducing obstacles to needed development and excessive delays in acquiring necessary environmental approvals</p>	1) Seek means to rationalize complex environmental regulations and policies that have evolved over time without adequate interagency coordination
			2) Work to improve access to financial assistance for elements of the transportation system which find it necessary to expend funds for mandated environmental actions and cleanups
		<p>4.7 Encourage land use planning that will incorporate public transportation, walking and bicycles</p>	1) Encourage "transit-friendly" land development
			2) Encourage mixed density and mixed use development, with ample curb space for safe bicycle travel in new developments

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Goals		Strategies	Action Steps
ECONOMIC DEVELOPMENT	PROVIDE A TRANSPORTATION SYSTEM THAT ENCOURAGES AND SUPPORTS MISSISSIPPI'S ECONOMIC DEVELOPMENT	5.1 Continue development and implementation of roads and highways construction programs geared towards economic development efforts	1) Ensure sufficient funding for the Gaming Roads program in order that it can be properly implemented
			2) Integrate planning for Economic Development Highways into MDOT's program as appropriate
			3) Complete the Mississippi portion of the Appalachian Corridor V Development Highway and develop applicable access roads for both the V and X corridors
		5.2 Assist in the promotion of airports for tourism use	1) Participate with the Mississippi Development Authority (MDA) in promoting tourism utilization of general aviation airports through brochures, production of aviation charts, and assessment of economic benefits of tourism use of airports
		5.3 Stimulate economic development in rural and urban areas by improving public transportation networks and broadening and encouraging the use of public transport	1) Support the establishment of a state interagency working group for integrated development of public transit services with housing, employment, energy conservation and other community and economic development programs
			2) Advocate improved intercity and rural public transit programs to address job development needs in rural areas
		5.4 Promote a balanced freight transportation system that takes advantage of the inherent efficiencies of each mode	1) Identify present relative levels of state and federal support for each of the various modes of freight transportation, including taxation, regulation, capital investment, and operating subsidy
			2) Ensure staffing focus/expertise in the economics, management and viability of the state's major freight modes, including trucking, rail, air, and ports and waterways
			3) Work with the MDA to promote the state's freight transportation system and intermodal abilities in industrial recruitment activities
		5.5 Assure effective transportation linkages for freight and passengers to attract a larger share of international trade and travel to the state	1) Assist in the promotion of airports for both international passenger and cargo service, including opportunities for air cargo in Latin American trade
			2) Assist airports and ports in obtaining Free Trade Zone (FTZ) status, and development of same
			3) Review linkages of FTZ's to the highway network, the rail network, port facilities, and airports to ensure that FTZ's have appropriate, efficient linkages with the transportation system elements needed to promote effective utilization of the FTZ's

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Goals		Strategies	Action Steps
ECONOMIC DEVELOPMENT	(Continued)	5.6 Support continued development of the state's water ports	1) Document the impact ports play in economic development and coordinate with the Mississippi Development Authority regarding port and waterway development
			2) Maintain an active role in relevant Mississippi port organizations and interest groups and promote port interests with other public agencies and organizations
		5.7 Prioritize transportation system improvements and investments considering intermodal connectivity	1) Consider access to ports, airports and industrial park facilities as a weighted evaluation factor in highway project programming
			2) Support ports in negotiating with railroads for improvement of service, upgrading and rehabilitation of facilities
			3) Identify opportunities for new and/or improved intermodal facilities as part of the planning process for transit, trucks, railroads, airports and ports
		5.8 Attract bicycle tourists by supporting the improvement of bicycle facilities at Mississippi's scenic and recreational areas	1) Adopt a policy to purchase and convert abandoned railroads to bike trails where feasible
			2) Support the continued construction of bike/pedestrian facilities throughout the state

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Goals		Strategies	Action Steps
<p align="center"> AWARENESS, EDUCATION AND COOPERATIVE PROCESSES CREATE EFFECTIVE TRANSPORTATION PARTNERSHIPS AND COOPERATIVE PROCESSES THAT ENHANCE AWARENESS OF THE NEEDS AND BENEFITS OF AN INTERMODAL SYSTEM </p>	6.1 Address the transportation needs of local governments in state planning policies and procedures		1) Provide every urban place of more than 5,000 population with financial and administrative assistance for construction projects 2) Consider local plans when selecting alternative alignments for transportation improvements
	6.2 Maximize benefits from technical and research advancements that may be applied to continued development of high quality transportation systems		1) Support and participate in cooperative programs with the State's institutions of higher learning to carry out research that will benefit transportation efficiency and intermodalism 2) Utilize federal aid research funds and participate in federally sponsored research programs 3) Continue to support the Technology Transfer program for local agencies
	6.3 Encourage more public-private partnerships in the expansion of rural transit services and the connectivity between rural and intercity transportation services		1) Promote a collaborative process among federal, state, local and other organizations (public and private) to foster improved service planning, communications and coordination through the Mississippi Public Transit Association
	6.4 Promote effective public-private rail transportation partnerships, including Class I short line ventures		1) Provide seed funding and-or other activities for local involvement and use of local resources 2) Seek cooperation of carriers in joint funding of mutually beneficial projects 3) Enhance the rail program through the use of programs such as economic development and establish other revenue enhancement measures
	6.5 Continue the partnership between the Mississippi Development Authority, the Department of Transportation and providers of transportation for marketing of transport services		1) Improve the cooperative processes between MDOT and transport providers to gather information on transportation capabilities, facilities, intermodal connections, rates and services that can be used to mount effective marketing campaigns 2) Improve the cooperative processes with MDA and the transport providers to offer strong marketing and business development efforts on behalf of the service providers
	6.6 Continue the advisory group for transportation concerns at the state level		1) Support Advisory Committees, using existing groups to provide a conduit for transportation policy and programming between state and local government and the private sector

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Goals		Strategies	Action Steps
AWARENESS, EDUCATION AND COOPERATIVE PROCESSES	(Continued)	6.7 Develop an intermodal-based awareness program that will encourage transfers between the transportation modes	1) Emphasize intermodal transportation alternatives in the transportation planning process 2) Develop a coordinated public information and education program about available intermodal services (and other energy-efficient alternatives) 3) As part of the metropolitan planning process, identify opportunities for new and/or improved passenger and freight intermodal facilities and services
		6.8 Develop and implement comprehensive safety awareness, education and training programs	1) Publish documents describing elements of Mississippi's safety awareness program 2) Support the "Safe and Sober" program of the Governor's Highway Safety Program, including supporting and strengthening existing DUI laws 3) Support legislation of a .08 Blood Alcohol Content level 4) Support the safety belt usage program of the Governor's Highway Safety Program 5) Continue support for "Operation Lifesaver," a national public education program dedicated to reducing crashes, injuries and fatalities at highway-rail grade crossings

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Goals		Strategies	Action Steps
FINANCE	PROVIDE A SOUND FINANCIAL BASIS FOR THE TRANSPORTATION SYSTEM	7.1 Establish a balanced funding program to achieve MDOT's objective with the funds made available to the Department	1) Continue to match federal aid funds as the top priority 2) Explore alternative funding sources to supplement the traditional surface transportation funds, including various local option taxes, benefit districts, impact fees and the like 3) Utilize an expanded and enhanced array of management systems to identify investment programs that minimize life-cycle costs 4) Support the development of a transportation maintenance plan with projected costs and available funding, such that the ongoing development of the State's transportation network can be preserved
		7.2 Cooperate with the Governor and the Legislature in restructuring revenue laws as appropriate	1) Utilize the financial planning element of this Transportation Plan to identify a sound financial program that addresses: (a) the commitments to the Four-Lane Highway Program, (b) the existing backlog of highway and bridge needs, (c) the erosion of purchasing power associated with inflation
		7.3 Alleviate the shortfall of funds for planned public transportation improvements and maintenance programs	1) Allocate Surface Transportation Funds to enhancement programs 2) Maintain financial obligations at a level which will ensure that the ongoing development of the public transportation network can be accomplished
		7.4 Stimulate further development of the general aviation industry in small communities and the air carrier airports	1) Continue support of the Aeronautics State Aid program for improvements to general aviation and air carrier airports
		7.5 Support funding efforts of air carrier and high-activity general aviation airports experiencing increasing air traffic	1) Assist airport managers in obtaining grant funds when possible to address increasing air traffic

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Goals		Strategies	Action Steps
FINANCE	(Continued)	7.6 Encourage better access for financing of major capital improvement projects for ports	1) Ensure the allocation of sufficient funding in order that the funding mechanism by which ports may have access to the state's bonding capacity can be utilized
			2) Support improved utilization of the Port Revitalization Loan Fund by converting the loans to an interest free basis for port improvements costing less than \$500,000
			3) Utilize the funding provided by the Transportation Commission through TEA-21 for National Highway System connectors
		7.7 Ensure a sufficient funding capacity for the preservation, operation and maintenance of freight and passenger rail systems	1) Examine various methods of permanent funding for rail passenger service and other railroad main line public uses
			2) Identify state and federal programs which can be adopted or accessed
		7.8 Develop a financing program for intermodal-based transportation facilities that will encourage transfers between the transportation modes	1) Undertake Major Transportation Investment Studies where appropriate to ensure that major federally-aided projects incorporate the most beneficial mix of transportation alternatives, including intermodal facilities and services
			2) Direct specific attention to intermodal facilities as part of the budget development process
			3) Define roles (including cost-sharing arrangements) of the state government, local governments and private sector regarding intermodal facilities, including the provision of access roads that connect such facilities to the National Highway System and other arterial routes

STATEWIDE TRANSPORTATION FRAMEWORK

Identification of Mississippi's Statewide Transportation Framework (STF) is an integral component of the MULTIPLAN, laying the foundation by which other Plan components will be developed and applied. Identification of state-interest transportation facilities is a tool that will assist in prioritizing and focusing statewide transportation planning efforts. All regions of the state have been analyzed for the ability of STF facilities to meet mobility and accessibility needs. Though the Gulf Coast may provide the clearest example of regional, multimodal transportation planning significance, both rural and urban modal facilities have been considered for their ability to satisfy the goals of the STF.

The STF addresses all modes, and includes those facilities that serve the most people and provide the highest level of benefits for the investment. Recognizing Mississippi's growing multimodal focus in transportation investments, existing and potential intermodal connections for both passengers and freight are primary components of the overall framework.

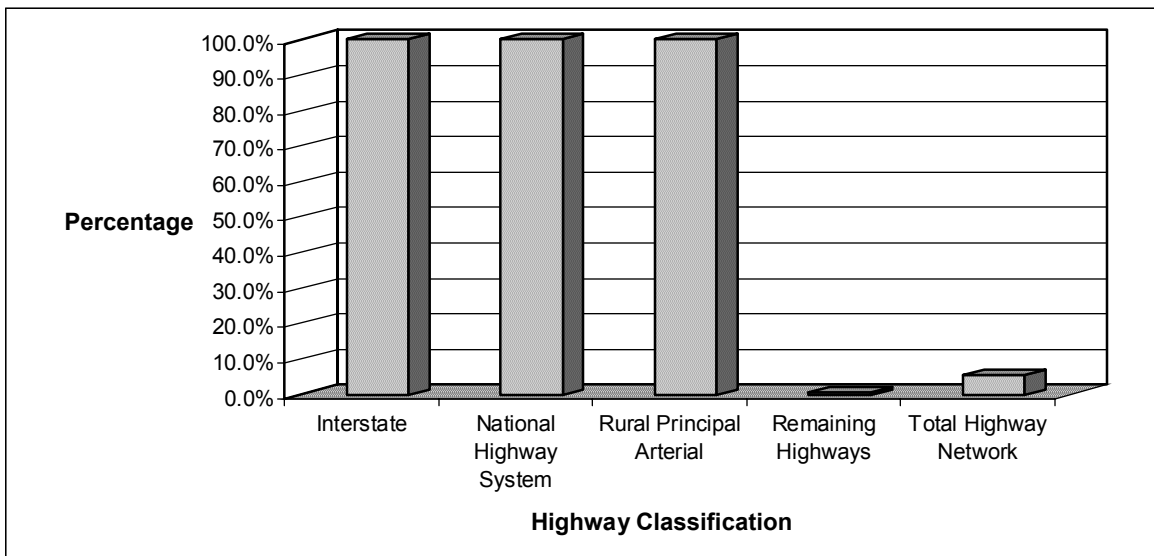
STF criteria, detailed below, have been devised both to recognize the existing transportation system within Mississippi, and to also incorporate future changes to the system that may impact what facilities are considered as components of the STF. Such an approach will allow the STF to adapt to future changes in the state's transportation network.

Highways

- All Interstate Highways
- All National Highway System highways and intermodal connectors
- All rural Principal Arterials
- Select other routes meeting general traffic / truck counts / connectivity levels:
 - Generally greater than 5,000 ADT in rural areas and 15,000 ADT in urban areas
 - Recognized corridors of commercial (truck) traffic
 - Connectivity in areas not served by other state interest facilities

As shown in **Figure E-1**, based on the defined criteria, 100 percent of U.S. Interstate mileage, 100 percent of the National Highway System (including all 112.35 miles of NHS Connectors), and 100 percent of the remaining rural Principal Arterials have been identified as components of the STF. Less than one percent of the remaining highway network (mainly consisting of minor arterials) has been designated as part of the STF. Approximately 5.4 percent of the total Mississippi highway network mileage has been allocated to the STF.

Figure E-1
STF – HIGHWAY NETWORK PERCENTAGES



Rail

All Amtrak passenger rail lines, and Class I and select other freight rail lines have been identified as components of the STF, based on the following criteria:

- Passenger Service
 - Existing Amtrak service
 - USDOT designated High Speed Rail corridors
 - MDOT planned High Speed Rail corridors
- Freight Service
 - Freight rail lines that:
 - connect with major interstate markets; or
 - connect with state interest identified public ports; or
 - serve principal rail-highway intermodal facilities

Transit

All intercity bus service locations (79 locations statewide) have been identified as being of state interest as well. The STF also includes three urban transit systems and 10 rural multicounty transit systems. The transit component of the STF has been identified based on the following criteria:

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- Intercity bus facilities (terminals)
- Urban fixed-route / paratransit systems of state interest
- Rural multicounty transit systems of state interest, identified based on a collective review of the following criteria:
 - Service area population
 - Service area square mileage
 - Transit ridership
 - Transit mileage

Aviation

Referencing the *Mississippi Statewide Airports Study*, airport system levels are identified incorporating two primary criteria:

- Location
- Level of service and activity

The three airport system levels identified include:

- Type I – General Purpose Airports
- Type II – Business Airports of Local Impact
- Type III – Business Airports of Regional Impact
- Type III Enhanced – Business Airports of State Impact

Type III Enhanced airports are recognized as being the highest level of general aviation airports within Mississippi, while also serving areas of regional significance. As such, the airports identified within this level (seven air carrier airports and 10 general aviation airports) are considered to be of state interest and therefore included within the STF.

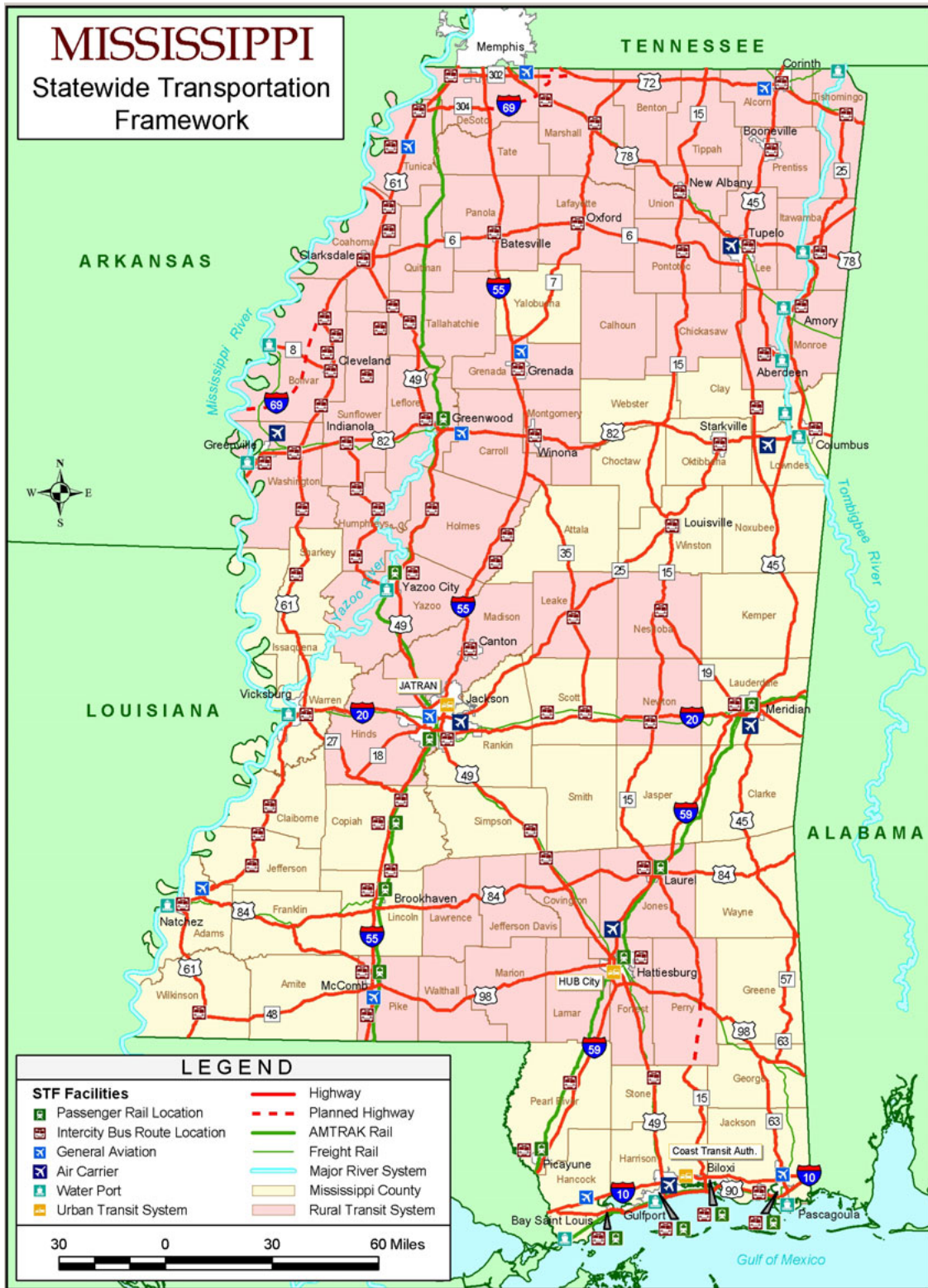
Water Ports

14 public water ports (including both state-controlled ports) have been identified as part of the STF, based on the following criteria:

- Ports with deep-draft capacity
- Ports with barge capacity and facilities
- Ports of industrial significance
- Ports with connections to the National Highway System

Exhibit E-1 shows the facilities that are designated as part of the STF, along with the relationship between the facilities and transit systems.

Exhibit E-1
STATEWIDE TRANSPORTATION FRAMEWORK



ECONOMIC AND TRANSPORTATION TRENDS

Recognizing the need to ensure that transportation infrastructure keeps pace with market-driven, productive activities in Mississippi in order that citizens can benefit fully from economic growth opportunities, various economic and transportation trends were analyzed for their potential impact.

International Trade and Transportation Infrastructure Linkages

International trade expansion and related economic growth have placed considerable stress on transportation networks in Mississippi. As an international trade gateway, Mississippi has and will continue to experience significant pressures on its transportation systems. For example, between 1993 and 2000, Mississippi merchandise exports increased 121 percent. From 2000 to 2020, international waterborne throughput is expected to increase by 232 percent. International air cargo and rail tonnage is expected to increase fourfold during the 1996 – 2020 period.

Long-term trade patterns between Mississippi and Latin America will exceed that of the Latin America Trade and Transportation Study (LATTTS) Alliance states collectively. From 1996 – 2010, Mississippi trade with Latin America is projected to increase by 7.57 percent, while Latin American trade with the Alliance states is projected to expand by 5.9 percent. From 1996 – 2020, Mississippi trade with Latin America is projected to increase by 8.5 percent, while Latin American trade with the Alliance states is projected to expand by 7.2 percent.

These trends suggest that increased transportation infrastructure investment is needed in Mississippi. As a trade gateway, increased congestion will stress existing capacity, but expansion will be difficult due to land, environmental, social and funding constraints. As reliance on trade grows, state transportation officials must involve themselves in U.S. and state trade policy formulation to remain informed and responsible.

Manufacturing and Production Trends

The industrial shift from a manufacturing to a service-based economy will continue to have an impact because customers will increasingly demand services that are more flexible, reliable, and on time. Traffic growth will be greatest for smaller shipments as average shipment sizes shrink. Related to the trend in smaller shipment sizes, demand for traditional, high volume transportation service will continue to grow, but account for a smaller portion of the transportation industry's revenues and volumes.

As companies constantly change the way they manufacture and where they manufacture, Mississippi transportation officials must recognize that with changing patterns in goods flow, new freight densities and corridors will emerge. U.S. manufacturing's use of Mexico to produce intermediate goods presents an opportunity for Mississippi to support growth of new industrial complexes. North American Free Trade Agreement (NAFTA) induced trade corridors will present development opportunities for the state.

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Current and emerging manufacturing practices that impact and relate to trade and freight flows include:

- Shorter product life cycles placing a greater demand on transportation systems;
- Specialized freight requirements, especially those for high tech industries, placing greater stress on air and truck modes;
- Remanufacturing and replacement markets, especially in the high tech and automotive industries, placing greater emphasis on trucking;
- Core competencies emphasis by manufacturers resulting in transportation and logistics outsourcing;
- E-Commerce impacting freight movements with greater emphasis on speed of delivery and producing more frequent and high-value shipments; and
- Just-in-Time (JIT) deliveries increasing as a consequence of a desire to minimize investment in inventories.

These practices collectively produce a need for transportation infrastructure to accommodate more frequent, time-sensitive, high value movements by air and road with less emphasis on bulk cargo requirements.

Transportation Investment and Environmental Goals Linkages

The environmental impacts and issues related to transportation growth and expansion will play a larger role in transportation planning. Issues and problems include air pollution from automobiles as vehicle miles driven and populations expand, water pollution problems exacerbated by road expansions, sprawl development and water runoff, the paving of urban and suburban areas threatening rural habitat, forest and agricultural lands, and protected lands and buildings becoming threatened by expansion and enhancement projects.

The Transportation Financing Base

As demand for transportation services grows, funding sources will lag infrastructure needs. Planners need to seek innovative, nontraditional methods to finance their transportation networks. These alternatives include:

- Privatization -- As a means to leverage limited and constrained public resources, privatization may be applied to construction, operations, and maintenance of transportation systems. Airport privatization provides the opportunity to raise additional capital, introduce cost savings through effective management, realize revenue windfalls from sale or lease agreements and offer passenger-friendly airports. Urban transport privatization provides cost savings and improved service where transit authorities have "contract tendered" to the private sector. Toll roads not only provide a "pay-as-you-go" provision, but also have the added advantage of serving as a congestion management tool.

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- State Infrastructure Banks (SIB) -- Created with Federal seed money, they are designed to complement other parts of the U.S. DOT funding program. As a complement to existing funding sources, the transportation funding process has become more flexible since SIB financing by facilitating funding projects otherwise delayed or infeasible, offering many types of financial assistance, enabling states to tailor financing to fit project needs, recycling funds (once repaid), and minimizing the use of limited grant funds for special projects, freeing them for more traditional projects.
- Innovative Taxing & User Fees -- To finance roads, highways and airports, states are increasingly turning to other taxes. New vehicle taxes, rental car surcharges, general sales taxes, alternative fuel vehicle fees and weight-distance taxes have increasingly been drawn upon to supplement road funds. Aircraft sales taxes, leasing taxes, aircraft repair and labor taxes and registration fees are used to supplement airport capital funding. Dedicated taxing regimes are increasingly being advocated to bring equity to the funding process and generally improve capital funding levels.

Federal and State Responsibilities

With introduction of the Transportation Equity Act for the 21st Century (TEA-21) in 1998, Mississippi transportation planners must now modify their goals and embrace new ideas and directions. Some of the issues they must now address include supporting the state's economic vitality so that industries remain productive, efficient and globally competitive, increasing the safety and security of transportation system for all users, and increasing accessibility and mobility options to people and freight. Additional issues include promoting and protecting the environment and promoting energy conservation, enhancing and integrating multimodal connectivity for both people and freight, promoting efficient system management and cooperation, and emphasizing the preservation of the existing transportation system.

MODAL ASSESSMENTS

Through the MULTIPLAN, each transportation mode has been examined in detail, providing a current conditions analysis and assessment of infrastructure (with particular attention to potential multimodal and intermodal deficiencies and needs), and emphasizing the interrelationship between each of the modes. Following are brief summaries of the current status by mode, with selected exhibits provided as appropriate. Each of the modes is examined and explained in detail within the specific chapters of the MULTIPLAN.

Highways

Mississippi's population, business, agricultural sector, industry, governments, commerce, education and tourism are all heavily dependent on the state's highway network. An example of Mississippi's commitment to its citizens is the state's "Four-Lane Highway Program." As originally developed, 1,088 miles of four-lane highways were to be constructed over a 14-year period. In 1994, the Mississippi Legislature added a fourth phase which, after further modification in 1998, brought to a new level of 1,772 the total number of highway miles to be constructed or improved. As of June 30, 2001,

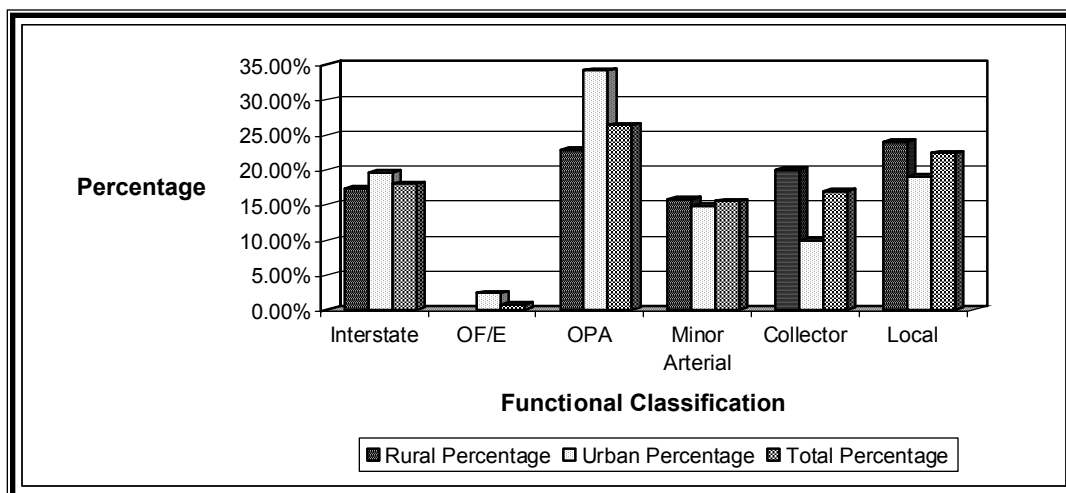
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971.9 miles of highway had been let by MDOT for construction, of which 680.4 miles of new four-lane highways were open to the public. All Phase I work is now complete or under contract, and the program is well into Phases II and III.

Mississippi's highway network includes approximately 73,500 miles and more than 16,000 bridges under the jurisdiction of federal, state, and local governments. The Mississippi state highway system, under the jurisdiction of the MDOT, includes slightly more than 10,500 miles. Mississippi's total highway system mileage is 24th largest in the U.S., while the 14.5 percent of those miles under state jurisdiction rank 26th. Counties retain jurisdiction over a far greater share of the highway network than cities, at 72 percent vs. 12 percent respectively.

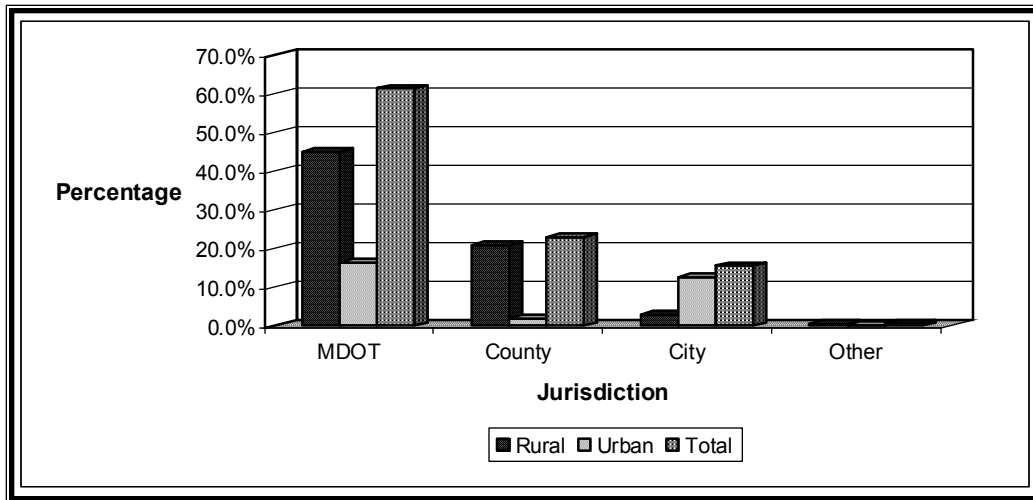
Both Mississippi's passenger and freight transport are dependent upon the state's highway network. When compared to other states, a larger percentage of Mississippi's total vehicle miles of travel (VMT) comes from heavy truck travel. The highway system typically handles more than 35 billion VMT annually, ranking 28th nationally. Referencing **Figures E-2** and **E-3**, more than two-thirds of the annual VMT are on rural highways, which comprise almost 90 percent of the total network mileage. The Total Percentage in **Figure E-3** represents the percentage of total system VMT (both rural and urban combined), while the Rural and Urban percentages each relate specifically to the rural and urban VMT. Mississippi's residents drive an average of 12,187 miles per year, which is 7th highest in the nation. The state's highway network characteristics support the view of Mississippi as a rural state, and the transportation planning focus reflects this.

Figure E-2
ANNUAL VMT (IN MILLIONS) BY FUNCTIONAL CLASSIFICATION



Source: Mississippi Dept. of Transportation, Planning Division, 2000.

**Figure E-3
ANNUAL VMT (IN MILLIONS) BY JURISDICTION**



Source: Mississippi Dept. of Transportation, Planning Division, 2000.

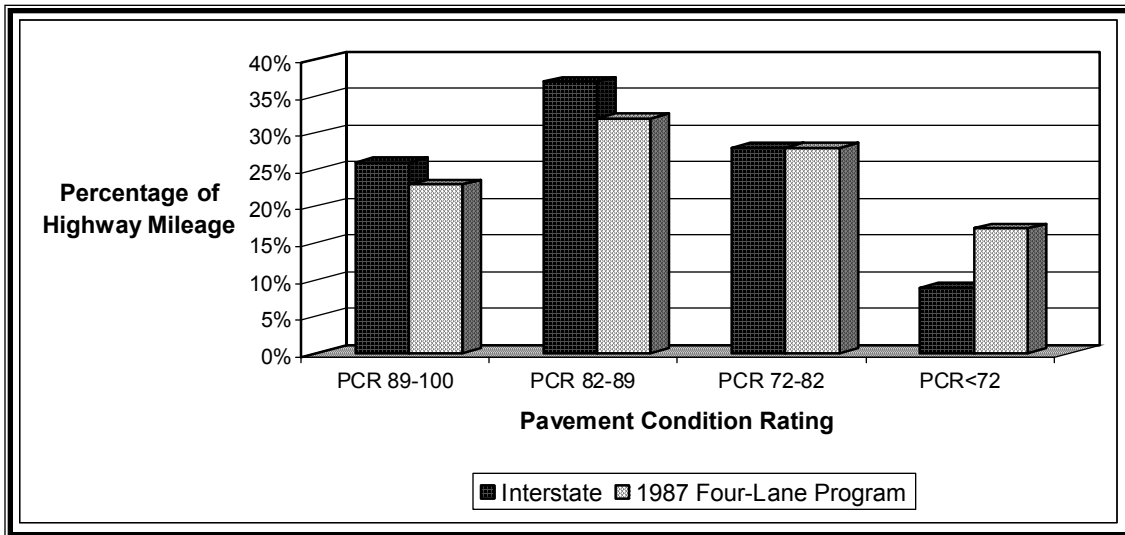
Mississippi has both a higher percentage of highway mileage and VMT on rural highway facilities than the national average. The percentage of rural VMT on Mississippi highways is more than twice that of the urban network, which is the reverse of the national trend. Mississippi’s annual average daily traffic count per lane (AADT) is higher on the rural system than the national average and most peer states, while lower on the urban network.

The level of total VMT on higher order highways illustrates the dependence upon not only Mississippi’s Interstates and U.S. Highway network, but also on the highways constructed and improved through the state’s Four-Lane Highway Program.

Mississippi does not experience congestion to the same degree as the average state, and on the rural highway network experiences congestion at a negligible level. The largest percentage of congested mileage is found on the state’s urban highway network, which mirrors national and peer state trends. Generally speaking, Mississippi has lower congestion levels than both the average state and most peer states.

Figure E-4 shows that over 90 percent of Interstate mileage and 83 percent of the Four-Lane Highway are in Fair to Very Good pavement condition (PCR of 72 or greater). The Pavement Condition Rating is a degree of relative condition developed by MDOT, assigned to each mile of measured highway. Almost 75 percent of two-lane highway mileage is rated as Fair to Very Good. MDOT has seen continued improvement in highway pavement condition through such programs as the Four-Lane Highway Program, as well as through overall highway maintenance programs.

**Figure E-4
MISSISSIPPI HIGHWAY PAVEMENT CONDITION**

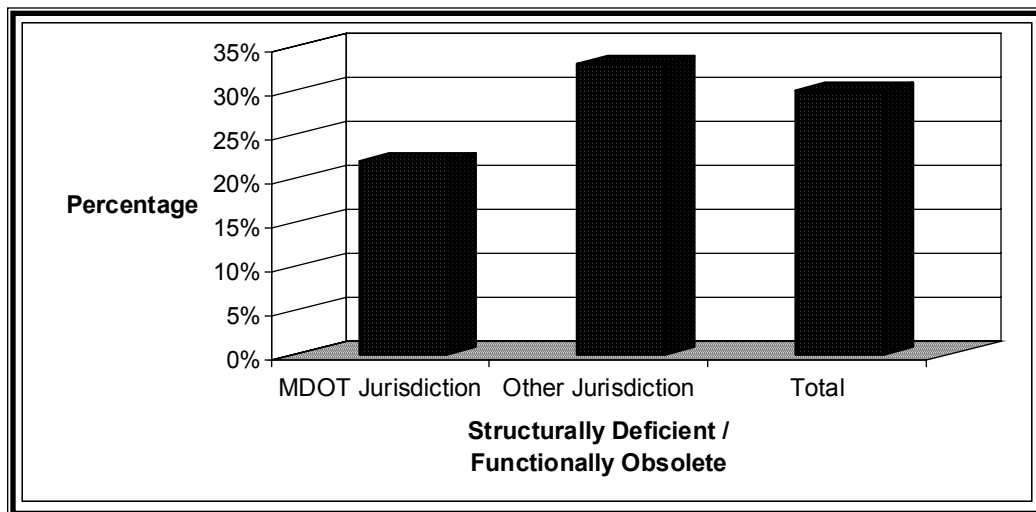


Source: Mississippi Dept. of Transportation, Research Division, 2001.

Mississippi's 16,394 bridges place the state in the top 15 nationally in number. Of these, 5,401 are under the jurisdiction of MDOT, while the remaining 10,993 are under the jurisdiction of local governments.

Of the total number of bridges, 3,663 are structurally deficient (in need of immediate rehabilitation to carry loads for which it was originally designed), and 1,219 functionally obsolete (structurally sound, yet in most cases with width and/or clearance restrictions). As shown in **Figure E-5**, bridges under MDOT jurisdiction are in proportionately better condition than bridges under jurisdiction of other entities.

**Figure E-5
BRIDGE CONDITION BY JURISDICTION**



Source: Mississippi Dept. of Transportation, Bridge Division, 2001.

As was the case when the 1996 *Long Range Transportation Plan* was completed, safety remains a significant issue. Mississippi continues to lead the nation in fatalities per 100 million vehicle miles traveled. The number of fatalities has increased by 20 percent since 1994, the 4th highest rate of increase in the nation. Nationally, fatalities increased by only 2.7 percent over the same period. Nearly all fatalities occurred on rural highways, with urban highways accounting for less than one percent of total fatalities. Over 79 percent of all fatalities occurred on lower-order highways, compared to just less than 21 percent for higher-order highways (Interstates, Freeways/Expressways, Other Principal Arterials).

The fatality rate per 100 million VMT for higher-order highways was 1.2, which is a 30 percent decrease from the 1.7 rate in 1999. The fatality rate per 100 million VMT for lower-order highways was 3.9, which is an increase of 15 percent from the 3.4 rate in 1999. The highest rate of fatalities occurred on lower-order, rural highways, which also accounted for the greatest number of fatalities. Improvement has been made in reducing the number of fatalities on Mississippi's higher order system, and MDOT recognizes that much progress remains to be made.

Water Ports

Mississippi has 16 public ports located along the Mississippi River, Yazoo River, Tennessee-Tombigbee Waterway and the Gulf Coast, that provide a multi-level conduit for the movement of the state's waterborne commerce, with activity in international, U.S. regional, state, county and local markets. The strength or weakness of the conduit they provide varies significantly based upon a number of elements, including location, availability and condition of facilities, volumes of waterborne commerce available, the ease of landside access (both truck and rail), and the availability and commitment of their controlling governmental agencies.

Not all waterborne cargoes consumed or produced in Mississippi move to their destination via the state's port system. A significant level of tonnage enters or exits through the Gulf Coast ports of New Orleans or Mobile, based upon the availability of river, waterway and railroad connections.

MDOT has over the last three to four years made a concerted effort to understand and recognize the importance of the state's port system to the economy. The geographical organization of the ports is a critical factor in guiding the state's future involvement in international trade. Statewide connectivity issues that will face Mississippi over the next two decades include:

- The identification of strategic transportation issues concerning ports;
- Focusing upon how to improve the complete flow of cargo from and to the ports, and the strategic impact that many of these ports will have on the state's freight transportation system;
- Connectivity issues, including rail and truck access to the ports, and how critical they are to the success of the state's freight distribution system; and

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- The identification of intermodal and other transportation needs of the state's freight system and the options required to enhance the state's port system, including the eventual adoption of information technology systems that will facilitate the efficient movement of cargo between the various transport modes.

Two elements that will inhibit the growth of the state's ports are the lack of an adequate mechanism to provide regular capital funding, and geography. To address the lack of a funding mechanism, Mississippi has created the Multimodal Capital Improvement Program to assist ports in qualifying for a federally funded, state monitored Intermodal Connector Improvement Program. Future emphasis will be on establishing a dedicated funding source to complement the capital improvement program.

Geography (in areas of waterborne, rail and road access) affects the ability of the state's ports to grow, especially in the international trade arenas. The lack of adequate rail connections northbound decreases the Gulf Coast ports' ability to market to the international community. The proximity of river and waterway ports to each other also impacts the overall statewide transportation framework, by way of the ensuing competition created as a result.

Each port has viability but cannot realize its potential without financial investment requirements. The investment, while including port facilities, concentrates upon infrastructure investment on railroad connections and highway access for virtually every port. Port viability also depends upon geographic position and the port's role within a combination of local communities, port clusters and ultimately within the state's transportation framework.

Aviation

Mississippi has 78 airports in the statewide aviation system, ranging in size and scope from international airports serving commercial airlines to small turf strips accommodating aerial applicators and general aviation aircraft. These airports accommodate passenger, military, air cargo, and general aviation aircraft. There are 2,830 registered aircraft and 4,160 registered pilots in the state. Twenty-one passenger airlines serve Mississippi at seven commercial service airports.

Air cargo transport typically takes place at commercial service airports, but may on occasion occur on an ad hoc basis at general aviation airports, which support a host of aviation functions in the state. Key issues that will have a profound impact on the commercial aviation, general aviation and air cargo industries in Mississippi include:

- Airline consolidation and financial instability;
- Flight training and pilot licensing;
- Funding priorities;
- Security issues; and
- NAFTA

The statewide system of airports currently provides good access to travelers for business, personal and emergency needs. The system structure is built on four levels of airport service, beginning with Type I airports that provide basic service to local

communities. Additional service is provided to local communities for business use with Type II airports. Type III and Type III Enhanced airports provide regional access to the air transportation system, with facilities necessary to attract and maintain industry.

Transit

Public transit service in Mississippi can be divided into four categories of service:

- Urban transit service;
- Rural transit service;
- Elderly and persons with disabilities service; and
- Intercity service.

These categories duplicate the funding categories of the Federal Transit Administration (FTA), which provides the majority of funding for public transit in the state. The MDOT Office of Intermodal Planning is responsible for administering these funds.

Urban Transit Service

Based upon the 1990 Census, there are four urbanized areas within the state, three of which have public transit service. The three areas with service are:

- Jackson, served by Jatran;
- Biloxi/Gulfport, served by Coast Transit Authority; and
- Hattiesburg, served by Hub Transit.

The one urbanized area without transit service is Pascagoula in Jackson County, which also does not have rural service, although Coast Transit provides service to elderly and disabled riders under contract.

Jatran carried 803,470 passengers in 2000, down 4.8 percent from 1998, at a cost of \$4.0 million annually. Coast Transit carried almost as many riders, 802,817, a 25 percent increase, at a cost of \$3.7 million annually. Hattiesburg does not have the same reporting requirements as the other two agencies, so specific ridership information is not available for Hub Transit. In general, the system carried fewer than 100,000 annual riders at a cost less than \$500,000.

Jatran and Hub City are both managed by their respective city governments. Jackson contracts out the operation of Jatran to a private contractor, while Hattiesburg operates their service with City personnel. Coast Transit is unique in that it is a separate independent transit authority, formed under Title 21, Chapter 27 of the Mississippi Code.

Rural Transit Service

The Census Bureau classifies the majority of Mississippi as rural, with even the urbanized counties having portions that are considered rural. A network of 17 FTA funded providers offers rural transit service. These providers do not provide coverage of all areas of the state, but do cover 50 of the 82 counties (61 percent).

Table E-2 provides performance information on Mississippi's rural transit providers.

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**Table E-2
RURAL TRANSIT PROVIDERS -- FY 2000 PERFORMANCE DATA**

Name	Passengers	Vehicle Hours	Revenue Miles	Fleet Size	Operating Cost
Aaron Henry CHSC	209,605	50,037	1,359,362	20	\$663,879
Bolivar County COA	29,628	9,886	306,635	14	\$212,161
Choctaw Transit Authority	34,987	6,330	147,919	13	\$87,260
Claiborne County HRA	37,832	6,015	416,479	6	\$120,856
Delta Regional Transit System	No data, new system				
Five County CDC	100,970	10,804	90,270	8	\$73,139
Hinds County HRA	80,904	8,716	163,084	7	\$122,675
Lift, Inc	22,006	16,199	446,045	11	\$466,405
Madison County HRA	27,890	7,168	119,638	9	\$73,025
Meridian Transportation Comm.	52,194	10,961	165,788	7	\$158,860
MVSU Mass Transit	48,432	7,695	241,819	12	\$159,696
Natchez Transit System	48,693	9,651	121,679	14	\$132,389
Northeast Mississippi CS	56,270	19,735	255,193	16	\$209,979
Pearl River Valley Opportunity	274,220	45,801	588,874	32	\$539,648
Pilot Club of Starkville	36,886	10,152	136,960	7	\$186,287
Simpson County HRA	43,370	16,570	422,963	12	\$201,615
United CAC	10,715	5,367	115,747	4	\$63,255

Source: MDOT reports

The types of service offered by the rural providers vary. Most rural providers offer demand-response service similar to a taxi operation, while some offer the traditional fixed-route service. Ten of the 17 operators have multicounty operations, while the remainder operate within a single county.

Three areas are the focus of commuter trips. The Aaron Henry CHSC and Bolivar County COA serve the Tunica area, which has several casinos on the Mississippi River. The Parchman area, which houses the state penitentiary, is served by these two providers and the MVSU Mass Transit system. Jackson is served by the Hinds County HRA, Madison County HRA, and Simpson County HRA.

The Meridian, Natchez, and Starkville providers operate a more traditional urban-type service, with regular routes and schedules primarily within the city. Natchez also provides point-deviation and demand-response services in Adams County. The size of the rural providers varies from United Community Action Committee that carries 10,000 riders per year to Aaron Henry Community Health Services Center and Pearl River Valley Opportunity with more than 200,000 annual riders each.

Elderly and Persons With Disabilities Transportation

MDOT funds 53 grantees using "pass-through" funds from the FTA Section 5310 Elderly and Persons with Disabilities Program. All 82 counties have at least one recipient under this program. Many counties have several recipients. Hinds County has the most recipients with seven, followed by Washington County with six recipients and Bolivar and Covington Counties with four recipients.

Intercity Bus Services

Mississippi has two intercity bus services available. Greyhound or its affiliated companies primarily provide intercity bus service. Delta Bus Lines in Greenville operates a single route. These two companies operate 12 routes that provide service to 79 cities and towns in 53 counties.

Jackson has the highest level of service available, with 41 daily trips being provided. Meridian has the next highest level of service with 36 daily trips, followed by Biloxi and Gulfport with 35 daily trips. Pascagoula has 26 daily trips and Bay St. Louis and Gautier have 24 daily trips each. No other city or town has more than 20 daily trips.

Major City Service

According to the 2000 Census, there are 11 cities in Mississippi whose population is greater than 25,000. The population level will be classified as a “Medium Urban Cluster” if they meet the density requirements of the new classification scheme.

Of the 11 cities, only five have a traditional fixed-route service and another three cities are served by rural providers. Three cities have no general public transit services available – Vicksburg, Pascagoula, and Columbus. These cities do have elderly & disabled service and intercity bus service available, but they do not have any connecting city bus service.

Federal Funding Levels

Annual federal funding for public transportation in Mississippi has been increasing over the past three years. The Section 5307 Urbanized Formula Funds has increased overall by 13 percent over the period to \$4.4 million, while the Section 5311 Non-urbanized Area Formula Funds has increased by 15.5 percent to \$4.4 million and the Section 5310 Elderly and Persons with Disabilities Program has increased by 14.6 percent to \$900,000.

No MDOT monies are provided for public transit services on a regular basis. There have been some “one-time” appropriations for capital facilities primarily when there is a danger of losing Federal monies due to the lack of local matching funds.

Rail

The MULTIPLAN rail element uses material from prior Mississippi State Rail Plans and Updates for background, with a focus on how the system works functionally, how it interchanges with the other modes and identification of both freight and passenger system deficiencies. Given that most railroads are privately owned and operated, the public sector’s ability to influence decisions and actions is subject to limitations.

Amtrak currently operates three passenger trains on three routes serving various cities in Mississippi. These trains serve a corridor running north-south through the central part of the state and two southern routes. Amtrak has 14 stops in Mississippi, but only two of

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them, Jackson and Meridian, are manned and offer very many services. In intermodal terms, only one has a connecting intercity bus service, and three have transit service.

The *City of New Orleans* runs over the Canadian National / Illinois Central (CN/IC), and serves Greenwood, Yazoo City, Jackson, Hazelhurst, Brookhaven, and McComb in Mississippi on its route between Chicago and New Orleans. The *Sunset Limited* operates triweekly over CSX Transportation tracks along the Gulf Coast with stops at Bay St. Louis, Gulfport, Biloxi and Pascagoula between New Orleans and Jacksonville, Florida. The *Crescent* serves Meridian, Laurel, Hattiesburg, and Picayune daily. In February of 2001, Amtrak, as part of an initiative to grow its national service, announced it intended to establish a new service between Meridian and Dallas/Fort Worth. The train would be an extension of Amtrak's *Crescent* and would be named the *Crescent Star*. The route through Mississippi would pass through Jackson and Vicksburg using Kansas City Southern trackage.

The Gulf Coast Corridor running from Houston, Texas to Mobile, Alabama is a federally designated high speed rail corridor under Section 1103(c) of TEA-21. The corridor follows the route of CSXT's main line along the Gulf Coast, the same route used by Amtrak's *Sunset Limited*. It also extends along the route of Amtrak's *Crescent* to Birmingham. A recently designated segment between Birmingham and Atlanta would connect with the Southeast High Speed Rail Corridor which in turn connects with the Northeast Corridor.

Mississippi is served by a rail system of 2,585 route miles used by five Class I freight railroads, one regional carrier and a number of short line railroads. In the past decade, virtually all of the state's rail carriers have undergone restructuring through mergers, abandonments, line spinoffs and acquisitions. The Mississippi freight rail system consists of 24 line-haul railroads and terminal or switching companies. The line-haul carriers range in size from fairly short intrastate railroads to members of large rail systems extending from the Gulf of Mexico into Canada. CN/IC's 844 Mississippi route miles represent 33 percent of the statewide rail system. Kansas City Southern is the second largest carrier in terms of Mississippi mileage accounting for 23 percent of the state rail system with its 605 route miles. The Norfolk Southern's 213 miles account for eight percent of the system.

The Class I carriers as a whole account for almost 75 percent of the state's rail system with the other operators making up the remaining 25 percent of the system. The Columbus and Greenville is by far the largest single non-Class I carrier with its 146 route miles, or six percent of the state system. Just over 14 million tons of freight were originated in Mississippi and 16.3 million tons were terminated. Three quarters of all originating tonnage consisted of just three categories: lumber or wood products; pulp, paper or allied products; and chemicals or allied products. Just over half of the terminating traffic was composed of farm products, coal, and chemicals or allied products.

Bicycle/Pedestrian

For the most part there has not been sufficient use or demand to justify the consistent development of bicycle and pedestrian facilities, aside from select urban and university areas. While the state has a number of roadways without paved shoulders, many of the

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rural two-lane facilities have traffic volumes low enough to allow safe bicycle travel. The majority of the interest in bicycle and pedestrian facilities is recreational in nature, and contained in the urban/university settings.

While nonmotorized modes represent a small portion of Mississippi's transportation network, it is important to institutionalize planning for such facilities. As bicycling and walking continue to gain momentum and become more prominent as alternative transportation modes, new issues and concerns constantly arise. Safety, connectivity, funding opportunities, and coordination with local areas are opportunity areas that are addressed within the MULTIPLAN.

Safety issues assessed include the availability of paved shoulders on rural two-lane roadways and relevant accessibility issues. Connectivity opportunities include ensuring that local area trails connect to larger systems, such as the signed Mississippi River Trail. With regard to funding opportunities, MDOT has used TEA-21 Enhancement funds to assist local governments with implementation of bicycle and pedestrian improvement projects, allocating or committing to allocate approximately 47 percent of the Enhancement Program funds for bicycle/pedestrian projects. MDOT also has the ability to provide technical assistance to local areas planning and designing bicycle and pedestrian facilities.

INTELLIGENT TRANSPORTATION SYSTEMS

Several key activities necessary for the development of the Statewide Intelligent Transportation Systems Plan have been completed with the MULTIPLAN. The *Mississippi Statewide ITS Vision* was prepared which defined the ITS User Services appropriate to the state. The Vision was developed based on input obtained from stakeholders from a series of workshops held throughout Mississippi. Using the Statewide ITS Vision as a guiding foundation, the *Mississippi ITS Market Packages* were developed. The Market Packages represent the base elements that will be used to define the *Mississippi ITS Architecture*, and represent the physical entities (e.g Traffic Management Centers) that will need to be involved in particular ITS applications.

Following the completion of the Market Package analysis, an *ITS Concepts* document was prepared that allocated the relevant Market Packages into logical ITS Program Areas. These Program Areas provide insight into the organizational framework within MDOT that is required to carry out the ITS program. Finally, an Operational Vision for Jackson, called *CAPTAIN* (Capital Area Traffic and Incident Network) was prepared to describe the day-to-day operations of an integrated ITS program in the Jackson Metropolitan area. CAPTAIN is being used as a basis for defining candidate short-term projects in Jackson.

PUBLIC INVOLVEMENT

Public involvement and participation includes more than meetings, newsletters and brochures. The process must create an open and ongoing dialogue with the public. Citizens and organizations need to understand, at the outset, how the decision-making process works, and, more importantly, how they can become involved in that process and how their input will be used. The public involvement plan outlines the public

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strategies for Mississippi's long-range transportation plan (MULTIPLAN), providing a framework for reaching both public and private sector individuals and entities involved in and affected by transportation-related activities within the state.

Four key aspects of the MULTIPLAN public involvement process will be integrated throughout the MULTIPLAN development, to insure that the needs and concerns of a cross-section of Mississippians are addressed:

- Consistently inform stakeholders of MULTIPLAN progress;
- Provide opportunities for MULTIPLAN stakeholder involvement;
- Pay attention to the needs and concerns expressed by stakeholders; and
- Incorporate the knowledge gained from stakeholder involvement.

The public involvement plan will guide statewide activities throughout the MULTIPLAN development by providing a variety of opportunities for public and private sector review and comment on the ongoing progress.

MPO PLANNING

The development of the MULTIPLAN involves substantial coordination with the four Metropolitan Planning Organizations (MPOs) within Mississippi. This coordination between MDOT and the MPOs will bring about a truly unified statewide transportation planning effort, with emphasis placed on the interrelationships between the transportation networks at local, regional and state levels. As such, MPO planning efforts have been incorporated in the MULTIPLAN development.

Mississippi Gulf Coast Urbanized Area 2025 Transportation Plan

The Mississippi Gulf Coast Urbanized Area is located in south Mississippi approximately 50 miles east of New Orleans and 35 miles west of Mobile. The urbanized area runs along the Mississippi Sound a length of 74 miles and includes portions of the following three counties:

- the southeast portion of Hancock County;
- the southern portion of Harrison County; and
- the southern portion of Jackson County.

The study area includes the municipalities of Waveland, Bay St. Louis, Pass Christian, Long Beach, Gulfport, Biloxi, D'Iberville, Ocean Springs, Gautier, Moss Point and Pascagoula.

The new 2025 Plan was developed using the existing model that was developed and adopted in 1996. New socio-economic forecasts and network modifications for constructed and committed projects were applied to the traffic forecast model to project traffic conditions for the Plan in the year 2025.

Two public meetings to present the revisions to the Plan were conducted on December 3, 2001 in Hancock and Jackson Counties. Another public meeting was conducted in

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Harrison County on December 5, 2001. The plan was reviewed and adopted at a joint meeting of the Transportation Technical and Policy Committees on December 6, 2001.

Significant elements of the Plan are shown in **Table E-3**. The 2025 financially constrained Plan consists of over 180 miles of roadway, intersection and interchange improvements with a cost of over \$722 million. There are also over 72 miles and \$713 million of vision needs (identified needs with no funding source) that are required to fully satisfy the projected demands on the transportation system. Based on the historical funding to the Gulf Coast urbanized area, these needs may not be met unless significant funding resources are put into place to fund these projects. The total funding needs to meet all of the projected Gulf Coast transportation requirements are over \$1.43 billion.

Table E-3
SUMMARY OF IMPROVEMENTS – GULF COAST

	Miles	Cost
Stage I – 2002-2006	88.89	\$382,625,800
Stage II – 2007-2015	48.50	164,271,000
Stage III – 2016-2025	48.10	175,135,000
Total-Financially Constrained Stages I, II & III	180.49	\$722,031,800
Vision Needs (unfunded)	72.30	\$713,232,500
Total	252.79	\$1,435,264,300

Source: Neel-Schaffer, Inc., December 2001

Jackson Urbanized Area 2025 Transportation Plan

The Jackson Urbanized Area is located in central Mississippi approximately 50 miles east of the Mississippi River. The urbanized area straddles the Pearl River and includes portions of three counties:

- the northeast portion of Hinds County;
- the northwest portion of Rankin County; and
- the southeast portion of Madison County.

The study area included the municipalities of Jackson, Clinton, Terry, Pearl, Flowood, Richland, Brandon, Ridgeland and Madison.

The new 2025 Plan was developed using the existing model that was developed and adopted in 1997. New socio-economic forecasts and network modifications for constructed and committed projects were applied to the traffic forecast model to project traffic conditions for the Plan in the year 2025.

The Intermodal Technical Committee reviewed the revised Plan and on November 27, 2001 agreed to recommend to the Transportation Policy Committee that the Plan be adopted barring any significant comments from the public meeting. A public meeting and Transportation Advisory Committee meeting was held on November 28, 2001 and no significant comments came from this meeting. On December 6, 2001, the Transportation Policy Committee adopted the Plan.

Significant elements of the Plan are shown in **Table E-4**. The 2025 financially constrained Plan consists of over 160 miles of roadway, intersection and interchange improvements with a cost of over \$783 million. There are also some vision needs that are required to fully satisfy the projected demands on the transportation system. Based on the historical funding to the Jackson urbanized area, these needs may not be met unless significant funding resources are put into place to fund these projects. The total funding needs to meet all of the projected Jackson transportation requirements are over \$1.24 billion.

Table E-4
SUMMARY OF IMPROVEMENTS – JACKSON

	Miles	Interchange Projects	Cost
Stage I - 2002-2006	61.28	3	\$255,370,000
Stage II - 2007-2015	35.07	4	269,700,000
Stage III - 2016-2025	64.17	1	257,940,000
Total - Financially Constrained Stages I, II & III	160.52	8	\$783,010,000
Vision Needs (unfunded)	75.80	3	\$461,650,000
Total	236.32	11	\$1,244,660,000

Source: Neel-Schaffer, Inc., November 2001

Hattiesburg–Petal–Forrest–Lamar MPO Transportation Plan Update 2001

The Hattiesburg Urbanized Area is located in south Mississippi approximately midway between the Mississippi Gulf Coast and Jackson. The urbanized area straddles the county line between Lamar and Forrest counties. The study area includes the western portion of Forrest County, eastern portion of Lamar County and the municipalities of Hattiesburg and Petal. The last Plan developed for this area was completed and adopted in 1996. At that time, no computerized traffic forecasting model was developed for this urbanized area.

The public forum to review the updated Plan was conducted on November 8, 2001. The Transportation Technical Committee approved the updated Plan on November 27, 2001 and made a recommendation that the Transportation Policy Committee adopt the Plan. The Policy Committee adopted the updated Plan on November 28, 2001.

As part of the plan update effort, a new future land use plan for the urbanized area was developed. The study area was also expanded in areas where development trends have pushed to the edge of the old study area boundaries. The two transportation needs this updated Plan addresses are the connection of corridors between identified developing areas and the development of new corridors to access available land areas and accommodate additional development.

DeSoto County/Memphis MPO Plan

The transportation plan for the DeSoto County urbanized area of Mississippi falls under the responsibility of the Memphis MPO, Memphis-Shelby County Office of Planning and Development (MSCOPD), in cooperation with the DeSoto County Planning Commission (DCPC). At the time of this writing, the MSCOPD has fallen behind the anticipated schedule for developing the model and the Plan update. There has been insufficient opportunity to provide the DCPC with the anticipated technical support in the review of the Mississippi portion of the Memphis area plan.

SUMMARY

The information provided in this document is a summary of the full Phase I of the MULTIPLAN, an interactive process representing the interests of a large cross-section of Mississippi. The MULTIPLAN articulates the current status of transportation in Mississippi, assesses modal deficiencies, and integrates Metropolitan Planning Organization (MPO) Plans. The MULTIPLAN addresses transportation needs and desires across multiple levels, analyzing all modes of travel for their responsiveness to local, regional and statewide needs, ability to further economic development objectives, contribution to environmental stewardship ideals, and the overall impact on the quality of life of Mississippi's citizenry.

As indicated earlier, Phase I is an interim plan that will serve as the state's transportation blueprint for development of the more extensive Phase II plan, scheduled to be completed in 2004.

The enclosed CD includes Phase 1 of the MULTIPLAN in its entirety. The individual Metropolitan Planning Organization plans are not provided on the CD. They, along with all Phase 1 sections, may be found on the MULTIPLAN website at www.mdotmultiplan.com