VIRGINIA

STATEWIDE INTERMODAL LONG-RANGE TRANSPORTATION POLICY PLAN

PREPARED BY

VIRGINIA DEPARTMENT OF AVIATION

VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

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1.0 INTRODUCTION

The Commonwealth of Virginia is committed to comprehensive planning for all transportation modes. The development of transportation plans and funding programs is an integral component of the functions of many state, regional, and local agencies. At the state level, the primary agencies involved include the Virginia Department of Transportation (VDOT), the Virginia Department of Rail and Public Transportation (DRPT), The Virginia Department of Aviation (DOAV), and the Virginia Port Authority (VPA). The Virginia Department of Motor Vehicles (DMV) plays a significant role in the area of safety information management and provision of technologically advanced customer service. At the regional level, there are the Metropolitan Planning Organizations, the Transportation District Commissions, and the Planning District Commissions. At the local level, the local planning commissions of the counties and municipalities, as well as the local governing bodies, play an important role.

Virginia places considerable emphasis on insuring that proper interface exists among all modes of transportation and that long range plans include consideration of all modes. The Statewide Intermodal Long-Range Transportation Policy Plan supports the planning efforts, policy making activities, and programming of projects for the various agencies and organizations involved in transportation planning.

The intermodal transportation plan is especially beneficial in Virginia because the Commonwealth is a coastal state with a major international port, has broad areas that are densely populated and serves as a primary corridor for north-south and east-west freight and passenger transport. In addition, Virginia's transportation network serves the strategic interests of the nation's capital and serves the large number of military facilities located in the state.

The primary purpose of this Statewide Intermodal Long-Range Transportation Policy Plan is to establish policy goals which will guide Virginia's efforts to develop an efficient intermodal transportation system for the future. This plan results from an extensive public involvement process. Two rounds of public meetings were held in each

of VDOT's nine construction districts. Information and comments gathered at these meetings were used to refine the plan.

This plan is not a technical report that includes a list of transportation construction projects. Instead, this plan identifies overall strategies and goals for Virginia to provide a seamless intermodal transportation system.

2.0 ISTEA REGULATIONS

In December, 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), which included a requirement for a statewide transportation planning process that considers all modes and connections among them and covers all areas of the state. The final rules and regulations governing the statewide planning process were issued jointly by the Federal Highway Administration and the Federal Transit Administration in October, 1993.

According to the federal regulations, the statewide transportation planning process shall include, as a minimum:

1. Data collection and analysis
2. Consideration of 23 specific planning factors
3. Coordination of activities
4. Development of a statewide transportation plan that considers a range of transportation options designed to meet the transportation needs (both passenger and freight) of the state including all modes and their connections
5. Development of a statewide transportation improvement program

As noted above, the ISTEA planning regulations require the consideration and analysis of 23 planning factors where appropriate. A full listing of the required planning factors is included in Appendix A.

The ISTEA regulations place an emphasis on coordination among all transportation providers to ensure a systems perspective is utilized to develop the statewide plan. The regulations require each state to provide for a fully coordinated process in 13 areas, including data collection and analysis, intermodal facility consideration, financial planning

and alternatives analysis. A complete listing of the coordination requirements is included in Appendix B.

3.0 WORK PLAN

The Virginia Department of Transportation had lead responsibility for the development of the Statewide Intermodal Long-Range Transportation Policy Plan. An Advisory Committee was established to coordinate and oversee all elements in the preparation of the plan. The committee was comprised of representatives from each of the state's modal agencies -- VDOT, DRPT, DOAV and VPA. A general outline of the main tasks in the work plan is presented below.

Major Work Tasks

1. Assemble and review existing studies, reports, and documents useful in the development of the policy plan; especially those studies relating to the 23 planning factors.
2. Address the 23 planning factors required by the ISTEA regulations.
3. Identify potential policies to support the implementation of Virginia's long-range transportation plan.
4. Conduct a round of Public Information Meetings to present potential policies. These meetings were held during December 1994. One meeting was held in each of VDOT's nine construction districts with total attendance at the nine meetings exceeding 300 people.
5. Refine policies based on comments received at Public Information Meetings.
6. Conduct a second round of Public Information Meetings to receive comments on refined policies. These meetings were held during March and April 1995.
7. Finalize recommended policies.
8. Prioritize the transportation policies against financial constraints.

4.0 POLICIES AND ACTION PLAN

Virginia's Transportation Secretariat spent nine months during 1994 developing a strategic plan for transportation in Virginia. A series of forums was held to engage public and private sector transportation stakeholders in a dialogue to help define and articulate how that vision would be put into action. The forums, involving over 200 participants, were held across the Commonwealth. Additionally, individuals and organizations provided written comments. Hundreds of ideas and suggestions provided by the participants were reviewed and summarized by working groups to help develop the strategic plan.

The mission statement developed to guide Virginia's future transportation investment states: "Virginia will have a safe, efficient, intermodal transportation system with seamless connections among all modes. The Commonwealth will develop a balanced, environmentally sound transportation system that provides mobility, responds to the market and fosters economic prosperity with a range of viable modal choices. Transportation policies and planning will emphasize the movement and people and goods from origin to final destination rather than mode-specific travel."

The policies that will guide Virginia's strategic vision and long-range planning for all modes of transportation fall into seven general categories which encompass many of the 23 planning factors outlined by FHWA: Intermodalism, Deregulation, Economic Development, Markets, Privatization, Freight, and Technological Leadership and Safety.

Intermodalism

Virginia is committed to pursuing intermodal solutions to Virginia's transportation needs. Improved connectivity among modes will be fostered to improve the efficiency and effectiveness of the transportation system. A full range of modal alternatives for passengers and freight will be encouraged to provide choice and competition in the marketplace. Strategic investments to increase mobility by improving connectivity among modes will be identified and implemented.

The movement of freight from origin to destination increasingly is being accomplished through the use of more than one mode. For example, a new product may be shipped by truck from the manufacturer to a rail terminal where it is transferred to a

railroad car for the long haul to a warehouse near its destination. From the warehouse, it is delivered by truck to its final destination. This logistics chain and the ease of transfer among trucks, planes, railroad cars and ships is the key to intermodal freight transportation.

Most freight transfers to trucks before final delivery, making the planning of highway/other mode connections critical to eliminating bottlenecks. These transfer points include highway access to truck terminals, air freight terminals, railroad sidings or intermodal transfer facilities, and port facilities. Congestion delays at or near these transfer points introduce an element of uncertainty which makes the economies of "just-in-time" deliveries difficult to achieve. If a shipper cannot be assured that connections will be seamless, intermodal freight movement is discouraged.

The responsibility for passenger services is dispersed among a number of private and public entities. This diffused system has made the coordination of services into a seamless network difficult in the past. Because of the institutional relationships, passenger transportation planning and service has tended to focus on improvements to one mode at a time. But system diffusion results in uncertain connections and hinders increasing ridership.

Most urbanized areas in Virginia provide public transportation services. Due to the construction cost for rail facilities and the high density of development required to support rail service, bus transit systems will continue to be the largest provider of public transportation. Improving modal connections to facilitate the use of bus transit is an important part of the effort to reduce congestion.

Park and ride facilities provide the critical connection between mass transit service and commuters using the automobile for a portion of their trip. Parking garages, for example, are located adjacent to Metro and Virginia Railway Express (VRE) stations and many bus lines so that commuters can leave their vehicles to complete the rest of their trip by transit. In the Tidewater area, passenger ferry service is provided daily from downtown Portsmouth to the heart of Norfolk's central business district.

Intermodal passenger facilities extend beyond those provided between cars and mass transit service. Other examples of efforts to improve connections between

passenger modes include bicycle racks at Metro stations, Metro service to Washington National Airport, and connecting bus service to Amtrak stations and Metro rail.

To ensure that Virginia responds to transportation needs from a multimodal perspective and plans for an integrated transportation system for the future, the following policies are being implemented to facilitate statewide long-range intermodal planning:

- Identify opportunities to enhance strategic intermodal connections. A single inadequate connection in the transportation system will reduce the efficiency of the overall system. The ensure the availability of a full range of modal choices and to improve access, efficiency and throughput of the system, connections among modes will receive special attention.

- Conduct a detailed inventory of Virginia's intermodal facilities (including passenger facilities as well as bulk transloading facilities, coal transloads, and automobile loading/unloading ramps) and identify existing and projected bottlenecks at critical access points between modes.

- Identify strategic passenger and freight intermodal corridors in the Commonwealth and needed project improvements along these corridors, including consideration of double-stack railroad lines. Encourage the MPOs to support these projects and incorporate these corridors into their regional transportation plan.

- Support the improvement and further development of strategic intermodal centers such as Dulles International Airport, the Ports of Hampton Roads, and the Virginia Inland Port.

- Recommend that representation on MPOs be expanded to include all regional modes and freight groups.

- Incorporate intermodal planning, including planning for bicycle, pedestrian and telecommuting facilities, in the transportation planning efforts at the state and regional levels.

- Consider a full range of modal alternatives when assessing transportation needs for passengers and freight.

Deregulation

Compliance with state and federal regulations has long been considered burdensome by many in the motor carrier industry. In transportation today, regulation of the industry often actually increases costs with little if any off-setting "public" benefit. In Virginia, nine agencies are responsible for the promulgation and enforcement of motor carrier regulations including the State Corporation Commission, the Departments of Motor Vehicles, State Police, Transportation. The plethora of regulations interferes with the efficiency of the motor carrier industry and consequently impedes the growth of the Commonwealth's economy and competitiveness.

Regulatory and administrative barriers to the efficient use and development of the transportation system will be identified and removed to enhance productivity. Except where specifically justifiable (for example, perhaps in some safety arenas), state regulatory requirements should not exceed federal requirements. Virginia's action plan to remove unnecessary regulatory burdens and enhance the movement of commercial vehicles includes the following items:

- Implement a "one-stop shopping" program through which motor carriers can secure necessary registration, licensing and other requirements of all state agencies in a single visit to one location.

- Eliminate trucking regulations which are incompatible with the federal deregulation of intrastate trucking.

- Expand Surface Transportation Assistance Act (STAA) route eligibility and reduce the regulatory burden of truckers.

- Recommend legislation to treat containerized cargo bound to or from a seaport as irreducible loads eligible for permitting.

- Establish a public-private Task Force to review laws and regulations governing railroads to simplify regulations, remove archaic language, and respond to changes in federal railroad regulations.

Economic Development and Markets

Virginia's existing transportation infrastructure, whose replacement value is in the billions of dollars, makes an enormous and indispensable contribution to economic productivity. Virginia will continue its commitment to maintain its existing facilities for moving people, freight and information throughout the Commonwealth and pursue technical and procedural innovations that improve the efficiency of maintenance expenditures.

Providing a high quality transportation system is critical to attract and retain major employers. Improving the transportation infrastructure is a critical step to attract new industries and to secure Virginia's economic future. Transportation investment decisions must be responsive to market needs and be based on sound economic principles. Strategic investments in the arena of Automated Highway Systems --such as Virginia's "Smart Highway" project -- boost the throughput of the existing infrastructure as well as creating centers of economic growth and development.

Virginia must base its transportation investment decisions on sound economic principles. This means that the Commonwealth must utilize a market approach, including comprehensive measures of economic costs and benefits to prioritize its transportation planning and investment options.

Virginia's plan to develop a transportation planning and investment approach that is responsive to the Commonwealth's economic develop needs includes undertaking the following initiatives:

- Increase the flexibility in the use of Industrial Road, Rail Industrial and Airport Access funds for economic development.

- Make transportation investments that maximize the potential of Virginia's tourism resources and promote economic growth.

- Maximize the economic development impacts of the Transportation Enhancements Program by developing project selection criteria that focus on tourism and other economic development opportunities.

- Appoint a contact to coordinate transportation planning efforts with the State Division of Tourism.

- Support the "Smart Highway" project currently under development and the adaptation of "Smart" technologies and their compatibility for other forms and modes of transportation.

Privatization

Public sector funds for transportation are limited. By utilizing private sector resources to finance transportation infrastructure, public sector funds are freed-up for other projects. Maximizing private sector involvement in infrastructure development results in an expanded transportation pie. The public-private approach suggested here is intended to supplement -- not supplant -- public efforts in transportation.

The provision of transportation assets and the delivery of transportation services will be enhanced through innovative financing techniques such as public-private partnerships and privatization initiatives. Private sector solutions to meeting transportation needs must be encouraged. To facilitate the expanded use of public-private ventures the following actions are being implemented in Virginia:

- Secure enactment of the Virginia Public-Private Transportation Act of 1995 to improve Virginia's ability to compete for private financial resources for transportation facilities.

- Secure enactment of a companion piece of legislation to establish a revolving fund to enhance the Commonwealth's ability to participate in public-private partnerships under the state's jurisdiction.

- Utilize Value Engineering to identify transportation activities and functions that can best be performed by the private sector. Initially, the feasibility of privatizing road maintenance, project design and equipment repair and maintenance should be pursued.

At the federal level, the FHWA Innovative Financing Project initiative will provide States alternative methods to leverage the capital that funds their highway projects. Several powerful tools contained in ISTEA permit States to loan federal-aid highway money to fund local and public/private transportation ventures. Virginia will take full advantage of these provisions to expand the availability of transportation in the Commonwealth.

Freight

Traditionally, freight needs have been overshadowed by passenger needs in the planning process and decisions made on a mode-specific basis. Virginia will expand its efforts to consider the special needs of freight shippers as part of providing a world-class transportation system.

Because freight movement frequently spans multiple modes of transportation, financing of freight system improvements often is precluded because projects cross lines between different funding programs. Virginia will support flexibility of fund use and seek innovative financing techniques to support critical freight needs.

Freight movement in the Commonwealth will be explicitly considered and facilitated in the planning and development of the transportation system in the following manner:

- Include consideration of freight and its movement in all transportation planning processes and place an emphasis on intermodal solutions.

- Create a Multimodal Freight Advisory Group to the Secretary of Transportation comprised of private sector freight carriers of all modes. This group will be available to advise the Commonwealth Transportation Board, the Virginia Aviation Board, the Port Authority Board of Commissioners and MPOs on transportation issues and concerns related to the movement of freight. The Secretary will designate staff to support the efforts of the group.

- Review federal laws, including ISTEA, and identify exclusions in the law, to ensure that Virginia utilizes all available funds to improve freight linkages.

Technology and Safety

Safety has been, and will continue to be, a high priority in Virginia's transportation system. Technology plays a key role in making the transportation system safer and improving its throughput and overall effectiveness. The Commonwealth will make safety a cornerstone of its transportation system and employ every reasonable means to ensure that risks to travelers are minimized, regardless of the mode by which they travel.

Virginia's transportation agencies will utilize advanced research and technology to improve productivity and efficiency, create smooth intermodal connections, replace person travel (i.e. telecommunication), and reduce the life-cycle costs of building and maintaining transportation facilities. Virginia will continue to invest heavily in ITS, Geographic Information Systems and other technologies that help provide for improved mobility of passengers and freight.

Research and state-of-the-art technology increase safety and improve productivity and quality of service. Virginia will lead the research community in the development of innovations and in the application of technology to improve safety and mobility, to increase the capacity of the infrastructure and to foster economic development through the following initiatives:

- The Commonwealth will direct resources to technologies that reduce congestion, provide improved traveler information, and reduce the cost of moving travelers from point of origin to point of destination and eliminate the need to travel.

- Develop and deploy a statewide traveler information system. This system will support incident and congestion management, improve the state's ability to relay important safety messages to travelers, and promote tourism within the state.

- Support research efforts to reduce accidents in rail corridors. Many accidents occur at rail crossings when vehicles attempt to cross the tracks in front of an oncoming train.

- Accelerate implementation of a GIS to support real-time routing analysis and other Intelligent Transportation technologies.

5.0 PLANNING FACTORS

To develop the policies guiding Virginia's long-range intermodal transportation plan, Virginia's transportation agencies analyzed the State's transportation systems in terms of the 23 planning factors outlined in the ISTEA regulations. The following section delineates how each planning factor was addressed.

1. The Transportation Needs Identified Through the Management Systems

Management Systems provide a systematic process to assist decision-makers in selecting cost effective strategies and actions to protect investments and improve efficiency and safety of the transportation network. The Management Systems include performance measures, data collection and analysis, determination of needs, evaluation of alternatives, and selection of strategies and evaluation of their effectiveness. ISTEA requires six Management Systems: Pavement, Bridge, Highway Safety, Traffic Congestion, Public Transportation Facilities and Equipment, and Intermodal. In addition, a Traffic Monitoring System is also required. Work plans for Virginia's management and monitoring systems were submitted to FHWA in 1994.

To integrate the products of the management systems into the statewide intermodal planning process, VDOT reviewed the following reference documents: "Work Plan for the Pavement Management System" (VDOT, September 1994); "Work Plan for the Bridge Management System" (VDOT, September 1994); "A Strategic Plan for the Design and Creation of a Safety Management System for the Commonwealth of Virginia" (Virginia Transportation Research Council, October 1994); "Congestion Management Work Plan" (VDOT, September 1994); "Public Transportation Management System - Work Plan" (Virginia Department of Rail and Public Transportation, September 1994); "Intermodal Management System - Work Plan" (VDOT, September 1994); and "Traffic Monitoring Systems Development Study" and "Traffic Monitoring System Development Study - Implementation Plan" (Cambridge Systematics, Inc. a consultant for VDOT, May and July 1994).

None of the management systems are fully operational at this time. However, the workplans for each of the systems were developed in light of the

outcomes needed to support Virginia's long-range transportation planning efforts. For example, the traffic monitoring system will provide improved VMT tracking; the pavement management system will allow for life-cycle cost analysis of paving options; the intermodal management system will identify alternative strategies to facilitate connectivity among modes; and the congestion management system will allow Virginia to evaluate system performance and identify deficiencies. The products of all of these efforts will enhance the long-range planning and programming activities for transportation infrastructure in Virginia.

2. Any Federal, State, or Local Energy Use Goals

To facilitate consideration of energy use goals in the statewide transportation planning process, VDOT reviewed the report "Virginia Leads the Way: Planning for a Sustainable Energy Future," prepared by the Virginia Department of Mines, Minerals, and Energy in October of 1992. This report sets out an energy plan for Virginia and stipulates the goals, objectives and strategies for energy management. Transportation is a key element of the energy plan. The transportation initiatives to reduce energy consumption in Virginia include the encouragement of transportation demand management techniques such as HOV lanes, public transit enhancement, support for alternative fueled vehicles and telecommuting. TDM and TSM strategies are assessed whenever Virginia undertakes an improvement project, especially in the air quality nonattainment regions.

3. Strategies for Incorporating Bicycle and Pedestrian Facilities in Appropriate Projects

The Virginia Department of Transportation has been proactive in its integration of bicyclist and pedestrian needs into the transportation planning process. VDOT funds paved shoulders, shared lanes, bike lanes and trails as well as bicycle racks and lockers.

VDOT has a Bicycle Advisory Committee that notifies local bicycle clubs of planned highway projects so that they can provide input on the need for bicycle facilities. A VDOT transportation planning staff member reviews highway plans to

determine if the project coincides with recommendations contained in local bike plans. VDOT has established two interstate bicycle routes. VDOT and the Bicycle Advisory Committee are presently preparing a statewide bicycle suitability map.

In July 1994, VDOT and the Bicycle Advisory Committee developed a draft planning guide for local governments, regional planning agencies and MPOs to assist them in developing bike plans for their areas. Technical assistance is also provided by VDOT staff for the development of local bicycle plans.

VDOT currently is reviewing its policy for participating in the cost of pedestrian facilities. Before programming, all projects are reviewed by staff to determine the need for pedestrian facilities. One source of funding for both pedestrian and bicycle projects is Virginia's Enhancement funds.

4. International Border Crossings and Access to Ports, Airports, Intermodal Facilities, Major Freight Distribution Routes, National Parks, Recreation and Scenic Areas, Monuments and Historic Sites, and Military Installations

One of the major provisions of ISTEA was the authorization of the National Highway System (NHS). The purpose of the NHS is to provide a system of highways that meets national defense requirements, serves interstate and interregional travel, and serves major travel destinations, international border crossings, major population centers, major ports, major airports, major public transportation facilities, and other major intermodal facilities. The highways that will comprise Virginia's portion of the NHS have been recommended by VDOT and approved by FHWA, but have not yet been approved by Congress. The NHS routes recommended by Virginia consist of 3,447 miles. The recommended system represents 5.1 percent of the total statewide roadway mileage, but carries nearly 50 percent of the roadway vehicle miles of travel. The NHS routes selected by Virginia were selected to ensure that there was adequate access to the types of locations cited in this planning factor.

Selecting the key highways and connection points among modes and delineating them as a system of national significance will serve to ensure that these routes are considered first in the transportation planning process.

Connections among highway and other modes as well as key facilities will also be integrated into the Intermodal Management System (IMS). The work plan for the IMS describes the process for developing and implementing a system that addresses and evaluates major freight distribution routes and access to ports, airports and other intermodal facilities.

5. Non-Metropolitan Area Transportation Needs

In 1993 Virginia instituted a rural transportation planning assistance program for the Planning District Commissions (except for the Northern Virginia PDC) with a grant of $40,000 per year in State Planning and Research (SPR) funds to each Planning District Commission (PDC). VDOT has entered into agreements with each of the PDCs to ensure the funds are used to: 1) Review statewide transportation plans and compile local government comments relative to plan updates; 2) Review annual Statewide Transportation Improvement Programs for all modes; 3) Assess impacts of major developments; 4) Develop regional consensus on priorities of transportation programs for consideration by Virginia's Commonwealth Transportation Board; 5) Identify major regional issues pertaining to transportation safety, road capacity, and accessibility; and 6) Identify methods to expand and enhance transit services and to increase the use of such services.

For urban areas with a population greater than 3,500 but less than 50,000, VDOT prepared a long-range assessment of each area's transportation system and recommended a set of transportation improvements that can best satisfy existing and future needs. Plans have been developed for the urban areas of Abingdon, Altavista, Ashland, Bedford, Big Stone Gap, Blacksburg, Blackstone, Bluefield, Bridgewater, Buena Vista, Chase City, Chincoteague Island, Christiansburg, Clifton Forge, Covington, Culpeper, Elkton, Emporia, Farmville, Franklin, Front Royal, Galax, Grottoes, Harrisonburg, Lebanon, Lexington, Luray, Marion, Martinsville, Narrows, Norton, Pearisburg, Pulaski, Radford, Richlands, Rocky Mount, Saltville, South Boston, South Hill, Staunton, Tazewell, Warrenton, Waynesboro, Winchester, Wise, Woodstock, and Wytheville. These transportation plans are utilized by VDOT to evaluate requests from local governments for specific projects and for implementing projects which VDOT initiates. The preparation of these plans was coordinated with the local jurisdictions involved. Local input was solicited and

utilized in the identification of deficiencies and the development of recommendations. These plans are updated upon the request of the localities.

6. Metropolitan Area Transportation Plans

Virginia is involved with the development of transportation plans for all eleven major metropolitan areas of the State. These consist of the urbanized areas for Bristol, Charlottesville, Danville, Fredericksburg, Hampton Roads, Kingsport, Lynchburg, Northern Virginia, Richmond, Roanoke, and the "Tri-Cities Region" -- Petersburg, Colonial Heights, and Hopewell.

Each MPO is assigned a member of VDOT's transportation planning staff to help them with the development of their metropolitan plans and ensure coordination between the metropolitan plans and the statewide transportation plan. VDOT personnel provide technical guidance for the evaluation of needs, setting of criteria, alternatives analysis and financial planning. Projects included in the metropolitan plans are not selected by the MPOs alone. Representatives of transit companies, local airports and port facilities as well as local highway residency personnel are involved in the assessment of needs.

7. Connectivity Between Metropolitan Areas

One of the primary elements that makes Virginia's's statewide transportation plan more than a compilation of local area plans is the inclusion of supra-regional strategies. The State transportation agencies provide the big picture perspective to ensure that mobility throughout the state is enhanced. By including assessments of needs on the Interstate and National Highway Systems, intercity passenger and freight rail needs, airport needs and port needs in Virginia's planning activities, the Commonwealth ensures that inter-regional travel and connectivity is enhanced.

Specific studies conducted by Virginia's's transportation agencies to assess connectivity between metropolitan areas include, "Rail Needs Assessment and Planning Methodology Report," "State of Virginia -- National Highway System

Inventory," "Virginia Air Cargo and Air Transportation System Plans," and the "Virginia 2010 Statewide Highway Plan."

8. Recreational Travel and Tourism

Tourism is one of the largest industries in Virginia. In 1992, 158,000 jobs were supported by travel spending, and domestic travelers' expenditures in Virginia were $8.6 billion. An adequate transportation infrastructure and appropriate access to these attractions are critical to retaining Virginia's status as a major tourism state. Virginia's Department of Economic Development includes a Division of Tourism. This office produced a report "1994 Marketing Plan" that presents the mission and goals of the Commonwealth in regard to recreational travel and tourism. Another resource document utilized in addressing this planning factor was "1995 Domestic & International Tourism Marketing Opportunities," also prepared by the Division of Tourism.

Virginia's Transportation Secretariat has been working to increase its efforts to promote and support tourism and recreational travel. The agencies of the Secretariat are identifying existing and potentially significant tourism corridors and examining the feasibility of supporting tourism-related transportation improvements. In addition, the State is developing and deploying a statewide traveler information system. This system will support incident and congestion management, improve the state's ability to relay important safety messages to travelers, and promote tourism within the state.

Another significant resource in addressing recreational travel and tourism is "A Map of Scenic Roads in Virginia" prepared by the Virginia Department of Transportation in October of 1994. This map traces over 2,000 miles of scenic roads in the State and is distributed free of charge to assist travelers visiting Virginia.

9. State Plans Developed Pursuant to the Federal Water Pollution Control Act

The report "Virginia Water Quality Assessment For 1994," prepared by the Virginia Department of Environmental Quality, describes Virginia's water quality conditions during the time period of July 1, 1991 through June 30, 1993. In addition, the document entitled "Permit Regulations" was prepared by the State Water Control Board in September of 1989. This document delineates the procedures and requirements to be followed in connection with permits issued by the Board pursuant to federal or state law.

Also, the study "Virginia Threshold Review Report" was prepared by the Virginia Department of Conservation and Recreation in May of 1994. This report is an assessment of state programs as they apply to the protection of water quality and coastal habitat under the Coastal Zone Management Act.

10. Transportation System Management and Investment Strategies Designed to Make the Most Efficient Use of Existing Transportation Facilities

Technology provides a means to increase throughput and capacity without denigrating safety. Virginia will continue to invest heavily in IVHS (referred to increasingly -- and more appropriately -- as ITS), Geographic Information Systems and other technologies that help provide for improved mobility of passengers and freight.

Virginia has deployed advanced traffic management systems in two major metropolitan areas of the State -- the Northern Virginia (Washington D.C.) region and Tidewater -- to monitor traffic and maximize utilization of the transportation infrastructure. The primary responsibility of TMS is incident management. Another responsibility is to provide congestion management. Loop detectors are installed throughout the system to monitor traffic flow and detect incidents. Closed circuit television is utilized to verify detected incidents and aid in incident management. Ramp meters are stationed throughout the network to regulate traffic flow onto the interstates during peak periods. In addition, 100 changeable message signs are used to provide travelers with information regarding network conditions.

Other technologies utilized in Virginia to make the most efficient use of existing transportation facilities include the use of a FASTOLL system for the Dulles Toll Road.

Another manner through which to maximize transportation infrastructure is to invest wisely. VDOT has a nationally recognized Value Engineering program used to identify ways to improve projects, processes and procedures in order to increase value and reduce costs. Five regional coordinators lead teams that review approximately 60 construction projects annually. Over the past three years, these reviews have resulted in $35 million in cost savings.

11. Social, Economic, Energy, and Environmental Effects of Transportation Decisions

A 1994 report by Virginia's Secretary of Commerce and Trade, entitled "Opportunity Virginia," discusses the importance of transportation to the economic well being of Virginia. The report is a synthesis of studies and reports on economic development and other approaches that address current and future challenges. The Secretary of Transportation played an integral role in the preparation of this study, understanding that transportation is key to economic development.

The report "The Economic Impact and Rate of Return of Virginia's Ports on the Commonwealth : 1992" was prepared for the Virginia Port Authority by Gilbert R. Yochum, Ph.D. and Vinod B. Agarwal, Ph.D. in April of 1994. The purpose of the study was to measure the impact of the ports of Virginia on economic activity in the state and Hampton Roads communities and to estimate the subsequent rate of return on the state's investments in the general cargo facilities of the ports. The economic impact of the ports was measured in terms of the employment, payroll, and tax revenues generated as a result of port activity.

VDOT prepared the report "State Environmental Review Process" to present the process used by VDOT to ensure agency cooperation in planning, designing, and constructing transportation facilities. This process affords the environmental resource agencies the opportunity to comment on highway improvements early in the project development process.

Virginia has undertaken a number of initiatives to mitigate transportation impacts on the environment. One new program is the implementation of a real-time data link between the Department of Environmental Quality and private emissions inspection stations to ensure that motor vehicle registrations in Northern Virginia, Richmond, and Hampton Roads are appropriately based on a vehicle passing or failing a federally required emissions test.

VDOT has just completed a review of its design standards for scenic and historic roadways to establish a procedure to ensure their enhancement. The focus will be on protecting the natural environment.

12. Methods to Reduce and Prevent Traffic Congestion

Congestion management is critical to the maintenance of an effective multimodal transportation system. One of the primary goals of transportation planning is foreseeing and remedying congestion. Transportation Demand Management and Transportation System Management play a major role in the activities undertaken by Virginia's transportation agencies. Virginia was the first State to pioneer the use of high occupancy vehicle (HOV) lanes on I-395 in the Washington area. The use of HOV lanes has expanded dramatically in the last twenty years in both the Northern Virginia and Tidewater regions. Virginia has begun installing reversible HOV lanes to accommodate rush-hour traffic.

Other methods used to reduce traffic congestion include the provision of transit services and commuter rail, the promotion of ride-sharing and telecommuting, and building park and ride lots.

Virginia is accelerating its implementation of a GIS. The Commonwealth will develop comprehensive and accurate transportation network mapping through GIS applications to support real-time routing analysis and other Intelligent Transportation technologies. In addition, Virginia is developing and deploying a statewide traveler information system. This system will support incident and congestion management, improve the state's ability to relay important safety messages to travelers, and promote tourism within the state.

13. Methods to Expand and Enhance Transit Services and to Increase Usage

Virginia has a separate agency -- the Virginia Department of Rail and Public Transportation (DRPT) -- to coordinate transit services. Its mission is to establish, maintain, improve, and promote public transportation services and passenger and freight rail transportation systems that offer citizens mobility and transportation choices; to advise the Governor and Legislature on choices that promote a balanced multimodal transportation system in Virginia; and to oversee the distribution of state and federal funds allocated for mass transportation in a manner consistent with legislative and regulatory directives. To assist Virginia's public transportation providers to expand and enhance transit services and to increase usage DRPT administers and manages state and federal grant programs, conducts performance evaluations of all state transit systems, provides technical assistance, and works to support improvements to human service transportation.

The document "Department of Rail and Public Transportation - Background Information" was prepared by DRPT in April of 1994. This document includes a listing, brief description and FY-94 funding levels of public transportation grant programs administered by DRPT. It also includes a description of other activities and services in which DRPT is involved. One of the most notable activities is the provision of technical assistance and staff assistance in marketing planning, product development, promotion planning and implementation, and marketing research to public transportation operators and agencies.

Virginia also supports the operation of the Virginia Railway Express (VRE) which provides commuter rail service in the Northern Virginia region. Two lines, one from Fredericksburg and one from Manassas, operate with stations throughout the region. The State recently assisted VRE with negotiating agreements with two railroads that own the lines. The Commonwealth also is undertaking a major investment study of the Route 66 corridor (the area where the Manassas line runs) to evaluate the need for additional service in that region.

One activity that both will enhance and increase transit service is the provision of technical assistance grants to localities to employ new technologies designed to facilitate connections among mass transit services. In particular, Virginia will support the development of Automatic Vehicle Identification (AVI)

technology and so-called "Smart Cards" that would allow passengers to pay for travel on various transit systems with one card.

14. The Effect of Transportation Decisions on Land Use and Land Development

The Virginia Department of Transportation works with local jurisdictions to review site plans, evaluate traffic impacts, and recommend transportation improvements needed to serve proposed land development sites. The document "Land Development - Volume I - Site Plan and Subdivision Review Process - Draft" prepared by VDOT in August of 1994 serves as a guide for site plan and subdivision reviews. This document will be the first volume of a three volume "Land Development Manual" currently being prepared by VDOT. This document is not a compilation of regulations, but a guide to be utilized by localities to integrate effectively land use and transportation planning.

Virginia's General Assembly passed legislation (Code of Virginia, Section 15.1-491.2:1.) whereby local jurisdictions, through their zoning ordinances, can allow voluntary proffers of "off site" improvements by developers to alleviate the traffic impacts caused by their land developments.

Virginia has established uniform regulations for the purpose of controlling the use of highway rights of way where it is necessary to provide access to commercial, private, and industrial properties abutting State roads. These regulations are included in the manual "Minimum Standards of Entrances to State Highways" prepared by VDOT in March of 1989. Entrance controls not only protect through traffic from indiscriminate interferences, but are designed to promote safe and convenient entrances and exits for commercial and industrial establishments.

VDOT is also reviewing its project design standards for secondary roads and subdivision streets to find opportunities to reduce unnecessary requirements and allow for flexibility to meet local needs of communities.

It is absolutely essential that transportation planning be better coordinated with land use issues. They are very closely related. However, it is as important to ensure that the State not intrude on land use decisions that are appropriately better

left to local decision-making and that all parties continue to maintain a complete respect for the property rights enshrined in the U.S. Constitution.

15. Strategies to Identify and Implement Transportation Enhancement Projects

The federal Transportation Enhancement Program requires Virginia to pursue efforts to integrate transportation and the natural environment. Pursuant to this, the Virginia's Commonwealth Transportation Board sets aside funding for the Enhancement Program prior to allocating the highway system distributions. This program provides a means to finance activities that are outside the realm of normal transportation projects. Transportation enhancement activities can be stand-alone projects or can be implemented as part of other transportation projects. Transportation enhancement projects are activities or improvements which increase the value or worth of a project or make it more aesthetically pleasing. They should provide a quality-of-life benefit. A project is enhanced by doing something that is not common place.

In October of 1994, VDOT prepared a brochure entitled "Transportation Enhancement Program." This brochure describes the program and invites interested groups and individuals to make applications for the available funds. The Commonwealth Transportation Board allocates funds to specific projects on a statewide, competitive basis. An outside committee assists in the evaluation of projects. A listing of the transportation enhancement projects for Fiscal Year 1995 is included in the "Final Allocation of Funds - Six Year Improvement Program" adopted by the Commonwealth Transportation Board in June of 1994.

16. The Use of Innovative Financing Mechanisms

Public sector resources for transportation are limited. By utilizing private sector resources to finance transportation infrastructure, public sector funds are freed-up for other projects. Maximizing private sector involvement in infrastructure development results in an expanded transportation pie. The public-private approach in Virginia is intended to supplement -- not supplant -- public efforts in transportation. Historically, Virginia has been at the forefront, nationally, passing

enabling legislation such as the Highway Corporation Act of 1988 and the Qualifying Transportation Facilities Act of 1994. The effective date of the latter bill was delayed until July 1, 1995, to allow for modifications to maximize opportunities for privatization (manifested now in the Virginia Public-Private Transportation Act of 1995).

The Public-Private Transportation Act of 1995 is the legislative framework enabling the Commonwealth of Virginia and qualifying local governments to enter into agreements with private entities to acquire, construct, improve, maintain and/or operate any transportation facility. The Act was drafted following a year-long collaboration among General Assembly members, the private sector, and Governor Allen's administration.

Under the PPTA, a private entity may use innovative financing methods, including the imposition of user fees and service payments to develop new transportation facilities. The financing arrangements may include the issuance of debt, equity or other securities and obligations. Virginia's PPTA allows for public/private ventures in all arenas of transportation infrastructure; it is not limited to highway projects. In addition, the PPTA provides a mechanism to leverage funds in creative manners.

The Secretary of Transportation also has forwarded a bill proposing amendments to Virginia's toll facilities revolving account that would permit loans to private operators for transportation facilities. This facilitates the pooling of public and private funds and allows the State to leverage its funds to the greatest extent.

The Commonwealth of Virginia has implemented a variety of other types of innovative financing initiatives. For example, The General Assembly authorized some jurisdictions to create "primary highway transportation improvement districts" to finance transportation projects through the imposition of a special real estate tax on industrial and commercial property. This mechanism was utilized for improving and widening Route 28 in Northern Virginia. Innovative financing approaches have been authorized for the Commonwealth Transportation Board and the Virginia Port Authority; each of which developed a long-term capitalization strategy predicated on the willingness of the General Assembly to appropriate funds to meet debt service, an approach that receives strong support from the bond rating agencies.

Another example of an innovative financing strategy involves the U. S. Route 58 Corridor Development Program in which a fund was established to finance extensive improvements in the Route 58 corridor along the State's southern border. The fund is supported from an annual deposit of $40 million of the recordation tax collected by the State Treasurer.

17. Identification and Preservation of Right of Way for Future Transportation Projects

Virginia has established a review process to identify and preserve right of way for future transportation needs. This right of way could include surplus property that was acquired in connection with a project or it could include excess property created when requests were made to reduce the amount of operating right of way. Abandoned rail lines also are identified. The review procedures involve VDOT's Right of Way, Transportation Planning, and Location and Design Divisions, District Administrators, Resident Engineers, DRPT and others as appropriate for specific situations. These procedures provide an opportunity to identify future transportation needs and retain those right of way properties that might be usable.

VDOT also has a policy on hardship and protective acquisitions, which allows for the acquisition of right of way in the early stages of project development when it is identified to be a critical situation. In many cases, this cannot be accomplished because plans and study documents are not finalized or funding has not been authorized for the project. At this time, Virginia law does not allow corridor preservation.

18. Long Range Transportation Needs for Movement of Persons and Freight

All of the policies and actions outlined in this plan are intended to address the long-range transportation needs for the movement of persons and freight and in Virginia. Virginia's state transportation agencies coordinate their efforts with local governments, planning district commissions and metropolitan planning organizations. The Secretary of Transportation is

working to ensure that the needs of all modes are considered at the metropolitan level as well, by expanding membership on the MPOs.

19. Methods to Enhance the Efficient Movement of Commercial Motor Vehicles

Virginia's strategic location along the I-64, I-81, I-85, and I-95 corridors allows commercial motor carriers who move domestic trailer loads and less than truck load shipments to provide excellent service to all business segments within the region.

To enhance the efficient movement of commercial vehicles Virginia is eliminating unnecessary State regulations. Regulatory compliance is costly and time consuming for commercial motor vehicles. In Virginia, nine agencies are responsible for the promulgation and enforcement of motor carrier regulations including the State Corporation Commission, the Department of Motor Vehicles, the State Police, the Department of Transportation, and the Department of Environmental Quality. The plethora of regulations and agencies involved not only makes compliance costly but interferes with the efficiency of the motor carrier industry, consequently impeding the state's economic growth The 1995 legislative package put forth by Virginia's Transportation Secretariat includes a number of measures aimed to decrease the regulatory burden on commercial freight movers.

To prepare fully for the deployment of automatic vehicle identification infrastructure, Virginia will move to consolidate motor carrier credentials. The database will allow Virginia to be fully prepared for electronic clearance once the infrastructure is deployed on a regional basis.

In addition, enhancing the efficient movement of commercial motor vehicles will be addressed in the Intermodal Management System (IMS) which is one of the management systems identified in planning factor 1. The work plan for the IMS (referenced in the description for planning factor 1) describes the process for developing and implementing a system for managing intermodal facilities. The operation of commercial motor vehicles is a key element in the intermodal network.

Many of the actions planned to enhance the efficient movement of commercial motor vehicles are listed in the Policy section, under deregulation.

20. The Use of Life-Cycle Costs in the Design and Engineering of Bridges, Tunnels, and Pavements

Life-cycle costing is an economic assessment of design and engineering alternatives which considers all significant costs of ownership over the economic life of the alternatives. The Virginia Department of Transportation considers life-cycle costs in their design and engineering activities for bridges, tunnels and pavements. The Pavement Management System (PMS) shall have the ability to optimize at the project and network levels. Investment analysis will be the focal point of the PMS; this analysis will consider life-cycle costs in its evaluation. Life-cycle cost comparisons provide a tool for decision makers in evaluating the network in financial terms.

21. The Coordination of MPO Plans and Programs With Statewide Plans and Programs

Virginia is involved with the development of MPO transportation plans and programs for eleven metropolitan areas. These consist of the urbanized areas for Bristol, Charlottesville, Danville, Fredericksburg, Hampton Roads, Kingsport, Lynchburg, Northern Virginia, Richmond, Roanoke, and Tri-Cities. The transportation plans and programs developed for these MPO areas are coordinated with statewide transportation plans and programs. VDOT assigns a staff member to work with each MPO to ensure that the statewide and regional plans are developed in a coordinated fashion. DRPT field representatives also participate in MPOs' technical transportation planning process.

22. Investment Strategies to Improve Adjoining Roads That Support an Area With Use as a Center for Rural Economic Growth, Tourism or Recreational Development, Federal Renewable Resource Management, or Multipurpose Land Management Practices.

There were two primary resource documents utilized in addressing this planning factor for the Statewide Transportation Plan. The first document was the "Guide to the Recreational Access Program of the Virginia Department of Transportation" prepared by VDOT in July of 1991. This document provides a comprehensive summary of the Recreational Access Program as governed by the Commonwealth Transportation Board. It serves as a guide for local jurisdictions in the preparation of applications for funding. This document defines eligible projects, summarizes funding limitations, and describes the roles of the parties involved in the application and approval process. The other significant resource document was the "Guide to the Industrial Access Roads Program of the Virginia Department of Transportation" prepared by VDOT in March of 1992. Industrial Access funds may be allocated by the Commonwealth Transportation Board to be utilized for financing the construction or improvement of roads within counties, cities and towns to provide adequate access for sites on which new or substantially expanding manufacturing, processing or other qualifying establishments will be built under firm contract or are already constructed.

Federal renewable resource management refers to activities and/or lands of Federal agencies charged with managing renewable resources such as forests or wetlands. Several Federal agencies have jurisdiction over and responsibility for managing lands and the renewable resources contained within. These include agencies such as the Forest Service, the Fish and Wildlife Service, the Bureau of Land Management, and the National Park Service. The Virginia Department of Transportation has contacted the Federal renewable resource management agencies to request their involvement in statewide transportation planning activities.

23. Concerns of Indian Tribal Governments

This planning factor is not applicable in Virginia.

6.0 SUMMARY

Transportation is vital to Virginia's economy and quality of life. It is the mechanism for the safe and efficient local, regional and international movement of people and goods. It provides access to economic opportunities and the vast cultural, educational and recreational resources of our Commonwealth.

The Commonwealth must have a vision that provides for a coordinated, comprehensive transportation system, effectively integrating all modes (rail, aviation, maritime, highways and transit) and establishing efficient connections among them. Transportation initiatives must be system-oriented and non-mode specific and derive from a vision that reflects a balance of benefits and costs and emphasizes mobility for people and goods from origin to through final destination.

The overarching goal of the strategic plan for transportation is to provide for a superior system that has, as its first objective, ensuring mobility of the citizens of Virginia. In order to advance this goal, the policies outlined in this plan will guide Virginia's transportation planning process.

7.0 REFERENCE STUDIES, REPORTS, AND DOCUMENTS

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APPENDIX A

Planning factors required to be considered by the Statewide Planning; Metropolitan Planning; Rule

1. The Transportation Needs Identified Through the Management Systems
2. Any Federal, State, or Local Energy Use Goals
3. Strategies for Incorporating Bicycle and Pedestrian Facilities in Appropriate Projects
4. International Border Crossings and Access to Ports, Airports, Intermodal Facilities, Major Freight Distribution Routes, National Parks, Recreation and Scenic Areas, Monuments and Historic Sites, and Military Installations
5. Non-Metropolitan Area Transportation Needs
6. Metropolitan Area Transportation Plans
7. Connectivity Between Metropolitan Areas
8. Recreational Travel and Tourism
9. State Plans Developed Pursuant to the Federal Water Pollution Control Act
10. Transportation System Management and Investment Strategies Designed to Make the Most Efficient Use of Existing Transportation Facilities
11. Social, Economic, Energy, and Environmental Effects of Transportation Decisions
12. Methods to Reduce and Prevent Traffic Congestion

13. Methods to Expand and Enhance Transit Services and to Increase Usage

14. The Effect of Transportation Decisions on Land Use and Land Development

15. Strategies to Identify and Implement Transportation Enhancement Projects

16. The Use of Innovative Financing Mechanisms

17. Identification and Preservation of Right of Way for Future Transportation Projects

18. Long Range Transportation Needs for Movement of Persons and Freight

19. Methods to Enhance the Efficient Movement of Commercial Motor Vehicles

20. The Use of Life-Cycle Costs in the Design and Engineering of Bridges, Tunnels, and Pavements

21. The Coordination of MPO Plans and Programs With Statewide Plans and Programs

22. Investment Strategies to Improve Adjoining Roads That Support an Area With Use as a Center for Rural Economic Growth, Tourism or Recreational Development, Federal Renewable Resource Management, or Multipurpose Land Management Practices.

23. Concerns of Indian Tribal Governments

APPENDIX B

ISTEA regulations require coordination on the following thirteen areas, as appropriate in the statewide transportation planning process:

1. Data collection, data analysis, and evaluation of alternatives for transit, highway, bikeway, scenic byway, recreational trail, and pedestrian programs

2. Statewide transportation plans and statewide transportation programs

3. Data analyses used in the development of traffic data, employment data, housing availability, land use control, community development, land use projections, and management systems

4. Intermodal facility consideration and land use planning

5. Transportation planning carried out by the State, Indian tribal governments, federal agencies, local governments, MPOs, large-scale transportation providers, operators of major intermodal terminals, and multistate businesses

6. Transportation planning and transportation related actions carried out by the State, recreation agencies, tourism agencies, economic development agencies, and intermodal facility operation agencies

7. Public involvement carried out for the statewide transportation planning process and for the metropolitan transportation planning process

8. Public involvement carried out for planning and for project development

9. Transportation planning carried out by the State and environmental resource planning carried out by Federal, State and local agencies

10. Transportation planning and financial planning

11. Transportation planning and analysis of potential corridors for preservation

12. Transportation planning and analysis of social, economic, employment, energy, environmental, and housing and community development effects of transportation actions

13. Transportation planning carried out by the State to meet any and all federal requirements