COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

Charles A. Kilpatrick, P.E.
Commissioner

January 31, 2014

The Honorable R. Creigh Deeds
Chair, Senate Transportation Committee
General Assembly Building, Room 430
Capitol Square
Richmond, Virginia 23219

The Honorable Thomas D. Rust
Chair, House Transportation Committee
General Assembly Building, Room 820
Capital Square
Richmond, Virginia 23219

Dear Gentlemen:

Chapter 799 of the 2012 Acts of Assembly (House Bill 1263) requires the Commissioner of Highways to evaluate certain aspects of the Supplemental Guide Sign portion of the Integrated Directional Sign Program (IDSP) and to report his findings to the Chairmen of the House and Senate Transportation Committees on or before February 1, 2014.

Specifically, the evaluation is to address "(i) whether entities participating in the Supplemental Guide Sign portion of the Integrated Directional Sign Program should continue to be responsible for new construction, maintenance, and replacement of such signs; (ii) potential cost savings to such participants if the Department's private contractor responsible for this program were authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs; and (iii) the costs to the Commissioner of Highways for the current operation of the Supplemental Guide Sign portion of the Integrated Directional Sign Program and the fiscal impact of potential changes in the current program criteria."

In accord with the requirements of the legislation, I am submitting the attached report. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Charles A. Kilpatrick, P.E.

c: The Honorable Daniel W. Marshall, III
Member, House of Delegates

VIRGINIA DEPARTMENT OF TRANSPORTATION
Integrated Directional Signing Program – Supplemental Guide Sign Program

HB 1263
(2012)

Report to the Chairmen of the House Committee on Transportation and
the Senate Committee on Transportation

Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

January 2014

PREFACE

Chapter 799 of the 2012 Acts of the Assembly requires the Commissioner of Highways to evaluate (i) whether entities participating in the Supplemental Guide Sign portion of the Integrated Directional Sign Program should continue to be responsible for new construction, maintenance, and replacement of such signs; (ii) potential cost savings to such participants if the Department's private contractor responsible for this program were authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs; and (iii) the costs to the Commissioner of Highways for the current operation of the Supplemental Guide Sign portion of the Integrated Directional Sign Program and the fiscal impact of potential changes in the current program criteria.

The Commissioner of Highways is required to report his findings to the Chairmen of the House Committee on Transportation and the Senate Committee on Transportation on or before February 1, 2014.

TABLE OF CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

In mid-2004, the Virginia Department of Transportation (VDOT) introduced the Integrated Directional Signing Program (IDSP) to serve as an umbrella for four specific signing programs VDOT administers. The four parts of the IDSP are the Specific Travel Services (LOGO) Signing Program, the Tourist-Oriented Directional Signs (TODS) Program, the Supplemental Guide Signs (SGS) Program, and the General Motorist Services Signs (GMSS) Program. **Appendix A** provides examples of signs for each program. The four signing programs are administered under the auspices of the IDSP, and each program is required to be in compliance with the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (*MUTCD*) specific criteria.

Prior to implementing the IDSP, VDOT's Central Office Traffic Engineering Division (TED) administered the LOGO program on a statewide basis through their contractor, Virginia Logos (VL). VDOT's nine construction districts were responsible for overseeing, administering, operating, and maintaining the SGS and the GMSS programs consistent with the *MUTCD* and VDOT policy. In 2004, the TODS program was included as the fourth signing program in VDOT's IDSP. VDOT specifically developed the IDSP to help promote statewide consistency in the application of the various directional signing programs and to provide a "one-stop shop" for entities desiring service signing on VDOT's roadway system.

Currently, VDOT oversees the administration and operation of the IDSP through the use of its contractor, VL. VL is responsible for serving as the "one-stop shop" for participants desiring IDSP signage. VL oversees the day-to-day operations of the four signing programs, answers potential and current participant questions, addresses signing concerns, and identifies preferred locations for signs in accordance with FHWA and VDOT policy. In addition, VL is responsible for the design, fabrication, installation, and maintenance of the signs and administers contracts with more than 6,000 participants statewide.

2.0 PURPOSE AND SCOPE

During the 2012 General Assembly Session, questions were raised relating to the administration of the SGS program. As a result of these questions, House Bill 1263 was submitted for consideration and was ultimately enacted as Chapter 799 of the 2012 Acts of the Assembly. Chapter 799 requires the Commissioner of Highways to evaluate various aspects of the SGS portion of the IDSP. A copy of the legislation is provided in **Appendix B**. In summary, the legislation asks three questions regarding the SGS program:

1. Whether participants in the SGS portion of the IDSP should continue to be responsible for new construction, maintenance, and replacement of such signs;
2. Whether there are potential cost savings to SGS participants if the Department's private contractor for the IDSP was authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs; and
3. What the current costs to operate the SGS program are and what fiscal impacts of the potential changes to the current program criteria would have on the program.

In order to provide the General Assembly with answers to the questions concerning the SGS program, the following activities were undertaken by VDOT:

- Review and documentation of Virginia's SGS Program,
- Review of cost competitiveness for SGS sign manufacturing and installations, and
- Financial review of the current SGS program and identification of the fiscal impacts of potential changes.

3.0 VIRGINIA'S IDSP AND SGS PROGRAM

3.1 IDSP Background

The Integrated Directional Signing Program (IDSP) currently consists of the Specific Travel Services Sign (LOGO), Tourist-Oriented Directional Sign (TODS), Supplemental Guide Sign (SGS), and General Motorist Services Sign (GMSS) programs. The IDSP is a statewide program currently administered by VDOT's Traffic Engineering Division (TED) in the Central Office in Richmond; however, it has not always been centrally administered.

In the early 1990s, VDOT recognized that its Traffic Engineering personnel in the individual construction Districts were spending a significant amount of time, manpower, and resources addressing signing issues, in particular, LOGO signing. Individual Districts addressed LOGO signing issues separately and at times statewide consistency in the application of the signing policy became an issue. As VDOT's personnel resources were reduced and priorities shifted, the Central Office identified that it could outsource the day-to-day operations of the LOGO program, charge a fee for participation, and reassign District staff to other critical issues. VDOT issued a Request for Proposal (RFP) and subsequently selected Virginia Logos (VL) to administer the LOGO program.

As VL administered the LOGO program, it became evident to the Department that the other supplemental signing programs remaining were still consuming a significant amount of staff time and resources in the Districts and Central Office. Statewide consistency in application of the various signing policies also continued to be an issue. By 2003, VDOT determined that it could consolidate the various supplemental signing policies into a single program, provide a one-stop-shop for participants, privatize and administer the programs with a reduced VDOT staff, and help ensure statewide consistency by issuing an RFP and contracting a company to take on the expanded program administration. VL was subsequently selected to administer the new IDSP program.

3.2 IDSP Regulations

As previously stated, the four sign programs are administered under the auspices of the IDSP; each individual signing program is subject to and required to comply with the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (*MUTCD*) specific criteria.

In addition to *MUTCD* compliance, Section 33.1-12.01 of the Code of Virginia requires VDOT to establish reasonable fees from qualified entities participating in the IDSP to defray the actual costs associated with supervising and administering the signing programs. This

section of the Code also limits the amount VDOT may have in a reserve Fund to ten percent of the fees collected.

In June 2005, the Commonwealth Transportation Board (CTB) adopted the IDSP Participation Criteria. VDOT has published the IDSP Participation Criteria in the Virginia Administrative Code, which documents the criteria and requirements to participate in the various signing programs as well as the fees for the different programs. The IDSP regulations are set out in 24VAC30-551-10 through 100 of the Administrative Code, and the regulations governing the SGS are set out in 24VAC30-551-40. The IDSP program fees are set out in 24 VAC30-551-100.

3.3 Supplemental Guide Sign Program

The SGS program is designed to direct motorists to facilities and attractions that generate significant volumes of traffic. Facilities meeting SGS criteria generally include cultural locations, military facilities, colleges and universities, and tourist information and welcome centers. To qualify for SGS signing in Virginia, the facility must at least:

1) be open to the general public on a continuous basis or during the normal operating season for the type of facility,
2) provide public accommodations for all persons without regard to age, race, religion, color, sex, national origin, or accessibility by the physically handicapped, and
3) be located within 15 miles of the initial proposed SGS.

Virginia's SGS program limits the total number of signs and sign structures approaching an interchange or intersection. Exceeding the MUTCD guidelines, the SGS program allows for a maximum of two structures per direction for an interchange or intersection and two destinations on a single structure. Therefore, the total number of destinations (facilities) that can be shown on a single approach to an interchange or intersection can be no greater than four. However, the CTB grandfathered all existing Supplemental Guide Signs into the program in 2004, regardless of the number of sign or structures displayed at any particular interchange or intersection. Therefore, this requirement does not apply to grandfathered Supplemental Guide Signs.

3.3.1 Sign Manufacturing and Installation Process

When an entity is determined to be eligible to participate in the SGS, VL will then discuss the typical costs associated with the manufacture of a sign, its installation, and the annual fees. It is at this stage in the process that VL advises the potential participant of the options they have available in manufacturing a sign. In general, the participant has three options:

1) VL can design, manufacture, and install the signs on behalf of the participant,
2) The participant can provide the sign to VL for installation (i.e. have a third party manufacture the sign to VDOT specifications and standards), or
3) The participant can have the sign manufactured and installed by a contractor of their choosing, provided the contractor obtains the appropriate permitting and abides by all VDOT standards, specifications, and regulations.

In addition, VDOT's IDSP website, *http://www.virginiadot.org/programs/sign-faqs.asp*, provides answers to frequently asked questions regarding SGS signage. Included in this

information is guidance relating to relevant requirements should a participant want to manufacture and install a sign.

Regardless of who manufactures the sign, VL develops the initial sign design to ensure the sign is in compliance with the *MUTCD* and VDOT standards and specifications. This added step by VL helps eliminate any confusion regarding the sign requirements. By taking this step, VL ensures that the sign size and letter heights are appropriate and in compliance with the *MUTCD* and VDOT specifications for the type and speed of the roadway on which the sign is being installed. VL provides this information to the participant, along with information on the type and thickness of the aluminum that must be used to fabricate the sign, the type of sign sheeting, and the mounting hardware that will be required for installation.

If the participant desires to have VL manufacture the sign and install it, the participant receives a price quote from VL for the work to be conducted. Once the participant agrees to the cost and executes the agreement, VL proceeds with the installation. If the participant desires to manufacture the sign and provides it to VL for installation, VL furnishes the participant with the acceptable sign design and a price quote for installation. VL also assists the participant in answering questions concerning the manufacturing requirements. Once the participant agrees to the costs and executes the agreement, VL advises the participant of where to deliver the sign and upon delivery VL initiates the installation process.

If the participant desires to manufacture and install the sign, VL sends the participant the SGS participation agreement for execution and also notifies the participant that they will need to secure a VDOT Land-Use Permit (LUP) to install the sign to VDOT requirements on VDOT right-of-way. The participant is required to execute and return the SGS agreement to VL and the participant must coordinate the installation with VDOT and VL. It should be noted that VL advises SGS participants that if they want to install the signs themselves but do not understand the LUP process, the participant may use VL's contractor and/or in some cases, VL's LUP.

In discussing the various options with the participant, VL advises the participant of the typical costs for Supplemental Guide Signs. Based on historic construction costs, signs installed on Interstate and other limited access facilities typically range in price from $8,000 to $12,000 per sign. For Interstate and limited access ramps, the costs range from $2,000 to $5,000 per sign. For non-limited access roads, the signs range in price from $750 to $5,000. These prices include the labor fees associated with manufacturing the sign and post structure, constructing the foundation, installing the sign on the appropriate structure, and providing the necessary traffic control and field inspection services.

3.3.2 Ensuring Cost Competitiveness

VL makes a concerted effort to remain cost competitive for the manufacture and installation of signs. VL identifies sign manufacturers that are capable of performing the work and delivering a product that meets VDOT standards and specifications. Since each sign is unique and has to be custom made for each facility, the cost and time to manufacture the sign is typically greater than one that can be mass produced. In addition, each individual structure is required to be designed to accommodate the size of the sign and its geographic setting. VDOT also monitors cost effectiveness by conducting spot

comparisons against the VDOT bid tabulation data. The sign price ranges in the SGS program appear to be comparable to the bid tabulation data after taking into consideration all phases of sign construction including design and inspection.

3.3.2.1 Sign Manufacturers

VL has identified four sign manufacturers that are cost competitive, two of which are Virginia-based companies. VL has discussed sign manufacturing with a number of other firms. However, there is typically a design or set-up fee charged for each sign and VL cannot provide a consistent volume of signs to be manufactured to create an economy of scale to reduce costs for the participant.

To help ensure VL remains cost competitive, VL constantly monitors the marketplace and identifies opportunities with other sign manufacturers. In addition to the direct cost to manufacture the sign, VL also considers the amount of time it takes to produce the sign and have it delivered to meet client demands and expectations.

3.3.2.2 Competitive Installation Costs

VL works with contractors to help ensure they are achieving cost-effective installations. However, due to the varied nature of the work being performed and the low margins of profitability, there has been little interest in the program by the contracting community in Virginia.

In 2007, VL explored the marketplace to identify new contractors that would be willing to perform this work and to secure new pricing agreements. VL received a single viable bid which was twice the prevailing rate being charged for the same services being rendered. In 2008, VL was able to secure a commitment from its current contractor not to increase prices over the next four-year period.

Recognizing that having a single contractor may be an issue at some point in time, VL continues to seek opportunities for other contractors to install the IDSP signs, including SGS signs. They have recently identified several other contractors as potential contractors with competitive pricing strategies and discussions are ongoing at this time.

4.0 FINANCIAL REVIEW OF SGS PROGRAM

The specific questions regarding costs to the program required an analysis of the costs to currently administer and operate the SGS program as well as identification of the annual revenues generated by the program. This analysis included determining the fiscal impacts associated with potential changes to program responsibilities and practices. **Section 4.1** and **Section 4.2** document the methodologies and procedures used in determining the program costs and the fiscal impacts to VDOT, respectively.

4.1 Costs to Administer the SGS Program

SGS program costs were categorized as one of the following: administration, maintenance, construction, or replacement. Information was collected during interviews with various VDOT sections and VL staff to provide a basis of the costs associated with each element of the SGS program.

4.1.1 Administration

Both VDOT and VL incur costs to administer the program while revenue is generated from annual participation and one-time application fees. The following sections describe each entity's administration costs as well as the program's current revenue.

4.1.1.1 VL Administration Costs

Established during vendor contract negotiations, VL is paid an annual administration fee of $75 per sign for such activities including, but not limited to, coordinating sign requests, processing participant applications, administering contracts and billing, and performing site investigations. VL's administration fee is limited to a maximum of 4,000 signs or $300,000 per current contract terms. It should be noted that VL presently services over 6,000 total SGS signs on over 5,000 structures located throughout Virginia. **Table 4-1** provides a breakdown of the number of signs and structures by facility type.

Table 4-1: Existing Supplemental Guide Sign Inventory*

	Number of Signs	Number of Structures
Limited Access Mainline	1,114	861
Limited Access Ramp	312	251
Non-Limited Access Road	4,847	4,265
Total	***6,273***	***5,377***

**Inventory as of July 2012*

4.1.1.2 VDOT Administration Costs

VDOT's Central Office and Districts expend time and resources in the administration and oversight of VL and the SGS program. VDOT does not currently account for individual IDSP sign program costs; therefore, the SGS program annual administration cost was calculated by taking a percentage of the overall IDSP cost based on an estimate of time spent on SGS matters. The overall IDSP cost was determined by the amount of time and resources VDOT's Central Office and nine District Offices spend on administering the overall program.

The overall Central Office IDSP administrative costs consisted of personnel expenses (e.g., salaries) and operating expenses (e.g., vehicle, fuel, and mileage). For the period of 2011 – 2012, IDSP related personnel expenses amounted to $475,000 and operating expenses amounted to $25,000 for a total of $500,000. Approximately 40% of the overall IDSP administrative costs were attributable to the administration of the SGS program, totaling $200,000.

In addition to Central Office administrative costs, each District assigns a point of contact to administer the IDSP within their respective District. These points of contact charge an average of 12% of their personnel time, accounting for approximately $250,000 to administer the IDSP between the nine Districts. Similar to the Central Office, 40% of the District IDSP administration costs are attributable to the SGS program, amounting to

$100,000. Therefore, VDOT's annual administration cost for the SGS program was determined to be approximately $300,000 for both Central office and District staff.

4.1.1.3 Safety Maintenance Costs

The SGS signs require annual maintenance to ensure they are structurally sound and remain visible to motorists. This safety maintenance program primarily includes inspecting signs and foundations, providing vegetation control, debris removal, and minor safety improvement projects for the signs and structures. Based on the number of existing and new signs, the annual safety maintenance costs are approximately $300,000.

4.1.1.4 Program Revenue

Program revenue is generated through two sources: (1) a one-time application fee and (2) an annual fee charged to certain SGS program participants as outlined below. Participants within the SGS program are categorized as commercial, government, non-profit, winery, or watershed entities. VL estimates receiving approximately 120 new contracts each year for participation in the SGS program. Based on this trend and an application fee of $250, the revenue generated annually from applications approaches $30,000.

Currently, annual fees are **only** collected from commercial participants and wineries. The annual fees vary based on the size of the required sign. The annual fees for major (12 square feet or larger) commercial signs are $700 and minor (less than 12 square feet) commercial signs are $250. Wineries are only charged a rate of $450 for each set of five signs, regardless of their size. According to VL's current data, annual fees are collected from commercial participants on approximately 239 signs and from winery participants on approximately 215 signs, generating approximately $173,000 in revenue annually. Government, non-profit, and watershed participants are currently exempt from annual fees; however, all participants are subject to new application and replacement fees, with one exception. VDOT (through the IDSP) pays for all maintenance and replacement costs associated with the signs installed for wineries under the SGS Program.

Therefore, the total revenue generated annually for the SGS is approximately $203,000, excluding any fees earned from the replacement of existing signs and structures (**Table 4-2**).

Table 4-2: Annual Program Revenue

	Number of Signs	Sign Classification	Number of Signs	Annual/Application Fees	Annual Revenue
Commercial	239	Major	180	$700	$126,000
		Minor	59	$250	$14,750
Winery	215	N/A	215	$450*	$32,250
New Contracts	120	N/A		$250	$30,000
Total Annual Program Revenue					***$203,000***

*NOTE: the $450 annual fee for wineries covers *up to* five (5) signs for a single winery. Therefore, since some wineries may have less (e.g. a winery with 2 signs still pays the $450 annual fee since it is for up to 5 signs) the fee covers about 3 signs on average.

4.1.2 New Sign Construction Costs

As stated in **Section 4.1.1.3**, VL receives approximately 120 new contracts each year. An approximate annual breakdown of the 120 new signs per facility is shown in **Table 4-3**.

The cost associated with the construction and installation of a new sign was determined by the type of roadway facility the sign would be placed on, the size of the sign panel, and the sign's corresponding structure. A sign structure is comprised of two components: the post and the foundation.

In developing these costs, this study used average bid tabulations from VDOT's TRNS.PORT System which contains the statewide average cost of a sign panel, sign post, and sign foundation per facility type. Because the nine Districts have differing construction costs, statewide averages were used for this analysis.

Based on TRNS.PORT estimates and historic contracts from VL, signs installed on Interstate and limited access mainline roadways typically range in price from $8,000 to $12,000 per sign. For Interstate and limited access ramps, the costs range from $2,000 to $5,000 per sign. For non-limited access roads, the signs range in price from $750 to $5,000. These prices include manufacturing the sign panel, constructing the post and foundation, and installation.

For the purposes of this analysis, the average construction cost was used for limited access mainline roadways. To be conservative, the maximum construction cost was used as the average cost for limited access ramps and non-limited access roads, as shown in **Table 4-3**.

Table 4-3: Supplemental Guide Sign and Structure Annual Construction Cost

	New Signs per Year*	**Average Cost per Sign/Structure**	**Construction/Installation Cost**			**VDOT Inspection Cost ($500 per sign)**
			Panel (20%)	**Structure (80%)**	**Total (100%)**	
Limited Access Mainline	15	$10,000	$30,000	$120,000	$150,000	$7,500
Limited Access Ramp	4	$5,000	$4,000	$16,000	$20,000	$2,000
Non-Limited Access Road	101	$5,000	$101,000	$404,000	$505,000	$50,500
Subtotal			*$135,000*	*$540,000*	***$675,000***	***$60,000***
Total Annual Construction Cost					***$735,000***	

**Number of new signs per year based on VL historic trends*

The overall average construction cost was further broken down into the cost of the sign panel versus the cost of the sign structure. It was important to document the individual sign panel and structure cost because participants have the opportunity to fabricate and construct the sign components individually or collectively under the current SGS program.

The cost to manufacture and install a sign panel is typically 20% of the average construction cost. For example, if the average cost to construct a sign on the interstate mainline is $10,000, the sign panel is 20% of the cost or $2,000.

The cost to construct and install a sign structure, including the post and foundation, is typically 80% of the total construction cost. For example, if the average cost to construct a sign located on an interstate mainline is $10,000, the sign structure is 80% of the cost or $8,000.

Although a participant can use a third party contractor to install the sign panel or structure, inspection of all sign panels and structures is required to be performed by VDOT. The average cost for VDOT to inspect a sign and structure is approximately $500 which includes travel, car expenses, and labor.

The total annual construction cost for 120 new signs is estimated to be $735,000, as shown above in **Table 4-3**.

4.1.3 Replacement Costs

Replacement of SGS signs currently occurs under two conditions: emergency and non-emergency situations. An emergency replacement is required when a sign poses a potential hazard to motorists, such as obstructing travel lanes or the motorist's sight distance. A non-emergency replacement occurs when a sign is knocked down but does not impede the travel lanes or the motorist's sight distance, the sign is faded, non-compliant with current standards, or has damaged (e.g. bent or scratched) sign panels and/or structures.

In an emergency replacement situation, VL's first priority is to ensure safety at the sign location, which may require an on-site repair or temporary removal of the sign. VL will prepare an invoice to provide to the participant for the on-site repair or a cost estimate for the necessary replacement. The invoice will include a $100 fee for the site investigation. If the participant does not pay the replacement cost, the sign will be removed completely. In the event that a sign panel and/or structure incur damage due to a collision and an accident report was documented, the motorist's insurance company will be solicited for the replacement cost. Otherwise, the participant is responsible for the associated costs.

In a non-emergency replacement situation, the participant will be charged a $100 fee which includes a site investigation and development of a replacement cost estimate. The $100 fee pays only for VL to conduct the investigation and to develop a replacement cost estimate and does not cover the costs to replace the sign panel or structure.

VDOT has periodically upgraded SGS signs that were part of safety improvement projects. VDOT currently provides maintenance to SGS Wineries signs that were grandfathered into the program. However, VDOT does not currently have a systematic long-term mechanism to update the SGS signs or their structures when they have met the end of their useful life (e.g. faded, non-compliant with current standards, damaged sign panels or structures etc). Currently, the responsibility for long-term sign replacement resides with the participants. VDOT works with individual participants to upgrade structures and signs as identified by VL inspections, VDOT personnel, the IDSP QA/QC program, and participant input.

4.1.3.1 Long-term Replacement Costs

Recognizing that SGS signs have a finite useful life which is dependent on the type of materials used as well as exposure to natural elements, there is a need to develop a long-term replacement program. This analysis developed a proposed replacement cycle for sign panels and each type of structure.

The average life-cycle of an SGS sign panel is typically 15 years which primarily depends on the type of sign sheeting used. The average life-cycle of a sign structure is dependent upon the type of structure: wood/square post or I-Beam structure. Wood/square posts have an average useful life of approximately 15 years whereas an I-Beam structure has an average useful life closer to 30 years. Therefore, in order to maintain a quality sign program where sign panels and structures are replaced near the end of their useful life, it was determined that approximately 7% (one-fifteenth) of all sign panels, 7% (one-fifteenth) of the wood/square structures, and 3% (one-thirtieth) of all the I-Beam structures should be replaced annually.

Signs located on a limited access mainline facility are typically constructed on an I-Beam structure. However, on limited access ramps and non-limited access roads, I-Beam or wood/square posts may be used. According to the current SGS structures inventory, approximately 20% of the total amount of structures located on limited access ramps and non-limited access roads are I-Beams while the remaining 80% are wood/square posts.

The cost to replace a sign panel and/or structure is equivalent to constructing a new sign based on the facility type on which the sign is being installed. For the purposes of this analysis, the construction costs listed in **Table 4-4** were used as the sign panel and structure replacement cost for each facility type.

Similar to construction procedures, participants are permitted to fabricate and install the replacement sign panels and structures; however, VDOT is required to inspect the replacement. As shown in **Table 4-4**, the annual replacement cost of $2,015,090 was calculated using the sign panel and structure replacement cycle denoted above, average construction cost per facility and VDOT inspection costs.

Table 4-4: Annual Life-Cycle Replacement Cost

<table>
<tr><th></th><th colspan="2">Signs and Structure Replaced each year</th><th>Average Annual Cost</th><th>VDOT Inspection Cost</th></tr>
<tr><td rowspan="3">Limited Access Mainline</td><td>Panel</td><td>74</td><td>$148,600</td><td rowspan="3">$37,150</td></tr>
<tr><td>I-Beam</td><td>29</td><td rowspan="2">$229,600</td></tr>
<tr><td>Wood/Square</td><td>0</td></tr>
<tr><td rowspan="3">Limited Access Ramp</td><td>Panel</td><td>21</td><td>$20,800</td><td rowspan="3">$10,400</td></tr>
<tr><td>I-Beam</td><td>2</td><td rowspan="2">$60,240</td></tr>
<tr><td>Wood/Square</td><td>13</td></tr>
<tr><td rowspan="3">Non-Limited Access</td><td>Panel</td><td>323</td><td>$323,133</td><td rowspan="3">$161,567</td></tr>
<tr><td>I-Beam</td><td>28</td><td rowspan="2">$1,023,600</td></tr>
<tr><td>Wood/Square</td><td>227</td></tr>
<tr><td colspan="3">Average Annual Sign Panel Cost</td><td>$492,533</td><td rowspan="2">$209,117</td></tr>
<tr><td colspan="3">Average Annual Structure Cost</td><td>$1,313,440</td></tr>
<tr><td colspan="3">Total Annual Replacement Cost</td><td colspan="2">$2,015,090</td></tr>
</table>

4.2 Financial Cost Scenarios

Three cost models were developed to document the current costs to administer and operate the SGS program as well as to identify the fiscal impacts associated with the potential changes to the program. The baseline condition model was used to document the current administrative, maintenance, and inspections costs associated with the program. The second cost model was developed to document the costs to VDOT should VDOT be required to assume responsibility for the construction of new signs. And the third cost model was developed to identify the costs to VDOT should the agency be required to assume responsibility for new construction and long-term replacement of the SGS signs.

4.2.1 Baseline Condition – Administrative/Maintenance

The Baseline Condition was developed to document the current cost to administer the SGS program. Under the Baseline Condition, VDOT is responsible for the administrative, maintenance, and inspection services. The participants are responsible for annual fees and construction costs of new sign panels and structures. While a long-term replacement program has not been implemented to date, the participant will be responsible for these costs when their signs and structures need to be updated.

The annual SGS program deficit, or cost to VDOT, amounted to approximately $1 million while the annual cost to participants for annual fees, new construction, and long-term replacement was approximately $2.7 million as shown in **Table 4-5**.

4.2.2 Cost Scenario 1 - Administrative/Maintenance and Construction

Cost Scenario 1 was used to determine the fiscal impacts of the SGS program if VDOT is required to become responsible for the construction of new signs in addition to the existing administrative, maintenance, and inspection costs. Program participants would still be responsible for the annual fees and the long-term replacement program.

This scenario assumed the same annual revenue as the Baseline Condition of approximately $203,000. VDOT's annual costs under this scenario would be approximately $1.64 million as shown in **Table 4-5**.

4.2.3 Cost Scenario 2 - Administrative/Maintenance and Construction and Long-Term Replacement

Cost Scenario 2 modeled the fiscal impacts if VDOT assumed full financial responsibility for all aspects of the program. That is, VDOT would be responsible for the administration, maintenance, inspection, construction, and long-term replacement of the SGS signs.

Under this scenario, with the approximate $203,000 of revenue generated annually, VDOT would incur costs of approximately $3.45 million annually as shown in **Table 4-5**.

Table 4-5: Financial Cost Analysis Summary

Scenario		Baseline Condition (VDOT-Admin/Maint)		Cost Scenario 1 (VDOT – Admin/Maint, and Construction)		Cost Scenario 2 (VDOT – Admin/Maint. Const and Replacement)	
Program Categories		***VDOT***	***Participant***	***VDOT***	***Participant***	***VDOT***	***Participant***
VDOT Revenue/ Annual Fees		($203,000)	$203,000	($203,000)	$203,000	($203,000)	$203,000
VDOT Admin		$300,000	-	$300,000	-	$300,000	-
VL Admin		$300,000	-	$300,000	-	$300,000	-
Maintenance (Safety)		$300,000	-	$300,000	-	$300,000	-
Construction	**Inspector**	$60,000	-	$60,000	-	$60,000	-
	Structure	-	$540,000	$540,000	-	$540,000	-
	Panel	-	$135,000	$135,000	-	$135,000	-
Replacement	**Inspector**	$209,000	-	$209,000	-	$209,000	-
	Structure	-	$1,313,000*	-	$1,313,000*	$1,313,000*	-
	Panel	-	$493,000*	-	$493,000*	$493,000*	-
Total Program Costs		**$966,000**	**$2,684,000**	**$1,641,000**	**$2,009,000**	**$3,447,000**	**$203,000**

*Estimated Long-Term Replacement Costs

4.2.4 Results

The comparison of the three SGS program cost scenarios is shown in **Table 4-6**. Under the current Baseline Condition, VDOT incurs program costs of approximately $1 million annually. Should VDOT become responsible for the construction of new sign panels and structures in addition to the administrative, maintenance/inspection services, VDOT will be required to absorb an additional $675,000 into the administration of the SGS program. The total cost to VDOT would be expected to be approximately $1.6 million annually. However, requests for new signs would greatly increase if VDOT paid for initial construction of SGS signs because the cost would no longer be a hindrance to applying for signage. Consequently, saturation would be reached in most locations and it is anticipated that this would result in more requests for exemptions.

Should a long-term replacement program be implemented to address faded and non-compliant signs and VDOT be responsible for these costs as well, the program's operating deficit and thus VDOT's costs will increase to approximately $3.4 million annually while program participants will only pay the annual fee for the signs.

Table 4-6: Supplemental Guide Sign Program Cost Results

Scenario	Baseline Condition - Admin/Maint		Cost Scenario 1 - Admin/Maint, and Construction		Cost Scenario 2 Admin/Maint, Construction and Replacement)	
	VDOT	***Participant***	***VDOT***	***Participant***	***VDOT***	***Participant***
Total	$966,000	$2,684,000	$1,641,000	$2,009,000	$3,447,000	$203,000
Total Annual Program Cost	***$3,650,000***		***$3,650,000***		***$3,650,000***	

5.0 SUMMARY

Chapter 799 of the 2012 Acts of the Assembly requires the Commissioner of Highways to evaluate (i) whether entities participating in the Supplemental Guide Sign (SGS) portion of the Integrated Directional Sign Program (IDSP) should continue to be responsible for new construction, maintenance, and replacement of such signs; (ii) potential cost savings to such participants if the Department's private contractor responsible for this program were authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs; and (iii) the costs to the Commissioner of Highways for the current operation of the SGS portion of the IDSP and the fiscal impact of potential changes in the current program criteria.

Based on the review and analysis undertaken, the following responses were developed to address the three specific issues identified in the legislation.

Question 1
Whether participants in the SGS portion of the IDSP should continue to be responsible for new construction, maintenance, and replacement of such signs.

Response 1
VDOT undertook a financial review of the SGS program. Information associated with the costs of the SGS program was collected through interviews with VDOT and Virginia Logos staff. The financial review documented the costs to VDOT and program participants in the areas of administration, maintenance, construction, and replacement.

Should VDOT become wholly responsible for the costs of the SGS program and absorb the cost that participants are currently responsible for paying, VDOT would incur total costs of approximately $3.4 million annually. At the present time, VDOT incurs annual costs of approximately $1 million for the SGS program.

Question 2
Whether there are potential cost savings to SGS participants if the Department's private contractor for the IDSP was authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs.

Response 2

Findings from VDOT's review of the SGS program determined that eligible participants currently have three options for the manufacture or installation of SGS signs to help ensure cost effectiveness:

1) The participant can have the IDSP contractor, Virginia Logos, design, manufacture, and install the signs on behalf of the participant;
2) The participant can have a third party manufacture the sign to VDOT specifications and standards and provide the sign to Virginia Logos for installation; or
3) The participant can elect to have the sign manufactured and installed by a contractor of their choosing, provided the contractor obtains the appropriate permitting and abides by all VDOT standards, specifications, and regulations.

VDOT's IDSP website, http://www.virginiadot.org/programs/sign-faqs.asp, provides answers to frequently asked questions regarding SGS signage and includes guidance on what VDOT's requirements are for eligible participants to manufacture and install a sign. Based on the current program options available to participants for sign manufacturing and installation and the efforts taken by VL to utilize more than one contractor for these services, it appears that measures to ensure competition and cost effectiveness for sign manufacturing and installation are in place.

Question 3

What the current costs to operate the SGS program are and what fiscal impacts of potential changes to the current program criteria would have on the program.

Response 3

As previously stated in response to Question 1, VDOT undertook a financial review of the SGS program using information collected from interviews with VDOT and Virginia Logos staff. A baseline condition was developed to document the cost to VDOT for the administration, maintenance and inspection services under the current program practices. A second cost scenario was analyzed to determine the fiscal impact if VDOT is required to become responsible for the construction of new signs in addition to the existing administrative, maintenance, and inspection costs. A third cost scenario was developed to document the costs to VDOT should the agency assume full financial responsibility for all aspects of the program. That is, VDOT would be responsible for the administration, maintenance, inspection, construction, and long-term replacement of the SGS signs.

The baseline condition revealed that the SGS program generates annual revenue of approximately $203,000 from annual participation fees of commercial participants and wineries. However, the current cost to VDOT to administer, maintain, and provide inspection services to the SGS program amounts to $1.2 million per year, resulting in an operating loss and costs to VDOT of approximately $1 million. Based on an average of 120 new signs being installed annually, VDOT determined the annual cost to new participants to be $675,000 for the manufacture and installation of new signs. Assuming participants will also be responsible for an annual long-term replacement cost of approximately $1.8 million, the total annual cost to the participants will approach $2.7 million.

If VDOT were to become responsible for the construction of new signs in addition to the existing administration, maintenance, and inspection services, the total annual cost to VDOT would increase to approximately $1.6 million annually. This represents an increased cost to VDOT of $675,000.

The analysis also investigated the costs to the program should VDOT become wholly responsible for the costs to administer, maintain, inspect, construct, and replace the SGS signs. This assumed the participants would only be responsible for the annual fees associated with the program. Under this scenario, VDOT would continue to experience an annual program deficit, or costs, of approximately $3.4 million and the cost to the participants would be $203,000.

The total program costs for each of the above referenced scenarios, which take into consideration long-term replacement costs, would be approximately $3.65 million annually.

In summary,

1. With the current annual SGS revenue stream of approximately $200,000, VDOT should continue to have participants pay for new sign construction in order to keep program costs down. Should participants no longer pay for new installations, VDOT's net operating loss for the SGS program will increase by $675,000 annually to a total of $1.6 million. Should the long-term replacement program be implemented and all costs are borne by VDOT, the SGS program will operate at a higher deficit and VDOT would incur costs of approximately $3.4 million annually.

2. SGS participants are already provided the opportunity to solicit their own bids. In addition, Virginia Logos makes a concerted effort to remain cost competitive for the manufacture and installation of signs by using four sign manufacturers and seeking opportunities for cost-effective installations. VDOT also conducts spot verification comparisons of unit costs with VDOT bid tabulation data on new sign construction.

3. Total annual program costs, when taking into consideration long term sign replacement costs, are approximately $3.65 million (nearly $1 million to VDOT and over $2.65 million to program participants under the current program practices). Should VDOT assume responsibility for the construction of new signs the costs to VDOT are expected to increase by $675,000 annually, to a total of over $1.6 million. The program's net operating cost to VDOT could increase to as much as $3.4 million should the long-term replacement program be implemented and VDOT is made responsible for these costs in addition to the administrative, maintenance, inspection, and construction costs.

Appendix A

SPECIFIC TRAVEL SERVICES SIGNS (LOGO)

TOURIST-ORIENTED DIRECTIONAL SIGNS (TODS)

SUPPLEMENTAL GUIDE SIGNS (SGS)

GENERAL MOTORIST SERVICES SIGNS (GMSS)

Appendix B

VIRGINIA ACTS OF ASSEMBLY -- 2012 RECONVENED SESSION

CHAPTER 799

An Act to evaluate the Department of Transportation's Integrated Directional Sign Program.

[H 1263]

Approved April 18, 2012

Be it enacted by the General Assembly of Virginia:

1. *§ 1. That the Commissioner of Highways shall evaluate (i) whether entities participating in the Supplemental Guide Sign portion of the Integrated Directional Sign Program should continue to be responsible for new construction, maintenance, and replacement of such signs; (ii) potential cost savings to such participants if the Department's private contractor responsible for this program were authorized to receive bids from other private contractors recommended by the participant for the manufacture or installation of such signs; and (iii) the costs to the Commissioner of Highways for the current operation of the Supplemental Guide Sign portion of the Integrated Directional Sign Program and the fiscal impact of potential changes in the current program criteria. The Commissioner of Highways shall report his findings to the Chairmen of the House Committee on Transportation and the Senate Committee on Transportation on or before February 1, 2014.*