

TECHNICAL ASSISTANCE REPORT

**HIGHWAY SAFETY CORRIDORS:
NATIONAL EXPERIENCES AND A POSSIBLE FRAMEWORK FOR VIRGINIA**

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EXECUTIVE SUMMARY

On March 22, 2003, Governor Mark Warner approved Senate Bill 1093 (SB 1093). SB 1093 establishes a highway safety corridor (HSC) program for the Commonwealth. The program will attempt to address safety concerns through a combination of law enforcement, education, and safety enhancements. Fines for violations in the highway safety corridors will be doubled up to a maximum of \$500.

SB 1093 requires that the Commonwealth Transportation Commissioner, in conjunction with the Department of Motor Vehicles and the Superintendent of State Police, develop criteria for designating and evaluating highway safety corridors. This process is to include a review of crash data, accident reports, type and volume of vehicular traffic, and engineering and traffic studies.

This report provides background information as to how an HSC program might operate in Virginia as well as a general indication of its potential impact on highway safety. Examples of similar programs in other states are reviewed, and a general framework for establishing an HSC program in Virginia is presented. Experiences from around the nation suggest that an HSC program could create beneficial safety impacts, but further work is needed to refine it.

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INTRODUCTION

On March 22, 2003, Governor Mark Warner approved Senate Bill 1093 (SB 1093), which establishes a highway safety corridor (HSC) program for the Commonwealth. The program will be designed to address safety concerns through a combination of law enforcement, education, and safety enhancements. Fines for violations in an HSC will be doubled up to a maximum of \$500. The text of SB 1093, as approved by the governor, is provided in the Appendix.

SB 1093 requires that the Commonwealth Transportation Commissioner, in cooperation with the Department of Motor Vehicles (DMV) and the Superintendent of State Police, develop criteria for designating and evaluating HSCs. This process is to include a review of crash data, traffic volume information, vehicle classification data, and engineering and traffic studies.

PURPOSE AND SCOPE

The purpose of this report is to provide background information as to how an HSC program might operate in Virginia and an indication of its potential impact on highway safety. Examples of similar programs in other states are reviewed, and a general framework for establishing an HSC program in Virginia is presented. The proposed framework is intended to provide only one possible scenario of how the program might be operated. The information included in this report is the product of a short-term research effort; a more detailed investigation could yield additional data. Further research and discussion are needed to develop a final program, and it is possible that the actual program implemented by the Virginia Department of Transportation (VDOT) could differ substantially from what is presented in this report.

METHODS

A literature review was conducted to gather information on initiatives in other states that were similar to the HSC program proposed in SB 1093. The Virginia Transportation Research Council (VTRC) Library, the University of Virginia Library, the Transportation Research

Information Service database, legal databases, and the Internet were used to identify applicable states. The literature review was conducted to answer three primary questions:

1. Have other states designated safety corridors?
2. Have other states used increased fines as a deterrent in these corridors?
3. How were these programs operated by other states?

EXPERIENCES IN OTHER STATES

Based on the literature review, state programs could be separated into three broad classifications:

1. programs that designated safety corridors and increased fines for moving violations in those corridors
2. programs that used increased fines as deterrents in work zones but did not designate safety corridors
3. programs that designated safety corridors but did not increase fines in those corridors.

SB 1093 proposes a program that is most similar to the first classification. The information from the other two categories could offer insight into the possible effectiveness of the program proposed in SB 1093 and how the program could be administered. This section summarizes the findings from the literature review for each of type of program.

Safety Corridors With Increased Fines

Pennsylvania, California, and Oregon have laws that allow increased fines in designated safety corridors. At this time, only California has evaluated the effects of this law on corridor safety. All of these states initially had HSC programs without increased fines.

Pennsylvania

The Pennsylvania DOT (PennDOT) established the first HSC program in 1988 in response to a mandate from the governor to improve safety on a specific high-risk corridor.¹ Although this program did designate safety corridors, fines were not initially increased in the corridor. The concept behind this program was to provide a corridor-wide, multidisciplinary solution to observed safety problems rather than only spot improvements. A task force composed of elected officials and representatives from PennDOT and from enforcement agencies was created to determine ways to improve safety on the corridor. Ultimately, a series of

engineering and enforcement initiatives was recommended. The number of crashes reported on the corridor decreased by 40 percent following the improvements created by the program.²

Pennsylvania House Bill 2410 became effective in December 2002. This law allowed fines to be doubled in designated HSCs. Double-fine legislation for work zones was modified to be applicable to other corridors designated by PennDOT. The legislation allows PennDOT to specify HSCs based on a traffic and engineering investigation. Since this legislation was only recently passed, there is no information on its effectiveness.

California

Building on the success of Pennsylvania's program, California started an HSC program in 1992.³ Again, this program did not initially allow fines to be increased. The lead agency was the California Highway Patrol (CHP), not the California DOT (Caltrans). The initial pilot test of the HSC program occurred on a 21-mile section of the Pacific Coast Highway north of Los Angeles County. Again, a multidisciplinary task force composed of federal, state, local, and private sector groups was assembled to address the safety problem. The task force implemented a number of enforcement, education, and engineering improvements, which was due in part to their ability to secure more than \$1.8 million in funding. Data from CHP showed that the number of injury crashes on the Pacific Coast Highway declined by about 25 percent following the implementation of the countermeasures.²

In 1995, Senate Bill 414 was signed into law in California. This law allowed fines to be doubled for specified types of moving violations and alcohol-related traffic offenses in designated safety corridors.⁴ Six pilot locations were specified by the legislature for the evaluation of the HSC concept, and the law did not provide funding for additional enforcement at these locations.

Caltrans evaluated the effectiveness of the double-fine zones in reducing crashes. They confined their analysis to locations that did not undergo major traffic control or geometric changes during the study period. They also discarded locations that were subjected to unrelated targeted enforcement programs. As a result, only three of the six sites could be analyzed to determine the exclusive impact of the double-fine law.

For the three sites examined, Caltrans compared 3 years of crash data before the implementation of the double-fine zone and 1 year of crash data following the installation of the zone. Caltrans also solicited information on citations from CHP. The Caltrans analysis of the effect of the double fines yielded the following:

- There was no clear trend in the number of citations written in the double-fine zones. In some cases, the number increased, and in other cases, the number declined.
- Following installation of the double-fine zone, the overall crash rate on the corridors declined by 11 to 37 percent. The rates for crashes involving fatalities or injuries declined by 13 to 47 percent. Crash rate is the number of crashes divided by the total

number of vehicle miles of travel (VMT) on a road. Crash rates are often used to control for different lengths of corridors and levels of traffic.

Caltrans concluded that although the double-fine zones appeared to improve safety, more data were needed to make a definitive assessment of the program's effectiveness. The number of crashes at a given site is often highly variable from year to year. For example, a corridor might have annual crashes of 80, 60, and 100 for three consecutive years. If a countermeasure were to be implemented such that 80 crashes occurred in the corridor during the fourth year, it is possible that the reduction from 100 to 80 would have nothing to do with the countermeasure but would simply be a part of the random variation in crashes. Because of the random nature of crashes, it is common practice for engineers to examine at least 3 years of crash data to ensure that random variation was not responsible for any trends observed. Since only 1 year of crash data were examined, Caltrans was concerned that the reductions might be due to random variation.

Since the initial evaluation was completed, the number of safety corridors in California has increased to 11. All of these corridors were designated by the California legislature, and no standard criteria were used to identify sites. Caltrans is preparing a report that examines the long-term impact of the double-fine zone on safety, but the data were not available as of April 2003.

Oregon

Prior to 2002, the Oregon DOT (ODOT) attempted to improve safety on major highways and arterial routes in the state through enforcement, education, and engineering improvements without increasing fines.⁵ Under the program, designated corridors are signed as either "Safety Corridors" or "Truck Safety Corridors" depending on the volume of commercial traffic. In December 2001, Oregon's law doubling fines for traffic violations in safety corridors became effective. Although no data on the effect of this law are available, there are substantial data on Oregon's safety corridor program prior to the law's implementation. This section summarizes these data.

ODOT administers the program and has developed a well-defined process for determining when locations meet the criteria to be designated a safety corridor. It has also developed guidelines for removing the designation. To begin this process, an outside individual or organization must ask ODOT's Traffic Management Section to initiate a study. ODOT has defined three criteria for establishing a safety corridor:⁶

1. The 3-year average of the fatal/injury crashes rate is at or above 110 percent of the 3-year statewide average for similar roadway types.
2. State or local law enforcement officials will commit to making the corridor a "patrol priority." The ODOT guidelines require that a minimum of 50 extra hours of regular enforcement per month be provided. The top five problem corridors in the state are funded for overtime patrols, educational efforts, and minor engineering improvements.

3. The evaluation team agrees that the length of the corridor allows the corridor to be manageable from an enforcement and education point of view. Corridors in Oregon currently range from 4 to 30 miles.

Members of ODOT evaluate the nominated safety corridors based on these criteria. Once a corridor has been defined, ODOT forms a task force of local stakeholders to develop the actual corridor plan. The task forces are multidisciplinary teams composed of local safety, school, media, and community groups. These teams are used to develop a unified initiative that will address enforcement, education, highway improvements, and emergency medical initiatives.

The safety corridors are reviewed yearly to determine if they are still needed. ODOT's Traffic Management Section recommends that a corridor be decommissioned if its 3-year crash rate average of fatal/injury crashes falls below 110 percent of the statewide average for similar roadways. If the local stakeholders agree, the corridor is removed. If the local stakeholders disagree, the safety corridor can be maintained provided that the local groups maintain their contributions to the corridor safety plan.

The program currently covers 150 miles of the Oregon Highway System, but 12 percent of all truck-involved crashes in the state occur on these 150 miles.⁷ Data on the effectiveness of the program are somewhat limited. ODOT notes that crashes have decreased in 7 of 12 safety corridors and fatalities based on 1 year of after data have decreased in 10 of 12 corridors. Reports from ODOT do not state whether the corridors funded for improvements have larger safety improvements than those that were not funded.

Increased Fines in Work Zones

The legislation used to increase fines in work zones is quite similar to that in SB 1093 for safety corridors. In both situations, fines are used as a deterrence to the violation of motor vehicle laws. The effectiveness of increasing fines in work zone may provide insight into the possible impact of a safety corridor program.

As of December 2002, every state except Hawaii had a mechanism to increase fines for moving violations in work zones. The vast majority of these laws were passed in the mid- to late 1990s. Despite the large number of states using these laws, relatively little has been published on how these increased fines have affected safety.

National Trends

A 1997 Texas Transportation Institute (TTI) study attempted to assess the impact of increased fine legislation on the number of fatal crashes in long-term freeway work zones in the United States.⁸ Data from the Fatality Analysis Reporting System (FARS), a national database of all fatal crashes, were analyzed to determine if trends in fatal crashes in work zones were significantly different between states with and without increased fines in work zones. Only 14 states had at least 1 year of crash data following the implementation of the increased fine

legislation. The data from these states were compared to data from the remaining 36 states that had not enacted legislation. The researchers found no significant difference between the trends in the number of fatal work zone crashes.

Data from Individual States

Fatal work zone crashes represent a very small and unstable data set, particularly when only a few years of data are available for analysis. Therefore it is necessary to examine all available crashes in work zones. TTI found only five states where this type of information was readily available. TTI analyzed the crash data from these states in an attempt to assess the impact of increased work zone fines on all types of crashes (property damage only, injury, and fatal crashes).⁸

In 1991, Maryland increased fines for speeding in work zones. After implementation of the law, the number of crashes in work zones increased.⁸ Maryland had difficulty determining the effectiveness of the law, however, because they did not have a good measure of the number of work zones or the volume of traffic in the before and after periods. It is possible that more work zones were in place in the years after 1991. This increased exposure could account for the increase in work zone crashes. Thus, the impact of the legislation was inconclusive.

In 1994, Minnesota implemented a double-fine law in work zones for moving violations.⁸ The crash data did not show any change after the law. Again, it is difficult to assess the true effectiveness of the law since exposure information was not available.

Pennsylvania doubled the fine for moving violations in work zones in 1989.⁸ After implementation of the law, the number of work zone crashes did not change significantly. Beginning in 1994, Pennsylvania began placing the State Police on the approaches to all work zones. This reduced the number of work zone crashes and has proved to be more effective at improving safety than simply increasing fines.

In 1997, Texas doubled the minimum and maximum fine that could be levied for all moving violations in a work zone. The presiding judge was free to set the actual fine within this range. A TTI evaluation attempted to determine the effectiveness of this law on improving safety and reducing speeds in work zones.⁹ The researchers examined speeds at 10 work zones before and after the increased fines were implemented. Data were collected prior to the implementation of the law and then at least 4 months after the law had gone into effect in order to allow drivers to become accustomed to the signs. The researchers found that speeds often did not change significantly after the law was implemented. The following trends were observed for the Texas sites:

- Only 4 of the 10 sites had statistically significant reductions in mean speeds. Changes in mean speed at each site ranged from a 4-mph decrease to a 6-mph increase.

- The percentage of vehicles exceeding the posted speed limit declined by less than 2.5 percent.
- The frequency of citations did not change significantly after the law was put into effect. However, a higher proportion of drivers did elect to take a defensive driving course rather than pay the fine after the law became effective.

In 1994, Washington doubled the fine for speeding in a work zone.⁸ This was one component of a widespread work zone safety program that included improved worker protection, operating procedures, training, and incident reporting. Following the implementation of these measures, the number of crashes in work zones declined. However, it was not possible to determine the contribution of the increased fine structure to this decline since a number of other efforts were occurring simultaneously.

Safety Corridors Without Increased Fines

Several states have used safety corridors or targeted enforcement to address safety concerns in specific areas. These programs do not increase fines and have their origins in the Corridor Safety Improvement Program approach that was put forth by the Federal Highway Administration in the early 1990s.¹⁰ In a previous VTRC study, Jernigan performed a detailed assessment of this type of program, and interested readers should consult that report for more information.² The report also summarizes the California and Pennsylvania programs prior to the implementation of the increased fine legislation. Some of the past experiences with these programs are briefly summarized here.

Washington

Washington has also implemented safety corridors.¹¹ An initial pilot program established in 1993 examined four corridors selected by the Washington Traffic Safety Commission based on their crash history. A steering committee consisting of representatives of traffic safety associations and government agencies was selected to help develop an action plan for each corridor. This steering committee identified specific corridor safety problems and then implemented appropriate countermeasures. Crash data from the 3 years following the implementation of the program showed a 9 to 30 percent reduction in crashes when compared to the 3 years prior to the implementation of the corridor safety program.

North Carolina

In 1998, North Carolina used targeted enforcement in an effort to improve commercial vehicle safety. The North Carolina DMV increased commercial vehicle enforcement activity in 21 counties that NCDOT identified as having the most truck-related crashes.¹² This resulted in the following:

- a 129 percent increase in the number of roadside inspections, resulting in a 20 percent increase in the number of vehicles placed out of service and an 89 percent increase in the number of drivers placed out of service in the targeted counties
- a 50 to 300 percent increase in the number of citations given to commercial vehicles for serious moving violations (reckless driving, erratic lane changes, etc.)
- increased public outreach and education.

From FY 1998 to FY 1999, fatal crashes involving trucks decreased by 17.7 percent in the targeted counties. Fatal crashes involving trucks increased by 7.6 percent in the counties not targeted for enforcement. Although the number of fatal crashes decreased in the targeted counties, the total number of crashes did not. During the after period, there was a 4.6 percent reduction in the total number of crashes in the targeted counties and a 5.2 percent reduction in the non-targeted counties. The study did not account for changes in exposure, so it is difficult to determine the true impact of the program.

Summary

Table 1 summarizes the impact of corridor safety programs and increased fines in work zones in other states. Changes in crash rates often cannot be attributed solely to the impact of a specific program. Most studies did not control for factors such as traffic volumes; underlying trends in crashes; changes in the amount of congestion at a site; and, in the case of programs that increased fines in work zones, changes in the number of sites. These factors can significantly affect safety and may have influenced the results.

Table 1. Summary of Experiences in Other States

| Type of Program | State | Key Elements | Impact on Safety |
|---|----------------|--|---|
| Safety Corridor with Increased Fines | California | Corridors specified by legislature, no funding for additional safety countermeasures | Crash rates reduced by 11% to 37%; injury crash rate reduced 13% to 47% |
| | Oregon | Safety corridor program administered by ODOT | Double fine law is new; safety corridors without increased fines led to decreased fatalities or crashes in most cases |
| | Pennsylvania | Corridors specified by PennDOT | New law, no data available |
| Safety Corridor or Targeted Enforcement with No Increased Fines | North Carolina | Increased commercial vehicle inspection in counties with high truck crash rate | Reduction in fatal crashes; no change in overall crash rate |
| | Washington | Education, enforcement, and engineering countermeasures used to enhance safety | Crash reductions of 9% to 30% per corridor |
| Increased Fines in Work Zones | Maryland | Increased speeding fines | Crashes increased |
| | Minnesota | | No effect |
| | Pennsylvania | Police presence required at work zones | Reduction in crashes |
| | Texas | Minimum and maximum fines doubled | Significant speed reductions in 40% of sites |

POSSIBLE PROCEDURES FOR VIRGINIA

To respond properly to the requirements of SB 1093, VDOT will need to develop procedures for implementing and operating an HSC program. The VDOT Legislative Action Summary for this bill notes that a safety consultant should be retained to determine the best practices used in other states and to adapt analysis tools to handle the data available in Virginia. This section is not intended to replace a detailed evaluation by a safety consultant, but rather to provide a broad overview of options to be considered in designing program elements to maximize safety benefits.

Program Objectives and Scope

The goal of an HSC program is to create measurable improvements in safety on corridors associated with disproportionately large crash rates or numbers of crashes. The bill limits the designation of safety corridors to primary and interstate highways.

SB 1093 specifies that a combination of increased fines, engineering measures, enforcement, and education should be used to improve the safety of HSCs. It is unclear at this time how much, if any, funding would be dedicated to supporting the HSC program. The data from other states do not clearly indicate whether increased fines can improve safety in isolation. Enforcement, education, and engineering countermeasures may need to be funded to ensure that the program has a beneficial effect.

Establishing Corridors

This section summarizes a possible process for identifying candidate corridors, screening candidates, and selecting corridors for designation as HSCs.

Corridor Identification

Oregon uses an open process to identify candidate corridors for HSC designation that could be applied in Virginia.⁶ In these cases, a variety of groups could propose corridors for a detailed evaluation. Possible sources of nominations include:

- VDOT district or central office personnel
- local governments
- private citizens
- industry associations
- traffic safety groups.

These nominations would be compiled throughout the year and screened and prioritized in a yearly process to determine which candidates meet the basic eligibility requirements. A panel would need to be formed to screen the candidate locations based on the established criteria.

Basic Criteria for Eligibility

When formulating eligibility criteria, it is essential that VDOT ensure that the HSCs selected have a real safety problem. The criteria should not be so broad that a large portion of Virginia's highway system meets them. The criteria should be defined so that only the corridors with the largest safety problems are eligible. Experiences from other states show that the criteria used for selecting HSCs should consider three general factors:

1. *Facility characteristics.* The program is limited to specific types of facilities. Maximum and minimum corridor lengths will have to be established to ensure that program resources are used well.
2. *Safety history.* Locations with abnormally poor safety records should be targeted to ensure that the maximum benefit is achieved from the program. This may also help alleviate any concerns that the HSC program is intended to be a revenue generator.
3. *Community support.* Corridors where there is extensive community support for the HSC should be strongly considered. Community task forces can provide valuable input into the types of countermeasures that should be used.

Possible ways for considering each of these factors are discussed here. This discussion is based on procedures that are in place in other states.

Facility Characteristics

The most basic eligibility criterion is that the proposed corridor would have to be on an interstate highway or a primary road. To focus resources better, it would be desirable to have relatively short or relatively homogeneous corridors. For example, it may be desirable to limit corridor sections to between 3 and 20 miles or less to ensure that resources could be concentrated along the length of the HSC.

Safety History

The most important criterion for establishing an HSC should be that the facility has a crash history that is significantly worse than that of similar facilities in the state. The procedure used for Virginia's Pilot Safety Corridor Program could be modified to identify roads with an existing safety problem:¹³

1. Determine the number of crashes in the candidate corridor for the previous 5 or more years.
2. Determine the VMT for the corridor in each of those years.
3. Determine the average overall crash rate, injury crash rate, and fatal crash rate for each corridor for each year. This rate provides a measure of the safety of the corridor in relation to its length and the amount of traffic it carries. By determining the crash rate for each year, it is possible to detect whether there is an increasing or decreasing trend in the crash rate.
4. Calculate the average statewide crash rate for the same facility type for each year.
5. Compare the calculated crash rate for the corridor to the average statewide crash rate for a particular facility. Corridors that significantly exceed the statewide average by a specified threshold would be candidates for the HSC program.

The selection of a threshold for including a corridor in the HSC program would need to be developed. There is considerable variability in the minimum levels required in other states. For example, Oregon requires that a corridor exceed the statewide average rate by only 10 percent.⁶ The definition of this threshold value would need to be determined once the program is implemented, but the threshold value should be set so that only corridors that have significant variations from the statewide average are selected.

Community Support

It is desirable to involve the local community in the selection of HSCs. As part of the nomination process, some states have asked for statements from local governments and businesses stating that they support the nomination of the HSC. In cases where funding to make improvements is limited, these statements of support may include commitments to provide services to support the HSC. Examples might include:

- Local law enforcement may commit to increasing patrols on the corridor by a specified amount.
- Local media outlets may promise to run news stories on the HSC project and to increase public service announcements related to safe driving.

SB 1093 requires that VDOT hold a public hearing on a specific HSC before implementing it. This provides a good forum for determining the level of public support for a project. This could also be a good avenue for identifying potential members of any task force that would determine countermeasures for a corridor.

Corridor Selection

An evaluation panel could be used to make the final selection as to which corridors should be designated as HSCs. The evaluation panel could be composed of DMV personnel, representatives from the State Police, and DOT personnel from the central office and the districts. Decisions about which corridors should be included in the program could be based on the following factors:

- *Safety.* Corridors with crash rates that are significantly greater than the statewide average for a specific facility type generally receive strong consideration. Corridors that show an increasing trend in crash rate should also be considered.
- *Location.* It may be desirable to distribute HSCs throughout the DOT districts.
- *Funding availability.* Limited funding may allow only a relatively small number of corridors to be designated.
- *Community support.* Corridors with extensive community support and those where local agencies have committed resources usually received strong consideration.

Development of Countermeasures

Once a corridor is selected for the HSC program, it is necessary to determine what countermeasures will be used to improve safety on the corridor. Many of the states reviewed earlier use multidisciplinary teams to generate possible solutions. Task forces are created to develop the implementation plan for the HSC. Possible task force members include:

- state and local law enforcement officials
- local government representatives
- emergency responders
- school district officials
- local highway safety groups
- concerned citizens
- DOT personnel
- DMV personnel.

These task forces will formulate a plan for the HSC that will be implemented by the DOT in cooperation with local agencies. Local stakeholders may be more familiar with the underlying

safety problems on a corridor and may be able to make better decisions about what should be done on the corridor. It is also important that relatively high-level personnel be involved to ensure that funding and support for the program are available.

Guidelines for Removing Highway Safety Corridors

It is also necessary to establish procedures for removing an HSC once the safety of the corridor has been improved. Oregon provides a possible procedure.⁶ ODOT recommends removing HSC status if the average crash rate for fatal and injury crashes over a 3-year span is no more than 10 percent greater than the statewide average for similar facilities. This assessment is made every year. If there is strong local support for continuing the corridor, it is maintained as long as the local stakeholders commit to providing a specified minimum level of support for the corridor.

CONCLUSIONS

- *Several states have implemented HSC programs.* California, Oregon, and Pennsylvania allow fines to be increased in designated safety corridors. Several other states designate safety corridors but do not increase fines for violations.
- *The involvement of local stakeholders has been used in many states to help create plans for countermeasures on these corridors.*
- *Safety corridors will probably have the largest impact when resources are available to increase enforcement, provide educational measures, and implement engineering countermeasures.* The effectiveness of increased fines, in isolation, is not entirely clear based on data from around the nation.
- *Data from these states indicate that safety corridors have had mixed results,* ranging from no effect to a reduction of up to 30 percent in total crashes.
- *At least part of the ambiguity of the impacts of safety corridor programs may be attributed to the need for better analytical methods with which to assess the impacts of safety corridors.*
- *Based on results from other states, the highway safety corridor concept appears to have the potential to improve safety on Virginia's roads.* Given that some corridors in other states have not undergone a measurable safety improvement, however, crash reductions in Virginia are not guaranteed.

RECOMMENDATIONS

1. *Corridors selected for the HSC should have a demonstrated safety problem.* If the HSC program is applied indiscriminately, the public could see it has a revenue-generating measure.
2. *Funding sources to support the highway safety corridor program need to be identified.* VDOT will need to determine how much funding will be available to support the HSC program. Funding is required to develop the initial policies for the program and also to refine analytical methods that could be used to identify candidate locations for the HSC program. Funding will be required to pay for increased enforcement, improved education, and engineering countermeasures.
3. *Additional work needs to be performed to create the HSC program.* VDOT's Mobility Management Division needs to examine methods and policies for identifying candidate corridors; selecting the appropriate education, enforcement, and engineering countermeasures; maintaining highway safety corridors; and evaluating the safety impacts of such corridors. It is likely that new analytical tools will need to be developed to support this program.
4. *Public involvement should be emphasized throughout the HSC process.* SB 1093 requires public hearings before an HSC project is implemented. Other states have had a great deal of success with HSCs by encouraging community members to be involved in selecting countermeasures to be employed at a site. VDOT's Mobility Management Division should consider how public involvement could occur throughout the project.
5. *The effectiveness of the HSC should be reviewed regularly.* VDOT's Mobility Management Division should commit to ongoing reviews of the impact of HSCs established through this program. If an HSC is no longer needed, it should be removed. Likewise, if an HSC is not improving safety, alternative measures should be considered. SB 1093 requires that VDOT make information on the HSC program available to the public, so this would support that requirement.
6. *Although the information reviewed for this document did not reveal any liability problems with HSCs in other states, this topic should be investigated further prior to implementation of the program.*

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APPENDIX: SENATE BILL 1093

CHAPTER 877

An Act to amend the Code of Virginia by adding in Article 15 of Chapter 1 of Title 33.1 a section numbered [33.1-223.2:7](#) and by adding in Article 18 of Chapter 8 of Title 46.2 a section numbered 46.2-947, relating to highway safety corridors; penalties.

[S 1093]

Approved March 22, 2003

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Article 15 of Chapter 1 of Title 33.1 a section numbered [33.1-223.2:7](#) and by adding in Article 18 of Chapter 8 of Title 46.2 a section numbered [46.2-947](#) as follows:

§ [33.1-223.2:7](#). *Highway safety corridor program.*

The Commissioner shall establish a highway safety corridor program, under which a portion of Virginia primary system highways and interstate system highways may be designated by the Commissioner as highway safety corridors, to address highway safety problems through law enforcement, education, and safety enhancements. In consultation with the Department of Motor Vehicles and the Superintendent of State Police, the Commissioner shall establish criteria for the designation and evaluation of highway safety corridors, to include a review of crash data, accident reports, type and volume of vehicle traffic, and engineering and traffic studies. The Commissioner shall hold a public hearing prior to the adoption of the criteria to be used for designating a highway safety corridor. The Commissioner shall hold a minimum of one public hearing before designating any specific highway corridor as a highway safety corridor. The public hearing or hearings for a specific corridor shall be held at least 30 days prior to the designation at a location as close to the proposed corridor as practical.

The Department shall erect signs that designate highway safety corridors and the penalties for violations committed within the designated corridors.

§ [46.2-947](#). *Violations committed within highway safety corridor.*

Notwithstanding any other provision of law, the fine for any moving violation of any provision of this chapter while operating a motor vehicle in a designated highway safety corridor pursuant to § [33.1-223.2:7](#) shall be no more than \$500 for any violation which is a traffic infraction and not less than \$200 for any violation which is a criminal offense. The otherwise applicable fines set forth in Rule 3B:2 of the Rules of the Supreme Court shall be doubled in the case of a waiver of appearance and a plea of guilty under § [16.1-69.40:1](#) or § [19.2-254.2](#) for a violation of a provision of this chapter while operating a motor vehicle in a designated highway safety corridor pursuant to § [33.1-223.2:7](#). The Commissioner shall report, on an annual basis, statistical data related to benefits derived from the designation of such highway safety corridors. This information may be posted on the Virginia Department of Transportation's official website. Notwithstanding the provisions of § [46.2-1300](#), the governing bodies of counties, cities and towns may not adopt ordinances providing for penalties under this section.