REPORT OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ON

Residential Cut-Through Traffic

TO THE GOVERNOR AND THE GENERAL ASSEMBLY OF VIRGINIA



HOUSE DOCUMENT NO. 43

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TABLE OF CONTENTS

Page

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	Preface	i
	Executive Summary	iii
I.	Introduction	1
II.	Background	3
III.	Review of Implementation	5
IV.	Policy Questions	13
V.	Results	15

List of Tables and Figures

-

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Figure 1	-	Report Format for Fredericksburg District	6
Figure 2	-	Report Format for Northern Virginia District	7
Table I	-	Statewide Residential Cut-Through Requests by District	11

Appendix:	Resolution	17
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Preface

The residential cut-through policy and procedures were approved by the Commonwealth Transportation Board March 16, 1989 and were forwarded to the nine districts for implementation March 21, 1989.

House Joint Resolution 452 of the 1989 General Assembly required a report on the residential cut-through program. An interim report was prepared for the General Assembly in 1990 and discussions were held with the chief patron of the resolution. While it is still too early for measured results, this report describes the action taken, and the procedures established, to determine the effects of the policy. The Department will continue to monitor its effectiveness and recommend adjustments where necessary. As required, this represents the final report to the General Assembly.

The Traffic Engineering Division was assigned to prepare the review. To assist in this endeavor, the districts were requested to furnish copies of monitoring reports for any location where the new policy was applied. This review presents a statewide perspective of the program. The procedure was to construct an automated data file showing statewide locations pertaining to the new policy.

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This report represents the Virginia Department of Transportation's (VDOT) monitoring efforts of operational initiatives since the adoption of the residential cut-through policy on March 16, 1989 and focuses on implementation strategies as well as the status of pre-existing efforts in this important area.

Three districts have received a total of 15 requests for study since implementation of the policy. These districts are Richmond, Fredericksburg, and Northern Virginia. The criteria of the new policy or the Manual on Uniform Traffic Control Devices (MUTCD) considered nine requests suitable for further review. Six out of 15 applications were denied as not appropriate for further action under current guidelines.

Countermeasures were customized to deal with each circumstance and ranged from signing and pavement markings to channelizations, turn restrictions, and nubs.

Policy questions have been minimal, suggesting the procedures are clearly written. Costs to the Department have been minimal thus far, although Secondary System funding is expected to be impacted, assuming a greater number of these issues will be addressed in the future.

As with all programs, the Department of Transportation will continue to monitor this program and suggest policy adjustments to the Commonwealth Transportation Board where experience indicates such adjustments are feasible. .

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I. INTRODUCTION

Residential cut-through traffic can be defined as that traffic passing through a residential area without stopping or without at least one trip end within the area. It is traffic that would be better served by the street system intended for through traffic but, for various reasons uses the residential street system. Such usage tends to be confined to peak traffic periods when the arterial road system is unable to accommodate traffic demands. Drivers naturally seek a perceived "quicker" route through residential areas to avoid backups at signalized intersections and other points of congestion.

As a result of initiatives by Delegate Alan E. Mayer and the recognition of the residential cut-through system problem by VDOT, a task force of local and state government representatives developed a policy to address this growing issue in urbanized areas of the Commonwealth. After receiving public input, the policy was adopted by the Commonwealth Transportation Board on March 16, 1989, creating a mechanism for citizens, local government, and the Department to work together for identification of countermeasures designed to reduce the cut-through traffic within a community's roadway infrastructure. This was no easy task as many suggested actions would, in fact, create parallel problems in safety and operations and could actually improve one street to the detriment of others.

The cut-through policy and attendant procedures provide a mechanism for localities to identify and address cut-through traffic on local residential streets. It sets forth the specific responsibilities and requirements of VDOT and of the affected county/town along with a definition of the variables that are involved, i.e., the types of street and the characteristics of the traffic using these streets. Variables are quantified and a threshold established by which a determination can be made as to whether the amount of cut-through traffic justifies remedial action.

The county/town is a partner in administration of the policy in that it has a responsibility to determine the extent of cut-through traffic, provide the necessary support data, and identify the source of funding for any permanent solutions. Of paramount importance is the verification by the county/town that cut-through traffic on the local residential street to be studied is 40 percent or more of the total one hour, single direction volume, and that a minimum of 150 cut-through trips occur in one hour in one direction. Equally important is verification by the county/town that a petition outlining the perceived problem and signed by at least 75 percent of the total occupied households within the primary use area is valid. The county/town remains a partner throughout the entire process, including participation is public hearings. VDOT performs the traffic engineering studies and in the countermeasures with county/town concurrence.

In an effort to monitor the progress of this important program, the 1989 General Assembly considered and adopted House Joint Resolution No. 452. This resolution recognized and commended the Department for the innovative and responsive manner in which this issue was addressed. In addition, a progress report to the Governor and General Assembly was requested. This report provides a review of policy implementation.

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II. BACKGROUND

Section 33.1-12 of the Code of Virginia allows the Commonwealth Transportation Board "to make rules and regulations, from time to time, not in conflict with the laws of this Commonwealth, for the protection of and covering traffic on and the use of systems of state highways and to add to, amend or repeal the same."

For the past several years the Department has received an increasing number of complaints from communities whose residential streets are being used by motorists who wish to avoid congested arterial routes. These residential streets were not intended to handle the heavy traffic volumes presently using them, and such usage has serious implications for the safety of the motorists as well as the residents living along these streets.

In response to these public concerns, and at the request of Delegate Alan E. Mayer, the Department established a task force comprised of field and central office engineers and representatives of Chesterfield and Fairfax Counties, two urban areas experiencing considerable problems with cut-through traffic, to develop a policy and procedure for reducing this traffic and thus improve the quality of the residential environment along streets having the predominant intended function of providing access to residential properties in the immediate local area.

Major objectives of the task force were to ensure consistency of application, ensure local governing bodies and communities an active role in the process, and to provide for quick response by the Department to residential traffic problems.

The Department presented the proposed policy at a series of four public hearings strategically located throughout the state for the purpose of concerned citizens and receive their comments and informing to Dates and locations of the hearings in 1989 were as recommendations. October 27 at Central Office, October 31 at Salem District. follows: November 14 at Suffolk District, and December 1 at Northern Virginia District.

Public sentiment was overwhelmingly in favor of the proposed new residential cut-through policy and procedures, and they were recommended to and approved by the Commonwealth Transportation Board at the March 16, 1989 meeting. The policy provides for all actions to be initiated at the local level and the decision making authority rests with the District Administrators. The Central Office is to be involved only if the county/town should decide to appeal a decision made by a District Administrator. This decentralized authority is intended to ensure fast and positive action.

The new policy and procedures were forwarded to the nine districts on March 21, 1989. The districts were advised that VDOT is committed to monitoring the program and furnishing a report to the Governor and the 1990 General Assembly. Reports for any location where the new policy will be applied were requested from each district so that the review submitted to the Governor and General Assembly would be as complete as possible. The due date for the review was subsequently extended one year because of the small number

of locations reviewed in 1989. Additional data have become available on implementation of this program and a progress report is now being furnished to the 1991 legislative assembly.

III. REVIEW OF IMPLEMENTATION

The resolution (Appendix) states that VDOT should (1) involve the community in the solution, (2) report on progress of the implementation, and (3) recommend action for any problems experienced.

Accordingly, the objective of this review is to present a statewide perspective of the program which will include magnitude, effectiveness, and costs. The procedure is to construct an automated data file showing the statewide applications of the policy, and to develop a narrative report from this information. The following information was included in the data file:

- o District
- o County/Town
- o Route No.
- o Street Name
- o Subdivision Name
- o Date Implemented
- o Type of Countermeasure Implemented
- o Cost and Source of Funding
- o Comparison of Before and After Traffic
- Citizen Satisfaction (may be exhibited by comments or absence of comments)
- o County Satisfaction (may be exhibited by comments or absence of comments).

As an example of policy application, detailed information is being provided for two locations which were under study before the policy was implemented. In fact, these two situations helped call attention to the need for this policy development. See Figures 1 and 2. Table I provides information about application of the policy at other statewide locations.

The first location (Figure 1) is in the Fredericksburg District. While the new procedures were not applicable to this location, the results are typical of what the Department is striving for in resolution of residential traffic issues. Improvements were implemented prior to adoption of the new policy. However, the District Administrator's report contained a great deal of pertinent information and it serves as the reporting model for the remaining districts.

The second location (Figure 2) is in the Northern Virginia District. VDOT has proposed several countermeasures and the County Board of Supervisors has voted to adopt them. In this case, the policy is being applied because the community and local governing body had essentially complied with the policy requirements before they went into effect. This particular problem is very complex and has not been fully resolved. The Department is committed, however, to assist as much as feasible in arriving at a satisfactory solution.

Figure 1

Report from Fredericksburg District

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0	County/Town	Spotsylvania County
0	Route No	1187
0	Street Name	Breezewood Drive
0	Subdivision Name	Breezewood Subdivision
0	Date Implemented	October 31, 1988
0	Type of Countermeasure Implemented	Temporary signs, barricades, pavement markings, and channelization devices
0	Cost and Source of Funding	Negligible costs for the temporary measures. \$8,000 to \$10,000 will be required from Secondary funds if the measures are made permanent.
0	Comparison of Beforeand After Traffic	48% and 25% reductions in traffic at two count stations.
0	Citizen Satisfaction (may be exhibited by comments or absence of complaints)	No formal communications have been received; however, a resident of the subdivision who is a VDOT employee said the residents were very pleased.
0	County Satisfaction (may be exhibited by comments or absence of complaints)	County said they had not received any complaints.

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Figure 2

Report from Northern Virginia District

ο	County/Town	Fairfax County
o	Route No	3647
0	Street Name	Southampton Drive
0	Subdivision Name	Kings Park Subdivision
ο	Date Implemented	Obligated on March 29, 1990
0	Type of Countermeasure Implemented	Right turn restriction, speed controls, nubs
0	Comparison of Beforeand After Traffic	Primary arteries carry more than 21,000 vehicles per day and 98.1% are exceeding the speed limit. Community wants traffic to be reduced by 50% and speeds reduced to posted limits.

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Kings Park is the first community in Fairfax County where cut-through traffic has been addressed under the newly adopted Policy and Procedures for Control of Residential Cut-Through Traffic. A task force was assigned the duty of recommending measures to address speed, safety, and cut-through traffic concerns of the residents of the Kings Park Community. The task force consisted of Supervisor Sharon Bulova and members of her staff and representatives from the Virginia Department of Transportation, the Fairfax County Office of Transportation, the Fairfax County Police Department, and the Kings Park Community.

The task force began meeting regularly in March, 1989. After informational meetings and public hearings, their hours of study, research, and discussion have resulted in adoption of the following list of recommendations:

- (1) adjust traffic signal timing on all traffic signals to favor traffic on main roadways as opposed to internal streets;
- (2) block off the slip ramp from northbound Rolling Road to Kenilworth Drive (Right turns will be restricted at this intersection when the Rolling Road project is completed. Blocking off this slip ramp along with the right turn restriction will eliminate cut-through traffic from entering Kenilworth Drive.);
- (3) restrict right turns from 6 a.m. to 9 a.m. at the slip ramp from northbound Rolling Road to Parliament Drive (Right turns will be restricted at this intersection when the Rolling Road project is completed.);
- (4) restrict right turns between 6 a.m. and 9 a.m., except buses, on Southampton Drive at Clydesdale Road;
- (5) restrict right turns between 6 a.m. and 9 a.m. on Eastbourne Drive at Clydesdale Road;
- (6) install a raised four foot median on Southampton Drive at Kings Park Drive, at Ventnor Lane and Callander Drive (This will physically block traffic from entering these streets, thus eliminating cut-through traffic. This will also reduce the cross section of Southampton Drive to 2 ten-foot travel lanes, which should have an impact on the operating speeds of traffic.);
- (7) reduce the cross section of Southampton Drive to 2 ten-foot travel lanes, between Yorkshire Street and Lancashire Drive by adding additional width to the parking lanes;
- (8) add an eight foot parking lane on the west side of Southampton Drive between the intersections of Braddock Road and Lancashire Drive;

- (9) install eight speed humps at various locations along Southampton Drive between the intersections of Braddock Road and Ventnor Lane;
- (10) install five speed humps at various locations along Kings Park Drive between Braddock Road and Southampton Drive;
- (11) install two speed humps on Clydesdale Road between Southampton Drive and Victoria Road;
- (12) remove the existing traffic circles on Southampton Drive;
- (13) add nubs on Southampton Drive at the intersections of Yorkshire Street, Clydesdale Road, Parliament Drive, Thames Street, and on the southbound approach at Kings Park Drive.

This problem was actually brought to VDOT's attention prior to implementation of the new policy. The county and the community association, however, have essentially followed the procedures set forth in the new policy. VDOT has been working with these organizations for several months in seeking. a viable solution. The problem is complex because of the natural cut-through characteristics of the street layout and the high design standards of Southampton Drive.

As Table I (pages 10 and 11) indicates, three districts have made a total of 15 requests for study since implementation of the policy. These districts are Richmond, Fredericksburg, and Northern Virginia. The criteria of the new policy or the Manual on Uniform Traffic Control Devices (MUTCD) considered nine requests suitable for further review. Six out of 15 applications were denied as not appropriate for further action under current guidelines.

As of July 1, 1990 all residencies in the Richmond District have been canvassed. Henrico County does not have a cut-through policy. Unless there are extraordinary circumstances, they maintain that their streets are open to public use and will not take measures to alleviate cut-through traffic. However, the Sandston Residency has experienced a problem in the vicinity of Parham Road and Route 6. Signal modifications have been made since that time and the westbound left turn lane on Route 6 has been extended to provide some relief.

Another location in Henrico County is on Staples Mill Road at Morrison Road. Eastbound traffic on Staples Mill was cutting through Morrison Road to avoid the signal at Bethlehem Road. Traffic counts have been obtained by the District Traffic Engineering Office. It was determined that the threshold level for restrictions had not been met. Also, a signal malfunction at Bethlehem Road was discovered which caused unnecessary traffic backups. The malfunction was corrected. The county's position on this request is not to post any restriction on traffic movement.

Old Warson Drive (State Route 1905) in the Salem Woods Subdivision of Chesterfield County has been studied by the Chesterfield Residency, the District, and the Central Office. Three-way stop signs were installed on Old Warson Drive at the intersections of Post Horn Drive and Ramada Drive. This location has been studied with recommendations to retain the improvements and provide additional enforcement. This would not normally be used as a cut-through/speed countermeasure, but the Department decided to try it under these particular circumstances. The signs were well received by the residents, although there are problems with noncompliance.

The Stonehenge Subdivision in Chesterfield County is concerned about cut-through traffic using Farnham Drive and Edenberry Drive. Chesterfield County has reviewed this location and determined that the cut-through traffic volumes did not meet the minimum requirement. Chesterfield County notified the citizens of Stonehenge Subdivision of their findings and no further action has been taken at this location by the County/Department.

With regards to the residential cut-through traffic policy implementation in the Fredericksburg District, a request was recently received from Spotsylvania County concerning a reported cut-through traffic problem in the Maple Grove Subdivision. A traffic study indicated that cut-through volumes did not meet the warrants for further consideration. It should also be noted the Department provided assistance in data development beyond that required by the policy.

Regarding other requests that have been screened out by local government, the Stafford County Planning Department reports that a cut-through problem in the Vista Woods Subdivision was reviewed by their staff and was found not to meet the established VDOT criteria. The studied roadway was Route 1209 (Choptank Road). They have also reviewed Route 1001 (Washington Street) for cut-through traffic and found that the VDOT volume criteria were met. Their collected data were forwarded to a member of the Board of Supervisors. No further action has been taken with respect to the remaining support data requirements.

TABLE I STATEWIDE RESIDENTIAL CUT-THROUGH REQUESTS BY DISTRICT

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LOCATION	ACTION TAKEN	RESULTS/STATUS
Richmond District		
Chesterfield County Route 1905 Old Warson Drive Salem Woods Subdivision	3-Way Stop installed 09-28-90.	80% of those surveyed were satisfied. There are problems with non- compliance with the signs.
Henrico County Morrison Road Brittons Hill Subdivision	Under Henrico County maintenance as of 05-10-90. VDOT policy does not apply.	Request referred
Chesterfield County Route 1237 Ellesmere Street Powderham Subdivision	Volume criteria not met.	Request denied
Chesterfield County Farnham/Edenberry Drive Stonehenge Subdivision	Volume criteria not met.	Request denied
Fredericksburg District		
Spotsylvania County Route 1187 Breezewood Drive Breezewood Subdivision	Signs, barricade, pavement markings, channelization devices to convert roadway to SB one way. Installed by 10-31-88.	One accident and vandalism. Traffic volumes reduced 40% and 25% at two stations.
Spotsylvania County Blake Drive Maple Grove Subdivision	Volume criteria not met.	Request denied
Stafford County Route 1209 Choptank Road Vista Voods Subdivision	Volume criteria not met.	Request denied
Stafford County Route 1001 Washington Street	No action taken as of this writing, but policy volume criteria met.	Pending

TABLE I (continued)

LOCATION

ACTION TAKEN

RESULTS/STATUS

Northern Virginia District

Fairfax County Route 3647 Southampton Drive Kings Park Subdivision	Right turn restriction, speed controls, nubs; not yet installed, but obligated on 03-29-90.	Installation in progress.
Fairfax County Route 3309 Jansen Drive W. Springfield Subdivision	Returned to county for more data.	Pending
Fairfax County Route 4693 Woodland Way Canterbury Woods Subdivision	Returned to county for more data.	Pending
Fairfax County Route 4895 Holden Street Country Club View Subdivision	Fairfax County to forward request.	Pending
Fairfax County Route 783 Edgelea Street Cyrandall Valley Subdivision	Fairfax County to forward request.	Pending
Fairfax County Route 902 Blair Road Culmore Subdivision	Road is collector.	Request denied
Fairfax County Route 902 Blair Road (Residential Section) Culmore Subdivision	Volume criteria not met.	Request denied

* Bristol, Culpeper, Lynchburg, Salem, Staunton, and Suffolk Districts had no requests for study.

IV. POLICY QUESTIONS

Since the policy was placed into effect, several questions have been posed by counties and the districts to the Central Office. These questions and comments along with responses are presented below to provide more information on implementation issues associated with the policy.

<u>Question/Comment</u>: Should the term "problem area" be further clarified in the policy?

<u>Central Office Response</u>: Discussions with the Northern Virginia District Traffic Engineering Office about Canterbury Woods resulted in a recommendation relative to the term "problem area" in the new policy. It is suggested that "problem area" be clarified by using the term "primary use area" which would include the residential street in the subdivision receiving substantial cut-through traffic, plus adjacent streets where traffic would be impacted if changes were made to the "cut-through" street.

<u>Question/Comment</u>: Should the policy be revised to address roadways beyond the local residential street classification?

<u>Central Office Response</u>: In general, improvements should only be implemented on local residential streets served by the local street system. The Department's preference is that revision of the existing policy not be made. Arterials and collectors should carry through traffic since they are designed and specifically classified to serve this purpose. Problems with this arrangement can be resolved by other readily available mechanisms within the Department and counties. This includes installation of pavement markings, signs, signals, and other pertinent improvements. This matter has also been reviewed by the task force which developed the policy with a consensus that the policy should include only local residential streets.

<u>Question/Comment</u>: The Albemarle County Board of Supervisors commented that provisions for limiting or prohibiting truck traffic would be beneficial to the policy.

<u>Central Office Response</u>: Residential cut-through traffic and through truck traffic are two entirely different matters from a legal standpoint, and separate policies are necessary to address them. For example, through-truck restrictions require action by the Commonwealth Transportation Board because they are legally enforceable and police officers are authorized to issue citations for violations. On the other hand, the intent of the residential cut-through policy is to discourage traffic from using neighborhood streets through the application of traffic engineering techniques rather than legally prohibiting it. The districts were requested to assure the counties that avenues to address both issues are available, but they must be addressed as separate issues. There is, of course, nothing to prevent both issues from being addressed simultaneously for a particular residential area.

Question/Comment: The Richmond District had the following questions: (1) How is the policy to be applied in Henrico and Arlington Counties?, and (2) How do we handle the situation when a county does not have a traffic engineering staff? Do we do the study for them? <u>Central Office Response</u>: Henrico and Arlington Counties would be expected to handle their own cut-through problems, just as a city (Richmond for example) would. If a state maintained road would be impacted, then VDOT would want to be involved to protect Department interests.

Counties with sufficient residential cut-through traffic to be a problem as defined by the policy will normally have at least a minimum staff to work with the communities to provide the required information. When no county staff is available, VDOT will work with the county to the extent possible to resolve the residential cut-through issue.

V. RESULTS

The cut-through policy and attendant procedures provide a mechanism for localities to identify and address cut-through traffic on local residential streets. It sets forth the specific responsibilities and requirements of VDOT and of the affected county/town along with a definition of the variables that are involved, i.e., the types of street and the characteristics of the traffic using these streets. Variables are quantified and a threshold established by which a determination can be made as to whether the amount of cut-through traffic justifies remedial action.

Three districts have received a total of 15 requests for study since implementation of the policy. These districts are Richmond, Fredericksburg, and Northern Virginia. The criteria of the new policy or the MUTCD considered nine requests suitable for further review. Six out of 15 applications were denied as not appropriate for further action under current guidelines.

Countermeasures were customized to deal with each circumstance and ranged from signing and pavement markings to channelizations, turn restrictions, and nubs.

Policy questions have been minimal, suggesting the procedures are clearly written.

Costs to the Department have been minimal thus far, although Secondary System funding is expected to be impacted, assuming a greater number of these issues will be addressed in the future. Following the approximately 21 month experience with the policy, no major changes appear to be needed. However, the original task force has been requested to review the policy to determine if it would be appropriate for the counties to implement countermeasures on their own when policy criteria are not met.

As with all programs, VDOT will continue to monitor implementation and modify policy procedure as needed.

APPENDIX

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1989 SESSION

	LD7215511		
1	HOUSE JOINT RESOLUTION NO. 452		
2	Offered January 24, 1989		
3	Commending the Virginia Department of Transportation for the responsive and innovative		
4	manner in which the problem of residential cut-through traffic is being addressed and		
5	to encourage the timely adoption of policy by the Commonwealth Transportation		
6	Board.		
7			
8	Patrons-Mayer, Byrne, Marshall, Keating, Dillard, Woods, Medico, Plum, Callahan, Almand,		
9	Cohen, Van Landingham, Cunningham, R. K., Harris, R. E., Rollins and Andrews;		
10	Senators: Gartlan, Miller, E. F., DuVal, Holland, E. M. and Saslaw		
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12	Referred to the Committee on Roads and Internal Navigation		
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14	WHEREAS, residential cut-through traffic can be defined as traffic passing through a		
15	specific residential area without stopping or without at least one trip end within the area;		
16	and		
17	WHEREAS, the health, safety, and general welfare of residential communities are being		
18	adversely affected by said cut-through traffic; and		
19	WHEREAS, cut-through traffic would be best served by the street system intended for		
20	through traffic, but which, for various reasons, uses the residential street system; and		
21	WHEREAS, the Virginia Department of Transportation recognized the need to develop a		
22	policy to establish clear guidelines for studying the issues of cut-through traffic, identifying		
23 24	possible solutions, and implementing those solutions; and WHEREAS, a committee of Department and local representatives was formed to		
24 25	develop guidelines and these guidelines were subjected to public notice and hearings; and		
26	WHEREAS, the Department is integrating the necessary modifications as to this policy,		
27	suggested by citizens, for formal adoption by the Commonwealth Transportation Board in		
28	March 1989; now, therefore, be it		
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34	RESOLVED FURTHER, That the Department of Transportation involve citizens, civic		
35	organizations, and other community groups in seeking solutions to the cut-through problem;		
36	and, be it RESOLVED FINALLY, That the Department of Transportation report to the Governor		
37 ⁻ 38	and the General Assembly by January 1, 1990, progress made in implementing the		
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44	Official Use By Clerks Agreed to By		
45	The House of Delegates Agreed to By The Senate		
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