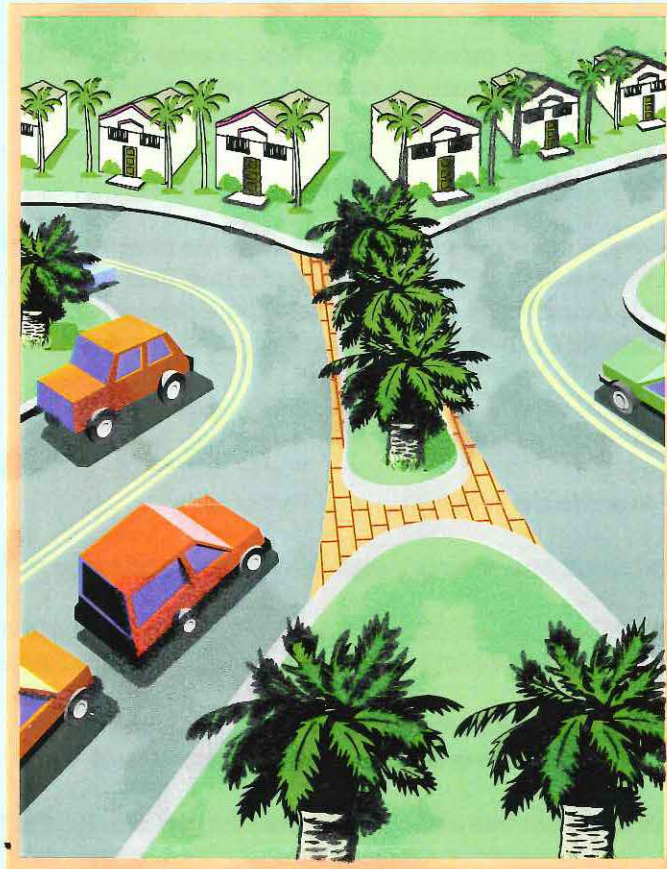




*Executive Summary:  
Street Closure/Traffic Flow  
Modification Study*



*July 1996*

*Prepared for:*

*Dade County Public Works Department*

*and*

*Metropolitan Planning Organization*

*Prepared by:*



**F. R. HARRIS**  
**Frederic R. Harris, Inc.**  
**Consulting Engineers**

## EXECUTIVE SUMMARY

Metro-Dade County Commissioner Maurice A. Ferré's office suggested that the County conduct a symposium to address issues related to street closures/barricades. The Public Works Department and Metropolitan Planning Organization obtained the professional engineering services of Frederic R. Harris, Inc. to conduct a Street Closure/Traffic Flow Modification Study. The primary objectives of the study were to:

- Evaluate and recommend traffic control alternatives to street closures;
- Develop a uniform set of guidelines or warrants to be followed by local municipalities, the County and the State for implementing neighborhood and localized area traffic control; and
- Develop a standardized set of procedures to be followed by local applicants desiring enhanced neighborhood traffic control.

A Steering Committee was assembled and periodically convened to meet with the Consultant to provide input throughout the study process. The Steering Committee consisted of representatives from the Florida Department of Transportation, Metro-Dade County and local municipalities; some of whom had previous experiences with citizen requests for street closures. The draft report was developed as a series of Technical Memorandums that were reviewed by the steering committee and later compiled to form the final report.

In recent years, traffic on local streets in various areas of Dade County has received widespread attention; neighborhood residents have increasingly requested street closures to improve their quality of life and safety. While the grid network of streets in Metro-Dade County often encourages traffic from congested arterial streets to overflow onto residential streets, citizens' desires for street closures escalate for the following reasons:

- Over-capacity of arterial streets,
- Changing traffic patterns,
- Cut-through traffic,
- Excessive speed on residential streets,
- Safety concerns,
- Accidents,
- Traffic noise, and
- Fear of crime.

When evaluating a street closure request, government agencies are faced with traffic engineering considerations such as:

- Do volume, cut-through, speed, accident or crime problems actually exist to warrant closures?
- Will diverted traffic adversely impact other streets (and create additional requests or additional capacity improvements)?
- How will proposed improvements affect emergency vehicle access?
- What other less restrictive measures are available to address residents' concerns?

Increasingly, these agencies are also faced with both legal and financial implications. For instance:

- Who will pay for and maintain the requested installations?
- What are the legal issues that may complicate a traffic mitigation policy?

The public and institutional issues identified in this study must be understood when addressing requests for local street closures or any other neighborhood traffic flow modification.

The Steering Committee developed standardized procedures and guidelines for use by the public, local officials, or other private sector interests requesting traffic flow modifications that may affect local neighborhood as well as other roadway traffic patterns. The intent of these procedures is to provide Metro-Dade County and municipalities a uniform approach to facilitate government action in response to requests to restrict local traffic access via street closures, other physical modifications or traffic calming alternatives. These proposed procedures are also intended to ensure that such issues are given appropriate study and timely response and that the full range of traffic and community impacts are considered.

## ***LOCAL EXPERIENCE***

Current Metro-Dade County's means for implementing street closures include any combination from the following:

1. Creation of a Special Taxing District,
2. Reverting the Right-of-Way to the adjacent property owners,
3. Within a municipality, citizens petition the municipality, and
4. In Unincorporated Dade County, citizens submit requests to the Public Works Department.

Municipalities were not always sure as to what their requirements and obligations were in terms of before-and-after traffic studies for street closure requests. After reviewing existing Metro-Dade County correspondence files with several municipalities, Frederic R. Harris, Inc. developed a questionnaire for the purpose of contacting all municipal agencies within the County, advising them of the Street Closure Study, and requesting input concerning neighborhood traffic control issues. The survey was conducted primarily via mail, although several personal interviews were conducted with various State, County and local officials as well as local neighborhood associations, street closure activists and other professional engineers.

The main topics covered in the survey included:

- The status of existing or pending street closures;
- Typical traffic control measures requested by citizens;
- Identification of typical residential traffic problems;
- Funding methods; and
- Perception of street closure performance.

## ***THE ISSUES***

The survey results revealed that elected officials must increasingly address a number of traffic, socio-economic, legal and political issues. Their decision to implement residential street closures as a result of both private and public requests further reveals that:

- The problem, "to close or not to close," is common to many local governments;
- Complex issues such as the relation of traffic intrusion versus crime are unique to every neighborhood and often critically debated;
- Creative engineering and planning solutions are needed to respond to public and political sentiment;
- Traffic engineers must include the impacts of proposed traffic control measures on a macro-level, since implementing one solution may magnify other problems;
- A typical residents' solution to traffic problems often involves installing "Stop" signs and barricading roads;
- Alternative traffic calming techniques should be investigated prior to implementing street closure design;
- A formal process or procedure to identify existing traffic problems, explore a full range of solutions, and evaluate potential impacts is often non-existent within most local government agencies.

Frederic R. Harris, Inc., using the survey results with the support of a literature search and review of Dade County files, identified the following institutional and public concerns.

### ***Institutional Concerns***

The survey results identified a number of issues as typical concerns or complaints by both municipal officials and local neighborhood representatives regarding the benefits and consequences of street closures. The following are those common macroscopic issues public officials are faced with when addressing street closure requests:

- Diverted traffic volumes resulting in degraded Levels of Service (LOS) on adjoining neighborhood streets,
- Diverted traffic volumes resulting in degraded LOS on the adjoining arterial or collector roadway system,
- Degradation of emergency services' access and response times, and
- Degradation of other services such as school buses, public transit, mail delivery and trash collection.

Typically, these issues are identified *after* a particular street closure has been implemented and not during the planning or proposal stage.

#### *Public Concerns*

The general public is more concerned about those microscopic problems that they perceive adversely affect the neighborhoods' quality of life. These problems may include:

- Excessive vehicle speeds within residential neighborhoods,
- Cut-through traffic or traffic intrusion,
- Safety of pedestrians and bicyclists,
- Perception of increasing crime and drug sales,
- High truck traffic as a result of traffic intrusion,
- Increased noise as a result of high traffic volumes,
- Decreased emergency services' response time,
- Perceived increase (or decrease) in property valuation as a result of street closures.

Much of the debate about street closures balances the perceived benefits against the negative consequences above.

### ***THE TRAFFIC CALMING ALTERNATIVE***

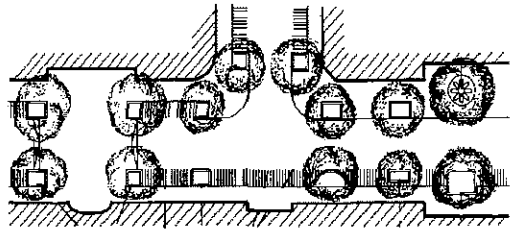
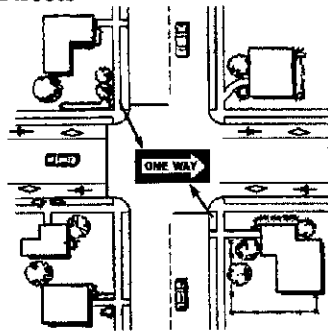
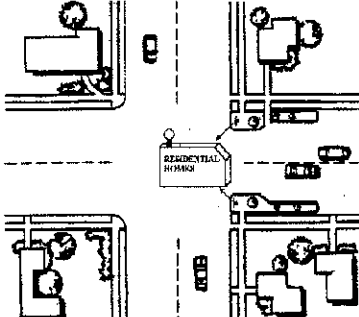
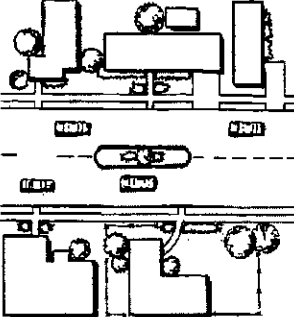
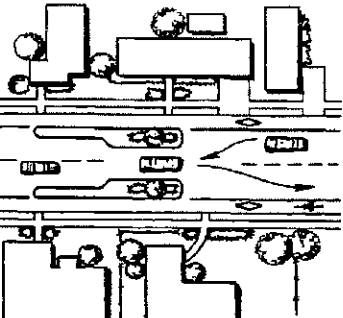
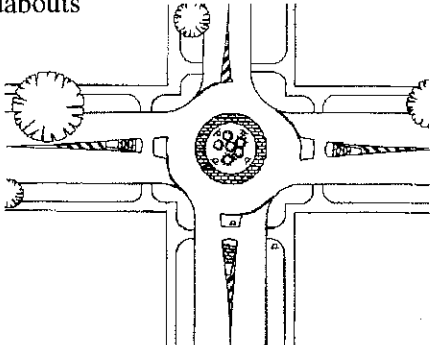
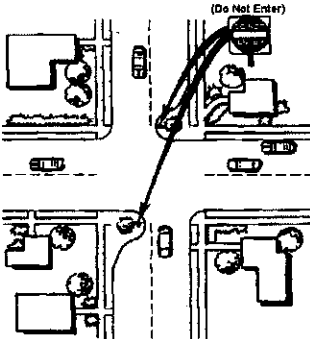
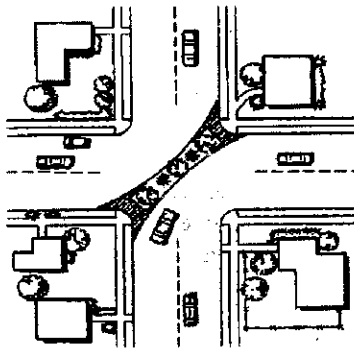
Traffic calming involves implementing strategic physical changes to streets to reduce vehicle speeds and to decrease the non-local driver's intrusion into residential neighborhoods. The traffic calming devices recommended by this study should be designed and located to discourage cut-through routing or speeding by increasing travel time on local neighborhood streets thus keeping through traffic on arterial roads. A strategic plan utilizing combinations of these devices supported by all affected parties will be effective. Some of the more common physical techniques currently being utilized to calm local residential streets are shown on Page 4.

#### *Levels of Traffic Calming*

Several category levels exist to distinguish the least restrictive (passive) traffic calming measures from those that are most restrictive (active). It should be noted that among each of the categories there are many design variations for each device. The least restrictive measures to address a traffic problem should be employed first, followed by more active and physical traffic calming devices. This incremental approach would allow a cost effective opportunity to identify the real traffic problem, if any, and effectively evaluate the impacts of more restrictive measures.

Any street closure or traffic flow modification within Metro-Dade County and its municipalities should be limited to residential local streets and residential collector streets. Prior research has found that a residential street begins to lose its livability when traffic exceeds approximately 1500 vehicles per day (vpd) or 150 vehicles per hour (vph). Similarly, the thresholds for a residential collector are approximately 3000 vpd or 300 vph. These values are guidelines recommended for use by engineers as part of the evaluation process.

### Traffic Calming Alternatives

<p>Border Landscaping</p> 	<p>One-Way Streets</p> 
<p>Gateway Treatments</p> 	<p>Raised Islands/Medians</p> 
<p>Slow Point (Neckdown)</p> 	<p>Roundabouts</p> 
<p>Semi-Diverter</p> 	<p>Diagonal Diverter</p> 

When evaluating the traffic and livability impacts of traffic calming alternatives, the evaluator must analyze the effectiveness of the recommended alternatives according to the following criteria:

- Speeds,
- Cut-Through Traffic,
- Level of Service - Within Neighborhood,
- Level of Service - Neighborhood Periphery,
- Accidents and Safety,
- Neighborhood Cohesiveness,
- Emergency Service Access - Fire/Medical,
- Right-of-Way Requirements,
- Environment (Noise, Air pollution),
- Comfort Level and Livability.

#### *Neighborhood Management Programs*

Several cities in the United States are currently utilizing many of these devices as part of a formal Neighborhood Management Program that addresses citizens' traffic concerns. The report summarizes these programs for the following cities:

- Naples, Florida (Collier County);
- Bellevue, Washington;
- Laguna Hills, California;
- Boulder, Colorado; and
- Gainesville, Florida.

### **THE PROCESS**

The process of responding to a citizen request or proposal for a street closure or traffic flow modification in Metro-Dade County will include the following elements:

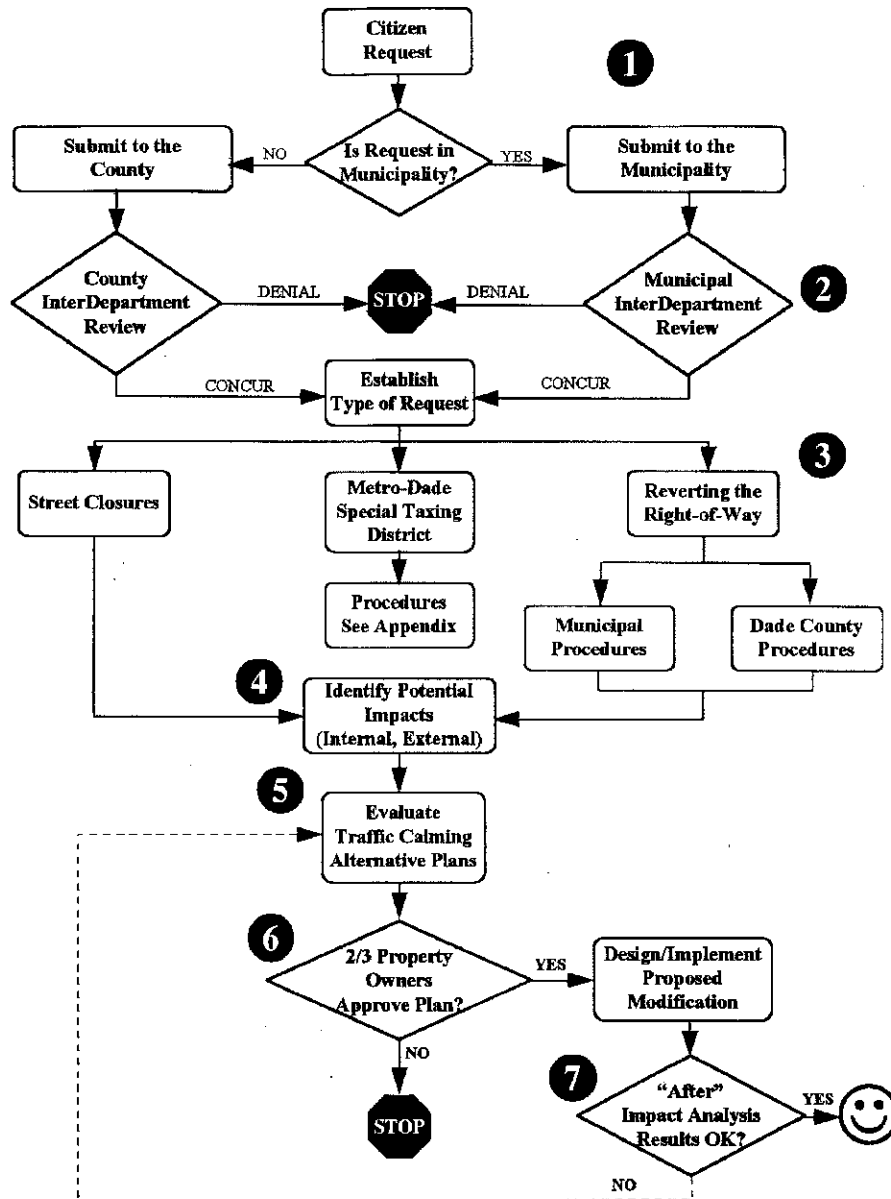
1. Receive citizen request or proposal;
2. Preliminary review by the appropriate government agency (County or Municipality);
3. Establish the type of request by defining the traffic problem or other perceived problems.
4. Identify the potential traffic impacts associated with the request by a before-study to determine expected impacts.
5. Identify alternative traffic calming and traffic control solutions.
6. Obtain petitions from a majority of all affected property owners prior to implementing traffic calming alternatives.
7. Perform an after-study to evaluate impacts of implemented alternative solutions.

The requirements of the process are as follows:

- Interdepartmental reviews within jurisdictional agencies,
- Concurrence of 2/3 of the property owners,
- Non-traditional analyses of impacts on emergency services,
- Traffic data requirements on a case-by-case basis, and
- Incremental approach via traffic calming alternatives to street closure.

A flow chart outlining the application process is shown on Page 6. It is recommended that the procedures and devices described herein initially be tested for a trial period and the process fine tuned prior to the County's adoption of a formal policy.

### Application Process



### CONCLUSIONS

The procedures recommended in this report address traffic issues in an incremental fashion with the least restrictive measures applicable to a particular situation tested first, then monitored and supplemented, modified or replaced with more stringent measures if necessary. When non-traffic issues enter into the decision process, the procedures weigh both the traffic and non-traffic implications of a street closure or traffic flow modification. Although each citizen request will be unique, the process described herein will apply equally to any residential traffic control situation and provide government officials an objective tool to address neighborhood traffic control issues. There are alternatives available and recommended in the report that can resolve neighborhood traffic concerns. Street closures should not be a political issue but rather a transportation engineering/planning problem which strives to determine the best overall solution for the residential neighborhoods and the roadway network.



## **METROPOLITAN DADE COUNTY, FLORIDA**

Arthur E. Teele, Jr.  
*Chairperson*

Miguel Diaz de la Portilla  
*Vice-Chairperson*

Betty T. Ferguson  
*District 1*  
James Burke  
*District 2*  
Arthur E. Teele, Jr.  
*District 3*  
Gwen Margolis  
*District 4*  
Bruce C. Kaplan  
*District 5*  
Pedro Reboredo  
*District 6*  
Maurice A. Ferré  
*District 7*

Katy Sorenson  
*District 8*  
Dennis C. Moss  
*District 9*  
Javier D. Souto  
*District 10*  
Miguel Diaz de la Portilla  
*District 11*  
Alexander Penelas  
*District 12*  
Natacha S. Millán  
*District 13*

Armando Vidal, P.E.  
*County Manager*

Robert A. Ginsburg  
*County Attorney*

### **PROJECT STEERING COMMITTEE**

Pete Hernandez, Director  
*Metro-Dade PWD*  
Jose Mesa, Director  
*Metro-Dade MPO*  
Esther Calas, P.E.  
*Metro-Dade PWD*  
Jim Leone  
*Metro-Dade PWD*  
Muhammed Hasan, P.E.  
*Metro-Dade PWD*  
Joaquin Urrechaga, P.E.  
*Metro-Dade PWD*  
Charles Small  
*Metro-Dade PWD*  
Mark Woerner  
*Metro-Dade DPR*  
Frank Baron, AICP  
*Metro-Dade MPO*  
Jeff Hunter  
*Metro-Dade MPO*  
Barbara Mathews  
*Metro-Dade Fire/Rescue*

Patricia Addison  
*Metro-Dade Police*  
Lucy Fitts  
*Metro-Dade Police*  
Howard Ostlund  
*Metro-Dade Police*  
Samuel Schafer  
*Metro-Dade Police*  
Dorothy Cissel  
*CTAC-MPO*  
Pat Rebull, P.E.  
*CTAC-MPO*  
Rafael DeAraza, P.E.  
*FDOT District 6*  
Wagner Almeida  
*Bay Harbor Islands*  
Ken Cassal  
*Bay Harbour Islands*  
Albert Delgado, P.E.  
*City of Coral Gables*  
Donna Morris  
*City of Coral Gables*

Giovanni R. Battista  
*Dade League of Cities*  
Ignacio Resillez  
*City of Hialeah*  
Paul Bergeron  
*City of Homestead*  
Len Helmers  
*City of Miami*  
James J. Kay, P.E.  
*City of Miami*  
Edgar Muñoz  
*City of Miami*  
Vincent Akhimie  
*City of Miami Beach*  
Arshad Viqar  
*City of Miami Beach*  
Tom Benton  
*Miami Shores Village*  
Clarence Patterson  
*City of Miami Springs*  
Marcos Urra  
*City of Miami Springs*  
Erick Verela  
*City of N. Miami Beach*

Jack Strain  
*City of North Miami*  
Keven R. Klopp  
*City of N. Miami Beach*  
Ed Moore  
*City of Opa-Locka*  
Melvin L. Tookes  
*City of South Miami*  
Don Avery, P.E.  
*Frederic R. Harris, Inc.*  
Anthony Castellone, P.E.  
*Frederic R. Harris, Inc.*  
James P. Reynold, P.E.  
*Frederic R. Harris, Inc.*  
Phil Tokich, P.E.  
*Frederic R. Harris, Inc.*  
Jeff Weidner, AICP  
*Frederic R. Harris, Inc.*  
Randy Atlas  
*Atlas Safety & Security*  
David Plummer, P.E.  
*David Plummer & Assoc.*