

ORDINANCE NO. 1301-1

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF PEARLAND, TEXAS, AMENDING THE CITY'S TRAFFIC POLICY, HAVING A SAVINGS CLAUSE, A SEVERABILITY CLAUSE, AND A REPEALER CLAUSE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PEARLAND, TEXAS:

**Section 1.** That the amended City of Pearland Traffic Policy, attached hereto as Exhibit "A", is hereby adopted.

**Section 2. Savings.** All rights and remedies which have accrued in favor of the City under this Chapter and amendments thereto shall be and are preserved for the benefit of the City.

**Section 3. Severability.** If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid, unconstitutional or otherwise unenforceable by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions thereof.


**Section 4. Repealer.** All ordinances and parts of ordinances in conflict herewith are hereby repealed but only to the extent of such conflict.

PASSED and APPROVED ON FIRST READING this the 23<sup>rd</sup> day of September, A.D., 2013.

  
TOM REID  
MAYOR

ORDINANCE NO. 1301-1

ATTEST:

  
\_\_\_\_\_  
YOUNG LORFING, TRMC  
CITY SECRETARY



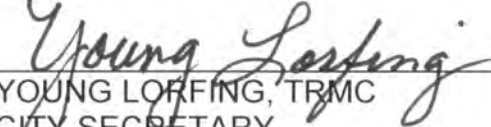
APPROVED AS TO FORM:

  
\_\_\_\_\_  
DARRIN M. COKER  
CITY ATTORNEY

PASSED and APPROVED ON SECOND AND FINAL READING this the 14<sup>th</sup>  
day of October, A. D., 2013.

  
\_\_\_\_\_  
TOM REID  
MAYOR

ATTEST:

  
\_\_\_\_\_  
YOUNG LORFING, TRMC  
CITY SECRETARY



APPROVED AS TO FORM:

  
\_\_\_\_\_  
DARRIN M. COKER  
CITY ATTORNEY

# **City of Pearland Traffic Policy**

## **I. TRAFFIC POLICY**

### **Traffic Policy Statement**

The City of Pearland has adopted these policies and procedures to provide a uniform methodology to address and mitigate unacceptable traffic conditions on the city's public streets. Communication, cooperation and involvement in fostering consensus in the identification of traffic-related issues and their resolution are an integral component of these policies and procedures. All actions taken under this policy should be in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD). This policy applies only to streets controlled by the City of Pearland. Issues involving streets controlled by the State of Texas will be coordinated through the City Engineer's office.

This policy will be reviewed by City Staff in two-year intervals with the first review being performed one year after the installation of the first device installed under the provisions of this policy.

### **A. TRAFFIC REVIEW COMMITTEE**

- 1) The City Manager shall appoint a City Traffic Review Committee comprised of the Traffic Director, Chief of Police, City Engineer, Director of Engineering & Capital Projects, Traffic Manager and Director of Public Works or their designee. The Traffic Review Committee shall serve as a decision making body for issues falling under the Traffic Procedure (Section II). These include:
  - Requests for no parking along certain residential streets
  - Requests to limit cut through traffic
  - Requests for crosswalks
  - Requests for other advisory or advanced warning signage
  - Requests to limit speeding along specific streets
  - Requests to revise posted speed limits
  - Requests for stop sign placement or removal
  - Requests for traffic signals
  - Requests for traffic calming devices
  - Requests for turn lanes
- 2) The Committee shall serve as an advisory body to the City Council for issues that do not fall under the Traffic Procedure.
- 3) The functions of the Traffic Review Committee shall include the following:
  - Review all associated traffic engineering studies, analysis and reports relative to requests for traffic control devices or actions.

- Determine, based on the Traffic Procedure, if requests for traffic control devices or actions meet the minimum warrant, criteria or standards of the City for implementation of the requested device(s) or action(s).
  - Make recommendation to the Traffic Director for consideration of those requests for traffic control devices or actions that fall under the Traffic Procedure and meet the minimum warrant, criteria or standards for implementation of the requested device(s) or action(s); the Traffic Director will determine whether each request can be handled at the staff level, or should be sent to City Council for review.
  - In cases that do not fall under the Traffic Procedure, complete the necessary studies, analysis, and reports to provide the Traffic Director and City Council with sufficient information to make an informed decision.
  - Notify the party initiating the request that:
    - The request has been approved by the Traffic Review Committee and will be recommended to the Traffic Director; or,
    - The request has not met the city's warrants, criteria or standards for the requested traffic control device or action and has been denied by the Traffic Review Committee. The staff report justifying the Traffic Review Committee's denial will be attached to the notice to the initiating party. Staff will also communicate that the initiating party may appeal any request denied by the Traffic Review Committee to the Traffic Director within fifteen (15) days of the Traffic Review Committee action.
  - Implement or adjust times for school zones as requested by an Independent School District.
- 4) The procedure for intake, routing, and tracking traffic issues and concerns is represented by the flowchart in Appendix A.

## **B. INITIATING A TRAFFIC ENGINEERING STUDY**

- 1) The City Engineer may conduct a Traffic Engineering Study ("traffic study") on a street or intersection when:
  - City staff has been contacted and advised of a traffic problem or dangerous condition. To maintain a chain of communication, the initiating party may be asked to submit the request in brief, written form. A petition to initiate a conventional traffic study will not normally be required.
  - City Council has directed staff to address a traffic issue.
  - Another agency requests the City's participation in a cooperative traffic study.
  - City staff initiates a traffic study.
- 2) All Traffic Engineering Studies should be coordinated by the City Engineer.
- 3) If an issue surrounding the consideration of implementation of a traffic control device or similar action has been addressed by a prior traffic study, the initiating party will be advised of the results of the previous study and that no further action will be taken by City staff on the issue unless or until there has been a recognizable change in area conditions or traffic characteristics.

- 4) If a traffic control issue is remedial (missing sign, faded pavement legends, traffic signal malfunction, burned out street light etc.), or regarding parking restrictions, or the need for more signs or striping for traffic calming or information; then the City Engineer may take the appropriate corrective action, advise the initiating party of their action and log the information in the Traffic Database describing the corrective action.
- 5) The City Engineer may decline to conduct a traffic study if:
  - Any requested action is in conflict with laws of the State of Texas or other similar City policy.
  - Any requested action has been the subject of a prior traffic study.
  - Any requested action is not directly related to traffic and transportation engineering practices.
  - Any requested action, as determined by the Traffic Review Committee, does not represent the best interest of the City.

### C. **TRAFFIC ENGINEERING STUDY**

The traffic study is a five part procedure that includes collecting and evaluating data, developing a report, providing a recommendation and implementation:

#### 1) **Collect Street Characteristics**

The traffic study will review the existing street or intersection characteristics to include:

- a) Street width, improvements, alignment and lighting.
- b) Existing traffic control.
- c) Sight distance restraints, if applicable.
- d) Development and access characteristics.

#### 2) **Collect Traffic Characteristics**

The traffic study will measure traffic characteristics applicable to the initiating request, which may include any or all of the following:

- a) Directional 24-hour weekday traffic counts (mechanical).
- b) Directional weekday peak hour vehicle and pedestrian counts (manual).
- c) Directional “through” traffic surveys.
- d) Directional weekday peak hour radar speed zone surveys or 24-hour Speed Profiles. The radar survey will generally measure the speeds of 100 samples. The Speed Profile will measure the speed of all vehicles on the study street for a 24-hour or longer period.
- e) Diagram and review the characteristics of all police-investigated accidents occurring at the study location for a 1-3 year period.
- f) Traffic composition surveys (i.e.: commercial vehicle by number of axles vs. conventional passenger vehicles).

#### 3) **Evaluate Data and Develop Traffic Report**

The traffic study data is compiled into a statistical format and applied to recognize engineering warrants, criteria and standards.

Warrants, criteria and standards are not considered “absolutes” in the determination of traffic control need but are intended to provide guidelines, in conjunction with engineering judgment. Upon completion of the traffic study, City engineering staff will prepare a report for presentation to the Traffic Review Committee.

**4) Develop Recommendation**

After the presentation of the Traffic Report, the Traffic Review Committee will develop a recommendation. If the Traffic Review Committee’s recommendation is to approve the implementation of a traffic control device, that recommendation will be presented to the Traffic Director for consideration. The Traffic Director may take the following actions upon consideration of the Traffic Review Committee’s recommendation:

- a) Approve, modify or deny the staff recommendation,
- b) Continue the item for further deliberations or citizen input,
- c) Return the issue to staff for additional analysis or alternatives; or
- d) Deviate from the traffic engineering policy and procedures by stating specific grounds by which to substantiate the reason(s) for deviation.

**5) Implementation of Recommendation**

Upon the Traffic Director’s request to install a traffic control device, the City Engineer will direct the appropriate department, agency or contractor for the traffic control device installation. A copy of the executed Work Order will become a part of the project file.

## II. TRAFFIC PROCEDURE

**Traffic Procedure Statement:** Staff will work with the requesting party to fully understand the nature of the traffic issue and will apply one of the following subset procedures as needed. Each subset procedure shall be performed and implemented if warranted in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest edition, the City's Designs Standards, City Ordinances and the Highway Capacity Manual, latest edition. In all cases, staff will maintain communication with the requesting party throughout the process, and inform all affected property owners of any pending changes.

**Affected Property Owners Definition:** For No Parking Requests, Cut-Through Traffic and Traffic Calming Device Requests, Affected Property Owners shall include all homes whose front, rear, or side yard adjoins the street or alley segment in question, as well as houses that adjoin streets onto which traffic may be diverted as a result of any proposed change. In each case, the City Engineer will review the request and determine the Affected Property Owners.

**Petition Definition:** The City will provide a survey form for the collection of signatures. This form will include a brief description of the request, traffic operation considerations, and instructions to the residents. The petition will detail what device(s) are under consideration, their proposed location, potential advantages and disadvantages of the proposal, and funding options. Up to 90 days shall be permitted for the collection of the necessary signatures. If the necessary number of signatures is not collected within this time period, a new survey must begin. For each address included, the following information must be included: Street Address, Printed Name of Resident and preference (SUPPORT or OPPOSE) In order to provide each Affected Property Owner the same level of input, only one resident signature per house will count on the survey. Only single-family, duplex, triplex, or four-plex homes shall be included in the petition response.

### A. NO PARKING REQUESTS

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s) for the signs.
- In order to implement a No Parking zone along a street:
  - The originator of the request will be responsible for obtaining written support by petition of all of the Affected Property Owners (75% of the Affected Property Owners must sign the petition)
  - Or the City Engineer may recommend implementation in accordance with the TMUTCD, latest edition based on safety and mobility concerns.
- To reverse a portion or all of a No-Parking zone along a street, 75% percent of the Affected Property Owners must sign a petition as implemented through these policy guidelines.

- “No Parking” signs will be posted by the entire street, block or logical termination point as determined by the Traffic Review Committee. Other advisory or advanced warning signs will be placed as dictated by sound common engineering practice or the Texas Manual on Uniform Traffic Control devices, latest edition.

## **B. CUT THROUGH TRAFFIC REQUESTS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s).
- In order to implement a plan which limits cut through traffic:
  - The originator of the request will be responsible for obtaining written support by petition of all of the Affected Property Owners (75% of the Affected Property Owners must sign the petition)
  - Or the City Engineer may recommend implementation in accordance with the TMUTCD, latest edition based on safety and mobility concerns.
- The City Engineer will determine if any Traffic Calming Devices may be effective by using the procedure in Section III – Traffic Calming Devices Program.
- To reverse any portion or all of a plan which limits cut through traffic, 75% of the Affected Property Owners must sign a petition as implemented through these policy guidelines.

## **C. REQUESTS FOR CROSSWALKS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s) for the crosswalk.
- The Traffic Review Committee will study the requested location and if necessary, perform a crosswalk analysis in accordance with TMUTCD, latest edition.
- Crosswalks shall not be placed in the middle of a block.
- Crosswalks shall not be placed at uncontrolled intersections; meaning those without existing stop signs or traffic signals.

## **D. REQUESTS FOR OTHER ADVISORY OR ADVANCED WARNING SIGNS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s) for the sign(s).
- The requesting party will be informed that it is City policy to install advisory or advanced warning signs only in accordance with the Texas Manual on Uniform Traffic Control devices, latest edition.
- The Traffic Review Committee will study the requested location and perform an advisory/advanced warning sign analysis which may include volume of pedestrian traffic, proximity of the subject location to schools, parks, swimming pools, retail centers, hike and bike facilities, vehicular traffic volume, etc.



#### **E. REQUESTS TO LIMIT SPEEDING ALONG SPECIFIC CITY-CONTROLLED STREETS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s).
- Staff will notify the Police Department and request speed enforcement for the subject area. The requesting party's issue will be entered into the Traffic Database to search for similar complaints in the subject area.
- If there are more than two similar complaints in less than one year in the Traffic Database regarding the subject area, the City's speed trailer may be used in addition to the Police Department speed enforcement.
- If the speed enforcement and speed trailer deployment do not achieve the desired result, the property owner(s) may pursue additional measures using the procedures prescribed in the Traffic Calming Device Program (see Section III).

#### **F. REQUESTS TO REVISE THE POSTED SPEED LIMIT ALONG SPECIFIC CITY-CONTROLLED STREETS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s).
- The requesting party's issue will be entered into the Traffic Database to search for similar requests in the subject area.
- Under no circumstance shall any street within the incorporated City limits have a speed limit of less than 30 miles per hour per Texas State Law or City Ordinance, excluding City Parks.
- A speed study will be performed to determine the 85<sup>th</sup> percentile speed in accordance with TMUTCD, latest edition. This information in conjunction with pedestrian traffic volume, roadway curvature, the number of traffic accidents, sight distance restrictions, etc. will be considered.
- Should changes be warranted, the Traffic Review Committee will make a recommendation to City Council to adopt an Ordinance revising the speed limit.
- The City Engineer will share the proposed changes with the Affected Property Owners before they are implemented.

#### **G. REQUESTS FOR STOP SIGNS OR TRAFFIC SIGNALS**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s).
- The requesting party's issue will be entered into the Traffic Database to search for similar requests in the subject area.
- A field visit to the subject location will be made to determine if the request is valid and warrants additional study.
- If the request is valid and warrants additional study, a signal warrant study will be conducted, in accordance with the TMUTCD, latest edition.
- Stop signs or traffic signals shall not be installed within the corporate City limits of the City of Pearland unless approved by an authorized warrant analysis.

- Stop signs or traffic signals shall not be installed for the purpose of controlling the speed of a roadway as they have been shown to become a hazard at times when installed without warrant in accordance with the TMUTCD, latest edition.
- Implementation of the plan will be in accordance with necessary budget considerations.
- Should changes be warranted, the City Engineer or their designee will share the proposed changes with the affected property owners before they are implemented.

#### **H. REQUESTS FOR TRAFFIC CALMING DEVICES**

- Traffic Calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.
- In addition, Traffic Calming is the application of specific devices or strategies to reduce the incidence of excessive speed or excessive traffic volumes on residential streets.
- Traffic Calming issues should be processed in accordance with the Traffic Calming Device Program. (see Section III)
- Should changes be warranted, the City Engineer or their designee will share the proposed changes with the affected property owners before they are implemented, in accordance with Section III of this Policy.

#### **I. REQUESTS FOR TURN LANES**

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s).
- The requesting party's issue will be entered into the Traffic Database to search for similar requests in the subject area.
- A field visit to the subject location will be made to determine if the request is valid and warrants additional study.
- If additional study is warranted, requests for turn lanes will be processed in accordance with the Traffic Policy.

### III. TRAFFIC CALMING DEVICES PROGRAM

There are seldom-simple solutions to the traffic related problems that arise in our City. For example, the police department does not have the resources to issue citations for every speeding or parking violation that occurs. Additionally, the need for quick response times by first responders can be in conflict with local resident's desires to make speedy travel on a street impossible. These issues may be considered in a manner that will bring a balanced solution. This program intends to promote a framework through which the City of Pearland can develop constructive relationships with local residents and homeowner's associations for solving traffic related problems in neighborhoods.

#### A. PROGRAM OVERVIEW

- 1) **Traffic Calming** is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.<sup>1</sup>
- 2) **Traffic calming goals include:**
  - increasing the quality of life;
  - incorporating the preferences and requirements of the people using the area (e.g., working, playing, residing) along the street(s), or at intersection(s);
  - creating safe and attractive streets;
  - helping to reduce the negative effects of motor vehicles on the environment (e.g., pollution, sprawl); and
  - promoting pedestrian, cycle and transit use.<sup>1</sup>
- 3) **Traffic calming objectives include:**
  - achieving slow speeds for motor vehicles,
  - reducing collision frequency and severity,
  - increasing the safety and the perception of safety for non-motorized users of the street(s),
  - reducing the need for police enforcement,
  - enhancing the street environment (e.g., streetscaping),
  - encouraging water infiltration into the ground,
  - increasing access for all modes of transportation, and
  - reducing cut-through motor vehicle traffic.<sup>1</sup>

<sup>1</sup>Lockwood, Ian. *ITE Traffic Calming Definition*. ITE Journal, July 1997, pg. 22.

#### 4) **Traffic calming process**

The City's Traffic Policy addresses the initial steps to traffic calming, which includes increased Police Department enforcement, use of the City's speed trailer, and consideration for any other signage or restrictions. If these measures do not

achieve the desired result by adequately correcting a traffic problem, a traffic calming device may be requested by the property owner(s) using the procedures prescribed in this Section.

In general, for a specific traffic-calming device to be approved, the following must occur:

- Staff will communicate with the requesting party to fully understand their request and thoroughly define the requested location(s) for the Traffic Calming Device.
- The City Engineer will conduct a study to determine and propose the most effective devices, if any, for each area and the location of the device(s). The cost of engineering studies is to be shared equally by the City and the residents or association requesting the device(s). There will be no cost to the resident when the study can be prepared by internal Staff.
- In order to implement a Traffic Calming Device, the originator of the request will be responsible for obtaining written support by petition of 75% the Affected Property Owners
- To remove the installation of a traffic calming devices, 75% percent of the Affected Property Owners must sign a petition as implemented through these policy guidelines.

#### **5) Funding for Installation of Traffic Calming Devices**

The cost of installation of a traffic-calming scheme can be very expensive, ranging in cost from \$1,500 to over \$100,000. When the City of Pearland has approved a traffic-calming project for attempting to address an identified traffic problem, one of the following project-funding mechanisms may be utilized:

- a) Subject to annual appropriation, the City of Pearland will provide the funds for the project through its traffic-calming budget, or
- b) If City traffic-calming funds have already been exhausted in the current budget year, the neighborhood may elect to pay for the entire cost of the traffic-calming scheme.
- c) The City and neighborhood may agree to a cost sharing agreement for the project.

City funding limitations may at times affect the scheduling of approved traffic calming projects. If City funds have been exhausted in a given budget year, the neighborhood may elect funding option number 2 or 3 above or may be put on a waiting list until City traffic calming funds are available for the project.

### **B. TRAFFIC CALMING DEVICES**

Traffic calming devices physically alter a street or alley and make undesirable traffic behaviors difficult or impossible. There are numerous devices, which are in use around the world, such as speed humps, speed bumps, speed tables, traffic islands,

chicanes, and chokers. Appendix B contains many examples of traffic calming devices, lists some device specific criteria, addresses some advantages and disadvantages for each device, and gives approximate costs for each device. Traffic problems reported to the City of Pearland will be processed as detailed in the preceding sections of this policy. When the City of Pearland determines that the installation of traffic calming devices is the last remaining option for addressing an identified traffic problem, the policies established in this section will govern the installation of the devices.

## 1) **Overview**

Occasionally, residents request to limit excessive speeding and divert volumes away from a specific residential street. When all other options have been exhausted to address an identified traffic problem, the City of Pearland may consider the installation of appropriate traffic calming devices. Several factors should be considered prior to the installation of any device including, but not limited to, the following:

- a) The impact of the device on street users including motorcyclists, bicyclists, and pedestrians;
- b) The impact of the device on drainage patterns;
- c) The anticipated impact of the device on vehicular speeds and volumes;
- d) The potential impact on other streets or alleys from diverted traffic;
- e) The potential impact on emergency response vehicles and street maintenance activities; and
- f) The degree of support for the installation of the device.

It is important that devices installed in public streets not inflict damage to passing vehicles or cause drivers to lose control of their vehicles.

This Program is designed to provide reasonable opportunities for the installation of traffic calming devices in residential streets and alleys based upon the degree of support from the surrounding residents and the roadway conditions. The following sections provide detailed information on the eligibility of streets and alleys and procedures for the installation of traffic calming devices.

## 2) **Eligible Streets**

The first step in the device installation process is to determine whether a specific street is eligible for consideration. Streets meeting the following criteria may be considered for traffic calming device installation:

- a) The street is paved and constructed on dedicated public right-of-way.
- b) The property adjacent to the street is either wholly or primarily residential.
- c) The street is not adjacent to open space, parks, public school grounds, etc. where drive around problems are likely.

- d) The street is not designated as a primary emergency response route by Public Safety Departments.
- e) The street is not designated as a thoroughfare or collector roadway on the City of Pearland Thoroughfare Plan.
- f) There must be no more than one moving lane of traffic in each direction.

Streets that meet the six criteria listed above shall also meet one of the following volume and speed criteria to be eligible for traffic calming device installation:

- a) The street should have a minimum average daily traffic of 1,500 vehicles per day, or
- b) The 85th-percentile speed of vehicles traveling on the street should exceed the speed limit by at least 10 mph. (TMUTCD)

### 3) **Location of Devices**

Once a street or alley is determined to be eligible, the possible locations for traffic calming device installation are subject to the following conditions:

- a) **Sight distance** – Adequate sight distance must exist at the desired location to safely accommodate traffic operations after device installation. City Engineering staff will review the area included in the request and identify any areas in which installation would be excluded due to sight distance.
- b) **Adjacent resident concurrence** – Traffic calming device shall not be located within 100 feet, as measured along the right-of-way, of a property if the owner of that property objects to its placement at that location.
- c) **Distance to driveways, alleys, streets, or other devices** – Traffic calming devices shall, in general, be located at least 20 feet from the nearest driveway, and at least 50 feet from the nearest intersecting alley segment, or intersecting street. Spacing of devices will be determined by the City Engineer. Some device specific spacing criteria are listed in Appendix B.
- d) **Grade of street or alley** – Some devices, such as speed humps, should not be installed on steep streets. In general, the grade of a street or alley approaching these devices must be less than 8%.
- e) **Street alignment** – Traffic calming devices should not be installed in locations where horizontal or vertical curves could cause a vehicle traveling at a prudent speed to lose control when traversing the device.
- f) **Drainage** – Traffic calming devices invariably have a negative effect on drainage through the street or alley in which they are installed. Care must be taken in locating a device to ensure that the device does not cause an

existing drainage problem to worsen or create an unacceptable drainage problem.

#### **4) Petition Procedure**

The degree of resident support is a major factor in the consideration of traffic calming device installation. A survey of the homes within a specified survey area must be submitted to the City demonstrating the required degree of resident support.

##### Required Percent of Support

- At least 75% of the Affected Property Owners must indicate support of the proposed traffic-calming recommendation.
- City staff will review the submitted petition to verify that at least 75% of the Affected Property Owners support the recommendation.

#### **5) Installation Approval**

In order for the installation of a traffic-calming project to occur on a street, the following actions must occur:

- a) When a sufficient number of "support" signatures have been obtained, the completed petition should be submitted to the City Engineer.
- b) When a submitted petition has been verified as meeting the required neighborhood support level, the City Engineer or designee will place the street on a list of approved traffic calming projects and will mail the Affected Property Owners a letter advising of the approved installation request. This letter will provide an estimate of the cost of the project and explain the process for receiving City funding for the project and the resident funding option.
- c) The Traffic Director, or his designee, will rank the list of approved traffic calming projects. Funds from the City's traffic calming budget will be allotted to the projects according to the approved rankings and until the funds have been depleted. If funds are available for a project in the City's traffic calming budget, the project will be scheduled for construction. If no funds are available, the project will be placed on a waiting list for funding. If the residents elect to pay for the installation, then upon the City's receipt of the full amount of the estimated project cost from the neighborhood representative, the project will be scheduled for construction. A sample ranking Criteria may be found in Appendix C.
- d) The cost for each traffic-calming recommendation will be based on the actual cost for a typical installation, including any necessary pavement markings and/or signs. The cost will be established by the City Engineer or designee

and will reflect current costs. Appendix B contains a number of typical traffic calming devices and lists the approximate cost of each device.

- e) If an approved traffic-calming project has been on the waiting list for more than one year at the time funds become available, a letter will be sent out to the Affected Property Owners giving an approximate schedule of construction. In case resident support for the project has diminished since the project was initially approved, the Affected Property Owners will have 30 days from the date of the notification letter to file written objections, which shall be evaluated by the City Engineer or designee before installation of the project

#### **6) Temporary Devices**

Once the installation of a device has been approved, a temporary device may be utilized to measure the effectiveness of a permanent installation. Water-filled barriers may be utilized for a period of at least 90 days. While these barriers are not as aesthetically suited to the neighborhood as the permanent installation, they can prevent the expensive installation of an ineffective device.

#### **7) Appeals or Variances**

The Traffic Director, or designee, shall handle all appeals and may consider requests for unusual conditions that do not fall within these guidelines or for additional consideration of locations that failed to satisfy all of the included requirements. The following general guidelines will be used:

- a) Requests for appeals or variances shall be submitted to the City Engineer and shall specify why an appeal or variance is being requested.
- b) An appeal or variance request will be forwarded to the Traffic Director for review.
- c) The City Engineer will process a formal response to the appeal or variance request. The decision of the Traffic Director shall be final.

#### **8) Removal and Alteration of Traffic Calming Devices**

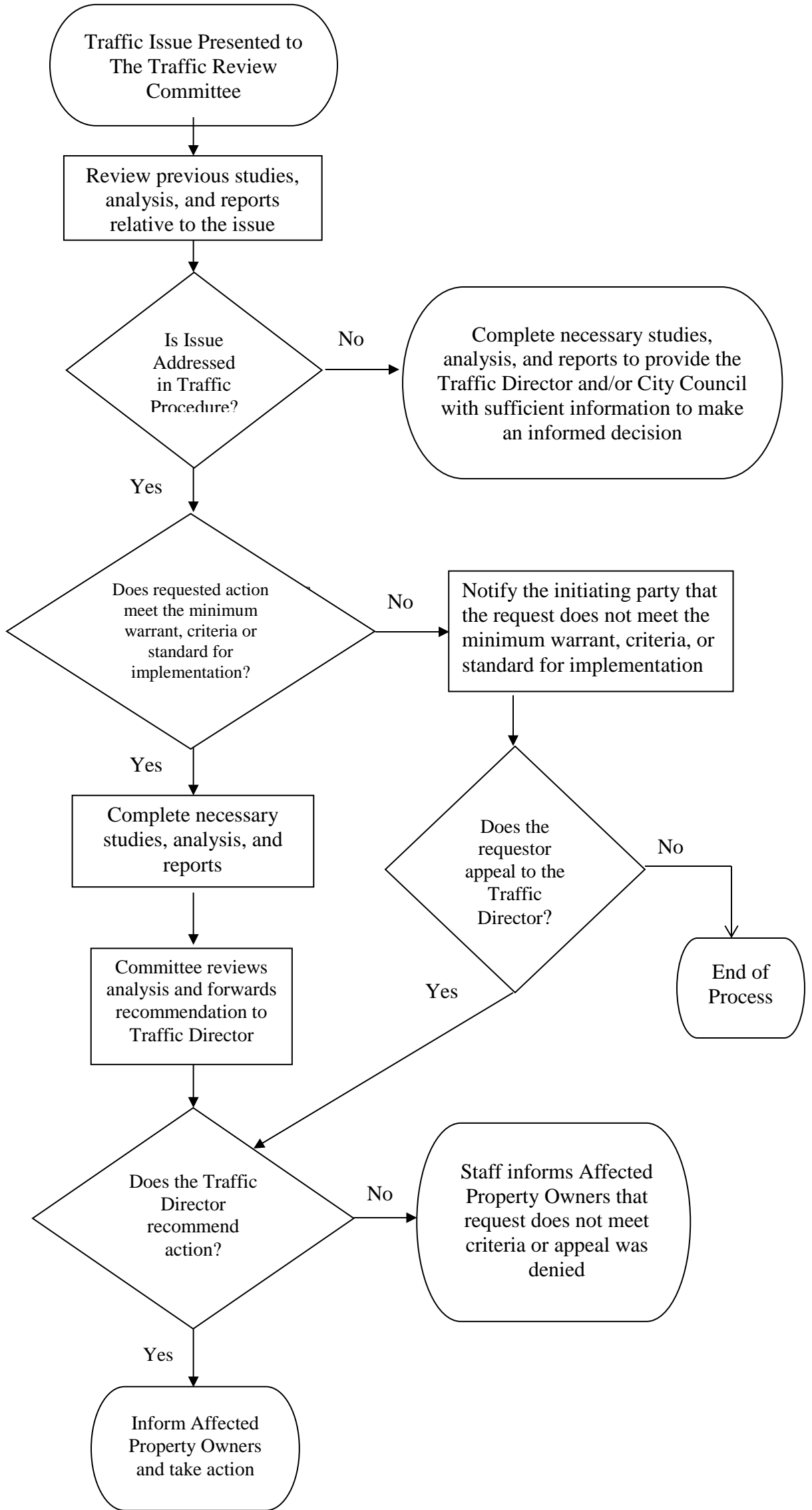
The process for requesting traffic calming device removal or alteration is the same as the process for installation. A petition must be submitted to the City with at least 75% of the Affected Property Owners supporting the requested removal or alteration. Funding for the removal/alteration will be handled in the same manner as a new installation. A petition for the removal of the device(s) will not be accepted for consideration until the device has been in place for at least 12 months.



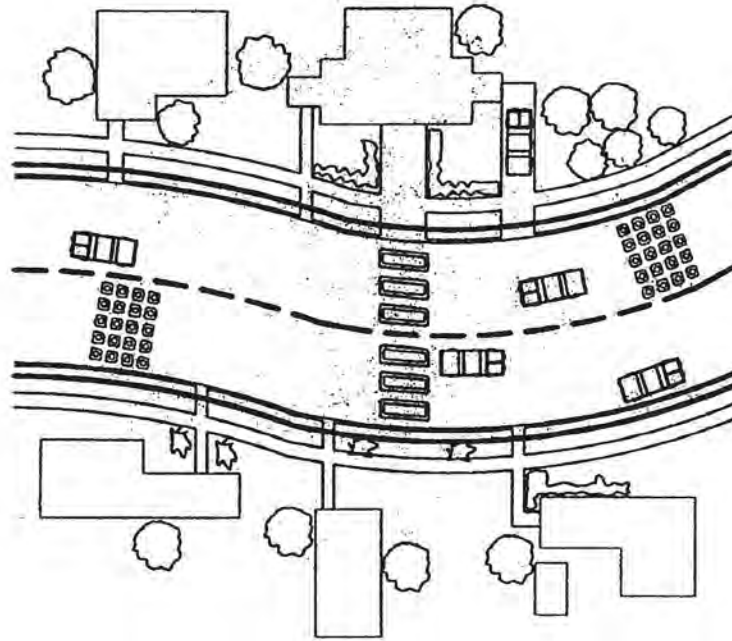
9) **Design Standards**

The Engineering Department shall prepare and maintain design standards for traffic calming devices installed through this Program.

### Appendix A - Traffic Review Procedure



**Appendix B**  
**Traffic Calming Devices**



### **RUMBLE STRIPS**

***Description:***

- Dots or strips are glued to the pavement to create a strip that causes the vehicle to rumble as it traverses through them.

***Purpose:***

-To alert motorists to unusual conditions ahead.

***Cost:***

-Highly variable. Approximately \$1,000 - \$5,000 per location.

***Locations:***

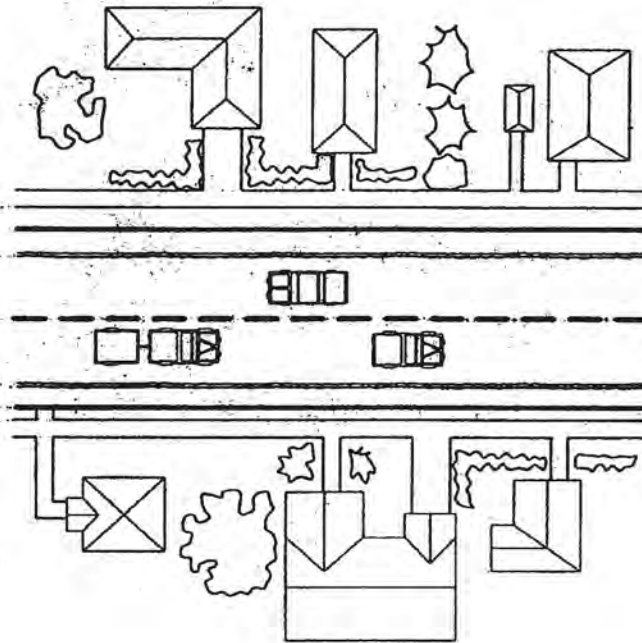
- 30 mph posted speed - 200' in advance.
- 40 mph posted speed - 325' in advance.

***Positive Aspects:***

- Vehicles may be slowed down up to 5 mph.
- Driver's attention is alerted to heighten safety.
- Low cost installation than can easily be removed or changed.

***Negative Aspects:***

- Very high level of noise pollution for adjacent residents.
- High maintenance is required to reattach dots or strips to the pavement.



### **NARROWING LANES**

#### ***Description:***

- Striping is used to create narrow 10 feet wide lanes. This gives drivers the feel of a narrow street that does not lend itself to high speeds.

#### ***Cost:***

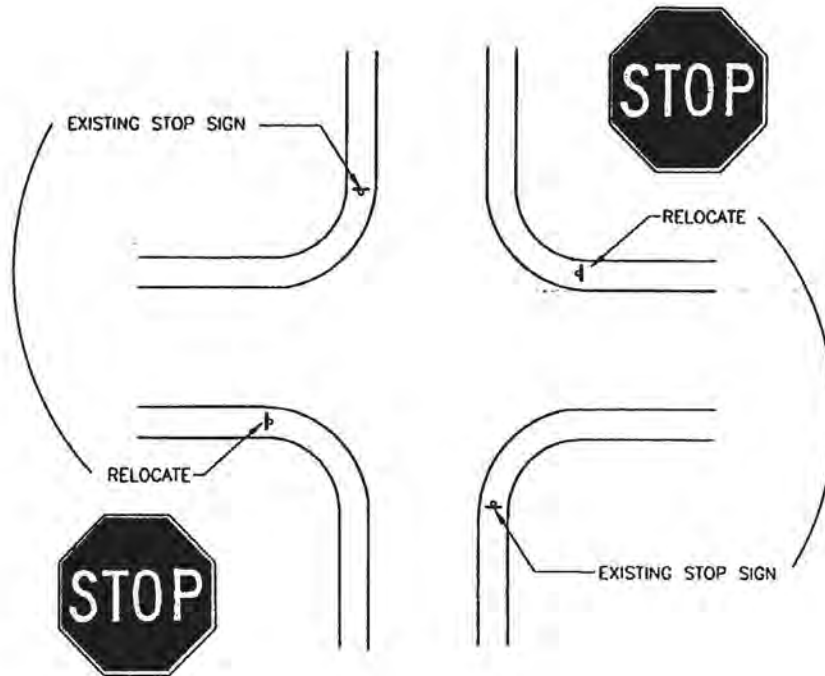
- The costs vary depending on the length of street, but are not anticipated to exceed \$3,000 per mile.

#### ***Positive Aspects:***

- Changes can be quickly implemented.
- The striping can be easily modified if paint is used.
- Speed may decrease and safety is improved through the provision of positive guidance to drivers.

#### ***Negative Aspects:***

- Would increase regular maintenance.
- Residents do not always perceive striping is an effective tool for speed reduction.
- Cost of resurfacing residential streets will increase.



**STOP SIGN REVERSAL**

***Description:***

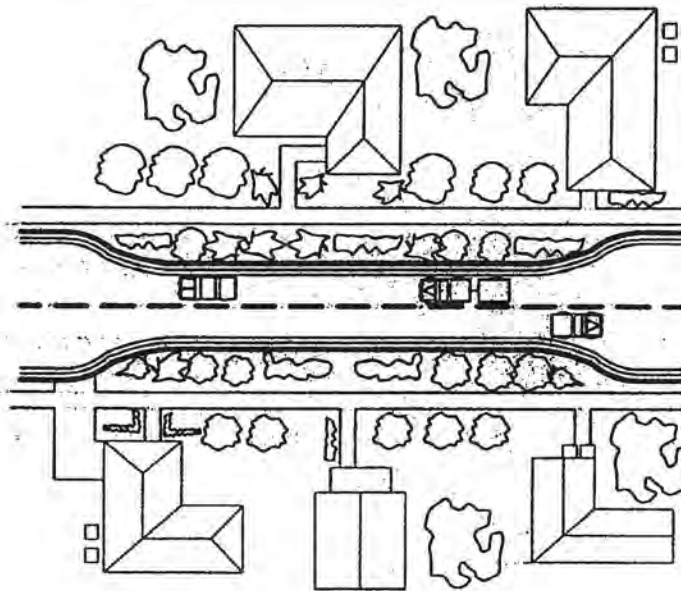
- Two stop signs are placed at four legged intersections in the City. The signs are placed on the lower volume approaches. If the volumes are balanced, the stop sign locations could be switched to stop the other street. The cost for switching stop signs would be less than \$500 per location.

***Positive Aspects:***

- Changes can be easily made.
- Traffic speed may be reduced in the vicinity of the stopped approaches.

***Negative Aspects:***

- The speeds may increase on the unstopped approaches.
- There is high potential for violation of stops unless enforced periodically.
- Not always favorable to residents immediately adjacent to new stop sign locations.
- Potential for rear end accidents is increased in the short term.



**CHOKERS**

*Description:*

- Narrowing of a street at an intersection, mid-block or a segment of a street in order to reduce width of the traveled-way by construction of a wider sidewalk or landscape strip.

*Cost:*

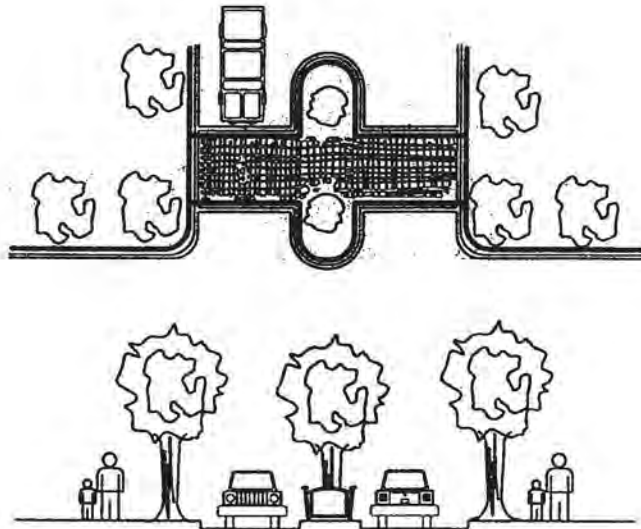
- Highly variable, Approximately \$5,000 - \$20,000 per location.

*Positive Aspects:*

- Slight slowing is normally the result.
- Shorter pedestrian crossing distances and better motorist-pedestrian visibility of each other.
- Creates added streetscape area for pedestrians and/or landscaping.
- Can discourage truck entry.
- Allows signs to be placed closer to driver's cone of vision.

*Negative Aspects:*

- Potential obstacle for motorist to run into.
- May impede bicycle mobility and safety.
- Can impede legitimate truck movements.
- May require reworking of surface drainage.



## **GATEWAYS**

### *Description:*

- A special entrance feature, similar to a choker, that narrows a street at the intersection in order to reduce width of the traveled-way. This is not a gate. Chokers are usually located within the block or at intersections. Gateways are considered more dramatic and provide identity to a neighborhood. The exact configuration of the gateway treatment will depend upon the location of the gateway, i.e., conflicts with driveways. Medians can also be added to street to slow turning movements and enhance the street.

### *Cost:*

- Highly variable, Approximately \$5,000 - \$15,000 per location.

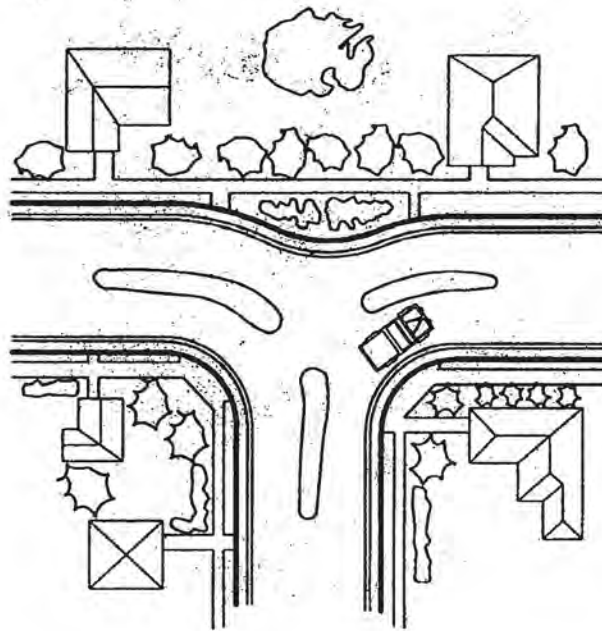
### *Positive Aspects:*

- Creates an identity to a neighborhood.
- Creates added streetscape area for landscaping or monuments.
- Can discourage truck entry.
- Allows signs to be placed closer to driver's cone of vision.

### *Negative Aspects:*

- Can impede legitimate truck movements.
- Increased maintenance costs.





### **INTERSECTION CHANNELIZATION**

#### ***Description:***

- T-intersections are channelized so that vehicles are not traveling in a straight path. This has the effect of slowing vehicles down.

#### ***Cost:***

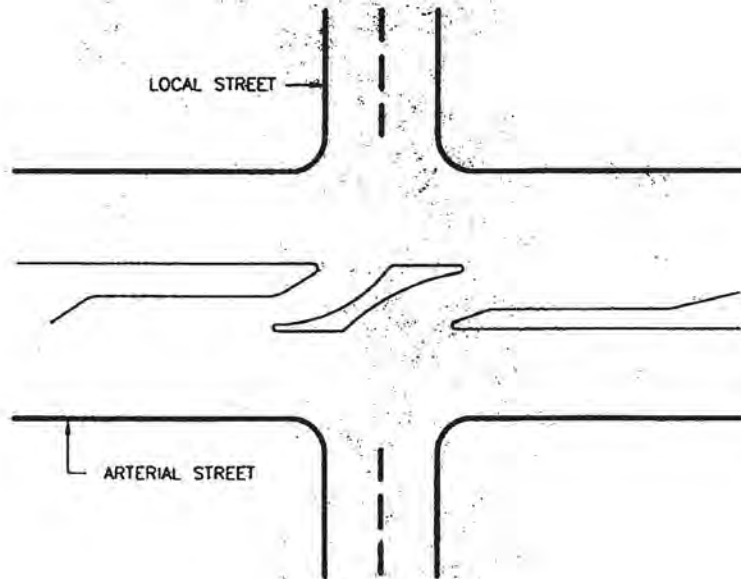
-Approximately \$30,000 per location.

#### ***Positive Aspects:***

- Slows vehicle speeds.
- No significant impedance of fire and transit service.

#### ***Negative Aspects:***

- Landscaping and signing/stripping maintenance will be required.
- Loss of on-street parking will occur.



### **MEDIAN BARRIER**

#### ***Description:***

- A physical barrier on a non-local street which can effectively eliminate local street straight-through and left turn traffic across the non-local street. A median barrier can take many forms, ranging from a closely-spaced row of flexible delineator posts to a series of pre-cast curb sections affixed to the pavement to a temporarily-placed but immovable 3' high concrete barrier (K-Rail) to an asphalt/concrete curbed island with or without a decorative landscaping and surface treatment. Costs vary widely among these options. The device is also known as a "worm."

- A full median with no breaks can also be used to prohibit all left turns.

#### ***Cost:***

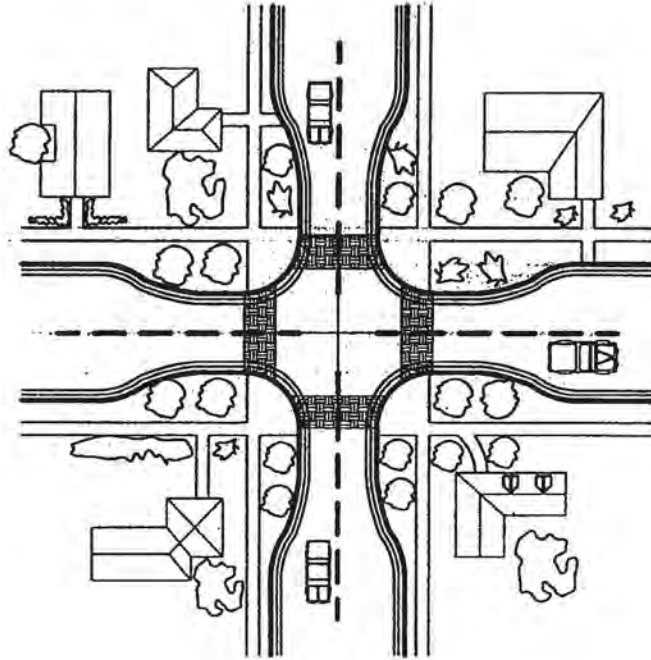
- Highly variable. Approximately \$5,000 to \$20,000 per location.

#### ***Positive Aspects:***

- Makes the intersection safer by reducing the number of conflicting movements.
- Reduces local street volumes.
- Negates the possible need for future expensive traffic signal.

#### ***Negative Aspects:***

- The physical barrier may shift traffic to other locations where left turn opportunities exist.
- This tool may inconvenience local residents who will be forced to drive longer more circuitous paths to reach their destination.



### **NECK DOWNS**

#### ***Description:***

- Physical curb reduction of road width at intersections by widening of street corner to discourage cut through traffic and to help define neighborhoods.

#### ***Cost:***

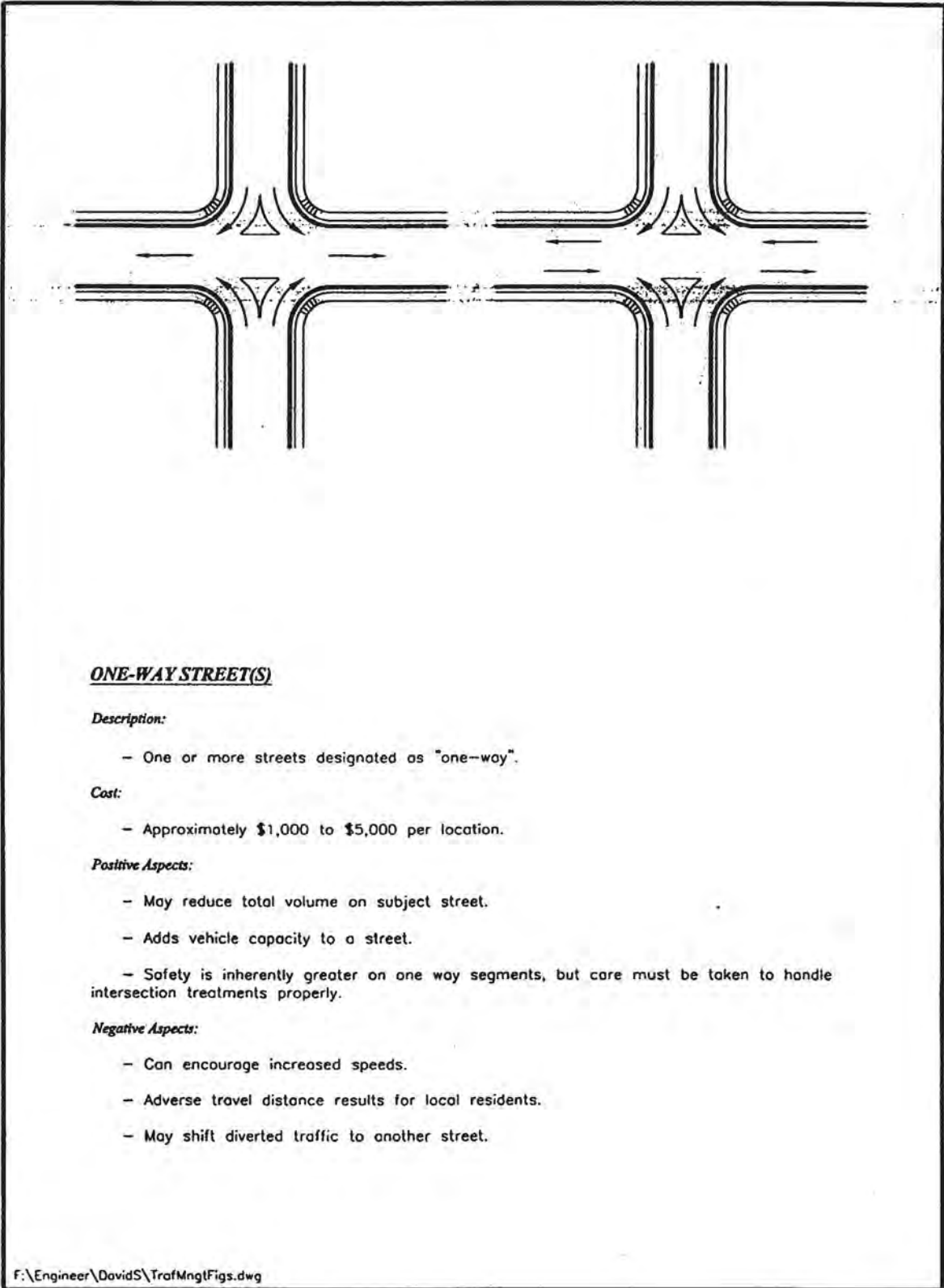
- Highly variable. Approximately \$10,000 to \$30,000 per location.

#### ***Positive Aspects:***

- May be aesthetically pleasing, if landscaped.
- Good for pedestrians due to shorter crossing.
- Can be used in multiple application.

#### ***Negative Aspects:***

- Increased landscaping maintenance.
- Landscaping may cause sight distance problems.



**ONE-WAY STREET(S)**

*Description:*

- One or more streets designated as "one-way".

*Cost:*

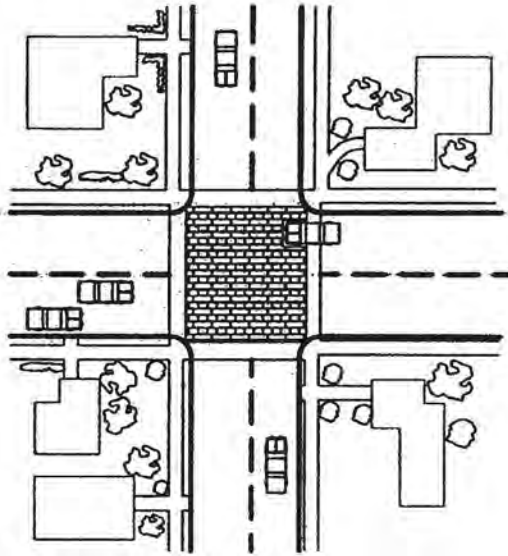
- Approximately \$1,000 to \$5,000 per location.

*Positive Aspects:*

- May reduce total volume on subject street.
- Adds vehicle capacity to a street.
- Safety is inherently greater on one way segments, but care must be taken to handle intersection treatments properly.

*Negative Aspects:*

- Can encourage increased speeds.
- Adverse travel distance results for local residents.
- May shift diverted traffic to another street.



### **RAISED INTERSECTIONS**

#### ***Description:***

- A raised plateau of roadway where roads intersect. The plateau is generally about 4" higher than the surrounding streets. This application is best for locations with high pedestrian volumes with significant safety concerns related to traffic speeds.

#### ***Cost:***

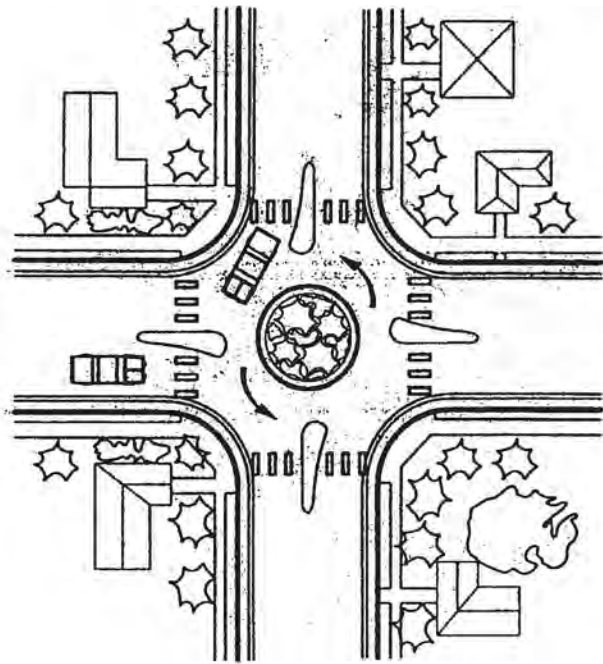
- Approximately \$50,000 to \$100,000 per location.

#### ***Positive Aspects:***

- Effective speed control.
- Aesthetically pleasing if well designed.
- Good pedestrian safety treatment.
- Can be used on higher or lower volume streets.

#### ***Negative Aspects:***

- Expensive to construct and maintain.
- Affects emergency vehicle response time.



### **TRAFFIC CIRCLE**

#### ***Description:***

- A small circular island placed in the center of an existing local street intersection. Some may also refer to this device as a "roundabout".

#### ***Cost:***

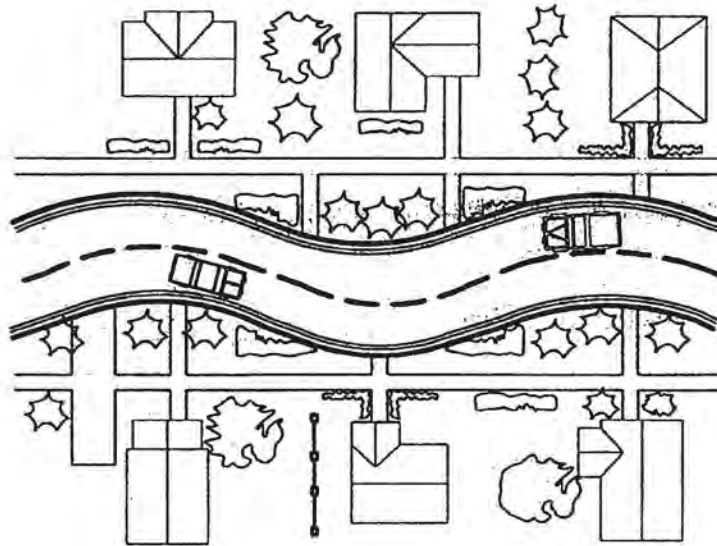
- Approximately \$10,000 to \$20,000 per location.

#### ***Positive Aspects:***

- A noticeable reduction in speeds.
- Reduces accident potential.
- Under certain conditions capacity can be increased.
- Can be used instead of stop signs.

#### ***Negative Aspects:***

- Required safety signing may detract from its aesthetic quality.
- Pedestrians and bicyclists must adjust to less traditional crossing patterns.
- Some parking may be lost on approaches to accommodate vehicles' deflected paths.
- May increase accidents until drivers become accustomed to change.



### **SERPENTINE**

#### ***Description:***

- A narrow serpentine road is created for several hundred feet using curbs and landscaping.

#### ***Cost:***

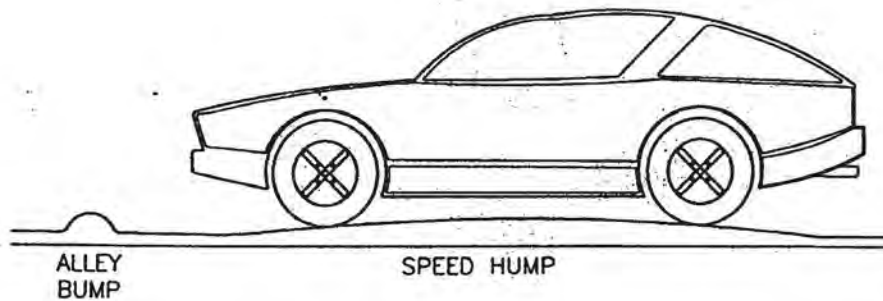
- Approximately \$50,000 to \$75,000 per location.

#### ***Positive Aspects:***

- Reduces vehicle speed.
- May reduce through traffic volumes.

#### ***Negative Aspects:***

- Increased maintenance for landscaping and pavement.
- Significant loss of on-street parking.
- Most residents would have driveway affected by this type of installation.
- Fire and transit services would be affected.



### **SPEED HUMPS**

#### ***Description:***

- Mounds of paving material placed across a roadway for the purpose of causing motorists to reduce their operating speed while driving on the roadway.

#### ***Cost:***

- Approximately \$1,500 to \$3,000 per hump.

#### ***Locations:***

- Short block, single mid-block hump usually adequate.
- Longer blocks and continuous street sections, two or more humps spaced approximately 200 feet to 600 feet apart.

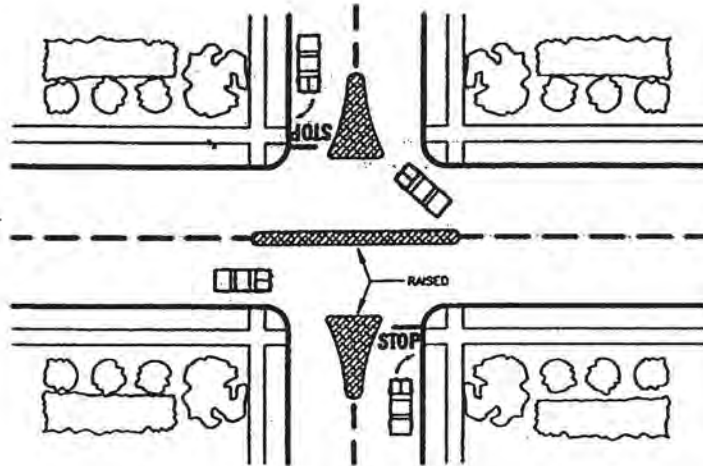
#### ***Positive Aspects:***

- Reduces speed.
- Can cause traffic to shift to arterial system and no longer cut through the neighborhood.

#### ***Negative Aspects:***

- Can cause traffic to shift to parallel residential streets.
- Affects emergency response times.
- Contents of vehicle can be jarred.
- Increase in noise adjacent to hump.





**TURN RESTRICTION USING DELINEATORS**

*Description:*

- Delineators glued or doweled to the pavement surface are used to create a barrier to prevent vehicles from making certain movement in and out of a local street. The delineators are typically placed along the centerline of the major collector street.

*Cost:*

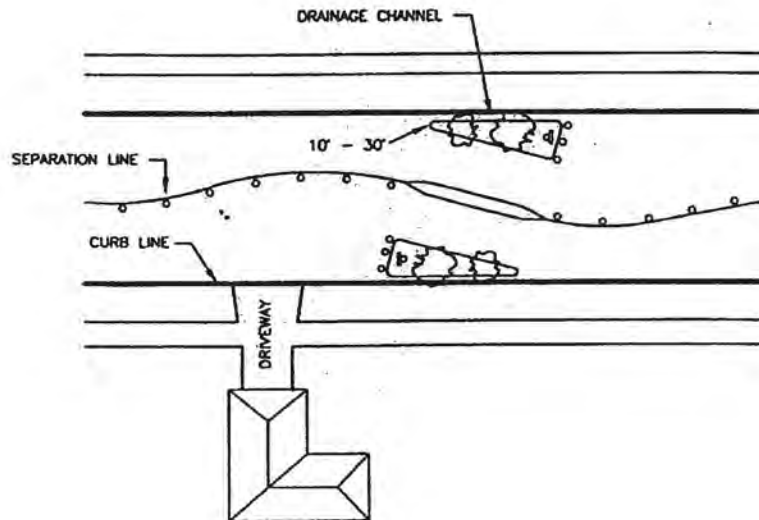
- Approximately \$1,000 to \$10,000 depending on the number and types of delineators.

*Positive Aspects:*

- Reduces through volume of traffic.
- Reduces rear-end and left-turn accidents at major or collector street intersection with local streets.
- Low cost installation that can easily be removed or changed.

*Negative Aspects:*

- Little reduction in traffic speeds.
- Could potentially make it more circuitous for residents to reach their destinations.
- May divert traffic onto adjacent streets.



### **TWO LANE ANGLED SLOW POINT**

**Description:**

- Three islands are used to create an angled path of travel for vehicles. The effect of angling the traffic path slows vehicles down. The volume of traffic may well be unaffected. The islands adjacent to the curb are typically landscaped.

**Cost:**

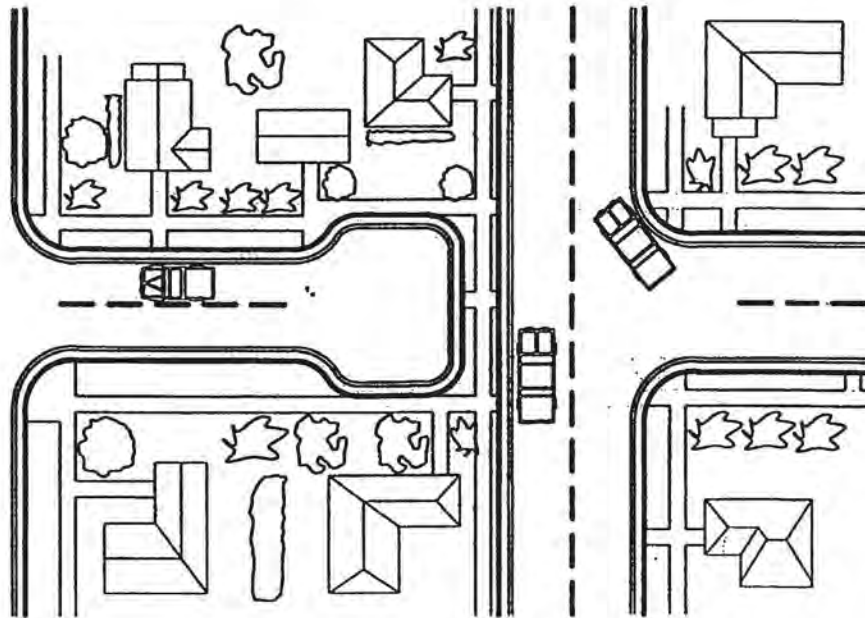
- Approximately \$10,000 to \$20,000 per location.

**Positive Aspects:**

- Slows vehicle speeds.
- Fire and transit vehicles are not impeded significantly.

**Negative Aspects:**

- Loss of on-street parking.
- Landscaping and signing/stripping has to be regularly maintained.



**CUL-DE-SAC**

*Description:*

- Complete closure of a street either at an intersection or at a mid-block location.

*Cost:*

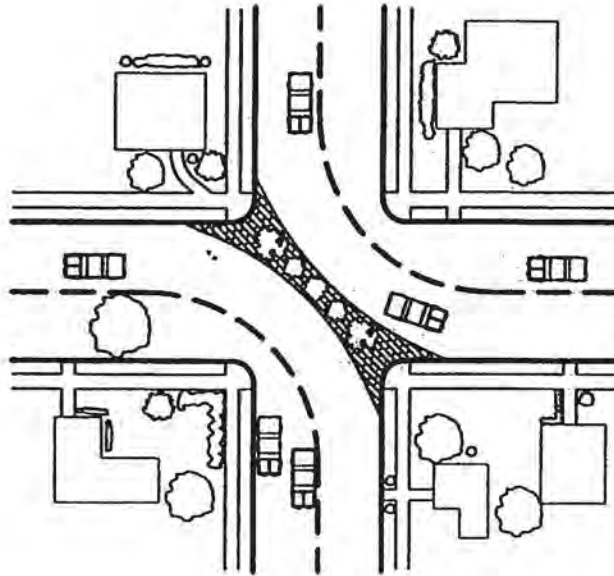
- Approximately \$50,000 per location.

*Positive Aspects:*

- Very effective at eliminating most of the previously speeding traffic on the block.
- Very effective at reducing volumes.
- Can be landscaped for an attractive effect to convey street discontinuity.
- Mid-block type can be effectively used where abutting land uses change.
- Improved traffic safety.

*Negative Aspects:*

- Can negatively affect response times for emergency service.
- In large neighborhoods, can shift a problem elsewhere unless a strategic pattern of cul-de-sacs are used.
- Can generate confusion on the part of users unless signed carefully.
- May inconvenience local residents.



**DIAGONAL DIVERTER**

*Description:*

- Barriers between diagonally opposite corners of a 4-legged intersection, thus creating two unconnected L-shaped intersections.

*Cost:*

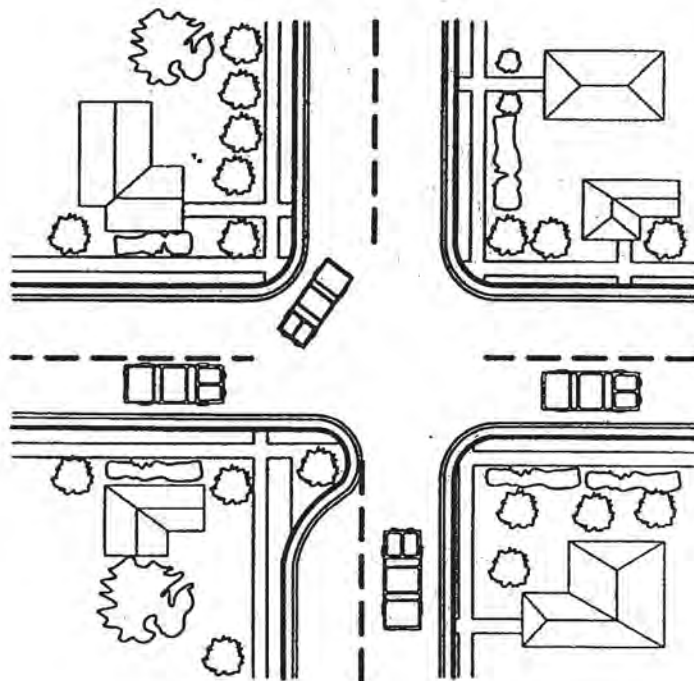
- Approximately \$10,000 to \$30,000 per location.

*Positive Aspects:*

- Reduces speed.
- Can achieve a 20% to 70% reduction in volumes.
- Reduces accident potential by eliminating conflicting traffic movements.
- Advantage over complete street closure (cul-de-sac) in that it has a lesser impact on circulation, as it actually creates no dead-end streets. Local residents and service vehicles may view this as a benefit in that their routes can be more direct.
- Can be attractively landscaped.

*Negative Aspects:*

- In a large neighborhood, can shift problems elsewhere unless a strategic pattern of diverters is used.
- May inconvenience local residents who are forced to drive longer more circuitous paths to/from their homes.
- Can generate confusion on the part of users unless signed carefully.
- May inconvenience local residents.



### **HALF CLOSURES**

***Description:***

- The street is partially closed to traffic by the construction of a physical barrier at the entrance to the neighborhood to reduce cut through traffic.

***Cost:***

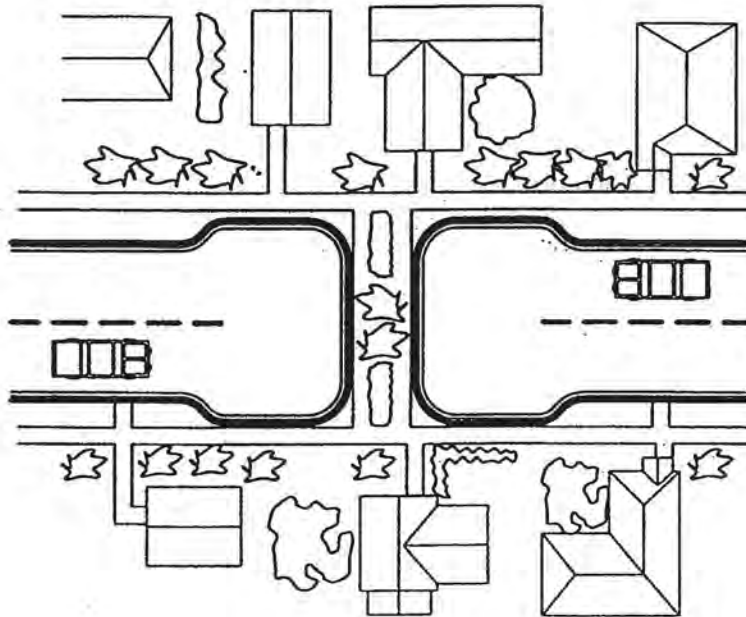
- Approximately \$15,000 per location.

***Positive Aspects:***

- Reduces cut through traffic.
- May reduce traffic speeds.

***Negative Aspects:***

- May require additional maintenance.
- Could be violated, especially in the late evening.



### **MID-BLOCK ROAD CLOSURE**

*Description:*

- Cul-de-sacs are created by closing the street mid-block using a landscaped island. Pedestrian access is provided across the island.

*Cost:*

- Approximately \$20,000 to \$50,000 per location.

*Positive Aspects:*

- Reduces through traffic volumes.
- Reduces speeds in the vicinity of the closure.

*Negative Aspects:*

- Traffic may be diverted onto adjacent parallel streets.
- Maintenance of the landscaped areas will have to be provided for.
- Emergency access will be impeded.
- Local residents may be forced to drive more circuitous routes.
- There is a loss of on-street parking.

**Appendix C**  
**Ranking Criteria**

**APPENDIX C**  
**Ranking Criteria**

The Ranking Sum is determined by adding the total points awarded based on the following five criteria. The street segment yielding the highest numerical value from the summation will be considered to have the highest priority. The street with the earliest application date will have the highest priority among streets with the same ranking summation value.

1. **SPEED**

<b>85th percentile speed is above the posted speed limit by:</b>	<b>Awarded Points</b>
10-15 mph	1
16-20 mph	2
over 20 mph	3

2. **TRAFFIC VOLUME**

<b>Vehicles per day</b>	<b>Awarded Points</b>
1500-1600	1
1600-1700	2
1700-1800	3
over 1900	4

3. **REPORTED ACCIDENT (Except Auto/Pedestrian)**

Accidents along segment or within intersections within the segment but not including accidents at the terminal intersections unless the terminal intersections are interior to the neighborhood. Utilizes the most current 12 months of available records.

*1 point per accident.*



4. **REPORTED AUTO/PEDESTRIAN ACCIDENT**

Accidents along segment or within intersections within the segment but not including accidents at the terminal intersections unless the terminal intersections are interior to the neighborhood. Utilizes the most current 12 months of available records.

*2 points per accident.*

5. **EVIDENCE OF SUPPORT**

Percent of residents, businesses, and landowners living in or owning property facing or having lot frontage on the street block on which traffic calming device is proposed to be located which have indicated support for the proposal through submittal of letter or petition signature.

Percent Supporting	Awarded Points
75 – 85	1
86 – 95	2
96 – 100	3