RESOLUTION NO. 352 -2016

A RESOLUTION APPROVING AND ADOPTING AMENDMENTS TO THE NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM (NTMP) TO INCLUDE TENANTS IN THE PETITION PROCESS FOR TYPE 2 TRAFFIC CALMING MEASURES, LOWER THE PERCENTAGE OF PROPERTY OWNERS REQUIRED TO PARTNER WITH THE URBAN COUNTY GOVERNMENT FOR THE IMPLEMENTATION OF TRAFFIC CALMING MEASURES TO FIFTY-ONE PERCENT (51%), ESTABLISH ADDITIONAL DEADLINES RELATED TO THE PETITION PROCESS, ESTABLISH A GENERAL ONE-YEAR MORATORIUM ON REQUESTS FOR REEXAMINATION OF LOCATIONS PREVIOUSLY STUDIED, CLARIFY COST-SHARING RESPONSIBILITIES, REPLACE SPEED HUMPS WITH SPEED TABLES, AND INCLUDE SPECIALTY SIGNS AND FLASHING BEACONS IN THE PROGRAM.

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WHEREAS, growth in population and traffic volumes in Lexington-Fayette County have caused increases in congestion on major roadways; and

WHEREAS, increases in traffic on major roadways have resulted in greater use of local streets and residential neighborhoods; and

WHEREAS, in Resolution No. 164-2000, the Council of the Lexington-Fayette Urban County Government adopted the Neighborhood Traffic Management Program (NTMP), proposed by the Division of Traffic Engineering, to provide a process to identify and address neighborhood issues related to increased traffic volumes on local residential streets; and

WHEREAS, increased traffic on local and collector streets in residential areas may adversely affect the safety and livability of neighborhoods for all residents, including tenants and property owners.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT:

Section 1 – That the recitals set forth in the Preamble of this Resolution are hereby incorporated by reference.

Section 2 – That the Council of the Lexington-Fayette Urban County Government hereby approves and adopts the amended Neighborhood Traffic Management Program (NTMP), which is attached hereto and incorporated by reference, to govern neighborhood quality of life issues related to speeding motorists, excessive traffic volumes and safety on local residential streets to expressly include tenants in the petition process for Type 2 traffic calming measures, require an affirmative vote of fifty-one (51%) percent of property

owners in the defined petition area for the implementation of Type 2 traffic calming measures, establish additional deadlines related to the petition process, establish a general one-year moratorium on requests for reexamination of locations previously studied, clarify cost-sharing responsibilities, replace speed humps with speed tables, and include specialty signs and flashing beacons in the Program.

Section 3 - That this Resolution shall become effective on the date of its passage.

PASSED URBAN COUNTY COUNCIL: June 16, 2016

MAYOR

ATTEST:

CLERK OF URBAN COUNTY COUNCIL

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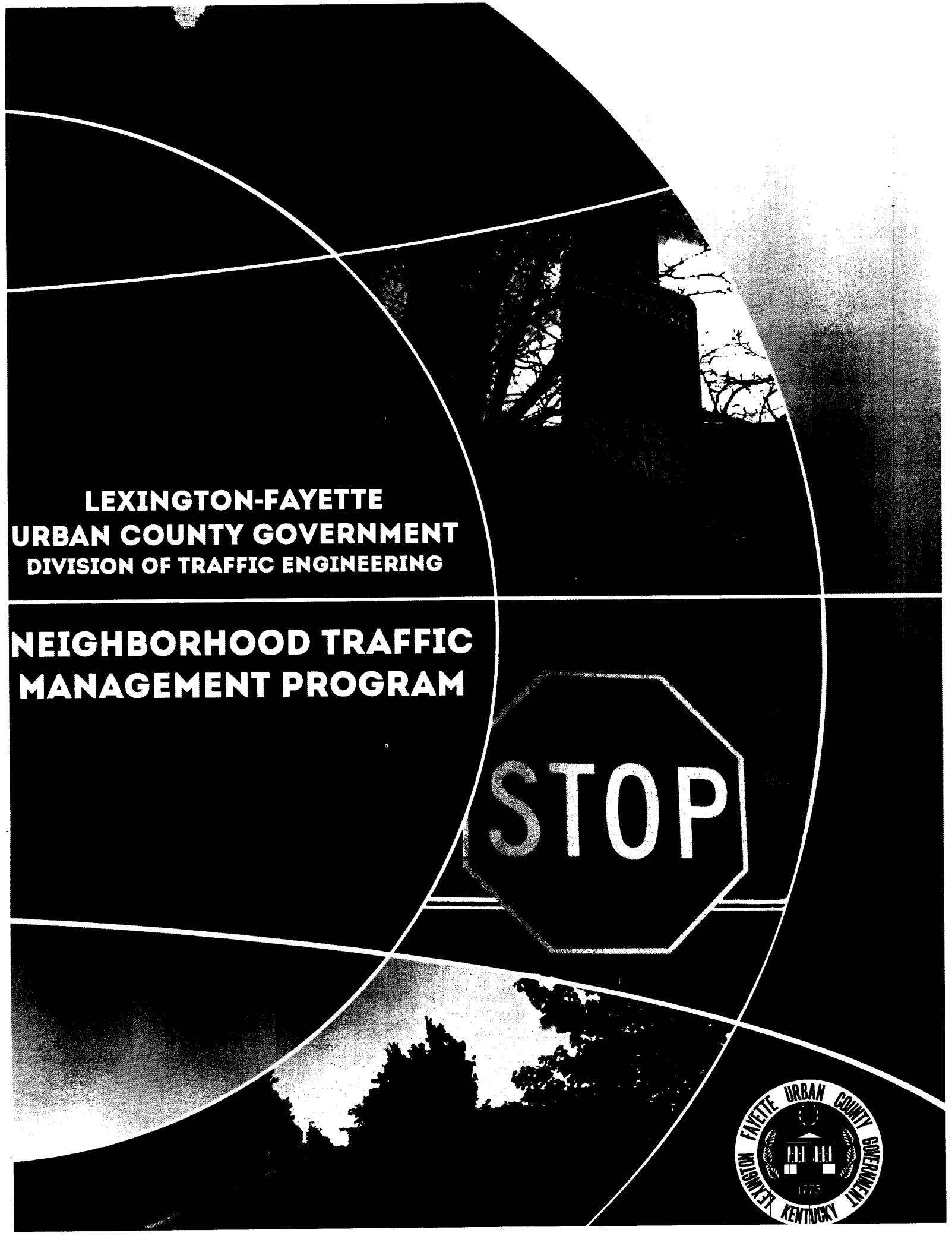
LEXINGTON-FAYETTE
URBAN COUNTY GOVERNMENT
DIVISION OF TRAFFIC ENGINEERING
NEIGHBORHOOD TRAFFIC
MANAGEMENT PROGRAM
STOP
LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT
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# INTRODUCTION

As the population and traffic volumes continue to grow in Fayette County, major roadways and intersections have become more congested. As this occurs, frustrated motorists often resort to the use of local streets to bypass congested roadways or overloaded intersections. Motorists cutting through residential neighborhoods often ignore residential speed limits. Residents who live on these local streets perceive a danger to children playing outdoors, while others fear increased auto exhaust pollution, road noise, and hazards to walkers, joggers, and bicyclists. The result is an ever-increasing number of residents expressing concerns about the safety and livability of their neighborhoods.

The Lexington-Fayette Urban County Government Neighborhood Traffic Management Program (NTMP) was developed to provide a process for identifying and addressing neighborhood quality of life issues related to speeding motorists, excessive traffic volumes, and safety on local residential streets. Under the program, the NTMP staff in the Division of Traffic Engineering works with residents within neighborhoods to identify the types and severity of traffic problems. Residents help to develop and evaluate the various requirements, benefits, and trade-offs of NTMP projects within their own neighborhood and become actively involved in the decision-making process.

An NTMP project involves strategic changes to streets in order to reduce vehicle speeds and to decrease the cars' dominance in the neighborhood through traffic calming. Traffic Calming as defined by the Institute of Transportation Engineers 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[1]. Traffic calming techniques and devices are designed and located to discourage cut-through traffic by making the travel time on the residential streets greater than the travel time on the adjacent major roadways. Traffic calming also seeks to encourage and reinforce appropriate driving behavior of the local drivers.

To be effective, traffic calming devices need to be part of a strategy extending along a street. The aim is to control traffic over an area, not at an isolated site, and to be compatible with street activities and adjacent land uses. Traffic calming strategies have the common goals of improving safety for pedestrians and bicyclists, providing a greater sense of security, and increasing neighborhood livability.

It is the intention of the NTMP to address traffic problems on local residential streets and residential collector streets as defined by the current American Association of State Highway and Transportation Officials' *A Policy on Geometric Design of Highways and Streets* functional classification of roadways. Residential collector streets are defined as collector streets with a minimum of 75% of properties on the street section in question being residential. Residential collector streets will be treated differently than local residential streets in that no vertical devices (i.e. speed tables, etc.) will be installed on a residential collector street. This NTMP document provides procedures, standards, guidelines, and techniques to assist staff and residents in carrying out a project on residential streets.

[1] Lockwood, Ian. *ITE Traffic Calming Definition.* ITE Journal, July 1997, pg. 22.

# GOAL, OBJECTIVES, AND POLICIES

## Goal

It is the goal of the Lexington-Fayette Urban County Government NTMP to establish procedures and techniques that will promote neighborhood livability by mitigating the negative impacts of automobile traffic on residential neighborhoods. Although livability has no precise definition, it can be thought of as encompassing the following characteristics:

- The ability of residents to feel safe and secure in their neighborhood.
- The opportunity to interact socially with neighbors without the dominance of traffic related distractions or threats.
- The ability to experience a sense of home and privacy.
- A sense of community and neighborhood identity.
- A balanced relationship between the multiple uses and needs of a neighborhood.
- To provide acceptable levels of accessibility for local traffic, discourage excessive speeds, and encourage opportunities for alternate travel modes, all in recognition of quality of life and the specific objectives of the neighborhood or area plan.

## Objectives

- To promote safe and pleasant conditions for residents, pedestrians, bicyclists, and motorists on local neighborhood and residential collector streets.
- To mitigate the impacts of traffic and speed on local neighborhood and residential collector streets.
- To preserve and enhance pedestrian and bicycle travel within neighborhoods.
- To encourage citizen involvement in the neighborhood traffic management process.
- To achieve efficient and safe movement of traffic within neighborhoods (including emergency vehicles) consistent with the intended function of the residential streets.
- To maintain acceptable levels of service on the city's arterial streets so as to avoid intrusion/diversion onto local neighborhood streets.

## Policies

- Application of this program shall be limited to local residential streets and residential collector streets in Fayette County. A residential street is defined as a street with a minimum of 75% of the properties on that street being residential.
- No vertical devices will be installed on residential collector streets.
- Through traffic should be encouraged to travel on those roadways as defined in the Functional Classification categories of collectors and above.
- Provide adequate funding levels for NTMP staff, program implementation and maintenance.
- Preserve emergency vehicle access to neighborhoods.
- Coordinate the NTMP with the existing intersection improvement program.
- In cases where safety concerns are found to be an immediate traffic hazard correctable by traffic management techniques, procedures may be modified to insure immediate attention to correct the traffic hazard.
- The cost of NTMP projects shall be borne by the LFUCG, neighborhoods, a combination of the two, or other alternative funding sources as available.

# FUNDING POLICY

If NTMP funds are available, costs for traffic calming devices included in an approved project shall be shared as follows:

| Average Property Value in Petition Area* | Sponsor Share | LFUCG Share |
|---|---|---|
| Greater than $500,000 | 90% | 10% |
| $400,000 to $499,999 | 80% | 20% |
| $300,000 to $399,999 | 60% | 40% |
| $200,000 to $299,999 | 40% | 60% |
| $100,000 to $199,999 | 20% | 80% |
| Less than $100,000 | 10% | 90% |

Please note that the sponsor share will need to be paid in full with a single check payable to LFUCG upon meeting all of the NTMP requirements to move forward with the construction of the selected method of traffic calming.

* Property values are averaged from Fayette County Property Valuation Administrator (PVA) records

# NEIGHBORHOOD TRAFFIC MANAGEMENT OPTIONS

Neighborhood traffic management options are broken down into three separate tiers of options as follows:

## Type 1

Including but not limited to:

*Signing:*

| | |
|---|---|
| A. Multi-way stop | F. No outlet |
| B. Yield | G. Not a through street |
| C. Speed limits / reductions | H. Cross traffic does not stop |
| D. No parking / parking prohibitions | I. Specialty signs |
| E. No through trucks | |

*Pavement markings:*

| | |
|---|---|
| A. Street centerline, edgeline | D. Stop bar / yield bar |
| B. Lane line | E. Yellow curb / parking restriction |
| C. Crosswalks | F. Rumble strips |

*Enforcement/Education:*

| | |
|---|---|
| A. Increased police presence (selective enforcement | C. Education |
| B. Changeable message sign / radar speed trailer | |

## Type 2

Including but not limited to:

| | |
|---|---|
| A. Speed table | E. Raised crosswalk |
| B. Chicane, angled slow point | F. Median island / channelization |
| C. Choker, curb extension, bulbout | G. Traffic Circle |
| D. Textured pavement / landscaping | |

## Type 3

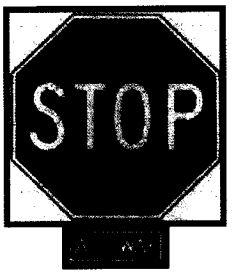
Including but not limited to:

| | |
|---|---|
| A. Cul-de-sac | C. Road closure |
| B. Barricade | D. Diverters |

# TYPE 1 OPTIONS – APPLICATION PROCEDURES – SIGNING

***Additional information regarding Type 1 Options is located in Appendix 1.***

## A. Multi-way stop




1. Requests should be submitted directly to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Traffic Engineering staff will conduct a field review of the intersection and review the intersection's crash history to determine if there is sufficient evidence to conduct a study.
3. If sufficient field and/or crash evidence is discovered, staff will conduct the necessary warrant studies based on the federal criteria of the *Manual on Uniform Traffic Control Devices (MUTCD)* requirements. The MUTCD includes the following section on the warrants for multi-way stop sign installations:

**Taken from MUTCD Section 2B.07 Multi-Way Stop Applications**

Guidance:

The decision to install multi-way stop control should be based on an engineering study.

The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

B. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
3. If the 85$^{th}$ percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.

D. Where no single criterion is satisfied, but where Criteria B, C.1., and C.2 are all satisfied to 80 percent of the minimum values. Criterion C3 is excluded from this condition.

Option:

Other criteria that may be considered in an engineering study include:

A. The need to control left-turn conflicts.

B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes:

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop: and

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

Source – *Manual on Uniform Traffic Control Devices*

4. If Traffic Engineering staff does not find sufficient field or crash evidence, applicants will be required to submit a petition signed by a resident from at least 65% of the properties in the petition area in order to establish consensus among the residents most affected.
5. The petition area will be defined by the staff and include, at a minimum, residents within 500 feet of the intersection location.
6. The petition shall be completed within 90 calendar days. No amendments to the petition will be accepted once the petition process is closed. Once a study is completed through a determination through traffic engineering judgment or through a petition process, a new petition cannot be requested for 12 months. After 12 months, or if significant development or traffic pattern/volume changes have occurred within the study area during that time period, a new petition may be requested.
7. Upon the receipt of a successfully submitted petition, staff will submit findings of the warrant studies with approval or denial to the requesting party and/or appropriate Urban County Councilmember(s).

In the past, many neighborhoods have requested additional multi-way stop conditions for the purpose of providing traffic controls that would create logical segments of roadways where residents would have continuity in accessing other parts of their neighborhoods. For established neighborhoods multi-way stops could provide nodes where pedestrians would want to cross residential collector roadways. At the same time, these locations would need to meet drivers' expectations of a traffic control area.

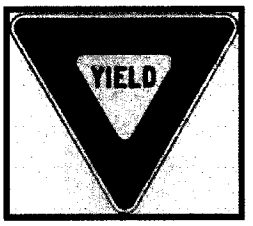
The *MUTCD* states that stop signs should not be used for speed control. This indicates that over-usage of stop signs throughout a roadway corridor would not provide a speed reduction because an oversaturation of stop signs would not typically provide a traffic calming affect when compared to other traffic calming devices such as speed tables. The manual continues to state that stops signs should be installed in a manner that minimizes the number of vehicles having to stop. Section 2B.07 of the *MUTCD* states, "Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop." In keeping with the desires of neighborhoods to have a complete streets philosophy some manner of guidance is needed to (1) help promote neighborhood connectivity, (2) meet drivers' expectations for traffic controls, (3) apply guidelines that have direct input from Lexington Division of Police's experience of enforcement along a particular roadway, and (4) develop a relationship between unimpeded block lengths and speed. Unimpeded block lengths are the distances drivers travel along a street without being required to slow or stop. The following is an example of this relationship:

The following is a list of additional guidelines that can be considered when evaluating multi-way stops along residential collector streets:

1. Proposed multi-way stop locations should not be less than 0.25 miles (approximately 1,300 feet) away from an existing stopping or yield condition. No multi-way proposal under this condition will be considered if a new stop-segment of roadway is less than 1,000 feet.
2. Traffic volume must equal or exceed 1,000 vehicles per day for the major street approaches.
3. The number of vehicles along the non-stopping roadway should show that 25 percent of traffic volume exceeds the posted speed limit.
4. The number of vehicles along the non-stopping roadway should show that 10 percent of the vehicles exceeding the posted speed limit did so by 10 mph or more.

5. The Lexington Division of Police must approve proposed multi-way stops under these guidelines.
6. Level Of Service (LOS) analysis for a proposed multi-way stop under these guidelines may be done in order to show what the traffic impact of the major roadway would be after an installation (LOS rating, delay times, stacking distances, etc.). The major roadway with a high amount of traffic volume with little interest in turning onto a minor roadway could present an unnecessary delay to motorists and possibly cause a less desirable intersection scenario than the current intersection configuration.
7. A petition with 65% of the residents and/or a neighborhood association's support must be documented showing to be in favor for a proposed multi-way stop.
8. Streets that are not residential collector streets but have a road width equal to or greater than 30 feet face-of-curb to face-of-curb for the major roadway can be considered for a multi-way stop application under these supplemental guidelines along with the addition that the 85$^{th}$ percentile speeds exceed the posted speed limit by 10 mph or more.

## B. Yield




1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Traffic Engineering staff will conduct a field review of the intersection and review the intersection's crash history to determine if there is sufficient evidence to conduct a study.
3. If sufficient evidence is discovered, staff will conduct the necessary warrant studies based on *Manual of Uniform Traffic Control Devices (MUTCD)* requirements as shown below:

**Section 2B.09 YIELD Sign Applications**

Option:

YIELD signs may be installed:

A. On the approaches to a through street or highway where conditions are such that a full stop is always required.
B. At the second crossroad of a divided highway, where the median at the intersection is 30 feet or greater. In this case, a STOP or YIELD sign may be installed at the entrance to the first roadway of a divided highway, and a YIELD sign may be installed at the entrance to the second roadway.
C. For a channelized turn lane that is separated from the adjacent travel lanes by an island, even if the adjacent lanes at the intersection are controlled by a highway traffic control signal or by a STOP sign.
D. At an intersection where a special problem exists and where engineering judgment indicates the problem to be susceptible to correction by the use of the YIELD sign.
E. Facing the entering roadway for a merge-type movement if engineering judgment indicates that control is needed because acceleration geometry and/or sight distance is not adequate for merging traffic operation.

Standard:

A YIELD sign shall be used to assign right-of-way at the entrance to a roundabout. Yield signs at roundabouts shall be used to control the approach roadways and shall not be used to control the circulatory roadway.

Other than for all of the approaches to a roundabout, YIELD signs shall not be placed on all of the approaches to an intersection.

Source – *Manual on Uniform Traffic Control Devices*

4. If sufficient field or crash evidence is not discovered, applicants will be required to submit a petition signed by a resident from 65% of the properties in the petition area in order to establish consensus among the residents most affected.
5. The petition area will be defined by the staff and will include, at a minimum, residents on each intersecting street a distance of one block from the proposed sign installation location.
6. The petition shall be completed within 90 calendar days. No amendments to the petition will be accepted once the petition process is closed. Once a study is completed through a determination through traffic engineering judgment or through a petition process, a new

petition cannot be requested for 12 months. After 12 months, or if significant development or traffic pattern/volume changes have occurred within the study area during that time period, a new petition may be requested.

7. Upon the receipt of a successfully submitted petition, staff will then submit findings of the warrant studies with approval or denial to the requesting party and/or appropriate Urban County Councilmember(s).

## C. Speed limits/reductions


1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Traffic Engineering staff will conduct a field and crash history review of the street and determine if there are sufficient criteria to proceed with a study. Field criteria to be considered when a lower speed limit is requested include, but are not limited to, the proximity of pedestrian generators such as parks or schools, preferred bike routes, midblock crosswalks, and spacing between controlled intersections.
3. If engineering judgement determines there are sufficient criteria for a study, staff will conduct the necessary study with respect to the *Manual of Uniform Traffic Control Devices (MUTCD)* and engineering judgement.
4. If sufficient criteria are not found, applicants will be required to submit a petition signed by a resident from 65% of the properties in the petition area.
5. The petition area will be defined by the staff and will include, at a minimum, residents on the block(s) of the street on which the speed limit is to be reduced.
6. The petition shall be completed within 90 days. No amendments to the petition will be accepted once the petition process is closed. Once a study is completed through a determination through traffic engineering judgment or through a petition process, a new petition cannot be requested for 12 months. After 12 months, or if significant development or traffic pattern/volume changes have occurred within the study area within that time period, a new petition may be requested.
7. Staff will then submit findings of the study with approval or denial to the requesting party and/or appropriate Urban County Councilmember(s).

## D. No parking /parking prohibitions

1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Traffic Engineering may ask the Division of Fire and Emergency Services to review the street in question to see if there is a need to remove parking for safety purposes.
3. If the Division of Fire and Emergency Services does not find a need to remove parking for safety purposes, applicants will be required to submit a petition signed by a resident from 65% of the properties in the petition area.
4. The petition area will be defined by the staff and will include, at a minimum, residents on the block(s) of the street on which the no parking restriction is being requested.
5. The petition shall be completed within 90 days. No amendments to the petition will be accepted once the petition process is closed.
6. Please note that the Residential Permit Parking program is administered by the Lexington & Fayette County Parking Authority (Lexpark).


## E. No through trucks

1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Traffic Engineering staff will conduct a field review the street and determine if there are sufficient criteria to proceed with a study. Criteria could include, but is not limited to, observed significant truck traffic on local residential streets, and/or sharp turns on a street that could prevent mobility for large trucks.
3. If sufficient criteria are not found, applicants will be required to submit a petition signed by a resident from 65% of the properties in the petition area.
4. The petition area will be defined by the staff and will include, at a minimum, residents on the block(s) of the street on which the no through trucks sign is being requested.
5. The petition shall be completed within 90 days. No amendments to the petition will be accepted once the petition process is closed. Once a study is completed through the petition process, a new petition cannot be requested for 12 months. After 12 months, or if significant development or traffic pattern/volume changes have occurred within the study area within this time period, a new petition may be requested.
6. Staff will then submit findings with approval or denial to the requesting party, the appropriate Urban County Councilmember(s), and/or the Mayor's Office.

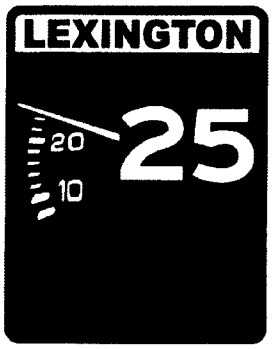
**F. No outlet, and**
**G. Not a through street**

1. Requests for these types of signs should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Sign(s) will be installed once verification of appropriate status for street in question is made.

**H. Cross traffic does not stop**

1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Basis of installation of this type of sign will be the existence of an identifiable crash history due to a sight distance limitation or other circumstance.
3. Sign(s) will be installed once justification for installation is made.

**I. Specialty signs**




1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. The installation of specialty signs to remind drivers of the 25mph speed limit will be based on whether 85th percentile speeds on a given street are shown to be at least 5-10mph higher than the posted 25mph speed limit. Please note that these signs are intended only for installation on streets with existing 25mph speed limits.
3. Flashing signs or beacons to enhance traffic signs could also be considered if found to be appropriate and traffic calming is deemed necessary due to observed traffic concerns.
4. Sign(s) will be installed once justification for implementation is made.

# TYPE 1 OPTIONS – APPLICATION PROCEDURES – PAVEMENT MARKINGS

1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, or via the Urban County Government's Lexcall system.
2. Options for pavement markings include, but are not limited to, double yellow centerlines, white edgelines, white lane lines (solid or skip), crosswalks, stop bars, yield bars, yellow curbs, and rumble strips. Other MUTCD compliant types of pavement markings not listed may also be considered.
3. Traffic Engineering staff will conduct a field review, gather pertinent data, and make a determination for the requested pavement markings
4. Staff may present findings, if necessary, to the requesting party, the appropriate Councilmember(s), and/or the Urban County Council Environmental Quality & Public Works Committee for approval/denial/modification.

# TYPE 1 OPTIONS – APPLICATION PROCEDURES – ENFORCEMENT/EDUCATION

## A. Increased police presence (selective enforcement)


1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, to the Division of Police, or via the Urban County Government's Lexcall system.
2. The Division of Police can be contacted by Traffic Engineering to schedule selective enforcement for the street in question.

## B. Changeable message sign/radar speed trailer

1. Requests should be submitted through any Urban County Councilmember, to the Division of Police, or via the Urban County Government's Lexcall system.
2. The Division of Police can be contacted by Traffic Engineering to schedule the use of the radar speed trailer to inform motorists of their travel speed on the street in question.

## C. Education

1. Requests should be submitted to the Division of Traffic Engineering, through any Urban County Councilmember, to the Division of Police, or via the Urban County Government's Lexcall system.
2. Representatives from the Division of Traffic Engineering and/or Division of Police can be invited to speak to a Neighborhood Association or some other interested group of citizens or students to discuss traffic calming techniques, the Neighborhood Traffic Management Program, and/or the general activities and responsibilities of the Division of Traffic Engineering.

# TYPE 2 OPTIONS – APPLICATION PROCEDURES

## First Steps/Petition Circulation

1. Applicant should contact the Division of Traffic Engineering directly, through their Councilmember, or Lexcall to discuss the neighborhood traffic problem.
2. Traffic Engineering staff explains the NTMP program including petition process, cost sharing, and provides copy of NTMP guidelines to the applicant.
3. Traffic Engineering staff works with neighborhood residents to identify the petition area.
4. Applicant circulates petition within identified petition area. Applicant must obtain one signature from a resident from at least 65% of properties in the petition area.
5. Upon obtaining the necessary signatures, applicant completes application materials and returns them to Traffic Engineering within 90 days of the date of the letter sent along with the petition. Samples of Form A (NTMP Project Application Form) and Form B (NTMP Petition Form) are included in Appendices 2 and 3.

## Procedures

1. Receipt of NTMP Application and Petition – see Form A in Appendix 2 and Form B in Appendix 3.

   The Division of Traffic Engineering receives an application along with the necessary petition and signatures from one resident from at least 65% of the properties in the defined petition area within 90 days of the date on the letter included with the packet. Please note that only one signature per property is needed. Traffic Engineering Staff notifies the applicant and appropriate councilmember of the reception of a successful petition.

2. Preliminary Analysis

   The Division of Traffic Engineering identifies study area, collects preliminary information, and completes traffic analysis. The criteria to be used by staff in evaluating the severity of the identified problem(s) shall include, but not be limited to:

   - *Minimum Vehicular Volume*

     Local residential:

     A. Daily Traffic Volumes greater than or equal to 1,000 vehicles per day or Peak Hour Volumes greater than or equal to 100 vehicles per hour.

     B. Daily Traffic Volumes greater than or equal to 750 vehicles per day with at least 25 percent of vehicles traveling at speeds in excess of the posted speed limit, and where 10 percent of the vehicles traveling at speeds in excess of the posted speed limit by 10 mph or more.

     C. Daily Traffic Volumes that show 75 percent of the number of vehicles traveling along the roadway are exceeding the posted speed limit, and where the 85$^{th}$ percentile speeds exceeds the posted speed limit by 10 mph or more.

     D. Local residential streets that do not have sidewalks, or any other pedestrian linkages.

Residential Collector:

Average Daily Traffic volume is greater than or equal to 3,000 vehicles per day or Peak Hour volume is greater than or equal to 300 vehicles per hour.

- *Crashes - Pedestrian, Bicycles, Autos*

  Local Residential/Residential Collector: Crashes for which a police report can be verified and which are susceptible to correction by means of traffic calming devices.

- *Intersection Volumes*

  Local Residential: Average Daily Traffic greater than 3,000 vehicles per day.

  Residential Collector: Average Daily Traffic greater than 9,000 vehicles per day.

3. Neighborhood Workshop

   The Division of Traffic Engineering may schedule a neighborhood workshop to form a Traffic Team, discuss the problems(s), discuss the results of the preliminary analysis, and to educate the neighborhood. The neighborhood appoints one to four representatives to work with the staff as members of the Traffic Team.

4. Development of NTMP Project

   The Division of Traffic Engineering and neighborhood representatives may evaluate the problem(s) and develop one or more suitable NTMP projects using various traffic calming techniques. Landscaping treatments included in the NTMP project may be considered based upon neighborhood participation in the installation and maintenance of the desired plantings.

5. Presentation of NTMP Project to Neighborhood

   The Division of Traffic Engineering may schedule a second neighborhood workshop, notifies residents in the study area and present the alternative projects. The neighborhood residents attending the workshop must reach a consensus on support for the project.

6. Petition Card Circulation by Staff

   After alternate traffic management plans are presented to the neighborhood association, the division will mail petition cards to each **property owner** to verify agreement with the chosen alternative. The petition cards will be sent via certified mail from the United States Postal Service. Fifty-one percent (51%) of the petition cards need to be returned with positive responses for the verification to be validated. These cards need to be returned to Traffic Engineering within three weeks (21 days) from the date on the associated letter included with the petition card. If the property in a petition area is leased to a tenant, a letter will also be mailed to the tenant(s) stating that an NTMP ballot was mailed to the property owner.

7. Lexington-Fayette Urban County Council Presentation

   Based on the findings of the Division of Traffic Engineering and neighborhood representative and the neighborhood consensus, the division prepares a report and

recommendation for action by the Urban County Council's Environmental Quality & Public Works Committee.

8. Project Design and Implementation

   With favorable action by the Urban County Council, the Division of Traffic Engineering schedules the design and implementation of NTMP within budgetary constraints. Certain techniques may be installed for a test period while others will be installed permanently. Test projects will be monitored and evaluated for effectiveness. A monitoring period, measurable objectives and performance measures should be established on a case by case basis.

9. Monitoring

   Immediately following the installation of the project, the Division of Traffic Engineering will begin evaluation of the project, including field observations, traffic counts, speed studies and other data collection as needed. If the project has not met its objectives within the monitoring period six to twelve months following installation, the division will notify the neighborhood representatives. The division and the neighborhood representatives may then develop alternative solutions (return to steps 4 or 5).

10. Failure to meet criteria

    If the preliminary analysis results do not warrant Type 2 traffic calming techniques, the petition card circulation results are less than 51% favorable, or the Urban County Council does not act favorably on a NTMP project, then a new petition cannot be requested for 12 months. After 12 months, or if significant development or traffic pattern/volume changes have occurred within the study area within that time period, a new petition may be requested.

# TYPE 2 OPTIONS – DESCRIPTIONS

***Additional information regarding Type 2 Options is located in Appendix 1.***

## A. Speed table

Speed tables are vertical traffic calming devices with an incline, plateau, and decline located in the street. Discomfort increases as speed over the table increases. Typically speed tables are placed in a series rather than singularly. Speed tables are gradual changes in the roadway surface usually 22-24 feet long and 3.5 inches high and differ dramatically from speed bumps that were traditionally installed on private property or speed humps which are shorter from end to end. Speed bumps and speed humps tend to jolt a vehicle and can cause damage or loss of control if taken at excessive speed. Speed tables have little effect on a vehicle driving the posted speed limit, but produce discomfort when the speed limit is exceeded. Speed tables are generally placed approximately 300 feet apart and require signage and pavement markings in each direction that warns the driver to slow down. Speed tables are effective in reducing speed while not creating hazards to emergency response, transit, or public works vehicles.

### B. Chicane, angled slow point

Chicanes or angled slow points are deviations in the course of travel so that the street is not a straight line through the installation of offset curb extensions. These devices alter the sight lines and/or linear progression of motorists along straight neighborhood streets. This alteration can influence motorists to reduce speeds. This technique blends the physical and psychological to affect driver behavior. These are best used when staggered on opposite sides of the street at regular intervals.

### C. Choker, curb extension, bulbout

The use of chokers, curb extensions, or bulbouts will physically narrow the street in order to expand sidewalks, landscaping, or to delineate on street parking areas. These devices narrow the pavement by widening the sidewalk area at strategic locations. They provide shorter pedestrian crossing distances and provide protection to the beginning of a parking lane. The driver also senses the roadway narrowing when approaching one of these devices which can result in speed reduction and a sense that the driver is entering a residential area.

### D. Textured pavement/landscaping and
### E. Raised crosswalk

Landscaping includes but is not limited to: street trees, median treatments, corner treatments, decorative signs, park benches, and pathways. Textured pavement is a change of the road surface from the standard asphalt that may include, but is not limited to, interlocking brick, concrete pavers, or colored or stamped asphalt. Textured pavement and landscaping can influence driver behavior and reduce speeds. These treatments could also be used in conjunction with other traffic calming techniques such as speed tables which alter the vertical alignment of the roadway, but will assist in indicating a change in the driving environment.

### F. Median island / channelization

Small median traffic islands installed at intersections or midblock locations to channelize traffic or prohibit turning movements. These devices are designed to eliminate certain movements by constructing concrete or landscaped islands at strategic locations. Left turns are no longer possible when these items are placed down the center of a road. Installation of these devices may result in a reduction in traffic congestion as certain movements are no longer possible.

### G. Traffic circle

Traffic circles are raised circular areas (similar to medians) placed at intersections. Drivers travel in a counterclockwise direction around the circle. Traffic circles are "yield upon entry," meaning that cars in the circle have the right of way and cars entering the circle must wait to do so until the path is clear. When a traffic circle is placed in an intersection, vehicles may not travel in a straight line. Traffic circles are raised concrete or landscaped islands that are place in the center of an intersection. They require that vehicles change course while proceeding through an intersection and this generally results in a speed reduction. Intersections containing traffic circles must have adequate street lighting and signage to provide advance visibility and warning for the required change of course.

# TYPE 3 OPTIONS - APPLICATION PROCEDURES

Traffic Engineering recommends that an applicant follow the NTMP Type 2 application and petition procedures beginning on page 14 prior to going through the following process which is required by an Urban County Government Resolution. Resolution No. 339-81, adopted by the Lexington-Fayette Urban County Council on November 12, 1981, addresses the procedures for requesting to dead-end a public street.

## Procedures

Resolution No. 339-81

I. Administration Action

A. Any request to create a dead-end street by erecting a barricade at one end of a public street shall be made to the Chief Administrative Officer. Each such request shall be in writing, shall set forth the reasons for the request and shall include the signatures and addresses of all persons making the request. The Chief Administrative Officer may require additional information if he deems it appropriate. A copy of any such request shall be sent to the Councilmember in whose district the street in question is located.

B. Upon receipt of any such request for barricading a public street, the Chief Administrative Officer will request, through the respective Commissioners, reports concerning the request from the Division of Police, Division of Fire Protection, Division of Traffic Engineering and any other office he deems appropriate. Within a reasonable time thereafter, each of the Division Directors shall make a report to his Commissioner, for the latter's review and recommendation to the Chief Administrative Officer shall forward the same to the Vice-Mayor with his comments.

II. Council Committee Action

A. Upon receipt of a request to barricade a public street from the Chief Administrative Officer, the Vice-Mayor shall place the item on the agenda of the next regular or special meeting of the appropriate committee, at which time will be available for discussion of the request. The Council Administrator shall by mail notify all of the signers of the request, as well as the Commissioners and Division Directors of the appropriate departments, of the time set for this discussion. Following discussion at the designated committee meeting, it shall by majority vote of the committee members present be decided whether to set a public meeting on the request or whether to recommend to the full Council in Work Session that the request be denied without a public meeting.

B. If it is decided to hold a public meeting, the Council Administrator shall make arrangements for public notification of the same through the Council Clerk by newspaper publication not less than seven (7) nor more than twenty-one (21) days prior to the date of the public meeting. In addition thereto, the Council Administrator shall, insofar as he is able to determine their identity, notify all property owners and residents of the area to be affected by mail. At the time it is decided to hold a public meeting on a given request, it shall also be decided by majority vote of the Councilmembers present which properties shall receive notice letters from the Council Administrator.

C. Any public meeting held pursuant to this procedure shall not be required to be held in conjunction with a regular or special meeting of the committee to which it was referred nor shall it be necessary for a quorum of the committee to be in attendance at the public meeting. However, the Council Administrator shall make note of the opinions expressed at the public meeting and shall make the same available to all interested Councilmembers.

D. Following the public meeting and following receipt of the Council Administrator's notes by all interested Councilmembers, the Chairman of the committee shall place the item on the agenda of the next regular or special meeting of the committee at which time will be available for discussion of the request. At that time, the committee shall by majority vote of those present recommend to the full Council in Work Session whether or not to proceed with the proposed barricading. If a consensus cannot be reached among those present, the item shall be referred to the full Council in Work Session without a recommendation. Any favorable report from the committee shall include a draft resolution prepared by the Department of Law.

E. At any time in the committee process, the procedure may be halted by the committee in order to secure additional information.

III. Full Council Action

Upon receipt of the report of the committee concerning any request for barricading of a public street, the ordinary process for Council action as specified in the Rules and Procedures shall apply.

IV. Other

A. If at any time in the process it appears to the Commissioner of Law that any doubt exists as to the public purpose of the proposed street closing, he shall promptly so advise the administration and the Council.

B. This procedure shall only apply to requests to create a dead-end street by erecting a barricade at one end of the street. Thus, it shall not apply to the erection of any street control devices, signs, etc., for which responsibility is already vested by law in the various departments, divisions and offices of the Urban County Government.

# TYPE 3 OPTIONS – DESCRIPTIONS

***Additional information regarding Type 3 Options is located in Appendix 1.***

**A. Cul-de-sac,**
**B. Barricade, and**
**C. Road closure**

Road closures in general, or through the use of a cul-de-sac or a barricade treatment, are used to close a street to motor vehicles through the use of planters, bollards, barriers, or some other device. The closure of a street can either be performed at a mid-block location or at an existing intersection. Such closures are intended to completely block access from one end of a local street. This will result in major reductions in vehicular speeds and volumes. However, these reductions can result in increases on adjacent parallel streets and therefore must be very carefully considered. Closing a road is likely to create problems for emergency vehicle access. Adequate turnaround should be provided where the street is closed to help with vehicle turnarounds.

**D. Diverters**

Diverters are barriers that are used at intersections to prohibit a particular turning movement. A diagonal diverter is a barrier that is placed diagonally across a four legged intersection, which results in the elimination of through movements and turning conflicts. The resulting intersection resembles two back to back curves. This type of barrier may be used to create a maze-like effect in a neighborhood. Diagonal diverters reduce traffic volumes while still allowing access and circulation through the neighborhood. A diagonal diverter may be constructed with access points for pedestrians, bicycle traffic, and emergency vehicles.

A semi-diverter or star-diverter is the physical blockage of one or more directions of traffic on a two way-street at an intersection. The open lane of traffic is signed "one way," and traffic from the blocked lane is not allowed to go around the barrier. These devices limit access to a street from one ore more directions through the use of curbs or other vertical devices. They may also be constructed to limit certain movements at an intersection. Semi-diverters are generally effective in reducing traffic in the direction they block but are still able to allow emergency access. Star-diverters are also generally effective in reducing traffic but will block some access to emergency vehicles.

# APPENDIX 1 - TRAFFIC MANAGEMENT TECHNIQUES

Traffic management techniques can be broken down into four distinct areas which are as follows:

## Type 1 – Education / Enforcement Techniques (Pages 21-24)

Education
Speed Enforcement – Selective Enforcement
Speed Enforcement – Speed Trailer
Prohibitive Signage – Pavement Markings

## Type 2 – Mid-Block Techniques (Pages 25-31)

Speed Table
Chicanes, Angled Slow Points – Series
Chicanes, Angled Slow Points – Point Locations
Chokers, Curb Extensions, or Bulbouts
Textured Pavement/Landscaping
Textured Pavement/Landscaping – Raised Walkway/Mid Block
Median Island, Channelization – Mid Block

## Type 2 – Intersection Techniques (Pages 32-38)

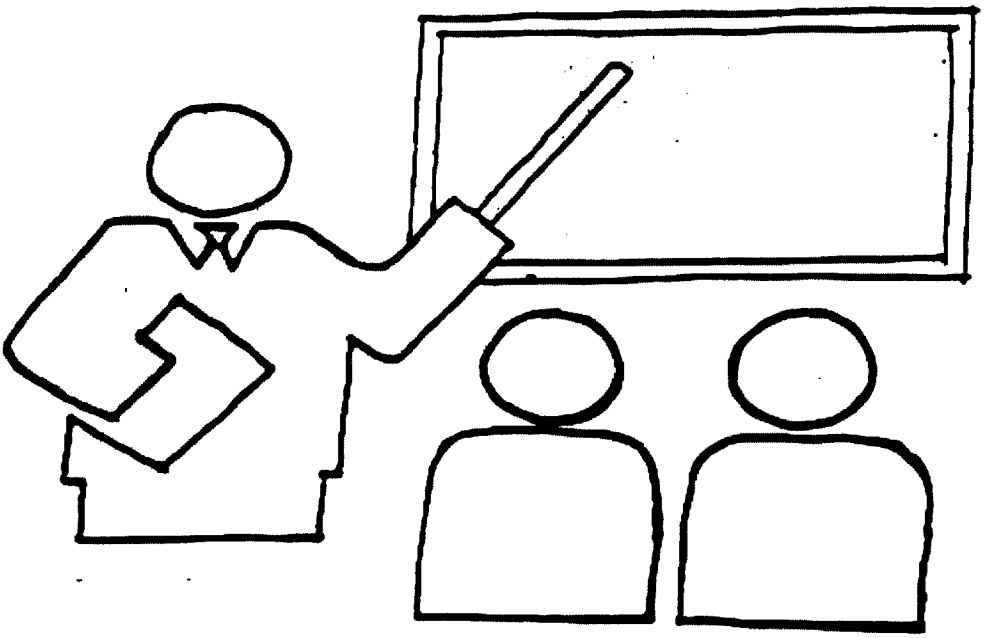
Median Island/Channelization – At Intersection
Median Island/Channelization – T-Intersection
Median Island/Channelization – Across Intersection
Textured Pavement, Landscaping – Entry Treatment
Textured Pavement, Landscaping – Raised Intersection/Speed Table
Chokers, Curb Extensions, or Bulb-outs - Intersection
Traffic Circle

## Type 3 – Closures / Restriction Techniques (Pages 39-44)

Cul-de-sac – Mid Block
Cul-de-sac/Barricade – Intersection
Diagonal Diverter
Diagonal Diverter – Emergency Access
Semi-Diverter
Star-Diverter

# TYPE 1 – EDUCATION/ENFORCEMENT TECHNIQUES

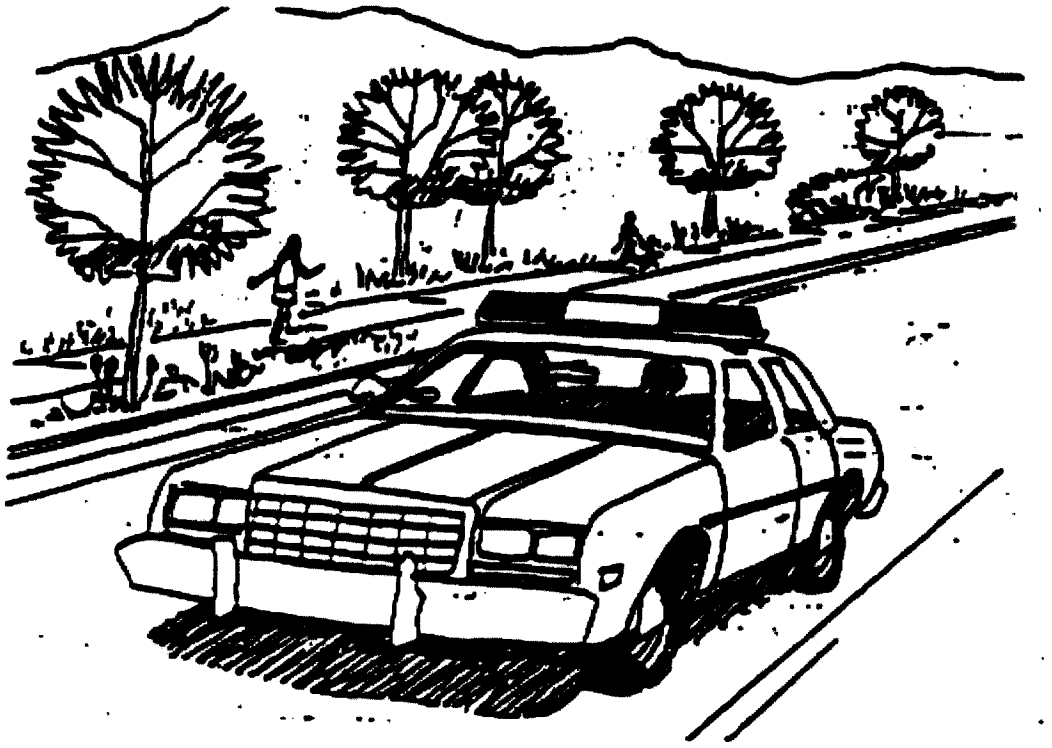
## EDUCATION



| Advantages | Disadvantages |
|---|---|
| • Can be relatively effective, and relatively inexpensive<br>• Involves and empowers citizens<br>• Works well with other mitigation tools | • Not likely to be as effective on non-neighborhood traffic<br>• May be difficult to measure effectiveness<br>• Can be expensive and/or time consuming<br>• May take time to be effective<br>• Effectiveness may decrease over time |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Possible | N/A | N/A | N/A | Low | No Effect |

# SPEED ENFORCEMENT – SELECTIVE ENFORCEMENT



| Advantages | Disadvantages |
|---|---|
| • Good temporary public relations tool<br>• Serves to inform public that speeding is undesirable behavior for which there are consequences | • Effect is not permanent<br>• Enforcement is an expensive tool |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Improvements | Depends on Amount | No Effect | No Change | No Effect | Varies | No Effect |

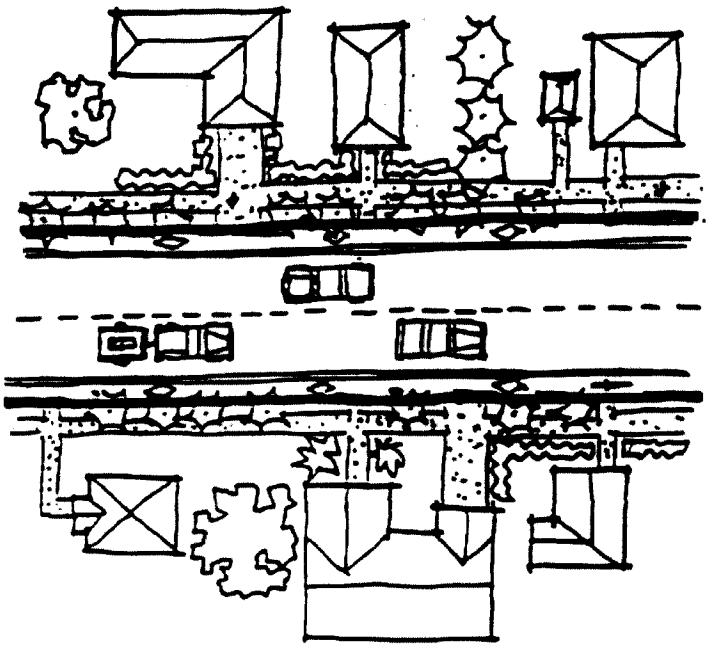
# SPEED ENFORCEMENT – SPEED TRAILER


| Advantages | Disadvantages |
|---|---|
| • Educational tool<br>• Very good public relations tool<br>• Useful especially in school and construction zones where spot speed reduction is important | • Requires periodic enforcement<br>• Effective for limited duration<br>• Unit moves frequently which require personnel |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Possible Improvements | Yes | No Effect | No Change | No Effect | Low | No Effect |

# PROHIBITIVE SIGNAGE / PAVEMENT MARKINGS

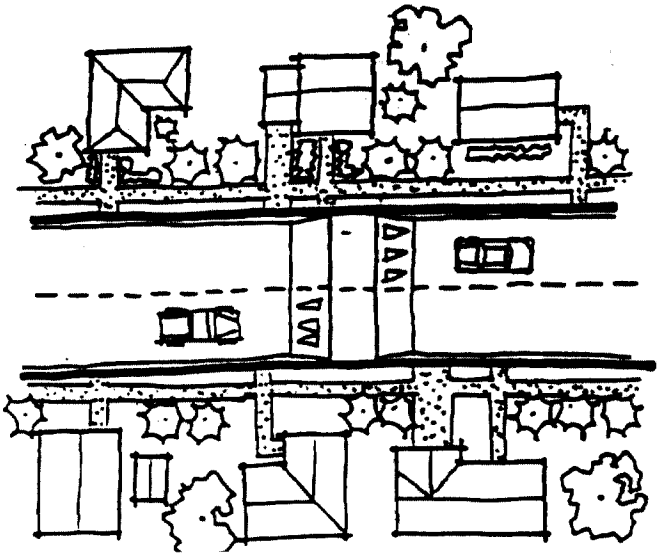


| Advantages | Disadvantages |
|---|---|
| • Inexpensive<br>• May reduce speed<br>• Edge treatment increases safety of cyclists and pedestrians<br>• Low maintenance | • May not be as effective as other more structured techniques |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Possible | No | No Effect | No Effect | Low | No Effect |

# TYPE 2 – MID BLOCK TECHNIQUES

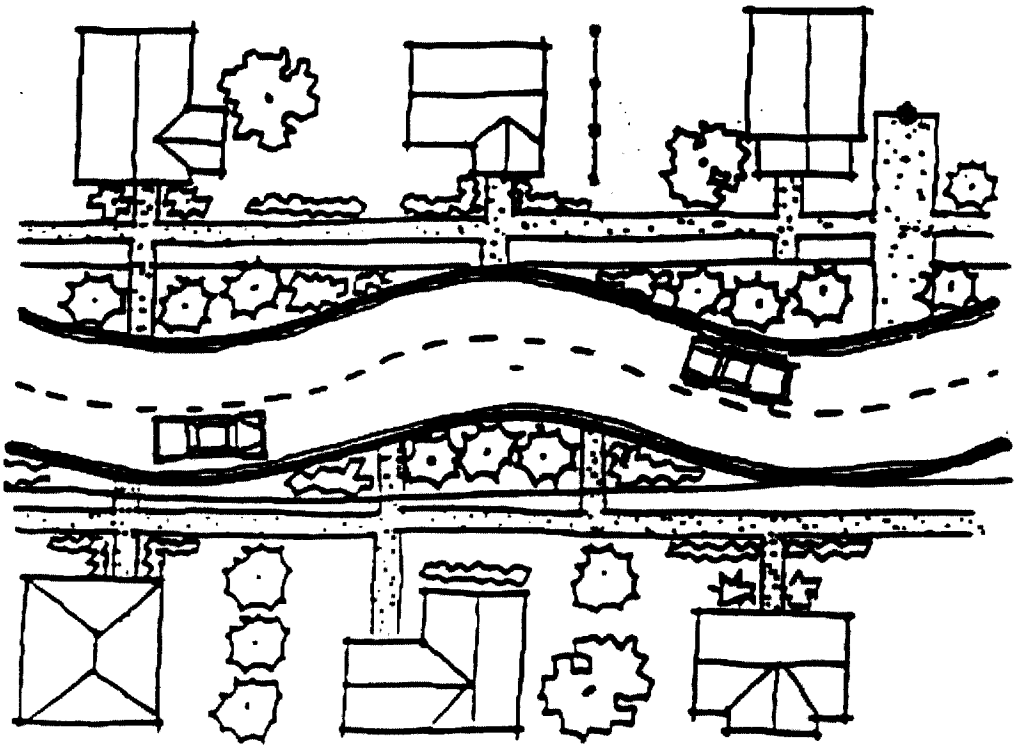
## SPEED TABLE



| Advantages | Disadvantages |
|---|---|
| • Reduces vehicle speeds in the vicinity of the table without increasing crashes. Better is used in a series at 300' to 500' spacing.<br>• Self enforcing | • May create noise particularly if there are loose items in the vehicle or trailer<br>• If not properly designed, drivers may try to skirt around to avoid impact<br>• May be a problem for emergency vehicles<br>• May impact drainage<br>• Drivers may speed up between speed tables<br>• May increase volumes on other streets<br>• Difficult to properly construct<br>• Requires signage that may be considered unsightly |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $4500 - $6000 per location | Response times may be increased |

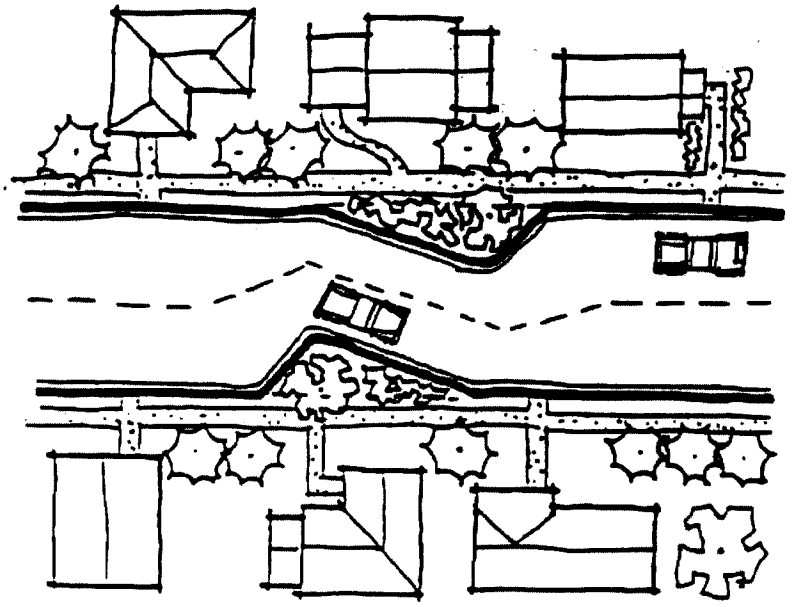
# CHICANES, ANGLED SLOW POINTS – SERIES



| Advantages | Disadvantages |
|---|---|
| • Imposes minimal inconveniences to local traffic<br>• Pedestrians have a reduced crossing distance<br>• Provides large area for landscaping<br>• Cost of device is limited by length<br>• A very effective method of changing the initial impression of the street. If done correctly drivers will not be able to see through. Appears as a road closure yet allows through movement.<br>• Accepted by public as speed control device<br>• Aesthetically pleasing<br>• Reduces speed without significantly impacting emergency response | • Increases the area of landscaping to be maintained by residents<br>• Cost is greater than many other devices, therefore better to be installed in conjunction with street reconstruction or initial design<br>• May create opportunities for head-on conflicts on narrow streets |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $7,500 to $25,000 per location | Response times may be increased |

# CHICANES, ANGLED SLOW POINTS – POINT LOCATIONS

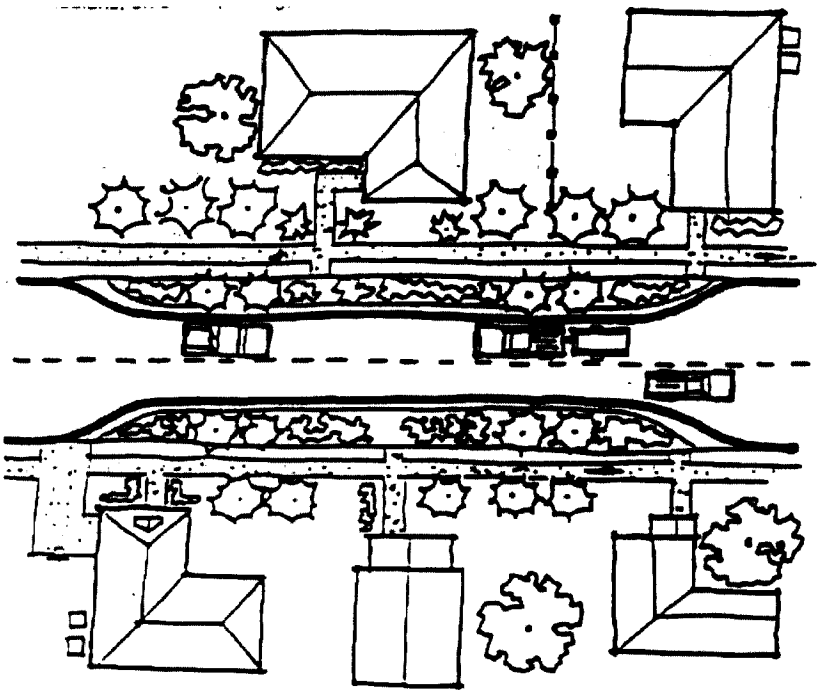


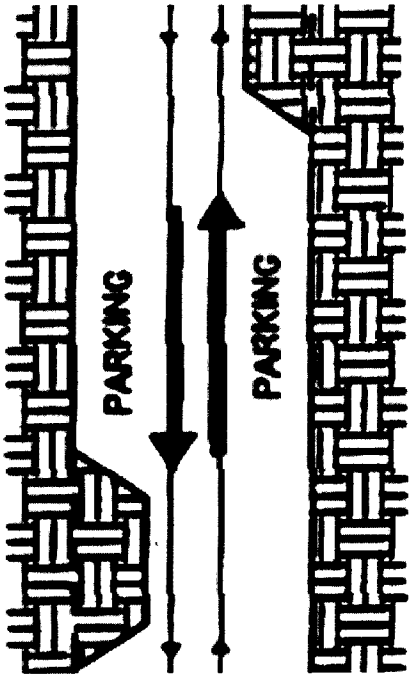
| Advantages | Disadvantages |
|---|---|
| • Reduces vehicle speed<br>• More effective when used in a series<br>• Imposes minimal inconveniences to local traffic<br>• Pedestrians have a reduced crossing distance<br>• Provides space for landscaping<br>• Provides a visual obstruction | • Landscaping needs to be controlled to ensure visibility is reduced<br>• Contrary to driver expectation of unobstructed flow<br>• Can be hazardous for drivers and cyclists if not designed and maintained properly<br>• Confrontation between opposing drivers arriving simultaneously may create problems<br>• Double lane application is less effective in controlling speeds than single lane because drivers can create a straighter through movement by driving over centerlines.<br>• Increases area of landscaping to be maintained by residents |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $7,500 to $25,000 per location | Response times may be increased |

# CHOKERS, CURB EXTENSIONS, OR BULBOUTS

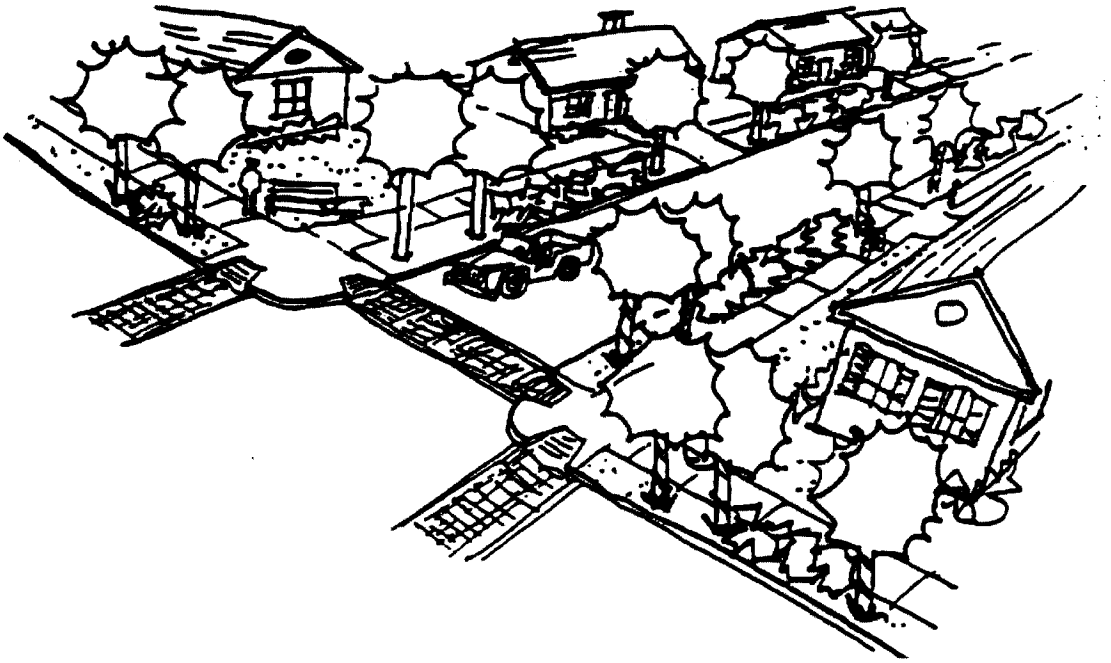





| Advantages | Disadvantages |
|---|---|
| • Minor inconvenience to drivers<br>• Minimal inconveniences to local traffic<br>• Good for pedestrians due to shorter crossing distance<br>• Provides space for landscaping<br>• Slows traffic without seriously affecting emergency response time<br>• Effective when used in a series<br>• Single lane narrowing reduces vehicle speed and through traffic | • Double lane narrowing not very effective at reduced speeds or diverting through traffic<br>• Only partially effective as a visual obstruction<br>• Unfriendly to cyclists unless designed to accommodate them<br>• Conflict between opposing drivers arriving simultaneously could create problems |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $10,000 to $25,000 per location | No Effect |

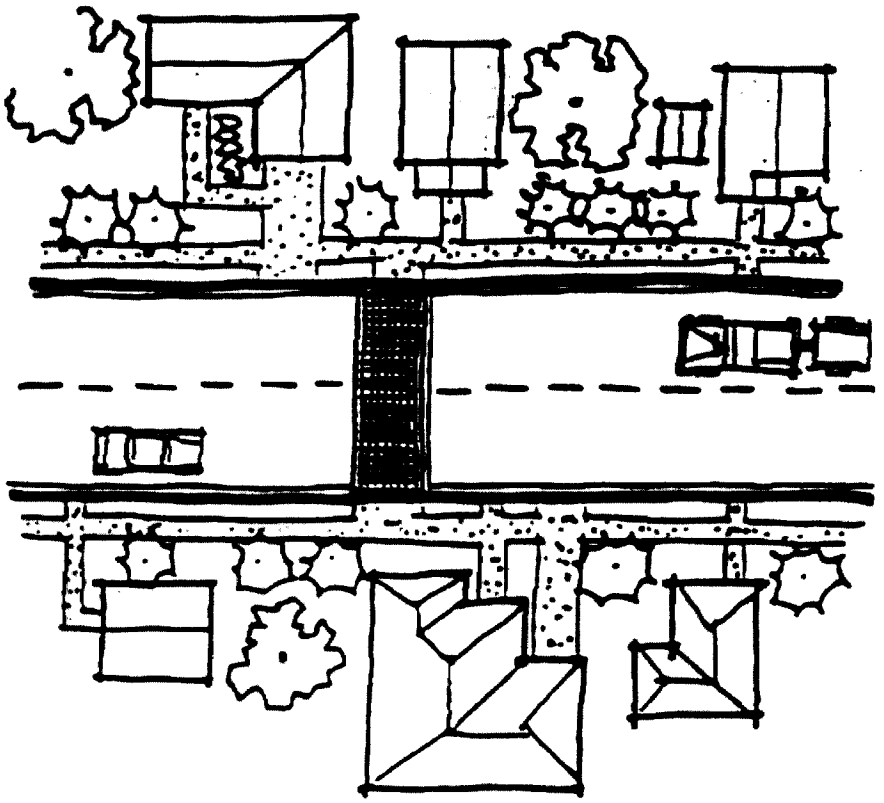
# TEXTURED PAVEMENT/LANDSCAPING



| Advantages | Disadvantages |
|---|---|
| • Can be used to make drivers aware of speed<br>• Improve aesthetics and gives neighborhood an opportunity to be creative with their response to traffic concerns<br>• Alerts drivers to change in conditions | • High maintenance responsibility. This can be eliminated if the community is responsible for maintaining the landscaping |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Possible | No | No Change | No Effect | $12,000 to $50,000 per location | No Effect |

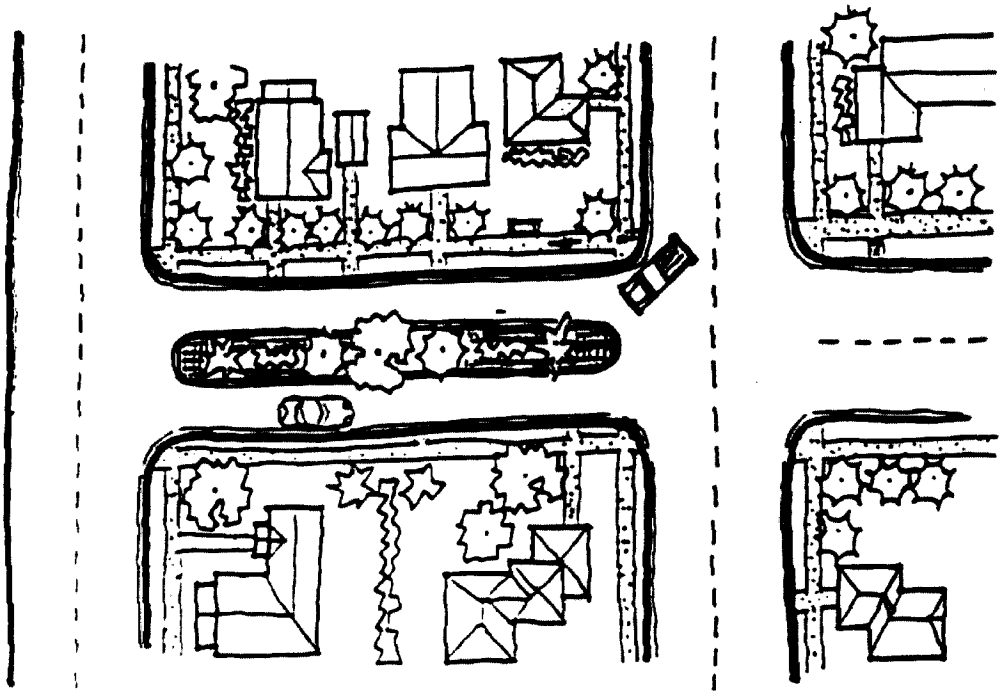
# TEXTURED PAVEMENT / LANDSCAPING – RAISED WALKWAY/MID BLOCK



| Advantages | Disadvantages |
|---|---|
| • May be aesthetically pleasing<br>• May be used to define pedestrian crossing | • Increased maintenance |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Possible | No Effect | No Change | No Effect | $3,000 to $12,000 per location | Possible Problems |

# MEDIAN ISLAND / CHANNELIZATION – MID BLOCK

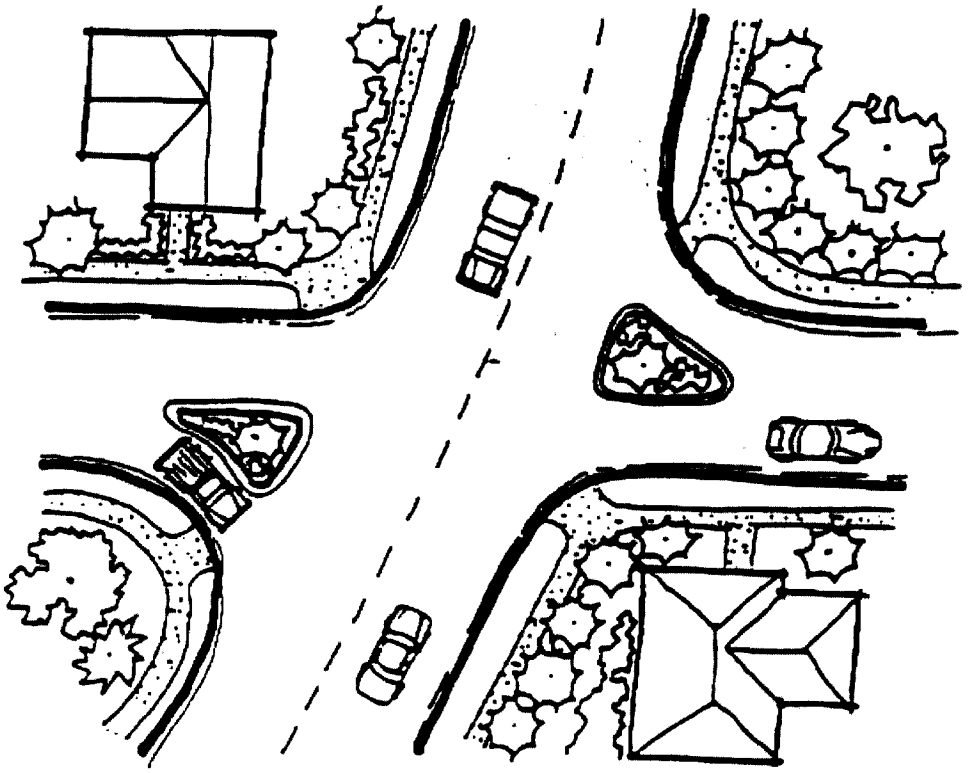


| Advantages | Disadvantages |
|---|---|
| • Provides a refuge for pedestrians and cyclists crossing the street<br>• May improve streetscape if landscaped<br>• Provides barrier between lanes of traffic<br>• May produce a limited reduction in vehicles speeds | • May reduce sight lines if over landscaped<br>• Increased maintenance |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvement | No | Possible | No Effect | No Effect | $7,500 to $30,000 per location | Response times may be increased |

# TYPE 2 – INTERSECTION TECHNIQUES

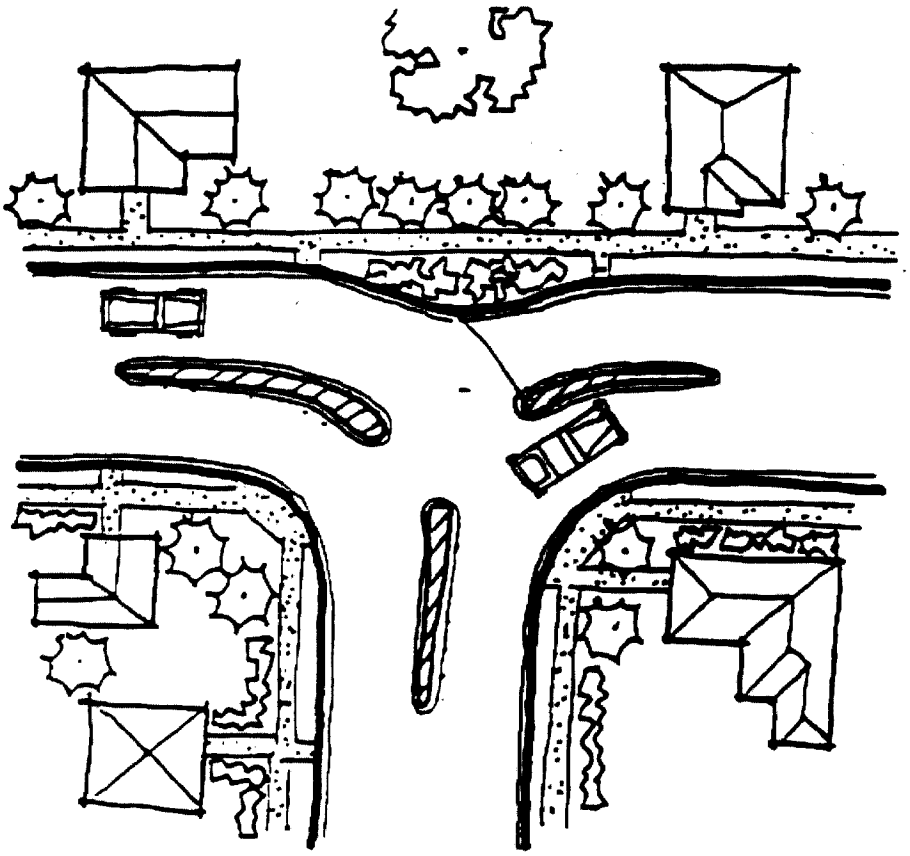
## MEDIAN ISLAND / CHANNELIZATION AT INTERSECTION



| Advantages | Disadvantages |
|---|---|
| • Reduces vehicle speed<br>• Reduces through traffic along top of tee<br>• Necessary to enforce changes in priority from one street to another<br>• May reduce traffic volumes<br>• May provide space for landscaping | • Can cause confusion regarding priority movements<br>• Increased maintenance if landscaped |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $7,500 to $25,000 per location | No Effect |

# MEDIAN ISLAND / CHANNELIZATION T-INTERSECTION

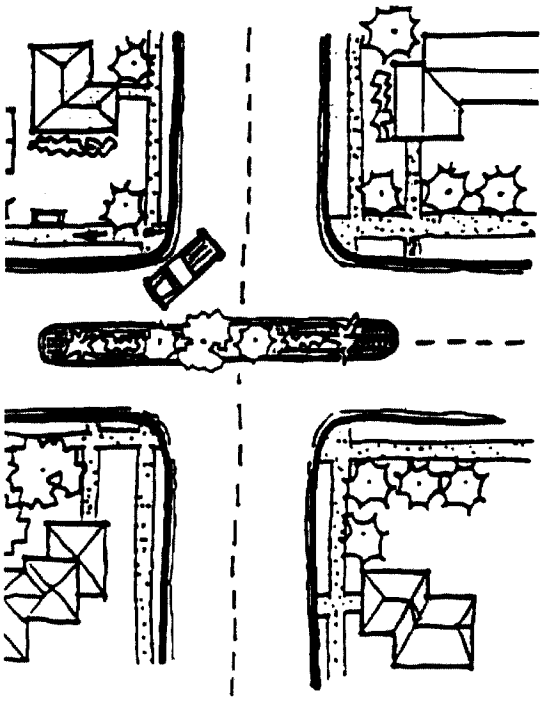


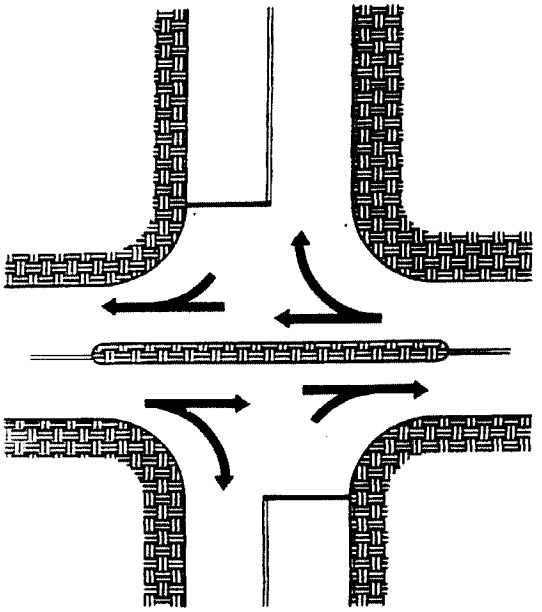
| Advantages | Disadvantages |
|---|---|
| • Changes driving patterns<br>• May reduce cut-through traffic<br>• May be attractive if landscaped | • May increase trip length for some drivers<br>• Can be aesthetically unattractive if not landscaped<br>• May increase response times for emergency vehicles<br>• Maintenance responsibility if landscaped |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Possible Improvements | Possible | Yes | Small Increase | Small Increase | $7,500 to $25,000 per location | Response times may be increased |

# MEDIAN ISLAND / CHANNELIZATION ACROSS INTERSECTION



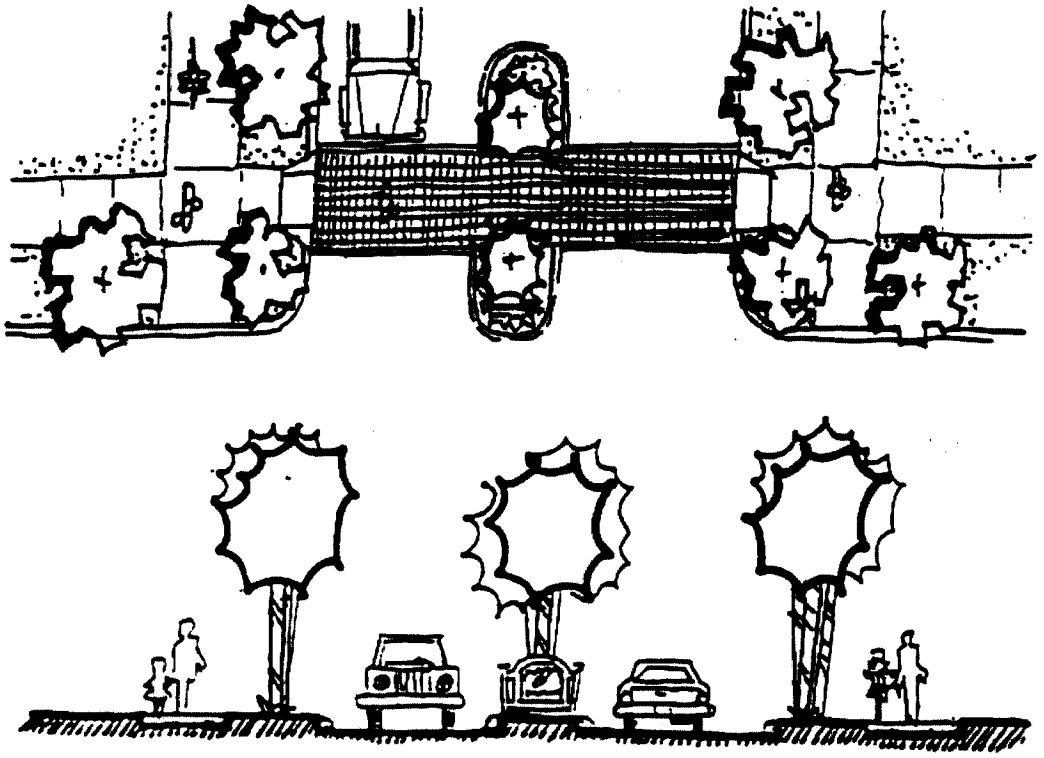


| Advantages | Disadvantages |
|---|---|
| • Provides a refuge for pedestrians and cyclists<br>• May improve streetscape if landscaped<br>• Provides barrier between lanes of traffic<br>• May reduce traffic volumes<br>• May produce a limited reduction in vehicle speed | • May reduce sight lines if over landscaped<br>• Increased maintenance |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Possible Improvements | No | Possible | No Effect | No Effect | $7,500 to $30,000 per location | Response times may be increased |

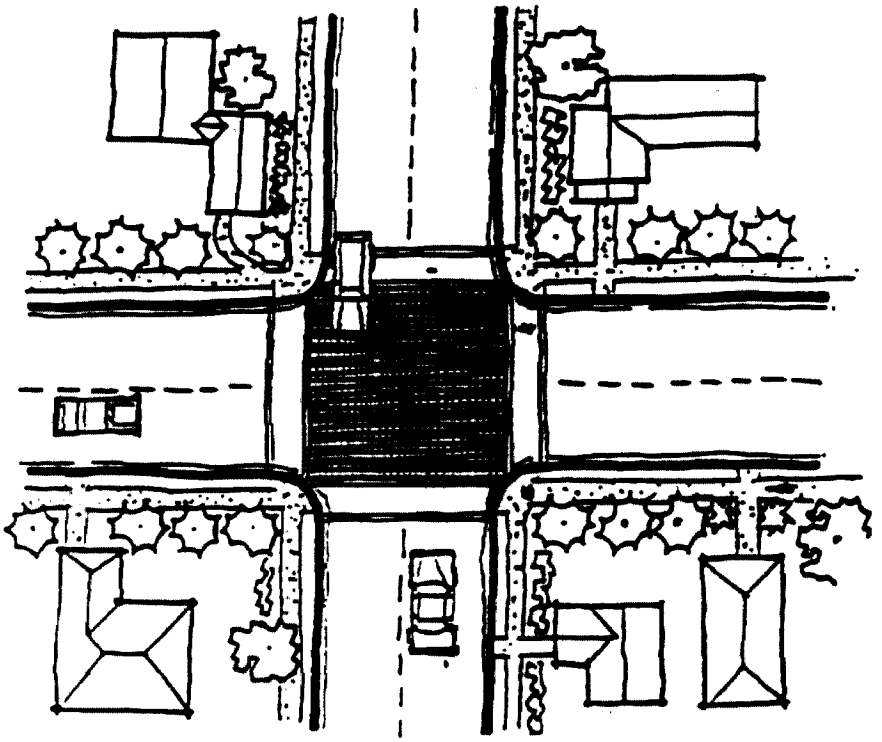
# TEXTURED PAVEMENT/LANDSCAPING ENTRY TREATMENT



| Advantages | Disadvantages |
|---|---|
| • Positive indication of a change in environment from arterial road to residential street<br>• Reduces entry speed<br>• Reduces pedestrian crossing distances<br>• On very wide streets provides space for landscaping the median<br>• Helps give neighborhood a sense of identity<br>• Allows neighborhood creativity and participation in design | • Maintenance responsibility |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Unlikely | Mixed Results | No Change | No Effect | $5,000 to $20,000 per location | Response times may be increased |

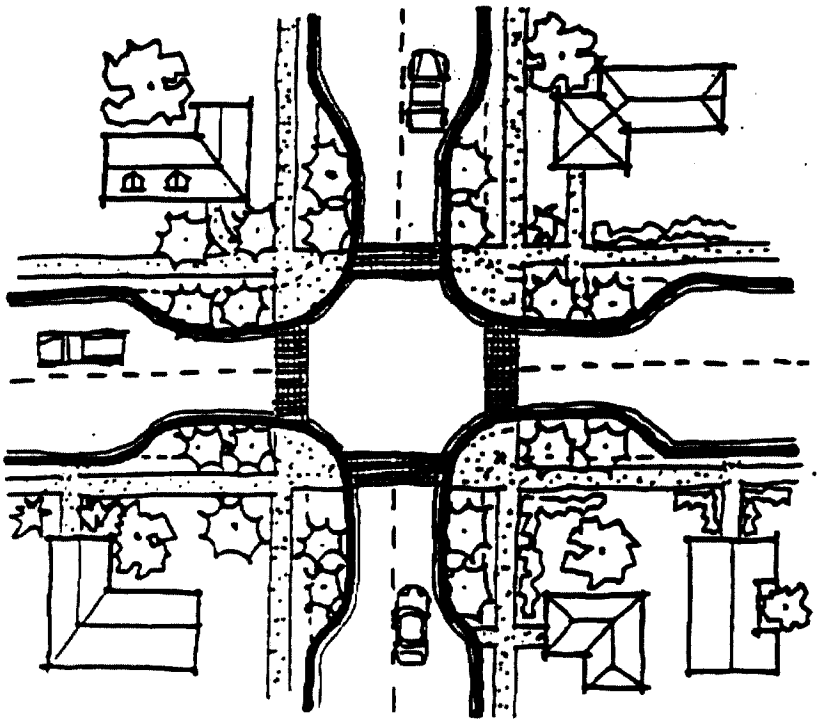
# TEXTURED PAVEMENT / LANDSCAPING RAISED INTERSECTION/SPEED TABLE

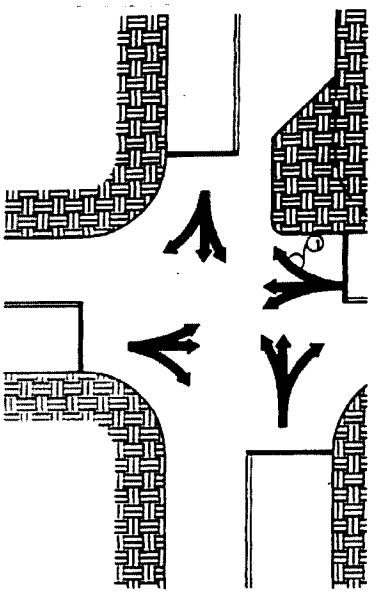


| Advantages | Disadvantages |
|---|---|
| • Slows vehicle in the most critical area and therefore helps to make conflict avoidance easier<br>• Highlights intersection<br>• Excellent pedestrian safety treatment<br>• Aesthetically pleasing if well designed<br>• Effective speed reduction, better for emergency vehicles than speed humps or tables | • Increases difficulty of making a turn<br>• Increased maintenance<br>• Requires adequate signage and driver education |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible | Yes | Possible | Small Increase | Small Increase | $25,000 to $75,000 per location | Response times may be increased |

# CHOKERS, CURB EXTENSIONS, OR BULBOUTS – INTERSECTION

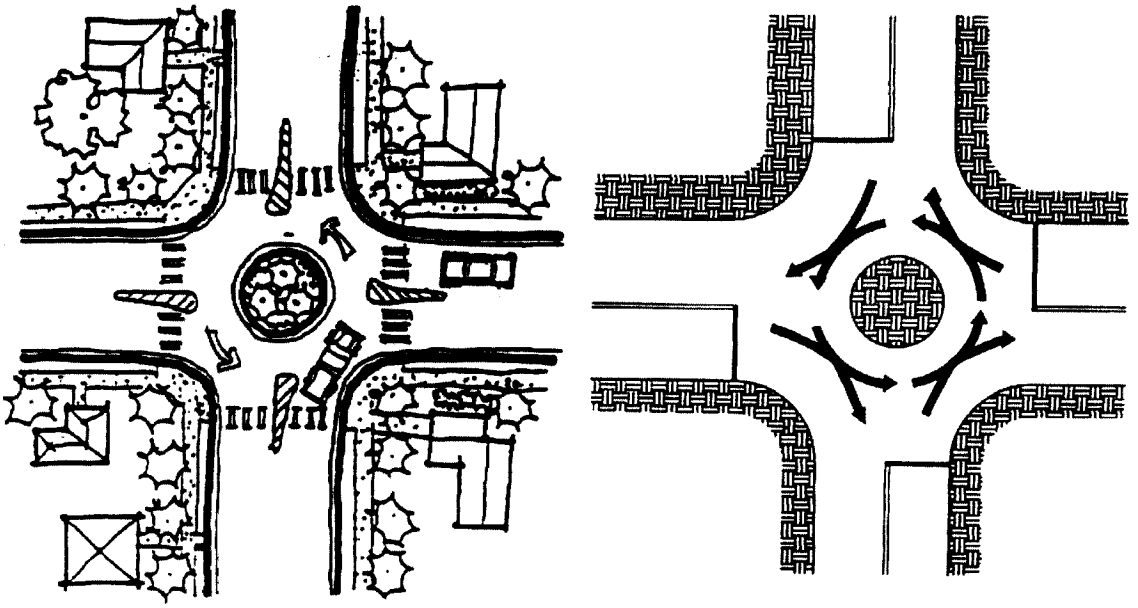




| Advantages | Disadvantages |
|---|---|
| • May be aesthetically pleasing if landscaped<br>• Good for pedestrians due to shorter crossing distance<br>• Can be used in multiple applications or on a single segment of roadway | • Unfriendly to cyclists unless designed to accommodate them<br>• Landscaping may cause sight line problems<br>• Increased maintenance if landscaped |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Possible | Small Increase | Small Increase | $40,000 to $60,000 per intersection | Response times may be increased |

# TRAFFIC CIRCLE



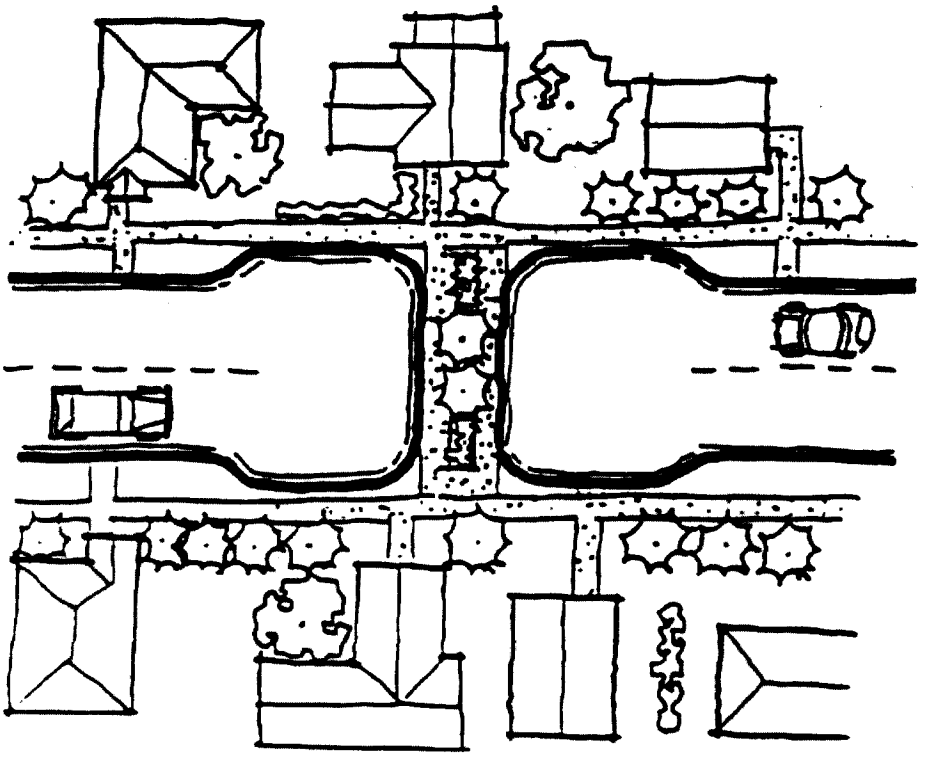
| Advantages | Disadvantages |
|---|---|
| • May reduce crashes by 50 to 90 percent when compared to 2-way, 4-way stop signs, and traffic signals by reducing the number of conflict points at intersections<br>• Reduces speed at intersection approach<br>• Longer speed reduction influence zones<br>• Provides space for landscaping<br>• Cheaper to maintain than a traffic signal<br>• Effective at multi-leg intersections<br>• Provides equal access to intersections for all drivers<br>• Does not restrict movements, but makes them more difficult | • May be restrictive for larger vehicles if designed to a low speed. Providing a mountable apron minimizes limitation<br>• May require additional lighting and signage<br>• If left turns by large vehicles are to be accommodated then right-of-way may have to be purchased<br>• Initial safety issues as drivers adjust<br>• Maintenance responsibility if landscaped |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Slightly improved | Yes at Intersection | Possible | No Effect | No Change | $6,000 to $22,000 per location | Response times may be increased |

# TYPE 3 – CLOSURES/RESTRICTION TECHNIQUES

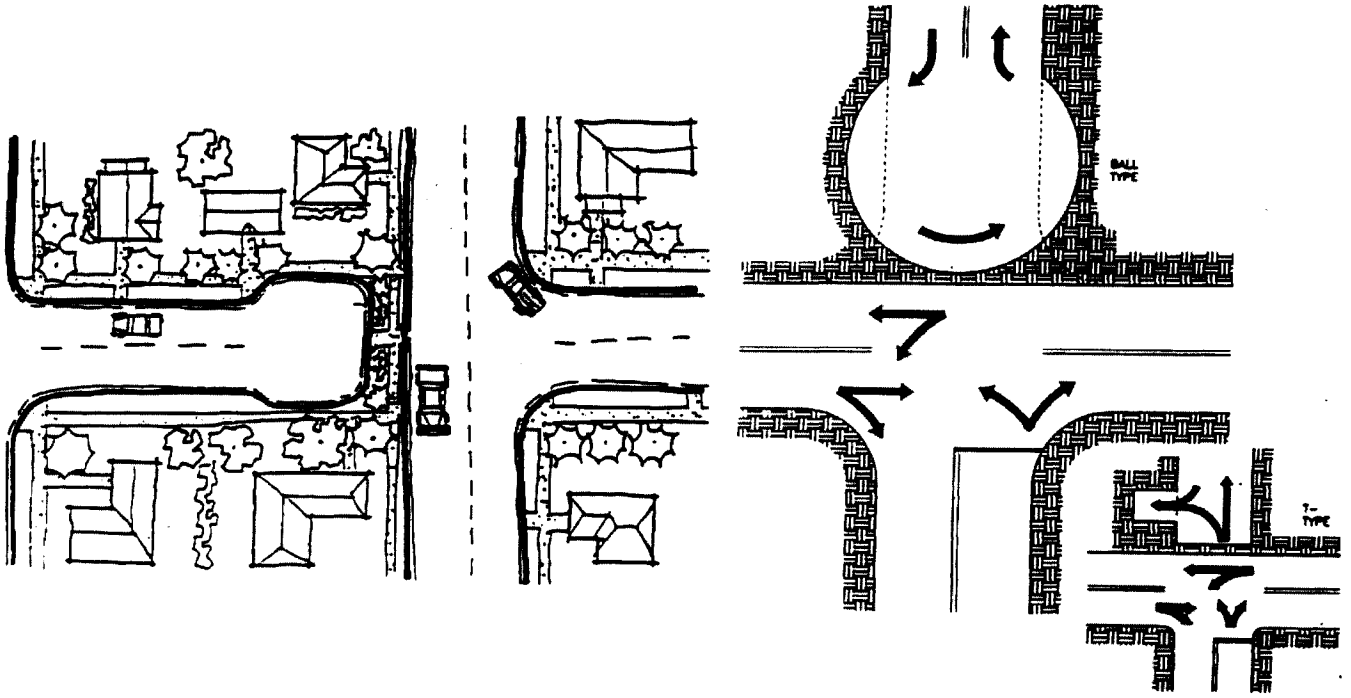
## CUL-DE-SAC – MID BLOCK



| Advantages | Disadvantages |
|---|---|
| • Eliminates through traffic<br>• Reduces speed of the remaining vehicles<br>• Improves safety for all the street users<br>• Pedestrian and bicyclist access maintained | • Reduces emergency vehicle access<br>• Reduces access to properties for residents<br>• May be perceived as inconvenient by some neighbors and unwarranted restriction by the general public<br>• May increase trip lengths<br>• May increase volumes on other streets |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Yes | Slight Increase | No Effect | $10,000 to $40,000 per location | Response times may be increased |

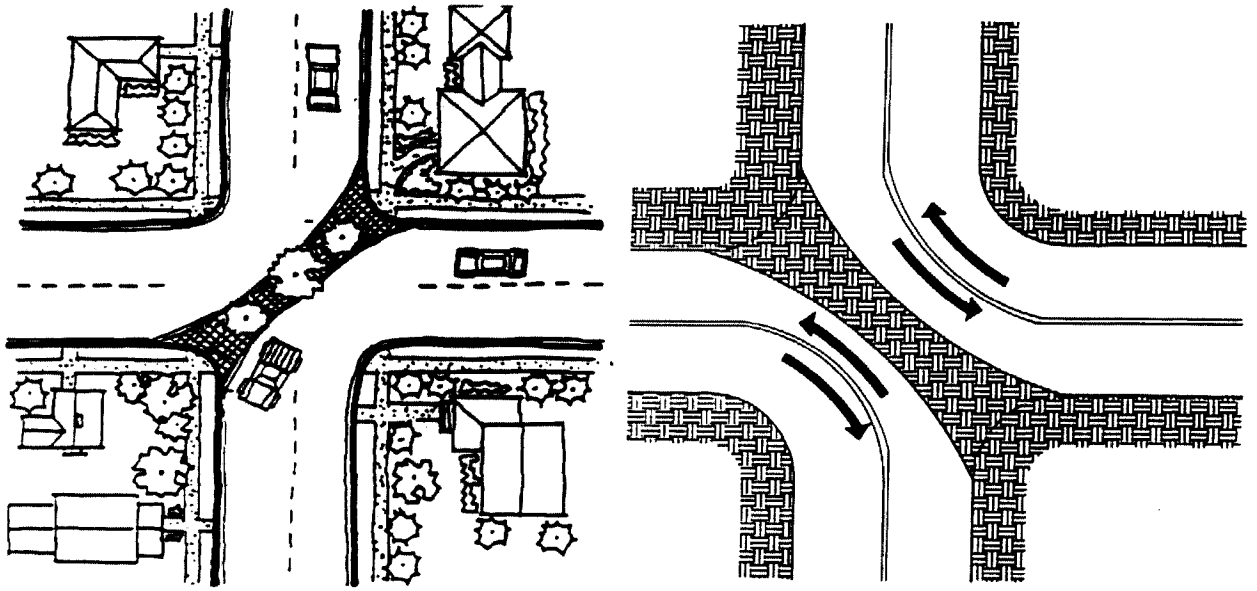
# CUL-DE-SAC/BARRICADE – INTERSECTION



| Advantages | Disadvantages |
|---|---|
| • Eliminates through traffic<br>• Reduces speed of the remaining vehicles<br>• Improves safety for all the street users<br>• Pedestrian and bicyclist access maintained | • Reduces emergency vehicle access<br>• Reduces access to properties for residents<br>• May be perceived as inconvenient by some neighbors and unwarranted restriction by the general public<br>• May increase trip lengths<br>• May increase volumes on other streets |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Yes | Slight Increase | No Effect | $10,000 to $60,000 per location | Response times may be increased |

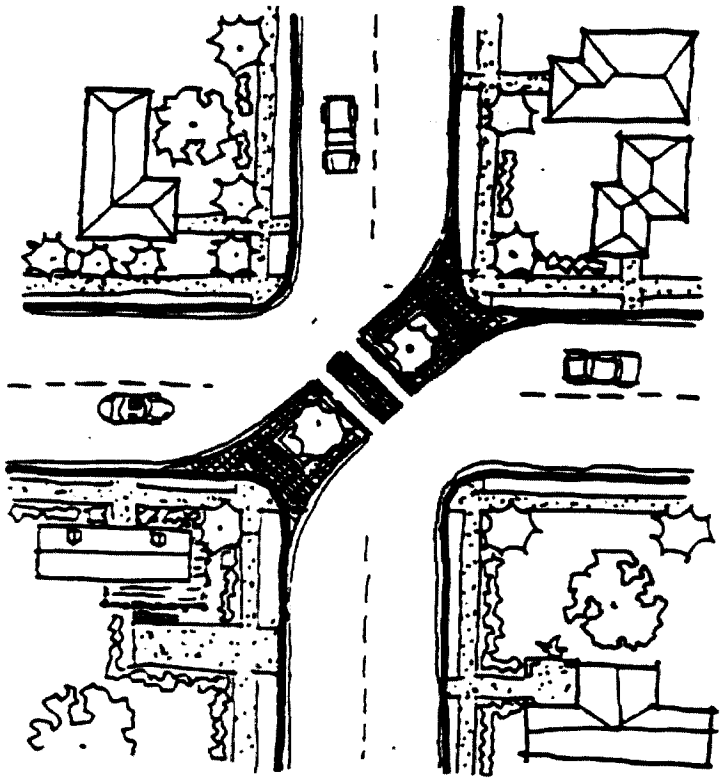
# DIAGONAL DIVERTER



| Advantages | Disadvantages |
|---|---|
| • Eliminates through traffic<br>• Provides area for landscaping<br>• Reduces traffic conflict points<br>• Increases pedestrian safety<br>• Can include bicycle path connection | • May inconvenience residents gaining access to their properties<br>• May inhibit access by emergency vehicles<br>• May divert through traffic to other local streets<br>• Altered traffic patterns may increase trip length |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Possible Improvements | Yes | Yes | Slight Increase | Small Increase | $10,000 to $60,000 per location | Response times may be increased |

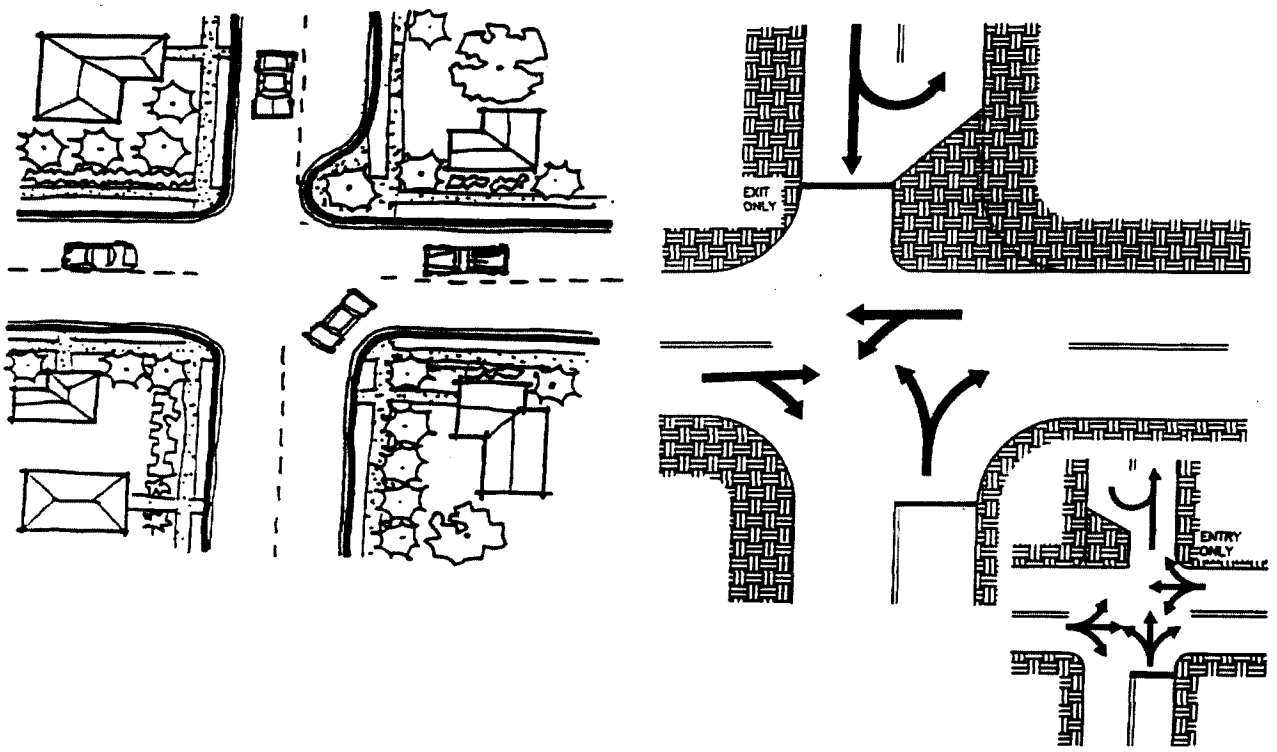
# DIAGONAL DIVERTER – EMERGENCY ACCESS



| Advantages | Disadvantages |
|---|---|
| • Reduces or eliminates cut through traffic | • May inconvenience residents gaining access to their properties<br>• Depending on design may be subject to violation by unauthorized vehicles<br>• Altered traffic patterns may increase trip length |

| Evaluation Considerations | | | | | | |
|---|---|---|---|---|---|---|
| **Safety** | **Speed Reduction** | **Traffic Reduction** | **Fuel Consumption** | **Pollution** | **Estimated Cost** | **Emergency Services** |
| Improvements | Yes | Yes | Slight Increase | Small Increase | $10,000 to $60,000 per location | Response times may be increased |

# SEMI-DIVERTER

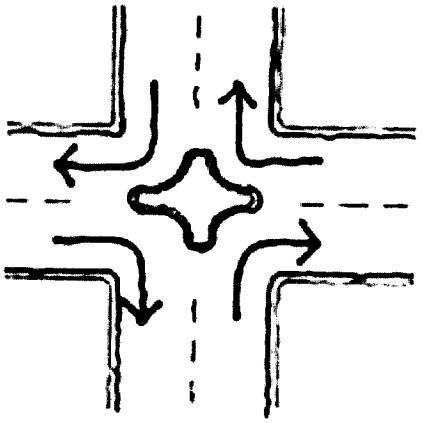



| Advantages | Disadvantages |
|---|---|
| • Reduces through traffic in one direction and possibly in the other<br>• Allows two-way traffic in the remainder of the street<br>• Good for pedestrians due to shorter crossing distance<br>• Provides space for landscaping<br>• Can be designed to provide two-way access for bicycles | • Reduces access for residents<br>• Emergency vehicles are only partially affected as they have to drive around partial closure with care<br>• Compliance with semi-diverters is not 100%<br>• May increase trip length for some residents<br>• Maintenance responsibility if landscaped |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Improved Pedestrian Crossing | Possible | Yes | Small Increase | Small Increase | $5,000 to $25,000 per location | Response times may be increased |

# STAR-DIVERTER



| Advantages | Disadvantages |
|---|---|
| • Reduces through traffic in one direction and possibly in the other<br>• Allows two-way traffic in the remainder of the street<br>• Good for pedestrians due to shorter crossing distance<br>• Provides space for landscaping<br>• Can be designed to provide two-way access for bicycles | • Reduces access for residents<br>• Emergency vehicles are only partially affected as they have to drive around partial closure with care<br>• Compliance with semi-diverters is not 100%<br>• May increase trip length for some residents<br>• Maintenance responsibility if landscaped |

## Evaluation Considerations

| Safety | Speed Reduction | Traffic Reduction | Fuel Consumption | Pollution | Estimated Cost | Emergency Services |
|---|---|---|---|---|---|---|
| Improved Pedestrian Crossing | Possible | Yes | Small Increase | Small Increase | $5,000 to $25,000 per location | Response times may be increased |

# APPENDIX 2 – NTMP PROJECT APPLICATION FORM

## Form A

Contact Name _____ Day Phone _____

Neighborhood _____ Date _____

Local Address _____

Which neighborhood street(s) are of concern? _____

_____

What traffic problems have you identified affecting the above? _____

_____

_____

_____

_____

How many property owners/residents did you and NTMP staff identify in your petition area? _____

Have you received the minimum of one resident's signature from at least 65% of properties on your petition form?

☐ Yes ☐ No

What signature percentage have you received? _____%

Please return the completed application form along with the signed petition forms within 90 calendar days to:

LFUCG Division of Traffic Engineering
Neighborhood Traffic Management Program
101 E. Vine Street, Suite 300
Lexington KY 40507

**For Office Use Only**

**Project Number** _____ **Date Application Received** _____

**Date Preliminary Analysis Completed** _____

**Identified Problems** ☐ **existing** ☐ **perceived**

**Date of first neighborhood workshop** _____ **Traffic team yes** ☐ **no** ☐

**Date of project presentation to neighborhood** _____ **Consensus reached yes** ☐ **no** ☐

**Date of project presentation to Council** _____

**Council Action** ☐ **favorable** ☐ **unfavorable**

**Date of project implementation** _____

**Project review date** _____ **Project successful yes** ☐ **no** ☐

# APPENDIX 3 – NTMP PETITION FORM

## Form B

We, the undersigned, as residents of the _____ neighborhood, hereby request the evaluation of the traffic problems on _____ _____ street(s), the problem being identified as _____ _____.

We petition the LFUCG to begin the development of a Neighborhood Traffic Management project.

We understand that the LFUCG will, upon receipt of a petition that demonstrates the support of residents from 65% of the properties listed, analyze relevant conditions to determine the impact of the proposed action. The LFUCG must reserve the right to overrule the petition if there are extenuating circumstances detrimental to public safety, traffic operations, and/or neighborhood interests.

Please list all addresses in the petition area. One signature per property parcel.

| DATE | NAME (PLEASE PRINT) | ADDRESS | SIGNATURE |
|---|---|---|---|
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