

Part 3: TRAFFIC CALMING DEVICES: Inventory of Available Tools and Recommendations

The following pages set out an inventory of traffic control devices, a description of how they function, their impact on speed and volume, how they contribute to or detract from the quality of life, the places they can be deployed, their impact on emergency services, and relative expense to install and maintain.

The Task Force recommends that all the devices be carried in the inventory of tools available to implement the Leesburg Residential Traffic Management Plan presented in this report.

Traffic Calming Devices

Device Name

Smart Trailer (sometimes called "Silent Policeman")

Device Description

Radar measured traffic speeds displayed to drivers from an unmanned device

Typical Impact Traffic Speed

slows speed while trailer is in use

Typical Impact Traffic Volume

none

"Quality Of Life" Assessment of Device

Provides only a short term improvement in speeds

Standard Location and Implementation

Arterials, Collectors and Local streets

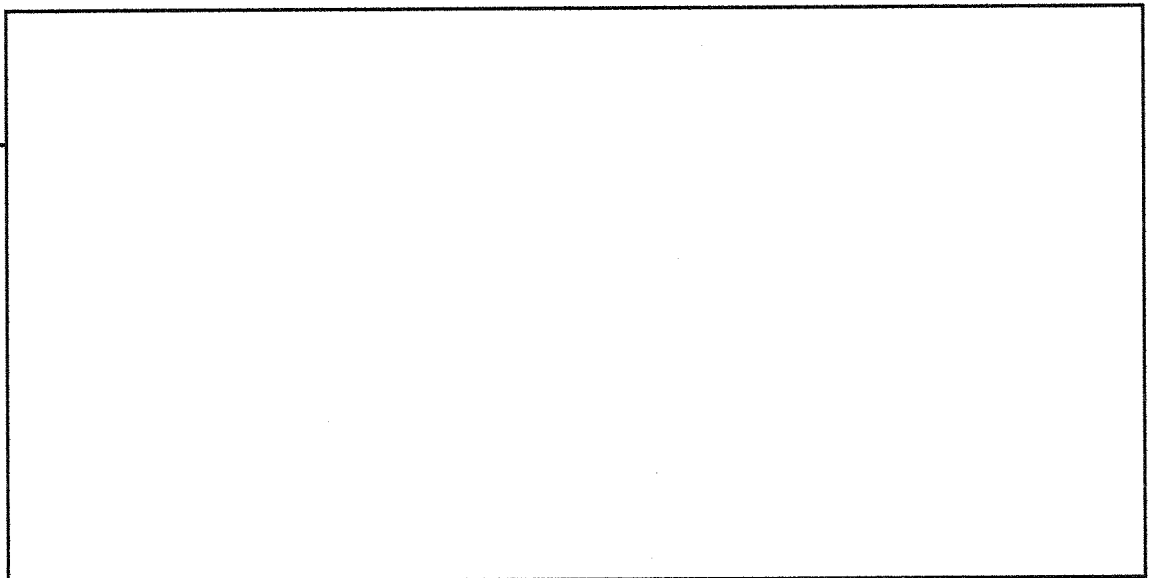
Emergency and Service Vehicle Impact

none

Device Expense and Maintenance

initial investment high, maintenance low, but manpower for deployment high

Illustration



Traffic Calming Devices

Device Name

Stricter Police Enforcement

Device Description

Strong speed limit enforcement.

**Typical Impact
Traffic Speed**

Reduces speed

**Typical Impact
Traffic Volume**

none

**“Quality Of Life”
Assessment of Device**

Combats speeding , but must be periodically implemented to be effective in the long term

**Standard Location
and Implementation**

Arterials, Collectors and Local streets

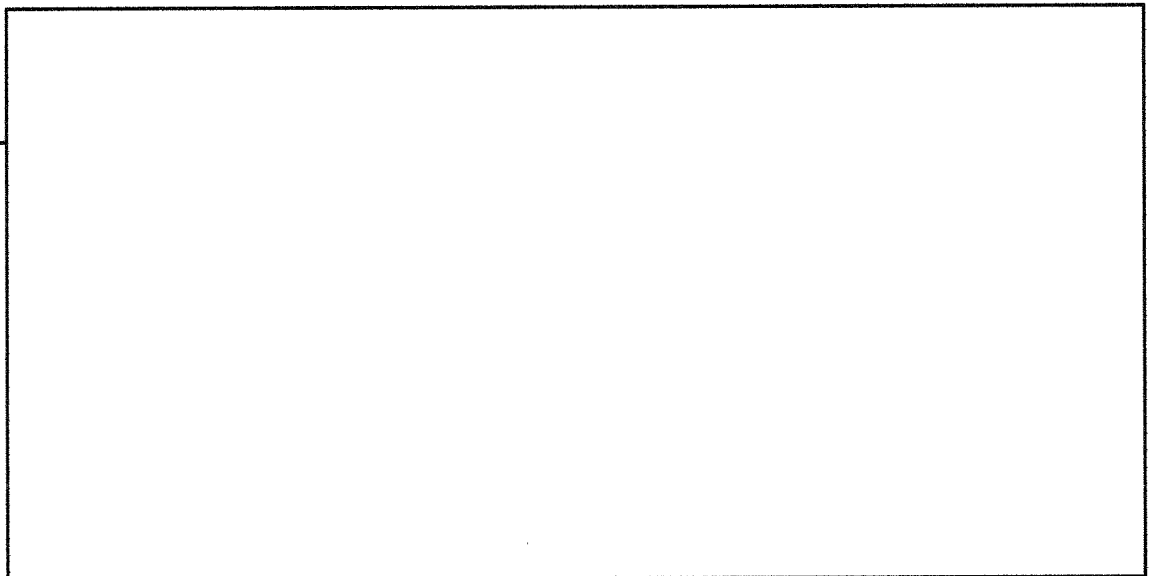
**Emergency and Service
Vehicle Impact**

none

**Device Expense
and Maintenance**

Manpower for deployment is high

Illustration



Traffic Calming Devices

Device Name

Reduced Speed Limits

Device Description

Reduction in the speed limit on a targeted section of a street

Typical Impact Traffic Speed

slows traffic

Typical Impact Traffic Volume

possibly reduces traffic volume

"Quality Of Life" Assessment of Device

Slower speed limits begin to move the overall speed of vehicles down producing a better QOL, including enhanced safety. This, along with the low cost of implementing slower speed limits, fits well with the goals set forth by the committee.

Standard Location and Implementation

Arterials, Collectors and Local streets

Emergency and Service Vehicle Impact

little effect

Device Expense and Maintenance

low initial cost and low maintenance

Illustration



Traffic Calming Devices

Device Name

Stop Signs

Device Description

Additional stop signs, such as 4-way-stop intersections

Typical Impact
Traffic Speed

Speed reduced in area of sign, over all speed reduction is less

Typical Impact
Traffic Volume

Reduction in volume

“Quality Of Life”
Assessment of Device

These devices affect traffic the most in the immediate vicinity of the signs. Overall speed reduction in a neighborhood is questionable. Safety at the intersection, however, can be greatly increased and be an overriding factor for installing the signs.

Standard Location
and Implementation

On minor Collectors and Local streets

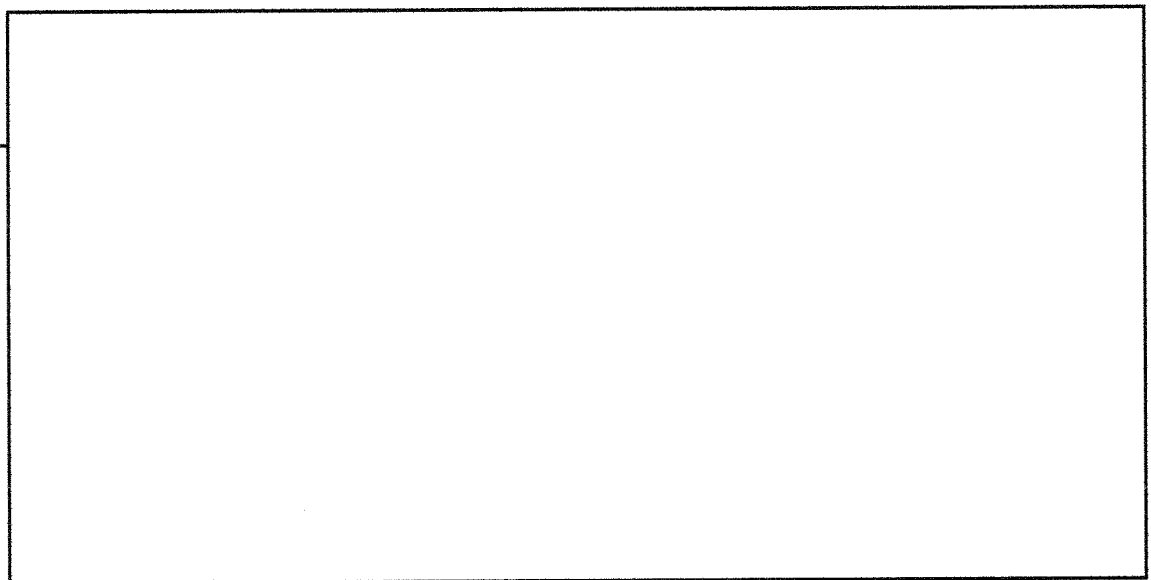
Emergency and Service
Vehicle Impact

Can slow emergency vehicles

Device Expense
and Maintenance

Low cost of installation and maintenance

Illustration



Leesburg Traffic Task Force
Traffic Calming Devices

Device Name — **Speed Hump**

Device Description — Curved 3 to 4 inch high, 12 feet long asphalt hump covering all lanes along the roadway.

Typical Impact Traffic Speed — slows speed

Typical Impact Traffic Volume — Possibly reduces volume of traffic

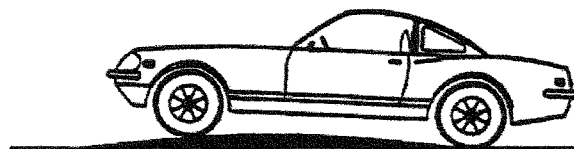
“Quality Of Life” Assessment of Device — Although effective, these devices are not attractive. Also, as vehicles pass over the hump, a great deal of noise can be produced. These devices “advertise” that there is a traffic problem in a particular neighborhood; not something which enhances real estate values.

Standard Location and Implementation — Can be used on both arterial and local roadways

Emergency and Service Vehicle Impact — Slows emergency vehicles by small amounts

Device Expense and Maintenance — medium expense to install, but maintenance expense is high

Illustration



SPEED HUMP

Traffic Calming Devices

Device Name

Rumble Strips

Device Description

low bumps across road make noise when driven over

**Typical Impact
Traffic Speed**

Some reductions in speed

**Typical Impact
Traffic Volume**

None

**“Quality Of Life”
Assessment of Device**

The noise that vehicles make when passing over these strips makes them a poor choice for a residential street. This device is much more appropriate for use on arterials

**Standard Location
and Implementation**

More appropriate for arterials

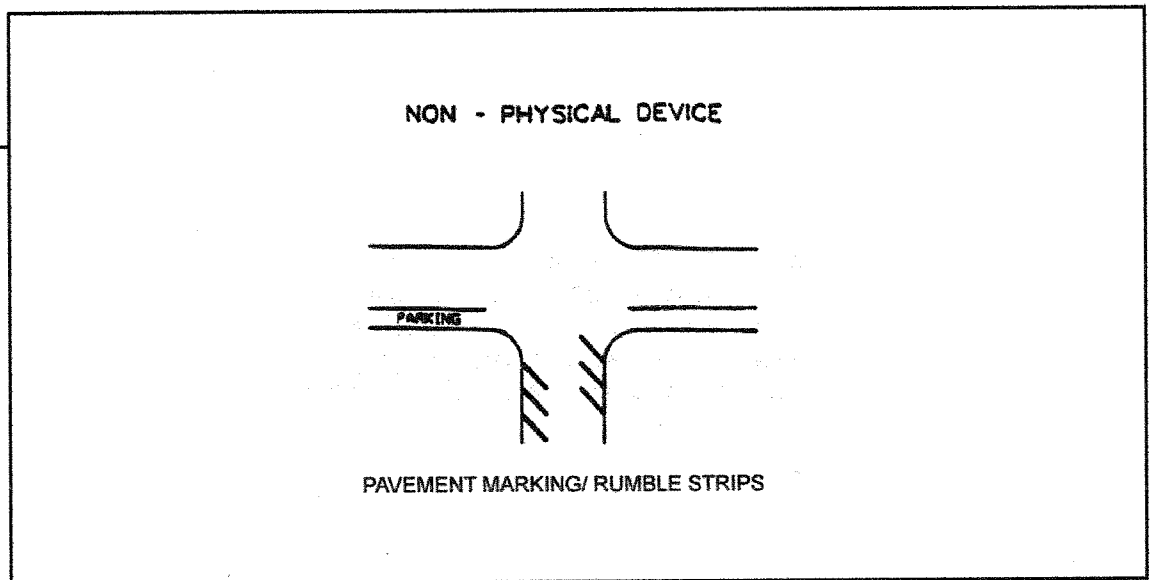
**Emergency and Service
Vehicle Impact**

None

**Device Expense
and Maintenance**

Low installation and maintenance

Illustration



Traffic Calming Devices

Device Name

Bike Lanes and Bike Routes

Device Description

Designated routes or marked lanes for bicycles.

Typical Impact
Traffic Speed

Possible reduction in speed

Typical Impact
Traffic Volume

None

“Quality Of Life”
Assessment of Device

These inexpensive devices promote safety and bike use which decreases the use of and dependence on cars thus reducing traffic volume.

Standard Location
and Implementation

Arterials, Collectors and Local streets

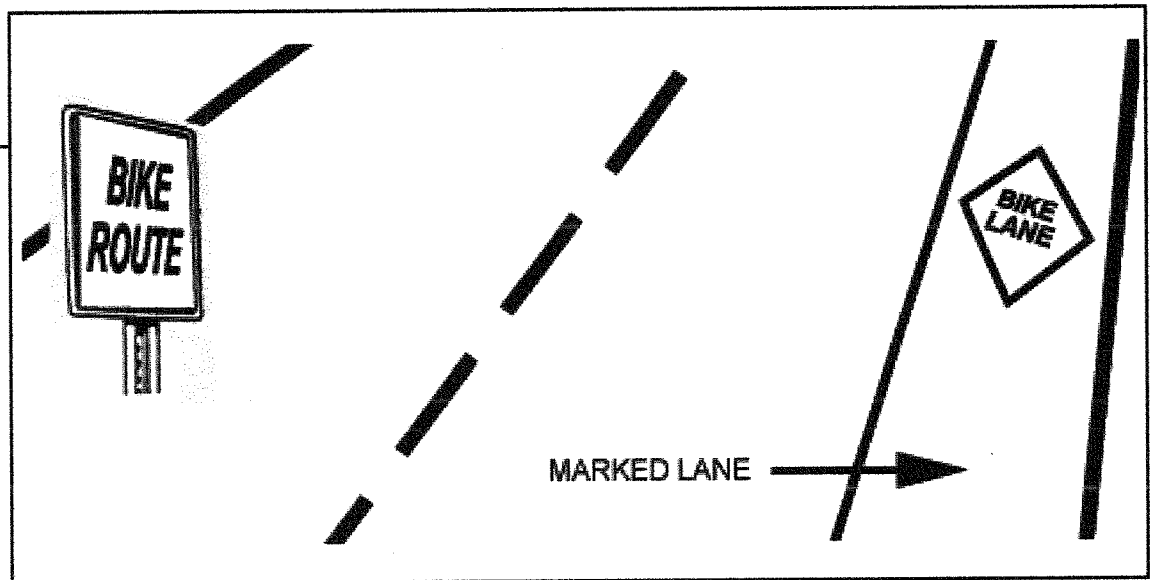
Emergency and Service
Vehicle Impact

None

Device Expense
and Maintenance

Low cost

Illustration



Traffic Calming Devices

Device Name

On Street Parking

Device Description

Permitting parking on one or two sides of a residential street in order to "narrow" the feel of the street.

Typical Impact Traffic Speed

Slows speed

Typical Impact Traffic Volume

Possible reduction in volume

"Quality Of Life" Assessment of Device

Slower speeds and less traffic can improve the quality of life of the neighborhood.

Standard Location and Implementation

Minor Collectors and Local streets

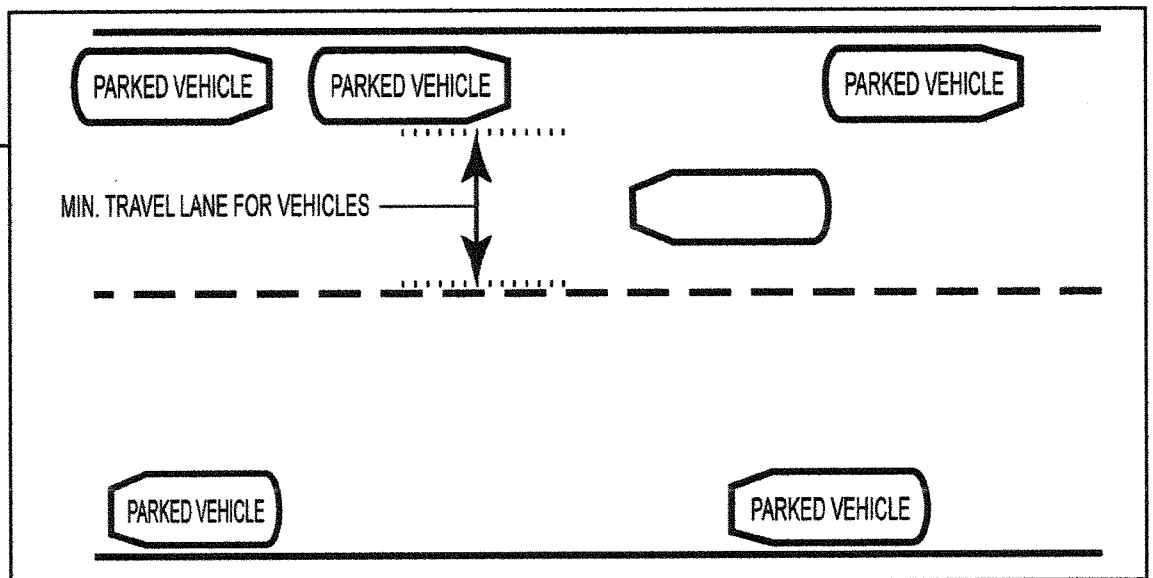
Emergency and Service Vehicle Impact

Minor impact

Device Expense and Maintenance

Low cost for implementation and maintenance

Illustration



Leesburg Traffic Task Force
Traffic Calming Devices

Device Name

Gateway Signage (for neighborhoods)

Device Description

Signs indicating to drivers that they are entering into a residential neighborhood

Typical Impact
Traffic Speed

Slows speed

Typical Impact
Traffic Volume

None

“Quality Of Life”
Assessment of Device

By slowing drivers and alerting them that they are in a neighborhood, the quality of life can be affected. Residents can feel safer to bike or walk along the streets.

Standard Location
and Implementation

Collectors and Local streets

Emergency and Service
Vehicle Impact

none

Device Expense
and Maintenance

low and low

Illustration



Traffic Calming Devices

Device Name

Landscaping or Streetscaping

Device Description

Plantings which serve to visually narrow the roadway and give drivers the sense that they are traveling through or into a residential area.

Typical Impact Traffic Speed

Slows traffic

Typical Impact Traffic Volume

Possible reduction in traffic volumes

"Quality Of Life" Assessment of Device

Helps with the transition from one commercial to residential and alerts drivers that they are in a slower speed limit area. Can also increase the value of the homes in the area.

Standard Location and Implementation

Arterials, Collectors and Local streets

Emergency and Service Vehicle Impact

None

Device Expense and Maintenance

Depends on amount of landscaping. Possible to 'partner' with private groups.

Illustration



Traffic Calming Devices

Device Name

Pavement Treatments

Device Description

Special pavement textures (cobble, bricks, etc.) and markings to designate special areas

Typical Impact
Traffic Speed

Reduces speed

Typical Impact
Traffic Volume

Not likely to reduce volume

“Quality Of Life”
Assessment of Device

These can be an attractive element in the streetscape and help to set the residential area apart from other sectors. Slowing speed enhances the quality of life. The noise generated by vehicles moving over the uneven surface, however, can have a negative impact on residents.

Standard Location
and Implementation

Arterials, Collectors and Local streets

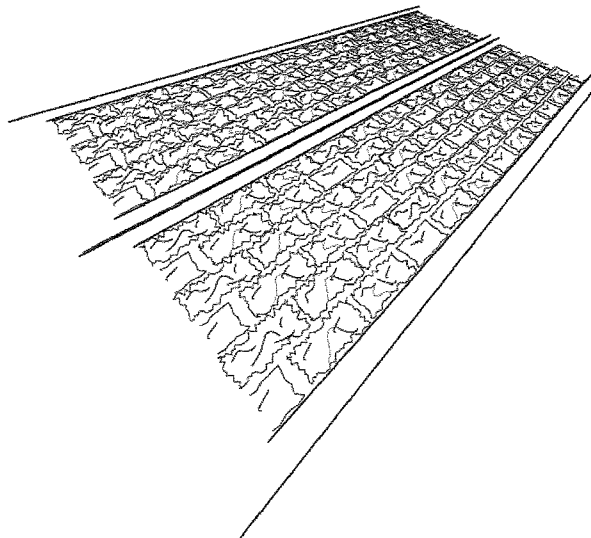
Emergency and Service
Vehicle Impact

Little impact on emergency vehicles

Device Expense
and Maintenance

Installation costs can be high; maintenance cost is medium

Illustration



Traffic Calming Devices

Device Name

Squared Off Corners at Intersections

Device Description

Instead of rounded or curved, corners are 90 degrees.

Typical Impact Traffic Speed

Slows speed

Typical Impact Traffic Volume

Little to none

"Quality Of Life" Assessment of Device

With slower traffic and shorter distances for people to cover in order to cross the street, pedestrian safety is increased. More people will use vehicles less and walk more when street conditions are molded to make pedestrian travel safe and convenient.

Standard Location and Implementation

Collectors and Local streets only

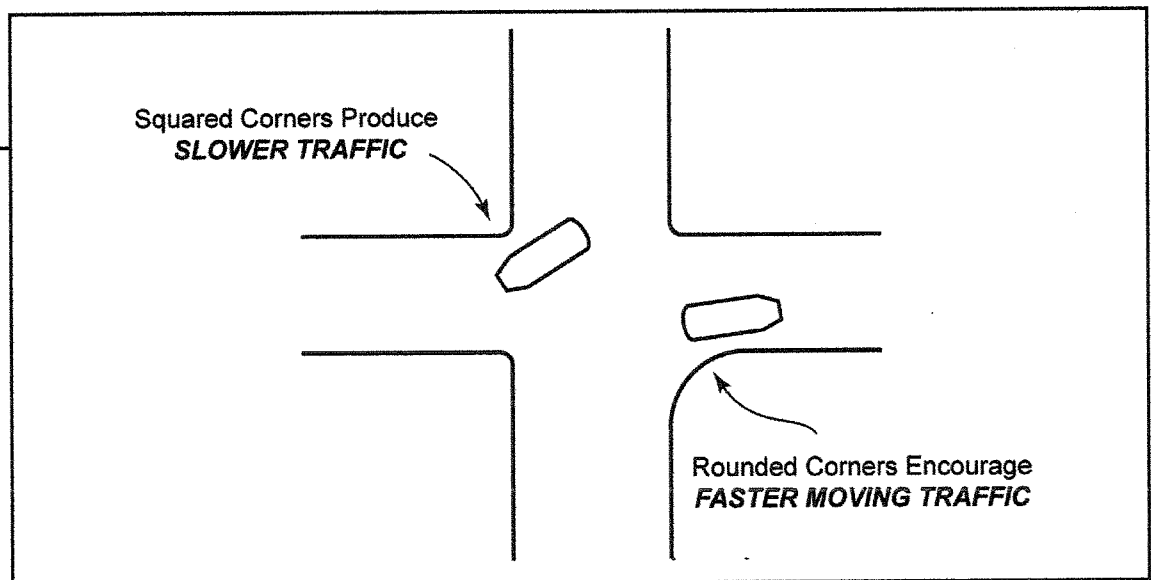
Emergency and Service Vehicle Impact

Minor impact

Device Expense and Maintenance

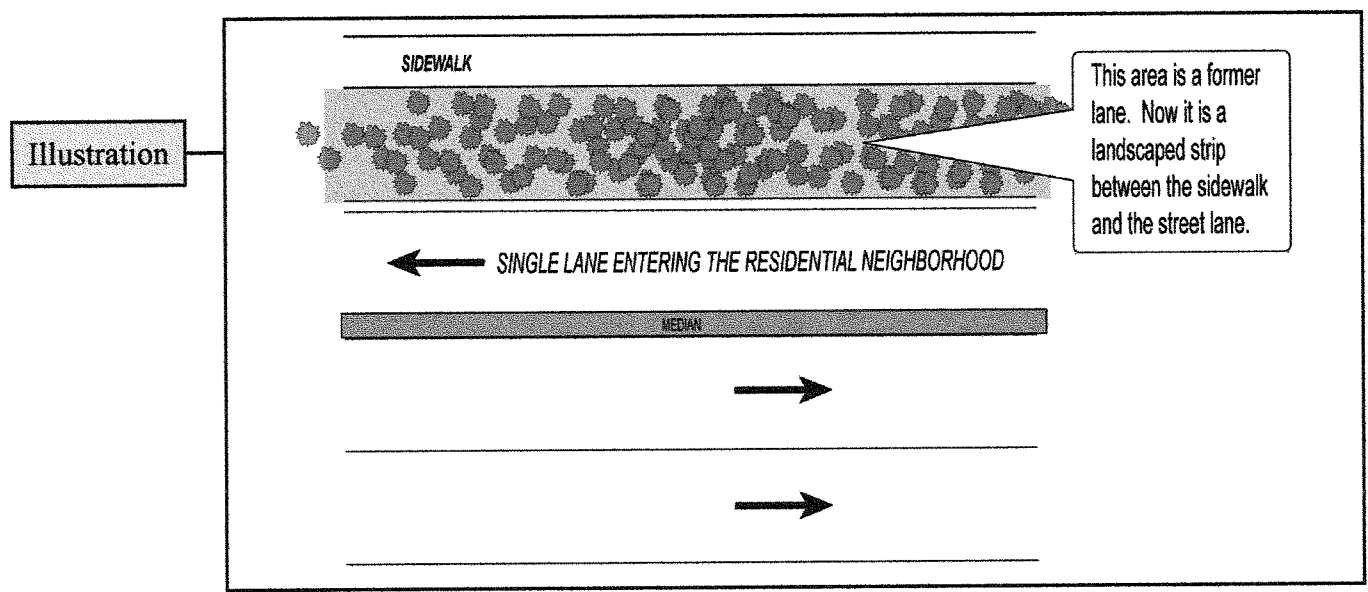
Low to moderate installation in new projects. Higher in existing projects.

Illustration



Traffic Calming Devices

Device Name	“Road Diets”
Device Description	Reducing the number of traffic lanes.
Typical Impact Traffic Speed	Slows traffic.
Typical Impact Traffic Volume	Reduces volume.
“Quality Of Life” Assessment of Device	By slowing traffic and reducing volume these devices increase the quality of life of a residential neighborhood.
Standard Location and Implementation	Arterials and Collector streets
Emergency and Service Vehicle Impact	
Device Expense and Maintenance	High installation expense; possible moderate to high maintenance.



Traffic Calming Devices

Device Name

Speed tables, raised crosswalks

Device Description

Ramped surface above roadway:
3 - 4 inches high
9 - 18 feet long

**Typical Impact
Traffic Speed**

Slows traffic

**Typical Impact
Traffic Volume**

Possible that this device reduces volume

**"Quality Of Life"
Assessment of Device**

Provides a safe crossing area for pedestrians and breaks down some obstacles which keeps them from feeling safe to walk.

**Standard Location
and Implementation**

Used WITH CAUTION on Arterials
Can be used on lower volume Collectors and Local streets

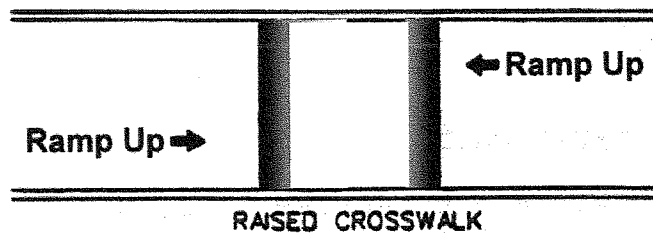
**Emergency and Service
Vehicle Impact**

Slows vehicles

**Device Expense
and Maintenance**

High cost of installation; moderate maintenance.

Illustration



Traffic Calming Devices

Device Name

Median Islands (sometimes called Cross Walk Refuges)

Device Description

Raised island in the road center which narrows lanes and provides a pedestrian with a safe place to stop

Typical Impact Traffic Speed

Slows traffic

Typical Impact Traffic Volume

Does not reduce volume

“Quality Of Life” Assessment of Device

Enhances safety for pedestrians and can be an amenity if landscaped well.

Standard Location and Implementation

Arterials, Collectors and Local streets

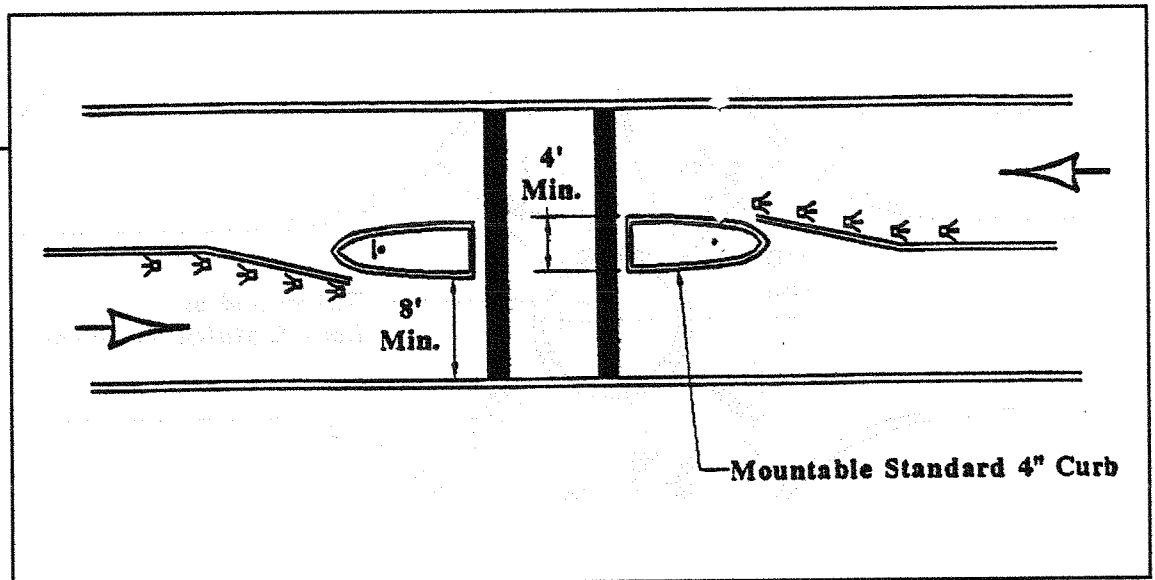
Emergency and Service Vehicle Impact

None

Device Expense and Maintenance

High cost of installation. Maintenance depends on landscaping, etc.

Illustration



Traffic Calming Devices

Device Name

Channelization Islands

Device Description

A raised island that forces traffic in a particular direction, (e.g., right-turn-only)

Typical Impact Traffic Speed

Reduces speed of vehicles.

Typical Impact Traffic Volume

None

"Quality Of Life" Assessment of Device

If traffic is slowed by the installation of the device, it will enhance safety and the quality of life of the area residents.

Standard Location and Implementation

Arterials, Collectors and Local streets

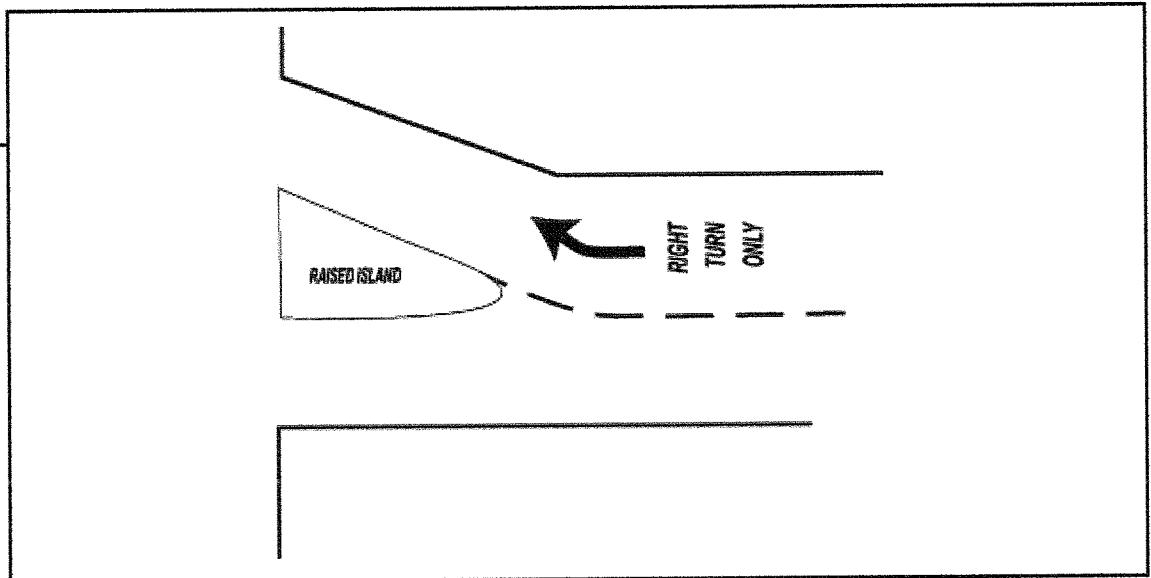
Emergency and Service Vehicle Impact

Can slow Emergency Vehicles

Device Expense and Maintenance

High initial installation costs; high maintenance

Illustration



Traffic Calming Devices

Device Name

Chokers (or "pinch points")

Device Description

Curb extensions, planters or centerline traffic islands that narrow traffic lanes.

Typical Impact Traffic Speed

slows traffic

Typical Impact Traffic Volume

Not likely to reduce volume

"Quality Of Life" Assessment of Device

Quality of life in a neighborhood can be enhanced with the slower traffic that these devices cause.

Standard Location and Implementation

Arterials, Collectors and Local streets

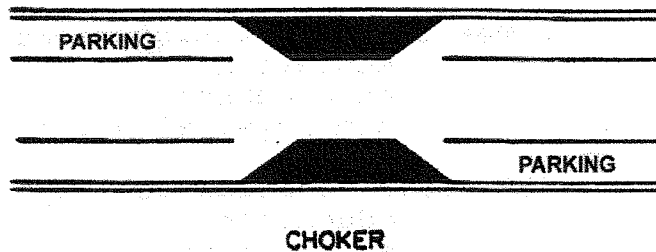
Emergency and Service Vehicle Impact

None

Device Expense and Maintenance

Moderate installation costs; moderate maintenance costs

Illustration



Traffic Calming Devices

Device Name

Chicanes

Device Description

Curb bulges or planters (usually 3) on alternating sides of the street. These force motorist to slow down.

Typical Impact Traffic Speed

Reduces speed

Typical Impact Traffic Volume

Possible reduction in volume

“Quality Of Life” Assessment of Device

Although this device slows vehicles, some degree of noise can be generated by vehicles traveling through the chicane.

Standard Location and Implementation

Local one-way streets only

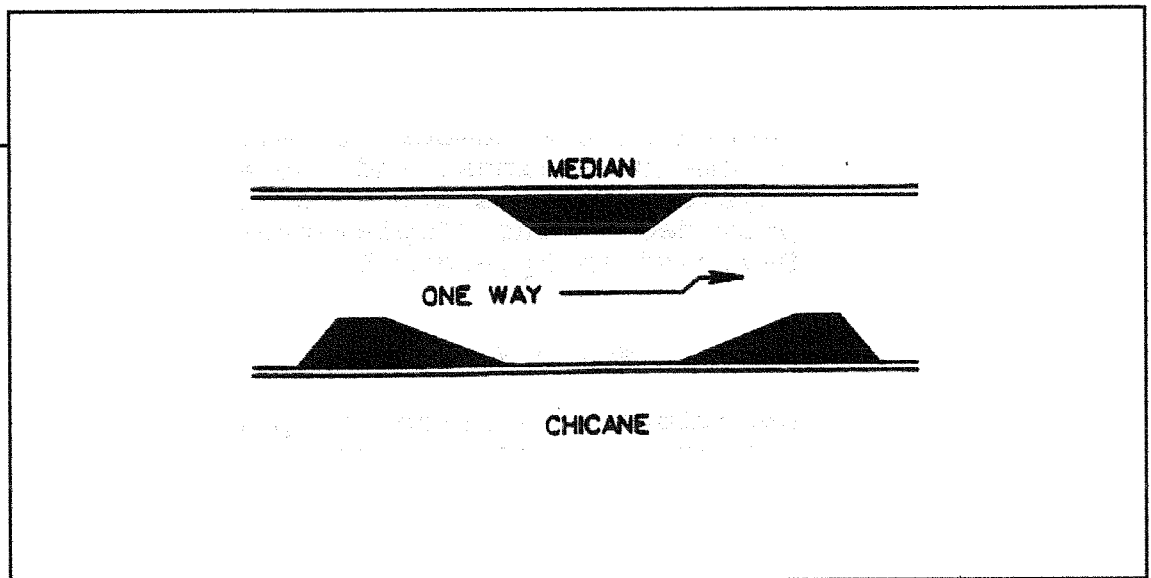
Emergency and Service Vehicle Impact

Slows emergency vehicles

Device Expense and Maintenance

Moderate to high installation expense.

Illustration



Traffic Calming Devices

Device Name

Mini-Circles at Intersections

Device Description

Small traffic circles at intersections

Typical Impact Traffic Speed

Slows traffic at the intersection and beyond

Typical Impact Traffic Volume

Possible reduction in volume

“Quality Of Life” Assessment of Device

By slowing traffic, these devices can enhance the quality of life in a residential area. They have the potential for attractive landscaping. The downside of this device is initial driver confusion.

Standard Location and Implementation

Local streets

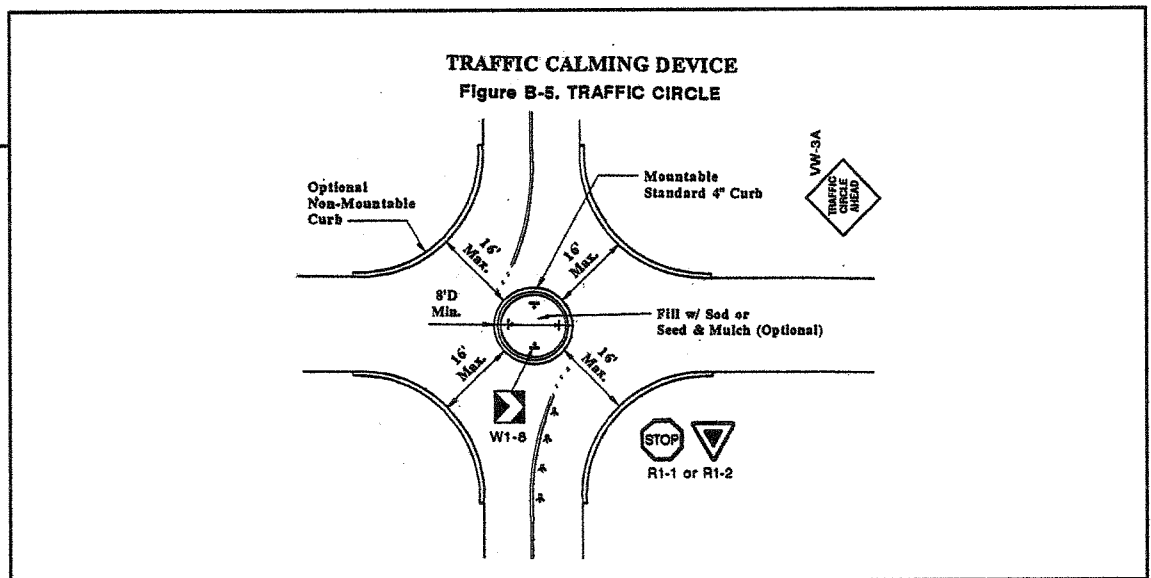
Emergency and Service Vehicle Impact

Can slow emergency vehicles; minor service vehicle problems

Device Expense and Maintenance

Initial installation is high cost. Maintenance depends on landscaping.

Illustration



Traffic Calming Devices

Device Name

Peak Hour Turn Restrictions

Device Description

Limited or no turning by vehicles at peak hours of traffic.

Typical Impact
Traffic Speed

none

Typical Impact
Traffic Volume

Reduces volume

“Quality Of Life”
Assessment of Device

Diverts inappropriate traffic helping to improve the quality of life in an affected neighborhood

Standard Location
and Implementation

Arterials, collectors and residential streets

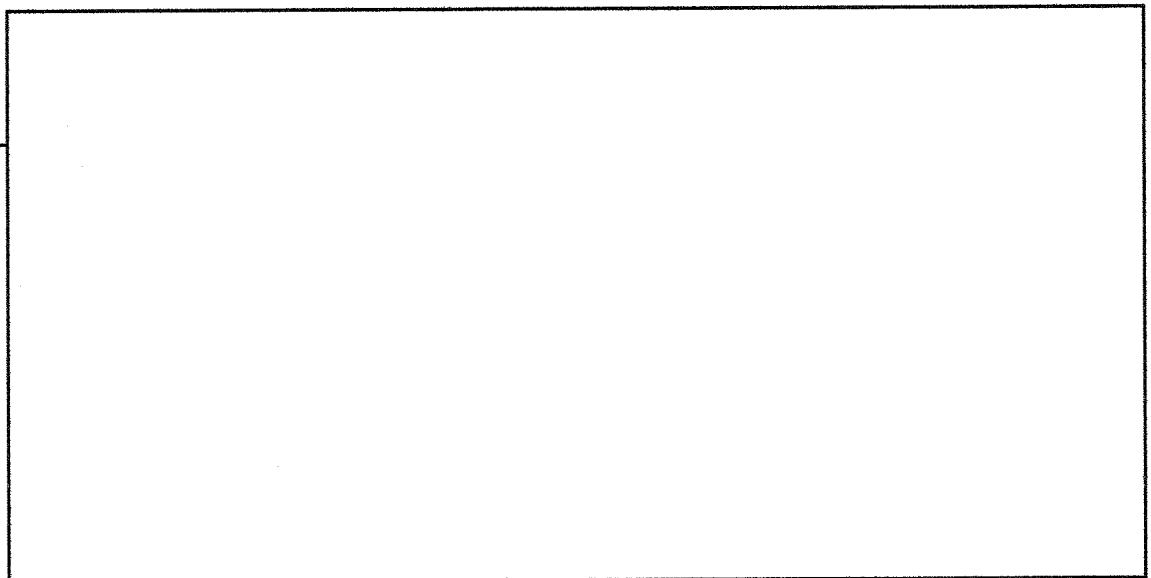
Emergency and Service
Vehicle Impact

Small Impact

Device Expense
and Maintenance

Low expense and maintenance

Illustration



Traffic Calming Devices

Device Name

Semi-diverters

Device Description

Closing off streets to through vehicle traffic at intersections.

Typical Impact Traffic Speed

Reduces speed

Typical Impact Traffic Volume

Possible reduction in traffic volume

"Quality Of Life" Assessment of Device

Can have a positive impact on a neighborhood, however, since the traffic has to go somewhere, other areas will be affected by the closures.

Standard Location and Implementation

Local streets where cut through traffic volumes are extremely high

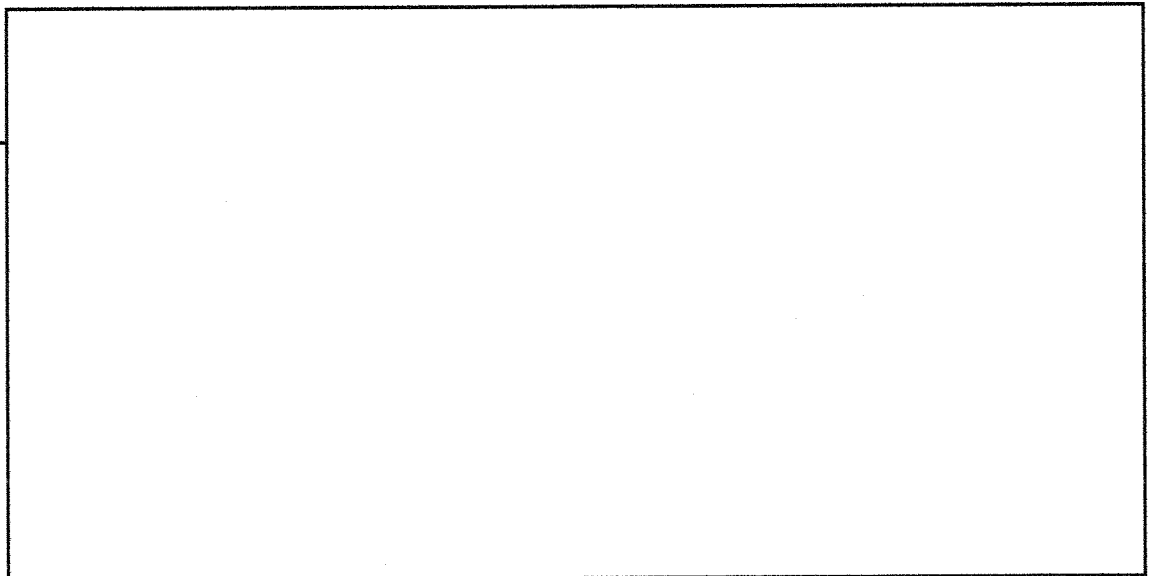
Emergency and Service Vehicle Impact

Can slow emergency vehicles

Device Expense and Maintenance

Low cost and low maintenance

Illustration



Traffic Calming Devices

Device Name

Vehicle Restrictions

Device Description

Limiting vehicle types (trucks)

Typical Impact
Traffic Speed

None

Typical Impact
Traffic Volume

Reduces volume

“Quality Of Life”
Assessment of Device

Diverts inappropriate traffic and improves the quality of life in an affected neighborhood

Standard Location
and Implementation

Local streets and some collectors

Emergency and Service
Vehicle Impact

none

Device Expense
and Maintenance

very little expense

Illustration



Traffic Calming Devices

Device Name

Street Closures or cul-de-sacs

Device Description

Closing of streets either permanently or during specific times of the day

Typical Impact Traffic Speed

Slows traffic

Typical Impact Traffic Volume

Reduces volume

"Quality Of Life" Assessment of Device

Can have a positive impact on a neighborhood, however, since the traffic has to go somewhere, other areas will be affected by the closures.

Standard Location and Implementation

Arterials, Collectors and Local streets

Emergency and Service Vehicle Impact

Possible that routes can be longer for emergency and service vehicles

Device Expense and Maintenance

Temporary closures can be inexpensive

Illustration

