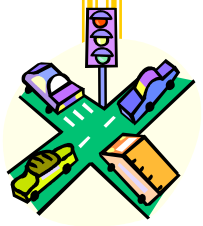
NTMP

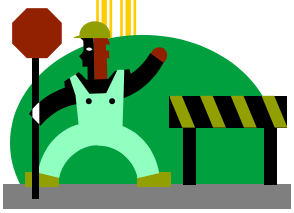
Neighborhood Traffic Management Program

Protecting your right to safety...one street at a time....



Collier County
Transportation Services Division
Transportation Planning Department

Using This Booklet



Introduction

NTMP

Neighborhood Traffic Management Program

The Neighborhood Traffic Management Program (NTMP) was created to ensure the safety of our Collier County neighborhoods from speeding drivers and to restore local streets to the residents.

Studies of speeding complaints from homeowners living on residential streets in Collier County illustrate that a majority of motorists drive over the 30 mph speed limit. Those who exceed the speed limit come from all age groups. Why do they speed? The studies show that:

- Local residents drive faster on their local streets because they feel familiar and comfortable.
- Outsiders use local streets as short cuts to busy arterial roads.

Traffic conditions on residential streets can greatly affect neighborhood livability. When our streets are safe and pleasant, the quality of life is enhanced. When traffic problems become a daily occurrence, our sense of community and personal well-being are threatened. By addressing high vehicular speeds and cut-through volumes, traffic calming can increase both the real and perceived safety of pedestrians and bicyclists, and improve the quality of life within the neighborhood.

NTMP was developed, specifically, by the Collier County/Naples Metropolitan Planning Organization (MPO) and the Traffic Calming Task Force. It's mission is to identify, qualify and address problems related to the misuse of local residential streets by non-resident motorists, and to dangerous driving behaviors. Traffic calming may be defined as: 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.

Please see pg. 55 for supporting information regarding "traffic calming".

<u>Note:</u> This program was *not* designed as a regulatory arm for neighborhood control of internal traffic, which would then become an enforcement issue.

Goals Objectives & Policies

Goals:

It is the goal of the Collier County Neighborhood Traffic Management Program (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 opportunity to walk or bike within the roadway area with a feeling of safety.
- The opportunity to interact socially with neighbors without traffic related distractions or threats.
- A sense of community and neighborhood identity.
- A balanced relationship between the multiple uses and needs of a neighborhood.

Objectives:

- To promote safe and pleasant conditions for residents, pedestrians, bicyclists, and motorists on neighborhood streets.
- To reduce vehicular speeding on local neighborhood streets.
- To preserve and enhance pedestrian and bicycle access to neighborhood destinations.
- To enhance a sense of community and neighborhood identity.
- To encourage citizen involvement in neighborhood traffic management activities.
- To provide a process that will address neighborhood traffic management requests.

Policies:

- Through traffic should be routed to the major roadways designated in the Traffic Circulation Element of the Collier County Growth Management Plan.

- Re-routed traffic that results from a traffic management project should be evaluated on a project-by-project basis.

- Emergency vehicle access should be preserved.

- Major roadways are not eligible for the NTMP.

- Collier County shall employ a variety of traffic calming devices to achieve the NTMP's objectives. Such traffic calming devices shall be planned and designed in conformance with sound engineering and planning practices.

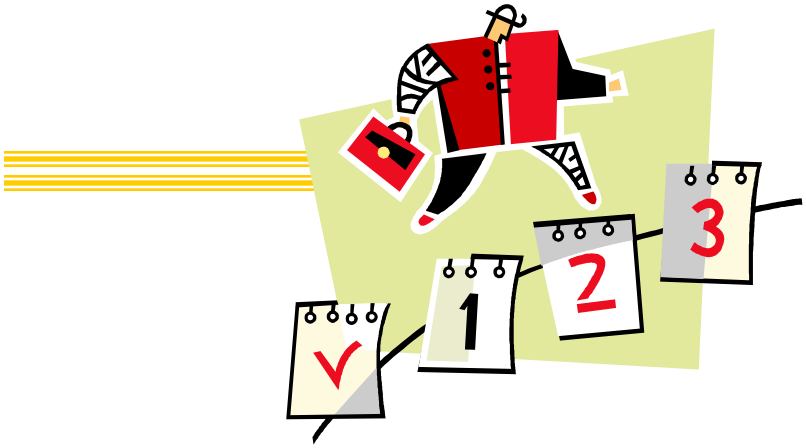
- To implement the NTMP, certain procedures shall be followed in processing neighborhood traffic management requests in accordance with applicable codes and related policies and within the limits of available resources. At a minimum, the procedures shall provide for:

    - Submittal of project proposals.
    - Evaluation of proposals by staff.
    - Citizen participation in plan development and evaluation.
    - Methods of temporarily testing traffic management plans when needed.
    - Communication of any test results and specific findings to area residents and affected neighborhood organizations before installation of permanent traffic calming devices.
    - Review and prioritization of traffic calming projects requiring funding.
    - Follow-up study and findings report.

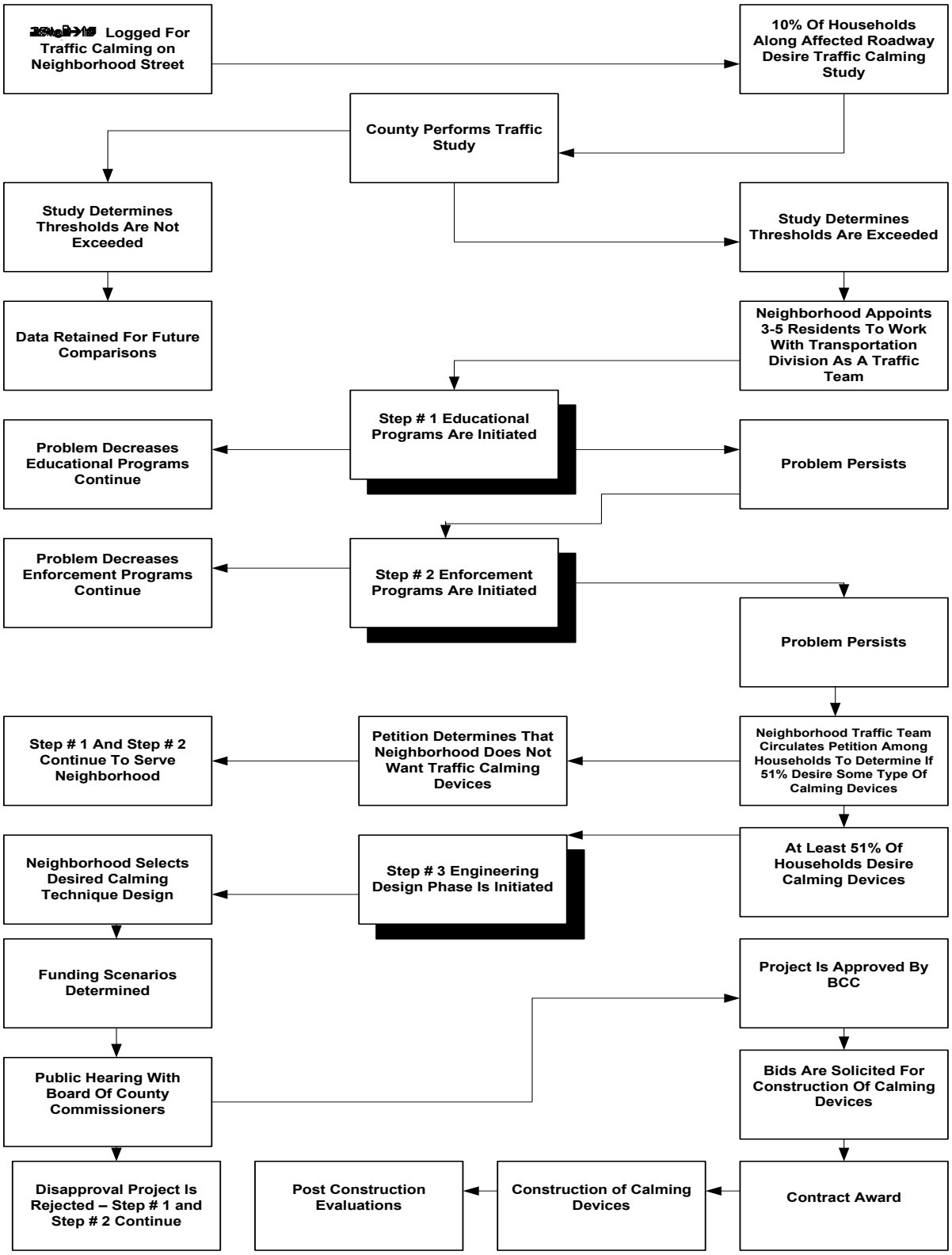
How the NTMP works

The process in a nutshell:

- The NTMP Project Manager receives and reviews requests for traffic calming.
- The requests are then subjected to a qualifying process that includes field counts and observations, and input from citizens in the affected area(s).
- Working as a team and with the “three E’s” process* (education, enforcement and engineering) citizens and staff derive solutions that may be implemented to address specific problems.
- Next it is determined who will fund the project.
    - Funding for the county road NTMP projects must be sensitive to the prioritization criteria. Qualified projects, approved for private road systems, are normally funded by HOA’s, or Municipal Service Benefit/Taxing Units (MSB/TU’s). Homeowners requesting calming devices along dead-end streets are required to fund those installations.
- Once qualified, traffic calming projects are integrated into the existing schedule of county traffic calming projects.
- Following the installation of the project, county staff will begin it’s evaluation in order to review it’s effectiveness and impact.



The NTMP Process



What do I do?

Community approval is one of the most important steps in any traffic calming program.

1. **LODGE A COMPLAINT:**

   A complaint needs to be made directly to County staff. It can be made by any person or group living in the affected area such as: a citizen(s), a Home Owners Association (HOA), or by a city or County staff member such as the Collier County Community Traffic Safety Team.

   Please note: Only county owned, residential streets are eligible for any county assistance other than for general consulting services. A listing of "local" or in-eligible (non-residential) roads are listed on page 48.

   To lodge a complaint, please contact the Transportation Planning Department:

   By PHONE: NTMP Project Manager 239-774-8192

   By MAIL: NTMP Project Manager, Collier County Transportation Division
   2885 Horseshoe Drive South, Naples, FL 34104

   BY FAX: NTMP Project Manager 239-659-5787.

   BY EMAIL: Transplanning@colliergov.net

2. **COMPLETE AN APPLICATION:**

   A completed application must be submitted to the County.

   Please use the official NTMP Application form on page 49. The completed application identifies the contact person, address, phone number, date and nature of the complaint.

3. **CIRCULATE PETITION #1:**

   The resident or group must obtain a show of community support and backing by circulating a petition and acquiring signatures of at least **10%** of the households along the affected roadway.

   (Please use the official NTMP Petition form on page 50.)

CRITERION	MINOR COLLECTOR STREETS	LOCAL RESIDENTIAL STREETS
1. Minimum traffic volume	> 4,000 vpd or 400 vph	> 2,000 vpd or 200 vph
2. 85th percentile speed	10 mph > speed limit	5 mph > speed limit
3. Pedestrian/bike Level of Service (LOS)	per Calculator Form (LOS "C" or worse)	per Calculator Form (LOS "C" or worse

Minimum Requirements for Consideration: 1 of 3

4. **TRAFFIC STUDY PERFORMED:**

The County staff then reviews the problem at the site and orders a traffic study in order to determine if minimum eligibility criteria are met.

The chart above shows the criteria.

5. **CIRCULATE PETITION #2:**

If minimum criteria are met, a second and broader petition must be circulated by the citizen or group within the identified petition area. This time, signatures must be obtained from more than **51%** of households and/or businesses in the petition area.

6. **NEIGHBORHOOD WORKSHOP:**

Once the second petition is submitted, county staff will call a neighborhood meeting to review data findings. A neighborhood "traffic team" is established to be a point of contact with the county and the group will be educated about the practice of "Traffic Calming". The County staff and Traffic Team begin developing a project concept involving the "three E's":

Education	Programs that remind speeders of the negative effects of their action
Enforcement	Police presence to enforce speed limits.
Engineering	The construction of a physical change to the roadway to deter speeding. Examples include: Deflections, Obstructions and/or Roadmarkings. It can also include the use of signs and pavement markings to obtain the desired effect.

What do I do? cont. from pg.11

7. **START *EDUCATION* PROCESS**: (more detail on pg. 14)
   Traffic Calming Education produces activities that inform and seek to modify driver behavior. Techniques include implementation of the "pace car" program, printed information, meetings and workshops with staff, interaction with neighbors, signing campaigns, neighborhood speed watches, school programs, and parent outreach.

8. **START *ENFORCEMENT* PROCESS:** (more detail on pg. 19)
   After a pre-defined period of time, the results of the educational process will be evaluated. If additional measures are required , then the enforcement process will begin. Enforcement involves a more intensive police presence and a greater allocation of time to enforcing the speed limit in a particular neighbor hood. Unfortunately, it is often not practical to maintain a police presence at the level needed to permanently lower speeds. However, consistent visible enforcement does lead to respect of the speed limit by motorists.

9. **COMMUNITY MEETING & *ENGINEERING* OPTIONS:** (more detail on pg. 20)
   The County staff and Traffic Team now meet again to determine if next steps are necessary. If they are, ENGINEERING concepts and options will be discussed.

   The Traffic Calming Task Force examined many different traffic calming ***engineered*** techniques. Realizing that Collier County's/Naples' neighborhoods are not all the same and there are a variety of street designs within neighborhoods, the Task Force include a wide range of techniques in this program that can be considered to address the differing traffic conditions.

   An appropriate engineering technique for this community and it's traffic problem will be decided on at this meeting.

10. **DETERMINATION OF FUNDING:**

Also decided at the above meeting will be who will finance the project. Only county owned residential roads (see pg. 48) are eligible for any application for funding from the county. To be considered for an NTMP grant, the project must be ranked according to the "Project Prioritization" criteria. (pgs. 51-53) Rankings indicate which projects, or portions thereof, are to receive funding as well as the prioritization of the project within the county schedule.

Privately owned residential neighborhoods such as gated communities must privately fund and manage their own projects. These neighborhoods, while not part of the funding prioritization process, are still subject to all applicable planning and engineering review and permitting.

11. **BOARD APPROVAL:**

The community's request for an *engineered* traffic calming project is included on the agenda at the next bi-monthly Board of Commissioners' meeting. At this public meeting ,the board will vote to approve/disapprove the request.

12. PROJECT IS DESIGNED and INITIATED

If the go ahead is given by the Board, then County staff schedules the design and implementation of the project according to the scores of the Prioritization rankings and then the project will be initialized.

11. MONITORING AND IMPACT STUDIES

Immediately following the installation of the project, County staff will begin an evaluation of it including field observations, traffic counts, speed studies, and other data collection as staff feels may be appropriate, to review the effectiveness and impacts of the traffic calming project.

Traffic Calming Techniques

The implementation of traffic-calming measures have the potential to create controversy, so it is recommended that it occurs as the final step of a three-step process referred to as *the "three E's*" (education, enforcement, and engineering). Let's examine each of these in detail.

Step # 1: **EDUCATION**

Educational programs seek to remind speeding drivers of the negative effects of their actions, often by stressing that the community's children and elderly are the most at risk. Educational campaigns may use brochures or neighborhood newsletters to spread this message. Newsletters may also contain information on speeding fines (particularly in school zones), pedestrian and bicycle safety tips, and information on average speeds in the neighborhood.

Techniques also include implementation of the "pace car" program, printed information, meetings and workshops with staff, interaction with neighbors, signing campaigns, neighborhood speed watches, school programs, and parent outreach.

The following ideas and concepts about Traffic Calming are credited to David Engwicht, Co Founder of *Creative Communities International*, Australia.

Traffic Calming Education strives to increase understanding of the dynamic nature of traffic calming, as well as providing insight into the options of taming traffic with out physical devices.

The first step towards better understanding of how to calm traffic is to understand how we lost our streets to traffic in the first place. For thousands of years, streets have not just been a place for movement, but also the stage for spontaneous neighborhood-building activity and the market place for commerce.

As we have endeavored to provide better streets and transportation facilities we have designed spaces for motorists that are *predictable.* Having driving spaces that are *predictable* allows the typical motorists to develop a false sense of security producing a tendency to speed up. As motorists push the safety boundaries and drive faster, residents become intimidated by the traffic and retreat to the safety of their homes and other spaces.

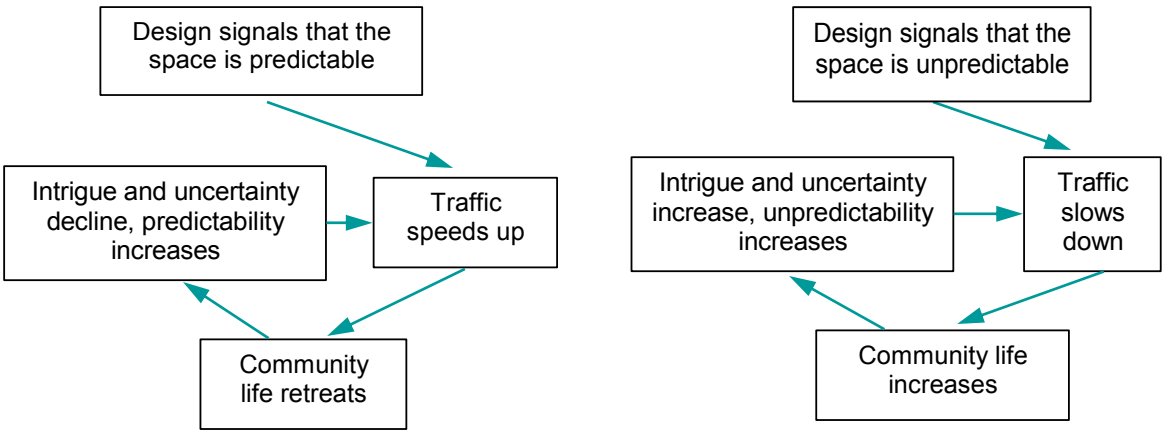
This psychological retreat from the street has not only eroded the quality of neighborhood life and sense of community, but it has also encouraged traffic to go even faster by diminishing the *intrigue* and *uncertainty* factors. There was a time when children played in our streets and adults met there to chat. The presence of children and adults in the roadway created a high degree of *intrigue* and *uncertainly* so motorists traveled very slowly. Today we find that the design of our streets and buildings has further reduced the *intrigue* and *uncertainty* factors, which has encouraged even higher traffic speeds.

The feelings of intimidation, causing us to retreat from our streets, diminished the community-building processes associated with human activities near or in the streets. Winning our streets back starts by changing our attitudes, refusing to be intimidated and by highly valuing our streets for spontaneous social and cultural activity. Moving human activities back towards the street will begin to reverse the erosion process. Please understand that this does not mean that you start by telling the kids to go play in the traffic. If the last act of surrender was not parking your cars in the street, then this is where you start. This visually narrows the road, which slows the traffic and allows other reclaiming activities to be added in safety.

As a neighborhood you can create street activity by organizing inter-street *street* games competitions such as street hockey, hopscotch, etc. You may wish to organize a block party, but one where the street is not closed to traffic. (This is very important as we are trying to establish a new culture of respect for the *dual* role of streets for movement and social activity.) You can also increase street activity by walking your kids to school, or by walking to local destinations yourself.

Encourage the establishment of “activity nodes” – places where people are encouraged to linger.

Increasing *intrigue* and *uncertainty* will reduce speeds, but doesn’t this encourage rubbernecking, which we all know causes more accidents? There is a paradox when it comes to safety: ***you can make an environment safer by making it more predictable or making it less predictable***. The amount of *predictability* or *unpredictability* does not make an environment safe or unsafe. *Any* environment becomes unsafe if the actual risks are higher than the *perceived* risks – that is, when drivers are lulled into a false sense of security about the degree of danger present. We can reduce the instance of a false sense of security by having the design of an environment signal to the driver that they are likely to encounter high levels of *unpredictability*. If the normative state of a street is that the unexpected should be expected, then traffic control devices such as line markings, official signage, concrete islands and even first-generation traffic calming devices create a mixed message. They promise certain levels of *predictability*. When we create traffic environments that encourage speed and domination by cars, community life will retreat from the space. (We increased predictability). However, when we create a traffic environment with high levels of ambiguity the traffic speeds will drop and community life will blossom in the space. (We increased *unpredictability*).



The amount of *intrigue* and *uncertainty* signaled by the design of a traffic environment must be determined by the vision of the vibrancy of community and economic life desired for a space. Vibrant neighborhoods plus safe streets equals high levels of ambiguity in the street design. The same design principles used to create a great indoor room are used to create a great street. Unlike traditional traffic calming, they do not necessarily have to change the physical geometry of the street. They rely primarily on changing the *psychological* feel. They send clear messages about the dual functions of the street, and contain much higher levels of *intrigue* and *uncertainty*.

The educational aspects of traffic calming include activities that inform and seek to modify driver behavior. Behavioral modification programs may focus on such topics as the following:·

- Encourage residents to psychologically reclaim their street and relate to it in a new way.
- Involve residents in the redesign of their steeplescapes.
- Encourage residents to reduce their propensity to take risk when driving.
- Encourage residents to reduce their car use and the speed at which they drive.

Pace Car:

One such program that works extremely well to modify behavior is the **Neighborhood Pace Car**. Residents experiencing traffic problems in their neighborhood are encouraged to sign the **Pace Car Pledge**. (See page 54). They promise to drive within the speed limit, stop to let pedestrians cross and minimize their car use. They put a **Pace Car** sticker on the back of their cars so motorists behind know why they are driving courteously. When there are sufficient **Pace Cars** on the streets, traffic is calmed countywide**. Pace Cars** are “mobile speed bumps” that get out of the way of emergency vehicles.

The **Pace Car** is a very important part of an overall strategy to make streets safer and to increase the vitality of neighborhood life. It calms drivers rather than streets and thus reduces the propensity for drivers to take risk.

The **Pace Car** sticker is an essential element as it informs the drivers behind why the car is being driven within the law. This reduces the chances of them becoming agitated and is part of an awareness raising process.

The **Pace Car** helps create an environment where adults and children are more likely to walk or use their street for play and socializing.

The **Pace Car** also makes the motorist much more aware of their immediate surroundings. If you break the motorist's fixation on getting to their destination as quickly as possible, they become much more connected to the environment they are passing through. This obviously makes them a safer driver, but it also makes them a part of the street life, rather than an interloper destroying the street life.

Advantages:

- Can be relatively effective
- Involves and empowers citizens; and
- Works well with other mitigation tools.

Disadvantages:

- Not likely to be as effective on non-neighborhood traffic;
- May be difficult to measure effectiveness;
- Can be expensive and or time consuming;
- May take time to be effective; and

Signs:

Another method of educating the driving public is to install a Sign informing them that traffic calming devices have been installed.

Advantages:

- Informs and alerts driver of oncoming devices;
- Improves safety of the technique or device being used
- Improves effectiveness of the technique or device.

Disadvantages:

- More signage on the street, sometimes considered unsightly.

Step # 2: **ENFORCEMENT**

Enforcement involves a more intensive police presence and a greater allocation of time to enforcing the speed limit in a particular neighborhood. There are a variety of methods used by the police:

Mobile radar display: advises motorists of the speed at which they are traveling

Advantages:

- Educational tool;
- Very good public relations tool; and
- Useful especially in school and construction zones where spot speed reduction is important.

Disadvantages:

- Requires periodic enforcement;
- Effective for limited duration; and
- Unit moves frequently, which requires personnel.

Periodic monitoring by police: for speeding and other violations .

Advantages:

- Good temporary public relations tool; and
- Serves to inform public that speeding is undesirable behavior, for which there are consequences.

Disadvantages:

- Effect is not permanent; and
- Enforcement is an expensive tool.

Step # 3 : **ENGINEERING**

If Education and Enforcement Procedures have not controlled the traffic problem, then the county, along with the community traffic team, will begin to explore options for an engineered change to the road.

Neighborhoods are not all the same and there are a variety of street designs within neighborhoods. With this in mind, the Task Force has included a wide range of techniques in this program that will be needed to address differing traffic conditions. The selection of traffic calming measures should be based on the following:

- **The measure of potential to address volume or speed reduction on affected roadways.**
- **The type of roadway.**
- **Actual site conditions.**

Techniques:

When choosing a technique to use, both the physical and psychological nature of the problem is examined. The **physical** problem itself is usually addressed by changing the width of the street since wider roads encourage higher automobile speeds. Techniques such as ***neck downs***, ***roundabouts*** and ***medians*** all decrease road width.
The **psychological** aspect involves understanding how the motorist thinks. If a motorist can see into the distance, the tendency is to increase speed. The interruption of sight lines, with changes in the road's direction will cause motorists to slow down. Using techniques such as ***chicanes*** and ***roundabouts,*** or breaking the road into smaller visual units by changing the surface pavement, such as ***brick pavers*** or ***stamped concrete***, causes the driver to slow down. It also means motorists widen their vision field, becoming much more aware of pedestrians and bicyclists. Changes in the road

design force traffic to travel at a slower, more even pace. Traffic calming may also be achieved by changing the psychological feel of the street. Streets using different ***surface types***, ***vertical landscaping*** or ***narrowed lanes*** create the appropriate space for a relaxed, pedestrian-friendly feel. These psychological changes give motorists cues that they are no longer on a major roadway but are in a different environment that is shared with people.

All traffic calming techniques have a limited range of effectiveness. To achieve traffic calming objectives, some techniques need to be placed every 250-400 feet. If traffic calming techniques are used too sparsely, traffic may slow close to the installation, but the overall speed will probably not decrease. One technique may be used multiple times or multiple techniques may be used in conjunction with one another. Most techniques will affect noise, air quality, congestion, fuel consumption and many other factors. Some can improve these conditions, others may cause these problems to increase.

Emergency vehicle access and response time must be considered when designing and installing traffic calming devices. Emergency vehicles, particularly ambulances, have more difficulty with "vertical" devices such as ***speed humps*** than with "horizontal" devices such as ***neckdowns***. Likewise, bicyclists and pedestrians must be kept in mind when developing a traffic calming strategy, as some devices can obstruct their movements. Many devices can be modified to allow bicyclists and pedestrians to by-pass them. For instance, a ***diverter*** can be fitted with a ***bicycle/pedestrian link*** to allow for through movement.

TECHNIQUES

SPEED CONTROL

Vertical Deflection

- Raised Crosswalks
- Speed Humps
- Speed Tables
- Raised Intersections
- Textured Pavement

Horizontal Deflection

- Chicane
- Centerline and Edgeline Striping
- Roundabouts

Horizontal Narrowing

- Lane Narrowing
- Mid-Block Median
- Neckdowns

Other Devices

- Angled Slow Point
- Rumble Strip

VOLUME CONTROL

- Full Closure
- Partial Closure
- Traversable Barriers
- Diagonal Road Closure
- Cul-De-Sac
- Forced Turn Barriers/ Diverters
- Modified Intersection
- One-way Streets

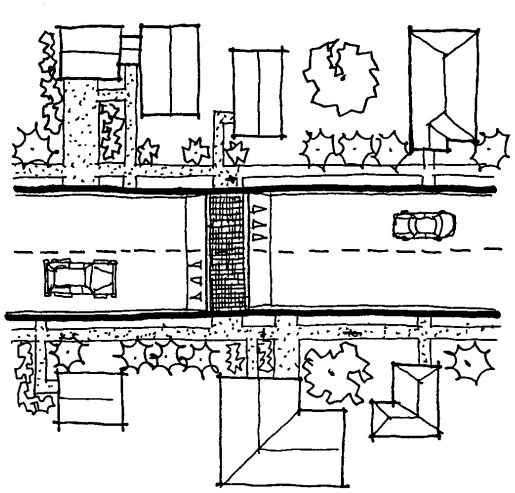
COMBINED MEASURES

- Gateway Treatment
- Landscaping
- Modified Street Design

SPEED CONTROL: Vertical Deflection

Raised Crosswalks a.k.a. Raised crossings, sidewalk extensions

Raised crosswalks are Speed Tables outfitted with crosswalk markings and signage to channel pedestrian crossings, providing pedestrians with a level street crossing. Also, by raising the level of the crossing, pedestrians are more visible to approaching motorists.



Advantages:

- Raised Crosswalks improve safety for both pedestrians and vehicles;
- If designed well, they can have positive aesthetic value;
- They are effective in reducing speeds; and
- They are good for locations where pedestrian crossings occur at haphazard locations and vehicle speeds are excessive.

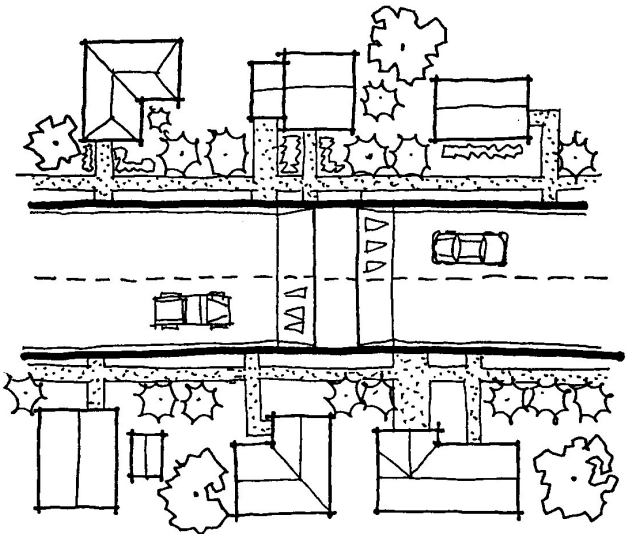
Disadvantages:

- Textured materials, if used, can be expensive;
- Impacts on drainage needs to be considered; and
- Noise and air pollution may increase.

SPEED CONTROL: Vertical Deflection

Speed Humps a.k.a. Road humps, undulations.

Speed humps are rounded raised areas placed across the roadway. They are generally 10 to 14 feet long (in the direction of travel), making them distinct from the shorter "speed bumps" found in many parking lots, and are 3 to 4 inches high. The profile of a speed hump can be circular, parabolic, or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage.



Advantages:

- Speed Humps are relatively inexpensive;
- They are relatively easy for bicycles to cross if designed appropriately;
- They are very effective in slowing travel speeds; and
- They are good for locations where very low speeds are desired and reasonable, and noise and fumes are not a major concern.

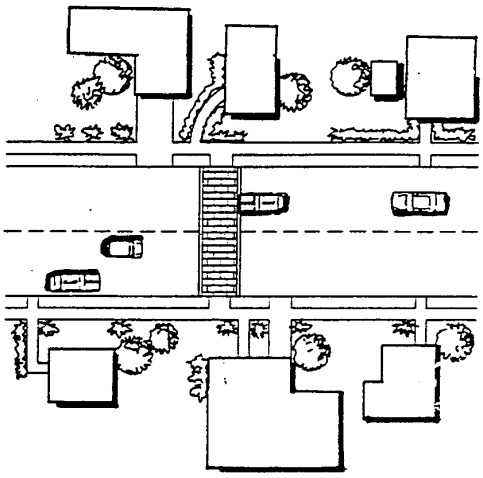
Disadvantages:

- They cause a "rough ride" for all drivers, and can cause severe pain for people with certain skeletal disabilities.
- They force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds;
- They may increase noise and air pollution; and
- They have questionable aesthetics.

SPEED CONTROL: Vertical Deflection

Speed Tables a.k.a. Trapezoidal humps, speed platforms.

Speed tables are flat-topped speed humps, also 3 to 4 inches high but with a sloped approach taper on each side of a flat top. They are generally 20 to 24 feet wide. Comfortable speed limited to 20 to 25 mph.



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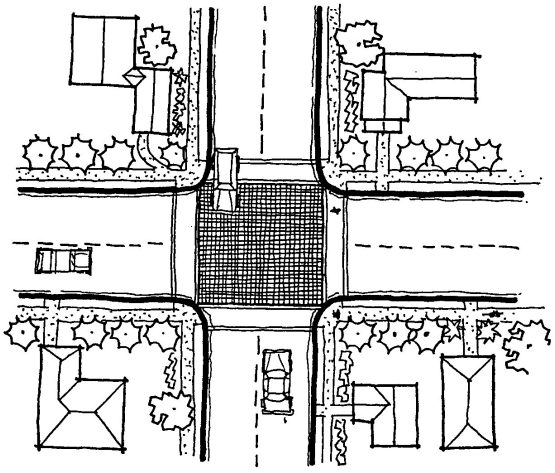
Disadvantages:

- They cause a “rough ride” for all drivers, and can cause severe pain for people with certain skeletal disabilities.
- They force large vehicles, such as emergency vehicles and those with rigid suspensions,
- to travel at slower speeds;
- They may increase noise and air pollution; and
- They have questionable aesthetics.

SPEED CONTROL: Vertical Deflection

Raised Intersections a.k.a. Raised junctions, intersection humps, plateaus.

Raised intersections are flat raised areas covering an entire intersection, with ramps on all approaches and often with brick or other textured materials on the flat section. They usually raise to the level of the sidewalk, or slightly below to provide "lip" that is detectable by the visually impaired. By modifying the level of the intersection, the crosswalks are more readily perceived by motorists to be "pedestrian territory".



Advantages:

- Raised Intersections improve safety for both pedestrians and vehicles;
- If designed well, they can have positive aesthetic value;
- They can calm two streets at once;
- They are good for intersections with substantial pedestrian activity; and
- They are good for areas where other traffic calming measures would be unacceptable
- because they take away scarce parking spaces.

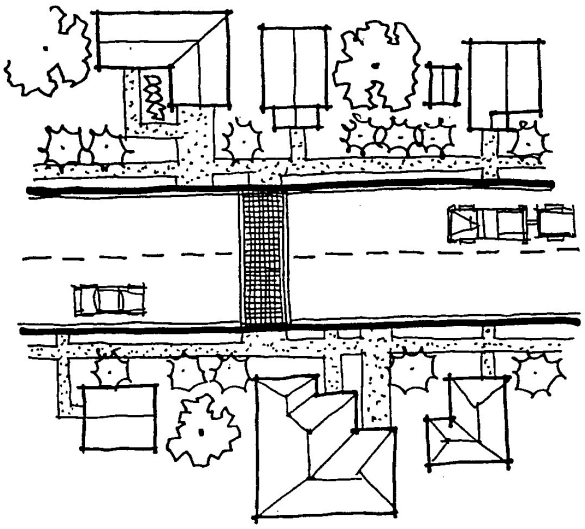
Disadvantages:

- They tend to be expensive, varying by materials used;
- Their impact to drainage needs to be considered; and
- They are less effective in reducing speeds than Speed Humps, Speed Tables, or Raised Crosswalks.

SPEED CONTROL: Vertical Deflection

Textured Pavement a.k.a. Change in pavement texture (such as asphalt to brick).

Textured pavements are roadway surfaces paved with brick, concrete pavers, stamped asphalt, or other surface materials that produce constant small changes in vertical alignment. Though including textured pavements among vertical features may appear a stretch to some readers, one need only observe travel speeds on old cobblestone and brick streets to appreciate the rationale.



Advantages:

- If designed well, they can have positive aesthetic value;
- They can calm two streets at once; and
- They are good for intersections with substantial pedestrian activity.

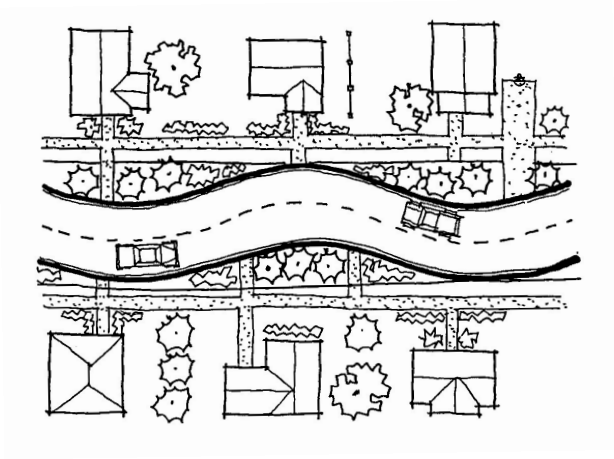
Disadvantages:

- They tend to be expensive, varying by materials used;
- Impact to drainage needs to be considered; and
- Require increased maintenance

SPEED CONTROL: Horizontal Deflection

Chicane a.k.a. Deviations, serpentines, reversing curves, twists, and staggerings.

Chicane is a series of narrowings or curb extensions that alternate from one side of the street to the other forming S-shaped curves. Unless well-designed, a chicane may still permit speeding by drivers cutting straight paths across the center line. Shifts in alignment should be at least one lane width, deflection angles of at least 45 degrees, and center islands to prevent drivers from taking a straight "racing line" through the feature.



Advantages:

- 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;
- Aesthetically pleasing;
- Reduces speed without significantly impacting emergency response;
- Imposes minimal inconveniences to local traffic;
- Pedestrians have a reduced crossing distance;
- Provides a greater visual obstruction; and
- Accepted by public as speed control device.

Disadvantages:

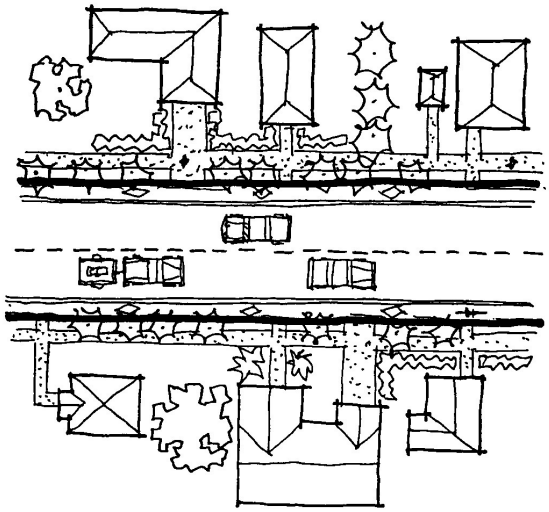
- They tend to be expensive, varying by materials used;
- Appropriate for midblock locations only;
- Most effective with equivalent volumes on both approaches; and
- They require increased maintenance

SPEED CONTROL: Horizontal Deflection

Centerline and Edgeline Striping

a.k.a. Visually narrowing the roadway (Psycho-Perception Control)

Painting an edgeline several feet from the pavement edge has the effect of visually narrowing the roadway. A double yellow line striped down the center of roadway might have a comparable effect, visually limiting drivers to half of the road. In theory, the perceived narrowing could cause a modest speed reduction, just as a real narrowing causes a modest speed reduction.



Advantages:

- Fast, cost effective solution; and
- They are especially appropriate for rural roads with no shoulders.

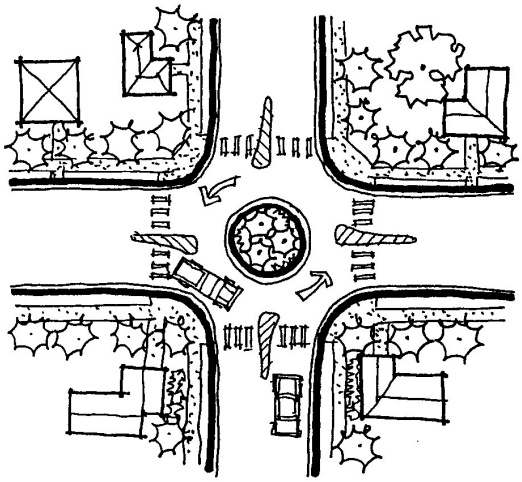
Disadvantages:

- They are not proven to be successful; and
- May be most effective immediately after initial installation;

SPEED CONTROL: Horizontal Deflection

Roundabouts **a**.k.a. Rotaries.

Roundabouts are raised circular areas (similar to medians) placed at intersections. Drivers travel in a counter-clockwise direction around the circle. Modern roundabouts 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 roundabout is placed in an intersection, vehicles may not travel in a straight line.



Advantages:

- Reduces 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;
- Reduces speed at intersection approach;
- Cheaper to maintain than a traffic signal;
- Effective at multi-leg intersections;
- Provides equal access to intersections for all drivers;
- Provides a good environment for cyclists; and
- Does not restrict movements, but makes them more difficult.

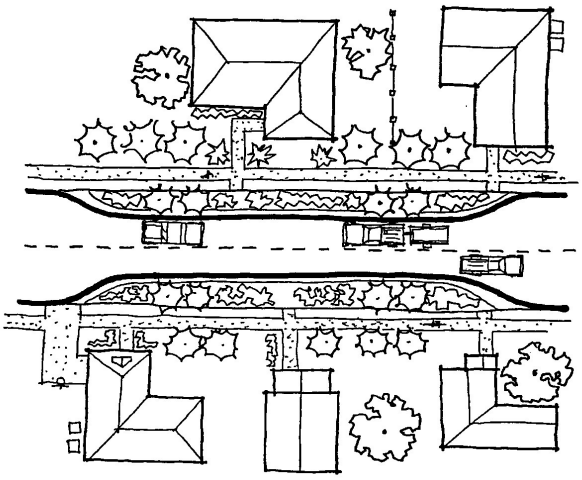
Disadvantages:

- May be restrictive for larger vehicles if designed to a low speed;
- May require additional lighting and signage;
- If left turns by large vehicles are to be accommodated, then right of way may have to be purchased;
- Initial safety issue as drivers adjust;
- May increase volumes on adjacent streets; and
- Maintenance responsibility if landscaped.

SPEED CONTROL: Horizontal Narrowing

Lane Narrowing a.k.a. Squeeze.

Street is physically narrowed to expand sidewalks and landscape areas; possibly adding medians, on-street parking, etc.



Advantages:

- Minor inconveniences to drivers;
- Minimal inconveniences to local traffic;
- Good for pedestrians, due to shorter crossing distance;
- Provides space for landscaping;
- Slows traffic without seriously affecting emergency response time;
- Effective when used in a series; and
- Single lane narrowing reduces vehicle speed and through traffic.

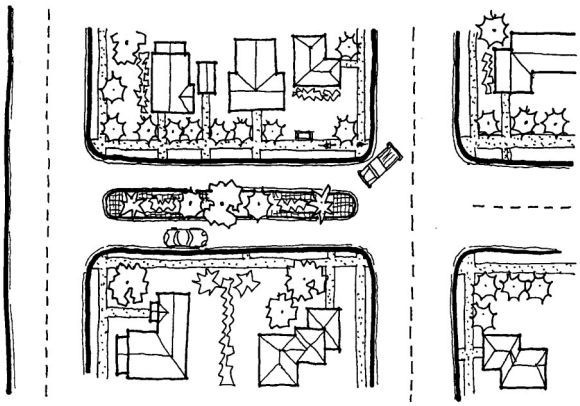
Disadvantages:

- Double lane narrowing not very effective at reducing speeds or diverting through traffic;
- Only partially effective as a visual obstruction;
- Unfriendly to cyclists unless designed to accommodate them; and
- Conflict between opposing drivers arriving simultaneously **could create problems.**

SPEED CONTROL: Horizontal Narrowing

Mid-Block Median a.k.a. Dividing and narrowing space.

Center of street has an island or barrier that serves to segregate traffic.



Advantages:

- Provides a refuge for pedestrians and cyclists;
- May improve streetscape if landscaped;
- Provides barrier between lanes of traffic; and
- May produce a limited reduction in vehicle speeds.

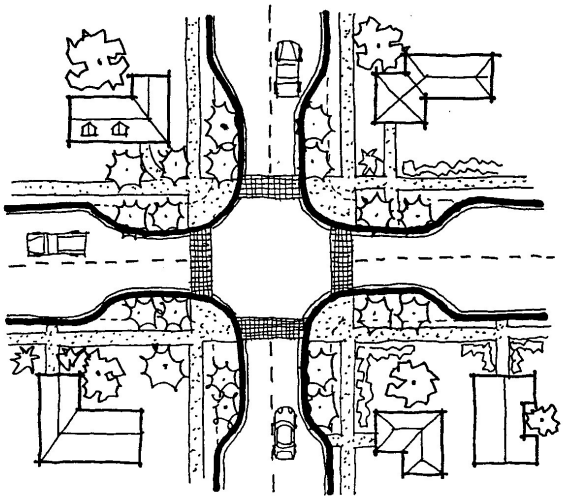
Disadvantages:

- May reduce site lines if over landscaped; and
- Increased maintenance.

SPEED CONTROL: Horizontal Narrowing

Neckdowns **a.k.a. Nubs, bulbouts, knuckles, intersection narrowings, corner bulges, safe crosses.**

Neckdowns are curb extensions at intersections that reduce the roadway width from curb to curb. They "pedestrianize" intersections by shortening crossing distances for pedestrians and drawing attention to pedestrians via raised peninsulas. They also tighten the curb radii at the corners, reducing the speeds of turning vehicles.



Advantages:

- May be aesthetically pleasing, if landscaped;
- Good for pedestrian, due to shorter crossing distance;
- Can be used in multiple applications or on a single segment of roadway;
- Through and left-turn movements are easily negotiable by large vehicles; and
- Slows traffic without seriously affecting emergency response time.

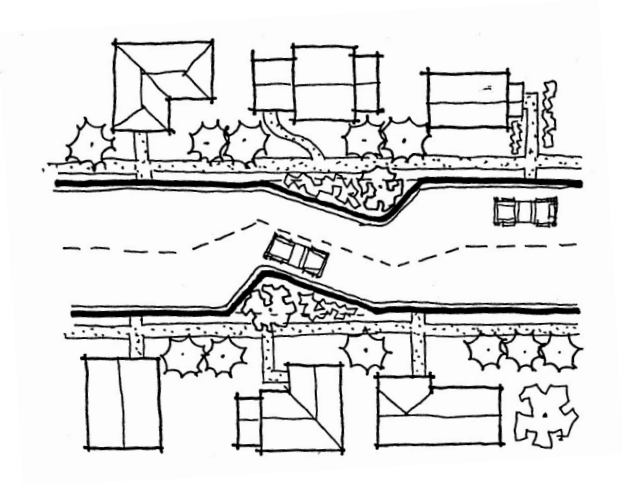
Disadvantages:

- Landscaping may cause sight line problems;
- Unfriendly to cyclists unless designed to accommodate them; and
- May require the elimination of some on-street parking near intersections.

SPEED CONTROL: Other Devices

Angled Slow Point **a.k.a. Variant of a chicane or one-lane choker.**

Angled deviations to deter the path of travel so that the street is not a straight line (by the installation of offset curb extensions).



Advantages:

- Reduces vehicle speed;
- More effective when used in a series;
- Imposes minimal inconveniences to local traffic;
- Pedestrians have a reduced crossing distance;
- Provides space for landscaping; and
- Provides a visual obstruction.

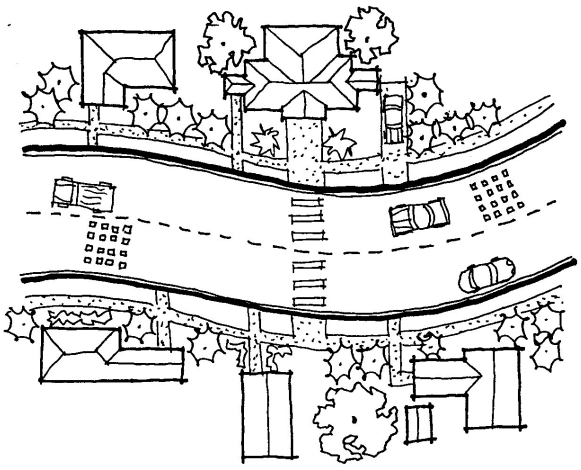
Disadvantages:

- Landscaping needs to be controlled to ensure visibility is reduced;
- Contrary to driver expectation of unobstructed flow;
- Can be hazardous for drivers and cyclists if not designed and maintained properly;
- Confrontation between opposing drivers arriving simultaneously may create problems;
- Double lane application is less effective in controlling speeds than single lane because
- drivers can create a straighter through movement by driving over centerline; and
- Increases area of landscaping to be maintained by residents.

SPEED CONTROL: Other Devices

Rumble Strip a.k.a. Jiggle bumps.

Pattern sections of rough pavement which call attention to vehicle speeds.



Advantages:

- May reduces vehicle speed;
- More effective when used in a series;
- Imposes minimal inconveniences to local traffic;
- Creates driver awareness; and
- Relatively inexpensive to install.

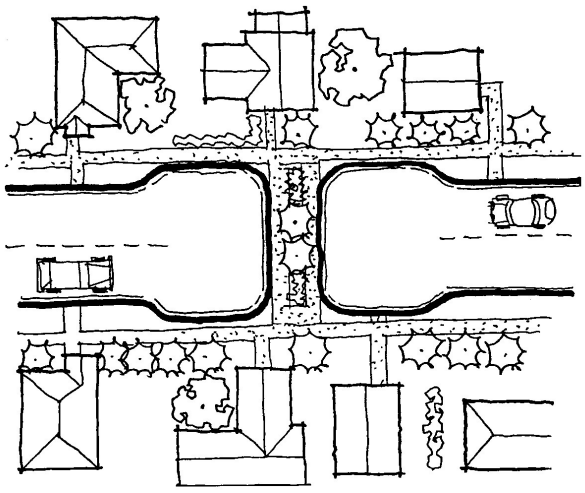
Disadvantages:

- High maintenance;
- May adversely impact bicyclists;
- May be ineffective in reducing vehicle speeds; and
- Rumble strips are noisy by design, and are not recommended for neighborhood settings.

VOLUME CONTROL

Full Closure a.k.a. Cul-de-sacs, dead ends.

Full street closures are barriers placed across a street to completely close the street to through-traffic, usually leaving only sidewalks open.



Advantages:

- Reduces traffic volumes;
- Eliminates through traffic;
- Reduces speed of the remaining vehicles;
- Improves safety for all the street users; and
- Pedestrian and bike access maintained.

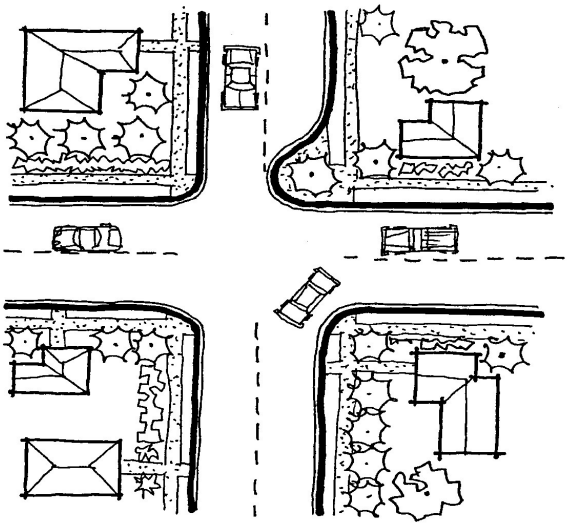
Disadvantages:

- Requires legal procedures for closure;
- Reduces emergency vehicle access;
- Reduces access to properties for residents;
- May be perceived as an inconvenience by some neighbors and an unwarranted restriction by the general public; and
- **May increase traffic volumes on other streets.**

VOLUME CONTROL

Partial Closure a.k.a. Half street closure, one-way closure.

Partial or half street closures are barriers that block travel in one direction for a short distance on otherwise two-way streets.



Advantages:

- Reduces traffic volumes;
- Eliminates through traffic in one direction;
- Allows two-way traffic in the remainder of the street;
- Provides space for landscaping;
- Improves safety for all the street users; and
- Maintains pedestrian and bike access.

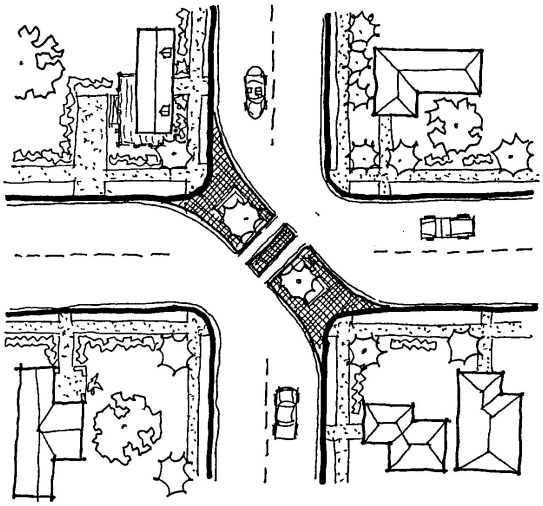
Disadvantages:

- Reduces emergency vehicle access as they have to drive around partial closure with care;
- Compliance with semi-diverters is not 100%;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- May be perceived as an inconvenience by some neighbors and an unwarranted restriction by the general public; and
- May increase traffic volumes on other streets.

VOLUME CONTROL

Traversable Barriers a.k.a. Closed to motor vehicles but traversable by emergency vehicles.

A barrier placed across any portion of a street that is traversable by bikes, pedestrians, in-line skaters, and emergency vehicles, but not by motor vehicles.



Advantages:

- Reduces traffic volumes;
- Eliminates cut through traffic;
- Allows two-way traffic in the remainder of the street;
- Provides space for landscaping;
- Improves safety for all the street users; and
- Maintains pedestrian and bike access.

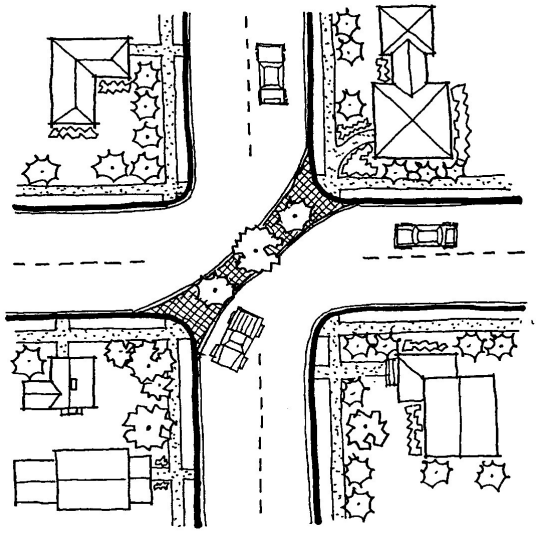
Disadvantages:

- Reduces emergency vehicle access as they have to drive around barrier with care;
- Compliance with semi-diverters is not 100%;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- May be perceived as an inconvenience by some neighbors and an unwarranted restriction by the general public; and
- May increase traffic volumes on other streets.

VOLUME CONTROL

Diagonal Road Closure a.k.a. Closed to motor vehicles but traversable by pedestrians and bicyclists.

A barrier placed Diagonally across a four legged intersection, interrupting traffic flow across the intersection.



Advantages:

- Eliminates through traffic;
- Allows two-way traffic in the remainder of the street;
- Provides space for landscaping;
- Improves safety for all the street users; and
- Maintains pedestrian and bike access.

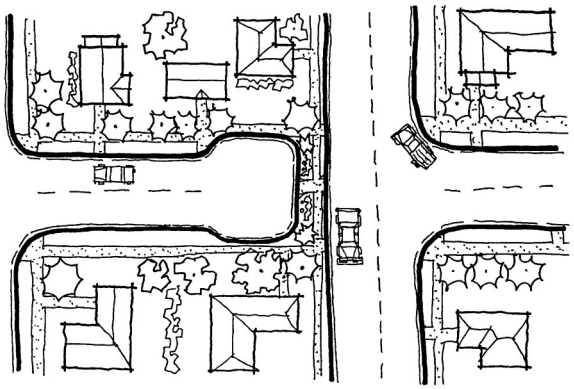
Disadvantages:

- Reduces emergency vehicle access;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- May be perceived as inconvenience by some neighbors and an unwarranted restriction by the general public; and
- May increase traffic volumes on other streets.

VOLUME CONTROL

Cul-De-Sac a.k.a. Dead end street.

Street closed to motor vehicles using planters, bollards or barriers.



Advantages:

- Eliminates through traffic;
- Reduces speed of the remaining vehicles;
- Provides space for landscaping;
- Improves safety for all the street users; and
- Maintains pedestrian and bike access.

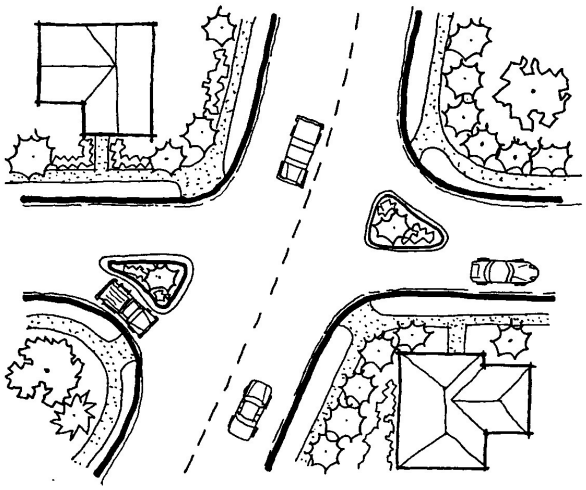
Disadvantages:

- Reduces emergency vehicle access;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- May be perceived as an inconvenience by some neighbors and an unwarranted restriction by the general public; and
- May increase traffic volumes on other streets.

VOLUME CONTROL

Forced Turn Barriers / Diverters a.k.a. Forced turn channelizations, pork chops, right turn islands.

Street closed to motor vehicles using planters, bollards or barriers.



Advantages:

- Changes driving patterns;
- May reduce cut through traffic;
- Provides space for landscaping;
- Improves safety for all the street users; and
- Maintains pedestrian and bike access.

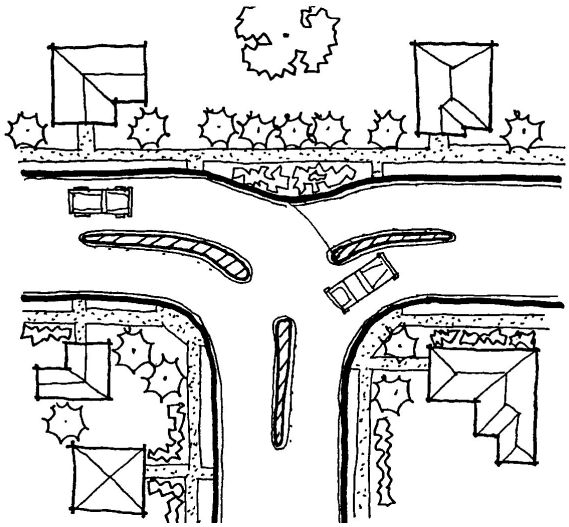
Disadvantages:

- May increase response times for emergency vehicles;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- Can be aesthetically unattractive if not landscaped; and
- Maintenance responsibility if landscaped.

VOLUME CONTROL

Modified Intersection a.k.a. Forced turn channelizations.

Median devices that force turns by motorist.



Advantages:

- Reduces vehicle speed;
- Changes driving patterns;
- Necessary to enforce changes in priority from one street to another;
- Reduces through traffic; and
- May provide space for landscaping.

Disadvantages:

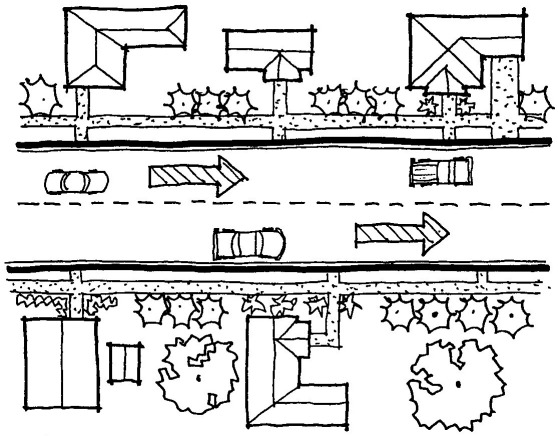
- May increase response times for emergency vehicles;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- Can be aesthetically unattractive if not landscaped; and
- Maintenance responsibility if landscaped.

VOLUME CONTROL

One-Way Streets a.k.a. Single direction traffic flow.

Streets that allow traffic flow in one direction only.

Changing the traffic flow pattern with one-way streets should be considered only in areas where there is a documented high percent of cut through traffic and where alternative routes exist.



Advantages:

- Tends to be safer, due to lack of friction from opposing traffic flow;
- Can facilitate traffic flow through an area;
- Can open up narrow streets for more resident parking;
- Maintains reasonable access for emergency vehicles; and
- Maze effect of one-way traffic can discourage through traffic.

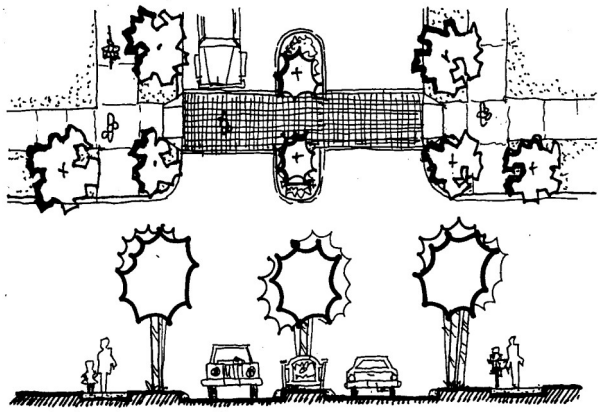
Disadvantages:

- May increase response times for emergency vehicles;
- Reduces access to properties for residents;
- May increase trip length for some residents;
- Can lead to increased vehicle speeds; and
- May result in initial safety concerns as drivers adjust.

COMBINED MEASURES

Gateway Treatment a.k.a. Entrance feature signaling change in use.

Treatment to a street that includes a sign, banner, landscaping or other structure that helps to communicate a sense of neighborhood.



Advantages:

- Positive indication of a change in environment from arterial road to residential street;
- Reduces entry speed;
- Reduces pedestrian crossing distances;
- On very wide streets provides space for landscaping the median;
- Helps give neighborhood a sense of identity; and
- Allows neighborhood creativity and participation in design.

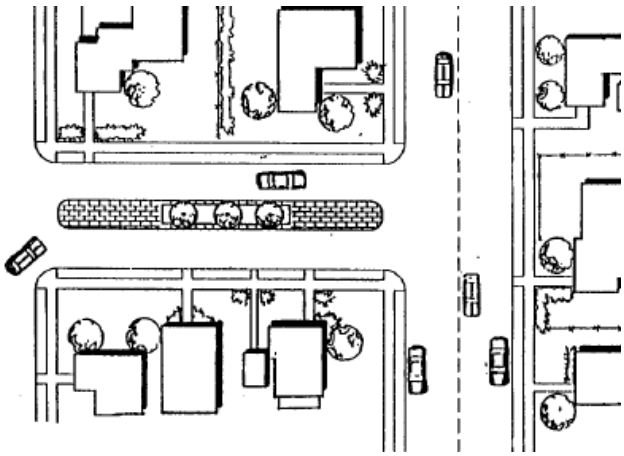
Disadvantages:

- May increase maintenance responsibility.

COMBINED MEASURES

Landscaping a.k.a. Decorative alteration and planting of grounds.

Treatment to a streetscape that focuses on landscaping to communicate a sense of neighborhood and helps make motorists aware of a change in driving environment.



Advantages:

- Positive indication of a change in environment from arterial road to residential street;
- Reduces entry speed;
- May reduce pedestrian crossing distances;
- Helps give neighborhood a sense of identity; and
- Allows neighborhood creativity and participation in design.

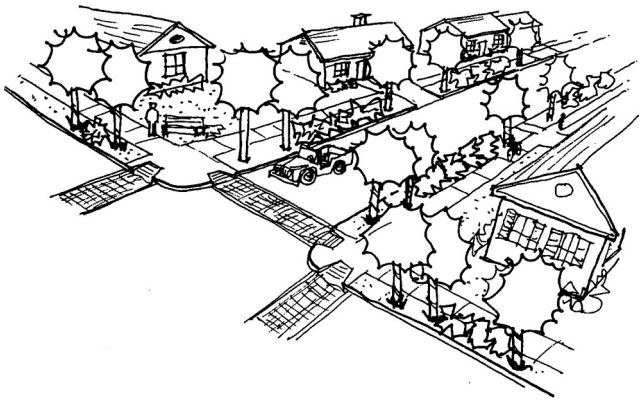
Disadvantages:

- May increase maintenance responsibility.

COMBINED MEASURES

Modified Street Design **a.**k.a. Change in streetscape.

Treatment to a streetscape that focuses on visual aspects, landscaping and dimensional changes to communicate a sense of neighborhood and helps make motorist aware of a change in driving environment.



Advantages:

- Positive indication of a change in environment from arterial road to residential street;
- Reduces entry speed;
- May reduces pedestrian crossing distances;
- Helps give neighborhood a sense of identity; and
- Allows neighborhood's creativity and participation in design.

Disadvantages:

- May increase maintenance responsibility.

SUPPORTING DOCUMENTS

Page

Non-Local Roadways

Roadways in Collier County Not Considered Local Facilities*

- Airport-Pulling Road
- Bald Eagle Drive
- Bayshore Drive
- Bonita Beach Road
- Carson Road
- County Barn Road
- CR 29 (US 41 to end of Chokoskee Island Causeway)
- Davis Boulevard
- Golden Gate Parkway
- Goodlette-Frank Road
- Green Boulevard
- Gulf Shore Drive
- CR 951
- Immokalee Road
- Interstate 75
- Lake Trafford Road
- Logan Boulevard
- Livingston Road
- N. 1st Street (Immokalee)
- New Market Road
- N. 11th Street (Immokalee)
- Camp Keais Road
- Old 41 (CR 887)
- Pine Ridge Road
- Radio Road
- Rattlesnake-Hammock Road
- Santa Barbara Boulevard
- San Marco Road
- SR 29
- SR 951
- Tamiami Trail (US 41)
- Vanderbilt Beach Road (CR 951 to Hammock Oak Drive)
- Vanderbilt Drive (111th Ave. N. to Bonita Beach Rd.)
- Westclox Road
- Wiggins Pass Road

Roadways in the City of Naples
Not Considered Local Facilities

- Central Avenue (from Goodlette-Frank Rd. to 8th Street)
- Fleischman Boulevard
- Golden Gate Parkway
- Goodlette-Frank Road
- Tamiami Trail
- 8th Street (from 4th Ave. N. to 8th Ave. S.)
- 10th Street (from 5th Ave. N. to 5th Ave. S.)

* This is a partial listing only. Please check with us for updates.

NTMP

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

APPLICATION FORM

COLLIER COUNTY FLORIDA **Form NTMP1**

Date: _____ Neighborhood:_____

Names of three to five Neighborhood representatives:

_____ _____

_____ _____

_____

Name of Contact Person: _____

Phone: _____

Address:

_____

Which neighborhood street(s) are of concern?

_____

_____

What traffic problems have you identified affecting the above street(s)?

_____

_____

_____

Number of households and/or businesses identified in your petition area: _____

Number of signatures received from households in your petition area: _____

Please return the completed application form along with the signed petition forms to:

NTMP Project Manager
Collier County Transportation Services Division
Neighborhood Traffic Management Program
2885 South Horseshoe Drive
Naples, Florida 34104
Phone: 239-774-8192 (NTMP)

Petition Form

NTMP

PAGE _____ OF _____

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

PETITION FORM

COLLIER COUNTY FLORIDA

Form NTMP2

We, the undersigned, as residents of the _____neighborhood, hereby request the evaluation of the traffic problems on _____ street(s) and the development of a Neighborhood Traffic Management Project. The problems are identified as: _____

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

DATE	NAME (please print)	ADDRESS	SIGNATURE

PROJECT PRIORITIZATION
(Ranking of NTMP projects for funding)

I. Safety Factors:	**Maximum 40 Points**	
Criteria	**Points**	
1. Traffic Volumes:		
Greater than 3,001 vehicles per day	10 points	_____
2,501 to 3,000 vehicles per day	5 points	_____
2,000 to 2,500 vehicles per day	2 points	_____
2. Traffic Speeds:		
85th% exceeds speed limit > 20 mph	10 points	_____
85th% exceeds speed limit > 15 mph	5 points	_____
85th% exceeds speed limit > 10 mph	1 points	_____
3. Crash history:		
> 6 accidents, past 5 years	5 points	_____
3 to 5 accidents, past 5 years	3 points	_____
1 to 2 accidents, past 5 years	1 point	_____
4. Bike/Pedestrian LOS:		
Level F	10 points	_____
Level D	5 points	_____
Level C	1 points	_____
5. Other offsetting factors:		
Provides for unusual/compelling situations not addressed in other criteria. Must be recommended by TC staff for consideration, with background specifics.	0 to 5 points	_____

Safety Factor Total …… _____

Project Prioritization Pg. 2

II. Improvement to Neighborhood Value: Max. 30 points

Criteria	Points	
1. Percentage of residents expressing concern		
> 70% of residents expressing concern	10 points	_____
> 50% of residents expressing concern	5 points	_____
> 30% of residents expressing concern	2 points	_____
2. Neighborhood Aesthetics/Character:		
NTMP devices with high-level of aesthetics (contain both landscape/hardscape improvements)	5 points	_____
NTMP devices with medium-level aesthetics (contain either landscape/hardscape improvements)	3 points	_____
NTMP devices with low-level aesthetics (non-punitive) (signage)	1 point	_____
NTMP devices with low-level aesthetics (punitive) (speed humps)	3 points	_____
3. Value Benefit Area (how many homes benefit from character improvement):		
> 112 per mile	5 points	_____
81 to 111 per mile	3 points	_____
51 to 80 per mile	2 points	_____
20 to 50 per mile	1 point	_____
4. Neighborhood Cost Participation (property values > $250,000/unit):		
Neighborhood contribution 50% of cost	5 points	_____
Neighborhood contribution 25% of cost	3 points	_____
Neighborhood contribution 10% of cost	1 point	_____
4a. Neighborhood Cost Participation (property values <$250,000/unit):		
Neighborhood contribution 50% of cost	10 points	_____
Neighborhood contribution 25% of cost	5 points	_____
Neighborhood contribution 10% of cost	2 points	_____
5. Other offsetting factors:		
Provides for unusual/compelling situations not addressed in other criteria. Must be recommended by NTMP staff for consideration, with background specifics.	0 to 5 points	_____

Improvement to Neighborhood Value Total…… _____

III. Neighborhood Demographic: Max. 30 points

Criteria		Points
1. Number of children in neighborhood:		
40 per mile	10 points	_____
20 per mile	5 points	_____
10 per mile	2 points	_____
5 per mile	1 point	_____
2. Number of houses facing the street (both sides):		
> 56 per mile	5 points	_____
41 to 55 per mile	3 points	_____
26 to 40 per mile	2 points	_____
10 to 25 per mile	1 point	_____
3. Number of units on adjacent streets that must use the TC street for access:		
> 56 per mile	5 points	_____
41 to 55 per mile	3 points	_____
26 to 40 per mile	2 points	_____
10 to 25 per mile	1 point	_____
4. Schools and Public Facilities adjacent to the street:		
Points for each school	5 points	_____
Points for each recreation facility (park, pool, etc)	4 points	_____
Points for each trail/walkway crossing	3 points	_____
Points for each other public facilities	1 point	_____
5. Neighborhood Services directly accessed by the street:		
Points for grocery store	5 points	_____
Points for neighborhood convenience store	3 points	_____
Points for drug/general retail (Eckerd, etc)	2 points	_____
Points for local retail (strip center, etc)	1 point	_____
Neighborhood Demographic Total……		_____

PRIORITIZATION TOTAL SCORE: I, II & III …… ____

PACE CAR Registration Form

NTMP

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

PACE CAR FORM

COLLIER COUNTY FLORIDA

Pace Car Registration Form
&
Neighborhood Pace Car Pledge:

Realizing that my driving affects the livability of other people's neighborhoods, just as other people's driving affects my neighborhood, I hereby pledge to:

- Drive within the speed limit on city streets.
- Stop to let pedestrians cross and be courteous to bicyclists and others.
- Display my Pace Car Sticker and put something on or in my car that's designed to make others laugh.
- Be a courteous and aware pedestrian when I am walking.
- Be a courteous and aware cyclist when I am biking.
- Have fun while caring for others.

Signed _____Date: _____

First Name: _____ Last Name: _____

Street Address: _____ Zip Code: _____

Phone* _____ Email* _____

* *Optional*

"Traffic Calming" Credits

These notes support Statements on Page 5 of this Booklet regarding the practice of "traffic calming".

The authority to implement "Traffic Calming" comes to us from the following sources:

1. **Collier County Growth Management Plan, Transportation Element (III) E**. Goals and Objective & Policies.

   (III) Objective 9: *The County shall encourage neighborhood involvement and safe and pleasant conditions for the residents, pedestrians, bicyclists and motorists on neighborhood streets, not classified as arterials or collectors, through the implementa tion of the Collier County Neighborhood Traffic Management Program (NTMP).*

2. **Board of County Commissioners Resolution 95-608**, which establishes the Neighborhood Traffic Management Program.

3. **The Unified Land Development Code (ULDC), Chapter 4**, Subdivision Design Requirements. § 4.03.05 (A) Blocks. *The length, width and shape of blocks shall be determined with due regard to:*

   (4.) *Where special topographical conditions exist, block lengths greater than 660 feet shall be approved by the County Manager or designee pursuant to procedures set forth in Chapter 10. Traffic calming devices, as ap proved in the Neighborhood Traffic Management Pro gram, shall be provided in block lengths greater than 660 feet.*

Chapter 6. Infrastructure Improvements and Adequate Public Facilities Requirements. § 6.06.00 Transportation System Standards. § 6.06.01 Street System Requirements.

(G.) *Use of local streets by cut-through traffic shall be discouraged, using methods (like traffic calming) that do not compromise connectivity or reduce the number of access points to the subdivision.*

Acknowledgements

The Collier County/Naples Metropolitan Planning Organization (MPO) and the Traffic Calming Task Force created the Collier County/Naples Neighborhood Traffic Management Program (NTMP). The MPO staff and the Task Force then formed the NTMP, incorporating a Traffic Calming Committee and a process for identifying, qualifying and addressing problems.

This 2006 addition of the NTMP book is an updated version of the original booklet created by the Traffic Calming Task force in 1995. The NTMP would like to gratefully acknowledge the members of the 2004 and 2005 Traffic Calming Committee. These participants worked closely with NTMP staff during the revaluation of the NTMP process to establish threshold requirements and project ranking for prioritization of future traffic calming projects.

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