

NEIGHBORHOOD TRAFFIC CALMING PROGRAM

ADOPTED BY CITY OF SOUTHFIELD CITY COUNCIL ON JUNE 24, 2024



ACKNOWLEDGEMENTS

THANK YOU

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Neighborhood Traffic Calming Program

Purpose

The City of Southfield's Neighborhood Traffic Calming Program has been established to address vehicle speeding and traffic safety concerns on neighborhood streets. The program allows City staff to collaborate with residents to properly identify concerns, conduct studies and implement appropriate solutions that help reduce vehicle speeds and improve safety on neighborhood streets for all modes of travel, thereby improving the quality of life for residents.

WHAT IS TRAFFIC CALMING?

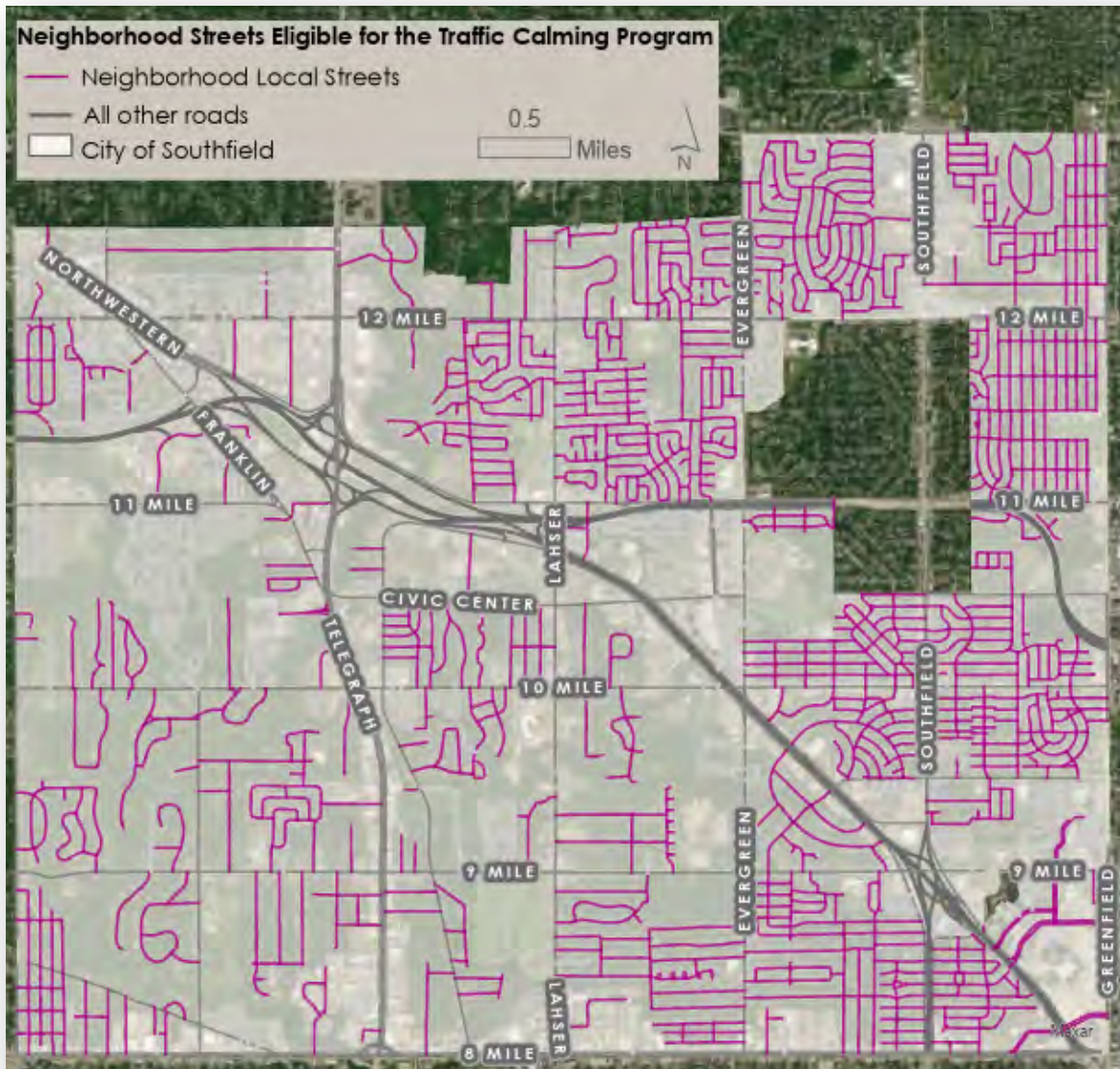
In addition to education and enforcement programs that aim to slow speeds and reduce the volume of traffic in a neighborhood, there are design and engineering solutions that can address traffic concerns. Traffic calming measures are engineering tools that can be built or implemented to slow down or divert traffic in residential areas. In-turn traffic calming reduces the likelihood of crashes and improves safety, mobility, and quality of life for residents. Traffic calming measures can be things you drive over like raised crosswalks or things you drive around like curb bump outs or roundabouts.



Source: *Global Street Design Guide, Traffic Calming Strategies* by Globaldesigningcities.org

WHAT IS NEIGHBORHOOD STREET?

Every road has a classification based on design, purpose, and adjacent land use. The National Functional Classification (NFC) system categorizes roads according to their ability to move traffic and to provide access. Different classification types include freeways, principal and minor arterials, major and minor collectors, and local streets. This program focuses on traffic calming and safety on local streets. Neighborhood streets, alternatively called “local streets,” are not eligible to receive federal funds for pavement or safety improvements. It is the responsibility of the City of Southfield to program and fund road improvements that address concerns on neighborhood/local streets. The map below shows in red the local streets qualified to be studied through this traffic calming and safety program.



Participating in the Program

There are four steps involved in the program that ensure both the residents and city staff are engaged and working together towards improving safety and quality of life for city residents. The process is initiated by a resident submitting a petition for City Engineering staff to review. Upon receiving the completed petition, City staff perform a study based on the concern laid out in the petition. The purpose of the study is to collaborate with residents, assess existing conditions, and identify potential improvements. Funding for the improvements must be approved by the City Council before implementation can proceed. After improvements have been installed or constructed, there will be post-construction analysis to determine if the improvements have achieved the desired traffic calming and safety improvement results.



STEP 1 – RESIDENT SUBMITS A PETITION.

If a resident has noticed excessive speeding, an increase of non-resident cut through traffic, or other traffic safety concerns on their neighborhood street, filling out the Traffic Calming Request form is the first step to implementing the traffic calming program process.

Understanding the Form

LOCATION MUST BE A NEIGHBORHOOD STREET & PROJECT AREA LIMITS CAN RANGE IN SIZE

THE TRAFFIC CALMING PROGRAM ADDRESSES SPEEDING, CUT-THROUGH TRAFFIC & SAFETY CONCERNS

CONCERNING BEHAVIOR MAY HAPPEN OFTEN & CAN BE PREDICTABLE BASED ON TIME OF DAY/WEEK

ENGINEERING OR DESIGN SOLUTIONS THAT CAN INFLUENCE BEHAVIOR

SUPPORT FROM PROPERTY OWNERS THAT AGREE THERE IS A CONCERN TO BE ADDRESSED

This form can be used as a Counter Petition Form, just check the box.

A copy of the form can be found in Appendix B.

The first page of the petition form requires general information about the location and type of concern. The second page is a signature page for property owners to sign showing proof of support for the petition. If there is adequate support from neighboring residents, the city will host an informal meeting to discuss the program. A minimum of 60% support from the impacted property owners is required for the concern to be considered by the city and to proceed to the next steps of the program. The area of impacted households is determined by city staff on a case-by-case basis and is dependent on the traffic concern. Signatures on the form must be from property owners. Tenant signatures on behalf of their landlord will not be accepted.

In the case that a resident would like to withdraw from a petition, the form in Appendix B can be filled out as a Counter Petition. A minimum of 60% support from impacted property owners is required for the counter petition to be accepted and the original petition abandoned. Signatures on the form must be from property owners. Tenant signatures on behalf of their landlord will not be accepted. Counter Petitions must be submitted prior to the City Council meeting where a traffic calming measure will be approved for implementation.

STEP 2 - CITY EVALUATION AND FIELD VISITS

Upon receipt of the petition form, City staff in the engineering department with assistance from the Police Department, will begin the evaluation of the location. When the identified problem cannot be resolved with education and enforcement activities, engineering staff will conduct a review of the site, collect data, and perform applicable studies to determine the validity of the reported traffic problem.

Study Area and Neighborhood Support – The study area must be on a local neighborhood street and may be a section of street, intersection, or multiple streets. The petition must show that a minimum of 60% of residents in the study area support the need for the city to consider a traffic engineering evaluation. The Engineering Department with assistance from the City’s Assessor’s Office will verify the validity and eligibility of the petition. Prioritization points are given after passing the 60% support threshold.

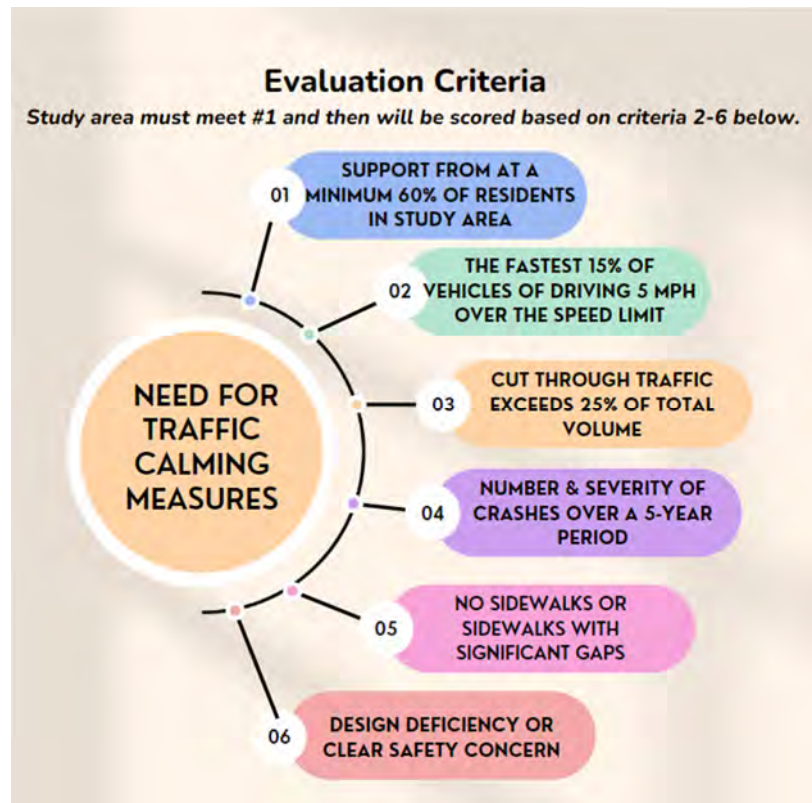
Speeds – A speed study may be conducted by using a speed measuring device to collect and record speeds. Data collected during a speed study must show that the fastest 15% of vehicles in the study area are driving 5 miles per hour or more over the posted speed limit.

(This is based on the 85th percentile speed best practice.) Prioritization points are given when this threshold is met.

Cut-Through Traffic – An origin-destination study may be conducted by observing traffic patterns at entrance and exit points of study area. Each vehicle is noted by time, color and the first three digits of license plates. Vehicles are matched and compared to determine the number of vehicles that may be cutting through a neighborhood. If cut-through traffic exceeds 25% of the total volume through this study, it may be identified as a traffic concern. Prioritization points are given when there is more than 10% cut-through traffic.

Safety Analysis – A safety analysis may be performed to review traffic crash data in the study area over a 5-year period. UD-10 forms from crashes in the study area may be used to review crash location, contributing factors, severity, and develop collision diagrams. Crash contributing factors that support traffic calming measures may include speeds too fast for existing conditions, failure to yield, etc. Field reviews and interviews with residents may also help determine other factors not noted in UD-10s. Prioritization points are given per crash where conditions such as speeds too fast for existing conditions are a contributing factor.

Additional Considerations – Other items that may elevate the reported concern as a valid traffic problem include noticeable design or sight distance deficiencies. These can include heavy traffic volumes, failing infrastructure on adjacent roadways that may cause diversion of traffic, absence of sidewalks, vegetation overgrowth blocking driver line of sight, etc. Points are given for traffic volumes and lack of sidewalks or gaps in sidewalks; other factors mentioned are not scored but are regarded as additional considerations.



Scoring the project after evaluation

After the City has collected data through studies and analysis, the project will be given a score based on the criteria. This score will be used when prioritizing future project implementation and securing funding. Low scoring projects with clear traffic concerns may also be prioritized depending on feasibility and funding.

Scoring Matrix

Criteria	Range	Points	Score
Neighborhood Support	Less than 60%	Does not qualify	
	60% - 90%	3	
	Greater than 90%	5	
Percentage of Drivers Exceeding the Speed Limit	Less than 15%	0	
	15-25%	3	
	25% or more	5	
Cut-through Traffic	less than 10% of total traffic	0	
	10-25% of total traffic	2	
	Greater than 25%	5	
Traffic Volume	Less than 400 vehicles a day	0	
	400-800 Vehicles a day	2	
	More than 800 vehicles a day	5	
Sidewalks	Sidewalks are present with no significant gaps	0	
	Sidewalks are present with significant gaps	1	
	No sidewalks present	2	
Crashes with Contributing Factors Related to Traffic Concern	None	0	
	Yes	3 points each	

Projects that score 15 or more points will be prioritized for implementation, while projects scoring less than 15 points will be implemented as resources become available.

Projects that score less than 5 points will not be considered for implementation and can be resubmitted after 2 years. All projects must have a minimum of 60% support from residents in the study area to be evaluated.

Selecting Traffic Calming Measure and/or Device

Funding will need to be identified for any project that is considered for implementation. Funding for traffic calming and safety projects will be sourced from the city's General Fund unless external funding sources are identified. Availability and amount of funding needed to implement projects will vary depending on the type of traffic calming measure or device selected.

Traffic Calming measures and devices can be categorized by the following categories: horizontal or vertical deflections, road closures, visibility improvements like signage, pavement markings or lighting. City Staff will select a traffic calming measure or device that best alleviates the observed traffic problems and is financially feasible. The table below outlines the categories of traffic calming measures. **Information and guidance traffic calming measures can be found in the Toolkit in Appendix A.**

Traffic Calming and Safety Measure Categories



HORIZONTAL DEFLECTIONS

Traffic calming devices to drive around, that require slower speeds and full attention from drivers to maneuver.
Lateral Shift, Chicane, Realigned Intersection, Traffic Circle, Small Roundabouts, Corner Extension/Bulb Out, Choker, Median Island



VERTICAL DEFLECTIONS

These are traffic calming devices to drive over that result in vehicle damage and injury if a driver does not reduce their speed.
Speed Hump, Speed Cushion, Speed Table, Raised Crosswalk, Raised Intersection



ROAD CLOSURES

Traffic calming measures that prohibit cut-through non-residential traffic and may reduce speeds.
Full Closure, Median Barrier, Forced Turn Island, Diagonal Diverter



VISIBILITY IMPROVEMENTS

Traffic calming measures that increase visibility for motorists and non-motorized travelers
Signage, Lighting, Pavement Striping, Raised Markers

Traffic calming measures and/or devices shall not be allowed where no traffic problems are identifiable, and the installation of the devices would inconvenience or potentially endanger the public. No traffic calming device shall be installed or placed on any street without the approval of the City Council.

STEP 3 – IMPLEMENTATION OF TRAFFIC CALMING OR SAFETY IMPROVEMENTS

Once the appropriate traffic calming measure, funding source, and project cost is identified, findings will be presented to the impacted residents at a community meeting. Community input obtained at the meeting is incorporated into the study. Emergency service staff from the Police and Fire Departments will review any recommendations for adverse impacts to emergency services. Upon their endorsement, final engineering recommendations and the verified petition will be submitted to the City Council for approval. Implementation of the identified traffic calming measure is based on City Council approval and review of budget limitation and funding availability. The timeline of implementation could take up to 2 years after City Council approval.

STEP 4 - POST-IMPLEMENTATION ASSESSMENT

After traffic calming measures and/or devices are implemented, staff will conduct a post-implementation assessment of their effectiveness.

- Effectiveness may be measured after 6 months, at 1-year, 2-year, or 5-years as applicable or determined by City staff.
- Results may be measured by collecting and evaluating updated speed, crash, and cut-through traffic volume data. If data shows improvement from pre-implementation conditions, the treatment may be determined to be effective.
- If there are any undesirable adverse effects, devices may need to be removed unless additional previously unknown measures, if installed, could enhance effectiveness.
- If the device implemented was temporary and has shown to be effective, staff will determine if a permanent device may need to be installed.
- In the case that residents want the device removed following implementation, they must formally petition the removal and will be responsible for 100% of the cost of removal.

Appendix A - The Toolkit

The Toolkit

The Traffic Calming Measure Toolkit provides information on each identified traffic calming measure, their applicability, advantages, disadvantages, cost to implement and effectiveness.

Traffic Calming Measures Associated Costs



\$

Traffic calming devices in this category typically cost less than \$5,000 to install.

Signage, Pavement Striping, Raised Pavement Markings, Speed Humps, Speed Cushions



\$\$

Traffic calming devices in this category typically range from \$5,000 - \$10,000 to install.

Lighting, Median Islands, Speed Tables, Median Barriers, Forced Turn Islands,, Chokers



\$\$\$

Traffic calming devices in this category typically range from \$10,000 - \$25,000 to install.

Raised Crosswalks, Lateral Shifts, Chicane, Diagonal Diverter



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Traffic calming devices in this category typically cost more than \$25,000 to install.

Realigned Intersections, Traffic Circles, Roundabouts, Raised Intersections, Full Closures

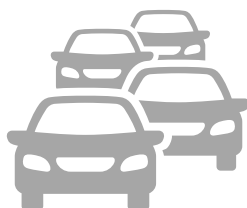
The estimated price range indicated in the toolkit is the typical cost per device, multiple devices are likely required for each implementation project.

EFFECTIVENESS LEGEND

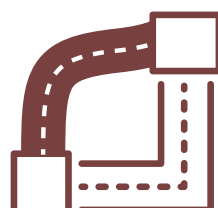
A red icon indicates that this traffic calming measure is effective in addressing the topic. A grey icon indicates the traffic calming measure is not directly effective in addressing the topic.



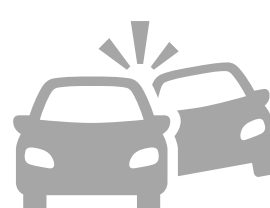
Improves
Non-Motorized
Safety



Manages
Traffic
Volume



Reduces
Cut-Through
Traffic



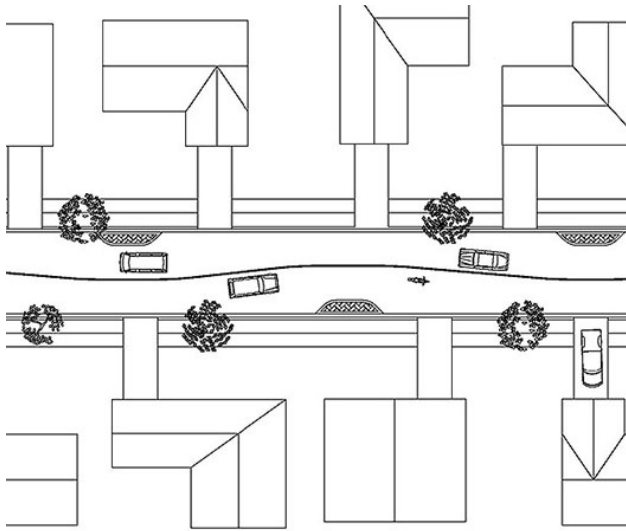
Reduces
Crashes



Reduces
Vehicle
Speeds

Chicane

Horizontal Deflection



APPLICATIONS

Chicanes are generally used at mid-block locations in a series of 3 curb extensions. The maximum appropriate speed limit is 35 mph. They are most effective on local roads with low volumes and crosswalks are not recommended.

COST: \$\$\$

DESCRIPTION

Chicanes are S-shaped curb extensions that alternate from one side of the road to the other. These curb extensions restrict drivers from driving in a straight line, forcing vehicles to slow down through the curves. Chicanes generally involve medians.

ADVANTAGES

- Reduces vehicle speeds
- Discourages cut-through traffic
- Provides an opportunity for landscaping

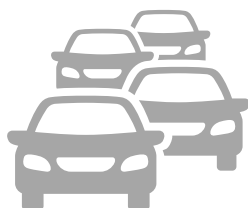
DISADVANTAGES

- May result in reduction of on-street parking
- May require manual street sweeping
- May force bicyclists to share travel lanes with vehicles
- Not a preferred crosswalk location

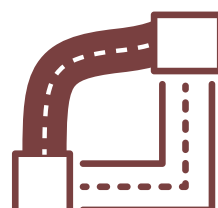
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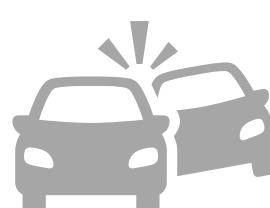
Improves
Non-Motorized
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Manages
Traffic
Volume



Reduces
Cut-Through
Traffic



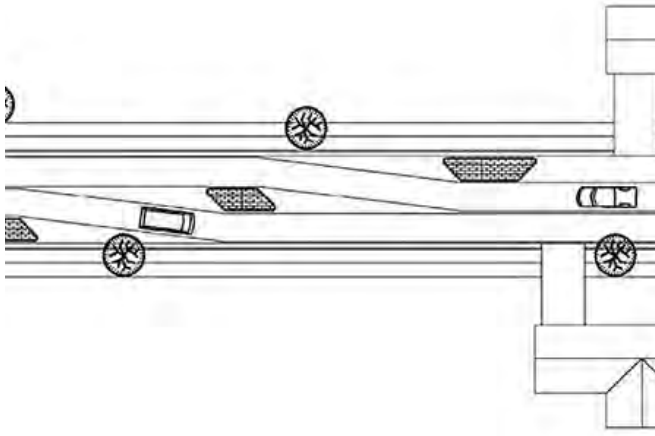
Reduces
Crashes



Reduces
Vehicle
Speeds

Lateral Shift

Horizontal Deflection



DESCRIPTION

A lateral shift is a realignment of a straight section of road with pavement markings or curb extensions to create a curve. Lateral shifts increase a driver's awareness and effectively reduce their operating speed. Medians are generally installed with lateral shifts. This design is similar to a chicane.

APPLICATIONS

Lateral Shifts are generally used at mid-block locations on neighborhood through-streets where other calming measures are not applicable. The maximum appropriate speed limit is 35 mph. Location should include streetlighting.

COST: \$\$\$

ADVANTAGES

- Reduces vehicle speeds
- Discourages cut-through traffic
- Provides an opportunity for landscaping
- Provides location for crosswalks

DISADVANTAGES

- Motorists may cross centerline for straight path
- May result in reduction of on-street parking
- Snow removal may be more difficult

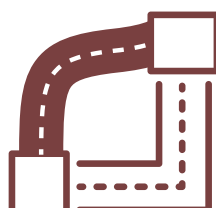
EFFECTIVENESS



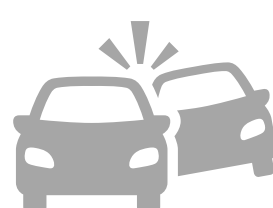
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



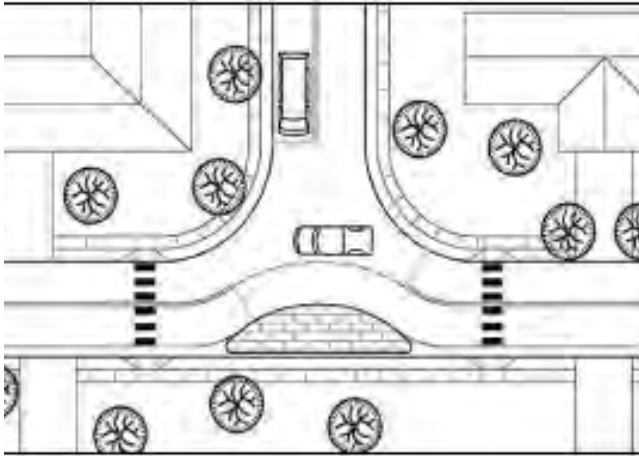
**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Realigned Intersection

Horizontal Deflection



DESCRIPTION

Realigned intersections have been reconfigured from an existing straight intersection with perpendicular angles to have skewed approaches that aim to reduce straight-ahead speeds. The realignments are designed to slowdown drivers by adding curves.

APPLICATIONS

Realigned intersections are effective in neighborhoods where speeding and failure to yield has been a problem. The most common examples of realignments are at T-intersections. The maximum appropriate speed limit is 25 mph. Location should include streetlighting.

COST: \$\$\$\$

ADVANTAGES

- Reduces vehicle speeds
- Provides an opportunity for landscaping
- May improve non-motorist safety by reducing street crossing distance

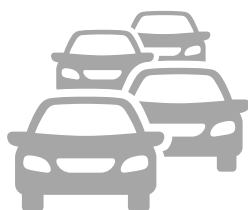
DISADVANTAGES

- A higher cost traffic calming measure
- May confuse drivers at night if there is insufficient lighting
- May force bicyclists to share travel lanes with vehicles

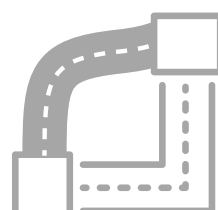
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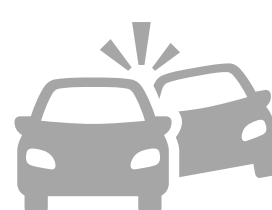
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Traffic Circle

Horizontal Deflection



DESCRIPTION

Traffic circles are raised islands, placed in the middle of intersections. The circle can be used in a similar matter to a roundabout but has a smaller footprint. Circles prevent drivers from speeding through intersections by forcing drivers to slow down to yield.

APPLICATIONS

Traffic circles are typically suitable for intersection on local and neighborhood streets which do not see large vehicle traffic. Location near streetlighting is preferred. YIELD signs are recommended at all approaches.

COST: \$\$\$\$

ADVANTAGES

- Reduces conflict points at intersection.
- May improve traffic flow
- Provides an opportunity for landscaping

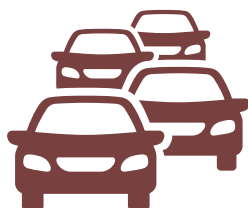
DISADVANTAGES

- A higher cost traffic calming measure and may require right-of-way acquisition
- May force bicyclists to share travel lanes with vehicle

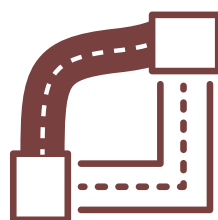
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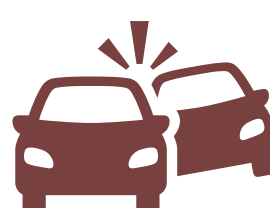
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Roundabout (Single-lane)

Horizontal Deflection



APPLICATIONS

Single-lane roundabouts are substituted for a signalized intersection. The design is most effective with locations with abundant right-of-way. Location near streetlighting is preferred. YEILD signs are recommended at all approaches. Requires special attention to landscaping, non-motorized facilities and turning radius design.

COST: \$\$\$\$

DESCRIPTION

Roundabouts, like traffic circles, are raised islands, placed in the middle of intersections forcing traffic to circulate. The circular concept is designed to reduce conflict points and vehicle speeds. Single-lane roundabouts are one lane in each direction, and common in neighborhoods and rural areas.

ADVANTAGES

- Creates a safer intersection with less conflict points, reduced crash severity
- Less expensive operating costs than traffic signals
- Provides an opportunity for landscaping

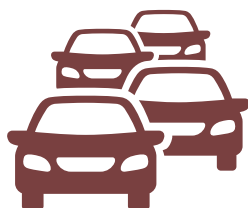
DISADVANTAGES

- A higher cost traffic calming measure and may require right-of-way acquisition
- May reduce on street parking

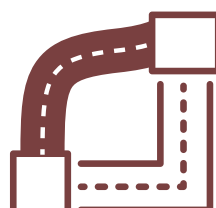
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



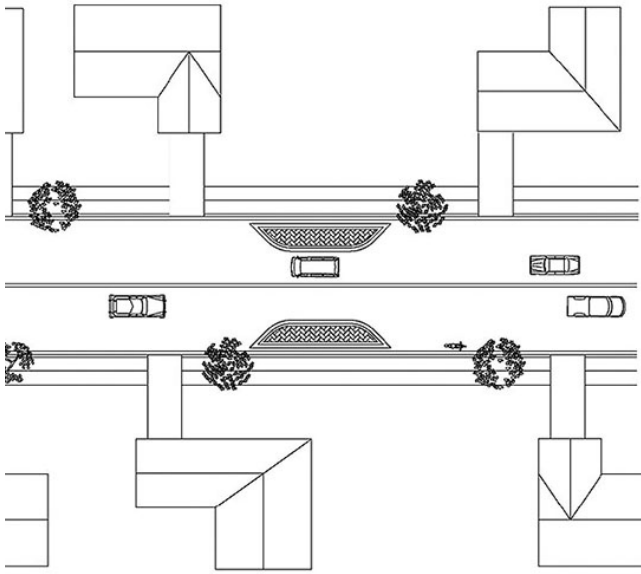
**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Choker

Horizontal Deflection



APPLICATIONS

Chokers are most effective on residential streets and the typical width is 6-8 feet. The location of a choker is generally midblock and near the beginning of a collection of homes with multiple driveways or at the beginning of daytime on-street parking. They are appropriate for any speed limit.

COST: \$\$

DESCRIPTION

Chokers are curb extensions that narrow a street to slow down traffic. Chokers leave the street narrower than the normal cross section. The intent of the choker is to slow down impeding traffic by increasing awareness and avoiding the curb. They force two-way traffic to take turns passing through.

ADVANTAGES

- Reduces vehicle speeds
- May improve non-motorist safety by reducing street crossing distance
- Provides an opportunity for landscaping

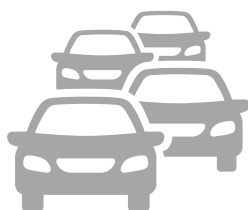
DISADVANTAGES

- May cause speeding after choker
- May reduce on street parking
- Potential higher cost traffic calming measure if it requires right-of-way acquisition

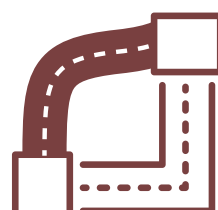
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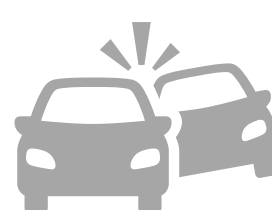
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Median Island

Horizontal Deflection



APPLICATIONS

Median islands are useful at midblock locations. If placed at an intersection it is considered a median barrier. The island is built with obstructions that prevent vehicles from passing through such as landscaped islands, mountable facilities, walls, gates, bollards.

COST: \$\$

DESCRIPTION

A median island is a raised island located in the center of a road. A median island is generally installed to restrict drivers from crossing the lane. The islands may also serve as designated pedestrian refuge islands.

ADVANTAGES

- May improve non-motorist safety by reducing street crossing distance
- Provides an opportunity for landscaping
- Can be inexpensive and easy to construct

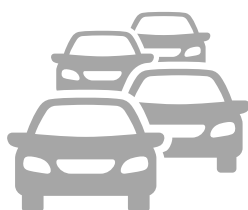
DISADVANTAGES

- May be difficult for snow removal
- May affect emergency vehicle access
- May impact access to properties
- May reduce on street parking

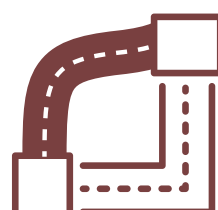
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Speed Hump

Vertical Deflection



DESCRIPTION

Speed humps are common traffic management devices that are familiar to most drivers, and sometimes are referred to as speed bumps or undulations. Speed humps consist of raised pavement placed across the entire roadway width creating a vertical deflection to slow vehicles.

APPLICATIONS

Speed humps are useful at midblock locations to slow down speeds. The humps are often 12 feet in length and between 3 to 4 inches high. The maximum appropriate speed limit is 45 mph. When placed in a series less than 500 feet apart speeds are maintained between 25-35 mph.

COST: \$

ADVANTAGES

- Reduces vehicle speeds
- Discourages cut-through traffic
- Inexpensive and easy to install
- Can reduce crash rates by 13%

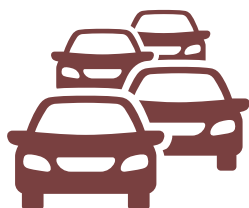
DISADVANTAGES

- May delay emergency vehicles 3-10 seconds per hump
- May increase noise levels as vehicles decelerate and accelerate

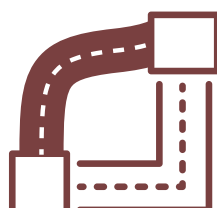
EFFECTIVENESS



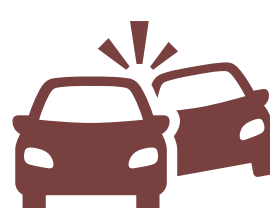
Improves
Non-Motorized
Safety



Manages
Traffic
Volume



Reduces
Cut-Through
Traffic



Reduces
Crashes



Reduces
Vehicle
Speeds

Speed Cushion

Vertical Deflection



DESCRIPTION

Two or more raised areas placed across road with gaps in raised areas. The square design allows cars to pass without slowing as significantly as with speed humps. These cushions are designed to slow personal vehicles down yet allow easy passage for emergency vehicles.

APPLICATIONS

Speed cushions are commonly placed on roads with speeds above 30 mph. Each location needs a minimum of two cushions, and there should be a series of locations spaced 260-500 feet apart. Can be installed within crosswalks. Can be made from asphalt or rubber.

COST: \$

ADVANTAGES

- Reduces vehicle speeds
- Inexpensive and easy to install
- Can reduce crash rates by 13%
- Limited to no delay to emergency vehicles

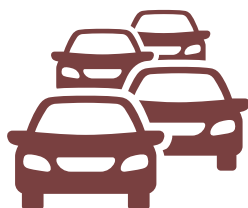
DISADVANTAGES

- May cause speeding before and after cushions
- May increase noise levels as vehicles decelerate and accelerate

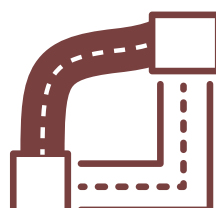
EFFECTIVENESS



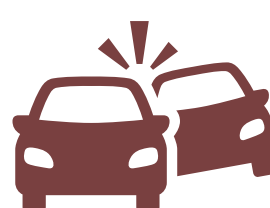
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Speed Table

Vertical Deflection



DESCRIPTION

Speed tables are rounded raised areas placed across the road. Unlike speed cushions, they do not have cut-outs but are preferred over speed humps for emergency vehicles. They are often placed before crosswalk to warn drivers of a pedestrian crossing. Aesthetic enhancements such as brick work, tinted pavement or stamped asphalt can be applied.

APPLICATIONS

Speed tables are appropriate and efficient at midblock locations and before intersections or crosswalks. Speed tables are typically elevated 3-6 inches high with ramps 6-10 feet long. They are appropriate for roads with speeds less than 45 mph, however, the recommended posted speed is typically 30 mph or less.

COST: \$\$

ADVANTAGES

- Reduces vehicle speeds
- Protects pedestrians at crossings
- Can reduce crash rates by 45%

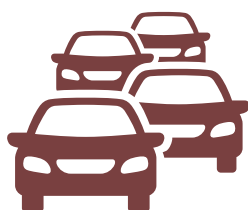
DISADVANTAGES

- Careful design is needed for drainage
- Although preferred over speed humps, speed tables can delay emergency vehicles by 3 seconds per table

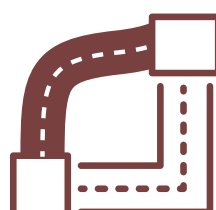
EFFECTIVENESS



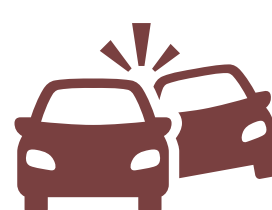
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Raised Crosswalk

Vertical Deflection



DESCRIPTION

A raised crosswalk is essentially a speed table that meets the adjacent curbs, and has a full-width crosswalk contained within the flat portion of the table. The design forces drivers to acknowledge an approaching pedestrian crossing.

ADVANTAGES

- Reduces vehicle speeds
- Protects pedestrians at crossings
- Can reduce crash rates by 45%

DISADVANTAGES

- Careful design is needed for drainage
- Like speed tables, raised crosswalks can delay emergency vehicles by 3 seconds

APPLICATIONS

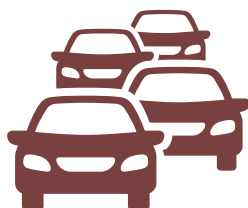
Raised crosswalks are typically placed at midblock crossings or at intersections. Raised crosswalks are typically elevated 3-6 inches high with ramps 6-10 feet long. They are appropriate for roads with speeds less than 45 mph, however, the recommended posted speed is typically 30 mph or less.

COST: \$\$\$

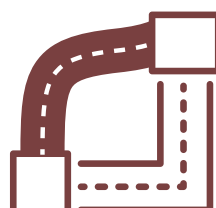
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Raised Intersection

Vertical Deflection



DESCRIPTION

A raised intersection is similar to a raised crosswalk, though the raised intersection encompasses the entire intersection. The raised intersection is a similar design to a speed table, but on a larger scale. Crosswalks are installed on top of the raised intersection.

APPLICATIONS

Raised intersections are typically installed at signalized or all-way stop controlled intersections with high pedestrian crossing demand. Used at intersections with a maximum speed of 35mph. Raised intersections are raised to sidewalk level and require a minimum pavement slope of 1 %

COST: \$\$\$\$

ADVANTAGES

- Reduces vehicle speeds
- Protects pedestrians at crossings

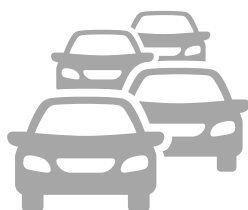
DISADVANTAGES

- May impact street drainage
- Higher cost traffic calming measure

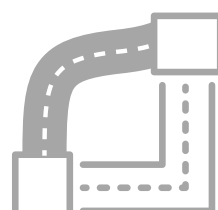
EFFECTIVENESS



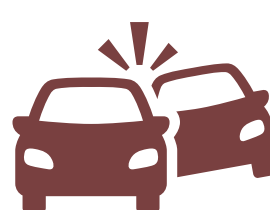
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Full Closure

Road Closures



DESCRIPTION

Full closures usually involves the installation of temporary or permanent barriers across a street to completely close off traffic. The closures can be concrete barriers or more affordable blockages. Often gaps are left in the barriers to permit bicycle and pedestrian access.

APPLICATIONS

Full closure is typically installed in a place where vehicles are not necessary or where other calming measures were not effective. Common places to install full closures are in areas with high non-motorized activity or access management problems.

COST: \$\$\$\$

ADVANTAGES

- Creates a very safe area for non-motorists and residents
- Eliminates cut-through traffic

DISADVANTAGES

- Higher cost traffic calming measure
- May divert traffic to an adjacent neighborhood street
- May delay emergency vehicles

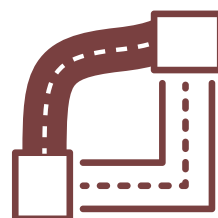
EFFECTIVENESS



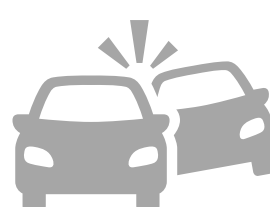
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Median Barrier

Road Closures



APPLICATIONS

Median barriers are installed in places where turns are not wanted and should be applied after other measures have failed. The barrier should extend beyond the intersection. They can be designed to be passable by non-motorized traffic. Location should include streetlighting.

COST: \$\$

DESCRIPTION

Median barriers are raised islands placed along the centerline of a street at an intersection. These barriers are designed to create a right-turn only movement and block left-turns and through movements from all intersection approaches.

ADVANTAGES

- Discourages cut-through traffic
- Provides an opportunity for landscaping
- May improve non-motorist safety by reducing street crossing distance

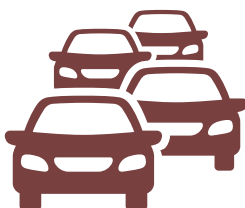
DISADVANTAGES

- Costly and may require right-of-way acquisition
- May divert traffic to an adjacent neighborhood street
- May result in reduction of on-street parking

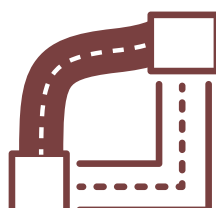
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Forced Turn Island

Road Closures



APPLICATIONS

Forced turn islands are installed in places where turns are not wanted and should be applied after other measures have failed. The barrier should extend beyond the intersection. They can be designed to be passable by non-motorized traffic. Location should include streetlighting.

COST: \$\$

DESCRIPTION

Forced turn islands involve the construction of raised islands at intersection approaches to prohibit certain turning movements in similar fashion to median barriers. The islands generally serve as a full closure for one direction of traffic.

ADVANTAGES

- Discourages cut-through traffic
- Provides an opportunity for landscaping
- May improve non-motorist safety by reducing street crossing distance

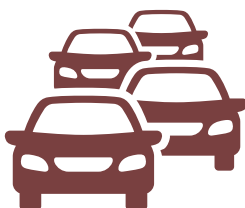
DISADVANTAGES

- Potential higher cost traffic calming measure if it requires right-of-way acquisition
- May divert traffic to an adjacent neighborhood street
- May result in reduction of on-street parking

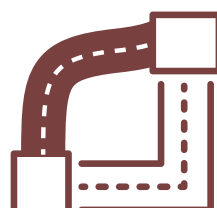
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



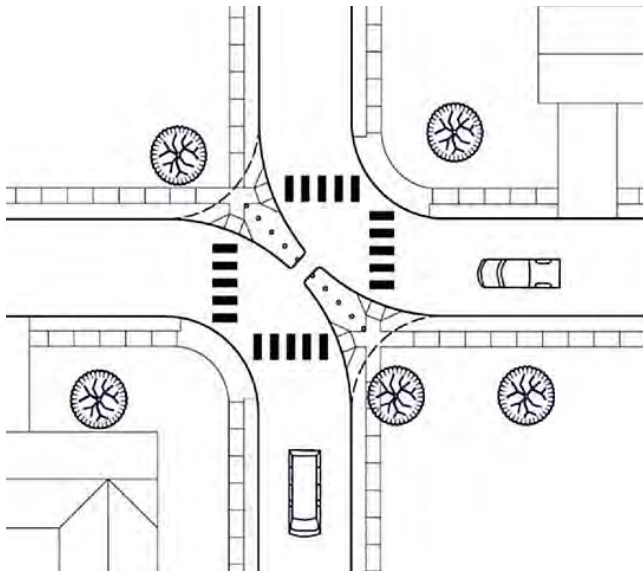
**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Diagonal Diverter

Road Closures



APPLICATIONS

Diagonal diverters are generally only seen in neighborhoods and applied after other measures have failed. Corner radii must accommodate full lane width for passing motor vehicle. They are placed at intersections and a maximum appropriate speed limit is 25 mph.

COST: \$\$\$

DESCRIPTION

A diagonal diverter is a median barrier at an intersection designed to restrict through traffic. The diverter is placed diagonally to force drivers to make a one directional turn rather than proceeding straight. The design leaves space for non-motorized individuals to cross through.

ADVANTAGES

- Reduces vehicle speeds
- Discourages cut-through traffic
- Provides an opportunity for landscaping
- May improve non-motorist safety

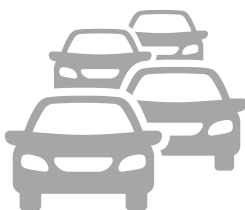
DISADVANTAGES

- May divert traffic to an adjacent neighborhood street
- Inconvenient for local residents and emergency vehicles.

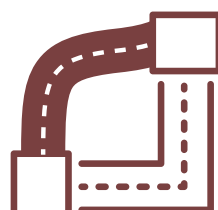
EFFECTIVENESS



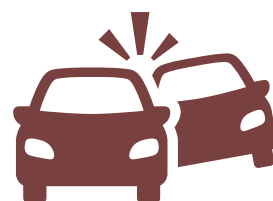
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Signage

Visibility Improvements



APPLICATIONS

Signage indicating traffic calming related features are critical in alerting travelers and ensuring safety. Signage is used in conjunction with other traffic calming measures or on its own and can help implement traffic calming. Many signs serve as educational awareness and can indicate enforcement zones.

COST: \$

DESCRIPTION

Traffic signs alert drivers of incoming road information. Signage provides notification of roadway vertical or horizontal deflections, crossings, speeds, etc.

ADVANTAGES

- Most signs are affordable and easy to install
- Signs have no effect on emergency vehicles
- Some signs can be enforceable.

DISADVANTAGES

- Overuse of signs can create visual cluster
- Drivers are used to seeing signs and sometimes ignore them
- Signs generally need to be replaced every 8-10 years

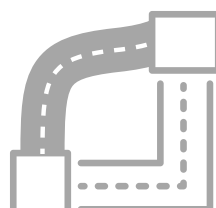
EFFECTIVENESS



**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Pavement Striping

Visibility Improvements



APPLICATIONS

Pavement striping is most effective on busy roads with speed limits greater than 25 mph. Striping for bike lanes, crosswalks is critical for safe passage of non-motorized users.

COST: \$

DESCRIPTION

Pavement striping are lines or icons installed on roads to help drivers differentiate where lanes or other road features are located. The lines act as a calming measure by narrowing lanes to slow driver speeds or marking pavement that is used for bike lanes, bus stops, parking etc.

ADVANTAGES

- Does not effect emergency vehicles
- Inexpensive and easy to construct
- More effective than signage

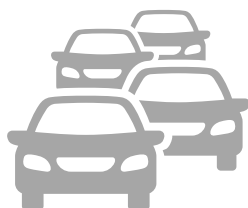
DISADVANTAGES

- Can be ignored by drivers, and offers no physical barrier preventing impeding traffic.
- Regular maintenance is required as lines fade

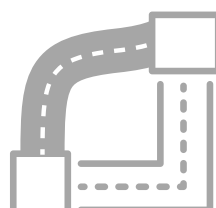
EFFECTIVENESS



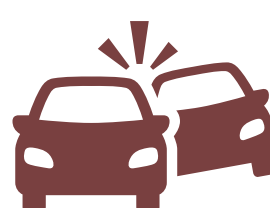
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



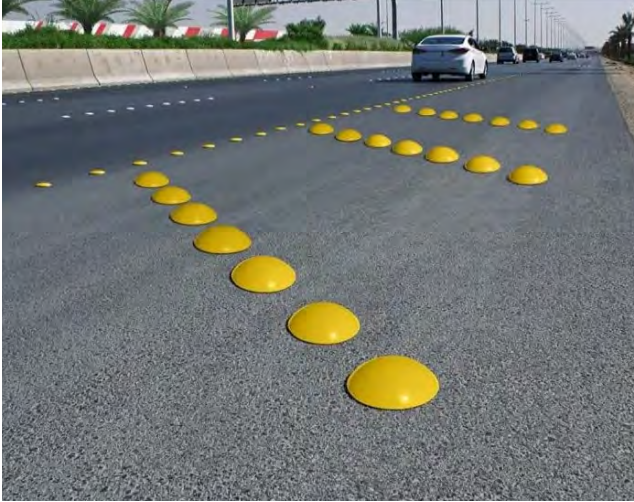
**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Raised Pavement Marking

Visibility Improvements



DESCRIPTION

Raised pavement markings are used to warn drivers of a change in the roadway. These markings can act as rumble strips when driven over, but also as visible reflectors for the driver.

ADVANTAGES

- May reduce vehicle speeds
- Inexpensive and easy to install
- Has no effect on emergency vehicles
- High visibility

DISADVANTAGES

- Need to be replaced frequently
- Can be unintentionally removed or damaged due to street sweeping or snow plowing.

APPLICATIONS

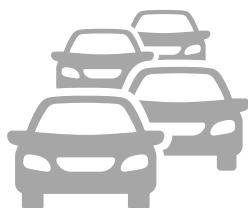
Raised pavement markings are usually paired with signage and other traffic calming features indicating a variation in road operation or design. The markings are generally placed at the location where the traffic calming feature is installed. Raised pavement markings are common on neighborhood collector roads.

COST: \$\$

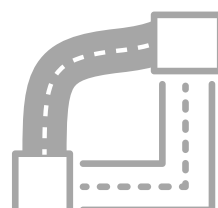
EFFECTIVENESS



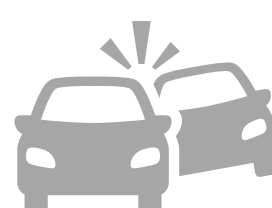
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

Lighting

Visibility Improvements



DESCRIPTION

The addition of lighting can improve visibility and safety for motorists and non-motorized travelers. Lighting also discourages street crime.

ADVANTAGES

- Reduces crash occurrence when dark
- Can help aid driver navigation
- Increase safety by reducing crime
- Reduces vehicle headlight glare

DISADVANTAGES

- Can increase cut-through traffic by providing visibility
- Enhances sight distance and increases visibility at night.
- Costs associated increase with scale.

APPLICATIONS

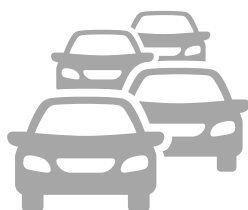
Strategic placement of lighting at crosswalks, intersections, driveways, tunnels or bridges can improve visibility aiding with vehicular navigation and detection of barriers or hazards. Lighting benefits locations with high nighttime traffic volumes, such as service roads and freeway ramps.

COST: \$\$

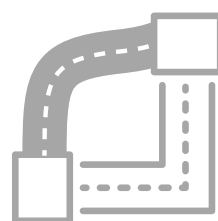
EFFECTIVENESS



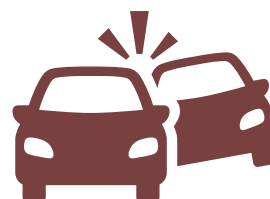
**Improves
Non-Motorized
Safety**



**Manages
Traffic
Volume**



**Reduces
Cut-Through
Traffic**



**Reduces
Crashes**



**Reduces
Vehicle
Speeds**

***Appendix B* - Neighborhood Traffic Calming
Program Petition Form**

Neighborhood Traffic Calming Program

P e t i t i o n F o r m



Page 1 of 2

Please fill out this form, gather signatures, and submit materials to:
trafficcalming@cityofsouthfield.com

Full Name : Date :

Address :

Phone : Email :

1. Please indicate what type of petition this is.

- New Neighborhood Traffic Calming Study
- Counter Petition to Existing Petition for Study *(If this is a counter petition, please fill out question 2, and complete signatures. Questions 3-5 are not required)*

2. Location of Concern. *Include name of neighborhood, streets and cross streets, and any addresses to help define the study area.*

3. What specific concern have you identified with the above location? *Check the box that fits your concern, then provide a description below.*

- Speeding Cut-Through Traffic Other Safety Concern

4. Please identify the specific days and/or time period that the concern takes place.

5. What solutions do you believe would address your concern?

