Traffic Calming

for

Bloomington Neighborhoods

Local Streets

CITY OF
BLOOMINGTON
MINNESOTA

Council Adopted: 1-20-04
Revised by Council: 2-02-04
Revised by Council: 4-25-05
Revised by Council: **4-27-09**

City Of Bloomington

Neighborhood Traffic Calming Policy and Procedure

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Background

Bloomington City Council in December, 2002 requested a document to assist neighborhoods address traffic volume and speed concerns in their neighborhoods. The City Council directed the Traffic and Transportation Advisory Commission (TTAC) and Engineering Division staff to study traffic calming devices, their appropriate uses and to prepare a Policy and Procedure Manual for installation, operation and maintenance of these devices.

Policy Modifications

The Collector street portion of the Policy was modified by Council on April 25, 2005. The changes make the evaluation of collector streets an annual program concurrent with the PMP schedule and not a resident initiated program. This change was made in recognition that the collector streets are part of the City's street system designed for use by larger numbers of vehicles, not just neighborhood traffic, and the responsibility of having changes made to these streets should not lie with the property owners abutting these streets.

The Assessment Policy for assessing the traffic calming devices for local street traffic calming projects was modified on June 27, 2005 to establish approved applicant cost(s) per device that will be borne by the property owners who have signed a Petition and Waiver of Hearing document, to eliminate the variable of not knowing the cost at the onset of the application.

Benefits of a neighborhood traffic calming installation:

During the past decade, residents in counties across the nation have been demanding that cities take action to slow traffic on their streets. The result has been adoption of a wide range of "traffic calming" measures (Dan Burdan, Emergency Response: Traffic Calming and Traditional Neighborhood Streets).

The installation of a traffic calming measure may reduce traffic speed and volume for a neighborhood, thus increasing the safety and livability of the neighborhood. The installation of a measure may create safer conditions for pedestrians and bicyclists, for street crossing and riding in the public roadway.

The neighborhood residents, along with city staff, emergency services, transit, and school district staff work collaboratively in choosing a traffic calming solution for the neighborhood that is acceptable for all stakeholders.

Opposition to the process: Those in opposition to traffic calming include more than motorists who want to travel fast. Some in opposition see traffic calming as an infringement of their right to use the public street in a legal and safe manner. Others see traffic calming as a poor use of public funds even within the neighborhood served by the traffic calming device. Opposition frequently involves the following:

- Does the degree of the traffic problem warrant a traffic calming device?
- Is the traffic calming device/measure cost effective for the properties paying for the project?
- Will the traffic calming device/measure move the traffic situation to an adjacent street?
- Will the traffic calming device/measure negatively impact local access for service and emergency vehicles?

Beginning the process: The key to any successful traffic calming project is choosing the most appropriate tool for the specific situation. The requesting neighborhood must identify the specific street or intersection involved, direction of traffic, day of week, time of day and other important data.

Many traffic calming devices/measures can be expensive and create inconvenience. A broad base of support is necessary. Poor planning, lack of neighborhood input, and/or support can result in controversy and divide neighborhoods.

To date, there are few Minnesota state engineering standards for traffic calming measures. Thus the development of a Policy and Procedure for the City of Bloomington, and the devices, must conform to engineering design standards for safety, such as the Manual on Uniform Traffic Control Devices.

This document does not constitute a standard, specification or regulation. The City of Bloomington does not endorse products or manufacturers. Trade or manufacturers' names appear herein only because they are considered essential to the objective of this document.

The contents of this document reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein.

Policies for Traffic Calming on Bloomington Local Streets

This policy is designed to assure fair and effective consideration of all proposals from neighborhoods at a minimum of administration expense.

The City may install or remove traffic calming devices by request, in those instances meeting the criteria and procedures of this policy. A portion of the cost of this work will be borne by the residents through application fees and the City's special assessment procedure (MN Chapter 429). These costs are per device as described in the "Local Street Traffic Calming Assessment Policy", adopted June 27, 2005.

1. Any local Bloomington street, which is not designated as collector, arterial, county road, or county state aid route, municipal state aid route, state or federal highway, may be considered through this traffic calming program.

2. Traffic calming projects should be compatible with the overall city transportation goals and objectives, as detailed in the City's Comprehensive Plan.

3. Neighborhood livability should be balanced with transportation efficiency and the safety needs of the traveling public and citywide mobility.

4. The balance of emergency response issues and traffic mitigation issues will be considered factors while working with the neighborhoods to address their speeding and other traffic safety concerns.

5. Implementation of traffic calming projects shall maintain access to the neighborhood destinations for all modes of transportation including walking, bicycling, transit, and automobile.

6. With each traffic calming project, a logical project boundary will be designated to address the issue of displacement /diversion of traffic within the project area.

7. Implementation of traffic calming for Bloomington local streets will be in accordance with the procedures set forth in this document, and in keeping with sound engineering practices, as well as be within the City of Bloomington's available financial and staff resources.

8. The Traffic Calming Program will be funded by a combination of city funds, application fees and neighborhood participation as detailed in the procedure.

9. The Traffic Calming Policy is not designed to mitigate traffic noise or redesign the overall street classification system or affect the existing modes of travel.

10. Operation of the annual Traffic Calming Program will be carried out by Department of Public Works staff.

***Local Street* Traffic Calming Program and Procedure**

Step 1	Requests for Information – Traffic engineering staff will provide traffic calming information packets including the following: • The City of Bloomington Traffic Calming Device Policy • General information on traffic calming • Schedule • Required Forms The information above will be available on the City of Bloomington website. Hard copies of the packet will be available at Public Works for a fee. A Public Informational Open House on traffic calming will be held in September of each year (hosted by Public Works staff).
Step 2	Requests for Consideration – Requests to consider traffic calming devices will be due by 4:30 P.M. on the first Monday of February. All required forms must be completed and a $335 application fee deposited at this time. Requests received after the deadline will be held for the following year.
Step 3	Initial Evaluation of Requests for Consideration – All requests will be forwarded for review and comment to the following agencies: • City of Bloomington Fire Department • City of Bloomington Police Department • City of Bloomington Public Works Department • Metro Transit, Southwest Metro Transit, Minnesota Valley Transit Authority (if located on transit route) • School District (Transportation Director) The criteria for screening and ranking local street traffic calming measures will be used to prioritize for trial and evaluation of traffic calming device requests. Engineering Division will rank projects based on score (methodology outlined on page 11) and schedule order of trial projects for TTAC review. The number of trial projects will depend on equipment and personnel availability. Some trial projects may be deferred if not feasible due to conflicting construction, development in the area, county or state restrictions or other concerns. After TTAC review, public open houses will be scheduled for the planned trial projects. Applications that are not chosen for study will have the fee returned to the petitioner unless they choose to leave their application in the queue for the next year. Council review and approval of trial/study projects.
Step 4	Before Data Collection – City staff will collect speed and traffic volume

	data in the benefited area and on alternate routes that may be negatively affected before installation of the trial device.
Step 5	After Data Collection 1 – City staff will install the trial traffic calming device and wait a minimum of two weeks for traffic to stabilize. Staff will collect speed and traffic volume data at the same points as before data collection and create summary comparing before and after data. Comments will be solicited from agencies listed in Step 3.
Step 6	Public Input – A letter notifying property owners of a Public Informational Meeting to discuss the traffic calming trials and estimated project cost will be sent to each property in the project area and surrounding areas that may be impacted. After the Public Informational Meeting, input surveys with "Petition and Waiver of Hearing" forms will be mailed to the property owners in the benefited area. Input surveys will also be sent to surrounding areas that may be impacted. Notice of hearings will be included in the survey mailing.
Step 7	Recommendations to TTAC – Staff will present data collected, recommendations from agencies listed in Step 3 and property owner input to TTAC. TTAC will make recommendations regarding permanent traffic calming installations to City Council.
Step 8	Recommendations to City Council – Staff will present the Feasibility Report provided and TTAC recommendations to City Council. City Council will be requested to accept the Feasibility Report and set the schedule for Improvement/Assessment Hearing.
Step 9	City Council Meeting, Improvement / Assessment Hearing, Ordering of Project - The Hearings (with adoption of the assessment roll requested) will be held the same night **prior** to the ordering of plans and specifications. If the assessment roll is not adopted, the plans and specifications will not be ordered and the project is terminated. The project will be dropped from the list and the neighborhood will not be able to reapply for five years. The assessments will be calculated based on the applicant cost per devise in the "Local Street Traffic Calming Assessment Policy" adopted June, 2005, which is then forwarded to the County for implementation. If the assessment roll is adopted, the project is ordered. Design – Plans, specifications and engineer's estimates will be developed as directed by Council.
Step 10	City Council final approval of plans, specifications and engineer's estimate – Staff will follow City policy for final approval and bidding of the traffic calming plans.

Step 11	Letting and Construction
Step 12	Preparation of Final Assessment & Notice to Property Owners
Step 13	After Data Collection – Staff will collect data as in Step 5 following completion of the construction and during the following year.

Local Street Traffic Calming Assessment Policy

City of Bloomington
Bloomington, Minnesota

Introduction

The City will serve as a facilitator, to assist in financing appropriate Traffic Calming projects, by processing a 5-year special assessment for those property owners who **choose** to participate.

Assessment Hearings will be held prior to ordering the construction of the project. The assessments will be based on the approved "Applicant Cost Per Device," in the table below. The notices sent to the owners will have assessment costs based on only 67% of owners participating. Such assessment amounts would be reduced if over 67% of owners agree to be assessed.

Each individual property owner in the benefited area (and any other property owner that volunteers) will have the option to sign a "Petition and Waiver of Hearing" document in regard to the assessment. When owners of 67% or more of the assessable front footage of the benefited area have signed the document, and the council approves the project, the City will proceed with the construction project. At the assessment hearing, the cost of the project will be calculated by the Adjusted Front Footage Method as detailed in the City's General Assessment Policy, Page 2, Section C. The initial assessment area boundary would be delineated by benefited area as described in the Traffic Calming Policy and Procedure Manual. Public Works will review the benefited area boundary to assure it is appropriate. All property owners (minimum 67% in the benefited area) who have signed a Petition and Waiver of Hearing will be assessed their portion.

Seniors citizens have the option of participating in the assessment or using the senior citizen hardship assessment deferral: Pursuant to MSA 435.193 - .195 and resolution of the City Council, deferral of special assessments may occur under certain conditions for homestead property to persons 65 years of age or older (or retired by virtue of a permanent and total disability) for whom it would be a hardship to make the payments.

Traffic Calming Project Assessments

The approved applicant cost(s) of the project, which are listed in the table below, will be assessed to the property owners who have signed a Petition and Waiver of Hearing document. The soft costs (trial device installation, feasibility study, design and construction engineering and project administration) and any remaining construction costs will be borne by the cities general fund.

Approved applicant costs for individual device(s):

Device (Small Scale)	**Applicant Cost Per Device**
Speed Table	$2,500
Center Median/Island (with no outside curb work)	$7,500
Choker	$7,500
Chicane	$7,500
Bulb-Out	$7,500
Traffic Circle	$10,000

Criteria for Screening
***Local Street* Traffic Calming Measures**

1. Roadway Classifications:

   Eligible: All Bloomington local streets under the Public Works Department jurisdiction.

   Not Eligible: All roadways within Bloomington designated as County, State, or Federal Highways, Municipal State Aid roadways, Park roadways, or shared jurisdiction roadways, such as city limit boundary street.

2. Petition Required:

   Eligible: Minimum of 60% of properties in benefited area sign petition supporting trial of traffic calming device.

3. Minimum Distance of the traffic calming device from the following (all must apply for eligibility):

A.	Traffic Signals (except bulb-outs)	300 ft.
B.	Stop Signs (except bulb-outs)	300 ft.
C.	Other Traffic Calming Devices	300 ft.
D.	Driveway/Alleys	20 ft.
E.	Horizontal or Vertical Curves affecting sight lines	200 ft.
F.	Railroad Crossing	300 ft.
G.	Dead End	400 ft.

4. Access:

   No dead-end created without adequate turn around on public roadway right-of-way roadway.

5. Not-Critical Emergency Route:

   To be reviewed and approved by the City Fire Chief.

All five eligibility requirements must be met for scoring and consideration.

Scoring for Ranking
***Local Street* Traffic Calming**

1.	Sidewalk adjacent to the benefited area (0 to100 points)	None + 100 All of 1 side + 50 All of 2 sides + 0
2.	Public school yard, playlot, playground development adjacent to benefited area (0 to 200 points)	None + 0 All of 1 side + 100 All of 2 sides + 200
3.	Residential development adjacent to benefited area (0 to 100 points)	None + 0 All of 1 side + 50 All of 2 sides + 100
4.	Number of reported correctable crashes based on last 5 years of available data (0 to 200 points)	20 per crash; maximum of 200 points
5.	Percent of potential assessment properties supporting project by petition (180 to 300 points)	3 points per percent; maximum 300 points
6.	Average residential density adjacent to benefited area (0 to 50 points)	50 points maximum (0 dwelling units per adjacent 100 lin. ft. = 0 points 5+ dwelling units per adjacent 100 lin. ft. = 50 points)

Scoring based on benefited area
Correctable crashes determined by Engineering Division

***Local Street* Traffic Calming Applications Schedule**

Late September	Traffic Calming Information Open House (omitted in 1st year)
1st Monday in February	Traffic Calming Applications and Fee Due
February	• Review and comment by Fire, Police, Public Works, Transit and School (transportation) agencies • Scoring and Ranking of Applications
March	Presentation to TTAC
April	• Informational meetings for top ranked projects • Cash deposit received • Schedule temporary installations, removals and data collection
May	Council approval of trial projects
June July August	• Before and after data collection • Temporary installations and removals • Review and comment by Fire, Police, Public Works, Transit, and School (transportation) agencies
September	Prepare summaries
October	• Open House(s) • Mail Surveys
November	Summarize returned surveys
December	Recommendations to TTAC
January	Recommendations to Council, Improvement Hearing, Order Project, Assessment Hearing
February / March	Survey and Design
April	Final approval of plans by Council, Set bid schedule
May	Letting
June / July	Construction
July / August	After data collection
August /September	Final assessments

Speed Hump

Description: A speed hump is a rounded, raised area of pavement approximately 12 feet in length, placed perpendicular to the traffic flow of the roadway. Speed "humps" are different from speed "bumps," found in many private parking lots; speed humps are not as severe, and do not cause a significant level of discomfort.

Design issues: Speed humps are approximately 12 feet in length with a maximum height of approximately 3 inches. Painted markings to highlight its location and advance warning signs are needed. Humps not to be repeated within 400' – 600'.

Application: Local streets only. Not intended for use on collector or arterial streets. Not used on roadways with grades greater than 5 percent. Main use is to control/reduce speed on local streets. This measure is not allowed on roadways, where it may reduce the capacity of the roadway. Cannot be used on roadways with a volume exceeding 5,000 per day.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed speed hump location.

Test vs. permanent: A test is currently possible with a "temporary" speed hump; however, these units are in high demand.

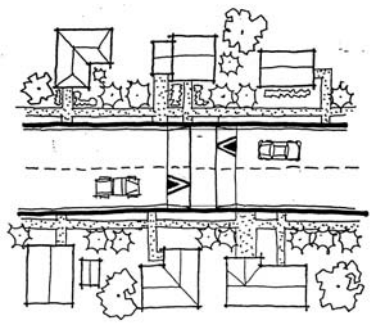
Approximate Construction Cost: $2,000 - $3,000 for permanent. $500 for temporary hump (installation only). If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Does not impact parking.
- No bicycle/pedestrian restrictions.
- Self-enforcing.

Disadvantages:

- May increase noise (braking and acceleration).
- May impact drainage.
- Not appropriate for grades greater than 5 percent.
- May shift traffic to parallel streets.
- Tend to reduce air quality and increase energy consumption.
- May increase speeds between humps.
- May cause bus passengers discomfort.
- Not appropriate on some curves.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Low	Possible Increased Response Time	Possible Drainage Problem

Speed Table (Raised Crosswalk)

Description: A speed table is a long, raised speed hump with a flat section in the middle and ramps on the ends. Raised crosswalks have a flat area to accommodate pedestrian flow. Raised crosswalks are generally used at intersections; however, under certain circumstances can be used at mid-block pedestrian crossing areas.

Design issues: Approximately 18 feet in the direction of travel with 6-foot ramps on each end and a 6-foot flat section in the middle. The design height is 3 inches. Careful design is needed to deal with drainage issues. Will require pavement markings and advance warning signage. Drainage issues can be a problem due to the need for the raised area to extend curb to curb for raised crosswalks.

Application: This is generally considered a type of speed table that can be placed at a pedestrian crossing. Shall not be used on collector or arterial streets, or on any intersection approach with stop signs or traffic signal control.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed speed table location.

Test vs. permanent: A test is currently possible with a "temporary" speed table; however, these units are in high demand.

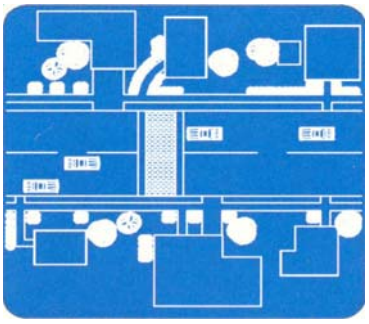
Approximate Construction Cost: $2,500 - $5,000 per permanent. $500 for temporary table (installation only). If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Less impact than speed humps on long vehicles.
- Self-enforcing.
- No bicycle / pedestrian restrictions.

Disadvantages:

- May increase noise (braking and acceleration).
- May impact drainage.
- May increase speeds between tables.
- May shift traffic to other streets.
- May reduce air quality and increase energy consumption.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Low	Possible Problems	

Central Island

Description: A central island is a raised median in the middle of the street which creates a section of street with narrow vehicle travel lanes.

Design issues: Central islands need to be wide enough to allow signs to mark the median. The driving lane for each direction should be 12 feet plus gutter.

Application: Normally used on local streets. Should not be used where parking needs are extensive. Driveways, alleys and snowplow operations should be considered.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed central island location.

Test vs. permanent: A test is possible using temporary curbing and delineators.

Approximate Cost: $5,000 to $15,000. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May prevent passing of turning vehicles.
- May reduce speeds.
- May reduce traffic volumes.
- Self-enforcing.
- Allow pedestrians to cross one-half of street at a time.

Disadvantages:

- May reduce separation for bicycles and pedestrians.
- May shift traffic to parallel streets.
- May restrict driveway access.

Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible Improvement	Possible Improvement	Small Increase	Small Increase	Medium	Minimum Impact	

Choker

Description: A physical narrowing of the driving surface in the midblock area. Can be accomplished by widening the boulevard or sidewalk areas. In certain instances, the same effect can be achieved by on-street parking. This application differs from "bulb-outs," which are used only at intersections, primarily for pedestrian safety.

Design issues: Typically designed to narrow roadway driving surface to 22 feet for two-way traffic. Widths narrower than 22 feet can increase safety concerns for opposing traffic, and widths greater than 22 feet seem to have no effect on traffic. Transition areas should have a 10 to 1 taper. Drainage impacts must be taken into consideration. "No Parking" must be posted on the choker. Chokers should not be placed on or near a crest of a hill.

Application: Normally used on local streets. Should not be used where parking needs are extensive. Driveways, alleys and snowplow operations should be considered.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed choker location.

Test vs. permanent: A test is possible using temporary curbing and delineators.

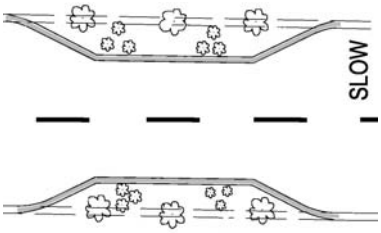
Approximate Cost: $5,000 - $10,000. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Self-enforcing.

Disadvantages:

- May impact drainage.
- May reduce separation for bicycles.
- May shift traffic to parallel streets.
- Should not be placed on crest of hill.
- Not appropriate on some curves.
- May reduce curbside parking available.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Medium	Minimum Effect	

Chicane

Description: Chicanes are extensions of the curb into the street from alternating sides of the street narrowing the driving lanes.

Design issues: Typically designed to narrow roadway driving surface to 22 feet for two-way traffic. Widths narrower than 22 feet can increase safety concerns for opposing traffic, and widths greater than 22 feet seem to have no effect on traffic. Transition areas should have a 10 to 1 taper. Drainage impacts must be taken into consideration. "No Parking" must be posted on the chicane. Chicanes should not be placed on or near a crest of a hill.

Application: Normally used on local streets. Should not be used where parking needs are extensive. Driveways, alleys and snowplow operations should be considered.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed chicane location.

Test vs. permanent: A test is possible using temporary curbing and delineators.

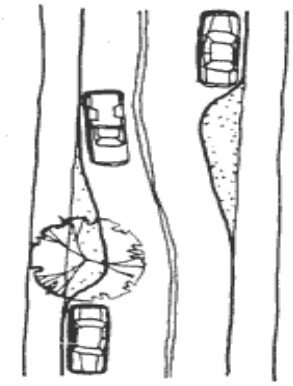
Approximate Cost: $5,000 to $10,000 for permanent. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Self-enforcing.

Disadvantages:

- Likely to impact drainage.
- May shift traffic to parallel streets.
- Not appropriate for high volume streets.
- Not appropriate for intersections.
- Not appropriate on some curves.
- May cause problems during winter.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Medium	Minimum Effect	

Bulb-Out

Description: Realignment of curb, reducing street width at intersections, resulting in a widening of street corners to improve pedestrian access and help define neighborhoods. If done in a series, actually provides a parking bay.

Design Issues: Must result in a minimum intersection opening and radii to accommodate turning movements. Drainage issues can become significant.

Application: Any roadway as long as no through-lanes or turn-lanes are lost.

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed bulb-out location.

Test vs. permanent: A test is possible with temporary curbing and delineators.

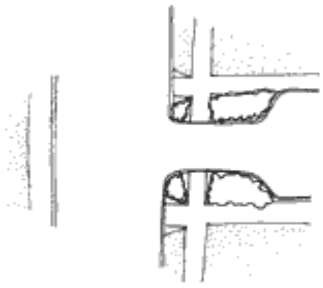
Approximate Cost: $5,000 - $15,000 per approach for permanent. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- Can reduce pedestrians crossing distance.
- May reduce speeds.
- May reduce traffic volumes.
- Self-enforcing.
- May improve site lines.

Disadvantages:

- May impact drainage.
- May shift traffic to parallel streets.
- May reduce air quality and increase energy consumption.
- May impact bicycle accommodations.
- May impact parking.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Medium	No Effect	

Traffic Circle

Description: A traffic circle is a circular, raised island, placed within the middle of intersections, requiring vehicles to divert around them, potentially forcing drivers to slow down as they traverse around the circle. A traffic circle is most effective where stop signs are not used. This is not a roundabout.

Design issues: The approach roadways should be at least 30' wide. Typically, the traffic circle is a 12-16 foot diameter island, depending upon the approach roadway widths. Can be only used on local streets. The island has signs, markings and supplemental advance warning signs to highlight the island's presence and to clarify its use.

Application: Traffic circles are used at uncontrolled intersections to slow traffic in intersection areas. Should not be used at intersections with a high volume of left-turning trucks or buses. Should not be used at "T" intersections. Maintenance issues can be a problem in winter (snow plowing/removal).

Petition requirements: 60 percent of all residents/property owners within 300 feet along the block from the proposed traffic circle location.

Test vs. permanent: A test is possible using temporary curbing and delineators.

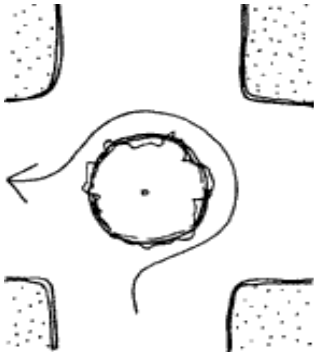
Approximate Cost: $10,000 - $20,000 for permanent (more if right-of-way is needed). $1,500 for temporary. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Self-enforcing.
- May reduce crashes (depending on crash history).

Disadvantages:

- Left turns may be confusing.
- May shift traffic to parallel streets.
- Tend to reduce air quality and increase energy consumption due to acceleration/ deceleration.
- May increase noise near intersection.
- May require parking removal.
- Can cause bicycle/auto conflicts.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Slight Increase	Small Increase	Medium to High	Possible Problems	Increased Maintenance

Diverter

Description: A diverter is a physical obstruction placed at an intersection restricting some movements and forcing traffic approaching an intersection to turn, making travel through a neighborhood difficult.

Design issues: Diverter width and curvature is dependent upon the intersection roadway widths. Drainage issues can become significant.

Application: Only used on local roadways.

Petition requirements: 60 percent of all residents/property owners on all approach streets within one block of the proposed diverter.

Test vs. permanent: A test is possible using temporary curbing and delineators.

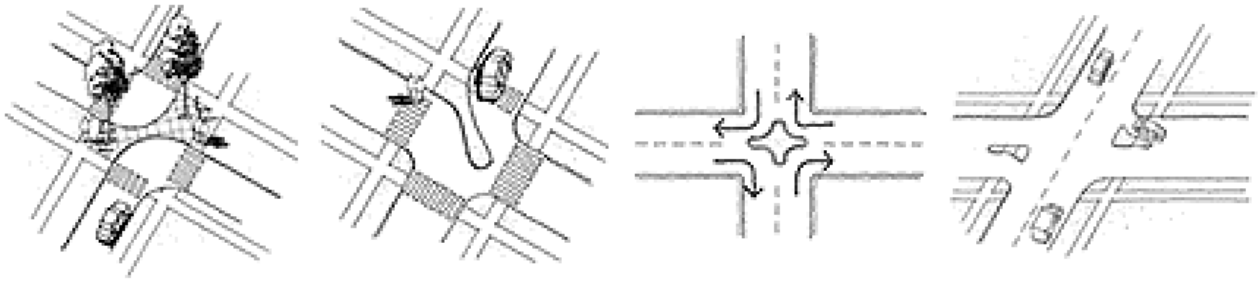
Approximate Cost: $15,000 - $75,000 for permanent installation. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- May reduce speeds.
- May reduce traffic volumes.
- Bicycles/pedestrians may not be restricted.
- Self-enforcing.

Disadvantages:

- May impact drainage.
- May shift traffic to parallel streets.
- Tend to reduce air quality and increase energy consumption due to increased travel distance.
- May impact parking.



Diagonal Diverter | Truncated Diverter | Star Diverter | Forced Turn Diverter

Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Possible	Possible	Small Increase	Small Increase	Medium to High	Possible Problems	

Partial Closure

Description: Physical blockage of one direction of traffic on a two-way street at its intersection with a cross street. The remaining open lane of traffic operates as a "one-way," thereby restricting vehicles from turning onto the modified street. The remainder of the modified street stays two-way.

Design issues: Partial closure must extend to midpoint/centerline of the affected street. A minimum opening of 14 feet must be maintained.

Application: Special use measure intended to reduce shortcoming through traffic in one direction without the negative access issues of a one-way street.

Petition requirements: 60 percent of all residents/property owners along the block on which the partial closure is placed.

Test vs. permanent: A test is possible using temporary curbing and delineators.

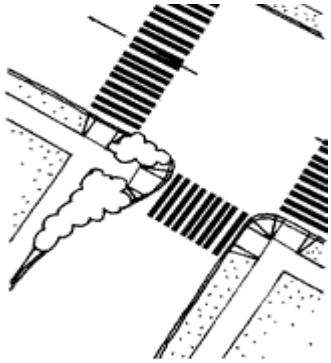
Approximate Cost: $10,000 - $40,000 each. Costs can vary dramatically depending upon intersection drainage issues. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

- Reduces through traffic in one direction and possibly in the other.
- Allows two-way traffic in the remainder of the street.
- Good for pedestrians due to shorter crossing distance.
- Provides space for landscaping.
- Can be designed to provide two-way access for bicycles.

Disadvantages:

- Reduces access to residents.
- Emergency vehicles can be affected, as they have to drive around partial closure with care.
- Compliance may not be 100%.
- May increase trip length for some residents.
- Increased maintenance, if landscaped.
- May divert traffic to other local streets.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Improved Pedestrian Crossing	Possible	Yes	Small Increase	Small Increase	Medium to High	No Effect	

Cul-de-sac

Description: Physical street closure resulting in a dead end constructed with a circular, turn-around area.

Design issues: There must be a minimum of 120 feet of right-of-way to accommodate the minimum turn-around radius of 40 feet, needed for trucks and snowplows.

Application: Used only on local streets. Impacts on adjacent streets, emergency vehicle access and neighborhood circulation should be considered. Cannot be used on truck routes, bus routes, snow emergency routes, through streets, or any other major roadway. Obtain approval of police, fire and emergency medical services.

Petition requirements: 60 percent of all residents/property owners along the block on which the cul-de-sac is located.

Test vs. permanent: Temporary road closure is possible with temporary curbs and delineators; however, the lack of turn-around area could create inconvenience during the test.

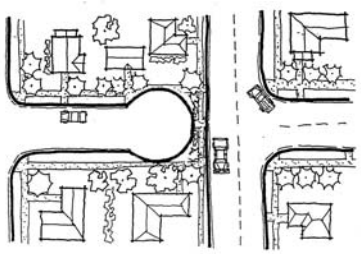
Approximate Cost: $50,000 but can vary substantially depending on drainage issues. Does not include right-of-way. If storm sewer or other utility modifications are needed, significantly higher costs may result.

Advantages:

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

Disadvantages:

- Reduces emergency vehicle access.
- Reduces access to properties for residents.
- May be perceived an inconvenience by some neighbors and an unwarranted restriction by the general public.
- May increase trip lengths.
- May increase volumes on other adjacent streets.
- May require additional right-of-way acquisition.



Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Probably	Yes	Small Increase	Small Increase	High	Possible Problems	

Removal of Traffic Calming Measures

The City of Bloomington's Traffic Calming Program is intended to avoid the costly installation and later costly removal of traffic calming devices. On occasion, it may be determined to be desirable to remove a traffic calming device.

If the removal is City initiated due to safety/crash issues, the removal will be at City expense. If the removal is at neighborhood request, the removal will be charged to the petitioning property owners. The following procedure will be used for neighborhood initiated removals:

1. Petition requesting removal representing a minimum of 60% of the properties in the benefited area is submitted to the City Traffic Engineer.

2. A survey, including estimated cost for removal and data collected previously on the device, is mailed to each property owner in the benefited area.

3. Surveys will be summarized 30 days after mailing. Staff will make recommendation to the Traffic and Transportation Advisory Commission (TTAC).

4. TTAC will forward a recommendation to Council. If the recommendation is for removal, improvement and assessment hearings will be scheduled for Council.

5. If Council orders project, removal will be included in the traffic calming plan set.

6. Final approval of plans by Council. Set bid schedule.

7. Letting, construction, final assessment.

8. New traffic calming devices will not be considered for five years in benefited area of removed device.

Non-Traffic Calming Measures

Enforcement

Description: Use of local police to enforce traffic laws appropriate to traffic problems identified in the neighborhood.

Design issues: No design needed in a physical sense. Due to time constraints on the police departments, every effort should be made to clearly identify the problem, i.e. speeding, driving in parking lane, running stop signs, etc. The neighborhood should try to narrow down the problem to days of the week, time of day, specific locations or vehicle types.

Application: Should only be used if specific problems can be outlined or documented in some manner. Can be used in conjunction with speed wagon applications. Follow-ups, indicating the impact of the enforcement, is needed to determine the effectiveness of this type of measure.

Petition requirements: No petition required, but support of the neighborhood should be obtained.

Test vs. permanent: Not applicable

Approximate Cost: No cost assessed.

Advantages:

- Good temporary public relations tool.
- Serves to inform public that traffic law violations are undesirable behavior for which there are consequences.
- Easy to implement.
- Can result in area-wide positive impacts.

Disadvantages:

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

Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Improvement	Some for short duration	No effect	No Change	No Effect	Medium	No Effect	

Speed Wagon

Description: A mobile, speed-monitoring display device (radar) that advises passing motorists of their speed in a large, highly visible manner. The speed limit of the monitored roadway is posted on the speed wagon.

Design issues: This is a portable trailer with an enclosed radar unit. The City owns, sets up, and picks up the unit after use.

Application: The unit is set up at a "problem location" (stretch of roadway with a perceived speeding problem) with the intent to advise the public of their actual speeds, and ultimately to change their driver behavior to a more responsible manner. Usually placed in the parking lane or boulevard for a one-week period. Works best when combined with enforcement. Used only April-November.

Petition requirements: No petition is required.

Test vs. permanent: Not applicable

Approximate Cost: No cost assessed.

Advantages:

- Education tool.
- Very good public relations tool.
- Useful especially in school and park areas where spot speed reduction is important.
- Low cost.

Disadvantages:

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

Evaluation Considerations

Safety	Speed Reduction	Traffic Reduction	Fuel Consumption	Air Pollution	Cost	Emergency Services	Other
Possible Improvement	Yes	No Effect	No Effect	No Effect	Low	No Effect	

Definitions

Benefited Area – The properties expected to receive the majority of the positive impacts from the proposed traffic calming.

Collector Street – A roadway that connects neighborhoods. Collector streets are shown on the Functional Roadway Classification figure in the City of Bloomington, Minnesota Comprehensive Plan.

Feasibility Report – A report analyzing the recommended type of construction, the estimated construction cost, estimated engineering cost and the estimated assessment.

Local Street – A roadway that connects blocks within neighborhoods.

State Aid Route – A designated roadway (City or County) which receives state funds for maintenance and construction. Rules and standards, in addition to local jurisdiction guidelines, apply to these roadways.

Appendix

Traffic Calming Project Application Petition Form (Local Street)

Contact Name _____ Day Phone _____

Address _____

E-mail Address _____

Traffic Calming Measure Requested (List one only) _____

Proposed Location from: _____ to _____
(street name) (street name)
on _____.
(street name)

Note: Application fee of $335 (***one check***) due when application is submitted. Application deadline is 4:30 p.m. on the first Monday of February. Please list all addresses in the potentially benefited area. Minimum of 60% of properties in benefited area need to sign petition supporting trial of traffic calming device for application to be considered. One signature per household or business.

We, the undersigned, as residents, hereby request the evaluation of the traffic calming device listed above. We understand we may be assessed for part of the cost for the device.

Date	**Name** (please print)	**Address**	**Signature**	*

Page ____ of _____

Please return the completed application form along with the signed petition forms to:
City of Bloomington, Engineering Division, Traffic
1700 W. 98th Street, Bloomington, MN 55431-2501

* Please check box adjacent to signature if you have reviewed “Removal of Traffic Calming Measures” (page 33) and the “Local Street Traffic Calming Assessment Policy” (page 11).

Benefited Area

Speed Humps, Speed Tables, Central Islands, Chokers, Chicanes, Bulb-outs, and Circles:

Benefited area extends 300 feet from the device along the street affected by the device or to the nearest stop sign or traffic signal, whichever is less.

Diverter: Benefited area extends to next intersection on each leg of the intersection diverted.

Partial Closure: Benefited area extends to next intersection on the leg of the intersection partially closed.

Cul-De-Sac: Benefited area extends from the point of closure to the next intersection on the leg that is closed.