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Introduction

Neighborhood traffic calming has become a key issue within many communities because of its ability to make neighborhoods more "livable". Livability is defined as the ability of residents within a given community to experience a safe and clean environment.

Since World War II the automobile has become a dominant force in our society. It is a means of expressing one's freedom. Increasing traffic congestion caused by rising numbers of automobiles has led to widened streets and higher speed limits to allow for the faster flow of traffic. In addition, the evolution of the automobile has led to quieter, more insulated vehicles with higher performance characteristics. These advanced features and comfort levels can give a driver a false sense of security and lessened awareness of the speed at which they are traveling. As a result, the safety of the pedestrian and other non-motorized street users is put in jeopardy.

In more recent years, there has been a reversal in thinking about the automobile and pedestrian relationship. In many cities, including Rochester, there has been an effort to make streets more pedestrian friendly and neighborhoods more livable. The City of Rochester has a Neighborhood Traffic Calming Program called "Safe Passages" that includes non-physical measures (with the exception of speed humps). Some non-physical measures are road re-striping, neighborhood speed watch programs, and new speed limit sign postings. In some cases, streets have been narrowed and tree lawns widened in an effort to slow down traffic. The city also has installed speed humps on several streets, but has not yet used traffic calming on a larger scale.

Neighborhood residents have played a major role in making neighborhood traffic calming a major issue and a tool to make neighborhoods more livable. This manual can be used by citizens and local officials to help determine if traffic calming measures are available or needed for a particular problem and location as well as a toolbox for neighborhood design workshops. This manual will also be helpful to city staff in the neighborhood planning process by creating neighborhood traffic calming and traffic management guidelines and detailed recommendations that can be integrated into the planning, funding and decision making process.

What is Traffic Calming?

Traffic Calming is an elusive concept that has many different names and varying definitions. Some cities call it "neighborhood traffic management", "traffic mitigation", "traffic abatement" or "neighborhood traffic techniques". Many cities have had some sort of traffic calming program for years, but there was never one single manual or document that consolidated it all to one location. This manual will use the term traffic calming. This is the term that the Institute of Transportation Engineers (ITE) uses because it describes exactly what it does, it calms traffic.

ITE defines traffic calming as:

> "The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users."

ITE prepared a report for the Federal Highway Administration (FHWA) that analyzed traffic calming programs from several cities and turned them into a single encompassing report.

Traffic calming can be used as an alternative to traffic control devices such as stop signs and speed limit signs which require enforcement by police officers and do not alter the way that drivers behave. Traffic calming has become more popular because some traffic control devices have become increasingly ineffective, most likely due to them being improperly used. Drivers have tendencies to not pay attention to control devices such as signage if they see the devices every day. Traffic engineers have said that control devices such as school signs with flashing lights work only if the lights are flashing during school hours; if they flash all the time they are generally ignored. Setting speed limits artificially low is also ineffective because people will drive what they feel is safe and reasonable, regardless of what the speed limit is set at.

Traffic calming measures are designed to be a self enforced method for drivers and are intended to make them feel like they have to go slower. Traffic enforcement is successful on a limited basis but it needs to be sustained for a long time and the fines need to be hefty. Traffic calming measures on the other hand have been proven to have sustained success in changing the behavior of drivers.

The Objectives of this Manual:

The key objectives of the Traffic Calming Manual are to promote citizen involvement in the traffic calming planning process, and to create pleasant and safe conditions for pedestrians and other non-motorized street users. This manual is one of many tools that will help improve the livability of neighborhoods throughout the region. It will allow neighborhood groups to work with municipal planners and engineers to develop coherent neighborhood transportation and traffic calming recommendations and to move those recommendations into the implementation process. This ultimately helps to improve the relationship between the citizen and the municipal government, and makes them feel more engaged in the decision making process.

Research & Analysis

Several sources of information were reviewed for the creation of this manual. The Institute of Transportation Engineers (ITE), in conjunction with the Federal Highway Administration (FHWA) produced *Traffic Calming: State of the Practice,* a comprehensive document that examines traffic calming measures through the research and experience of transportation engineers and planning professionals. ITE is an international educational and scientific association of transportation and traffic engineers and other professionals who are responsible for meeting mobility and safety needs. *Traffic Calming: State of the Practice* was used as a foundation to help develop this neighborhood traffic calming manual. The principles, details, and statistics within this document were established by ITE. Another valuable source of information on traffic calming measures that was used to produce this manual was the website Trafficcalming.org.

Interviews

After gathering data from these sources, a series of interviews were conducted with City and County staff to assist in the development of this manual. Interviews were conducted with John Thomas, Transportation Specialist with the City of Rochester, Al Giglio, Managing Engineer with the City of Rochester's Street Design, and Terry Rice, Jim Pond, and Scott Leathersich of the Monroe County Department of Transportation (which functions as the traffic engineer for the City of Rochester). Overall, the interviews provided important information regarding local traffic calming efforts and measures that have been effective throughout the region. This material has been incorporated into this manual.

Neighborhood Questionnaire

In addition to interviewing local traffic engineers and professionals, an unscientific questionnaire was developed to gauge the knowledge of community stakeholders and to get a general sense of the traffic issues/concerns occurring in various neighborhoods throughout the City of Rochester (See Appendix C for questionnaire instrument, related spreadsheet and map).

The questionnaires were sent to sector leaders, neighborhood associations, and other community stakeholders. The respondents were asked to rate their level of agreement with several statements ranging from the frequency of accidents to the perception of pedestrian safety in their neighborhood. The questionnaire also inquired whether or not traffic calming measures had already been implemented in their neighborhood. Respondents were asked to list trouble spots within their neighborhood where traffic issues were most prevalent. In all, 44 responses were received.

After analyzing the responses, it became clear that there was a general consensus among those surveyed that perceived traffic issues such as speeding and congestion were significant problems within their neighborhoods. In fact, 78% either agreed or strongly agreed that they were. The same was true when asked if speeding on residential streets within their neighborhood was a common occurrence. Nearly 81% either agreed or strongly agreed.

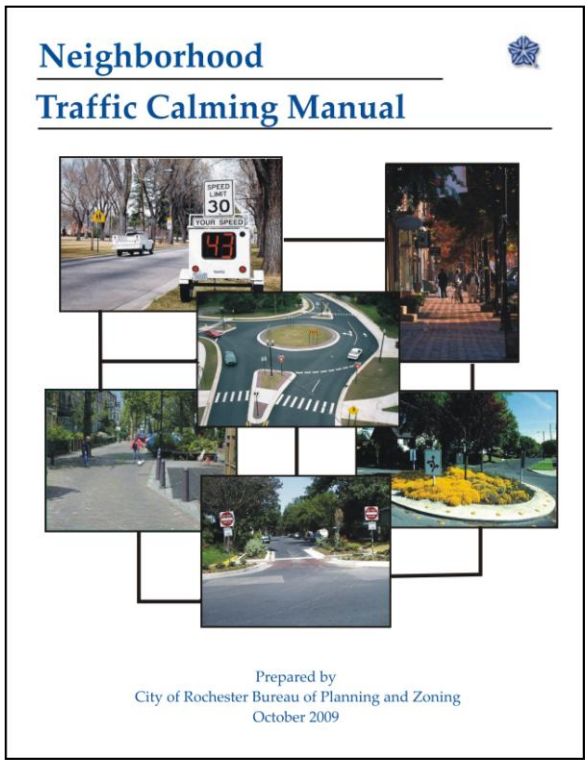
In addition, the responses indicated that the perception of pedestrian safety on city streets varies greatly. When asked if they consider the streets within their neighborhoods walkable, safe and pedestrian friendly approximately 45% of respondents either agreed or strongly agreed while over 50% either disagreed, strongly disagreed or remained neutral. About 5% chose not to answer at all.

Although the general consensus of those surveyed seemed to indicate that speeding is a significant problem on many neighborhood streets, data from the City of Rochester's speed hump evaluation process tells a different story. When Monroe County DOT collects actual speed data for the City's speed hump evaluation process, adequate compliance is found most of the time (See Appendix B pg. 39). This suggests that there can sometimes be a disparity between resident's perception of speeding and the actual reality of a true problem.

Several additional questions were included on the questionnaires that were intended to gauge the general interest and extent of knowledge of respondents on traffic calming techniques. When asked if traffic calming techniques (such as speed humps, raised crosswalks, etc.) would be useful in solving traffic issues within their neighborhood, nearly 70% either agreed or strongly agreed while only 13% disagreed or strongly disagreed. The majority of respondents also indicated that they would like to learn more about traffic calming and other citizen based speed control programs such as the Neighborhood Speed Watch. The data from the questionnaire was compiled and put into a spreadsheet (see Appendix C). A GIS map was then created to illustrate where the significant traffic issues occur, as described by the respondents (see map pg. 53).

Navigating this Manual

The matrix (on page 8) can be used as a navigational tool as well as an information guide. The matrix lists the traffic calming measures that are solutions for a variety of traffic issues. These measures are categorized into horizontal, vertical, and non-physical measures listed in vertical order on the left. Traffic issues that may plague your neighborhood are listed horizontally along the top. Within the matrix there is a symbol that indicates the relative level of applicability of each measure to each traffic issue. A full black diamond illustrates that the measure is a good solution for the traffic issue. A half black diamond illustrates that the measure is moderately applicable for that particular traffic issue. An empty diamond means that a measure is indifferent and it would most likely have no effect on the traffic issue at all. An X means that the measure will actually be counterproductive to your efforts. To the far right of the matrix there are three columns that represent the types of streets. A check mark indicates that a particular measure could potentially be used on that type of street.



Types of Measures		Traffic Issue					Type of Street		
		Speeding	Accidents	Congestion	Noise	Pedestrian Safety	N	C	A
Horizontal Measures									
Pg. 9	Roundabouts	◈	◆	◈	◈	×		✓	✓
Pg. 10	Traffic Circles	◆	◆	◈	◈	◇	✓		
Pg. 11	Chokers	◆	◈	◇	×	◈	✓		
Pg. 12	Chicanes	◆	◇	◈	◇	◇	✓		
Pg. 13	Bump Outs	◆	◇	×	◇	◆	✓	✓	✓
Pg. 14	Re-aligned Intersections	◈	◈	◈	◇	◈	✓	✓	✓
Pg. 15	Center Island Narrowing	◆	◈	◇	◇	◆	✓	✓	✓
Pg. 16	Median Barriers	◇	◆	◆	◇	◈	✓	✓	✓
Pg. 17	Diagonal Diverters	◆	◈	◆	◇	◇	✓		
Pg. 18	Star Diverters	◈	◈	◈	◇	◇	✓		
Pg. 19	Forced Turned Island	◇	◈	◆	◇	◈	✓		
Pg. 20	Half Closures	◇	◈	◆	◇	◈	✓		
Pg. 21	Semi-Diverters	◇	◈	◆	◇	◈	✓		
Pg. 22	Full Closures	◆	◆	◆	◈	◈	✓		
Vertical Measures									
Pg. 23	Speed Humps	◆	◈	◈	×	◈	✓		
Pg. 24	Speed Tables	◆	◈	◈	×	◈	✓		
Pg. 25	Raised Intersections	◆	◈	◈	×	◆	✓		
Pg. 26	Raised Crosswalks	◆	◈	◈	×	◆	✓		
Pg. 27	Textured Pavement	◈	◇	◇	×	◈	✓	✓	✓
Non-Physical Measures									
Pg. 28	Speed Enforcement	◆	◈	◇	◈	◈	✓	✓	✓
Pg. 29	Lane Striping	◆	◈	◇	◇	◇		✓	✓
Pg. 30	Radar Trailer	◆	◇	◇	◈	◇	✓	✓	✓

Key

◆ = Strongly Applicable
◈ = Moderately Applicable
◇ = Indifferent
× = Not Applicable/ Counterproductive

Neighborhood Streets (**N**) = < 3,000 cars/day
Collector Streets (**C**) = 3,000-10,000 cars/day
Arterial Streets (**A**) = > 10,000 cars/day

Roundabout

Roundabouts require traffic to circulate counterclockwise around a center island. These are often confused with traffic circles. However roundabouts have a larger deflection area and are used on higher volume streets to allocate right-of-way between competing movements.

Advantages:

- Roundabouts improve safety by eliminating many conflict points in traditional intersections and allowing traffic to share space rather than take turns.
- Roundabouts can provide as much as 30% greater capacity for motor vehicles than signal systems.
- Landscaped islands can usually add aesthetic value to an intersection.
- Can minimize queuing at the approaches to an intersection.

Disadvantages:

- May be difficult for large vehicles (such as fire trucks) to circumnavigate.
- Must be designed so that the circulating lane does not encroach on the crosswalks.
- They could require the elimination of some on-street parking.
- Landscaping must be maintained, either by the residents, the municipality or some other entity.
- They are difficult for bicyclists and pedestrians to cross, especially for the blind and visually impaired.
- They are very expensive to construct.
- Loss of land use (if ROW is taken).

Effectiveness:

- Average 29% reduction in accidents, with a reduction from 9.3 to 5.9 accidents per year (from a sample of 11 sites) *Source: Roundabouts: an Informational Guide*.

Criteria for Use:

- Locations with a history of frequent accidents.
- Intersections where queues need to be minimized.
- Intersections with irregular approach geometry.
- An inexpensive-to-operate traffic control as an alternative to a traffic signal.
- Locations handling a high proportion of U-turns.
- Locations must have abundant right-of-way.

Neighborhood Traffic Circle

Traffic circles are raised islands placed in intersections, around which traffic circulates. They are particularly good for calming intersections in neighborhoods where speeds, volume, and safety are concerns but large vehicular traffic is not.

Advantages:

- Very effective in moderating speeds and improving safety.
- Traffic circles can have a positive aesthetic value if designed correctly.
- Placed at an intersection, they can calm two streets instead of one.

Disadvantages:

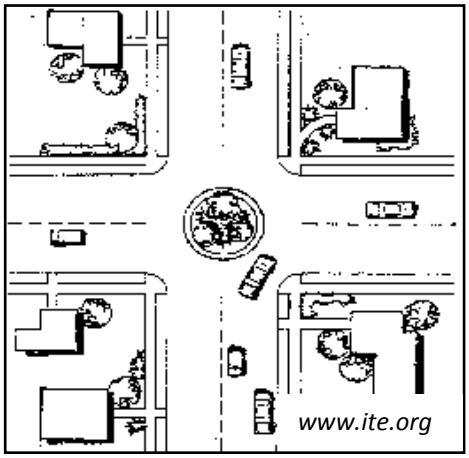
- May be difficult for large vehicles (such as fire trucks and other emergency vehicles) to circumnavigate.
- They may require the elimination of some on street parking.
- Landscaping in the center must be maintained by either the neighborhood residents or the municipality in which it is located.
- Crosswalks may need to be relocated away from the intersection which can add considerable extra cost.
- Drivers sometimes intentionally turn to the left against the one way circulation.

Effectiveness:

- Average of 11% decrease in the 85th percentile travel speeds, or from an average of 34.1 to 30.2 miles per hour (from a sample of 45 sites) *Source: Traffic calming.org*

Criteria for Use:

- Traffic Circles are used for calming intersections, especially within neighborhoods where large vehicle traffic is not a major concern but speeds, volumes, and safety are major issues.
- Sufficient right-of-way is required.



Choker

Chokers are curb extensions, usually at mid-block locations that narrow a street by widening the sidewalks or planting areas. They can sometimes be marked as crosswalks and offer pedestrians a shorter crossing distance.

Advantages:

- Chokers tend to reduce speed.
- If designed properly, they can add aesthetic value to a street.
- Chokers are easy for larger vehicles to negotiate.
- Chokers can reduce crossing distance for pedestrians.

Disadvantages:

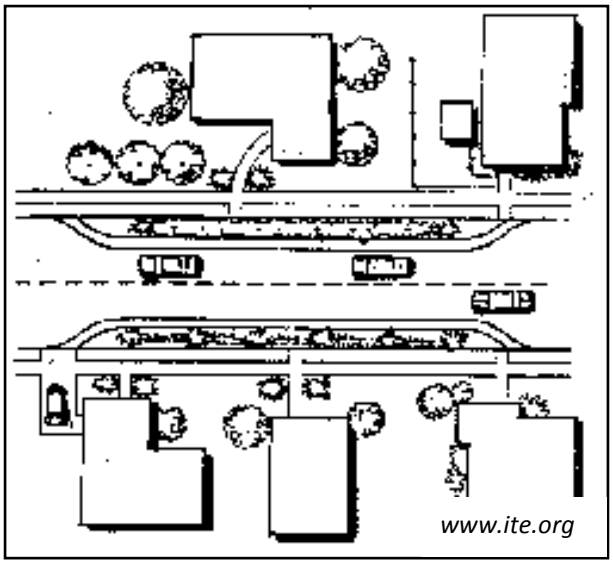
- Chokers may require the elimination of some on-street parking.
- Bicyclists may be required to temporarily merge with vehicular travel.
- Their effect on vehicle speed is limited by the absence of any vertical or horizontal deflection.

Effectiveness:

- Average of 7% decrease in the 85th percentile travel speeds, or from an average of 34.9 to 32.3 miles per hour (combined average for various narrowing measures, taken from a sample of 7 sites) *Source: Trafficcalming.org*

Criteria for Use:

- Chokers are good for areas with substantial speed problems and no on-street parking shortages.
- The street must have adequate width to support the installation of a Choker.



Chicane

Chicanes are curb extensions that alternate from one side of the street to the other, forming S shaped curves that are used to slow traffic speeds. They are also commonly referred to as deviations, serpentines, reversing curves or twists.

Advantages:

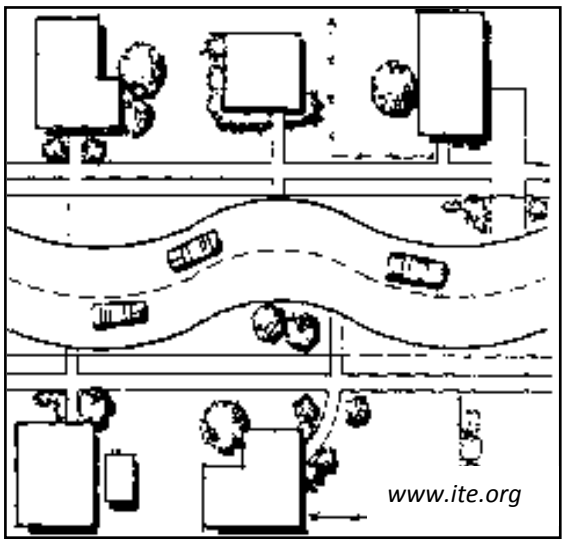
- Chicanes provide the opportunity for landscaping and streetscape beautification.
- The curves of a chicane force drivers to slow down in speed.
- Emergency response tends to prefer chicanes rather than speed humps, as they are easier for larger vehicles to negotiate.

Criteria for Use:

- Chicanes are good for locations where speeding is a problem but noise associated with speed humps, textured pavements, and related measures would be unacceptable.

Disadvantages:

- Chicanes can negatively affect parking and driveway access.
- Street sweeping may need to be done manually.
- Chicanes with landscaping require maintenance to be done by neighborhood residents.



Effectiveness:

- There is currently no data available to determine the effectiveness of chicanes and their ability to calm traffic.

Bump Outs

Bump Outs are curb extensions at intersections that reduce roadway width curb to curb. Their primary purpose is to "pedestrianize" intersections by shortening crossing distances and drawing attention to pedestrians via raised peninsulas.

Advantages:

- Bump Outs improve pedestrian safety and circulation by shortening the crossing distance.
- They create on-street parking that is protected.
- They reduce speed, particularly for right-turning vehicles.
- They are easily negotiable by large vehicles that are traveling straight or making left turns.
- Creates more streetscape area.

Disadvantages:

- They may make it more difficult for large vehicles to make right hand turns.
- They may require the elimination of some on street parking to improve sight distance at intersection.
- The effectiveness of neck-downs is limited by the absence of vertical or horizontal deflection.
- They may require bicyclists to briefly merge with vehicular traffic.
- Reduces intersection capacity, especially where the number of left turning vehicles is significant.

Effectiveness:

- Average of 7% decrease in the 85th percentile travel speeds, or from an average of 34.9 to 32.3 miles per hour (combined average for various narrowing measures, taken from a sample of 7 sites). *Source: Trafficcalming.org*

Criteria for Use:

- Bump Outs are good for intersections with substantial pedestrian activity and areas where vertical traffic calming measures such as speed humps and speed tables would be unacceptable because of noise considerations.

Re-aligned Intersection

Re-aligned intersections are changes in alignment that re-configure T-intersections with straight approaches into curving streets that meet at right angles.

Advantages:

- Re-aligned intersections can effectively reduce speeds and improve safety at T-intersections.
- Improves view of conflicting vehicles from the side street.

Disadvantages:

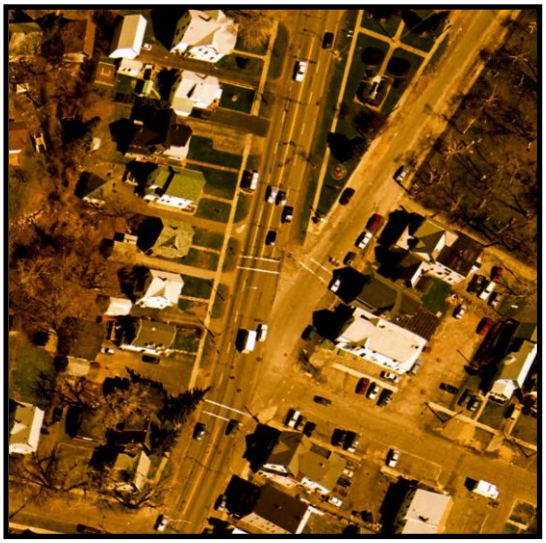
- Curb re-alignment tends to be very costly.
- Re-aligned intersections can often require additional right-of-way to cut corners.

Effectiveness:

- Although re-aligned intersections are believed to reduce accidents and improve sight distance, there is currently no data available to determine their effectiveness and their ability to calm traffic.

Criteria for Use:

- Re-aligned intersections are typically implemented at a problematic T-intersection where poor sight distance/visibility exists.



Before

After

Center Island Narrowing

A center island narrowing is a raised island located along the center line of a street used to narrow the travel lanes in that location. Center islands are usually landscaped and can add aesthetic value to a neighborhood. They also can be used as gateways if placed at the entrance of a neighborhood.

Advantages:

- Provides pedestrian refuge for wide intersections.
- If designed well they can add aesthetic value.
- Center islands are traffic calming measures that can also serve as a gateway to a neighborhood.

Disadvantages:

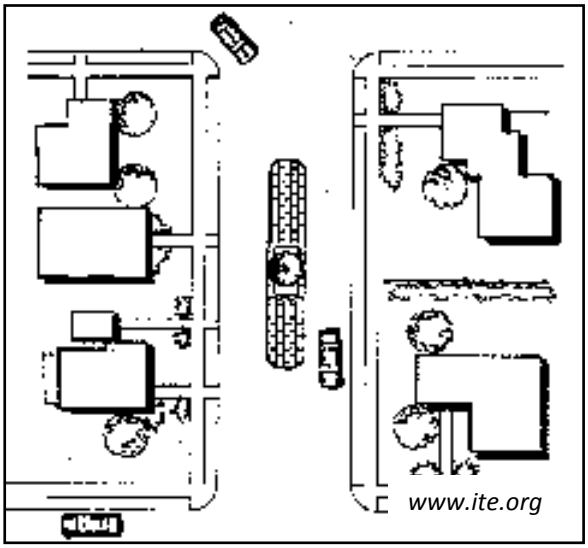
- The speed reduction effect is limited without the presence of any vertical or horizontal deflection.
- They may require the elimination of some on-street parking and reduce left turn pocket lengths.
- May restrict access.

Effectiveness:

- Average of 7% decrease in the 85th percentile travel speeds, or from an average of 34.9 to 32.3 miles per hour (combined average for various narrowing measures, taken from a sample of 7 sites). *Source: Trafficcalming.org*

Criteria for Use:

- Center Island Narrowings are good for entrances to residential neighborhoods and wide streets where pedestrians need to cross.



Median Barrier

Median Barriers are islands usually located on the centerline of a street and continuing through an intersection to block through movement at a cross street.

Advantages:

- Median barriers can improve safety at an intersection of a smaller neighborhood side street and a large major street by prohibiting left turning movements.
- They can reduce traffic volume on a cut through route that crosses a major arterial.
- Provide pedestrian refuge area.

Disadvantages:

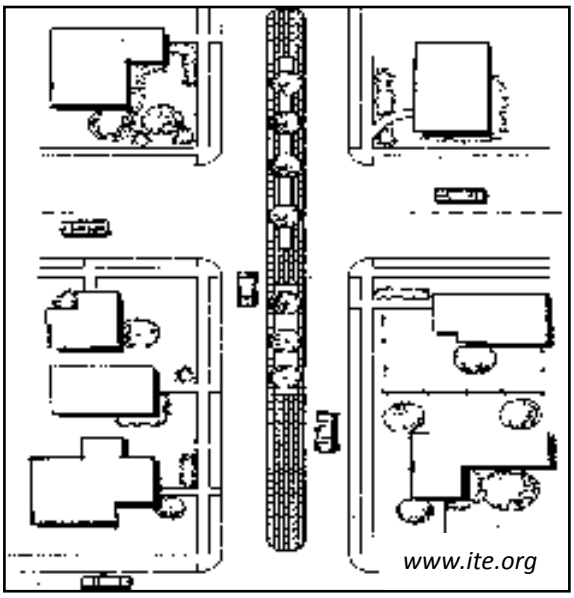
- Median Barriers require available street width on the major street.
- They limit turns to and from the side street for local residents and emergency vehicles.
- Restricts mid-block access to businesses located where median is placed.

Effectiveness:

- Average of 31% decrease in traffic volume, or a decrease of 1167 vehicles per day (from a sample of 10 sites; average includes various types of volume control measures). *Source: Trafficcalming.org*

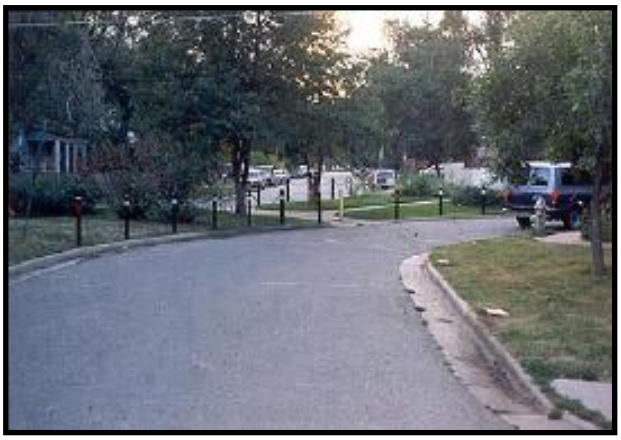
Criteria for Use:

- Median Barriers are good for local street connections to main streets where through traffic along the continuing local street is a problem. They are also ideal for main streets where left-turns to and from the side street are unsafe.



Diagonal Diverter

Diagonal diverters are barriers placed diagonally across an intersection blocking through movements and creating two separate, L-shaped streets.



Advantages:

- Diagonal Diverters don't necessarily require a full closure, but rather only a reduction of existing streets.
- They are able to maintain full access to pedestrians and bicyclists
- Diagonal Diverters are proven to reduce traffic volumes.

Disadvantages:

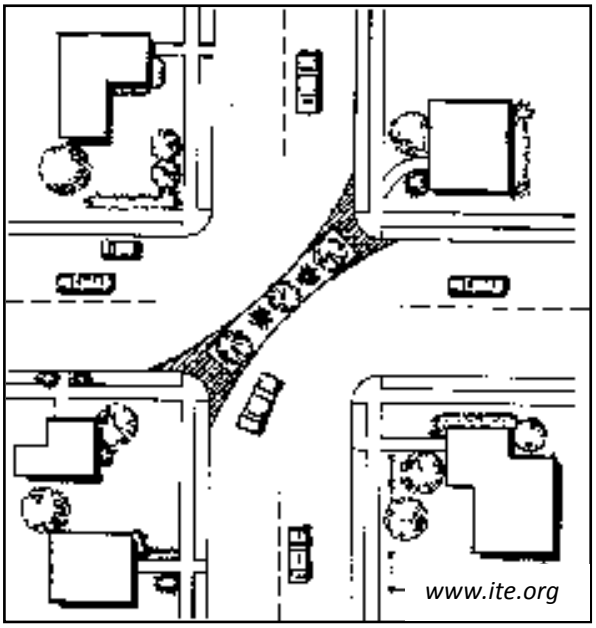
- Diagonal Diverters can be costly to construct.
- They may create circuitous routes for local residents and emergency vehicles.
- They may require re-construction of corner curbs.
- Creates a 90° curve and possible accident problem.

Effectiveness:

- Average of 35% decrease in traffic volume, or a decrease of 501 vehicles per day (from a sample of 27 sites). Source: *trafficcalming.org*

Criteria for Use:

- Diagonal Diverters are good for inner-neighborhood locations with non-local traffic volume problems.



Star Diverter

Star diverters are star shaped islands placed in the middle of an intersection to deter commuter traffic by forcing right turns.

Advantages:

- Star diverters tend to reduce speed.
- May reduce traffic volumes.
- Reduces potential for accidents by eliminating conflicting movements.
- Both easier and safer for school busses and service vehicles to navigate.
- Can be attractively landscaped.

Disadvantages:

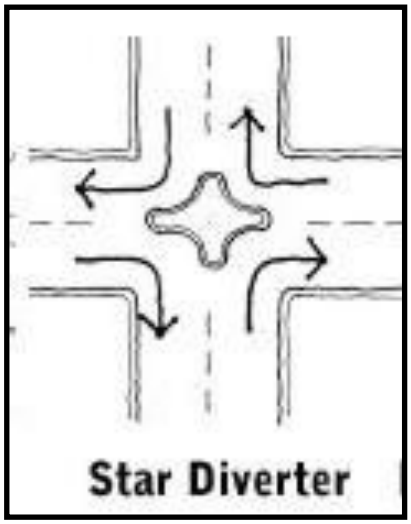
- Can shift traffic/problems elsewhere unless a strategic pattern of measurements is implemented.
- They may create circuitous routes for local residents and emergency vehicles.
- May cause some vehicles to make unsafe U-turns at mid block.
- Creates 90° curves and possible accident problems.

Effectiveness:

- There is currently no data available to determine the effectiveness of Star Diverters and their ability to calm traffic.

Criteria for Use:

- Star Diverters can be useful at intersections within inner neighborhoods where conflicting movements have caused accidents.



Forced Turn Island

Forced turn islands are raised islands that restrict certain movements on approaches to intersections.

Advantages:

- Forced turn islands eliminate through traffic.
- They can be used to eliminate unsafe left turns.
- They can improve pedestrian safety.
- They can improve the aesthetics of the area if landscaped tastefully.

Disadvantages:

- Access is restricted and may inconvenience neighborhood residents.
- Forced turn islands can shift traffic/problems elsewhere.
- They may create circuitous routes for local residents and emergency vehicles.
- Raised curbing creates fixed object and possible accident problem.

Effectiveness:

- According to ITE's *Traffic Calming: State of the Practice*, a forced turn island can reduce the number of vehicles per day traveling on a road by 31%.

Criteria for Use:

- In order for a Forced Turn Island to be considered, there must be excessive cut through or non-resident traffic on a particular street. A turn restriction sign must already have failed to alleviate the problem of excessive cut through traffic before a forced turn island would be considered.

Half Closure

Half closures are barriers that block travel in one direction for a short distance on otherwise two-way streets. They are often referred to as partial closures, entrance barriers, or one-way closures.

Advantages:

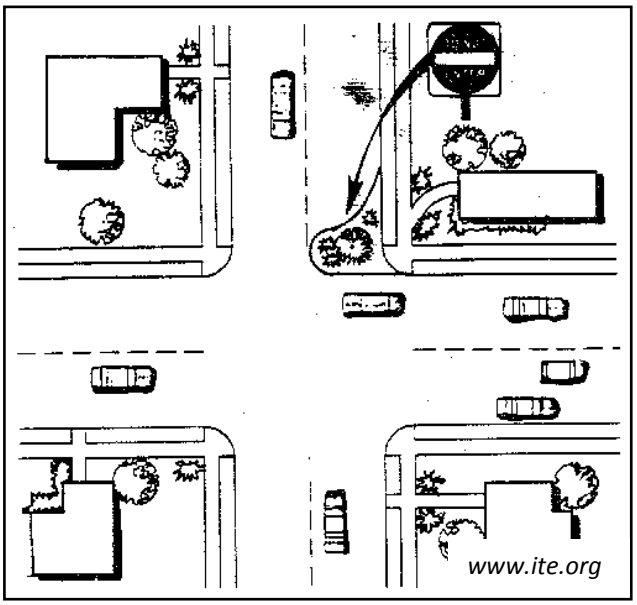
- They deter cut through traffic on neighborhood streets.
- Half closures provide the opportunity for landscaped areas that add aesthetic value.
- They have been proven to reduce traffic volumes.
- Reduce crossing distance for pedestrians.

Criteria for Use:

- Half Closures are good for locations with extreme traffic volume problems and where non-restrictive measures have been unsuccessful.

Disadvantages:

- May direct traffic to parallel streets without traffic calming measures.
- Half closures may divert significant traffic volumes.
- No significant effect on vehicle speeds beyond the closed block.
- May cause circuitous routes for local residents.
- Curbside parking must be prohibited in areas adjacent to the Half Closure.



Effectiveness:

- Average of 42% decrease in traffic volume, or a decrease of 1,611 vehicles per day (from a sample of 53 sites) *Source: Trafficcalming.org*

Semi-Diverter

A semi-diverter is a curb extension or barrier that restricts movement into a street. The semi-diverter is essentially two half-closures at one intersection, effectively obstructing one direction of traffic. Semi-diverters create a one way segment at the intersection while maintaining two-way traffic for the rest of the block.

Advantages:

- Semi-diverters restrict movement into a street while maintaining access and movement within the block for residents.
- They can significantly reduce cut through traffic.
- They reduce crossing distance for pedestrians.
- In emergency situations, emergency vehicles can travel in the restricted direction.

Disadvantages:

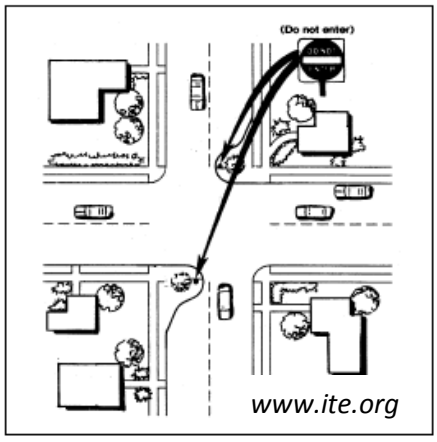
- Semi-diverters may direct traffic to parallel streets without traffic calming measures.
- They may create circuitous routes for local residents.
- Curbside parking must be prohibited in areas adjacent to the semi-diverter.
- Local residents are usually responsible for the maintenance of the device.

Effectiveness:

- There is currently no data available to determine the effectiveness of Semi-Diverters and their ability to calm traffic. However, they are believed to significantly reduce traffic volumes.

Criteria for Use:

- Semi-Diverters can be useful for residential streets that experience a lot of cut through traffic from a larger arterial road.



Full Closure (Dead End)

Full closures are barriers placed across the street to completely close it off to through traffic; usually leaving the sidewalks open to pedestrians.

Advantages:

- They are very effective in reducing traffic volume and are good for locations with extreme traffic volume problems where other measures have been unsuccessful
- Full closures are able to maintain bicycle and pedestrian connections.

Disadvantages:

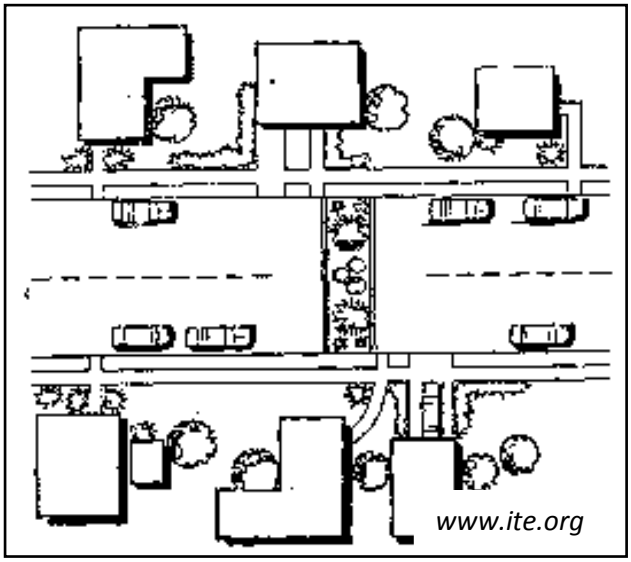
- They may require legal procedures for street closures.
- They can be very costly to implement.
- They may limit access to business.
- They can cause circuitous routes for neighborhood residents or emergency response.
- Turn around provisions are needed.

Effectiveness:

- Average of 44% decrease in traffic volume, or a decrease of 671 vehicles per day (from a sample of 19 sites) *Source: Trafficcalming.org*

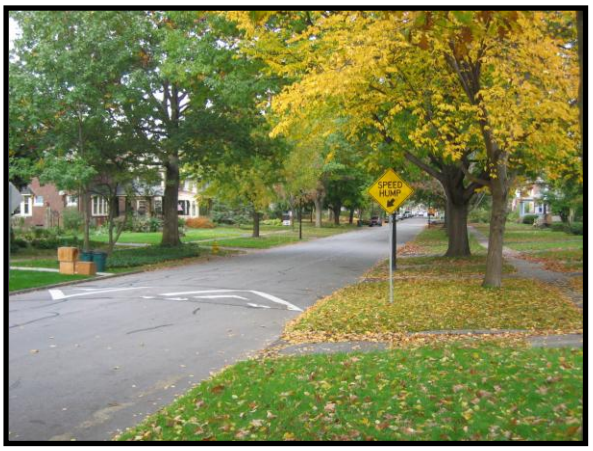
Criteria for Use:

- Full Closures are good for locations with extreme traffic volume problems and where several other measures have been unsuccessful.



Speed Hump

Speed humps are rounded raised areas placed across the roadway. They are generally 10-14 feet long (in the direction of travel) making them distinctively longer than their counterpart, the speed bump. Speed humps are generally 3 to 4 inches high and tapered as they reach the curb to allow for uninterrupted drainage along the street.



Advantages:

- Speed humps are relatively inexpensive.
- If designed properly, they are easy for bicycles to cross.
- They effectively slow traffic speeds.

Disadvantages:

- They force larger emergency vehicles to travel at a slower rate of speed.
- They can increase noise and air pollution.
- They may not always be aesthetically pleasing.
- They cause a rough ride for all drivers.
- Not suitable for bus routes.

Criteria for Use:

- Speed Humps are good for locations where very low speeds are desired (and reasonable) and where noise & fumes are not a major concern. These are typically used for residential streets.

**See Appendix for the official City of Rochester Speed Hump Criteria and Speed Hump Request.*

Effectiveness:

For a 12-foot hump:

Average of 22% decrease in the 85th percentile travel speeds, or from an average of 35.0 to 27.4 miles per hour; (from a sample of 179 sites).

Average of 11% decrease in accidents or from an average of 2.7 to 2.4 accidents per year (from a sample of 49 sites).

For a 14-foot hump:

Average of 23% decrease in the 85th percentile travel speeds, or from an average of 33.3 to 25.6 miles per hour (from a sample of 15 sites).

Average of 41% decrease in accidents or from an average of 4.4 to 2.6 accidents per year (from a sample of 5 sites).

Speed Table

Speed tables are flat topped speed humps that are often constructed with brick or other textured materials on the flat or top section. These tables are typically long enough that the entire wheel base of a car can rest on the flat section. This gives speed tables higher design speeds than speed humps. The brick or other textured material adds aesthetic appeal, calls attention to them, and may lead to increased speed reduction and safety.

Advantages:

- They are easier for larger vehicles (such as garbage trucks and emergency vehicles) to cross than speed humps.
- They are effective at reducing speeds wherever they are implemented, however not to the extent of speed humps.
- They can serve as raised crosswalks.

Disadvantages:

- If no textured materials are used, the speed table would lack aesthetic value.
- Textured materials, if used, can be quite costly.
- They can increase noise and air pollution.

Effectiveness:

For a 22-foot speed table:

Average of 18% decrease in the 85th percentile travel speeds, or from an average of 36.7 to 30.1 miles per hour; (from a sample of 58 sites).

Average of 45% decrease in accidents or from an average of 6.7 to 3.7 accidents per year (from a sample of 8 sites). *Source:Trafficcalming.org*

Criteria for Use:

- Speed tables are ideal for locations where low speeds are desired but a somewhat smooth ride is necessary for larger vehicles.
- Not appropriate for arterial streets (per NYSDOT Highway Design Manual or HDM)

Raised Intersection

Raised intersections are flat raised areas covering an entire intersection with ramps on all approaches and often with brick or other textured materials on the flat section. By modifying the level of the intersection the crosswalks are more likely to be perceived as "pedestrian territory"

Advantages:

- Raised intersections improve safety for both vehicles and pedestrians.
- If designed well, they can add aesthetic value to the intersection.
- They calm two streets at once.

Disadvantages:

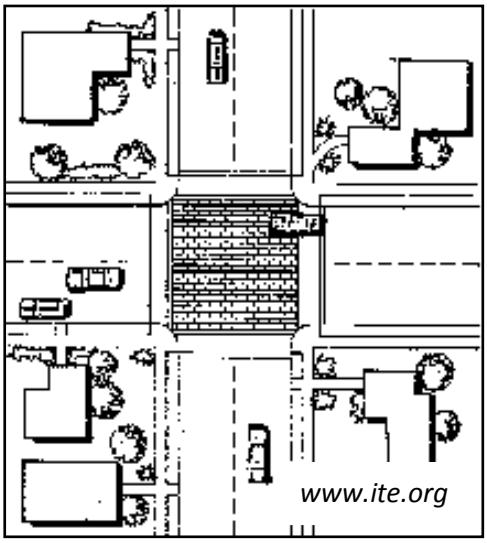
- Raised intersections tend to be costly, depending upon what materials are used.
- Drainage impacts need to be considered when constructing a raised intersection.
- They are less effective in reducing traffic speed than speed humps, speed tables, or raised crosswalks.

Effectiveness:

- Average of 1% decrease in the 85th percentile travel speeds, or from an average of 34.6 to 34.3 miles per hour; (from a sample of 3 sites). *Source: Trafficcalming.org*

Criteria for Use:

- Raised intersections are good for intersections with substantial pedestrian activity, and areas where other traffic calming measures would be unacceptable because they take away scarce parking spaces. They are not appropriate for arterial streets (per the NYSDOT Highway Design Manual or HDM).



Raised Crosswalk

Raised Crosswalks are Speed Tables equipped with crosswalk markings and signage to direct pedestrian crossings, providing a level street crossing. By raising the level in which the pedestrians cross they become more visible to approaching motorists.

Advantages:

- Raised crosswalks improve safety for both pedestrians and vehicles.
- If properly designed then can have a positive aesthetic value.
- They are effective in reducing speeds, although not as effective as speed humps.

Disadvantages:

- If used, textured material can be expensive.
- Drainage must be taken into consideration.
- They increase noise and air pollution.

Criteria for Use:

- Raised crosswalks are ideal for locations where pedestrian crossings occur at haphazard locations and vehicular speeds are excessive.
- Raised crosswalks are not appropriate for arterial streets (per the NYSDOT Highway Design Manual or HDM).

Effectiveness:

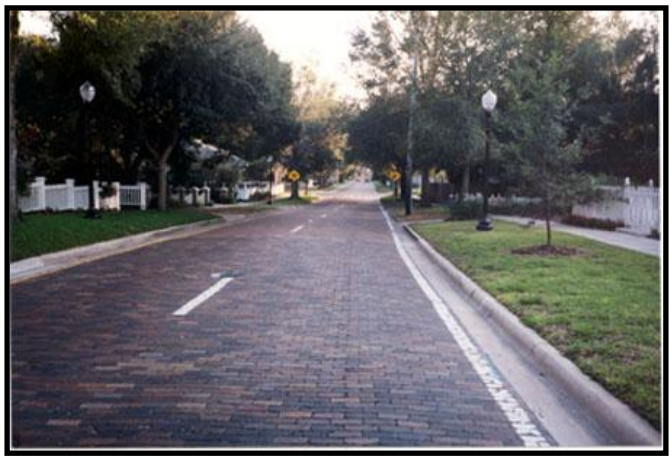
For a 22-foot Speed Table (the most similar device for which data is available):

Average of 18% decrease in the 85th percentile travel speeds, or from an average of 36.7 to 30.1 miles per hour; (from a sample of 58 sites).

Average of 45% decrease in accidents or from an average of 6.7 to 3.7 accidents per year (from a sample of 8 sites). *Source: Trafficcalming.org*

Textured Pavement

Textured pavements are roads that are paved with brick, concrete pavers, stamped asphalt or other surface materials that produce constant small changes in vertical alignment causing an unsmooth ride.



Advantages:

- The rough surface and constant change in vertical alignment of the bricks/or other materials cause drivers to slow down to avoid a bumpy ride and reduces overall traffic speed.
- Roads done with textured pavement add aesthetic value to a neighborhood and are proven to raise property values.

Disadvantages:

- Textured pavements may present difficulties for bicyclists and pedestrians, especially in wet conditions.
- Textured pavements are more difficult to maintain, especially in northern climates where snow plowing takes place.
- Textured pavements are generally more costly than conventional asphalt pavement.
- Roads using textured pavements generate more noise than conventional pavement.

Effectiveness:

- There is currently no data available to determine the effectiveness of textured pavement and its ability to calm traffic.

Criteria for Use:

- Textured pavements are good for "main street" areas where there is substantial pedestrian activity and noise is not a major concern.

Speed Enforcement

Speed enforcement involves using local authorities to enforce the speed limit by monitoring driver speeds using radar. The police presence generally reminds drivers that they must obey the posted speed limits or risk face getting a ticket with often large fines. This measure is typically used in problem areas on a temporary basis.

Advantages:

- Inexpensive if used temporarily.
- Does not impede movement of trucks, buses, and emergency vehicles.
- Effective in reducing traffic speeds in a relatively short time frame.

Disadvantages:

- Expensive to retain an increased level of enforcement.
- Effectiveness may only be temporary when police presence is evident.

Effectiveness:

- Many studies have shown that there is a fairly substantial decrease in the number of collisions in the vicinity of where speed enforcement is used.

Criteria for Use:

- Contact the Rochester Police Department's Traffic Enforcement Unit at 428-6714 (or your local law enforcement agency) to see if your street is eligible for radar enforcement.

Lane Striping

Lane striping can be used to narrow travel lanes (encouraging drivers to reduce their speed), create formal bicycle lanes and designate on street parking areas.

Advantages:

- Typically less expensive compared to other traffic calming measures.
- Typically shorter design time.
- Does not impede movement of emergency vehicles.

Disadvantages:

- May increase regular maintenance.
- Has not been documented to significantly reduce travel speeds (however it does if used as part of a "road diet").
- In some instances, may increase traffic congestion.
- May need to seal road (high cost) to be able to stripe.

Effectiveness:

- There is currently no data available to determine the effectiveness of lane striping and its ability to calm traffic.

Criteria for Use:

- Lane striping can be used to reduce the number of travel lanes for streets with a wide right-of-way.
- They can be used to dedicate a narrow lane for bicyclists and/or pedestrians where these types of uses are very common yet there is not otherwise safe space provided for those uses.
- Lane striping can be also used to create auxiliary lanes such as left turn lanes and two-way left turn lanes where they do not currently exist.

Radar Trailer & Driver Feedback Signs

Radar Trailers and Driver Feedback Signs are used to remind drivers of their speed compared to what the posted speed limit is. They are effective in making drivers more aware of their speed and therefore usually cause the driver to slow down to the posted speed limit.

Advantages:

- Less expensive than other more permanent measures.
- Does not impede movement of trucks, buses, and emergency vehicles.
- Use of speed display trailers/driver feedback signs can remind drivers of their speed without taking up valuable police resources and manpower.

Disadvantages:

- Driver feedback signs/ radar trailers display information that is already available to a motorist via the speedometer of the vehicle.

Effectiveness:

- Studies have shown that when alerted by a radar trailer or driver feedback sign, speeders will slow down up to 80% of the time. Overall compliance with the posted speed limit generally increases by 30-60%.

Criteria for Use:

- Can be used on most streets where a speed study confirms that 25% of drivers are in the 85th percentile.

Traffic Calming Implementation Process:

The process in which a local traffic calming measure is implemented in the City of Rochester involves a comprehensive evaluation of neighborhood conditions and tends to be very lengthy. There are several agencies that have to approve the measures prior to installation, and specific criteria must be met prior to final approval.

Although the City of Rochester already has a neighborhood traffic program, it is not as comprehensive as this manual. The "Safe Passages" program contains mostly non-physical measures that can be employed by citizens without having to go through the lengthy process of getting a physical measure constructed. The non-physical measures that are included in the "Safe Passages program were incorporated into this manual and can be used as a preliminary step to try and alleviate the problem in an inexpensive way, as the cost of non-physical measures compared to the physical measures is generally far less. However, if the non-physical measure fails to adequately address the issue, a more permanent, physical measure may be considered.

There are two ways that the traffic calming implementation process can start. The first way involves a perceived traffic issue being identified by citizens. They can consult this manual to explore the range of possible conceptual solutions that may apply to their particular traffic concern. These citizen complaints/suggestions are then analyzed by local officials. Once the perceived traffic issue is identified by either local residents or a municipality, a traffic study is then undertaken to more thoroughly examine specific conditions on the particular street. During the study, traffic counts and speeds would be recorded, and in some cases the distance to stop signs are identified. The results of the traffic study would indicate whether or not there actually is an issue on that particular street.

If it is determined that there is not a significant issue, then the process ends. However, if the traffic study indicates that there is in fact an issue, municipal officials and traffic engineers will evaluate the citizen-suggested measure(s) using industry wide technical standards and criteria to determine if it is appropriate. If the suggested measure is deemed appropriate, a

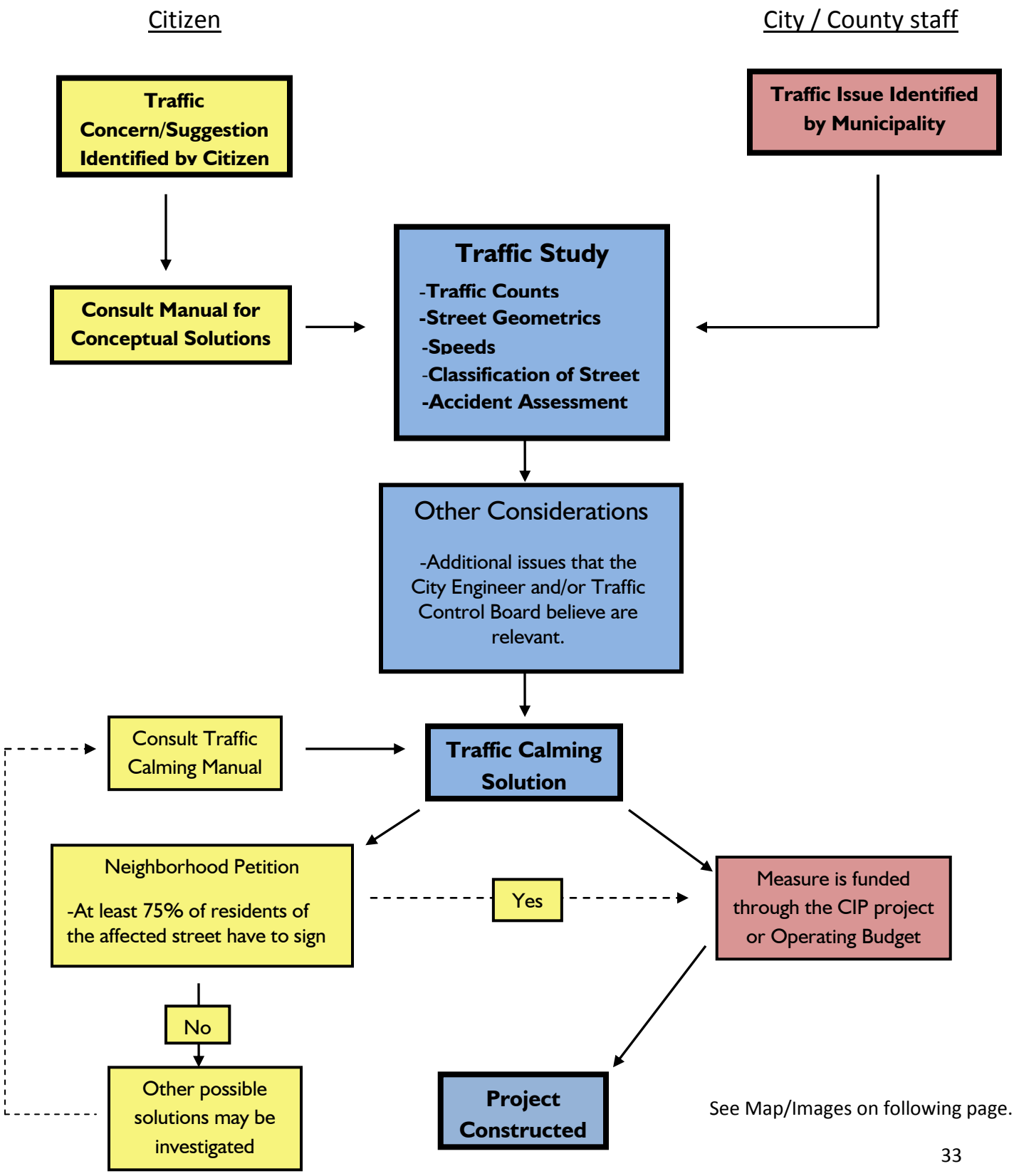
neighborhood petition process would then begin, requiring 75% of residents on the affected street to sign off on or agree to the particular measure. This may or may not be a difficult task depending on what the resident's perceptions are and how well organized they are on the particular street. Typically if there is a "unified voice" among residents on the street, the process moves along much more smoothly.

If and when the 75% is obtained, then there is approval of the traffic calming measure. If not enough signatures are obtained, or the suggested measure is deemed inappropriate by municipal traffic engineers, residents are then urged to consult this manual again to consider a different traffic calming solution. The petition process would start over again to ensure the right decision is made.

The other way that a traffic calming measure can be implemented is through a street redesign project that the city, county or state transportation department would initiate as part of a Capital Improvement Program (CIP). This process follows the same procedures as the citizen led complaint, with the exception of requiring a neighborhood petition.

The process may seem long but that is so the municipality can do its due diligence and review all aspects of a potential traffic issue. When a municipality implements a traffic calming measure, it needs to make sure that there are no adverse effects of that measure such as displacing traffic to another nearby street, which simply moves the issue from one place to another. The ultimate goal of traffic calming programs should be to improve the quality of life within residential neighborhoods and improve safety conditions for pedestrians and motorists alike.

Neighborhood Traffic Calming Process

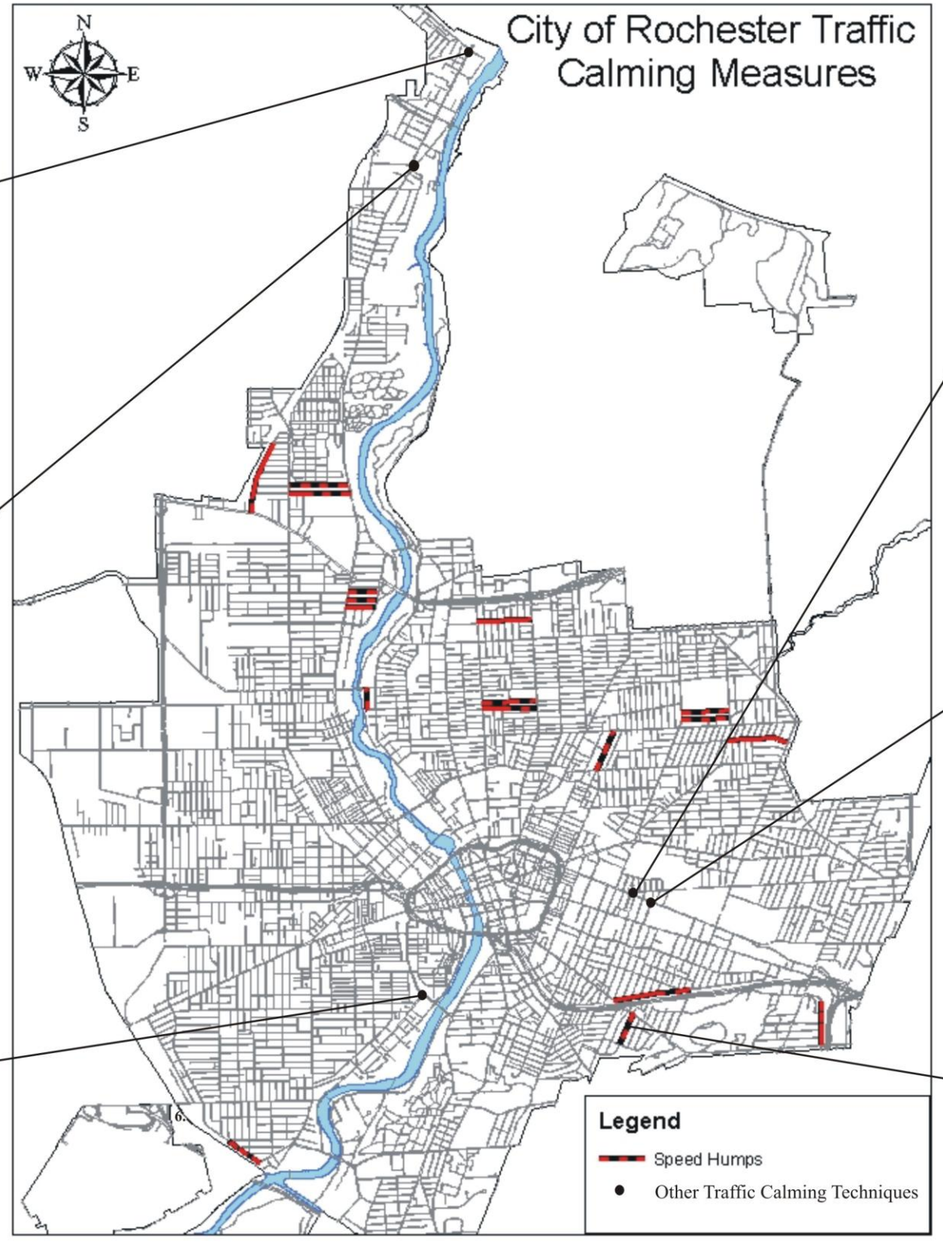


See Map/Images on following page.

Speed Table

Re-aligned Intersection

Roundabout



Center Island Narrowing

Neckdown

Speed Hump

Appendix A- City of Rochester Speed Hump Criteria

The following three-step speed hump location selection process and criteria shall be used to select future speed hump locations:

First, an in-house evaluation of street functional classification and geometric features shall be made to determine if the street qualifies for future consideration. Second, traffic volumes and traffic speed data shall be collected and evaluated, and lastly there shall be a review of other related information to determine if there are any unusual circumstances which would support or eliminate the street from future speed hump consideration.

The first evaluation involves the screening of potential speed hump locations based on street geometric features and functional classification. The criteria for this evaluation are:

1. The candidate street must be a local residential street. First, it must be classified a local residential street on the City's functional classification map. Second, the street must be "primarily residential" with at least 51% of the affected street frontage being in Residential zoning districts as defined on the City's Zoning map. Since the purpose of the speed hump program is to discourage traffic and traffic speeding on local streets, speed humps will not be permitted on any local collector, or on a minor or principal arterial street.

2. The street must NOT be a "primary" or routine emergency vehicle or public transit bus route. RTS bus routes and hospital, fire station, and police station locations will be used in these criteria.

3. The street width must be less than 40' wide to indicate the street is not a wide arterial street.

4. The street must have a grade of 6% or less approaching the hump location to avoid drainage problems and insure safe vehicle operations.

5. Few or no parallel residential side streets. If there are parallel streets, the placement of speed humps could merely shift traffic to other nearby streets.

6. The candidate street should have a minimum distance of 1/4 mile between existing stop signs or traffic signals. Streets with many stop controls would already cause the slowing of traffic, although not necessarily slow traffic between the controls.

If the project meets the initial screening, then traffic speed and volume data shall be collected and compared to the following criteria:

1. At least 40% of the traffic should be traveling at or greater than 30 MPH.

Appendix A- City of Rochester Speed Hump Criteria (continued)

2. The 85th Percentile Speed should be at least 35 MPH, i.e. 85% of the traffic should be traveling at or below 35 MPH

3. The traffic volume should have a minimum average daily traffic (ADT) count of 500 and a maximum ADT count of 3000. Volumes of less than 500 indicate the street is serving as a true local residential street with minor disruption to the neighborhood and volumes greater than 3000 indicate a street being used as a collector or an arterial-type street where speed humps would not be permitted, and

4. There must be a minimum stopping sight distance of 300' at the humps to insure safe visibility of slowing vehicles.

The last evaluation would be the consideration of "other" factors which could further support or detract from the candidate site. These criteria would include:

1. History of accidents clearly related to speeding

2. Adequate street lighting and drainage, and

3. Other factors deemed appropriate by the City Engineer or Traffic Control Board

If the above technical factors are met, then citizen support for the project must be demonstrated through a petition showing 75% support of occupied properties on the affected street. If a 75% petition is received, then all requests will be ranked according to speeding problems (% over the 30mph speed limit). This ranking would then be used as budgeted funds and staff resources permit implementation.

Process to request City of Rochester Speed Humps:

Write a letter with signatures of as many residents on the street as possible to:

Mr. James McIntosh
City Engineer
City Hall, Room 300B
30 Church Street
Rochester, NY 14614

Appendix B- Speed Hump Request Evaluation for City of Rochester (1999-2004)

As of 8/3/04			**Speed Hump Request Evaluation Sheet 1998-2004 Program Years (Sorted by Street Name)**										
Street Name	Limits	Length	between stop control	Parallel Residential Streets	Local Street	Width < 40'	Transit/Fire Rt	Grade	85th%=>35 mph	40%>30mph	ADT 500-3000	Year	Comments
Agnes St	Hudson-North	900	Hudson-North									2002	deny; short
Akron	Atlantic-Main	1100	Atlantic-Main		Yes	24	OK		sb only-33	sb only 17		1999	Parallel to Woodstock/One-way
Alphonse St	North-Carter	1050	North-Carter									2004	deny; short
Arbordale	Blossom-Dorchester	1800	950'/950' Juniper	yes, Bersford, et.al.								2000	deny, short & parallel
Argl Park	Park-East	1000		Yes								1998	deny, too short
Arnett	GVP-Thurston	1952	GVP-Thurston	Yes, Rox~, but 1st st from Chili	No, Loc Col	26	ok	ok	get			2002	temp only during Chili constr (2003/4)
Arnold Park	East-Park	1100	East-Park									2000	deny, too short; mall?
Asbury Street	S.Clinton-Field	1350	Clinton-Field	Yes, Benton & Wilmington/Beaufort Yes		18	not checked	OK				2000	ask for speeds,curve
Aurora	Fernwood-Rosemary	1100	Fernwood-Rosemary	Yes, Petrossi, Portage	Yes							2001	deny, short/parallel; ltr sent
Averill Ave	South-Mt Hope	1600	South-Mt Hope	Yes, Hamilton/Hickory	Yes	28	No, fire route	ok	eb-36 wb-35	eb-47 wb-42		2002	fire route; consider bumpouts
Avis II	Dewey-Lily	2500	Dewey-Lily	Yes-Knickerbocker,Pullman	Yes	24	OK		eb-32 wb-32	eb-22 wb-22	659-768	1999	denied low speeds/parallel; ltr sent
Avis St	Dewey-Lily	2500	Dewey-Lily	Yes-Knickerbocker	Yes	24	OK	?	eb-32 wb-32	eb-22 wb-22	659-768	1999	denied low speeds
Balsam Street	Arbordale-Winton	700	Arbordale-Winton	Yes								2000	deny, too short
Barton St	Plymouth-Genesee	1400	Plymouth-Genesee		Yes							2004	deny; a primary fire route
Beaufort St	Clinton-Benton	850	Clinton-Benton	No	Yes							2001	deny; short
Beaufort St II	Clinton-Henrietta	850	Clinton-Benton									2001	deny-short; ltr sent
Berlin	Joseph-Hudson	2300	Joseph-Hudson	Yes, Wilkins, but long	Yes	22	OK	OK	eb-36 wb-33	wb-40 eb-29	1065	2001	appr; const in 2003
Bernice St	Ridge-McCall	3200		No		20	OK		nb-36 sb-36	nb-52 sb-47	3248	1998	Constructed in 1999

Brambury Dr	E.Ridge-Carter	1400	total; 775'+625' to bend	No	Yes	20	ok		sb-31 nb-32	sb-19 nb-23	500	2001	deny, low speeds; ltr sent
Brookfield	Blossom-Humboldt	1100	Blossom-Humboldt	Yes, Amsterdam								2003	deny; parallel & short
Burbank St	Clinton-Remington	700	Clinton-Remington									2004	deny: short
Campbell Pk	Lyell-Jay	1800	Lyell-Jay	Yes, Glide, Wetmore,Fairgate	Yes							2004	deny; parallel
Canterbury Rd	Culver-Monroe	3200	Culver-Monroe	No, Harvard sort of	Yes	28	ok	ok	eb-33 wb-36	eb-32 wb-48	1484	2003	appr; const in 2004 if $$
Carthage Dr	Ave E-St Paul, w/ curve	1300	Ave E-St Paul	No	Yes	44	OK		sb-36 nb-36	sb-58 nb-54	1485-1714	1999	Constructed in 1999
Chesterfield II	Pearson-Britton	1200/1900	Pearson-Britton	No	Yes	22	ck	OK	nb-36 sb-32	nb-43 sb-31	696	2001	Lake constr; speeds ok; do temp, rubber
Clarissa	Troup-S. Fitzhugh	2300	Troup-S. Fitzhugh	No	Yes	38	NO, a fire rte	ok				2002	deny; fire route
Cobbs Hill Drive	Highland--Hillside	2800	Highland-Hillside	No	Yes	24	OK	7-8%				1999	denial letter sent
Coleman Terrace	Hemple-Clifford	850	Hemple-Clifford									2004	deny; short
Columbia	Reynolds-Plymouth	1500	Reynolds-Plymouth	Yes, Bartlett	No, Loc Coll							2004	deny; local collector
Copeland	Webster-Bay	1100										2000	Denied
Corwin Rd	Winton-Fairhaven	2000	Winton-Newcastle	Limited-Dorchester		28	OK		eb-31 wb-36	nb-17 sb-48	489	1998	Petition never received
Crosman Ter	Monroe-Field	2600	Monroe-Field	Yes-Laburnam, but limited	Yes	30	OK		nb-33 sb-33	nb-17 sb-32	892	1999	denial ltr sent
Crosman Ter II	Monroe-Field	2600	Monroe-Field	Yes-Laburnam, but limited	Yes	30	OK	Pinn-Field	nb-33 sb-39	nb-34 sb-59	719	1999	Constructed in 2000
Curlew St	Lexington-Emerson	1925	Lexington-Emerson	No	Yes	26	RTS route		sb-36 nb-37	sb-48 nb-47	2881	1999	denial letter sent
Dunn St	Moulson-Hudson	1400		yes, Nester	Yes	20			eb--30 wb--31	eb--17 wb--17	828/1059 in 2004	2000	deny, low speeds; part of Nester
Dunn St II	Moulson-Hudson	1400	Hudson-Bremen	yes, Nester w/ new humps	Yes	20	ok		eb--30/29 wb--31/30	eb--17/9 wb--17/14	828/1059 in 2004	2004	deny; hold for one year
Durnam St	Hudson-Portland	1250	Portland-Carter	Yes, Roycroft	Yes							2001	deny-short/parallel; ltr sent w/ curb ltr
Edgeland St	Rocket-Bay	1056	Rocket-Bay	Yes, Longview, et al	Yes			OK	nb-32 sb-33	nb-28 sb-29	518	2001	deny, short
Edgeland St	Clifford-Rocket	700	Clifford-Rocket	Yes, Longview, et al	Yes			OK	nb-29 sb-29	nb-14 sb-16	699	2001	deny, short
Edward St	Upper Falls-	800										1998	deny, too short

	Vose												
Electric	Dewey-Lily	2600	Dewey-Lily	Yes, Magee,Clay,Flower CP								2003	deny; parallel
Elmcroft Rd	Winton-east deadend	1800		yes, Elm & Winstead on west								2000	deny, parallel
Ernst St	Hudson-Carter	1000	North-Carter (900 Hud-N)	Yes, Cleon/Durnan	Yes							2001	deny, short/parallel; ltr sent
Exchange	Ford-Magnolia	3100		No	Yes	24-35	OK	OK	n-b--36 s-b--37	n-b--53 s-b--54	2625-Wow	2000	approved; awaiting petition
Fairgate	Lyell-Jay	1900	Lyell-Jay	Yes, Wetmore, Campbell								2002	deny; parallel
Field St	Pembrook-Clinton	2900	Pembrook-Clinton	No	Yes	26	NO, a fire route					2003	deny; fire route
Flower City Park	Lake - Maplewood Dr	1260	Lake-Maplewood	Yes, Parkdale, but different	Yes	24	Not checked	OK	eb-33 wb-30	eb-28 wb-16	554	2000	Deny not speeds; length error
Flower City Pk II	Lake - Maplewood Dr	1260	Lake-Maplewood	Yes, Parkdale, but different	Yes	24	OK	OK	eb-37 wb-32	eb-42 wb-26	780	2002	appr; const in 2003
Furlong St	Portland-Carter	2000	Portland-Mitchel-1000	yes								2000	deny, short & parallel
Garson	Culver-Wisconsin	1900	Culver-Wisconsin	Yes, Cedarwood & Grand, but	Yes	26	ck	ok				2003	signal @ Culver. Deny, parallel; like FCP
Genesee St Ext	Scottsville-Vixette	1300		No		24	OK		29	14	291	1998	Deny
Glasser St	Jay-Masseth	800	Jay-Masseth	Yes, Rugraff								2002	
Gorsline St	Lake - Maplewood Dr	1260	Lake-Maplewood	Yes, but all streets requested	Yes	28	OK	OK	eb-34 wb-33	eb-38 wb-25	585	2002	appr w/ Flower City; const in 2003
Grand Av	Webster-Culver	3100	Chamberlain-Culver	Yes					eb-33 wb-32	eb-29 wb-22	1254	1998	deny, low speeds & parallel
Hamilton St	Mt.Hope-South	1300	Mt.Hope-South	Some,look at this more	Yes	28	OK		eb-33 wb-32	eb-31 wb-22		1999	denial e-mail sent
Hampden	Humbolt-Blossom	1550		Yes								1998	deny, parallel streets
Harvard St	Oxford-Culver	1550	Dartmouth-Berkley	No		25-28	No--fire access		eb-32 wb-31	eb-22 wb-18	1134	1998	deny, fire access
Hayward Ave	Goodman-Chamberlain	2100	Goodman-Chamberlain	Yes, Garson/Grand	Yes							2002	deny; parallel
Hempel	1st-6th	1250	1st-6th									2002	deny; short
Henley	Meriden-City Line-curve	750		Yes, Camden	Yes	26	Bus route					2000	deny--short, parallel, bus
Henrietta St	Goodman - Field	2160	Goodman - Field	No	Yes	28	check	OK	eb-28 wb-29	eb-7 wb-9		2002	deny-low speeds

Hoeltzer St	Joseph-Clinton	1350		Yes (one-ways)								1998	deny, parallel
Hoeltzer St	Clinton-Joseph	1330	Clinton-Joseph	Yes, but one-ways	Yes	21			wb-33	wb-29	218	1999	denial letter sent
Ketchum	Clinton-Remington	700	Clinton-Remington	Yes, Morril & Bloomingdale								2003	deny; short + parallel
Kingsboro Rd	Gen Pk Blvd-Scottsville	1500	Gen Pk Blvd-Scottsville	No	Yes	24	OK		eb-36 wb-37	eb-56 wb-47	2027	1999	Constructed in 2000
Kingston	Main-Cedarwood	1052	Main-Cedarwood	Yes, Arch, etc	Yes				nb-31 sb-32	nb-20 sb-28		2001	deny, short, speeds, parallel; ltr sent
Knickerbocker	Dewey-west end	2600		Yes, Avis	Yes	20-26			eb--32 wb--35	eb--30 wb--35	465, low	2000	deny, parallel, low vol & speeds
Knowles Al	Reynolds-VanAucker	1200	Reynolds-VanAucker	Yes, Tremont & Adams	Yes, an alley	16						2004	deny; short & parallel
Lancraft St	Woodman Pk-Culver Rd	450	Woodman Pk-Culver Rd	Yes, Meredith St								2004	deny; short & parallel
Lattimore	E.Hen-Castleman	1600	E.Hen-Castleman	Yes,Irvington/Shelbourne,but stops	Yes	40, close	ok, RTS w of Castleman	OK	eb-37 wb-38	eb-58 wb-58	2100	2004	high speeds, discuss with GS
Leighton Ave	Barnum-Culver	1600	Barnum-Culver	No, Breck w/ stops	Yes	24	ok	OK	eb-33 wb-33	eb-26 wb-25	746	2004	deny; speeds
Lily St	Magee - Ridgeway	1100	Electric - Ridgeway	No	Yes	18	check	OK	nb--35 sb--33	nb--35 sb--28		2002	deny low speeds; st design request
Linden	Mt.Hope-South Av	2218		Yes, Cypress, but w/ stops	Yes	26	No, narrow	OK	eb-31 wb-32	eb-20 wb-27	858	2001	deny; speeds; ltr sent
Linden St	Meigs-Goodman	750										1998	2200' at Mt Hope end(Not asked for)
Longview	Clifford-Rocket	700		Yes, Edgeland,etc.		26			nb-32 sb-31	nb-24 sb-21	880	2001	hump criteria being reviewed.
Lozier	Chili-West Ave	1175	Chili-West Ave	Yes-Thorndale, Hobart,Philamore							300-LOW	2001	denied low speeds/parallel; memo sent
Lux Street	Portland-Clairmont	1000	Portland-Clairmont1000									2000	denied, short & wanted at intersection
Lyndhurst	Union-North	900	Scio-North (on-ramp?)	Yes, Woodward, but 2 bloc away	Yes		OK					2002	short to frontage road
Manitou St	Clifford-Fernwood	700	Clifford-Fernwood	Yes, Portage, Clairmont,Ferncliffe								2004	deny; short + parallel
Marion	Blossom-Humbolt	1600		Yes, but thru to Atlantic	Yes	22	OK	No, 6%	nb--32 sb--31	nb--25 sb--22	611	2000	deny--parallel, grade,speeds
Marion II	Atlantic-Humbolt	1180		yes, Amsterdam, but limited		24			nb--32 sb--32	nb--23 sb--25		2000	deny, low speed, short,parallel
Marion St	Blossom-Atlantic	1600	Blossom/Humbolt	yes			OK					1998	deny, parallel
Mark St	Hudson-North	900										1998	deny, too short

McNaughton St	Otis-Emerson	1400	Otis-Emerson	Yes, Avery	Yes	26	ok	OK	nb-34 sb-36	nb-31 sb-39	1127	2004	deny; parallel and speed (but close speeds)
Menlo Place	Mt.Hope-east end	740'										2001	deny; short
Meredith St	Culver-Woodman	600	Culver-Woodman									2004	deny; short
Merrill St	Lake-Dewey	2550	Lake-Dewey	Yes, Winchester	yes	44	OK		eb-35 wb-38	eb-56 wb-70	2854	1998	Constructed in 2000 street proj
Midland Ave	Randolph-Norton	1900	Randolph-Norton	Yes-Norran/Hillcrest	Yes	24	OK		sb-33 nb-29	sb-27 nb-14	1130	1999	deny, parallel & low speeds
Minges St	E.Main-Haywood	200										2002	deny; short--Main/Goodman girl hit
Mitchell St	Norton-Barberry	1400	Norton-Barberry	No, only arterials (Carter&Portland)	Yes	24			nb-31 sb-30	nb-18 sb-15		2004	deny; low speeds
Mohawk St	Portland-Carter	1000	Mitchell-Carter	Yes, Furlong & Barberry (Del=1way)	Yes	24						2004	deny; parallel & short
Nester St	Seneca-Hudson	2300		yes, Dunn	Yes	26	OK		eb--34 wb--35	e-b--34 w-b--39	1067	2000	appr; construction in 2003
Normandy	Chili-Arnett	1800	Chili-Arnett	Yes, Woodbine & Rugby	Yes							2003	deny; parallel
Norris Dr	@ Cobbs Hill rec center	-		No	Yes	36 w/o curbs	ok	OK	eb-30 wb-33	eb-15% wb-28%**	3400	2002	**>20mph eb 77% wb 84%; high vol
Northland Ave	Lyceum-Waring	1150	Lyceum-Waring	Yes, Marne	No, Loc Coll	40,close	ok	OK	eb-42 wb-39	eb-87 wb-82	4200	2004	deny; local collector/short; check w/ GS on other
Park Av	Culver-curve	2900	Culver-Colby	Limited-Harvard	No							1998	Denied
Pershing Dr	Rocket-Bay	1050	Rocket-Bay	Yes, Dorset, Salisbury, et.al.	Yes	26						2004	deny; parallel & short
Pomeroy St	Portland-Midland	1300	Portland-Midland	Yes, Sylvester & Chapin								2004	deny; parallel
Portage	Fernwood-Rosemary	950	Fernwood-Rosemary	Yes, Manitou, Aurora,Clairmont	Yes							2004	deny; short & parallel
Post	West-Chili	1500	900/600 West-Alberta-Chili	Yes, Sherwood & Woodbine								2000	deny, too short
Post Ave	West Ave-Arnett	750	West-Alberto	Yes-Sherwood/Woodbine	Yes	20	OK					1999	denial letter sent
Prince St	Main-Champeney Ter	700										1998	deny, too short
Pullman Ave	Dewey-West End	1600	Dewey-Astor	Yes-Avis/Stenko	Yes	26	OK	?	eb-34 wb-33	eb-42 wb-38	-	1999	Denied
Quincy St	Cedarwood-Main	900										1998	deny, too short
Radio	Clinton-Lill	800	Clinton-Lill									2000	Short st; denial ltr sent

Street													
Raeburn Av	Thurston-Gen Valley Pk	1650	Thurston-Gen Valley Pk	Yes, Hillendale,Lehigh								2004	Deny; parallel
Rand	Dewey-West end	2600		yes								2000	deny, parallel
Randolph St	Goodman-Portland	2850		Yes, but Northland a collector		24-26	OK		eb-32 wb-35	eb-23 wb-41	2209	1998	Petition never received/who contact?
Randolph St II	Goodman-Portland	2850	Goodman-Portland	Yes, but Northland a collector	Yes	24-26	No--fire access		eb-32 wb-35	eb-23 wb-41	2209	1998	deny, fire route; ltr sent
Rauber St	Clinton-Joseph	1290	Clinton-Joseph	Yes, Sellinger & Hoeltzer	Yes							2002	deny; parallel
Raymond St	S.Clinton-Blye	800		No								2000	deny, too short
Resolute III	Clinton-Seneca	1120	see notes on length		Yes	24	ok	ok	eb-34 wb-36	eb-43 wb-44	1113	2002	GS-xway exit overrides length;appr; 14621 help w/ petition
Resolute St	Clinton-Seneca	1120							eb-34 wb-36	eb-43 wb-44	1113	1998	deny, too short
Resolute St II	Clinton-Seneca	1120			Yes	24	ok	ok	eb-34 wb-36	eb-43 wb-44	1113	2001	hump criteria being reviewed
Riverside	Lake - Maplewood Dr	1260	Lake-Maplewood	Yes, but all streets requested	Yes	30	OK	OK	eb-36 wb-33	eb-49 wb-35	433	2002	appr w/ Flower City; const in 2003
Rocket St	Pershing-Culver	2600		No		26	OK		eb-36 wb-34	eb-47 wb-41	1553	1998	Approved for 2001, const in May
Rockingham St	Goodman-Clinton	1900	Goodman-Clinton	Yes, Mulberry/ Highland Pkwy	Yes	25						2003	deny; parallel
Rockland Park	Clifton-Jefferson Ter	400	Clifton-Jefferson Ter	Yes, Epworth & Wooden								2003	deny; short
Rohr St	Bay-Clifford	1850	Bay-Clifford	yes (First & Miller) but 1-way s-b	Yes	22	OK	OK	nb--36 (1-way)	nb--43	2800	2001	apprv; constructed in 2002
Roycroft	North-Hudson	1000	North-Hudson	Yes, Ernst (but 1way to north)	Yes							2001	deny, short; ltr sent
Salisbury St	Bay-Rocket	1000	Bay-Rocket									1998	deny, too short
Sanders	Hemple-Bay	900	Hemple-Bay									2002	deny; short
Sawyer St	Elgin-Thurston	2450	Woodbine-Genesee	Ellicot/W.High but w/stops/ t's	Yes	24	part transit rt	OK	eb-35 wb-35	eb-44 wb-38	2400	2002	deny; RTS route + 4-way stops
Seneca Manor Dr	Joseph-Hudson	1300	Hudson to curve	No		23-26	No--fire access		eb-27 wb-28	eb-4 wb-12	1966	1998	deny, too short & fire access
Seneca Manor Dr II	Joseph-Hudson	1300	Hudson to curve	No	Yes	23-26	maybe	OK	eb-29 wb-30	eb-10 wb-13	3100 (2000 in '97)	2004	deny; low speeds/was previous fire route
Seth Green	St Paul to north end	1300	St Paul to mid-block	No	Yes	26	No, a fire route					2004	deny; a fire route

			stop										
Seward St	Jefferson-Columbia	1750	Mag-Col (Jeff-Mag=3100)	No	Yes	25		OK	nb--26 sb--28	nb--8 sb--13	539	2001	deny-speeds; ltr sent;one-way s-b
Southview Terrace	Forthill-Elmwood	1100	Forthill-Elmwood	Yes, Westview	Yes							2001	deny-short /parallel; ltr sent
Springfield St	Goodman-Lyceum	2000		Yes-Willmont		24	OK		eb-34 wb-33	eb-37 wb-33	726	1998	Constructed in 1998
St Jacobs	Hudson-North	950		Yes, lots	Yes	24						2000	deny, short
Terrace Park	Woodbine-Genesee	1620	Pioneer-Genesee	Yes, Congress Avenue	Yes	24						2002	Thru Councilman Thompson; deny
Troup St	Reynolds-Eagle	1700	Reynolds-Ford	No		32-28	OK		eb-33 wb-34	eb-38 wb-38	3687	1998	high vol; close to speed warnts
Tubman Way	Clarissa-Southend	430										2002	deny; short
Tyron Park	Winton-NY590	1400		No		22	No--fire access		eb-29 wb-28	eb-13 wb-11	467	1998	deny, fire access
Weaver St	Joseph-Hudson	2300		Yes, Weyl, but xtra stop	Yes	26			e-b--32 w-b--33	eb--22 wb--34	1657	2000	deny, low speeds
Weaver St II	Joseph-Hudson	2300	Joseph-Hudson	Yes, Weyl, but extra stop	Yes	26			eb-33 wb-34	eb-24 wb-31		2004	deny: low speeds
Westfield St.	Chili- Brooks	4200	Chili- Brooks	Yes, but GPk Blvd a collector	Yes	24	ok	OK	nb-36 sb-38	nb-45 sb-55	1418	2001	ltr sent; need petition
Wilkins	Joseph-Hudson	2300	Jos-Hudson	Yes, Berlin	Yes	26	Not checked	OK	eb-34 wb-33	eb-33 wb-26	2022	2000	deny,not speeds; but do if Wilkins
Wilkins II	Joseph-Hudson	2300	Jos-Hudson	Yes, Berlin but petition both	Yes	26	ok	OK	eb-34 wb-33	eb-33 wb-26	2022	2003	deny,not speeds; but do if Wilkins
Willmont St	Goodman-Lyceum	2000		Yes-Springfield		26	OK		eb-38 wb-33	eb-50 wb-33	657	1998	Constructed in 1998
Wilmington	Field-Beaufort	1000		yes								2000	deny, short
Winchester St	Lake-Dewey	2550	Lake-Dewey	Limited-Merrill		24	OK		eb-35 wb-37	eb-47 wb-61	3485	1998	Constructed in 1999
Woodbine	Brooks-Aberdeen	1500	Sawyer-Aberdeen	Yes, but limited		24-26	No--fire access		nb-36 sb-33	nb-44 sb-32	3279	1998	deny; low speeds
Woodbine II	Chili - Arnett	1400	Chili - Arnett	Yes	Yes	22	No--fire route					2001	deny; fire route; ltr sent
Woodstock Rd	Atlantic-Main	1000	Atlantic-Main	Yes-Woodstock/Akron	Yes	20	OK		nb-28 sb-28	nb-5 sb-10	1136	1999	deny; low speeds

Appendix C: City of Rochester Neighborhood Traffic Calming Questionnaire

Please answer the following questions regarding traffic problems in your neighborhood. The results will be used to develop a traffic calming manual that can be used by citizens to determine the best course of action to correct various traffic issues within their neighborhood. Your participation is an integral part of this process.

Name:_____ Neighborhood:_____

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.) Traffic issues such as speeding, congestion, etc. are a significant problem within my neighborhood:	1	2	3	4	5
2.) Speeding on residential streets within my neighborhood is a common occurrence:	1	2	3	4	5
3.) The streets in my neighborhood are walkable, safe and pedestrian friendly:	1	2	3	4	5
4.) Traffic accidents occur frequently within my neighborhood:	1	2	3	4	5
5.) Traffic calming techniques (such as speed humps, raised crosswalks, etc.) would be useful to solving traffic issues in my neighborhood:	1	2	3	4	5

6.) Traffic Calming measures (such as speed humps/ raised crosswalks, etc.) have already been implemented in my neighborhood

Yes No If yes, please list location(s):

7.) Have you ever been involved in citizens speed control programs or Neighborhood Speed Watch (speed awareness banners/signs, digital radar display trailer)?

Yes No

If not would you be interested in learning more about it?

Yes No

8.) Please list any issues related to traffic (speeding/congestion/pedestrian unfriendly, etc.) that your neighborhood experiences on a regular basis and the location of where the trouble spots exist:

a.) Speeding _____
_____

b.) Accidents _____
_____

c.) Other: _____
_____

Thank you for your participation in this survey. If you have any questions or comments regarding this survey please call Josh Artuso at 585- 428-7707 or Tim Zimmer at 585-428-6594.

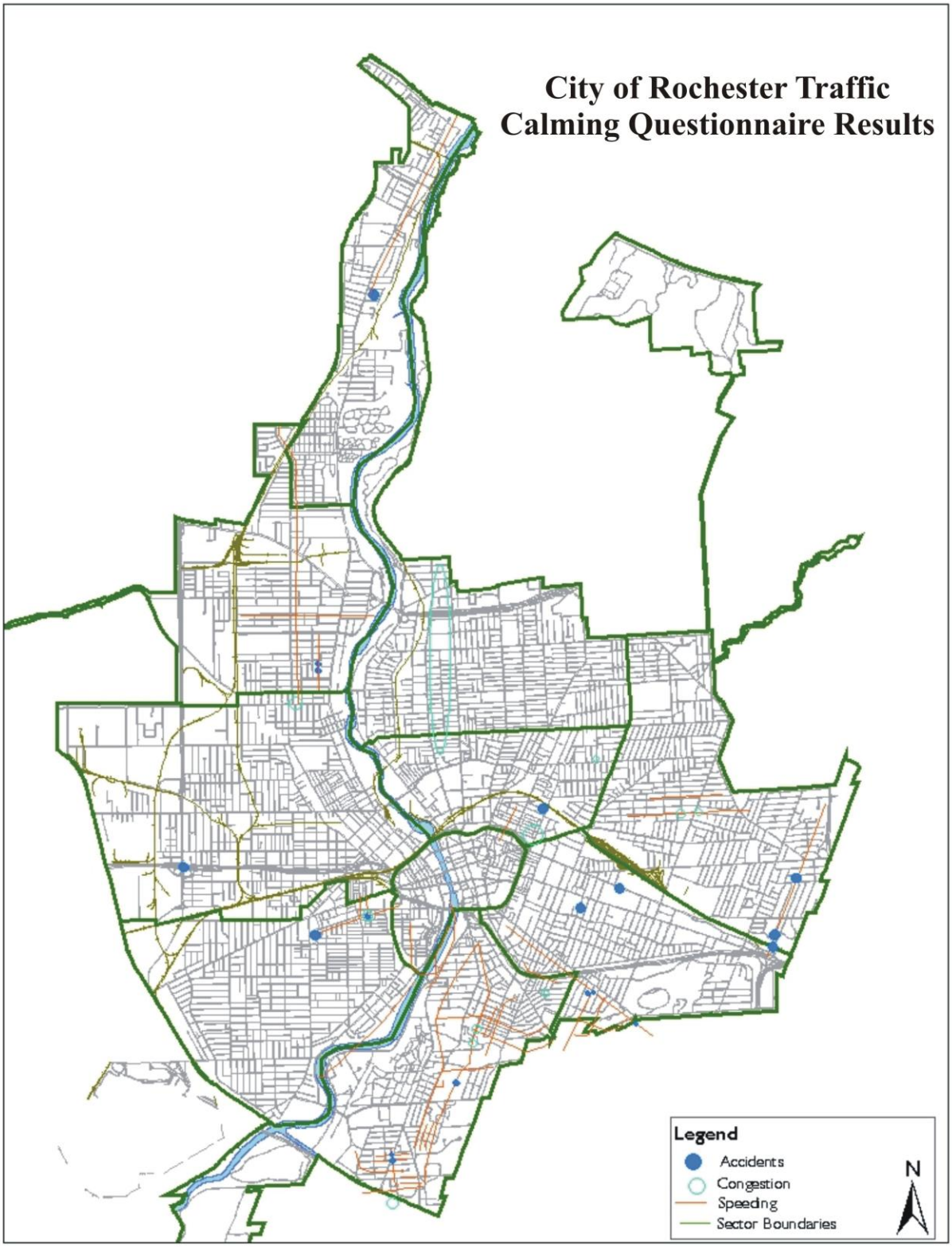
Appendix C: City of Rochester Traffic Calming Survey Results

Neighborhood Group		Sector #	Name/Contact Info		Question #1	Question # 2	Question #3	Question #4	Question #5	Question #6		Question #7		Question # 8			
					Traffic issues such as speeding, congestion, etc. are a significant problem within my neighborhood:	Speeding on residential streets within my neighborhood is a common occurrence:	The streets in my neighborhood are walkable, safe and pedestrian friendly:	Traffic accidents occur frequently within my neighborhood:	Traffic Calming techniques (such as speed humps, raised crosswalks, etc.) would be useful to solving traffic issues in my neighborhood:	Traffic calming measures (such as speed humps/raised crosswalks, etc.) have already been implemented in my neighborhood…If so where?:		Have you ever been involved in citizen speed control programs or Neighborhood Speed Watch? If not would you be interested in learning about them?		Please describe any specific issues related to traffic (speeding/congestion/ pedestrian unfriendly, etc.) that your neighborhood experiences on a regular basis and the location of where the trouble spots exist:			
														Speeding	**Accidents**	**Congestion**	**Other**
1	Charlotte Community Association	1	Glenn Gardner	865-0371	Agree (4)	Agree (4)	Strongly Agree (5)	Disagree (2)	Disagree (2)	No		Yes	N/A				
2	Charlotte Community Association	1	Michele M. Labigan	663-0030	Strongly Agree (5)	Agree (4)	Agree (4)	Strongly Agree (5)	Strongly Agree (5)	No		No	Yes	Lake Ave. between Britton and Beach	Britton & Lake	Entire Port/Beach area in summer months	
3	Maplewood Neighborhood Association	2	Cynthia Kaleh	232-8420	N/A	Strongly Agree (5)	Agree (4)	Agree (4)	Agree (4)	Yes	Gorsline, Flower City, Winchester, Bennington	No	Yes	Raines Pk, Dewey, Flower City	Raines Pk, Augustine, Birr	Driving Park, Dewey	Illegal parking on Driving Park
4	Sector 2	2	Gregory Mason	451-3278	Strongly Agree (5)	Strongly Agree (5)	N/A	Agree (4)	Strongly Agree (5)	Yes		No	No	Dewey Ave.			
5	Susan B. Anthony Neighborhood Association	3	Dan Hoffman	436-3772	Strongly Agree (5)	Strongly Agree (5)	Strongly Disagree (1)	Agree (4)	Agree (4)	No		Yes	N/A	King St, Madison St. & W. Main St.	Corner of King & West Main St.	King St. & West Main	Auto maintenance on street
6	Sector 3	3	Gregory Masten	464-9575	Agree (4)	Agree (4)	Neutral (3)	Strongly Agree (5)	Disagree (2)	No		No	No		Corner of Mt. Read and Jay St.		
7	Plymouth Exchange Neighborhood Association	4	Dorothy Hall	436-5390	Agree (4)	Agree (4)	Disagree (2)	Disagree (2)	Disagree (2)	Yes	Round-about at Ford St & Plymouth	No	Yes	Plymouth Ave.			
8	Southwest Area Neighborhood Assoc.	4	Patricia Jackson	436-8201	Strongly Agree (5)	Strongly Agree (5)	Disagree (2)	Agree (4)	Strongly Agree (5)	No		No	Yes			West Main @ Genesee St.	
9	Corn Hill Neighborhood Association	5	Joe Brown	262-3142	Agree (4)	Agree (4)	Agree (4)	Neutral (3)	Strongly Agree (5)	No		Yes	N/A	Exchange Blvd. S. Fitzhugh St.,Clarissa St.			
10	Grove Place Association	5	Sanford Shapiro	454-5753	Disagree (2)	Neutral (3)	Strongly Agree (5)	Strongly Disagree (1)	Neutral (3)	No		No	No				

11	Upper Mt. Hope Neighborhood Association	6	Jason Olshetsky	473-8879	Neutral (3)	Agree (4)	Disagree (2)	Strongly Disagree (1)	Neutral (3)	No		No	Yes	Mt. Hope, Whiteford Rd., Brighton Park		Mt. Hope (southbound)	
12	Upper Mt. Hope Neighborhood Association	6	Cynthia Knox		Strongly Disagree (1)	Strongly Disagree (1)	Agree (4)	Agree (4)	N/A	No		No	No	Lattimore Rd.	Lattimore Rd.	Side streets near Hospital used for parking.	
13	Upper Mt. Hope Neighborhood Association	6	Daniel J. Hurley	442-8106	Strongly Agree (5)	Strongly Agree (5)	Neutral (3)	Strongly Agree (5)	Strongly Agree (5)	No		Yes	N/A	Southview and Westview Terrace			
14	Upper Mt. Hope Neighborhood Association	6	Lorna Mittelman	461-5751	Neutral (3)	Agree (4)	Strongly Agree (5)	Strongly Disagree (1)	Agree (4)	No		No	Yes	Elmerston Rd.		Mt Hope near Westmorland	
15	Upper Mt. Hope Neighborhood Association	6	Bob Good	473-1159	Agree (4)	Agree (4)	Agree (4)	Nuetral (3)	Agree (4)	No		No	Yes	Mt. Hope and Crittenden			
16	Upper Mt. Hope Neighborhood Association	6	Barbara Sanko	244-1812	Strongly Agree (5)	Strongly Agree (5)	Disagree (2)	Strongly Agree (5)	Neutral (3)	No		No	Yes	Rossiter & Norfolk Streets	Norfolk @ Raleigh / Rossiter @ Norfolk		
17	Upper Mt. Hope Neighborhood Association	6	Frank Scarcelli	244-7419	Strongly Agree (5)	Strongly Agree (5)	Agree (4)	Disagree (2)	Strongly Agree (5)	No		No	Yes	Mt. Hope onto Raleigh St.	Norfolk @ Raleigh		
18	Upper Mt. Hope Neighborhood Association	6	Doris Kreckman	271-4462	Strongly Agree (5)	Strongly Agree (5)	Disagree (2)	Disagree (2)	Agree (4)	No		No	Yes	Streets between Mt. Hope and E. Henrietta Rd.		Parking of lg. vehicles on Boothe St.	
19	Upper Mt. Hope Neighborhood Association	6	Sarah Campagna	301-1604	Strongly Agree (5)	Strongly Agree (5)	Disagree (2)	Disagree (2)	Agree (4)	No		No	Yes	Lattimore Rd.			
20	Swillburg Neighborhood / Sector 6	6	David Chappius	473-7687	Strongly Agree (5)	Agree (4)	Agree (4)	Nuetral (3)	Strongly Agree (5)	No		Yes	N/A	Field St.	Intersection of Field, Pembroke & I-490		Not a pedestrian friendly area
21	Lilac Neighbors	6	Joan Lindberg	244-1217	Agree (4)	Agree (4)	Agree (4)	Neutral (3)	Agree (4)	No		No	Yes	Reservior Ave / Furman Crescent	Corner of South & Highland / South & Mt. Hope		
22	Hickory N.U.T.S	6	Shawn P. Wallace	262-3347	Agree (4)	Agree (4)	Neutral (3)	Disagree (2)	Neutral (3)	No		No	Yes	Mt. Hope, South Ave,			Using Bumpouts on South Ave. to Pass

23	South Wedge Planning Committee	6	Dan Buyer	256-1740 x102	Agree (4)	Neutral (3)	Strongly Agree (5)	Agree (4)	Strongly Agree (5)	Yes	Bump outs on South Ave.	No	Yes	Mt. Hope between Ford & Byron St.	Corner of South Ave. & Gregory	Mt. Hope near Ford St.	S. Clinton-unfriendly to pedestrians
24	May St. Block Club	6	Geri Arho Machado	461-1172	Disagree (2)	Disagree (2)	Agree (4)	Strongly Disagree (1)	Strongly Disagree (1)	No		No	Yes				
25	EBNA	6	Richard Wolf	271-1629	Strongly Agree (5)	Agree (4)	Disagree (2)	Neutral (3)	Agree (4)	No		No	Yes		Cayuga St.		Alternate parking is an issue on Cayuga St.
26	EBNA	6	Jeanne de Keyserling	244-6497	Agree (4)	Neutral (3)	Agree (4)	Neutral (3)	Neutral (3)	No		No	Yes	In and out of Highland Park		School #12 entrance and South Ave	Lack of parking enfocement in area around Hospital
27	EBNA	6	Michael Thompson	244-5410	Strongly Agree (5)	Agree (4)	Disagree (2)	Agree (4)	Agree (4)	No		No	Yes	Rockingham, Oakland, Linden & Mt. Vernon		Goodman at I-490	Weight limits being disreguarded
28	EBNA	6	Dennis Drew	442-2228	Strongly Agree (5)	Strongly Agree (5)	Agree (4)	Disagree (2)	Strongly Agree (5)	No		Yes	N/A	Linden & Mt. Vernon			Running of stop signs
29	EBNA	6	Stephen Pratt	271-8465	Strongly Agree (5)	Strongly Agree (5)	Agree (4)	Disagree (2)	Strongly Agree (5)	No		No	Yes	Caroline St / Mt. Hope near cemetery			
30	EBNA	6	Joanne Guarnere	473-8501	Agree (4)	Agree (4)	Disagree (2)	Disagree (2)	Strongly Agree (5)	No		No	Yes			Traffic lights are not sensative to traffic flow	Dangerous turn @ Corner of Caroline St & South Ave.
31	EBNA	6	Kristine Smith	461-9395	Strongly Agree (5)	Agree (4)	Neutral (3)	Neutral (3)	Neutral (3)	No		No	Yes			Rockingham St. between Goodman & South Ave.	
32	EBNA	6	Christopher Potash	244-4469	Strongly Agree (5)	Strongly Agree (5)	Agree (4)	Strongly Disagree (1)	Strongly Agree (5)	No		No	Yes	Rockingham St.			
33	EBNA	6	Robert Foster	473-7383	Strongly Agree (5)	Agree (4)	Neutral (3)	N/A	Disagree (2)	No		No	No			Rockingham St.due to Hospital	
34	Pearl-Meigs-Monroe Neighborhood Association	7	Moira Lemperle	244-6749	Strongly Agree (5)	Strongly Agree (5)	Neutral (3)	Agree (4)	Strongly Agree (5)	No		No	Yes	Pearl St. between Goodman and Alexander			
35	P.A.C.E. Neighborhood Association	7	Edward Stuart	314-5790	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Agree (4)	No		No	No			Parking along sidewalks despite no parking signs	Sidewalks and streetscapes in major need of improvement

36	Upper Monroe Neighborhood Association	7	Joshua Bauroth	475-9898	Strongly Agree (5)	Agree (4)	Disagree (2)	Neutral (3)	Strongly Agree (5)	Yes	Speed humps on Crossmam Terr., bump outs on Monroe Ave,	No	Yes	Monroe Ave, Pinnacle, Crossman Terr.	Culver & Monroe, Field & Monroe	Bellmont St., Crossman Terr.,	Unsafe pedestrian crossing @ Culver & Monroe
37	Neighborhood of the Arts	7	Doug Rice	256-3336	Strongly Disagree (1)	Strongly Disagree (1)	Agree (4)	Strongly Agree (5)	Strongly Agree (5)	Yes	University @ Atlantic	No	Yes	University Ave. between Merriam and Culver	East/Goodman Atlantic/ Fairmount		Threatening driver behavior to bicyclists and pedestrians
38	Beechwood	8	Ginger Crandall	654-9074	Neutral (3)	Agree (4)	Agree (4)	Disagree (2)	Strongly Agree (5)	No		Yes	N/A	Parsells Ave, Rosewood Ter.		Parsells Ave at Denver & Greeley St.	Careless Parking on Wendell St.
39	Sector 8	8	Precious Nzima	288-3885	N/A	Strongly Agree (5)	Neutral (3)	Agree (4)	Strongly Agree (5)	No		Yes	N/A	Parsells Ave.			
40	Winton Atlantic Akron & Main	8	Ray & Barb Jankowski	482-8026	Agree (4)	Agree (4)	Agree (4)	Disagree (2)	Disagree (2)	No		No	No				Wrong way on Akron (one way)
41	North Winton Village	8	Marilyn Schutte	461-6324	Strongly Agree (5)	Strongly Agree (5)	N/A	Strongly Agree (5)	Strongly Agree (5)	N/A		No	Yes	Winton Rd.	Intersections of Browncroft, Blossom, Brentwood & Winton	Racing along Winton Rd.	
42	Group 14621 Community	9	Bernadette Mack	266-4693	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	Neutral (3)	Neutral (3)	Yes	Nester St., Wilkins St., Berlin St. Carthage Dr.	Yes	N/A	Throughout neighborhood		North Clinton	Pedestrians use streets instead of sidewalks
43	NE Block Club Alliance	10	Ms. Pat Galante	423-1507	Agree (4)	Agree (4)	Disagree (2)	Agree (4)	Agree (4)	Yes	Rohr St.	No	Yes		Scio St. @ Railroad Bridge	School busses on Harvest St. interrupt traffic flow	Pedestrians walking in street
44	MHA	10	F. Rivera-Mohammed	423-1540	Strongly Agree (5)	Strongly Agree (5)	Disagree (2)	Agree (4)	Strongly Agree (5)	No		No	Yes	North Street between Inner Loop and Portland		Scio St. between Woodward and Weld St.	


City of Rochester Traffic Calming Questionnaire Results
Legend
Accidents
Congestion
Speeding
Sector Boundaries
N

Appendix D- Design Charrette

A Neighborhood Design Charrette is defined as being a meeting or session of intense design activity, usually a collaborative effort of skilled professionals and community stakeholders that work together to find design solutions to issues facing their community. Charrettes can take on many forms that are dependent upon the community that they are in and the type of issues to be addressed. They are often used to create new community master plans, neighborhood revitalization plans, new municipal zoning codes and redevelopment projects among others. Most charrettes take place over multiple sessions in which the participants separate into smaller sub-groups. Each group then presents its work to the larger group to facilitate further dialogue. Once a consensus on a solution is reached, a final concept plan is usually agreed upon at the end of the process. A successful charrette promotes joint ownership of ideas and solutions and attempts to diffuse confrontational attitudes, perceptions, and ideas among residents, developers and municipal officials. The main goal is to incorporate the public's ideas and concerns into the early stages of the planning process.

This traffic calming manual is designed to be used at future neighborhood design charrettes as a tool to help incorporate traffic calming measures into appropriate design projects. The following is a hypothetical example of how this manual can be a useful resource in a design charrette.

Case Study: Brown's Square Community Hypothetical Problem/Issue Statement:

> "In 2006 a 12,500 seat soccer stadium known as Paetec Park was completed within the Brown's Square Neighborhood along Broad Street in the City of Rochester. With an influx of new visitors to the area, the surrounding neighborhood began to experience negative impacts related to increased traffic congestion that resulted from the stadium events and activities whenever it is in use. As a result of several complaints to the City about speeding, noise and general traffic congestion, the City decided to hold a public design charrette to create an opportunity for residents to work together with city officials to find solutions to these issues".

The charrette would begin with a brief overview of the neighborhood, the issues related to it, and the overall objective of the process. Once the participants had a clear understanding of what they were to do, they would be broken down into several smaller work groups that focus on specific issues. One group could focus on ways to eliminate speeding and reduce traffic congestion on certain streets, while another might focus on land use and design issues in the neighborhood. The group focusing on traffic

issues would then be given this manual as a tool to help identify the most appropriate measure to mitigate the negative traffic impacts. The users could refer to the matrix on page 8 of the manual to determine what types of solutions are the most appropriate for the issue they are focusing on.

For example, a group focusing on reducing the traffic volume on residential streets to the west of the stadium could look at various types of traffic diverters that could potentially deter cut-through traffic of people trying to access the expressway after leaving a game. From the information provided in the manual, they would determine that a semi-diverter is best suited to alleviate cut through traffic on Smith and Jay Streets. The semi-diverter restricts movement into the street, but allows two-way traffic to move along the rest of the street within the neighborhood. It also provides a shorter crossing distance for pedestrians walking along Broad Street.

Similarly, the group that looked at speeding issues could determine that the installation of speed humps along Brown Street would significantly reduce the speed of motorists, making it much safer for event goers to cross the street near Brown's Square Park.

Once the subgroups have brainstormed and reached a consensus they all re-convene to present their findings to the larger group. Generally, there is then a discussion amongst the larger group and an overall design solution is reached by the end. The findings of the charrette are then compiled into a report and used as a guide for any future projects or development. City officials would then examine the recommendations that came out of the charrette and implement them as appropriate.

In conclusion, this manual can be a useful tool to assist community stakeholders in a variety of neighborhood design charettes. This manual will also provide useful information to citizens regarding neighborhood traffic problems and solutions and will help create a collaborative process between residents and public officials in order to build safer, more livable neighborhoods and communities. Through a collaborative effort between residents and public officials and with the right tools such as this manual, the "livability" goals and objectives of the community can be achieved.

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