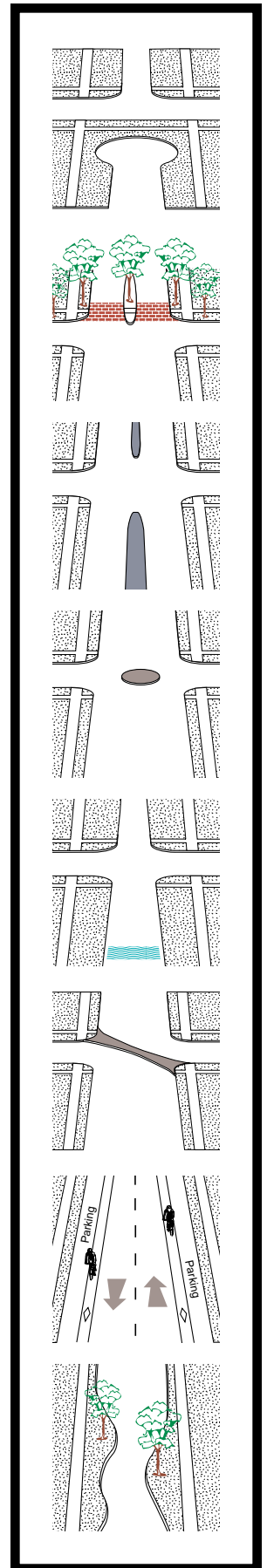


Traffic Management Program



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November 2003

**SALT LAKE CITY
TRAFFIC MANAGEMENT PROGRAM**

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SALT LAKE CITY TRAFFIC MANAGEMENT PROGRAM

This edition of the Traffic Management Program (TMP) description is the fifth enhancement and expansion of the original 1997 Traffic Calming Program. Lessons learned from implementing traffic calming in Salt Lake City combined with input from the City Council, Transportation Advisory Board, city residents and research of traffic calming/management programs in other cities have been incorporated into this document. Research and experimentation are an important, ongoing aspect of this program.

Goals of Traffic Management

The goals of Traffic Management are to implement measures, either psychological or physical, that will:

- a. reduce speeding on residential streets,
- b. influence non-local commuters to use commuter streets, and
- c. Influence driver behavior in such a way that safety and the traveling experience of other road users, including pedestrians and bicyclists, will be improved.

Effective traffic management improves livability, quality of life in neighborhoods and promotes walking and healthy lifestyles. It also recognizes the need to maintain a collector and arterial street system with appropriate traffic controls such that these streets are used for their intended purpose and traffic is not influenced to divert from them onto local streets. Because traffic management influences driver behavior and their choice of streets, care is taken to not unduly impact traffic conditions on neighboring local streets when implementing traffic management measures.

What are the Problems?

The most common problems reported on city streets relating to vehicles are speeding and excessive volumes, usually of non-local, cut-through traffic. As traffic speeds and volumes increase, residents report a decrease in their quality of life. Noise levels increase. Neighborhood outdoor life is adversely affected. The safety of the traveling public, regardless of travel mode, suffers.

What are the Solutions?

Research has shown a common theme among cities with traffic calming or management programs: There is no silver bullet for solving traffic problems. Each location has its own unique set of problems that must be analyzed to identify solutions. For this reason, Salt Lake

City has developed an extensive toolbox of traffic management measures for solving traffic problems. They are described and illustrated in this document and its exhibits. The City continually searches to expand the existing toolbox as new measures are invented or discovered through research.

Although many traffic calming measures can be used on any street, their level of effectiveness can vary depending on the location and traffic problems being targeted. Similarly, a number of the traffic calming measures described in this document may not be effective or applicable in certain locations or situations. For example, speed tables are not appropriate for steep streets where driver control of vehicles is a concern. Additionally, the Salt Lake City Fire Department has designated certain streets throughout the city as emergency response routes. Streets that fall into this category are not eligible for speed humps or speed tables. A map showing all of the emergency response routes has been placed on our website at: <http://www.slcgov.com/transportation/TrafficManagement/default.htm>

Although it is desirable to influence traffic to travel within the speed limit on all streets, it is not desirable to influence traffic to divert from collector and arterial streets onto local streets. City streets are classified by their function into three categories: arterial, collector and local. The Salt Lake City Transportation Master Plan defines these categories as follows:

- Arterial: “These streets provide for through traffic movement over long distances such as across the city with some direct access to abutting property... These streets are typically the widest and have the highest speed limits of all of the streets within the city...”
- Collector: “Collectors provide the connection between arterials and local streets. There is direct access to abutting properties. These streets provide for medium distance trips such as between neighborhoods. They also collect traffic from the local streets and channel it to the arterial system...”
- Local: “Local streets provide for direct access to the residences and businesses which they serve and for short distances or local traffic movements... Within Salt Lake City, most local streets have a speed limit of 25 mph.”

It is important to maintain an interconnected collector and arterial street network to provide access to and between neighborhoods and reduce the likelihood of commuter traffic diverting onto local streets.

How does the Traffic Management Program Work?

This section describes the process followed from application through implementation. A flowchart of this process is shown in Exhibit 1.

1. Application

This is a voluntary program that requires participation by residents of the street. To demonstrate neighborhood support and agreement to pursue traffic management, a completed application must contain signatures from at least ten residents living in the area where the traffic calming concern exists. An application form is attached at the end of this document. Copies can also be obtained from the Salt Lake City Transportation Division office at 349 S. 200 E., Suite 450 or from our website at:

<http://www.slcgov.com/transportation/TrafficManagement/default.htm>

Completed applications can be mailed, delivered or faxed to the Salt Lake City Transportation Division.

2. Eligibility and Priority

Traffic management requests will be evaluated upon receipt to determine eligibility to participate in the program. Eligible areas are those that exhibit sufficient impact as measured by input of traffic and land use conditions into the TMP Eligibility and Priority formula. Applications for streets determined to be eligible (sufficiently impacted) will then be given a priority ranking based on the number of points registered in the formula. Traffic management plans are developed using this priority ranking in order to help the highest impact areas first.

Upon receipt of an application, TMP staff will contact the applicant(s) to discuss the problem, determine project boundaries, and review the TMP process described in this document. TMP staff will then collect neighborhood traffic data to determine the type and extent of traffic problems. In some cases, standard traffic control changes can be implemented relatively quickly that alleviate the problem and a formal traffic management plan will not need to be created. When this is not the case, the collected data is input into an eligibility and priority formula. The formula tallies points for various impacts such as traffic volumes, vehicular speeds, presence or lack of sidewalks, pedestrian generators, bike routes and transit service. The formula produces a numerical score used to determine the request's eligibility and priority. A description of the formula is shown in Exhibit 2. Applications must achieve a TMP formula score of at least 80 points to be considered eligible for developing a TMP. Plans will be developed for eligible areas in a priority manner based on numerical score and only if testing of non-physical traffic calming measures prove

ineffective. Request(s) with the highest score(s) will be given highest priority for plan development.

Residents whose applications do not achieve a score of at least 80 points are encouraged to use the non-construction, less-restrictive traffic management measures described in Exhibit 3.

Following data collection and evaluation, each application will be placed into one of the following three categories based on its formula score and the applicant notified of the results:

- a. *Active Projects* – TMP staff will work simultaneously with residents of as many of the highest-priority, eligible locations as possible within available resources to develop traffic management plans. As work on one project is completed, work will begin on the next highest-priority eligible project.
- b. *Eligible Projects* – Requests in this category meet program eligibility requirements. As work on an Active Project is completed, the highest priority Eligible Project becomes the next Active Project. Project priorities will be continually updated as new applications are received. While waiting to become an Active Project, Eligible Project neighborhoods will be provided information and guidance on non-construction, educational, less-restrictive and sometimes self-help traffic management measures. These measures can be initiated by the neighborhood working with the TMP staff. It is necessary for each Eligible Project area to try at least five non-construction traffic management measures to determine if these less-invasive measures resolve the problem(s). If these measures do not prove successful, then a traffic management plan involving physical measures can be developed once the Eligible Project becomes an Active Project. The following non-construction and less-restrictive traffic calming measures that are described in Exhibit 3 include:
 1. Police enforcement
 2. Police speed trailers
 3. Neighborhood Speed Watch Program
 4. Neighborhood Pace Car Program
 5. Speed Limit signs
 6. Driver Safety Lawn Signs
 7. Garbage Can Driver Safety Signs
 8. Street Light Banners
 9. Adopt-a-Crosswalk
 10. Beyond Traffic Calming
- c. *Not Program Eligible* – Requests in this category do not meet program eligibility requirements based on the TMP formula, i.e., the problem identified by the residents is not of sufficient magnitude to be considered eligible for development of a formal traffic management plan. However, these neighborhoods will be provided information and guidance on the programs and measures described in Exhibit 3 that can be initiated by the neighborhood through the TMP staff. Petitioners may re-petition after one year from the original petition if they sense their problem has grown or other issues arise.

3. Traffic Management Plan Development

Should an Eligible Project area not be successful in reducing the traffic impacts using the less-intrusive, non-construction methods, a formal traffic management plan (plan) will be developed when the location reaches the top of the priority list. An initial meeting will be held with residents, business and property owners and other neighborhood representatives. TMP staff will also invite the Community Council and City Council member for the area. The purpose of the meeting is to seek input on the neighborhood's traffic issue(s), discuss potential solutions and to create a Neighborhood Traffic Committee (NTC.) The NTC will be comprised of the applicant(s), other interested residents, business and property owners and a representative from the local neighborhood Community Council (at their option). The NTC will function as a link between TMP staff and the neighborhood during the TMP process.

Using input received from the initial meeting, a review of the present and anticipated traffic patterns, consideration of potential impact to surrounding streets and continuing input from the NTC; the TMP staff will create a draft plan to address the neighborhood's traffic issue(s). The plan may include alternatives for addressing the issue(s). The plan may also include management measures deemed by the TMP staff to be mandatory for inclusion in the plan. Incorporating a diversity of these measures tends to make these plans not only work better, but be more aesthetic and acceptable to the neighborhood.

Traffic management measures such as traffic circles, neighborhood entrance treatments, medians, bulbouts, speed humps, speed tables, and raised crosswalks involve constructing physical changes to the street as well as require capital funding to pay for them. Detailed descriptions of each of them including their applicability are contained in Exhibit 4 at the end of this document. Street reconfigurations and traffic control modifications are more dramatic measures used to reduce through traffic or speeding in neighborhoods by eliminating or reducing traffic movements. Street reconfigurations include measures such as cul-de-sacs, medians, road closures and diverters. Traffic control modifications may include No Left/Right Turn signs, changes in signal timing, and one-way streets.

During this time of plan development, signs will be installed on the subject street indicating a traffic management plan development is underway and soliciting input by displaying a telephone number that can be called to record input.

After a plan or plans have been developed, a second meeting of the NTC will be held to present them for discussion. Once a draft plan has received concurrence of the NTC and TMP staff, it will be presented to the community council for comment and then the Salt Lake City Transportation Advisory Board (TAB) for review and concept approval. After the comments from the community council have been taken into account and the plan has been approved by TAB, it may move on to the survey and testing phase.

TMP plans must receive approval of the TAB before proceeding beyond this point.

Should the NTC not be able to reach consensus on a plan or should the plan not receive concept approval from the TAB, the committee is disbanded and the plan development signing is removed. At this point, residents may still wish to avail themselves to the less restrictive tools detailed in Exhibit 3.

4. Survey and Testing

Once a plan has been approved by TAB, TMP staff will mail a letter, survey and a copy of the proposed plan to all property/business owners within the project boundaries. The project boundaries are defined as the streets within one block of the streets to be calmed including cross streets and paralleling streets. The letter will describe the TMP process to date and outline the proposed plan. The survey will request comments from those living within the project boundaries. The survey will also seek support or opposition to the proposed plan from those living on the streets to be treated. One survey per residence, business or property owner will be counted.

The proposed plan will be modified, if necessary, based on the comments received and:

- a. proceed to be tested,
- b. skip testing if sufficient support is garnered, or
- c. be discontinued due to lack of support.

To proceed to testing, at least a simple majority of the returned surveys of those living on the street to be calmed must respond in favor of the plan and no ‘fatal flaws’ be identified from the comments received. If at least 80% of the returned surveys distributed on the street to be treated are in favor of the plan, the plan is eligible to skip testing and proceed immediately to Step 5: Public Meeting. In these cases, the TMP staff may still require testing if it is deemed worthwhile to do so, such as to gain knowledge of the effectiveness of the plan via testing.

During the testing period, the informational signage notifying motorists of the effort to develop a calming plan for the subject streets will remain in place to encourage street users to provide comments on the test.

The objectives of testing are to allow the neighborhood to experience the traffic management measures first hand and to determine their effectiveness. If the measures are not functioning to the satisfaction of TMP staff or the NTC or if the test creates an unforeseen hazard, the test may be revised or discontinued.

During the test period, TMP staff will collect and analyze new traffic data on the street to be calmed as well as the streets in the surrounding area, as necessary. This information will be compared to the previous traffic study to determine the effectiveness of the traffic calming measures. If test results show that the measures are not effective or excessively impact streets outside of the project boundaries, TMP staff may modify the plan following consultation with the NTC or the neighborhood as deemed appropriate. Significant modification of the plan may necessitate another test period.

At the conclusion of the testing period, all testing devices will be removed.

5. Public Meeting

During or shortly following the test period or before a plan is finalized that does not require testing, the Salt Lake City Transportation Division will host a public meeting to receive comments and respond to questions. All of the residents in the project area will be invited to attend the meeting. Invitations will also be provided to the local Community Council, the City Councilmember and others who may be deemed likely to provide valuable input.

6. Finalizing the Plan

Following the public meeting and completion of testing, TMP staff will meet with the NTC to finalize the plan. Consideration will be given to all input received including comments and test results. TMP staff will then prepare and mail a newsletter/survey to all residences, businesses or property owners within the project boundaries. The newsletter/survey will summarize the test results if testing was performed and the comments received about the plan at the public meeting. It will also contain a map of the proposed final plan to make clear what it contains. It will solicit final comments from residents within the project boundary. Additionally, residents who live on the street to be treated will be requested to provide their support or opposition to construction of the proposed final plan. One survey per resident, business or property owner will be counted. If at least 67% (2/3) of the returned surveys from residents/property owners on the street to be treated are in favor of the plan and they represent at least a simple majority of the surveys distributed on the street to be treated, the TMP staff will use the input from all of the surveys to finalize the plan.

The final plan will then be presented to the TAB for implementation approval.

If TAB does not approve implementation of the plan or if less than the required level of support results from the survey, TMP staff will meet with the NTC to decide whether to revise the plan or discontinue the traffic management request.

Once a plan has received TAB approval, the TMP staff will notify all of the residents within the project boundary and proceed to the next step: Funding, Design and Construction. If a plan cannot be finalized, the neighborhood may avail themselves to the non-construction traffic calming measures described in Exhibit 3.

7. Funding, Design and Construction

Once a plan has been approved for implementation, the city will prepare a cost estimate and proposed schedule for project design and construction. Design and construction will proceed as determined by the availability of funds.

Funding Options. An approved TMP project will likely have funding implications. Funding for all TMP projects must be obtained before engineering design and construction can occur. The following is a list of funding options available for TMP projects:

- a. Traffic Management Plan Funds: Each year the City Council will consider funding a “pool” of funds, as recommended by the City Administration, in the City’s Capital Improvement Program for implementing approved TMP projects. When available, these funds will be utilized to fund TMP projects.
- b. Capital Improvement Program (CIP): If specific TMP funds are not available, plans approved through the TMP process may be submitted for CIP funding consideration by the petitioners and/or the City Transportation Division. Requests are submitted during September in accordance with the city’s CIP process for funding consideration as a stand alone capital improvement project. Such CIP project proposals are limited to a minimum \$50,000 project cost. All proposals for capital improvements citywide compete for CIP funds annually. City staff and a citizens committee each review the submitted CIP proposals and provide their prioritized recommendations to the Mayor. The Mayor considers these recommendations in developing a CIP funding proposal for the upcoming fiscal year based on funds available. The City Council considers the recommendations of the Mayor, the citizens committee and city staff committee and adopts a CIP budget as part of the annual city budget approval process. The city’s fiscal year runs July 1 through June 30. For more information visit the City’s website at: <http://www.slcgov.com/ced/hand/cipintro.htm>
- c. Neighborhood Matching Grant Funds: Neighborhoods may apply for partial funding of approved TMP projects through the Neighborhood Matching Grant program. Under this program up to \$5,000 of matching funds are available per project and require a 50% match in cash or labor. For more information visit the City’s website at: <http://www.slcgov.com/ced/hand/nbrmatch.htm>
- d. Community Development Block Grant (CDBG) Funding: Neighborhoods meeting the federal qualifications for CDBG funding may apply for 100% funding of approved TMP projects. The application, prioritization and approval of these funds follow a similar process to that of the Capital Improvement Program process. For more information visit the City’s website at: <http://www.slcgov.com/ced/hand/cdbg.htm>
- e. 100% Neighborhood Funding: Any approved TMP project can be funded 100% through neighborhood funding sources. Neighborhoods may collect monies in any manner they deem equitable to pay for the cost of their project.

Modifications to Constructed Measures

TMP staff will consider a request for removal or modification of existing traffic management measures if a petition is submitted with the signatures of a majority of the residents or business or property owners on the street(s) the measures are located. TMP staff will then organize a neighborhood meeting to discuss the request. A mailing providing the results of the meeting and a survey, if appropriate, will follow. To be approved for removal or modification, at least 67% (2/3) of the returned surveys must be in favor of the request. All costs incurred for removal or modification will be borne by the neighborhood. However, if the city determines a traffic management measure must be removed or modified due to technical or safety reasons, the city will pay the removal costs.

Exhibit 1 Traffic Management Program Flow Chart

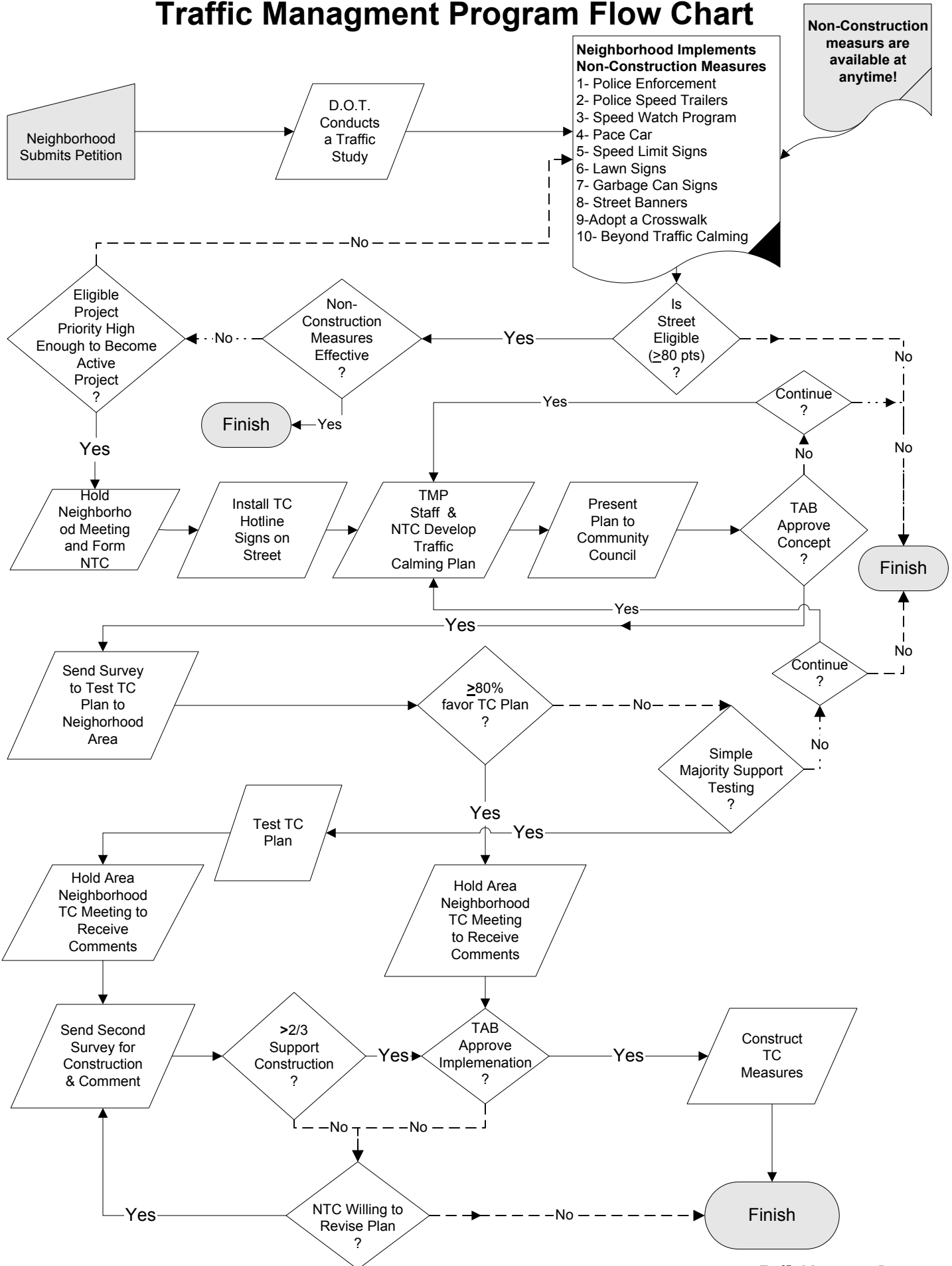


Exhibit 2 Traffic Management Plan Eligibility & Priority Formula

Points are awarded for each of the following conditions on the street to be considered for calming. Achievement of a minimum of 80 points is required to become eligible for development of a formal traffic management plan.

Volume

1 point for every 100 vehicles in one direction

Speed

10 points for every mile per hour that the 85th percentile speed of traffic is over the posted speed limit (The 85th percentile speed represents the speed at which 85% of the traffic is traveling at or below)

Pedestrian Generator

5 points for one pedestrian generator i.e. school, park, church, etc. influencing the area,
8 points for two pedestrian generators influencing the area, or
10 points if there are three or more pedestrian generators influencing the area

Sidewalk

5 points if there are no sidewalks adjacent to the street

Bus Route

5 points if there is a designated bus route

Bicycle Route

5 points if there is a designated bike route

Example street: 2,902 vehicles per day in the heavier direction of travel. 85th percentile speed of 34 mph and a speed limit of 25 MPH. An elementary school, a park, a designated bus route and no bike route on the street. There is no sidewalk on either side of the street.

Points are assigned as follows:

Volume points: (2,902/100)	29 pts
Speed points: (34 – 25) X 10	90 pts
Pedestrian Generator points:	8 pts
Sidewalk points:	5 pts
Bus Route:	5 pts
Bicycle Route:	<u>0 pts</u>
Total points	137 pts

This street would receive a ranking of 137 points. Since the total is greater than 80, it is considered eligible and given a point designation of 137. This point designation is then used to rank the project within the program. A current list of eligible streets and their priority ranking is available on the City's website at

<http://www.slcgov.com/transportation/TrafficManagement/default.htm>

**SALT LAKE CITY
TRAFFIC MANAGEMENT PROGRAM**

**TOOLBOX OF RESIDENT PARTICIPATION, EDUCATION AND NON-
CONSTRUCTION TYPE TRAFFIC MANAGEMENT MEASURES**

EXHIBIT #3

This exhibit provides a brief description of each measure plus a table comparing the attributes of each measure.

Exhibit 3

Non - Construction Traffic Management Tools & Attributes

Traffic Calming Device	Allowed on Local Streets	Allowed on Collector & Arterial Streets	Allowed on Emergency Response Routes	Traffic Volume Reduction	Speed Reduction	Safety Improvements	Traffic Access Restrictions	Emergency Vehicle Access	Maintenance Problems	Landscaping Maintenance Responsibility	Cost	Noise and Pollution
Police Enforcement	Yes	Yes	Yes	No	Possible	Possible	None	No Problems	Not Applicable	Not Applicable	None To Residents	No Change
Speed Display Trailers	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Not Applicable	Not Applicable	None To Residents	No Change
Neighborhood Speed Watch	Yes	25 MPH Collectors	Yes	No	Possible	Possible	None	No Problems	Not Applicable	Not Applicable	None To Residents	No Change
Neighborhood Pace Car Program	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Speed Limit Signs	Yes	Yes	Yes	No	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Driver Safety Lawn Signs	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Garbage Cans Driver Safety Signs	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Street Light Banners	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	Low To None To Residents	No Change
Adopt-a-Crosswalk	Yes	Yes	Yes	No	Possible	Improved for Pedestrians	None	No Problems	Minimal	Not Applicable	Low	No Change
Beyond Traffic Calming	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	Low	No Change

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Police Radar Enforcement

Police radar enforcement is an effective means to reduce speeding on the street when an officer is present. Residents can work with the TMP Coordinator at 535-6630 or contact the police directly at 799-3435 to request an officer be scheduled to enforce the speed limit on their street.

Estimated cost: None to the residents



Positive Aspects:

- The presence of the officers typically brings immediate compliance.
- The effect of the officer lingers even after the officer leaves the area
- Enforcement can be seen as an educational tool for helping change behavior.

Negative Aspects:

- This is a financially punitive traffic calming measure.
- Police enforcement is limited.

Speed Display Trailer

Administered by the Police Department, this program involves the placement of speed display trailers on designated streets. Vehicle speed is visually displayed to drivers as they approach the trailer. Speed enforcement generally follows use of these trailers boards. To request scheduling of a police speed trailer call the police at 799-3311.

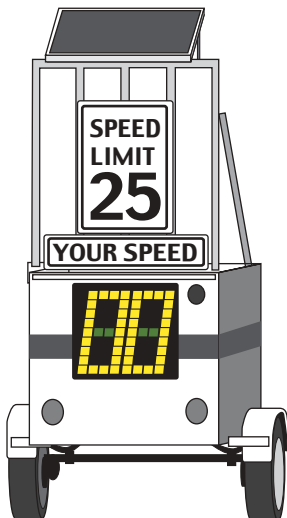
Cost: None to residents.

Positive Aspects:

- Speeds may be reduced during time speed display trailer is in operation.
- An effective public relations and educational tool.

Negative Aspects:

- Not an enforcement tool.
- Limited effectiveness on multi-lane roadways that have significant traffic volumes. In these cases there is limited ability to differentiate between more than one approaching vehicle.



Neighborhood Speed Watch Program



Residents concerned with speeding traffic in their neighborhood use this educational program to inform motorists they are speeding. Used only on 25 MPH posted streets, neighborhood residents are loaned a radar gun and speed display board to record speeds and display them to drivers. The City sends letters to drivers traveling more than seven (7) miles an hour over the posted speed limit reminding them of the importance of obeying the 25 mph speed limit and that children and pedestrians are endangered by high speeds. For additional information visit us on the web at <http://www.slcgov.com/transportation/TrafficManagement/speedwatch.htm>

Cost: None to residents.

Positive Aspects:

- Neighbors feel they are part of solution.
- An effective public relations tool.
- Speeds may be reduced while the radar gun is in use.

Negative Aspects:

- Not an enforcement tool.

Neighborhood Pace Car Program



The Neighborhood Pace Car provides a way for the residents to participate in slowing traffic on their street. The residents are encouraged to sign a pledge stating that they will commit to drive the speed limit, look at ways to minimize their car use and be a more courteous driver, they also commit to place a sticker on their vehicle to identify it as a Pace Car. As they live up to these commitments the speed of the traffic on their streets will be slower and there will be less traffic as well. For additional information visit us on the web at <http://www.slcgov.com/transportation/TrafficManagement/PACECAR.HTM>

Estimated cost: None to the residents.

Positive Aspects:

- A noticeable reduction in speeds.
- Reduced traffic.
- A friendlier neighborhood.

Negative Aspects:

- Some residents do not like placing a sticker on their vehicle.

Speed Limit Signs

Speed limit signs educate the motorist to the legal uppermost speed on the roadway. They assist police in the enforcement of the speed limit.

Estimated cost: None to the residents

Positive Aspects:

- Cost per sign is minimal.

Negative Aspects:

- Sometimes viewed as not aesthetic in residential areas



Driver Safety Lawn Signs

The use of lawn signs can be an effective way to encourage the motorist to slow. The city will provide the lawn sign blanks and material for making the signs. The residents will be responsible to provide the message. This can be done in words, picture, or both. Signs can be moved around and traded with those of other neighborhoods to provide a changing appearance to the street.

Estimated cost: None to the residents.

Positive Aspects:

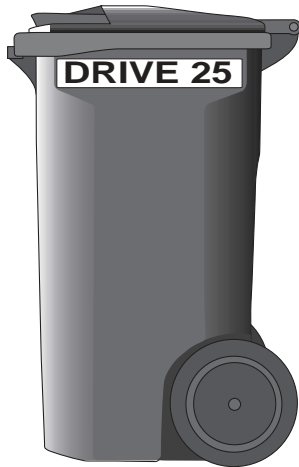
- The signs can display a variety of messages throughout the neighborhood.
- The signs can be moved around on a regular basis by the residents.
- Speeds may decrease.

Negative Aspects:

- Not every one will see the signs as a positive influence in their neighborhood.



Garbage Can Driver Safety Signs



Traffic calming signs or messages encouraging drivers to obey the speed limit and drive safely are placed on city trash cans. As more residents participate in the program, more messages will be displayed. Each week as the trash cans line the street, they convey a message of caution to the motorist.

Estimated cost: No cost to the residents.

Positive Aspects:

- Regular reminder to motorists to drive safely.
- Promotes neighborhood involvement.
- Speeds may reduce.

Negative Aspects:

- Not an enforcement tool.

Street Light Banners



Banners conveying messages for drivers to obey the speed limit and drive responsibly are placed temporarily on street light poles. Not only do the banners encourage motorists to drive safely, they also add color to the neighborhood street.

Estimated cost: None to residents unless a specific message is desired.

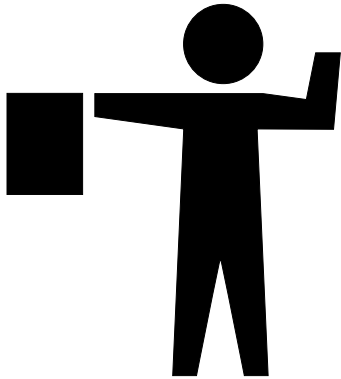
Positive Aspects:

- The banners can be exchanged for ones with different messages.
- Speeds may decrease.

Negative Aspects:

- Not everyone will perceive the banners as a positive influence in their neighborhood.
- Not every street has poles to mount the banners on.

Adopt a Crosswalk



The Adopt a Crosswalk program is a resident initiated program where the city installs orange flags at existing crosswalks and the residents take on the responsibility to maintain the flags. The flags are to be used by pedestrians as they cross in designated crosswalks. The bright color stands out and makes the pedestrian more visible to the motorist. The orange flags in there container highlight the presence of the crosswalk even when pedestrians aren't present. Information on this program can be found on the city's website at <http://www.slcgov.com/transportation/PedestrianTraffic/orange.htm> or by calling 535-6630.

Estimated cost: The city pays for the installation of the flags and flag container. The residents are responsible to pay for the replacement of missing or damaged flags.

Positive Aspects:

- Possibility of improved pedestrian safety.
- Flags stand out in daytime and nighttime.

Negative Aspects:

- Pedestrians may not take as much precaution as they enter the roadway.
- May give the pedestrian a false sense of security.



Beyond Traffic Calming



Beyond traffic calming is as much of a philosophy as it is a physical element. It incorporates many of the elements that are found in this exhibit of the program. But it goes beyond just these things and can extend into your yards and home. It's making changes to the way you dress up your yard and home to make your neighborhood more appealing. It's looking at your street as an extension of your yard to make them flow together. As you do this your neighborhood takes on a whole new feel and look. To find out more about the philosophy that goes into Beyond Traffic Calming check out the following books:

Engwicht, David, Reclaiming our Cities and Towns, Gabriola Island BC, Canada, 1993

Engwicht, David, Street Reclaiming: Creating Livable Streets and Vibrant

Estimated cost: Varies.

Positive Aspects:

- A friendlier neighborhood.
- Possibility of slower traffic.

Negative Aspects:

- None.

**SALT LAKE CITY
TRAFFIC MANAGEMENT PROGRAM**

TOOLBOX OF PHYSICAL TYPES OF TRAFFIC MANAGMENT MEASURES

EXHIBIT #4

This exhibit provides a brief description of each measure plus a table comparing the attributes of each measure.

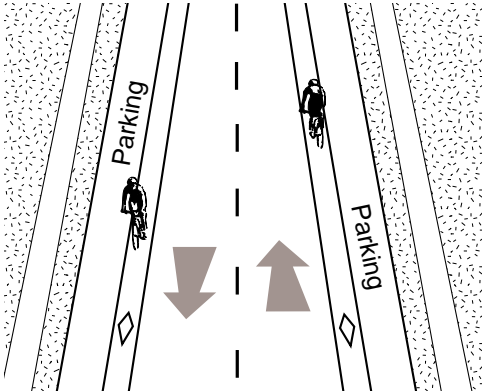
Exhibit 4 Traffic Management Tools & Attributes

Traffic Calming Device	Allowed on Local Streets	Allowed on Collector & Arterial Streets	Allowed on Emergency Response Routes	Traffic Volume Reduction	Speed Reduction	Safety Improvements	Traffic Access Restrictions	Emergency Vehicle Access	Maintenance Problems	Landscaping Maintenance Responsibility	Noise and Pollution Cost	
Bike Lanes	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Frequent Sweeping	Not Applicable	None To Residents	Decrease
Chicanes	Yes	Not on Arterials	Yes	Possible	Possible	Possible	None	No Problems	Curb Hits	Resident	None To Residents	No Change
Chokers or Curb Extensions	Yes	Yes	Yes	Unlikely	Possible	Improved for Pedestrians	Possible	No Problems	Curb Hits	Resident	None To Residents	No Change
Diversers	Yes	No	Yes	Yes	Possible	Possible for Pedestrians	Yes	Potential Problems	None	City	None To Residents	Decrease
Driver Feedback Radar Speed Limit Sign	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Entrance Ways	Yes	Some Restrictions	Yes	Unlikely	Possible	Possible	Can Preclude Large Trucks	No Problems	None	Varies	None To Residents	No Change
In-Pavement and Overhead Crosswalk Lighting	Yes	Yes	Yes	No	Possible	Improved for pedestrians	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Medians	Yes	Yes	Yes	Possible	Possible	Possible	Some Movements	Some Constraint	Curb Hits	City	None To Residents	No Change
Pavement Markings	Yes	Yes	Yes	Unlikely	Possible	Possible	None	No Problems	Minimal	Not Applicable	None To Residents	No Change
Road Closure	Yes	No	No	Yes	Possible	Possible	Yes	Potential Problems	None	City	None To Residents	No Change
Speed Humps	Yes 85%tile must be > 40 mph	Not on Arterials	No	Possible	Possible	Possible	None	Potential Problems	None	Not Applicable	None To Residents	Increased Noise Possible
Speed Table	Yes	Not on Arterials	No	Possible	Possible	Possible	None	Potential Problems	None	Not Applicable	None To Residents	Increased Noise Possible
Street Narrowing	Yes	Possible	Yes	Possible	Possible	Possible	None	No Problems	None	Resident	None To Residents	No Change
Textured Crosswalks	Yes	Yes	Yes	Unlikely	Possible	Improved for Pedestrians	None	No Problems	Minimal	Not Applicable	None To Residents	Possible
Traffic Circles	Yes	Not on Arterials	Yes	Possible	Possible	Possible	None	Some Constraint	None	City	None To Residents	No Change

Traffic Management Program
November 2003

Bike Lanes

A bike lane is a portion of the roadway designated for the preferential or exclusive use of bicyclists by striping, signing and/or pavement markings. Bicycle lanes provide dedicated space and increase motorist's awareness that bicyclists are welcome and encouraged on roadways. Bicycle lanes also enhance pedestrian safety if a travel lane is removed or travel lanes are narrowed to make space for the bike lane.



Estimated cost: Varies, depending on work needed to incorporate the bicycle lane.

Note: Bicycle lanes are installed on streets as part of the Bikeways Master Plan.

Positive Aspects:

- May reduce speeds through narrowing of travel lanes to make room for bike lane.
- Provides dedicated space for bicyclists on roadways.

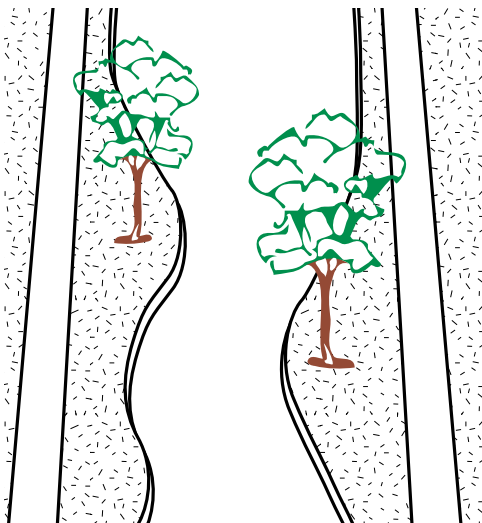
Negative Aspects:

- Parking may need to be eliminated to make room for the bike lanes.



Chicanes

Chicanes are usually a set of two or three landscaped curb undulations that extend out into the street. Chicanes narrow and meander the street, encouraging motorists to drive within the speed limit in order to maneuver between them.



Estimated cost: \$15,000 to \$30,000 depending on site conditions.

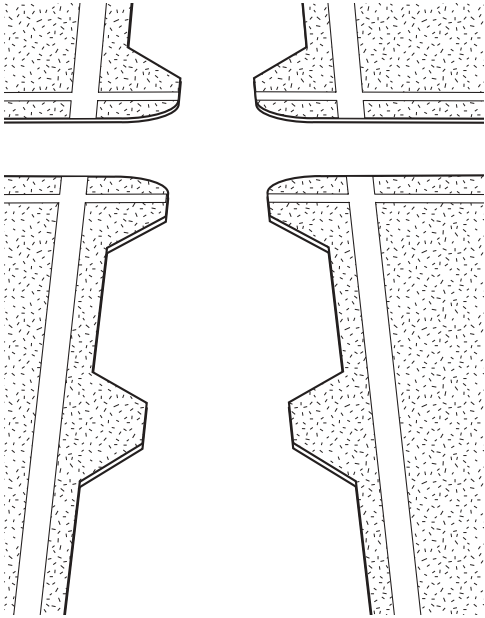
Positive Aspects:

- Reduces vehicle speeds.

Negative Aspects:

- Increased maintenance for landscaping and pavement.
- Loss of on-street parking.

Chokers or Curb Extensions



Chokers or curb extensions narrow the street by extending the sidewalk at intersections or the landscaped parking strip at midblock locations into the street. These devices improve pedestrian crossings by shortening the crossing distance and reducing the time that pedestrians are in the street. They also provides a visual cue to drivers to drive slowly through them

Estimated cost: \$15,000 to \$30,000 depending on site conditions.

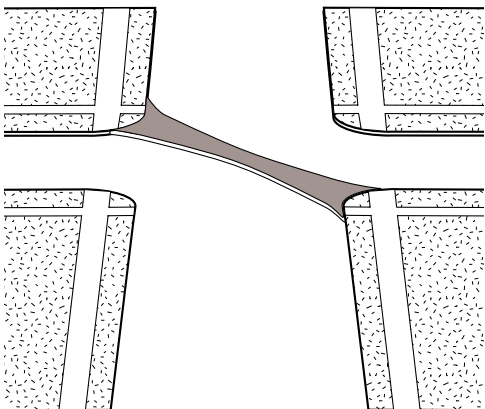
Positive Aspects:

- Slight slowing is normally the result.
- Shorter pedestrian crossing distance and better motorist/pedestrian visibility of each other.
- Creates added area for landscaping.

Negative Aspects:

- Potential obstacle for motorists to run into.
- May result in loss of on-street parking.
- Restricts right hand turn movements.

Diverter



Diverter are an extreme traffic management tool. They are an effective tool in redirecting traffic from one street onto another street. Diverter can extend diagonally all the way across an intersection or they may only prohibit one direction of travel while allowing traffic approaching from the opposite direction to continue on it's normal pathway.

Estimated cost: \$15,000 to \$30,000 depending on site conditions.

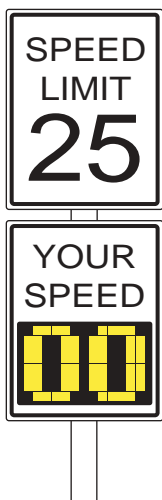
Positive Aspects:

- Reduce traffic.
- Reduce speed of traffic as it redirects the path of the motorist.

Negative Aspects:

- Potential obstacles for motorist to run in to.
- May result in loss of on-street parking.
- Restricts emergency vehicles.

Driver Feedback Speed Limit



Driver Feedback Speed Limit signs show the posted speed as well as the speed at which the on coming traffic is traveling. Remind motorists of their speed and these signs help educate the residents to the speed of traffic in their neighborhood.

Estimated cost: \$5000 to \$10,000

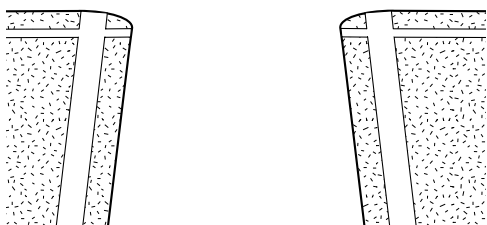
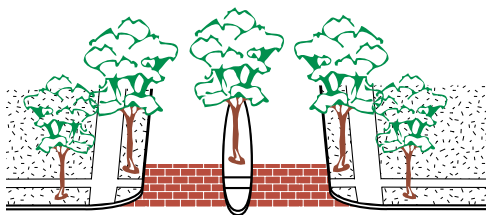
Positive Aspects:

- Constant reminder to motorists to drive the posted speed.
- Educational tool for the motorist and the resident.

Negative Aspects:

- Not everyone will see the signs as a positive influence in their neighborhood.
- May not slow traffic.

Entrance Ways



Entrance ways are special entrance features which provide identity to a neighborhood. The exact configuration of an entrance way will depend on location, desired neighborhood identity, etc. Entrance ways can consist of monuments, landscaping, archways and other similar features.

Estimated cost: Varies, depending on the type of entrance way features chosen.

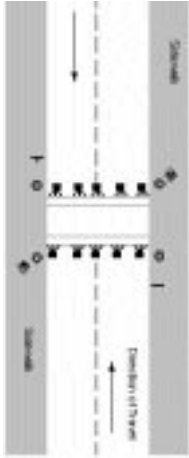
Positive Aspects:

- Creates a neighborhood identity.
- Can discourage truck entry.
- Creates added streetscape area for landscaping.

Negative Aspects:

- Increased maintenance costs.

Lighting Crosswalks



In-Pavement and Overhead crosswalk lights

When used properly, lighted crosswalks provide additional safety for the pedestrian. Overhead and In-Pavement lights are used at mid-block crosswalks or at intersection crosswalks that are not controlled by a traffic signal or a stop sign.

Estimated cost: \$5,000 to \$20,000 depending on site conditions.

Positive Aspects:

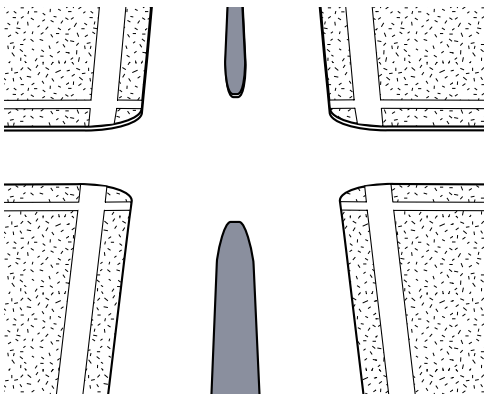
- When activated they help warn motorists of the pedestrian.
- They provide higher visibility of pedestrians at night.

Negative Aspects:

- Increase in maintenance cost.
- Pedestrians may feel a false sense of security as they enter the roadway.



Medians



Medians are raised islands built in the center of a street. Medians can slow traffic, decrease accidents, and give pedestrians a safe place to stop as they cross the street. Building a median usually requires narrowing lane widths, reducing the number of travel lanes, or removing on-street parking. Landscaping is possible if sufficient space is available.

Estimated cost: \$10,000 to \$25,000 per 100 feet, depending on site conditions.

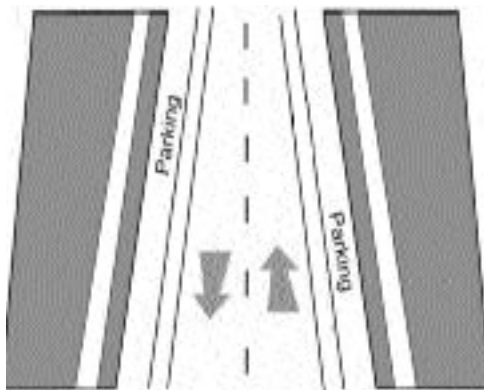
Positive Aspects:

- Speeds may decrease.
- Medians can be aesthetic improvement to neighborhood.
- Medians can provide a pedestrian refuge at crosswalks.

Negative Aspects:

- On-street parking may be removed.
- Landscaping requires maintenance.

Pavement Markings



The use of pavement markings can be a simple, low cost influence to change the pattern of driver behavior on a roadway. Pavement markings can be used to guide motorists, delineate on-street parking areas, or create the impression of a narrowed roadway, all in an attempt to affect drivers in a manner that tends to slow them. The reduction may not be dramatic, but there can be a noticeable improvement.

Cost: None to residents.

Positive Aspects:

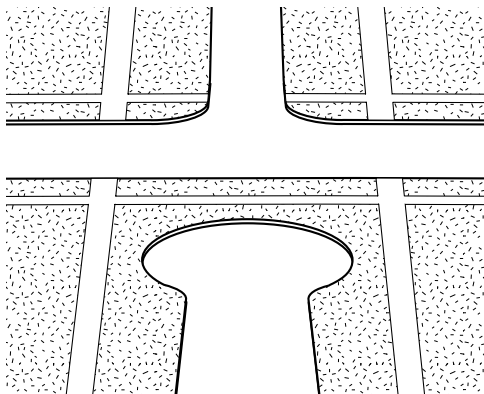
- Possible reduction in speeds.
- Changes can be quickly implemented if paint is used.

Negative Aspects:

- Increases regular maintenance.



Road Closure



Road closures are the most extreme of the traffic management tools. They are used when other methods have not proven to be effective in reaching the desired goal. They are used to prevent traffic from either entering or exiting onto a particular street.

Cost: \$15,000 to \$30,000 depending on site conditions.

Positive Aspects:

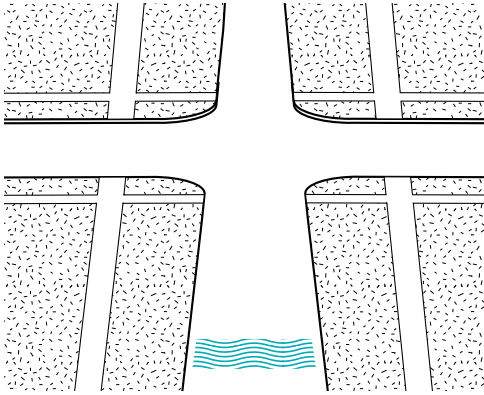
- They eliminate all cut through traffic.
- They can provide a buffer between business areas and residents, and between residential streets and higher volume streets.

Negative Aspects:

- Potential obstacles for motorists to run into.
- Restricts emergency vehicles.
- Restricts residential traffic.

Speed Humps

Speed humps are paved mounds, raised approximately 3 to 4 inches over a 7 foot length, which are used to slow vehicle speeds. Speed humps extend the width of the street and are spaced approximately 300 to 500 feet apart. Vehicles must drive at the speed limit to comfortably cross over the speed hump.



Estimated cost: \$4,000 to \$7,000 each

Note: The 85th%tile speed must exceed 15 mph over the posted speed limit before speed humps can be used. Speed humps will not be installed on arterial streets, emergency response routes or where the grade of the street is greater than eight percent.

Positive Aspects:

- Reduces speeds.
- Can cause non local traffic to shift to arterial streets.

Negative Aspects:

- Can cause traffic to shift to other neighborhood streets.
- May affect emergency vehicle response times.
- May increase noise adjacent to hump.



Speed Tables

Speed tables are raised mounds with a flat platform that can be used as a raised crosswalk as well to slow down the traffic on the road. They are raised approximately 3 to 4 inches above street level over a 7 foot length on either side of 8 foot center platform in the center. Speed tables extend the width of the street and are spaced approximately 300 to 500 feet apart. Vehicles must drive at the speed limit to comfortably cross over the speed hump.

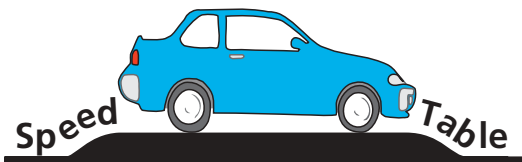
Estimated cost: \$6,000 to \$12,000 each

Positive Aspects:

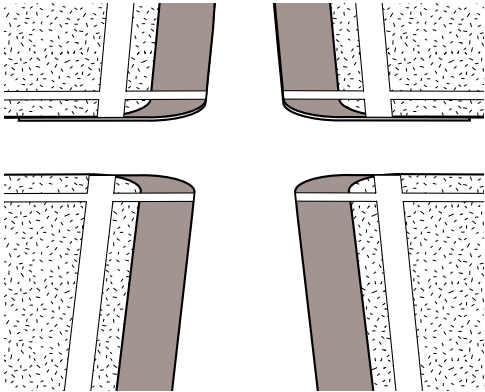
- Reduces speeds.
- Can cause non local traffic to shift to arterial streets.

Negative Aspects:

- Can cause traffic to shift to other neighborhood streets.
- May affect emergency vehicle response times.
- May increase noise adjacent to table.



Street Narrowing



Street narrowing involves the reduction of the pavement width along a roadway. The narrowing can be achieved by removing part of the pavement surface or by using pavement markings that narrow the travel lanes. Landscaping is encouraged.

Estimated cost: Varies, depending on the method of narrowing used.

Positive Aspects:

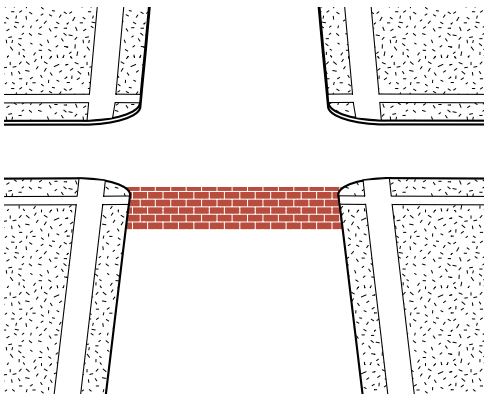
- Changes can be quickly implemented if paint is used.
- Speeds may decrease.

Negative Aspects:

- Striping not always perceived as an effective tool for speed reduction.
- Parking may be reduced or eliminated.



Textured Crosswalks



Textured crosswalks are used as a means of alerting motorists that they are approaching a high pedestrian location and identifies a preferred crossing for pedestrians. Textured crosswalks can be used at intersection and midblock locations. In some cases, textured crosswalks can be incorporated into speed tables.

Estimated cost: \$6,000 to \$10,000

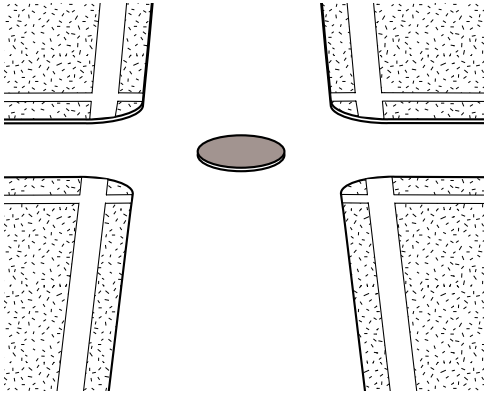
Positive Aspects:

- Indicates a preferred crossing location.
- More visible to drivers than traditional crosswalks.
- Often viewed as an aesthetic addition to neighborhood.

Negative Aspects:

- Pedestrians may place too high a level of reliance on the ability of a crosswalk to control driver behavior.
- Can be more maintenance than with traditional crosswalks.

Traffic Circles



Traffic circles are raised islands placed in an intersection. The primary purpose of a traffic circle is to slow high-speed traffic by causing motorists to decrease speed in order to maneuver around the circle.

Estimated cost: \$8,000 to \$12,000

Positive Aspects:

- A noticeable reduction in speeds.
- May reduce accident potential.
- May eliminate need for stop signs.

Negative Aspects:

- Required signing may detract from its aesthetic quality.
- Pedestrians and cyclists must adjust to less traditional crossing patterns.
- Some parking may be lost on approaches.
- Snow plowing may be more difficult.



TRAFFIC MANAGEMENT REQUEST FORM

TRAFFIC MANAGEMENT PROGRAM

We, the undersigned, request a traffic study at the location stated below. The following signatures represent at least ten households and/or businesses located on the street that we are requesting to be calmed. This petition indicates the neighborhood's commitment to work with Salt Lake City's Traffic Management Program staff for a safer traffic environment within our neighborhood.

<u>Signature</u>	<u>Address</u>	<u>Phone (daytime)</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____

Contact Person: _____ Day Phone: _____ Date: _____

Address: _____ E-mail: _____

Location of Concern: _____ Posted Speed Limit: _____ mph

What concerns do you have at this location? _____

Is this street a designated bus route? Yes ___ No ___

Are there sidewalks on this street? Yes ___ No ___

Is this street a designated bike route? Yes ___

—
No ___

Circle the pedestrian generators that you have on your street. **park, church, school, store, other**

Thank you for taking the time to complete the Traffic Management Request Form. After completing the form, please fax it to us at 535-6019 or fold it for mailing (address appears on the other side of this form). After receiving this form, the Transportation Division will notify you of the study schedule. For more information we can be reached at 535-6630 or visit us on the web @ <http://www.slcgov.com/transportation/TrafficManagement/default.htm>

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Place
Stamp
Here

Traffic Management Program
Salt Lake City Transportation Division
349 South 200 East, Suite 450
Salt Lake City, Utah 84111

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