



TRAFFIC CALMING PROGRAM

**ADOPTED
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I. BACKGROUND

Every year the Traffic Services Division and the Police Department receive numerous complaints about traffic on residential and collector streets. The complaints vary, but most center around an excess of traffic traveling too fast, resulting in a perceived unsafe condition for residents (noise, accidents, and difficulties for pedestrians and bicyclists). In the past the Traffic Services Division and the Police Department have attempted to deal with these citizen concerns with the conventional traffic control methods of signing, pavement marking, and increased enforcement. However, signs and pavement markings alone may be ineffective. Police presence does have an impact but the police cannot stay at the problem locations long enough or often enough to have a permanent effect. This has led the City of Overland Park to consider newer treatments to address these citizen concerns. These newer methods are commonly referred to as traffic calming.

In Europe and Australia, some traffic calming techniques have been used for decades. Many of the successful techniques used there are into their second and third generation. Traffic calming in the United States was not readily implemented until the 1980's but has been rapidly growing. Examples of measures in Overland Park, some of which date from the 1970's, include a semi-diverter at 63rd Street and Riley, a bulb-out at 80th Street and Marty, several traffic circles in the Strang Line neighborhood, and a diverter at 94th Street and Glenwood.

By making some residential streets and collector streets more "calm" it makes the neighborhood more livable. Although "livable" in terms of a neighborhood does not have a precise definition, a livable neighborhood can be described as having the following characteristics:

- A feeling of safety and security when using the street
- An opportunity to interact with neighbors
- Ability to experience a sense of home and privacy
- A sense of community identification
- Attractive well maintained streets

In essence, when citizens call to request a Stop sign to slow traffic on their street, they are requesting that the City make their street more livable. Because no single answer for the problem of speeding vehicles on neighborhood streets exists, many different traffic calming techniques have been developed. These techniques range from the traditional, such as radar display boards and selective police enforcement to newer methods such as street chokers, slow points, and speed humps.

II. TRAFFIC CALMING DEFINED

The Institute of Transportation Engineers (ITE) characterizes traffic calming as “the combination of mainly physical measures that reduce the negative effects of motor vehicles, alter driver behavior, and improve conditions for non-motorized street users” (ITE Journal, January 1997). It is the retrofitting of physical measures into the roadway to reduce traffic speeds and cut-through traffic, thereby generally making the street environment more safe and pleasant for pedestrians, other drivers, and residents.

Traffic calming has several significant benefits and some drawbacks as summarized below.

Benefits of Traffic Calming:

- Reducing speeds
- Reducing collision frequency and severity
- Increasing the safety for non-motorized users of the street
- Enhancing the street environment (streetscaping)
- Reducing cut-through vehicle traffic
- Increasing the quality of life
- Incorporating the preferences and requirements of the people using the area along the street(s)
- Reducing the negative impacts of vehicles on the environment and the neighborhood
- Reducing the need for police enforcement, hence reducing costs (cost is quickly offset by the reduced need for police enforcement)

Disadvantages of Traffic Calming:

- Slight increase in emergency response time
- Vehicles may be damaged and people injured by inappropriate driver behavior (e.g., driving too fast or inattentive)
- Snow removal can be more difficult and time consuming
- Installation cost
- Additional signs and lighting may be required
- Increased maintenance, especially where landscaping is included
- Annoying to some residents (noise and inconvenience)
- Some treatments can restrict resident access

III. TRAFFIC CALMING OBJECTIVES

The City of Overland Park's traffic calming program is one part of the City's commitment to the safety and livability of its residential neighborhoods. Under the program, the Public Works Department works with residents to identify traffic problems in their neighborhoods and find solutions that are acceptable and appropriate. The overall objectives for the traffic calming program are:

1. Improve neighborhood livability by mitigating the impact of vehicular traffic on residential neighborhoods;
2. Reduce the need for traffic safety enforcement in residential areas;
3. Reduce crash frequency and severity;
4. Promote safe and pleasant conditions for motorists, bicyclists, pedestrians and residents on neighborhood streets;
5. Encourage citizen involvement and effort in neighborhood traffic management activities;
6. Make efficient use of City resources by prioritizing traffic requests from citizens;
7. Effectively address the dual, and frequently conflicting, public safety interests of traffic calming and emergency response;
8. Support the Capital Improvement Program and Residential Street Program such that livability and safety of established residential neighborhoods is enhanced in transportation operations.

IV. PROGRAM TOOLS

Overland Park's traffic calming program relies on the "Five E's"; education, enforcement, evaluation, economics, and engineering to address problems of excessive traffic speed or volume. These strategies will be implemented using a phased approach, beginning with the least restrictive and least expensive methods (Phase I) and proceeding to more complex solutions (phase II). Where appropriate, Phase I approaches including targeted enforcement, education, and the use of signs will be used first. If these strategies are ineffective, Phase II solutions may be considered. In some cases, based on Traffic Services staff evaluation, Phase I may be bypassed in favor of a Phase II approach (or may be implemented as a temporary mitigation while the Phase II planning process is underway). In both phases, different strategies may be used in combination.

The most effective traffic calming treatments are those that deflect vehicles vertically, horizontally, or both. There are more than 25 treatments that are in common use around the world. Many of these treatments are in use in the United States. Treatments applicable to the City of Overland Park are shown in the traffic calming program toolbox (Appendix C). Due to their impact on emergency response vehicles, vertically deflecting measures are not allowed on collector streets.

V. IMPLEMENTATION PROCESS

A. Request for Traffic Calming

Requests for traffic calming may be initiated by any of the following:

- Residents or property owner/neighborhood associations may ask for traffic calming by submitting a request to the Public Works Department. The request can be in any form (letter, phone call, e-mail, etc.)
- Police Department, schools, or other similar service agencies may request that studies be undertaken to verify if traffic calming is appropriate to solve a specific concern with respect to traffic safety.
- When construction or maintenance projects are initiated by the City, the addition of traffic calming treatments will be considered.

The request should identify the location of the perceived problem, a detailed description (i.e. excessive traffic speed or traffic volume, time of day the problem occurs, etc.), and an indication of the cause of the concern (e.g. cut-through traffic, insufficient traffic controls, etc.).

B. Staff Evaluation

A traffic calming request is entered into the citizen request database as a standard traffic request. The Traffic Services staff reviews the request and, if possible, determines if an approach, other than traffic calming, is more appropriate. If such an approach is available the request is processed as a “traditional” request.

C. Qualification

Streets submitted for the consideration of traffic calming treatments must be suitable for the program. Suitability is based on speed, street classification, and volume. To qualify, a score of 25 or more for a residential street and 30 or more for a collector street must be assigned. The point criteria is based on the following:

Criteria	Basis for Point Assignment
Speed	5 points assigned for every mph greater than 5 mph above the posted speed [(85 th percentile speed limit – 5 mph – posted speed limit) x 5 points].
Volume (Residential)	Average daily traffic volumes (weekday) 1 point for every 100 vehicles
Volume (Collector)	Average daily traffic volumes (weekday) 1 point for every 300 vehicles

Example: The posted speed on a collector street is 30 mph. The 85th percentile speed is 38.1 mph. The volume is 3400 vehicles. The point total for this street is 32.
[Calculation: Speed=(39-5-30)*5=20 points, Volume=(3400/300)=12 points, Total=(20+12)=32]
Note that the values are rounded up to the nearest multiple. That is 38.1mph is rounded to 39 mph and the quotient of 3400/300 is rounded up to the nearest whole number (12).

Definitions:

85th percentile speed - The 85th percentile speed refers to the speed at, or below, which 85 percent of the traffic is traveling. Viewed another way, it is the speed which only 15 percent of drivers exceed. It is common practice to post speed limits based on the 85th percentile speed.

ADT - Average daily traffic count. This value is obtained from 24-hour volume counts on which the average daily volume is based.

Residential - Streets identified on the Official Street Map where the primary function is to provide direct access to adjacent property. Through traffic is generally discouraged by design and trip lengths are short.

Collector - Streets identified on the Official Street Map as serving 10,000 vehicles or less and connecting local streets with the major street system. They are generally spaced one-half mile or less to collect traffic from the local access system and convey it to the thoroughfare street system.

D. “Traditional” Engineering Treatments

Some treatments labeled as traffic calming options are treatments already in use throughout the city. These treatments, such as No Right (Left) Turn signs, Do Not Enter signs, One-Way signs, etc., are considered as a part of the “traditional” treatments. Staff may determine the use of one or more of these

treatments as a possible solution for a traffic calming concern. If these treatments are implemented but the problem is not resolved a traffic calming project may be considered.

E. Traffic Calming Projects

Traffic calming projects are programmed once a year (July 1st). Programming is based on a ranking system and available funding.

i. Investigation of Impact Area

To avoid the transfer of a problem from one street to another street the Traffic Services staff will define the project's impact area based on the existing street network and the likelihood of drivers choosing a different route to avoid the planned traffic calming measures.

The impact area for a residential street will usually consist of only one street but in some instances may include multiple streets. For voting purposes when defining the impact area for a residential street, all properties on the street will be considered eligible to vote.

The impact area for collector streets will usually consist of multiple streets since residents from within the entire residential area may access the collector street. For voting purposes when defining the impact area for a collector street, all adjacent properties within 200' of the centerline of the collector street will be considered eligible to vote. In addition, residents that live on a street that has no other access other than onto the collector street and that live beyond the 200' limit will also be allowed to vote. Such streets will typically be cul-de-sacs directly adjacent to the collector street but may also include a loop street.

Staff will also contact the homeowners' association or appropriate neighborhood conservation group to discuss the boundaries of the impact area and solicit their input. The staff will also attempt to clarify the nature and extent of the problem (e.g. excessive speed, high traffic volume, cut-through traffic, and whether the problem is at mid-block or at an intersection).

Additional information will be gathered to help identify the concern, rank the priority in relation to other concerns, and identify traffic calming treatments that could be implemented. Data collected will include street width, availability of parking, fronting land uses, presence of bicycle or pedestrian routes, locations of parks and schools, and other appropriate information.

ii. Project Ranking

Based on available resources the City can undertake a limited number of traffic calming projects each year. The following point system will be used to prioritize projects:

Criteria	Basis for Point Assignment
Speed	5 points assigned for every mph greater than 5 mph above the posted speed [(85 th percentile speed limit – 5 mph – posted speed limit) x 5 points]
Volume (Residential)	Average daily traffic volumes (weekday) 1 point for every 100 vehicles
Volume (Collector)	Average daily traffic volumes (weekday) 1 point for every 300 vehicles
Schools	5 points assigned for every school within the impact area and 2 points for school property within 500 ft of the impact area
Sidewalks	5 points assigned if there is not a continuous sidewalk on one side of a residential streets or both sides of a collector street
Accidents	5 points assigned for each recorded accident (15 points if it is a disabling injury accident) per mile of roadway (past three year's total)

Example: The posted speed on a collector street is 30 mph. The 85th percentile speed is 38.1 mph. The volume is 3400 vehicles. There is no sidewalk and it is not a school route. Three accidents have been recorded in the study area of which one was a disabling injury. The point total for this street is 62 (20 from volume +12 from speed +0 from school property +5 from sidewalk +25 from accidents).

F. Initial Neighborhood Meeting

Following the project ranking procedure a neighborhood meeting will be organized for the highest ranked project or projects. The purpose of this meeting is to inform the residents of the request for traffic calming and educate them about the traffic calming procedure and of the traffic calming treatments available for implementation. The residents will be asked to list their concerns and what they would like to come out of the project.

G. Preliminary Ballot

A ballot will be sent to each property owner in the impact area following the neighborhood meeting. The property owner will be asked to vote for or against **further discussion** of traffic calming treatments on their streets. To proceed with the study the number of valid ballots **returned** in favor of traffic calming treatments must be over 50 percent.

Only the official ballot sent by the City will be counted towards the required percent (i.e., no photocopies will be accepted) and only one vote per property will be accepted¹ (i.e., no vote splitting). If an official ballot is lost (or otherwise

¹ All votes will be of equal value. Residential property owners will receive one vote per property. Non-residential property will receive one vote per owner/owners regardless of the number of properties owned or the number of units on a property. City-owned property will not receive a vote.

spoiled), an official replacement ballot can be obtained from the Traffic Services Division. A specific date and time will be given when the ballots must be returned to the City. Ballots may be hand delivered to the City before the specified date and time or may be mailed as long as they are postmarked on or before the specified date.

The ballot procedure from the City will consist of two parts. The first will be the official ballot to be marked with the preference of the property owner (i.e., either for or against **further discussion** of traffic calming). A blank envelope will be provided in which to place the official ballot. The second part of the procedure will be to verify that the property owner(s) is(are) in fact the submitter(s) of the ballot. A form will be provided for the property owner(s) to sign. This form along with the official ballot will then be returned to the City for further processing.

Once the ballot is received by the City, the signatures of the property owners will be checked against property ownership records maintained by the County. An official ballot that does not include the separate form with the signature(s) of the property owner(s) will not be counted and will be set aside. The remaining valid property owner verification sheets with the attached envelopes containing the official ballots will then be separated and the envelopes with the official ballots will be opened to determine the final tally.

If the ballots indicate that the owners have not met the required percentage for approval (i.e., greater than 50% in favor of further discussion) the project will be dropped from the list and the next highest ranked project will be selected. Residents may resubmit the location for the next program year (as long as the location is still among the top ranked locations). In the interest of safety the City Council may also choose to direct staff to take other action to address speed and/or volume issues on the identified streets.

H. Task Force

At the initial meeting the Staff will ask for a small number of volunteers (between five and fifteen) who reside in the impact area to serve on a traffic calming task force. Volunteers should be representative of the entire impact area rather than concentrated along one block or on one street. City staff membership may include representatives from the Traffic Services Division, Planning and Development Services Department, Street Engineering and Construction Division, Police and Fire Department, and representatives of relevant subcommittees.

The task force will prepare a workable scheme that considers the concerns and goals of the residents and will work toward developing a conceptual traffic calming plan for the impact area. Once the task force has developed a design, a neighborhood meeting will be called to present the design. Revisions to the plan may be made as determined in the meeting. The task force may call for additional meetings as necessary.

Task force volunteers will also function as coordinators between the city and the neighborhood residents. The volunteers may inform the residents of the Traffic Calming process and assist in obtaining the required amount of signatures.

I. Final Ballot

A ballot will be sent to each property owner in the impact area following the final neighborhood meeting. The property owner will be asked to vote for or against implementation of traffic calming treatments on their streets. For a residential traffic calming program to proceed, the number of impact area property owners voting in favor of a program must be over 60 percent of the ballots **issued**. For a Collector Street program the number of impact area property owners voting in favor of a program must be at least 50 percent plus one vote of the ballots **issued**. Information about the proposed traffic calming plan will be posted on the City's website.

Only the official ballot sent by the City will be counted towards the required percent (i.e., no photocopies will be accepted) and only one vote per property will be accepted² (i.e., no vote splitting). If an official ballot is lost (or otherwise spoiled), an official replacement ballot can be obtained from the Traffic Services Division. A specific date and time will be given when the ballots must be returned to the City. Ballots may be hand delivered to the City before the specified date and time or may be mailed as long as they are postmarked on or before the specified date.

The ballot procedure from the City will consist of two parts. The first will be the official ballot to be marked with the preference of the property owner (i.e., either for or against implementation of the traffic calming plan as presented). A blank envelope will be provided in which to place the official ballot. The second part of the procedure will be to verify that the property owner(s) is(are) in fact the submitter(s) of the ballot. A form will be provided for the property owner(s) to sign. This form along with the official ballot will then be returned to the City for further processing.

Once the ballot is received by the City, the signatures of the property owners will be checked against property ownership records maintained by the County. An official ballot that does not include the separate form with the signature(s) of the property owner(s) will not be counted and will be set aside. The remaining valid property owner verification sheets with the attached envelopes containing the official ballots will then be separated and the envelopes with the official ballots will be opened to determine the final tally.

² All votes will be of equal value. Residential property owners will receive one vote per property. Non-residential property will receive one vote per owner/owners regardless of the number of properties owned or the number of units on a property. City-owned property will not receive a vote.

If the ballots indicate that the owners have not met the required percentage for approval the project will be dropped from the list and the next highest ranked project will be selected. Residents may resubmit the location for the next program year (as long as the location is still among the top ranked locations). In the interest of safety the City Council may also choose to direct staff to take other action to address speed and/or volume issues on the identified streets.

J. Council Approval

The proposed plan will be presented to the Public Works Committee and the City Council for approval.

K. Final Design

Once traffic calming treatments have been agreed upon and approved, the city staff will develop the plan details necessary for construction. The City will provide landscaping in the design. Maintenance of the landscaping will become the responsibility of the residents or the homes association and an appropriate maintenance agreement will be developed and executed. Landscaping that is not maintained will be replaced with low or no maintenance items. Irrigation will be installed for the traffic calming measures as long as the homes association or adjacent property owners agree to maintain the system and pay the water bill.

L. Construction

The project will be let, constructed, and inspected following the standard city procedures.

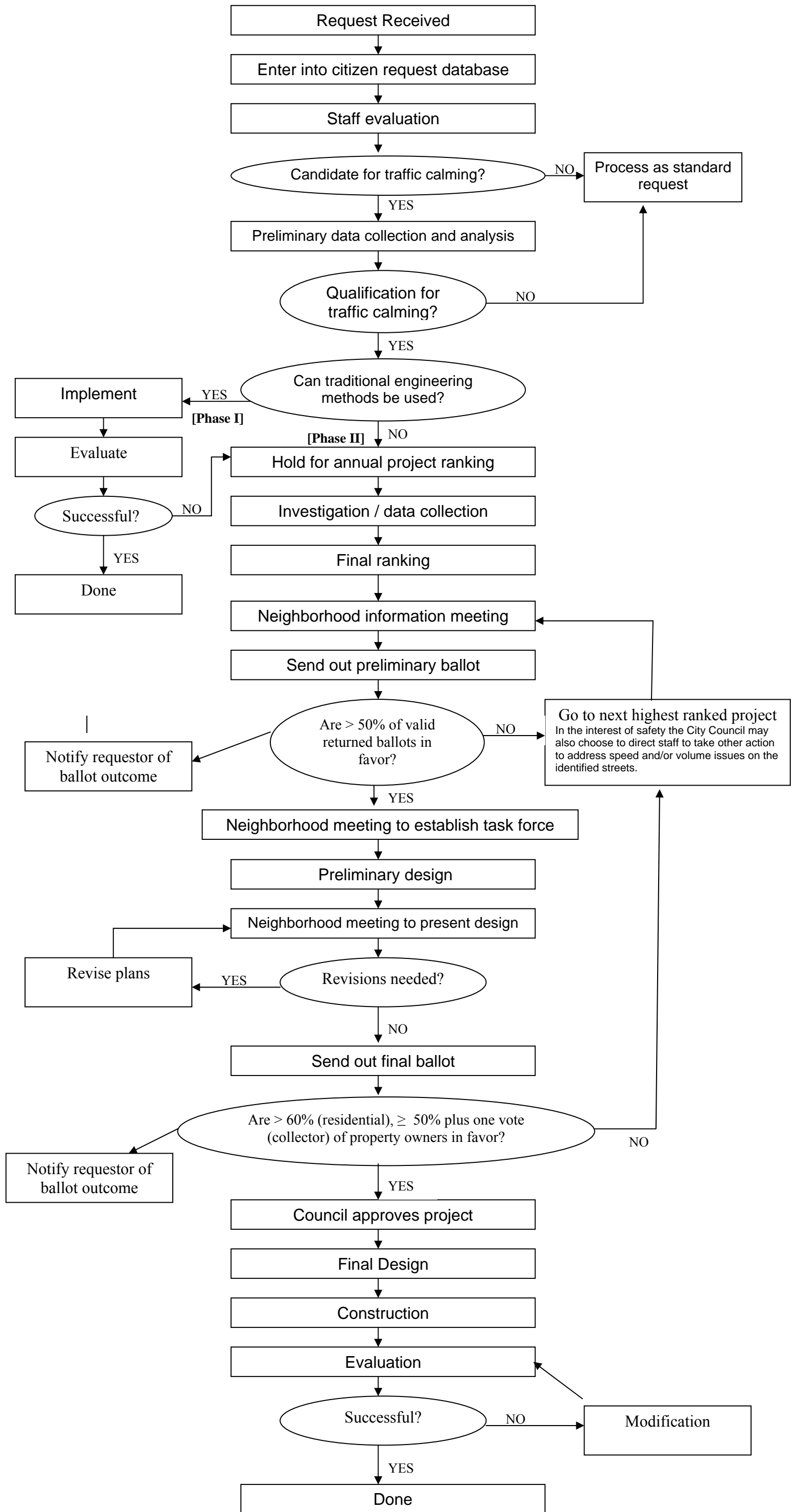
M. Evaluation

After the project is complete staff will collect data to evaluate the effectiveness of the project.

N. Modification/Removal of Treatments

Once constructed, traffic calming measures will not be removed or modified unless a concern is validated by the City Traffic Engineer.

Appendix A. TRAFFIC CALMING FLOW CHART



Appendix B. TRAFFIC CALMING ISSUES

What is the effect of traffic calming on property values?

According to a study by the Institute of Transportation Engineers (ITE) "it cannot be demonstrated that installing speed humps will affect property values in any predictable way" (ITE, *The Economic Impact of Speed Humps on Housing Values*, January 2000). In addition, horizontal treatments with landscaping are seen as an asset because of lower speeds and improved aesthetics.

What is the effect of traffic calming on emergency response?

The City, as well as its residents and businesses, places a very high priority on minimizing emergency response times. Emergency response personnel are generally not in favor of vertical deflection treatments because they are required to slow down. Horizontal treatments slow emergency vehicles to a varying degree. Studies show the following average delays to emergency vehicles for certain types of measures:

TYPE OF MEASURE	AMBULANCES	FIRE TRUCKS
Speed Hump	2.3-9.7 seconds	3-5 seconds
Traffic Circle	Not Available	1.3-10.7 seconds

Source: City of Portland

What is the effect of traffic calming on adjoining non-project streets?

Diversion of traffic to other streets following the installation of traffic calming treatments can be a positive or a negative result. A positive result involves diversion of traffic to higher order streets that are better able to handle it. Diversion that evens out traffic volumes on parallel streets at the same level in the functional hierarchy without overloading any of them is also acceptable. An unacceptable variety of diversion sends traffic to lower order streets or overloads streets of the same order.

Are there any impacts to transit and utility vehicles?

Some of the traffic calming options could potentially impact bus routes and utility vehicles such as trash trucks. Providers of these services will have to be consulted whenever neighborhoods are considered for traffic calming treatments.

Are there any impacts for other roadway users?

Traffic calming actions must consider other users such that there are no unintended negative safety impacts. These users are bicyclists, roller skaters, skate boarders, joggers, pedestrians, etc.

What about noise?

The noise resulting from vehicles braking and going over or around traffic calming measures may have an impact on the acceptability of these measures by residents living closest to them. The support of residents living immediately adjacent to locations where physical changes are proposed will be essential to the success of any project.

Will there be loss of parking?

It is often necessary to prohibit on-street parking in the immediate vicinity of the traffic control measure in order to accommodate realigned vehicle path or sight distance issues.

What about visual impacts and aesthetic concerns?

While some traffic calming measures can have favorable aesthetic impacts, others can be, by their nature, unattractive. Measures such as speed humps and diverters most often pose little opportunity for the incorporation of aesthetics and can have negative visual impacts. Some traffic calming actions require reflective devices, signs and striping which may negatively effect the aesthetics of a neighborhood.

Will there be an increased maintenance cost?

City maintenance costs will increase in two areas. Snow removal around the measures will increase cost and service time. In addition, measures such as speed humps will have to be reinstalled each time a residential street is overlaid.

Will landscaping be included?

The City will include landscaping in the design (if applicable). Maintenance of the landscaping will become the responsibility of the residents or the home association. Landscaping that is not maintained will be replaced with low or no maintenance items.

What are the liabilities of traffic calming?

While members of the public have a right to use public highways without obstruction and interruption, this right is subject to the power of local governments to impose reasonable restrictions for the protection of the public.

The legal issues surrounding traffic calming fall into three categories:

statutory authority, constitutionality, and tort liability. First, the local government must have legal authority to implement a given set of traffic calming measures on a given class of roadways. Second, the local government must respect the constitutional rights of affected landowners and travelers on the roadways. Finally, the local government must take steps to minimize the risk to travelers from the installation of such measures.

What is the typical cost of each measure?

Measure	Portland, OR	Sarasota, FL	Seattle, WA
Speed humps	\$ 2,000-\$2,500	\$2,000	\$2,000
Speed tables	N/A	\$2,500	N/A
Raised intersections	N/A	\$12,500	N/A
Traffic circles	\$10,000-15,000	\$3,500	\$6,000
Chicanes	N/A	N/A	\$14,000
Chokers	\$7,000-\$10,000	N/A	N/A
Center islands	\$8,000-\$15,000	\$5,000	N/A
Median barriers	\$10,000-\$20,000	N/A	N/A
Half closures	\$40,000	N/A	\$35,000
Diagonal diverters	N/A	N/A	85,000
Full closures	N/A	N/A	120,000

Source: ITE, Traffic Calming State of the Practice, page 58, August 1999

What is the effect on police enforcement?

The Police generally support traffic calming measures for their potential to control speeding and reduce collision severity. Engineering measures are self-enforcing, which takes some of the pressure off police officers to enforce traffic laws. Speed humps are referred to as “sleeping policemen” because they quietly enforce speed limits 24 hours a day. The police also support certain measures, those restricting access, for their potential to reduce crime. While traffic calming measures must have some effect on police response times, it does not seem to be an issue. Use of vehicles with small wheelbases and good suspensions makes the difference. New patrol cars can maintain speeds of 25 mph over 12-foot speed humps. The advantage of small wheelbases is also realized on the tight curves of traffic circles and chicanes.

Appendix C. TRAFFIC CALMING PROGRAM TOOLBOX