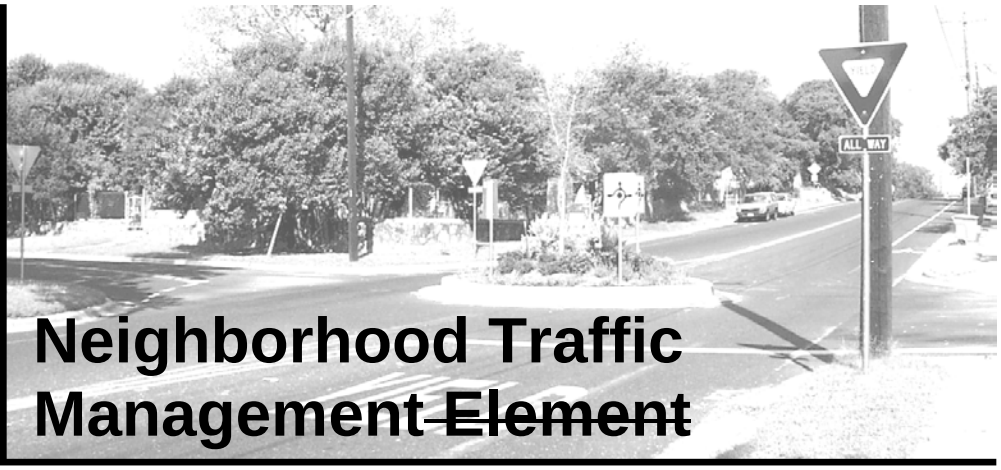


11 Neighborhood Traffic Management ~~Element~~

Neighborhood traffic management is a term used to describe the many and varied traffic management approaches used to reduce the impacts of traffic volumes and speeds on residential neighborhoods and improve safety for pedestrians and bicyclists. This chapter describes the need for neighborhood traffic management, identifies tools that the City can use to slow and/or divert traffic, and outlines a process for implementing neighborhood traffic management measures. It is not the purpose of this chapter to identify streets in need of traffic management or to propose projects at specific locations.

GOALS AND POLICIES

Milwaukie has developed a set of goals to guide the development of its transportation system (see Chapter 2). Listed below are the specific TSP Goals that guide the City's policies on neighborhood traffic management:

- **Goal 1 Livability** guides the City to protect residential neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas.
- **Goal 2 Safety** guides the City to maintain a safe transportation system.
- **Goal 4 Quality Design** guides the City to design streets to support their intended users and respond to the surrounding natural and built environments.

The main benefits of effective neighborhood traffic management are improved livability and safety. Reduced vehicle speeds are a safety benefit for all modes of travel. Reduced cut-through traffic improves livability through the reduction of vehicular noise, pollutants, and traffic volumes. Additionally, streets that are used in ways for which they weren't designed lead to congestion and safety hazards.

NEEDS

Most of the land within Milwaukie consists of residential neighborhoods. The city, with just over 20,000 citizens, has a relatively small population compared to the surrounding Portland metropolitan area. Because of Milwaukie's proximity to the city of Portland, its employment centers, and the two major regional routes through the city (Hwys 99E and 224), cut-through traffic and speeding is an ongoing concern for citizens. Cut-through traffic most often occurs when congestion occurs on regional routes and major streets and nonlocal traffic goes in search of less congested or more direct routes. Speeding can occur under many different

circumstances; however, the city has a number of streets that are relatively straight with few intersections or traffic control devices. These types of streets often invite speeding violations.

Neighborhood traffic management is a means to address the negative impacts of unchecked traffic speed and volume on neighborhood streets. Effective use of neighborhood traffic management can address neighborhood needs and concerns, including, but not limited to, the following:

- Speeding.
- Cut-through traffic, especially by heavy freight trucks.
- Bicycle and pedestrian safety.
- Student safety around school zones.

Student safety around school zones has been and continues to be a concern in Milwaukie neighborhoods. In 1995, the Milwaukie Traffic Safety Commission was charged with identifying and implementing school trip safety improvements in collaboration with schools, parent teacher organizations, neighborhood district associations, residents, and staff. The now defunct commission enacted many safety improvements, but not all recommended projects were pursued or implemented. This chapter does not recommend specific traffic management measures at specific locations, such as schools; however, Chapter 5 Pedestrian Element and Chapter 6 Bicycle Element recommend projects that directly address student safety. In addition, the various Neighborhood District Associations can choose to develop neighborhood traffic management plans that identify more specific issues to be addressed.

TOOLS

There are many different measures available in the neighborhood traffic management "tool box," but not all of these measures are appropriate for all streets or in all situations. As with street design, traffic management measures need to take street functional classification, surrounding land uses, existing street design, emergency service provider access needs, and neighborhood preferences into account.

Table 11-1 groups neighborhood traffic management measures into four categories and shows the recommended application based on street functional classification. The four categories are as follows:

- Horizontal deflection (reduces traffic speeds).
- Vertical deflection (reduces traffic speeds).
- Volume control measures (reduces or diverts traffic volumes).
- Other measures.

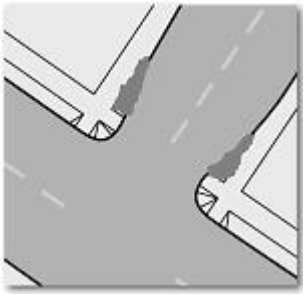
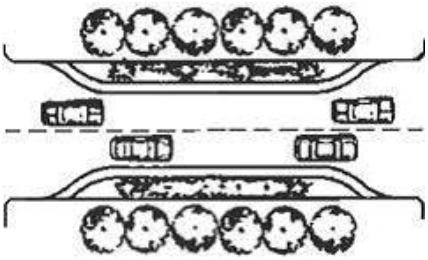
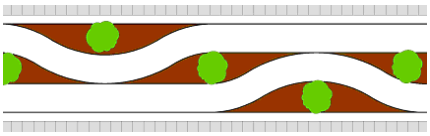
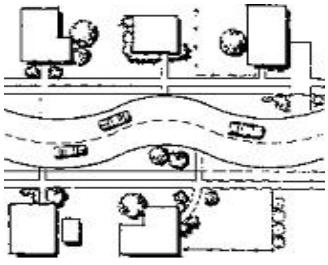
Most of the measures in the first three categories require physical changes to the street; whereas, most of the measures in the last category involve nonphysical changes such as signage, education, enforcement, speed monitoring trailers, and signal timing.

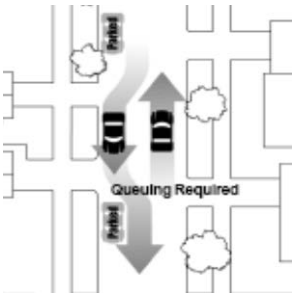
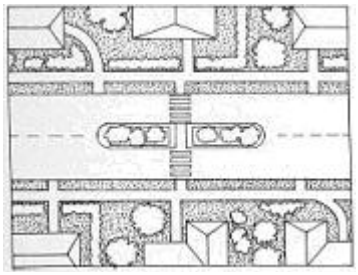
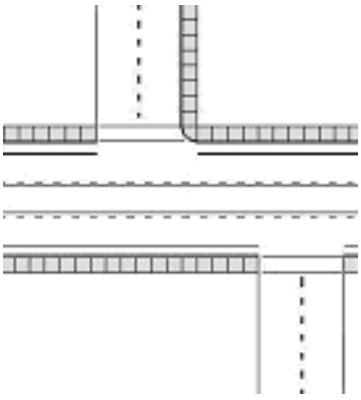
Additionally, State law provides the City with the authority to lower the speed limit of a residential street to 5 miles per hour below the the statutory speed required by the Oregon Department of Transportation.[1] The statutory speed for local streets is 25 miles per hour; therefore, the City can lower the speed limit on local streets to 20 miles per hour. Three criteria must be met to establish the ordinance, in addition to posting new speed limit signs:

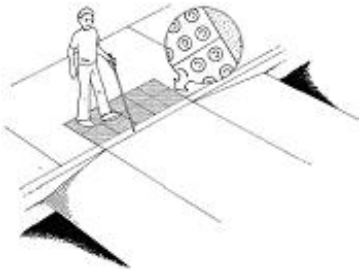
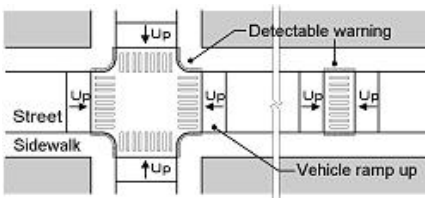
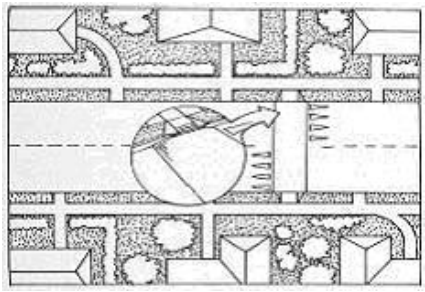
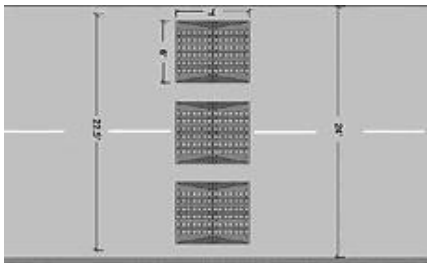
[1] ORS 810.180(10)

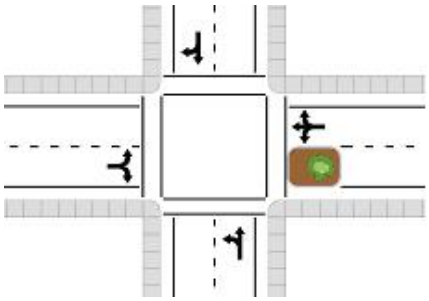
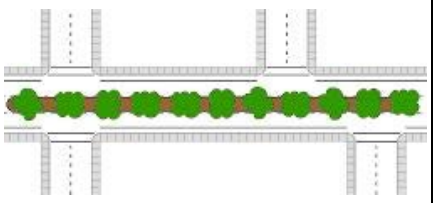
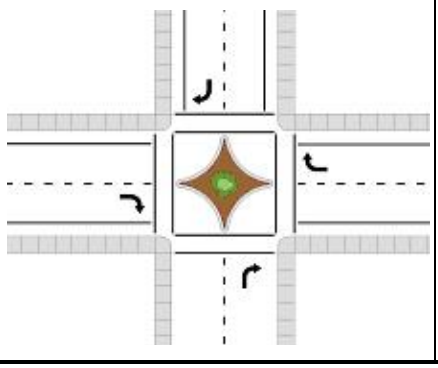
1. The street is located in a residential district.
2. The street has an average volume of fewer than 2,000 motor vehicles per day, more than 85% of which are traveling less than 30 miles per hour.
3. A traffic control device is used to indicate the presence of pedestrians and bicyclists.

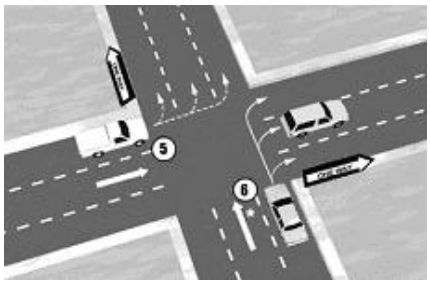
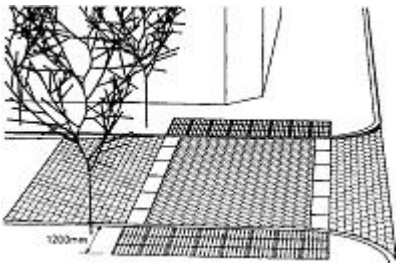
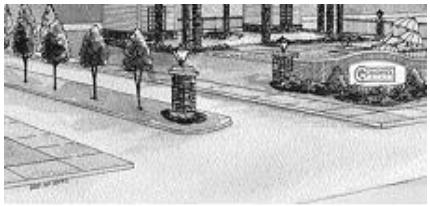
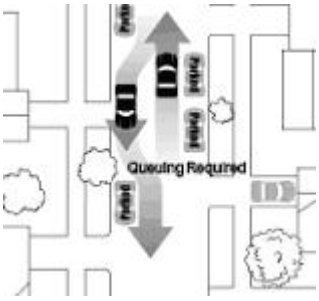
Table 11-1 Neighborhood Traffic Management (NTM) "Tool Box"

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Horizontal Deflection							
Bulbout	Curb extension at an intersection that reduces the pedestrian crossing distance by bringing the curb out into the parking lane. Reduces speeds and increases pedestrian safety by reducing crossing distance.		☐	⊡	■	■	☐
Choker	Midblock pedestrian or landscaped curb extension that narrows the roadway. Reduces speeds and, if designed for pedestrians, increases pedestrian safety by reducing crossing distance.		☐	☐	■	■	☐
Chicane	Curb extensions or offsets along a portion of a roadway. Prevents drivers from taking a "straight shot" down the street, thereby reducing speeds.		☐	⊡	■	■	☐
Curvilinear Street	Similar to a chicane. A street with a series of 25 MPH reverse curves along its length. Prevents drivers from taking a "straight shot" down the street, thereby reducing speeds.		☐	⊡	■	■	■

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Skinny Street	Street with narrower than normal travel lane widths. May involve overlap of parking and travel lanes. Reduces speeds and increases pedestrian safety by reducing crossing distance.		⊡	⊡	■	■	☐
Center Median	Median in the middle of the roadway that narrows the adjacent travel lanes. Reduces speeds and increases pedestrian safety by providing a pedestrian refuge.		☐	⊡	■	⊡	☐
Traffic Circle	A round island in the middle of an intersection. Reduces vehicle speeds and collisions at intersections.		☐	⊡	■	■	■
Offset Intersection Alignment	Intersection alignment that requires through traffic to jog left or right. Reduces speeds and cut-through traffic by providing a less direct path.		☐	☐	⊡	■	■

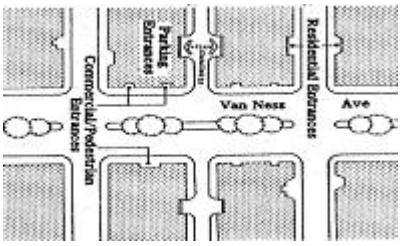
NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Vertical Deflection							
Raised Crosswalk	Raised pavement surface at a crosswalk location. Reduces speeds and increases pedestrian safety by emphasizing the pedestrian crossing and eliminating the need for pedestrians to step down into the roadway.		☐	☐	■	■	■
Raised Intersection	Raised pavement surface throughout entire intersection area. Reduces speeds and increases pedestrian safety by emphasizing pedestrian crossings and eliminating the need for pedestrians to step down into the roadway.		☐	☐	■	■	■
Speed Hump/Table	Raised pavement surface across the entire width of a roadway. Humps are designed so that a vehicle's front and rear wheels travel over the hump at different times. Tables are longer than humps and accommodate a vehicle's front and rear wheels at the same time. Reduces vehicle speeds.		☐	☐	■	■	■
Speed Cushion	Similar to speed humps but not raised across the entire width of the roadway. Reduces vehicle speeds while allowing emergency vehicles to travel unimpeded due to their wider axles.		☐	⊡	■	■	■

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Volume Control Measures							
Full/Partial Closure	The complete or partial closure of a roadway to all through traffic by means of a physical barrier. Pedestrian and emergency access usually allowed. Reduces cut-through traffic.		☐	☐	⊡	■	■
Center Median Barrier	Median in the middle of the roadway that separates vehicles traveling in opposite directions and restricts left-turn movements. Median may extend through an intersection so as to block through movements on cross streets. Prevents cut-through traffic and increases vehicular safety by reducing turning conflicts.		■	■	■	⊡	☐
Diverter	A median or other barrier, such as a curb extension, that forces traffic to turn in a particular direction. Reduces cut-through traffic and decreases vehicular conflicts.		☐	☐	⊡	■	■

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
One-way Street	A street that accommodates vehicular travel in only one direction. Reduces the number of available travel routes.		☐	☐	⊡	■	■
Other Elements							
Pavement Alternatives	Use of bricks or colored pavement to emphasize pedestrian crossing locations.		⊡	⊡	■	■	■
Entry Treatments	Use of landscaping to delineate and enhance a neighborhood entrance.		☐	☐	⊡	■	■
On-Street Parking	Use of parked cars to buffer pedestrians from moving vehicles and to reduce speeds, particularly on skinny streets where travel lanes and parking lanes overlap and must be shared by moving and parked vehicles.		☐	☐	⊡	■	■

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Informational Sign	Use of signs to alert drivers to various hazards.		☐	⊡	■	■	■
Stop Sign	Use of stop signs to increase safety and interrupt traffic flow making routes less desirable for cut-through traffic. Typically placed at intersections. Warrants determined by the Manual on Uniform Traffic Control Devices (MUTCD). Not a speed control measure per MUTCD.		☐	☐	⊡	■	■
Truck Restrictions	Use of "No Truck" signs at key intersections to restrict through truck trips but not local truck trips.		☐	☐	⊡	■	■
Part Time Restrictions	Use of signs to limit through and/or turn movements during key times, typically during peak hours. Reduces cut-through traffic and facilitates traffic flow during peak hours.		■	■	■	⊡	⊡

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Signal Timing	Coordination of signals to reduce stops along corridors and delays at intersections. Reduced green time on side streets discourages cut-through travel.		■	■	☐	☐	☐
Police Enforcement	Use of regulatory authority to cite violators for speeding and other traffic infractions, such as illegal turning movements, to reduce such violations in the future.		■	■	■	■	■
Education	Education of the public regarding the hazards of speeding and the impacts of cut-through traffic through public service announcements, direct mailings, and driver education courses.		■	■	■	■	■
Speed ~~Radar Trailer~~ Reader Board	Use of ~~radar trailer~~ speed reader board to measure and display a driver's speed.		■	■	■	■	■
Photo Radar Van	Use of photo radar van to measure a driver's speed and issue speeding tickets for violations.		■	■	■	■	■

NTM Measure	Description	Example	■ Recommended ⊡ Optional ☐ Not Recommended Functional Classification				
			Arterial	Collector	Neighborhood Route	Local Street	Skinny Street
Neighborhood Speed Watch	Citizen-based traffic management program that allows citizens to identify speeders with speed measuring devices and send them a standardized letter regarding the hazards of speeding.		☐	☐	■	■	■
Shared Street	A street without curbs where bollards, chokers, and/or landscape elements define vehicle and pedestrian areas. Reduces speeds through shared use of roadway by all travel modes. Originated in Europe.		☐	☐	⊡	■	■
Short Blocks	Use of shorter blocks to create more intersections and more streets to distribute traffic. Closely spaced intersections reduce speeds and provide more potential locations for stop signs and signals.		☐	☐	⊡	■	■
Enhanced Major Street Performance	Provision of adequate capacity and connectivity on arterials and collectors to encourage longer trips on these facilities and to discourage cut-through trips on local streets and neighborhood routes.		■	■	☐	☐	☐

IMPLEMENTATION

Successful neighborhood traffic management requires the following:

- A process that identifies, evaluates, and prioritizes traffic management needs.
- Citizen involvement in traffic management measure selection.
- Professional design that considers the safety of all users.
- Funding and implementation of prioritized needs.

The Milwaukie Public Safety Advisory ~~Board~~ Committee is responsible for administering the City's neighborhood traffic management program. This ~~board~~ committee meets once a month and has ~~focused almost exclusively on~~ addressed the enforcement and education aspects of neighborhood traffic management through both the Traffic Safety Program and the Walk Safely Milwaukie Program. Engineering staff ~~will join~~ assist this ~~board~~ committee to improve neighborhood traffic management program coordination and to provide the technical expertise needed for evaluation and implementation of deflection and volume control traffic management measures.

The neighborhood traffic management program relies on citizens to identify neighborhood traffic concerns. This identification process, by its very nature, is reactive. However, the funding level and evaluation process will be deliberate and methodical to allow for equitable and efficient use of limited funds. Any Neighborhood District Association can develop a traffic management plan that identifies more specific issues or needs. The City will endeavor to allocate money each year to undertake selected neighborhood traffic management measures (see Table 11-2). ~~with the expectation that neighborhood district associations will provide matching funding for projects in their district.~~

RECOMMENDATIONS

Figure 11-1 outlines the proposed neighborhood traffic management process for the City of Milwaukie. As shown in this figure, there are multiple points in the process for public input and involvement and a feedback loop at the end to monitor the success of neighborhood traffic management measures that have been implemented.

It is recommended that the City annually fund the neighborhood traffic management program so that prioritized needs are implemented over time. The Neighborhood Traffic Management Action Plan (see Table 11-2) does not identify specific projects, but it does show the level of funding the City ~~proposes~~ aspires to commit to the neighborhood traffic management program for the duration of this plan. With regard to this funding, it is recommended that the City develop a process that ensures neighborhood traffic management funding is equitably distributed throughout the city.

Many of the policy recommendations contained in the Street Design chapter are applicable to neighborhood traffic management as well, the most relevant of which are summarized below.

- **Variety:** Allow for a wide variety of traffic management measures, as identified in this chapter's neighborhood traffic management "tool box."
- **Effectiveness:** Ensure that the chosen measure addresses the identified problem.
- **Landscaping:** Provide for landscaping wherever feasible and practicable.
- **Maintenance:** Consider maintenance needs and issues when designing traffic management measures and ensure long-term maintenance needs can be met.

- **Neighborhood Input:** Provide for neighborhood input when designing traffic management measures.

Figure 11-1 Neighborhood Traffic Management Process

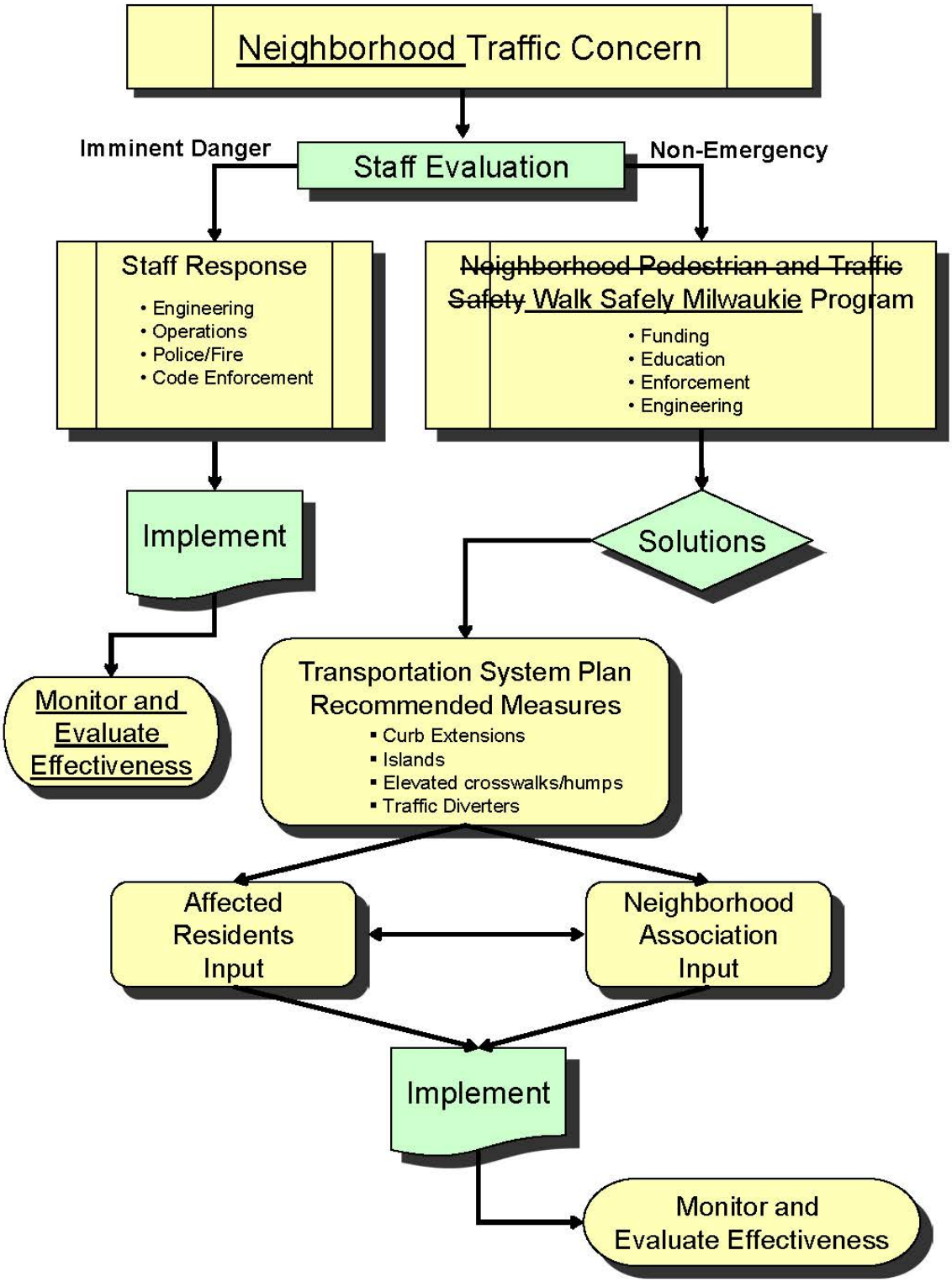


Table 11-2 Neighborhood Traffic Management Action Plan

Project Name	Project Description	From	To	Project Cost~~(s)~~ ($1,000s[2])	Direct Funding or Grant Match
~~Neighborhood Pedestrian and Traffic Safety Program~~ Walk Safely Milwaukie Program	Complete a few small traffic-calming and pedestrian safety projects throughout the city each year.	Citywide	Citywide	$300 ($13 annually)[3]	Direct ~~(with NDA match)~~

[2] Project costs are order-of-magnitude estimates and are in ~~2007~~2012 dollars. Future costs may be more due to inflation. ~~Costing details can be found in the Technical Appendix.~~

[3] Historically, the Neighborhood Pedestrian and Traffic Safety Program received $13,000 annually. In more recent years, the program name changed to Walk Safely Milwaukie and funding was raised to $100,000 annually. Future funding for the program will be evaluated on a biennial basis with the budget.