Council Meeting Date: February 24, 2020 **Agenda Item:** 9(a)

CITY COUNCIL AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Neighborhood Traffic Safety Program Discussion
DEPARTMENT:	Public Works
PRESENTED BY:	Kendra Dedinsky, City Traffic Engineer
ACTION:	____ Ordinance ____ Resolution ____Motion __X_ Discussion ____ Public Hearing

PROBLEM/ISSUE STATEMENT:

The City of Shoreline Neighborhood Traffic Safety Program (NTSP) was developed in 2001 to address resident concerns about speeding, cut through traffic and pedestrian safety on local streets. Since its origin nearly 20 years ago, changes to program resources, newly available data, and the City's continued focus on valuable, equitable, and inclusive customer service have highlighted the need to reevaluate the program's delivery and effectiveness.

In 2019, Traffic Services staff initiated a reevaluation of the program and tonight will be discussing three options for program administration moving forward for Council to consider:

1) Existing - keep the same
2) Alternative 1 – modify NTSP program to create entry criteria and prioritize projects based on data
3) Alternative 2 – use collision and other traffic data to inform traffic safety improvements through the Annual Traffic Report process, eliminating a program exclusively for local streets.

RESOURCE/FINANCIAL IMPACT:

For all alternatives, staff recommends shifting program delivery to the Engineering Division of Public Works for consistency in contracting methods and staff resource allocation. Delivery of projects will be contingent on Engineering project manager capacity and competing capital priorities. With this assumption, no change in program funding is required. Assuming project funding remains the same for all options, the existing program structure would be expected to result in the least value in terms of measurable safety benefits, with Alternative 2 resulting in the most. Alternative 2 also allows redistribution of staff time to other priority workload, capitalizing on an existing process to inform programming.

Recognizing the Traffic Safety Improvements program is discretionary in nature, budget decisions associated with I-976 may impact this program.

RECOMMENDATION

Based on the benefits and tradeoffs associated with each alternative, staff recommends the Traffic Safety Improvements program be restructured as described in Alternative 2, which identifies safety improvements through the Annual Traffic Report process. No action is required at this time; however staff is seeking Council guidance necessary to inform potential changes to the 2020-2025 CIP update. Changes to the program structure will be reflected within the CIP project description.

For all alternatives, staff recommends shifting program delivery to a schedule-based approach to maximize efficiency and to set consistent expectations for residents.

Approved By: City Manager ***DT*** City Attorney ***MK***

BACKGROUND

Developed in 2001, the Neighborhood Traffic Safety Program (NTSP) was designed to work cooperatively with residents to address concerns such as speeding, cut through traffic and pedestrian safety on local streets. The NTSP is a two-phase program and utilizes a variety of tools and techniques to improve safety. Phase 1 of the program emphasizes education and enforcement efforts, which may include signs, pavement markings, trimming vegetation, radar speed display, and educational information.

Residents participate in selecting which efforts will be pursued. Phase 1 efforts are generally implemented over an eight month to one-year period. In Phase 2, engineering solutions such as speed humps, chicanes and traffic circles are considered and may be implemented if conditions warrant and there is adequate community support. Staff works closely with the community to explain the benefits and limitations of potential options, allowing residents to select the preferred solutions. Phase 2 devices typically take 2-3 years to implement from the time of project initiation. Before Phase 2 engineering solutions can be implemented, majority support is needed from impacted residents. In addition, those residents directly adjacent to physical devices must support the project. Full program guidelines and a summary flow chart of the process are provided as Attachment A and Attachment B respectively.

The current inventory of physical traffic calming devices includes 32 traffic circles, chicanes on two streets, and 45 speed humps (see Attachment C for mapped locations). Most of these physical devices were implemented during the early years of the program, prior to 2008.

Funding/Resource

In 2005, the traffic calming program was formalized in the Capital Improvement Plan (CIP) as the Neighborhood Traffic Safety Program (NTSP) and has been administered by the Traffic Services Division in the Public Works Department since that time. During the early 2000's, the NTSP was funded at approximately $200,000 annually. A separate Traffic Small Works program to address arterial issues was funded at over $220,000. Together these programs provided about $420,000 to address issues on local and arterial streets. In 2012, following the recession and associated budget adjustments, the two programs were merged into the Traffic Safety Improvements program and annual funding was reduced to $160,000, remaining approximately the same ever since. Associated with this decrease in funds, dedicated police enforcement toward NTSP efforts was also stopped.

From 2005 to 2011, annual expenditures specific to the NTSP program averaged $128,000 with approximately 26% of expenditures contributing to project administration. Since the NTSP program and the Traffic Small Works program were combined in 2012, annual expenditures and administrative proportion average $160,000 and 39% respectively.

Staff levels for all Traffic Services responsibilities, which span operations, planning, development, and capital efforts, have remained unchanged since 2005 at 3.0 FTE's. This presents a major challenge as staff must balance delivery of the Traffic Safety Improvements program with other increased and priority workloads including:

- Significant changes to delivery of traffic asset maintenance, requiring more Traffic Services staff time and oversight
- Increase in development related workload including Sound Transit efforts, Traffic Impact Analysis and Right of Way permit review
- Increased customer response – logging more than 450 resident contacts in 2019 (a 38% increase since 2017)
- New planning efforts like the Light Rail Subareas Parking Study
- Increased number of roadway capital projects requiring Traffic Services support

Since local street traffic calming efforts are currently an on-demand committed service to residents, balancing the Traffic Safety Improvements program delivery is also a challenge in and of itself. With 15-25 active NTSP efforts a year, it is difficult to gauge how much staff resource and funding for potential implementation any one effort will take, and how much might be left to address safety mitigations identified by the Annual Traffic Report.

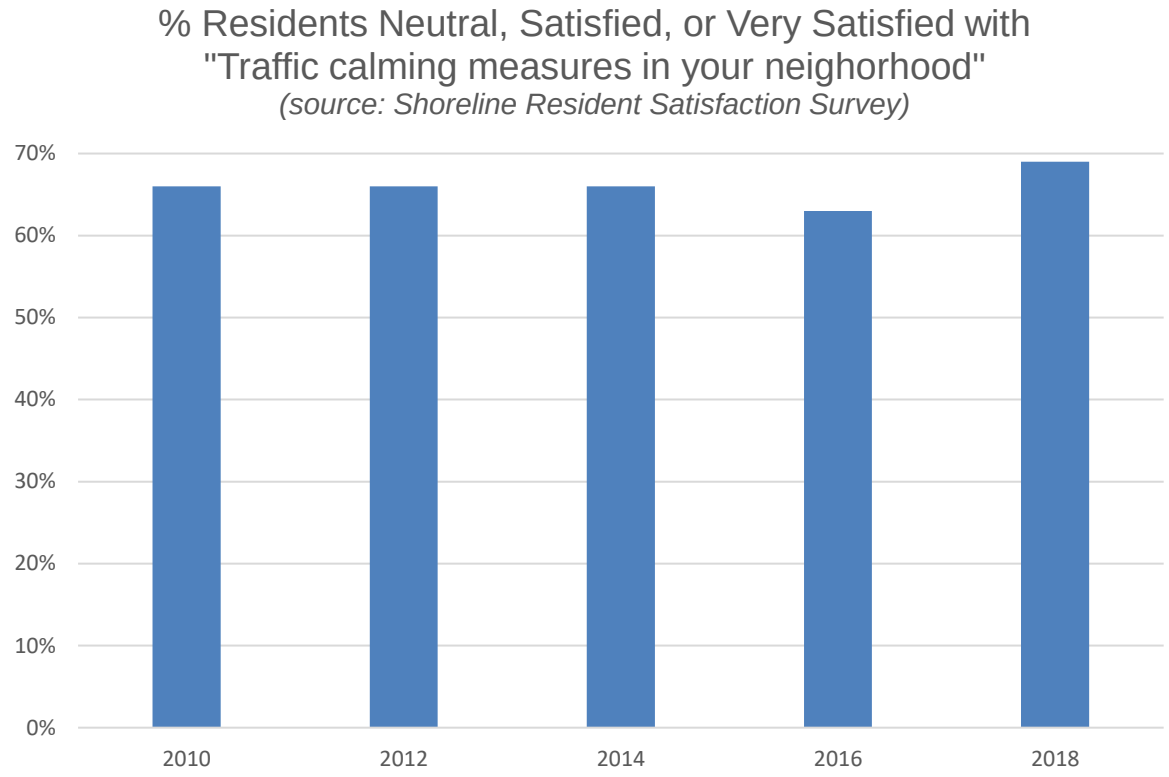
Customer Service

The process of gathering petitions, collecting data, hosting community meetings, and implementing various educational methods represents a significant time commitment for both residents and staff. Residents entering the program are primarily interested in obtaining physical traffic calming devices, or secondary to that, seeing a police presence on their street. Neither are obtainable for the majority of efforts, leaving residents frustrated by the lack of meaningful change, particularly given the time investment.

Over the last 10 years, most project expenditures have worked toward Phase 1 treatments like signs, pavement markings, or temporary radar carts. Within the last five (5) years, there have been only two projects warranting Phase 2 physical traffic calming devices despite lowering the warranting criteria threshold in 2015.

Another customer service challenge is that the program is not scalable, constrained mainly by staff resource. Depending on when petitions are received, number of active participants first in line, and other competing priority workload (both planned and unplanned), it is difficult to set clear expectations of schedule with residents which can be another point of contention.

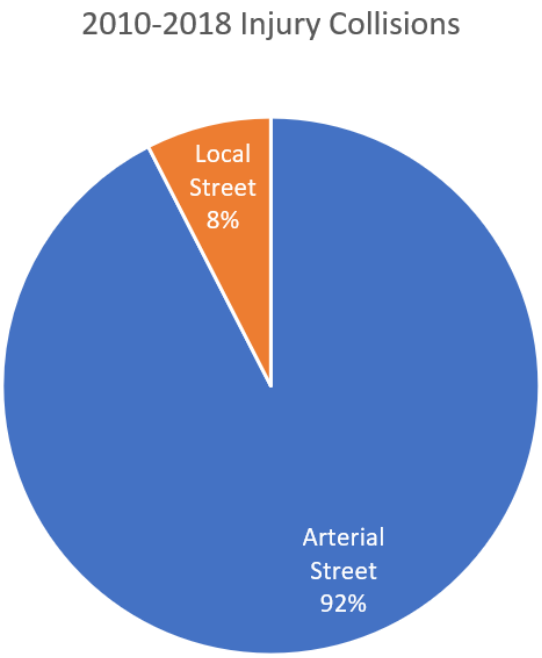
While traffic safety is certainly a high priority for Shoreline residents, with over 160 contacts to Traffic Services on the topic in 2019 alone, the last five Shoreline Resident Satisfaction Surveys have generally shown “traffic calming” ranking below other transportation priorities such as, “availability of sidewalks in your neighborhood”, and “availability of public transportation options”. Since 2010, the percentage of residents who responded “neutral”, “satisfied”, or “very satisfied” has remained relatively consistent, at 66% on average as shown in the following chart.

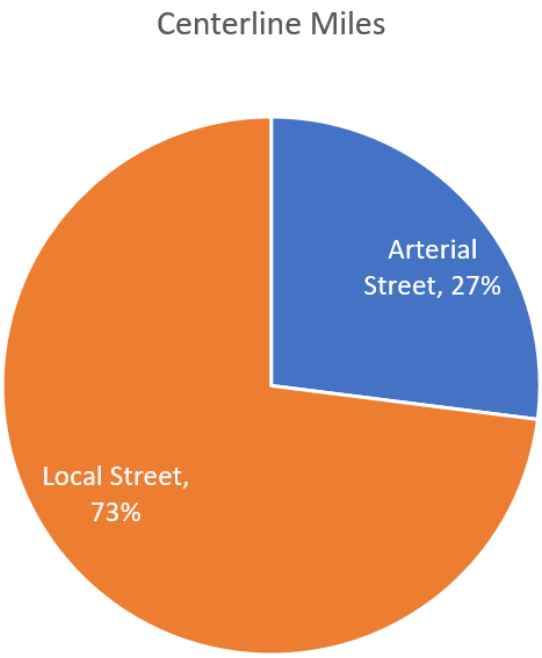


Value

Citywide collision data is now geocoded back to 2010, which allows for stronger correlation between collision data and effective safety mitigation. Georeferenced collision data shows 31 injury collisions on local streets from 2010 through 2018, accounting for 3.4 injury collisions on local streets per year on average, ranging from 2 to 6 per year and trending slightly downward overall.

As shown in the following chart, local streets comprise the majority of City roadway centerline miles (73%) however injury collisions on local streets account for only a small portion of injury collisions Citywide at under 8%. Conversely, more than 92% of injury collisions are concentrated to the 27% of City street centerline miles that make up the arterial network.





No specific local street location experienced more than 1 injury collision in the 9-year history (see map in Attachment D) although some collisions are more closely clustered in the southeast quadrant of the City. In one location, a local street injury collision occurred where a traffic calming device was already in place and many others occurred in very close proximity to existing traffic calming devices.

From 2010 through 2018, there were eight (8) pedestrian and three (3) bicyclist injury collisions on local streets, accounting for just under 8% of pedestrian and bicyclist injury collisions citywide. Each pedestrian and bicyclist local street injury collision report was reviewed and in the majority of reports, speed was specifically eliminated as a causal factor. Of the eight pedestrian collisions, three involved drivers turning into or backing out of a private driveway.

Some other notable factors of local street injury collisions are as follows:

- 7 out of 31 (23%) local street injury collisions involved one vehicle, and no other motorists, pedestrians, or bicyclists.
- 19 out of 30 (61%) involved a *pickup, panel truck, or vanette under 10,000 lb.* (compared to 35% in Citywide injury collision distribution).
- 5 out of 31 (16%) listed speed as a causal factor (no overlap with pedestrian or bicyclist collisions).
- 4 out of 31 (13%) involved a driver under the influence of alcohol (no overlap with pedestrian or bicyclist collisions).

Over the past several years with the lack of traffic calming device qualifying NTSP projects, funds from the Traffic Safety Improvements program have been used to implement other safety projects identified by the Annual Traffic Report. Some examples of these improvements and associated measurable benefits are shown in Table 1. below.

Table 1. Spot Safety Improvements Identified by the Annual Traffic Report

Location	Improvement Description	Associated Collision Reduction
Richmond Beach Road & 3rd Ave NW	Signal phasing conversions	-2 collisions/year
19th Ave NE & Ballinger Way	Flashing Yellow Arrow signal phasing implemented	-4.5 collisions/year
5th Ave NE & NE 175th St	Left turn protected/permissive signal phasing implemented	-1.67 collisions/year
Ashworth Ave N & N 192nd St	All way stop control implementation	-3 collisions/year
Meridian Ave N & N 200th Street	Pedestrian warning signs installed	-.6 pedestrian collisions/year
Fremont Ave N & N 200th St	Flashing LED border stop signs	Recent installation – no data available yet
NE 150th Street & 25th Ave NE	All way stop control implementation	Recent installation – no data available yet

In addition to these location-based spot improvements, Traffic Services staff implemented other systemic improvements, primarily related to school zones, including:

- School speed zone flashing beacons for Highland Terrace and Syre Elementary Schools.
- Rapid Rectangular Flashing Beacons for the school zone crossings of Wallingford/175th Street and Wallingford/155th Street.
- Radar speed feedback signs for Meridian Park Elementary School.
- A crosswalk flag program.

Equity & Inclusion

Shoreline Council Goal 4 expands the City's focus on equity and inclusion. The current NTSP structure contains some weaknesses from an equity and inclusion perspective. The existing program requires resident volunteers to spend a significant amount of time gathering signatures for petitions, arranging meetings and working on solutions with staff, which likely deters those who lack the time to dedicate to these activities from pursuing safety improvements. In addition, since resident leads are required to work with their neighbors and gather consensus, English proficiency may be a barrier or deterrent to some. Lastly, residents of arterial streets have voiced frustration regarding the lack of programming and prioritization of safety improvements for their streets.

DISCUSSION

Local street traffic calming programs are discretionary in nature. There are no specific Federal or State regulatory requirements that establish thresholds for when physical traffic calming devices can or should be considered. In considering this and the

challenges discussed previously, the following provides an overview of the benefits and tradeoffs for the existing program structure and two alternatives.

Existing Neighborhood Traffic Safety Program

The existing NTSP program comprehensive guidelines and flowchart are provided as Attachment A and B respectively. The primary benefits and tradeoffs are described as follows.

Benefits

- Very customer service oriented – the program provides residents with the opportunity for meaningful interactions with staff to understand the data and conditions associated with the subject street. Staff spends time educating residents about collision trends, traffic calming tools and associated benefits/tradeoffs, and provides context for how limited transportation safety resources are balanced Citywide.
- The existing program structure provides an avenue for local street traffic calming that otherwise may not occur based on collision history alone.

Tradeoffs

- Any local public street is eligible after petitions from seven individual households are received. There are no data-driven criteria to enter the program, which means that significant resource is spent regardless of relative need. At times, the program is used to address speeding by one or two specific residents of a short dead-end street – resources spent on locations like this are likely not serving the broader public from a safety perspective.
- The existing structure prioritizes funding for traffic safety projects on local streets over arterial streets despite collision data which suggests the opposite relationship.
- Over the last 10 years, very few NTSP projects have met criteria for engineering treatments like speed humps.
- The program is first-come-first-served, which can delay efforts that potentially have more safety value than those ahead in line.
- The program is phased, with educational methods preceding traffic calming devices. Without enforcement resource, Phase 1 is unbalanced, and leaves residents frustrated as their main goal is typically to obtain physical traffic calming devices.
- Phase 1 can be iterative if warrants are not met – there is no clear stopping point and communication with residents stuck in Phase 1 can carry on for many years.
- Phase 2 implementation requires support from impacted residents. Gaining support via mail is typically difficult, requiring resident leads to invest significant time gathering support. Not all residents have time for this activity. In addition, residents with limited English proficiency may be deterred from participating.
- The program is on-demand with no clearly scheduled delivery dates which is very disruptive to competing Traffic Services workload. This structure also leads to significant variability in the time it takes to implement traffic calming devices which makes setting expectations for residents a challenge.

Alternative 1 – Entry Criteria and Prioritized Projects

For Alternative 1, there are two primary differences in comparison to the existing structure:

1) Streets must meet basic entry criteria to participate.
2) Project applications would be scored during a set time frame every other year using traffic data to prioritize potential projects.

Entry criteria and data prioritization are common to many traffic calming programs regionally and throughout the United States. Most commonly, traffic volume and 85th percentile speeds exceeding posted speed are used, however programs may vary considerably in the specific values set by the jurisdiction. In addition, all programs reviewed required community support and fire department approval before implementation of physical traffic calming devices.

The draft framework for Alternative 1 is provided as Attachment E and sets entry criteria for the program at 500 vehicles per day, and 85th percentile speeds at 5 mph or more over posted. These criteria work to lower the threshold for warranting physical traffic calming devices, while at the same time screening out participation by some streets; focusing limited program resource more efficiently on streets with greater relative need.

Project applications would be scored during a set time frame every other year using traffic data to prioritize potential projects - scoring for project prioritization will be similar to the existing program's Phase 2 criteria and would include:

- Speed,
- Traffic Volume,
- Collision History,
- School/Park/Other Activity Generator Proximity, and
- Presence of Sidewalks.

Benefits

- Retains a program specifically for local streets.
- Provides a moderate to high level of customer service and allows for personalized communication and education opportunities with staff.
- Compared to existing, more reliant on data to inform project decisions, resulting in more valuable and equitable outcomes.
- Sets delivery schedule for consistency, more efficient use of staff time, and reduction in contracting costs.
- Would likely result in more local street traffic calming improvements compared to existing structure.
- Allows staff to set clear and transparent expectations for resident participants.
- Values resident time – residents interested in the program will know whether they qualify before spending time gathering support.

Tradeoffs

- Qualifying projects will still require significant resident time which may deter some from participating.

- The existing structure prioritizes funding for traffic safety projects on local streets over arterial streets despite collision data which suggests the opposite relationship.
- Significant resource will continue to be spent collecting traffic data on local streets.
- Residents not eligible for the program will likely remain frustrated and concerned.

If Alternative 1 is the preferred structure for the program, full program materials will be developed and publicly available in conjunction with the 2020-2025 CIP approval. Project petitions can be accepted for consideration immediately. Minor modifications to the draft process shown in Attachment E are possible and can be discussed with Council during the CIP adoption process as needed.

Residents of streets not qualifying for the program would still be able to submit concerns for Traffic Services to review via standard contact methods. In addition, Phase 1 tools such as the radar speed cart and educational yard signs will continue to be available for use by all residents.

Alternative 2 – Annual Traffic Report Process

This alternative would eliminate a program exclusively for local streets and would instead rely on the existing Annual Traffic Report process, which provides a thorough Citywide review of collision and other traffic data to inform potential safety measures. The most recent Annual Traffic Report is available online for reference at the following link: http://www.shorelinewa.gov/home/showdocument?id=44538.

Location-based traffic safety spot improvements are identified by mapping collision data. Staff reviews collision factors and conditions at these locations to determine an appropriate solution. This process can also be used to track effectiveness over time. An example from the latest Annual Traffic Report is shown in Attachment F. Several examples of spot improvements implemented in recent years and associated benefits are also shown in Table 1 on page 7.

In addition to collision location-based strategies, systemic improvements identified through collision contributing factor analysis would be possible and may extend to local streets in a preventative nature; for example, streetlight improvements near high pedestrian trip generators like schools or parks, which often abut local streets.

Benefits

- Relies on data to inform safety project decisions, resulting in more valuable and equitable outcomes.
- Sets clear expectations – provides a methodology that is transparent, understandable, and fair.
- More efficient use of staff time and more consistent and timely delivery of safety projects compared to existing and Alternative 1 structures. Allows staff time to be redistributed to other underserved and priority workload.
- Allows for needed safety improvements to be implemented without a heavy demand on resident participation and time.
- Would likely result in the highest implementation of safety projects.

- Increased flexibility for being responsive to emerging issues or opportunistically pairing with other active CIP efforts.

Tradeoffs

- Less in-depth customer-staff interaction and education.
- Some residents will remain frustrated by the lack of a path to their desired results.
- Will likely result in fewer improvements to local streets.

Residents of any street would still be able to submit concerns for Traffic Services to review. In addition, Phase 1 tools such as the radar speed cart and educational yard signs will continue to be available for use by all residents.

Recognizing that redevelopment can result in significant changes to travel patterns, including impacts to local streets, staff will continue to utilize Shoreline Development Code and the Transportation Impact Analysis process to condition development related traffic calming measures. Developer funds for traffic calming have already been committed on some recent projects to address future issues as they arise. Staff will seek to strengthen development related traffic calming criteria in future Engineering Development Manual and code updates. In addition, future updates to engineering design guidelines and standards will continue to focus on street context, prioritizing safety through lower design speeds, especially on local streets.

RESOURCE/FINANCIAL IMPACT

For all alternatives, staff recommends shifting program delivery to the Engineering Division of Public Works for consistency in contracting methods and staff resource allocation. Delivery of projects will be contingent on Engineering project manager capacity and competing capital priorities. With this assumption, no change in program funding is required. Assuming project funding remains the same for all options, the existing program structure would be expected to result in the least value in terms of measurable safety benefits, with Alternative 2 resulting in the most. Alternative 2 also allows redistribution of staff time to other priority workload, capitalizing on an existing process to inform programming.

RECOMMENDATION

Based on the benefits and tradeoffs associated with each alternative, staff recommends the Traffic Safety Improvements program be restructured as described in Alternative 2, which identifies safety improvements through the Annual Traffic Report process. No action is required at this time however staff is seeking Council guidance necessary to inform potential changes to the 2020-2025 CIP update. Changes to the program structure will be reflected within the CIP project description.

For all alternatives, staff recommends shifting program delivery to a schedule-based approach to maximize efficiency and to set consistent expectations for residents.

ATTACHMENTS

Attachment A: Existing NTSP Program Guidelines
Attachment B: Existing NTSP Process Flowchart
Attachment C: Traffic Calming Device Locations
Attachment D: Local Street Injury Collision Locations (2010 through 2018)
Attachment E: Draft Alternative 1 Process Flowchart
Attachment F: Example Annual Traffic Report Improvement Identification and Tracking

Neighborhood Traffic Safety Program

Guidelines

CITY OF SHORELINE

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INTRODUCTION

The Neighborhood Traffic Safety Program (NTSP) was created to respond to residents' concerns about speeding, cut-through traffic, collisions, and pedestrian and bicycle safety on residential (non-arterial) streets.

The NTSP was originally developed by a joint Citizen and Technical Advisory Committee. The committee consisted of five citizen volunteers, representatives from the Shoreline Police Department, Shoreline Fire Department, King County Metro, Shoreline School District, City of Shoreline's Customer Response Team, Public Works, Planning and Development Services, the Shoreline Office of Neighborhoods, and a traffic consultant. The traffic consultant provided the Technical Advisory Committee information acquired through an intensive research effort of traffic calming techniques and procedures that are in practice around the country. Additional insights were gained on the management of traffic calming programs through a survey of communities who have well established traffic calming programs. Two public open houses were held during the development of the NTSP, and input provided at these open houses was considered by the Advisory Committees and integrated into the program if necessary.

In 2004, the performance of the NTSP program was reviewed, and several changes were proposed. Members of the Advisory Committee were invited to a meeting to review and comment on the suggested changes to the program. Those changes were incorporated into the program. Some minor updates were also made to the program in 2015, mainly to provide for more neighborhoods to take advantage of Phase 2 treatments and in order to focus resources on those neighborhoods with the greatest need.

The Advisory Committees developed this program to provide a consistent process for identifying and addressing problems related to speeding, excessive traffic volumes, accidents, and pedestrian and bicyclist safety.

The City of Shoreline recognizes that some neighborhoods will have traffic concerns on arterials; however, this program does not address arterials. Arterial issues will be addressed using other programs available within the City of Shoreline.

OVERVIEW

The goal of this program is to establish procedures and techniques that:

- ✓ Improve safety on neighborhood streets
- ✓ Are easy for citizens and staff to understand and navigate
- ✓ Wisely utilize the City's financial and staff resources
- ✓ Ensure that neighborhoods are treated consistently
- ✓ Rely on neighborhood cooperation and coordination
- ✓ Do not push one neighborhood's problems into another
- ✓ Respect the importance of emergency response time

The NTSP consists of a two-phase process that incorporates the "three E's": Education, Enforcement and Engineering. The *Phase 1* Program generally includes the Education and Enforcement elements, while the *Phase 2* Program generally includes the Engineering element when warranted.

Education: Successful neighborhood traffic safety programs address neighborhood concerns by changing driver behavior.

Enforcement: The use of police and neighborhood enforcement techniques to increase community awareness of speeding problems.

Engineering: Engineering review and analysis, public involvement, and the installation of physical devices for traffic calming.

Successful programs use a phased approach. Installing physical devices can be expensive and does not address the need to change driver behavior. Education can be a very effective tool to change driver behavior, making it the logical first step in the Neighborhood Traffic Safety Program. Enforcement is the catalyst that helps make the engineering and education solutions successful.

In addition, measurements of baseline data including speeds, volumes, collision rates, and percentage of cut-through traffic can be taken a number of times throughout the *Phase 1* and *Phase 2* processes to determine effectiveness of the program and to measure changes in traffic patterns.

Citizen Involvement

Participation of residents is vital to the success of the NTSP; staff works closely with residents within neighborhoods to identify the types and severity of traffic problems. Residents help to develop and evaluate the various requirements, benefits, and trade-offs of NTSP projects within their own neighborhood and become actively involved in the decision-making process.

The program will require a representative for each effort. This representative is a resident of the neighborhood who can answer questions or be the point of contact for the

neighborhood traffic concerns.

Neighborhood volunteers will be required to execute parts of the NTSP program, including helping to organize public meetings and potentially monitoring and operating radar speed sign equipment.

Funding

The Capital Improvement Program (CIP) includes funds for the implementation of this Program. For details, please see Traffic Safety Improvements in the latest plan available at:

http://www.cityofshoreline.com/government/departments/public-works/capital-improvement-plan.

Emergency Response

Physical devices can affect emergency response times. The public should be made aware of the effect of the particular physical device chosen by the neighborhood with input from the Fire and Police Departments. The community's need for safety on their residential streets must be balanced with the need for prompt emergency response times.

Horizontal devices, such as traffic circles, chicanes, and curb extensions, accommodate emergency vehicles better than vertical devices, such as speed humps. The physical devices also have a cumulative effect when many are within one neighborhood.

The Fire and Police Departments will be consulted during the *Phase 2* development of the neighborhood's preferred design. Even though the street may not be designated an Emergency Response Route, response times may be affected. This should be discussed with the Police and Fire Department at the first meeting in the *Phase 2* Process.

PHASE 1: EDUCATION & ENFORCEMENT

The first phase of the program is education and enforcement. During this phase, the goal is to address neighborhood concerns by informing drivers of safety issues and by using traffic enforcement techniques to change driver behavior. A summary of the steps for *Phase 1* is shown below.

If you are unable to access information via the internet, please contact staff at (206) 801-2432 for a copy of materials. Time frames shown are approximate and depend on the volume of NTSP efforts and staff availability.

If your area of concern is an arterial street, please call the Customer Response Team to report your concern at (206) 801-2700 or at:

http://www.shorelinewa.gov/government/online-service-request.

If your concern is related to enforcement and is not an emergency, please contact the Shoreline Police Department at (206) 296-3311 or submit a web form online at:

http://www.shorelinewa.gov/government/departments/police-department

Some traffic concerns can be resolved without formally entering into the NTSP process. Please contact staff if you have a specific concern. In addition, you can participate in any of the programs listed below outside of the NTSP process. Please visit the Traffic Services website to review the following programs in more detail:

- ✓ Radar Speed Cart
- ✓ Crosswalk Flags
- ✓ Temporary Pedestrian Crossing Sign
- ✓ Parking
- ✓ Street Lights

Staff will determine the boundary of affected residents for outreach and coordination efforts. The *Phase 1* process will include all residents affected or who could be affected by a change in traffic patterns.

The City and neighborhood will jointly develop and implement the *Phase 1* program to address the identified problem(s). The program that is created will dictate the amount of time to process through *Phase 1*. A typical timeframe for the Phase 1 process can range from about 6 months to a year, however schedule may vary based on demand for the program and staff availability. Neighborhoods will be prioritized on a first-come-first-served basis. *Phase 1* solutions can include but are not limited to:

- ✓ Use of the radar speed cart
- ✓ Pavement marking revisions or installations
- ✓ Sign changes or installations
- ✓ Increased enforcement
- ✓ Educational flyers
- ✓ Vegetation maintenance
- ✓ On-street parking implementation or restriction
- ✓ Educational signs

Example of Typical Phase 1 Treatments

Vegetation Trimming

Sometimes the simplest solutions can be the best ones. Trimming vegetation can improve visibility to traffic signs. It can also increase sight lines for drivers trying to turn from or onto a street as well as sight lines to and from pedestrians.

Radar Speed Cart

The City is pleased to offer portable radar speed display carts for Shoreline residents to check-out. The City has four (4) radar carts that can be reserved for up to two (2) weeks. City staff will even deliver them to your home. Simply wheel them to a safe place off the street, turn them on and test the display, lock them securely, and wheel them inside at night.

Temporary Traffic Control Devices

Use of temporary signs or other temporary traffic control devices can educate drivers about pedestrian laws. At locations where drivers are inconsistently stopping for pedestrians in a crosswalk, a temporary sign can help to highlight the problem. Crosswalk flags can also be effective. The City will install canisters at approved crosswalk locations if residents agree to stock and maintain the flags.

Police Enforcement

Police enforcement is a very effective way to alter driver behavior. Residents can contact police directly with speeding concerns at:

http://www.cityofshoreline.com/government/departments/police-department/traffic-complaint-1109

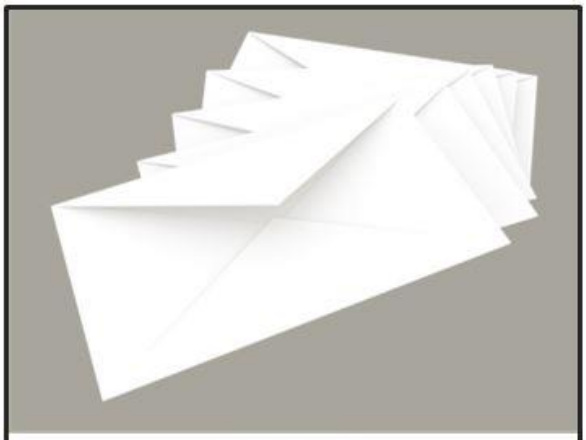
Example of Typical Phase 1 Treatments Continued

Signing

Updating and/or adding appropriate traffic control signs can emphasize safety concerns in a neighborhood. These may include, but are not limited to, speed limit, parking, dead-end, school signs, pedestrian crossing signs. Stop signs will be installed only if warranted. This may also include the removal of unwarranted stop signs.

Pavement Markings

There are a variety of pavement markings that can be considered for Phase 1. Speed limit legends can help strengthen a regulatory sign's message to drivers. Edge lines can be used to narrow the roadway width for reduced speeds and/or to create a designated walking path. Stop lines and crosswalks can also help to bring increased visibility to an intersection.



Outreach

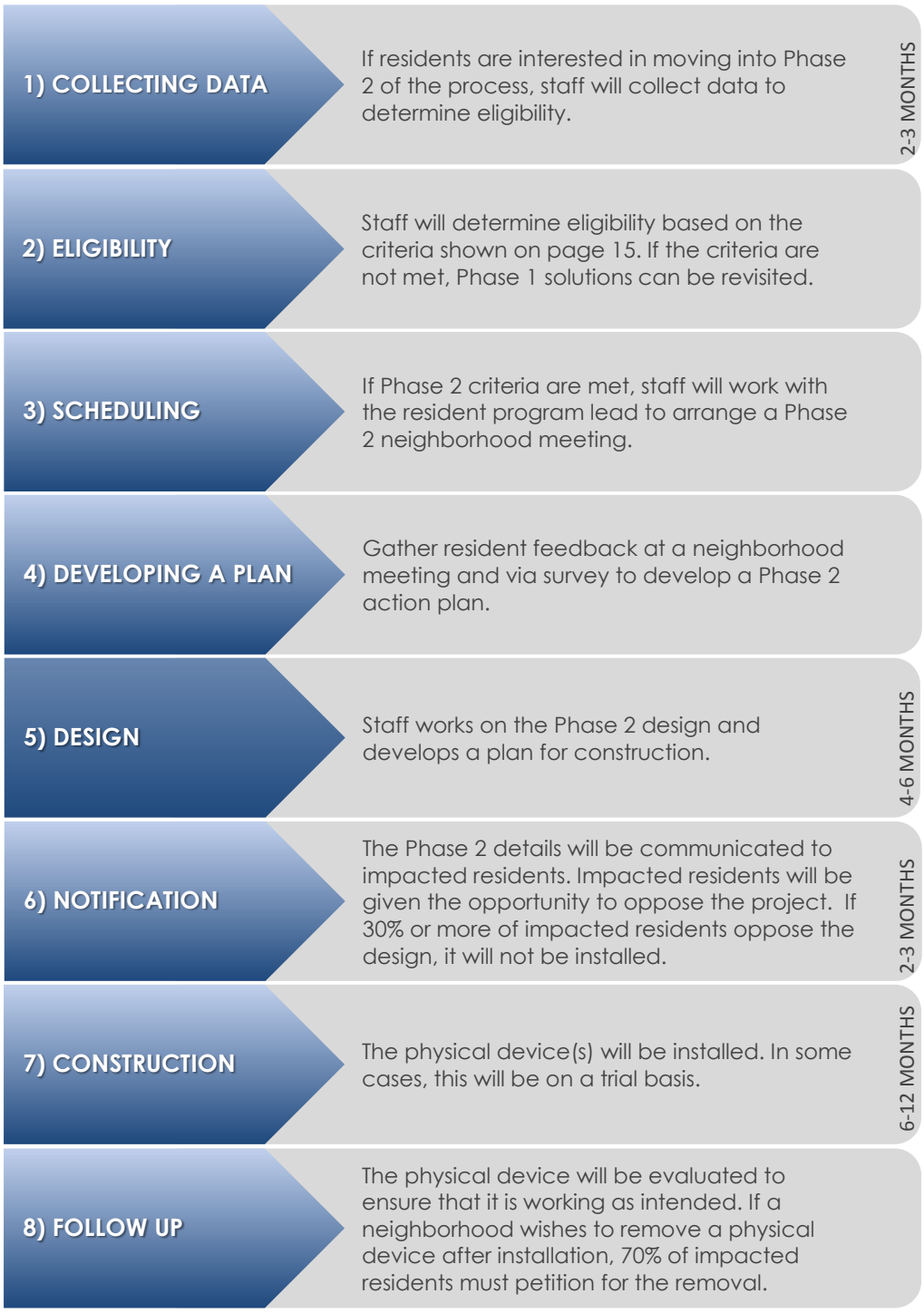
People speeding in neighborhoods tend to be local residents - an educational flyer mailed to residents in the area can make drivers aware that their neighbors are concerned about safety.

Parking Addition/Restriction

Parking cars on the street to effectively narrow the street width can be a good way to slow traffic down. Alternatively, parking restrictions can help to preserve walkway space or sight lines at intersections.

PHASE 2: ENGINEERING

The second phase of the program is engineering. During this phase, the goal of the program is to complete an engineering review, analyze data, and install physical devices when warranted. A summary of the *Phase 2* process is shown below.



Justification for physical devices is determined at the end of *Phase 1,* by using the score determined from the *Selection and Prioritization Criteria* shown on page 15. A minimum score of 8 is required prior to beginning the *Phase 2* process.

If there is more than one NTSP request that meets or exceeds the required number of 8 from the Selection and Prioritization Criteria, the neighborhood with the highest number shall have priority. If there are two or more neighborhoods tied for the highest score, the neighborhood that has been in the program the longest shall have priority.

Staff shall involve and notify all residents who may be impacted by a physical device. Each dwelling unit, as determined by having its own mailing address, is entitled to one vote against a physical device proposal. Units that are rented shall have one petition signature; one for the renter or one for the owner of the unit. In the event the renter and owner disagree, each signature can be counted as a "half" signature – essentially nullifying the vote. Owners of multiple units will be entitled to a total of one vote only. Petitioning will take place by City staff sending out a comment sheet to each of the affected residents. If 30% or more of the impacted households oppose the design proposal, it will not be installed. The comment period will be a minimum of 6 weeks from notice.

During Step 4, *Developing a Plan*, different physical devices will be discussed with program participants. Staff will guide this discussion and explain the technical feasibility of specific options. The Fire and Police Departments will also be involved in this step to discuss possible reduction in response times with physical devices, cumulative effect with existing physical devices, and other issues relating to specific concerns of the neighborhood layout.

Phase 2 devices which significantly restrict access, full or partial street closures for example, will only be considered in special circumstances as they limit emergency response and connectivity.

Example physical devices may include but are not limited to:

- ✓ Traffic Circles
- ✓ Speed Cushions
- ✓ Median Treatments
- ✓ Raised Crosswalks
- ✓ Chicanes
- ✓ Full or Partial Street Closures
- ✓ Street Narrowing + Walkway
- ✓ Curb Bulbs

Example Phase 2 Treatments

Speed Cushions

Speed cushions can help to reduce speeds on residential streets with speed limits of 25 mph or less. They create an elevated surface (typically 3 inches), requiring vehicles to slow down. Speed cushions can be installed in a way as not to effect emergency vehicles or water runoff.

Traffic Circles

Traffic circles are raised islands placed in intersections and help calm traffic by circulating vehicles through the intersection around the traffic circle, which causes vehicles to slow down as they approach the intersection. Circulating traffic around the island also reduces the number of conflict points; traffic circles have been shown to effectively reduce vehicle collisions at intersections.

Chicanes

Curb extensions placed mid-block can be used to create a chicane, a series of bulbouts on alternating sides of the street, which are used to calm traffic by narrowing the street and requiring motorist to reduce their speed in order to maneuver through the device. This treatment also provides opportunities for bioswales.

Full or Partial Street Closures

Street closures involve the installation of bollards or other barriers to block vehicular through access. They are quite effective in reducing traffic volumes, while the use of removable bollards allows access by emergency vehicles. Street closures can be either full closures (blocking vehicular access in both directions) or half closures, which limit vehicular traffic to either entry or exit, but not both.

Street Narrowing + Designated Walkway

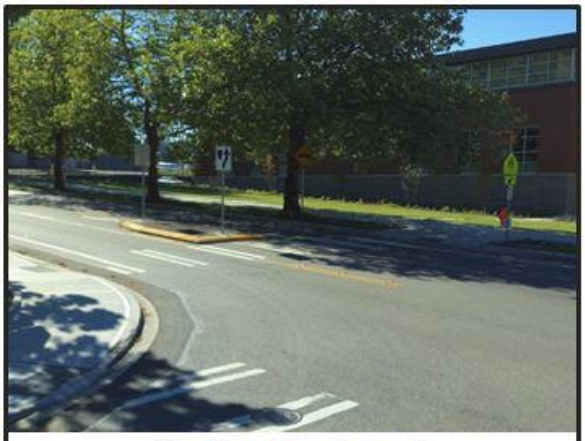
Narrowing the vehicular roadway width can be a very effective way to lower speeds as it creates friction; opposing drivers have to be more cognizant of one another to adjust speed and path to pass in opposing directions. This option can also allow extra pavement space to be dedicated to pedestrian and bicycle use.

Curb Bulbs

Curb bulbs can be a great way to improve pedestrian safety at crossings. Curb bulbs help to provide a clear visual signal to drivers that a crossing is approaching and makes waiting pedestrians more visible. They reduce pedestrian crossing distance, thereby reducing exposure. They can also help to slow vehicle turning speeds at corners.

Raised Crosswalks

Effectively, raised crosswalks are flat-topped speed humps placed at intersection crossings. They can help to reduce vehicle speeds and making pedestrians more visible to approaching vehicles.



Median Treatments

Raised medians and pedestrian refuge islands allow pedestrians to cross one direction of traffic at a time. This significantly reduces the complexity of the crossing. They can also tend to decrease vehicle speeds. Studies have shown a 46% reduction in pedestrian crashes where median refuges are provided at crosswalks.

If residents wish to remove a physical device after it is installed through the NTSP, residents shall be petitioned for 60% agreement. If the device is determined to be ineffective or improperly shifts a traffic problem to another street, it may be removed at the discretion of the City Traffic Engineer.

For determining whether a traffic issue has transferred to an adjacent street, the City of Shoreline has adopted a threshold of 150 vehicles per day; 150 vehicles per day could be added to an adjacent street before it is determined that an unacceptable traffic volume shift has occurred.

Physical devices are not recommended for streets with less than 700 average weekday daily trips. This is considered to be a low volume road and Phase 1 resources are the most economical way to address what is typically a captive audience. Streets with average daily weekday volumes over 2,500 will generally not be considered for physical devices that would significantly impact traffic flow.

Physical devices may be installed on a trial basis. For a trial device, impacted residents will be notified and given an opportunity to comment. If 30% or more of the impacted residents oppose the trial, it will be cancelled. At the end of the trial period, typically 90 days, the City will send out a comment sheet to impacted residents. If 30% or more of the impacted residents oppose the trial device remaining in place, it will be removed. Please note that a trial period is not available for all physical devices. The City will display a land use sign to notify residents of any proposal for partial or full street closure.

NTSP Phase 2 Criteria for Consideration of Physical Device Implementation

Criteria	Points Possible	Measured Data	Points Awarded
Average Weekday Daily Traffic Counts (AWDT)			
Up to 700 AWDT	Devices not recommended		
700 – 2,500 AWDT	Devices considered		
2,500 and over	Devices not recommended		
Traffic Cut-Through Volume [1]			
25.00% - 49.99%	1		
50.00% - 74.99%	2		
75.00% +	4		
Traffic Speeds [2]			
0-5 mph over posted limit	0		
5.01-7	2		
7.01-9	4		
9.01+	6		
Sight Distance Limitations [3]	2		
Average Accident History (AAH) [4]			
0.5 –1.0 accidents/year	1		
1.1 – 1.5	2		
1.6 – 2.0	3		
2.1 – 2.5	5		
2.6 – 3.0	6		
Over 3.0	7		
Street Conditions			
No sidewalks	2		
Sidewalks on one side of street only	1		
Parks, Schools (Public or Private, K-12)			
Within ¼ mile	3		
Between ¼ and ½ mile	2		
Total			**0**

1) As a percentage of the total AWDT on primary roadway between arterials.
2) 85th percentile of all vehicles, both directions, over a 24-hour period.
3) Limited vertical or horizontal sight distance, such as the inability to see over a hill or around a curve. Points will be given if stopping sight distance for crest and sag curves per WSDOT Design Manual are not met.
4) Reported collisions over past three years at intersections and mid-block for study area. AAH = Total Collisions / ((# of Intersections + # of Mid-Block Segments)(# of Years Data))

Note: **The minimum number of points required for a neighborhood to qualify for consideration is 8.** All physical devices shall be subject to technical feasibility as determined by the City Engineer. Majority approval and approval from residents adjacent to physical device(s) is required before implementation of permanent traffic calming measures.

*Updated September 2015

FREQUENTLY ASKED QUESTIONS

Q: Why can't we just start with the Phase 2 Engineering Treatments part of the program?

A: Education and enforcement are critical elements of any traffic calming effort as changing driver behavior is the main goal. Physical devices can tend to change driver behavior at an isolated location, however their actions away from the device may remain the same.

It is also necessary to use this phased approach in order to efficiently and consistently utilize limited resources. Many residents throughout the City request traffic related improvements; with the current budget and staffing, it would not be possible to implement physical devices for each location.

Q: Why is support needed from 7 additional residents in order to start the program?

A: Participation from the neighborhood is critical for a successful program. The residential street is an important part of a community's livability; the solutions derived from this program should be representative of that community's vision. In addition, resources for implementation of this program are limited. Additional neighborhood support provides validation that a problem exists rather than just being based on one resident's perception of a problem.

Q: How can I get sidewalks installed on my street?

A: The City of Shoreline does not have a consistent funding source for sidewalks and relies primarily on grant funding for sidewalk installation. The City's Transportation Master Plan has prioritized a list of sidewalk projects which can be viewed here:

http://www.shorelinewa.gov/government/departments/public-works/transportation-services/transportation-master-plan

There are many sidewalk needs throughout the City and generally speaking, the City has focused the priority on arterials where traffic volumes are higher and there are connections to pedestrian generators. In addition, grants tend to target arterials for the same reasons. If your neighborhood is interested in providing a designated walking space, there are alternatives to standard sidewalk such asphalt surface treatments that can be implemented as part of the NTSP.

Petition For Beginning the NTSP Process

I am your neighbor and I am contacting you to find out if you share my concerns about cut-through traffic and speeding in our neighborhood. Since our street is a local street, it is a candidate for Shoreline's Neighborhood Traffic Safety Program.

Resident Program Lead Contact Information

NAME

STREET ADDRESS

EMAIL

PHONE NUMBER

STREET TO BE STUDIED

FROM

TO

The Neighborhood Traffic Safety Program is a two-phased approach to reducing traffic concerns on neighborhood streets. The first phase uses effective, but non-restrictive measures using education, enforcement, and minor physical device changes to alter driver behaviors. The second phase focuses on physical measures that may be employed only if the first phase is ineffective.

Seven (7) neighbor signatures, one per household, are required prior to beginning the process. If you agree that the issues stated above exist on our street, please sign below with your address, phone number, and email if available and return to me at the address above.

NAME

STREET ADDRESS

EMAIL

PHONE NUMBER

SIGNATURE

By checking the box below, I am providing my electronic signature to participate in the program.

☐

Please feel free to enter any comments here:

The resident program lead to send a minimum of 7 completed forms to the City of Shoreline at:

Attn: Traffic Services
17500 Midvale Ave N
Shoreline WA 98133

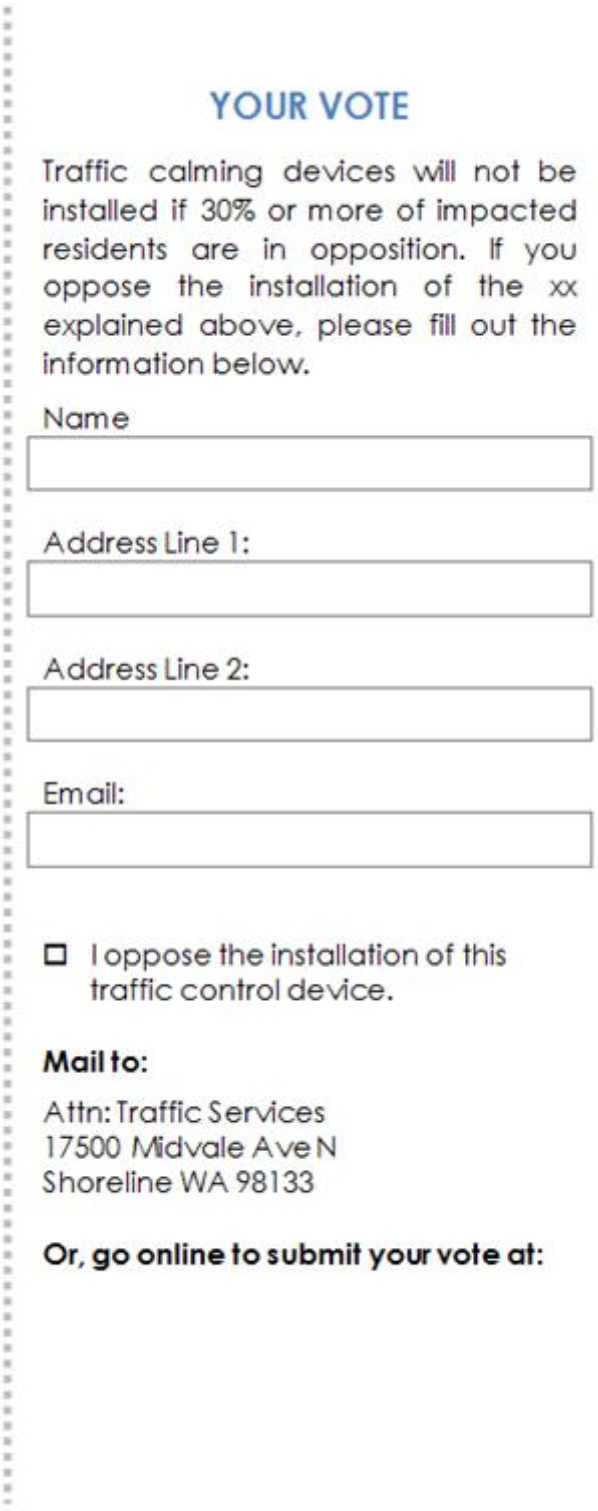
or via email at:

qnguyen@shorelinewa.gov

For more information about the City of Shoreline's Neighborhood Traffic Safety Program, please visit:

http://www.cityofshoreline.com/community/traffic-services

Example physical device voting form.



YOUR VOTE

Traffic calming devices will not be installed if 30% or more of impacted residents are in opposition. If you oppose the installation of the xx explained above, please fill out the information below.

Name

Address Line 1:

Address Line 2:

Email:

☐ I oppose the installation of this traffic control device.

Mail to:

Attn: Traffic Services
17500 Midvale Ave N
Shoreline WA 98133

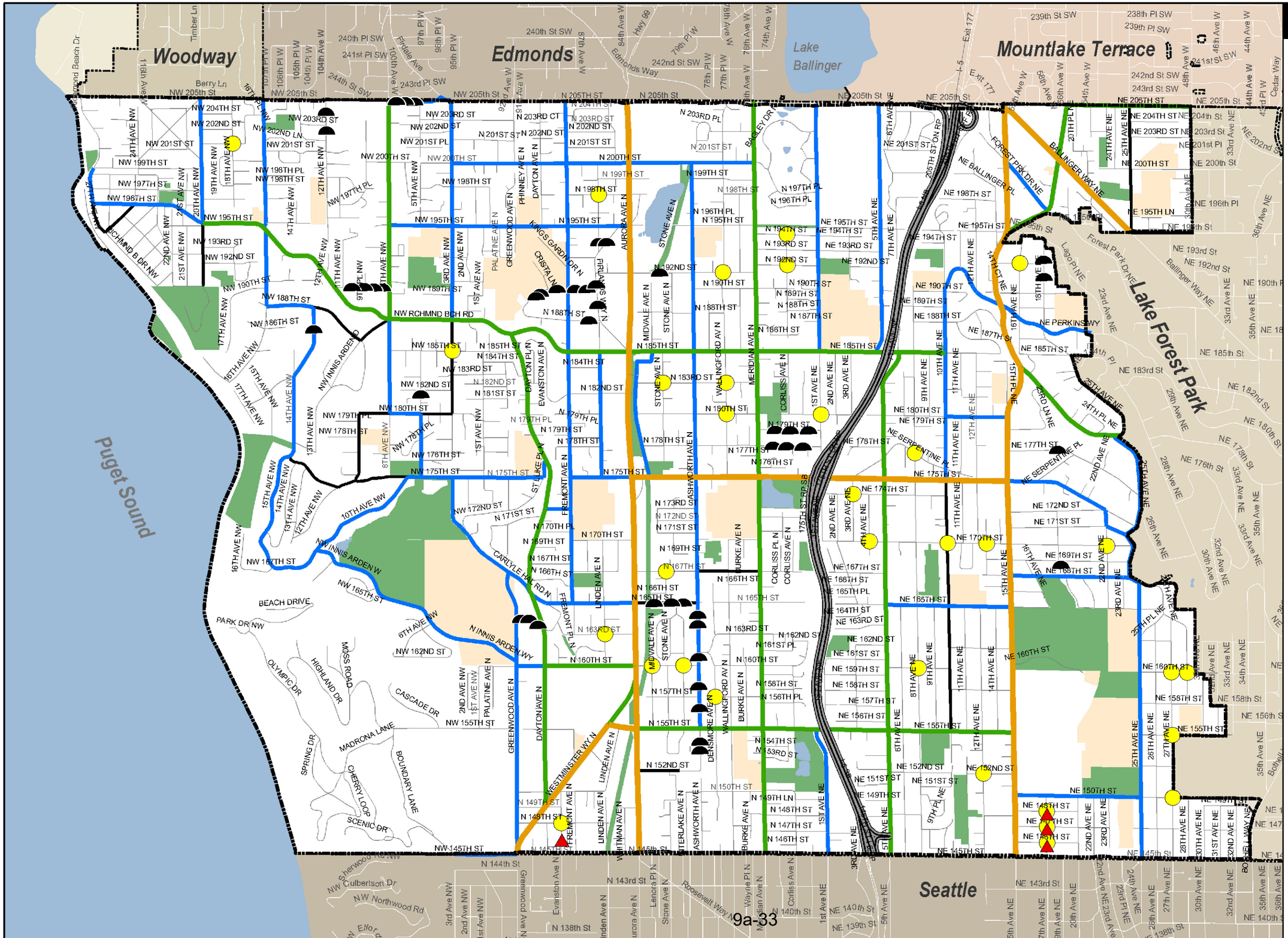
Or, go online to submit your vote at:

Existing Program – Phase 1

1) ELIGIBILITY	Is the street a local primary or local secondary street? If so, it is eligible for NTSP. Verify here: http://www.cityofshoreline.com/home/showdocument?id=1020.	
2) GETTING STARTED	Determine who will be the resident program lead and fill out the petition form shown on Page 17. Copies are provided for distribution.	
3) GATHERING SUPPORT	Get 7 additional households on your street to participate in the process by filling out the petition form. Send the completed petition forms to the City.	
4) SCHEDULING	Staff works with resident program lead to arrange a neighborhood meeting.	
5) COLLECTING DATA	Traffic speed and volume data is collected. This data will be shared at the neighborhood meeting and/or electronically with participants.	2-3 MONTHS
6) DEVELOPING A PLAN	Gather resident feedback at a neighborhood meeting and via survey to develop a Phase 1 action plan.	
7) IMPLEMENTATION	Implement the action plan developed by residents and staff.	6-8 MONTHS
8) FOLLOW UP	After Phase 1 solutions have been in place for some time, staff will follow up with the program lead to determine whether Phase 2 is needed.	3 MONTHS

Existing Program – Phase 2

1) COLLECTING DATA	If residents are interested in moving into Phase 2 of the process, staff will collect data to determine eligibility.	2-3 MONTHS
2) ELIGIBILITY	Staff will determine eligibility based on the criteria shown on page 15. If the criteria are not met, Phase 1 solutions can be revisited.	
3) SCHEDULING	If Phase 2 criteria are met, staff will work with the resident program lead to arrange a Phase 2 neighborhood meeting.	
4) DEVELOPING A PLAN	Gather resident feedback at a neighborhood meeting and via survey to develop a Phase 2 action plan.	
5) DESIGN	Staff works on the Phase 2 design and develops a plan for construction.	4-6 MONTHS
6) NOTIFICATION	The Phase 2 details will be communicated to impacted residents. Impacted residents will be given the opportunity to oppose the project. If 30% or more of impacted residents oppose the design, it will not be installed.	2-3 MONTHS
7) CONSTRUCTION	The physical device(s) will be installed. In some cases, this will be on a trial basis.	6-12 MONTHS
8) FOLLOW UP	The physical device will be evaluated to ensure that it is working as intended. If a neighborhood wishes to remove a physical device after installation, 70% of impacted residents must petition for the removal.	



SHORELINE

Geographic Information System

Traffic Calming Device Locations

Legend

Traffic Circle		32
Chicane*		4
Speed Hump		45

Other Map Features:

- School Property
- Park or Trail

** Chicanes are a series of usually 3 Curb Bulbs*

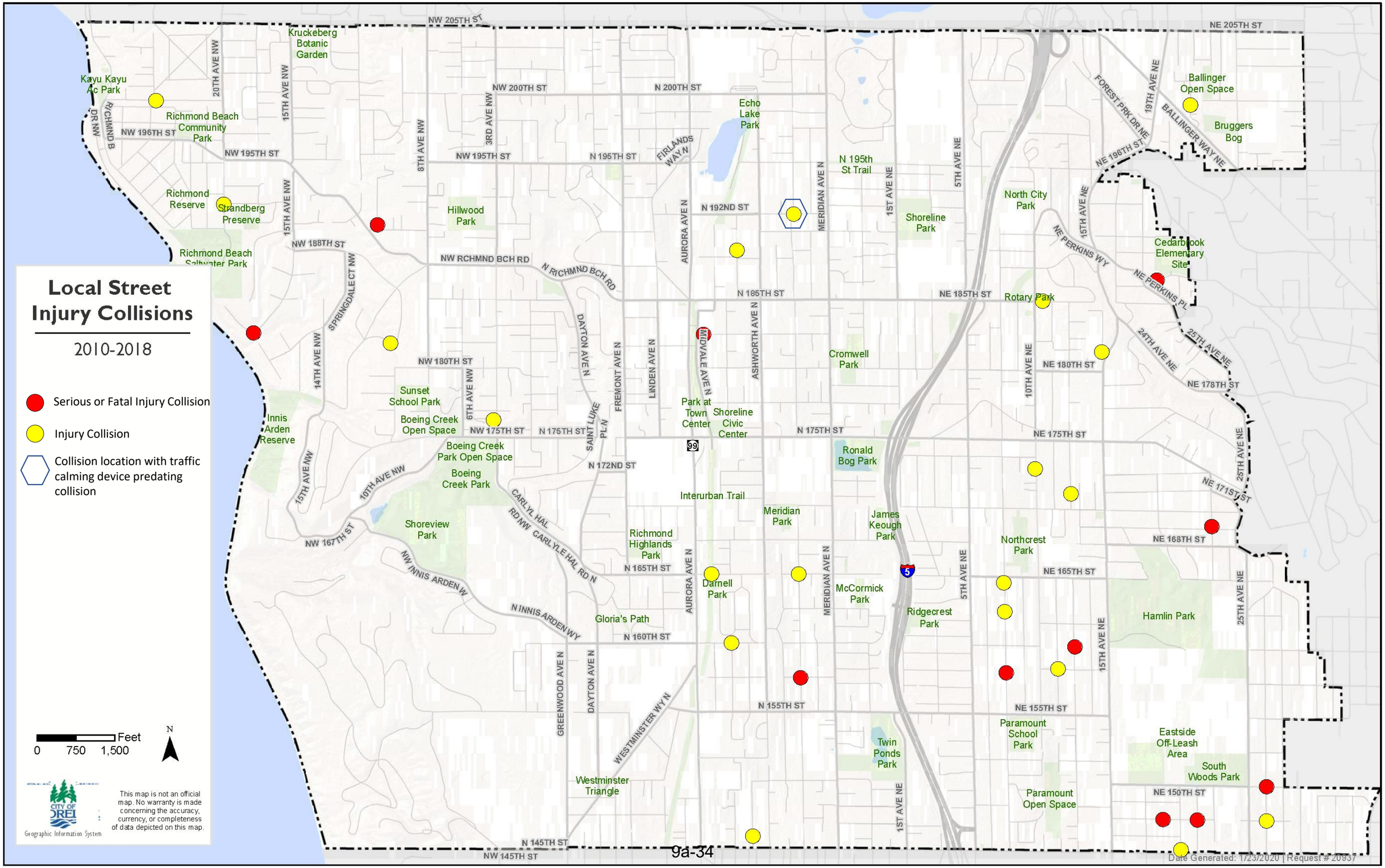
***Ashworth Avenue was reclassified as an arterial after speed humps were installed. Speed humps are generally not considered an appropriate treatment of arterial streets.*

0 500 1,000 2,000 3,000 Feet

1 inch = 1,919 feet

City of Shoreline
Shoreline, WA 98133
(206) 801-2700
www.shorelinewa.gov

Map Date: 2020


Local Street Injury Collisions
2010-2018
Serious or Fatal Injury Collision
Injury Collision
Collision location with traffic calming device predating collision
Feet
0 750 1,500
N
This map is not an official map. No warranty is made concerning the accuracy, currency, or completeness of data depicted on this map.
Geographic Information System
NW 205TH ST
NE 205TH ST
Kruckeberg Botanic Garden
Kayu Kayu Ac Park
Richmond Beach Community Park
NW 196TH ST
NW 195TH ST
Richmond Reserve
Strandberg Preserve
Richmond Beach Saltwater Park
NW 188TH ST
NW RCHMND BCH RD
N RICHMND BCH RD
NW 200TH ST
N 200TH ST
Echo Lake Park
N 195TH ST
Hillwood Park
N 192ND ST
N 195th St Trail
Shoreline Park
North City Park
Ballinger Open Space
Bruggers Bog
NE 196TH ST
Cedarbrook Elementary Site
NE PERKINS WY
NE PERKINS PL
N 185TH ST
NE 185TH ST
Rotary Park
Cromwell Park
NE 180TH ST
NW 180TH ST
Sunset School Park
Boeing Creek Open Space
Innis Arden Reserve
NW 175TH ST
N 175TH ST
Park at Town Center
Shoreline Civic Center
NE 175TH ST
Ronald Bog Park
Boeing Creek Park Open Space
Boeing Creek Park
N 172ND ST
Interurban Trail
Shoreview Park
NW 167TH ST
Meridian Park
James Keough Park
Northcrest Park
NE 168TH ST
Richmond Highlands Park
N 165TH ST
Darnell Park
McCormick Park
Ridgecrest Park
NE 165TH ST
Hamlin Park
Gloria's Path
N 160TH ST
N 155TH ST
NE 155TH ST
Paramount School Park
Eastside Off-Leash Area
South Woods Park
Twin Ponds Park
Westminster Triangle
Paramount Open Space
NE 150TH ST
N 145TH ST
NW 145TH ST
NE 178TH ST
NE 171ST ST
Date Generated: 1/23/2020 | Request # 20937

DRAFT

YEAR 1

Project Development (6 months)

Staff uses data to score traffic calming project location requests for local streets and works with residents to identify a preferred project plan for top scoring projects. Lower ranked projects will be placed on contingency or considered during the next biennial NTSP cycle.

A traffic calming request must be supported by 5 households total before evaluation efforts begin. Petition templates for gaining project support can be found here. Project request locations shall be no longer than ¼ mile in length. To qualify for the program, your non-arterial street must have Average Weekday Daily Traffic Volumes of greater than 500 vehicles/day, and 85th percentile speeds greater than 5 mph over the speed limit. Dead end streets shorter than 1200 feet in length are not eligible for the program. Traffic calming project requests will be logged throughout the year, with the cutoff date of June 1st, odd years. Any requests received after that date will be considered during the next NTSP project cycle.

Data used to determine top scoring locations includes speed, traffic volume, cut through, pedestrian, land use, and collision history data, and will be applied consistently to all projects being considered. In the event of a scoring tie, the location with the earliest request date will lead.

The number of projects to be implemented for a biennial cycle will be determined based on the funding available for the program and the estimated cost(s) for the preferred project for top scoring location(s). Individual projects will not exceed $50,000 in construction costs.

At least 2 projects will be placed on contingency for consideration in the current cycle in the event that consensus cannot be obtained for higher scoring location(s).

Consensus Building (6 months)

Staff will work with residents to gain project buy-in. For projects that have high-impact on a neighborhood, the resident lead will be required to obtain approval from 60% of households. If the project does not achieve this, the next project on contingency will move forward.

Staff will develop the list of impacted households for consensus gathering. All physical traffic calming projects such as speed humps, striped walkways, traffic circles or other devices require 100% support from the directly adjacent property owners as well as approval from the Shoreline Fire Department. From all other households, 60% support is needed to move forward with project implementation. Approval may also be needed from the School District depending on the nature of and location of the project.

Residents are responsible for gathering support from the neighborhood. Staff will assist with consensus building by providing resources to help with this process such as online tools, outreach materials, templates, and/or yard signs.

Each household counts as one vote. Each individual household, including apartments, condos, duplexes, or accessory dwelling unit, is eligible for one vote by the occupant, or owner if not occupied.

YEAR 2

Project Design & Construction (1 year)

During this phase, engineering design plans will be developed and a contract procured for construction. Staff will be responsible for these efforts and for project related communication during construction.

During this phase, resident participation will be relatively low as staff works on the design, contracting, and construction of the project.

Project schedule or other relevant updates will be posted online at:

shorelinewa.gov/government/departments/public-works/traffic-services/neighborhood-traffic-safety

for resident leads to follow and for communication with the neighborhood.

If residents are unhappy with the project following implementation, residents can seek removal of the traffic calming device(s) by obtaining 60% consensus for the removal from the same list of impacted households used to gain support for the project. Removal of traffic calming devices will occur in the next available NTSP implementation cycle.

After implementation of a traffic calming project, the location will not be able to reenter the NTSP program for a 5-year period starting from the date of project substantial completion.

Example – Location Based Traffic Safety Mitigation

Rows shown in bold represent potential spot safety improvements that could be implemented through the Traffic Safety Improvements program

	Location	2016-2018 Total Collisions	Increase or Reduction in Collisions Per Year[1]	Trendline[2]	2016-2018 Injury Collisions	Potential Actions
1	MERIDIAN AVE N & N 175TH ST	23	- 2		3	Project design for the 175th Corridor west of I-5 is currently underway. Intersection is an impact fee growth project.
2	15TH AVE NE & BALLINGER WAY NE & NE 205TH ST	22	- 3.5		1	Project described in the Transportation Improvement Plan; pursue grant opportunities.
3	19TH AVE NE & BALLINGER WAY NE	21	- 4.5		4	Following conversion to flashing yellow arrow in 2015, collisions are on the decline by 4.5 per year. Continue to monitor.
4	3RD AVE NW & NW RCHMND BCH RD	21	- 2		2	Richmond Beach Road Rechannelization project recently completed, including signal phase changes. Collision trend declining by 2 per year; continue to monitor.
5	10TH AVE NE & NE 175TH ST	17	+ 1		3	Signal clearance intervals recently adjusted; continue to monitor.
6	**MIDVALE AVE N & N 175TH ST**	**14**	**0**		**2**	**Evaluate left turn related collisions to determine if higher level of turn protection is warranted.**
7	MERIDIAN AVE N & N 185TH ST	13	- 1.5		2	Future impact fee growth project. Sound Transit Lynnwood Link Light Rail mitigation to occur in the near future. Pursue improvement opportunities related to redevelopment. Collision trend declining slightly; continue to monitor.
8	**FREMONT AVE N & N 200TH ST**	**12**	**+ 3**		**1**	**This intersection continues to show a significant upward trend. Safety improvements to add flashing LED borders to stop signs are in motion and will be implemented by the end of the year.**
9	MERIDIAN AVE N & N 155TH ST	12	+ 1.5		0	This signal will be rebuilt as part of a capital project in the near future and will include signal phase changes and safety improvements.
10	WESTMINSTER WY N & N 155TH ST	12	0		0	This intersection is currently in design and will be reconstructed by grant and private funding associated with Shoreline Place redevelopment.
11	15TH AVE NE & NE 155TH ST	11	- 2.5		1	Collision rate is trending down by 2.5/year; continue to monitor.

12	15TH AVE NE & NE 175TH ST	10	-	3.5		1	Intersection improvements will be completed in 2019 to add an eastbound right turn pocket, allowing for improved signal efficiency and reducing queues at all approaches which tends to decrease rear end collisions. Continue to monitor following improvements.
13	**5TH AVE NE & NE 155TH ST**	**10**	**+**	**3.5**		**1**	**Review collisions and other traffic data for potential phase changes.**
14	**ASHWORTH AVE N & N 185TH ST**	**10**	**+**	**2**		**0**	**Collect traffic data to determine if a higher level of intersection control or access management is warranted. Pedestrian activated rapid flashing beacons will be implemented by a grant project by end of 2021.**
15	**FREMONT AVE N & N 172ND ST**	**10**	**+**	**4**		**1**	**Improve intersection visibility and northbound stop alignment.**
16	15TH AVE NE & NE 180TH ST	9	-	1.5		0	Collision trend is down; continue to monitor.
17	FREMONT AVE N & RICHMND BCH RD & N 185TH ST	9		0		0	There was no clear trend based on collision type, direction, or contributing factor. Collision trend is flat; continue to monitor. [Note: no collisions appear to be related to right turn on red movements – the sign prohibiting right turns on red for southbound traffic was removed in 2014, following a sight distance study]