



NEIGHBORHOOD TRAFFIC CALMING PROGRAM

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1. INTRODUCTION AND OVERVIEW

The City of Lakewood has established this program to promote and sustain the desired character of our residential neighborhood streets. With its combination of high population density, tight grid of streets/sidewalks, and distribution of schools and parks, the City possesses a unique walkable character that makes it highly accessible for pedestrians – and, increasingly, to bicyclists. This program seeks to provide guidance and direction for addressing issues with traffic volume and speed to ensure our neighborhood streets stay safe and accessible for residents across all modes of travel. At its heart, program actions – whether education, enforcement, or intervention – are intended to be a collaborative effort among the City Administration, City Council, Police, and Residents.

1.1. PROGRAM OVERVIEW

Program actions fall within three categories (education, enforcement, intervention) – to be implemented separately or in a mutually-supporting combination – and are supported by an evaluation of effectiveness. In each case where a street (or section of street) is nominated for traffic calming actions, the City will initially determine basic eligibility of the street and accurately understand current traffic conditions before approaching the issue with a data-informed plan of phased, escalating action(s) that employ education and enforcement first before moving to physical intervention. Intervention action(s) should only be taken when lesser actions have not produced desired results and when supported by the preponderance of residents within the determined traffic calming zone.

- Education. The first step in addressing traffic issues, these actions seek to provide awareness of neighborhood concerns, reinforce the posted speed limit, and remind all traffic of the importance of safe driving.
- Enforcement. This second step seeks to provide an increased presence of law enforcement to monitor and enforce speed limits in the neighborhood.
- Intervention. After education and enforcement actions have been exhausted, this final step seeks to alter the existing roadway through pavement marking or geometric roadway elements (horizontal, vertical) that result in lowered vehicle speeds.

Subsequent evaluation accompanies each plan of action, seeking to verify the effectiveness in addressing the neighborhood issue. This will typically involve additional data collection as well as potentially a resident survey or other feedback tool to determine the impact the action has had on traffic behavior and characteristics along the subject street. Examples of education, enforcement, and intervention actions are provided in **Appendix A**.

1.2. PROGRAM INTENT

Traffic calming is inherently a process that seeks a context-sensitive solution centered on the characteristics of the subject street and surrounding neighborhood. Context is important because it is central to how a neighborhood feels to residents and how automobile traffic is interpreted. A car traveling at, or even slightly above, the posted speed limit can impart a very different feeling to residents and pedestrians depending on the physical characteristics of a given street – not just the width from curb-to-curb, but other key elements such as how close the sidewalk or homes are to the curb. **The overarching intent of the program is to first understand the conditions and context of a given street to then enable the application of an appropriate phased and escalating plan of actions. If lesser education and enforcement actions can be effective, then moving directly to the cost, disruption, and permanency of physical intervention will be avoided unless it is deemed by conditions and context to be necessary – and then only with the support of a preponderance of residents.**

2. PROGRAM REFERENCES

- ODOT Manual of Uniform Traffic Control Devices (OMUTCD), 2012 Version (Current)
- ODOT Traffic Engineering Manual (TEM), 2002 Version (Current)
- ODOT Local Technical Assistance Program (LTAP) Guide: Community Traffic Calming Programs (2018)
- FHWA Designing Sidewalks and Trails for Access, Part II of II (Best Practices Design Guide; 2001)
- Institute of Transportation Engineers (ITE), Transportation Planning Handbook, Fourth Edition (2016)
- ITE/FHWA, Traffic Calming: State of Practice (1999)
- National Association of City Transportation Officials (NACTO), Urban Street Design Guide (2013)
- Global Designing Cities Initiative, Global Street Design Guide (2016)
- Local Government Commission/Center for Livable Communities, Citizen's Guide to Traffic Calming (2007)
- City of Delaware (OH), Traffic Calming Guide for Neighborhood Streets (2019)
- City of Green Bay (WI), Neighborhood Traffic Calming (2019)
- City of Vancouver (WA), Neighborhood Traffic Calming Program (2019)
- City of Reno (NV), Policy of Traffic Calming (2011)
- Borough of State College (PA), Traffic Calming Guidebook (2008)

3. PROGRAM LIMITATIONS

While traffic calming is a community-driven effort, there are limitations as to where actions can be taken and the effectiveness that actions can achieve. **This program focuses on the local neighborhood streets with the characteristics that place them most at risk to adverse motor vehicle speed and volume issues.** There are city streets that are not eligible for traffic calming under this program due to their characteristics, classification, or function (emergency response route, etc.). Those requesting action and/or improvements should have realistic expectations as to what those benefits are. Additionally, what may seem like obvious solutions are often not viable in accordance with accepted traffic regulations and codes.

As a municipality, the City must abide by regulations set forth by the State and Federal Government. The OMUTCD (listed above in program references) is a governing set of regulations adopted by the State of Ohio, which contains specific regulations regarding the use of public right-of-way, and specifically concerning pavement markings, signage, and the management of traffic. The City does not approve of any infrastructure modifications or improvements that are not specifically permitted under the regulations of the OMUTCD.

There are limitations to funding and other resources required for the implementation of traffic calming actions. Resource limitations may delay or limit some or all aspects of a traffic calming plan until they can be made available. Eligibility requirements are contained below to focus efforts on those streets with characteristics where traffic calming measures are known to be appropriate and/or feasible. Given concurrent consideration of multiple eligible streets for action, this program also outlines a basic point system to provide a method of prioritization according to the severity of the characteristics and conditions being experienced.

It should also be noted that the implementation of traffic calming measures can result in unintended consequences such as a shift of traffic volume to surrounding streets, sign clutter, the reduction or elimination of on-street parking, and delayed response times for public safety and emergency services.

4. DEVELOPMENT OF NEIGHBORHOOD TRAFFIC CALMING PLANS

The development of a traffic calming plans follows a five-step process – generally aligned to each calendar/budget year – that progresses through a series of corresponding milestone decisions at each step. The program will run on an **annual cycle** to provide sufficient time for consideration, data collection, and plan development - as well as better alignment of plan approvals with funding allocation towards implementation. The program cycle will typically start in January when street nominations are compiled from complaints received. The cycle will proceed through data collection and into plan development during the spring and summer months to arrive at plan approvals prior to the budgeting process during the fall. This cycle will allow for full consideration of each nomination and the proper prioritization and dedication of funding for those larger projects that require intervention actions. It is important to note that the annual cycle serves as a guide – but will not preclude later review of complaints or earlier plan approval and implementation should priority and/or the availability of resources determine otherwise.

- **Step 1: Receipt of Initial Traffic Complaint**
 - Submission of complaint
 - Review for basic program eligibility
 - **Milestone 1** (Basic Eligibility Determination)
- **Step 2: Data Collection and Analysis**
 - Review Traffic Conditions
 - Resident Notice and Initial Survey (seeking 50% resident support)
 - Prioritization
 - **Milestone 2** (Determination to proceed with full traffic calming plan)
- **Step 3: Draft and Refine Traffic Calming Plan**
 - Development of Draft Plan
 - Block Meeting
 - Resident Petition of Support (seeking 60% resident support)
 - **Milestone 3** (Plan complete)
- **Step 4: Review and Approve Plan**
 - **Milestone 4** (Plan approved by Director of Public Safety)
- **Step 5: Implementation and Evaluation**
 - Implementation
 - Data Collection
 - Follow-up Resident Letter and Survey
 - **Milestone 5** (Process End)

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Each step is covered in greater detail in the following sections. A process diagram is provided in **Appendix B**.

4.1. **STEP 1: RECEIPT OF INITIAL TRAFFIC COMPLAINT**

This step, and the broader process, begins for a subject street with the receipt of a complaint from a resident or group of residents. The purpose of this step is to verify eligibility of the street for the full consideration of program actions.

4.1.1. **Submission of complaint**

Complaints with an intent towards consideration for traffic calming should be submitted via the City’s Report a Problem interface, selecting “traffic calming” as the problem category:

<http://www.onelakewood.com/report-a-problem-concern/>

Residents are asked to please complete the initial contact information portion, then include the following information in the fields of the second portion (issue information) of the form:

- **Location Type:** Select “Intersection”
- **House # or Block:** Not applicable (Leave Blank)
- **Street Name:** Provide the primary street along which the conditions/concerns are being experienced.
- **Nearest Cross Street / Intersection:** Provide the two cross-streets that bound the section(s) of the primary street indicated above on which the conditions/concern exists.
- **Additional Location Details:** Please include any other details that might be appropriate to understanding the street (or section) and how the characteristics of the location may contribute to the problem being experienced.
- **Description of Problem:** Please include a description of the conditions driving the problem (high speeds, too much traffic volume, etc.) and the timeframe over which the conditions have been observed. If you have reported the problem before via a method other than this website, please include who you contacted, how, when, and any relevant outcomes.
- **Supporting Documents.** The website also allows for the submission of electronic files to support the explanation of problem – and could include photos or diagrams of conditions being experienced or other relevant documents.

4.1.2. **Review for basic program eligibility**

Once a complaint is received, it will be reviewed for basic program eligibility. To be considered eligible for full consideration of all program actions, a street must meet all the requirements listed in Table 4.1.2.

Eligibility Requirements (Table 4.1.2)	
A	Street must be under the jurisdiction of the City (State/County routes not eligible under this program).
B	Street classified as a minor collector or local street and is not a primary emergency or snow ban route. This requirement ensures that intervention actions do not impede emergency response efforts.
C	Street is at least 1,000 feet long between all-way stop or traffic-controlled intersections. This requirement is a best practice based on the collective experience of existing municipal programs. While education and enforcement actions can take place on streets of varying lengths, intervention actions have been shown to be most effective when placed at intervals of ~500 feet. Blocks less than 1,000 feet between stops/intersections typically cannot support effective placement of intervention actions at this interval.
D	Street is not a dead end or cul-de-sac. Traffic on the limited number of these streets is typically locally oriented and does not normally experience adverse “cut-through” speed/volume issues.
E	Street has a posted limit of 25 mph. This requirement is based on both a traffic calming best practice and the existing local neighborhood street classifications/speed limits within the city.

A map depicting those streets (and street sections) of Lakewood that meet these minimum street condition requirements is included as **Appendix C**.

Should a complaint be received regarding a street that meets the above roadway condition requirements, then the case will be slated for data collection and analysis (Step 2). **If the street does not meet all the above requirements, the complaint may still be addressed through education or enforcement actions that do not require the development of a full traffic calming plan.**

4.1.3. **Milestone 1**

The step ends with a determination of basic eligibility and whether data collection will be scheduled. This determination and next steps will be communicated to the resident(s) who originated the complaint.

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4.2. **STEP 2: DATA COLLECTION & ANALYSIS**

This step begins when a complaint has been determined to be eligible. The purpose of this step is to verify the street conditions by collecting and analyzing current traffic speed and volume data. The collection of current data will be conducted by either the Planning and Development or Police Department. Data must cover a period of appropriate duration and street condition (i.e., streets not covered in snow, etc.) to ensure accuracy and consistency. Ideally, the collection should take place over two separate five- to ten-day periods – however, a single ten-day period may be used if high demand for equipment in other locations precludes additional collection periods in the same location. If possible, data on adjacent streets should be collected for comparison and to provide a baseline for future evaluation.

4.2.1. **Review traffic conditions**

Once data for the street is collected, it will be reviewed against the traffic condition requirements in Table 4.2.1.

Traffic Condition Requirements (Table 4.2.1)	
F	Street experiencing an average daily traffic volume >600 vehicles per day. This requirement is a basic (non-weighted) average, based on both a best practice from the collective experience of existing municipal programs and the maximum volume designated for a healthy neighborhood street per the Local Government Commission/Center for Livable Communities publications.
G	Street experiencing 85th percentile speed that exceed the posted limit by more than 5 mph. This requirement is also based on best practices from other existing municipal programs. The 85 th percentile speed is a standard measure used to evaluate traffic conditions. Typically, when it exceeds the posted limit by more than 5 mph, it is an indication that the majority of traffic (>50%) is exceeding the limit.
H	Street experiencing 5% of volume at/above 10 mph over the posted limit. This requirement is an indicator of speed severity of local neighborhood streets, based on local experience from the 2019 – 2020 Marlowe Avenue Pilot Traffic Calming Project. The 5% measure typically indicates the presence of at least one vehicle per hour traveling at >10 mph over the posted limit.

If the street does not meet at least two of the above three conditions, the complaint may still be addressed through education or enforcement actions that do not require the development of a full traffic calming plan.

If the street does meet at least two of the minimum traffic condition requirements, then the following actions will be taken in support of the initial resident survey and subsequent decision on whether to proceed with developing a full traffic calming plan (Milestone 2):

- Boundaries of a proposed traffic calming zone and proposed objectives will be determined.
- Residents within the zone will be provided a survey to gauge support for plan development and solicit feedback.
- The case will receive a prioritization score.

4.2.2. Resident Letter and Initial Survey. This letter and survey are the first point where the process seeks to broaden resident input from the original complaint to soliciting feedback from across the proposed zone. Once a proposed traffic calming zone is determined, a notification letter will be sent to all residents within the zone that includes the following information:

- Notification of the request (complaint or complaints) received by the City for traffic calming.
- Summary of the proposed traffic calming zone and traffic conditions that warrant action.
- Proposed traffic calming objectives (based on street and traffic conditions)
- Instructions to complete a survey to indicate the initial support for traffic calming plan development as well as solicit feedback on zone boundaries, initial objectives, and potential solutions. Typically, this survey will be administered via an online platform – however, to accommodate various needs, residents will be provided the option to complete and return a hard copy/paper version of the survey.

In addition to gaining resident feedback, this survey is critical towards gaining an understanding on the level of resident support within the zone for pursuing a traffic calming plan. A reasonable timeframe should be provided for the conduct of the survey – enough to ensure that an adequate attempt to contact each household and/or property owners has been completed. One survey response per household will be collected – preferably from the owner/occupant. For homes that are rented, the current occupant/head of household can provide a response (indicating that they are renting) – however, a response will also be concurrently sought from the property owner. It is the stated intent of this policy to gain the expressed support of 50% (or above) of all zone households to move forward with a traffic calming plan. However, the City retains the authority to conduct a planning effort with less resident support, considering the broader implications of the case pertaining to public safety and welfare. Once survey returns are received, they will be compiled to inform both the Milestone 2 decision and, if approved to proceed, subsequent plan development.

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4.2.3. Prioritization

Additionally – given the proposed traffic calming zone – a prioritization score will be assigned to the case by accruing points according to the below table (4.2.2). This table assigns points in recognition of the severity of roadway and traffic conditions to provide a method for prioritization among a competing group of eligible cases toward the application of time and resources during the subsequent steps of the process (Step 3 and beyond).

Prioritization Points (Table 4.2.2)	
Street Characteristics	
Street Width (curb to curb). This adds severity due to the increased impact that adverse traffic speed and volume has on increasingly narrow neighborhood streets.	
Above 24 feet	0
24 to 22 feet	1
Less than 22 feet	2
Sidewalk to Curb Width (Tree Lawn). This adds severity due to the increased impact that adverse traffic speed and volume has on neighborhood streets where the sidewalk/pedestrians are closer to the roadway.	
Above 8 feet	0
8 to 4 feet	1
Less than 4 feet	2
Building Line to Curb Distance. This adds severity due to the increased impact that adverse traffic speed and volume has on neighborhood streets where homes/front porches are closer to the roadway.	
Above 30 feet	0
30 to 24 feet	1
24 to 18 feet	2
18 or less feet	3
Schools, Parks, and Playgrounds. This adds severity due to the increased pedestrian and bicycle traffic and the impact that adverse traffic speed and volume can have in these specific areas of our neighborhood streets.	
One point for every 50 feet of school, park, or playground frontage	Variable
Traffic Severity	
Volume. Adds severity due to the increasing impact that additional traffic volume can have on a neighborhood.	
Every additional 100 ADT volume above 600	1
Speed. Adds severity due to the increasing impact that additional adverse traffic speed can have on a neighborhood.	
Each additional 1 mph difference between the posted limit and the 85 th percentile (above 5 mph)	1
Each additional % point of traffic at/above 10 mph over the posted speed limit (above 5%)	2
Correctable Accidents. Adds severity due to the impact that an increase in correctable accidents related to adverse speed and/or volume (within the past 12 months) has on a neighborhood.	
Two points for each correctable accident connected to speed/volume in zone (past 12 months)	Variable

4.2.4. Milestone 2

Provided the data analysis, resident feedback, and prioritization score – this step ends once a decision is made on whether to proceed with a full traffic calming plan for the given case. The determination and next steps will be communicated to the resident(s) who originated the complaint as well as all zone residents.

4.3. STEP 3: DRAFT AND REFINE TRAFFIC CALMING PLAN

This step begins once a decision is made for a given case – having met the above requirements and with consideration for resident feedback and support – to develop a full traffic calming plan. The intent of this step is to standardize plan elements and ensure its development includes continued resident input and refinement as well as formal documentation of the requisite support of zone residents towards implementation.

4.3.1. Development of Draft Plan. Building upon the data analysis and resident feedback from Step 2, a draft plan will be developed in accordance with state and local regulations and traffic calming best practices – as applied to the specific conditions of the subject street. Each plan should include the following elements:

- Summary of initial complaint, roadway and traffic conditions that warrant action.
- Definition of the proposed traffic calming zone.
- Summary of Initial Resident Survey Feedback.
- Proposed Objectives.
- Proposed Actions and Phasing, including:
 - Education

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- Enforcement
- Intervention (if required)
- Evaluation
- Proposed implementation timeline, required resources, and funding sources.

Once the draft plan is compiled and reviewed for basic feasibility by Public Works and Emergency Services (Police, Fire), a Block Meeting with Zone Residents will be scheduled and advertised.

4.3.2. Block Meeting. Given a draft plan that has been reviewed for basic feasibility, a Block Meeting with Zone Residents will be scheduled at a suitable location along (or near) the street being considered for traffic calming. Holding the meeting at a location along/close to the subject street is important to reinforce plan context as well as to make it more convenient for Residents to attend. Notification for the meeting should be sent via letter to all Block Residents and reinforced via neighborhood signage, electronic (social media), and other means. Depending on the size/scale of the proposed traffic calming zone, more than one block meeting may be required to provide an appropriate and safe locations for all residents. The meeting should provide residents with information on all elements of the plan and employ interactive engagement techniques to creatively solicit feedback and recommendations on the proposed objectives, actions, and implementation timeline.

4.3.3. Resident Petition of Support. Following the Block Meeting, a single petition will be circulated (either by Residents, Council Representative(s), or the City Administration) to document zone resident support for implementation of traffic calming actions. Regardless of who coordinates the petition, it should use a standard format and ultimately be provided to the traffic calming plan point of contact within the City Administration for verification. Only one signature of support per household should be collected – preferably from the owner/occupant. For homes that are rented, the current occupant/head of household can sign in support (indicating “renter” on petition) – however, a response must also be concurrently sought from the property owner.

The overarching intent of the petition is to formally document the level of resident support within the zone for implementing the proposed traffic calming plan. A reasonable timeframe should be provided for the conduct of the petition – enough to ensure that an adequate attempt to contact each household and/or property owners has been completed. It is the stated intent of this policy to gain the expressed support of 60% (or above) of zone households to move a traffic calming plan forward in the process towards implementation. However, during the next step, the Director of Public Safety retains the authority to approve a plan for implementation with less resident support, considering the broader implications of the case pertaining to public safety and welfare.

4.3.4. Milestone 3

This step ends once the traffic calming plan has been refined – following the Block Meeting and Resident Petition – and is ready for final administrative review and decision towards implementation.

4.4. STEP 4: REVIEW & APPROVE PLAN

This step begins when the refined traffic calming plan is ready for final administrative review and decision by the Director of Public Safety. The refined plan will be reviewed again with Public Works and Emergency Services (Fire, Police) in conjunction with the alignment and coordination of required funding and resources towards implementation. Periodic review and updates should be provided to City Council to ensure members are kept abreast on the status of traffic calming plans/projects and the availability of required financial resources.

4.4.1. Milestone 4

This step ends with a decision by the Director of Public Safety on whether to approve and implement a traffic calming plan. Once reached (approval or not), a final notification letter to communicate the decision will be sent to the resident(s) who originated the complaint as well as all zone residents. If the plan moves forward to implementation, the letter should also provide confirmation of the objectives, actions, and anticipated timeline.

4.5. STEP 5: IMPLEMENTATION AND EVALUATION

This step begins once approval has been granted by the Director of Public Safety – and the required resources have been aligned – to move a traffic calming plan forward into implementation. As the lead agency, the Planning & Development Department will ensure coordination following the decision is completed to appropriately transition the approved plan to the Department(s) responsible for carrying out the specific actions within the prescribed timeline. As implementation moves forward, evaluation of plan actions will begin with both new data collection and a follow-up resident survey to ensure the overarching plan objectives are being met.

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4.5.1. Data Collection

Updated data on traffic volume and speed for the subject street and adjacent streets must be collected as actions are conducted and/or completed to analyze changes both within and immediately outside the zone. At least two sets of data should be collected over an appropriately separated period to properly analyze changes in traffic conditions.

4.5.2. Follow-up Resident Letter and Survey

Once updated data has been collected and analyzed, a follow-up letter will be sent to all zone residents. At a minimum, this letter will provide the following:

- Summary of the change in observed traffic conditions within the zone.
- Instructions to complete a follow-up survey to solicit feedback on implementation and effectiveness of plan actions.

Once survey returns are received, they will be compiled along with the updated speed and volume data to inform any necessary refinement of plan actions towards meeting stated plan objectives.

Any updates or refinements to approved traffic calming plans must be coordinated with Public Works and Emergency Services (Police, Fire) and approved by the Director of Public Safety prior to implementation.

4.5.3. Milestone 5/Process End

This step, and the broader process, ends once evaluation confirms that stated plan objectives have been met and no further refinement actions are necessary.

Appendix A: Example Traffic Calming Actions

Action Type	Description
Education	<ul style="list-style-type: none"> • Program Neighborhood Tree Lawn/Yard Signage. • Local Supplemental Warning Signage (Per TEM Section 202-1, MUTCD 2C.53) • Changeable Message (Speed Display) Signs (MUTCD 2B.13) <div data-bbox="732 384 1073 877" style="text-align: center;"> </div> <p data-bbox="451 898 1357 926" style="text-align: center;"><i>Figure A-1: Example changeable message (speed display) sign (Source: FHWA/City of Bellevue, WA)</i></p>
Enforcement	<ul style="list-style-type: none"> • Targeted Speed Enforcement. • Local Supplemental Warning Signage – “Slow Down: Fines up to \$500” (Per MUTCD 2C.53)
Intervention	<ul style="list-style-type: none"> • Pavement Marking. Introduction of edge or parking line markings (MUTCD 3B.06 & 19) to more effectively define and/or narrow travel lane. • Enhanced pedestrian infrastructure. Efforts to better protect and delineate pedestrian and roadway traffic. Could include enhanced marking (MUTCD 3B.16 & 18) and signage (2B.11) for uncontrolled crossing locations. <div data-bbox="391 1371 1450 1640" style="text-align: center;"> </div> <p data-bbox="521 1703 1284 1730" style="text-align: center;"><i>Figure A-2: Enhanced Pedestrian Crossing Markings and Signage (Source: OMUTCD)</i></p>

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Intervention (Continued)

- **Speed Tables with marking/signs** (MUTCD 2C.29, 3B.25 & 26). Introduces an elongated mound across pavement, typically 3 to 4 inches in height, parabolic in shape, and 12 to 14 feet in length.

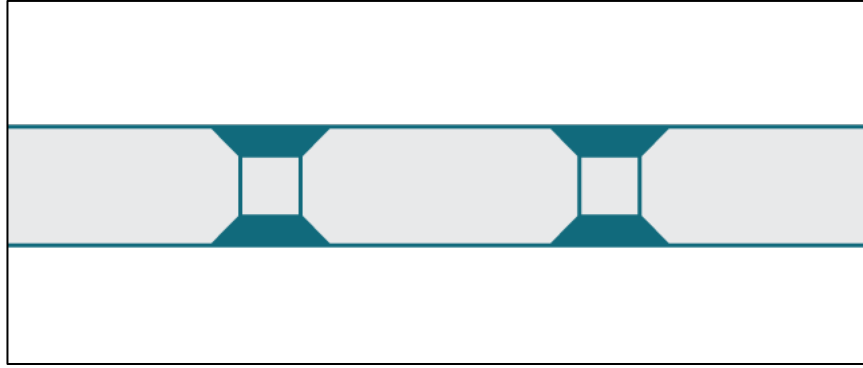


Figure A-3: Street diagram of Speed Tables (Source: NACTO Urban Street Design Guide)



Figure A-4: Example Speed Table (Source: NACTO Urban Street Design Guide)

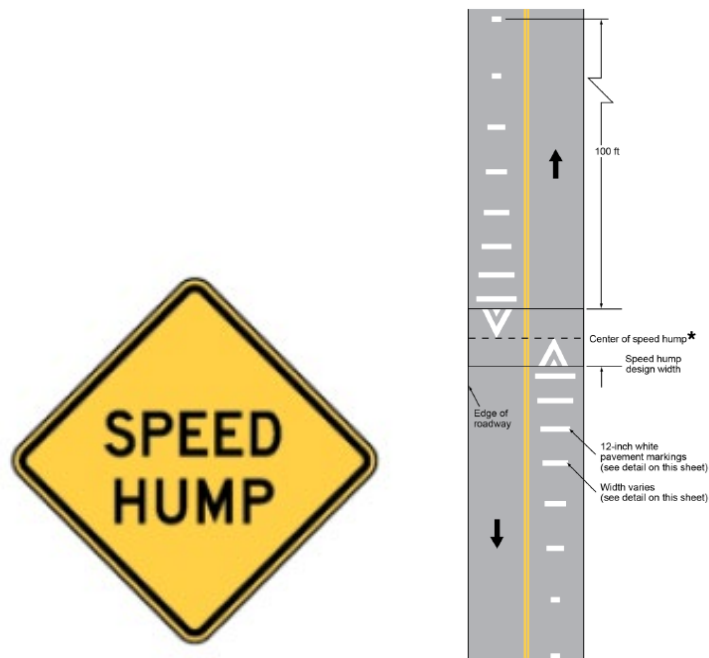


Figure A-5: Speed Table Marking and Signage (Source: OMUTCD)

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Intervention (Continued)

- **Mid-block Choker/Edge Island(s).** Narrows the travel lanes of a road by bringing the existing curbs closer to the centerline of the road (curb extensions). Can also support a designated mid-block pedestrian crossing. Edge islands are similar but allow for the uninterrupted continuation of stormwater or bicycle infrastructure.

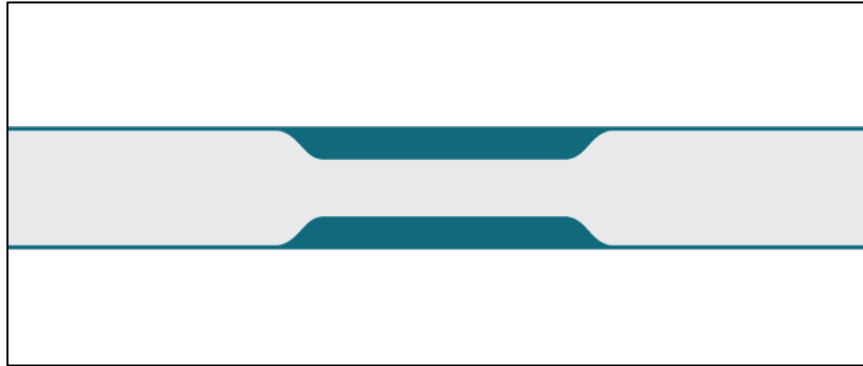


Figure A-6: Street diagram of mid-block choker/edge island (Source: NACTO Urban Street Guide)



Figure A-7: Example Mid-Block Choker (Source: NACTO Urban Street Guide)



Figure A-8: Example Mid-Block Choker & Speed Table Combination (Source: NACTO Urban Street Guide)

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Intervention (Continued)

- **Corner Bump-out(s).** Chokers/curb extensions installed at intersections (in direction(s) that are not stop controlled) to briefly narrow travel lane width. Can also reduce pedestrian crossing distances.

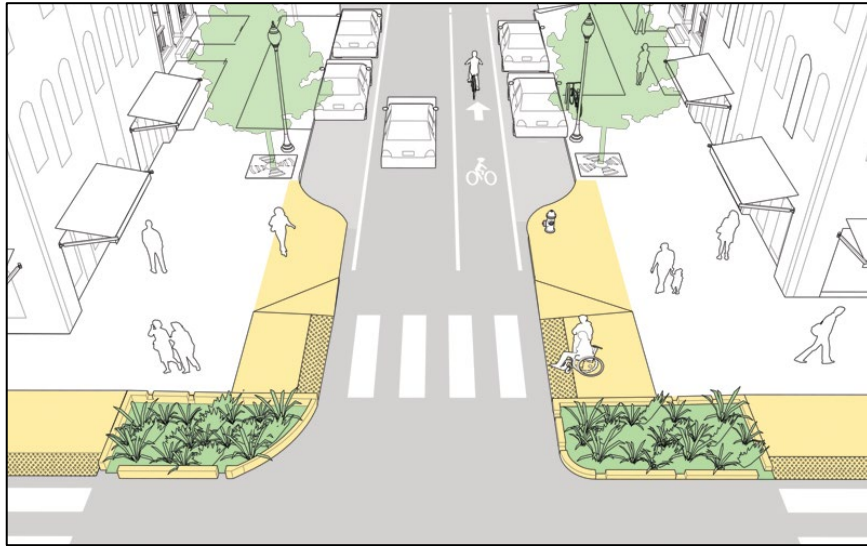


Figure A-9: Example Corner Bump-outs at intersection (Source: NACTO Urban Street Guide).

- **Median Island(s).** Employed in the center of a roadway to delineate and narrow travel lane widths. Can also concurrently provide a pedestrian crossing refuge.

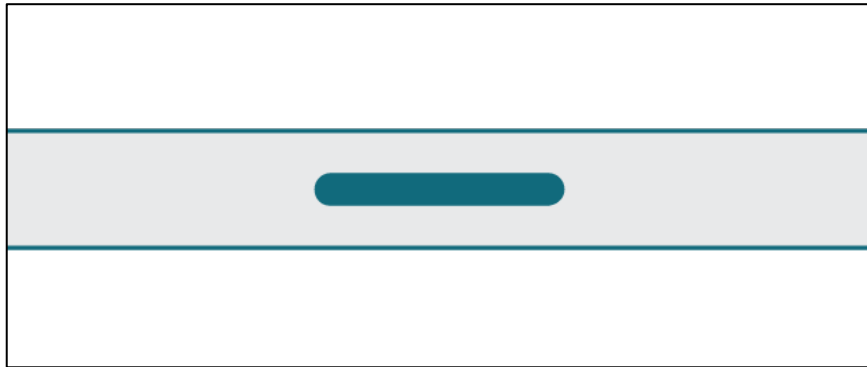


Figure A-10: Street diagram of Median Island (Source: NACTO Urban Street Design Guide).

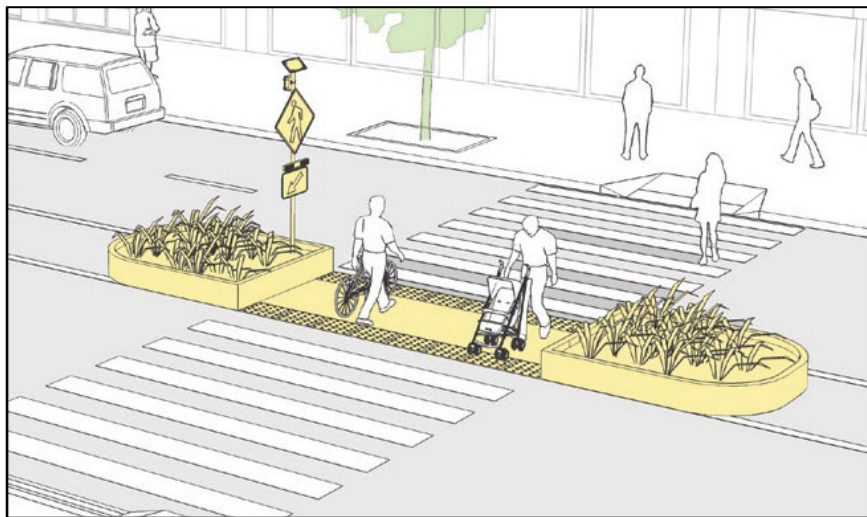


Figure A-11: Example Median with pedestrian crossing refuge (Source: Global Designing Cities Initiative).

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Intervention (Continued)

- **Chicanes.** A series of curb extensions that alternate from one side of the street to the other, introducing curvature to the road and breaking up the “runway effect” of wide, straight streets.

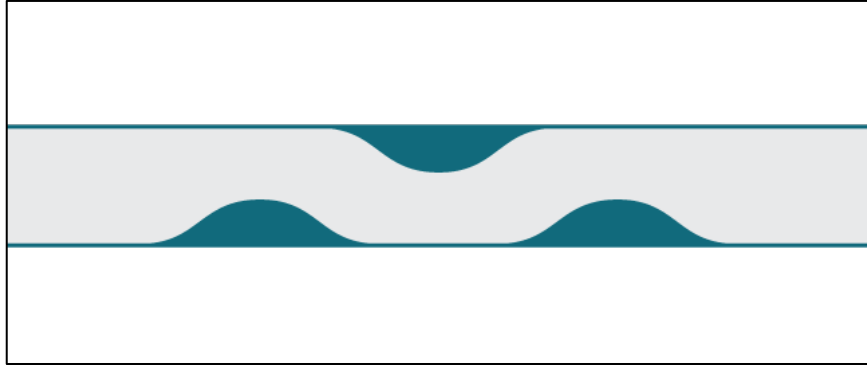


Figure A-12: Street diagram of Chicanes (Source: NACTO Urban Street Design Guide).

- **Lateral shift.** Employed on streets with the width for parking on both sides, it combines the use of marked parking lanes with smaller median and edge islands to introduce a safe, but sufficient lateral shift in travel lanes to break up the “runway effect” of wide, straight streets.

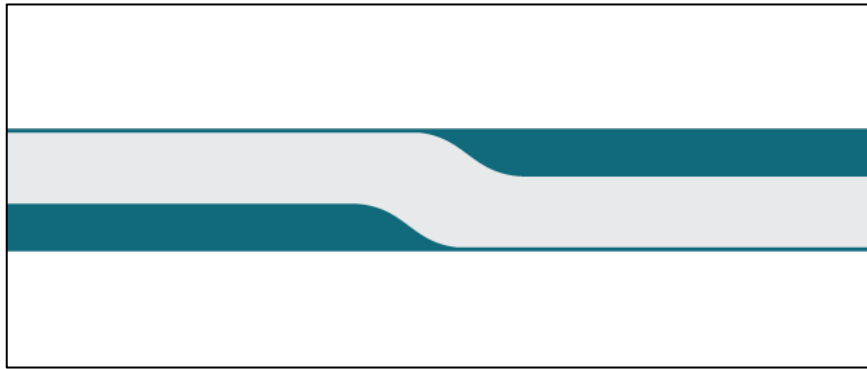


Figure A-13: Street diagram of a Lateral Shift (Source: NACTO Urban Street Design Guide).

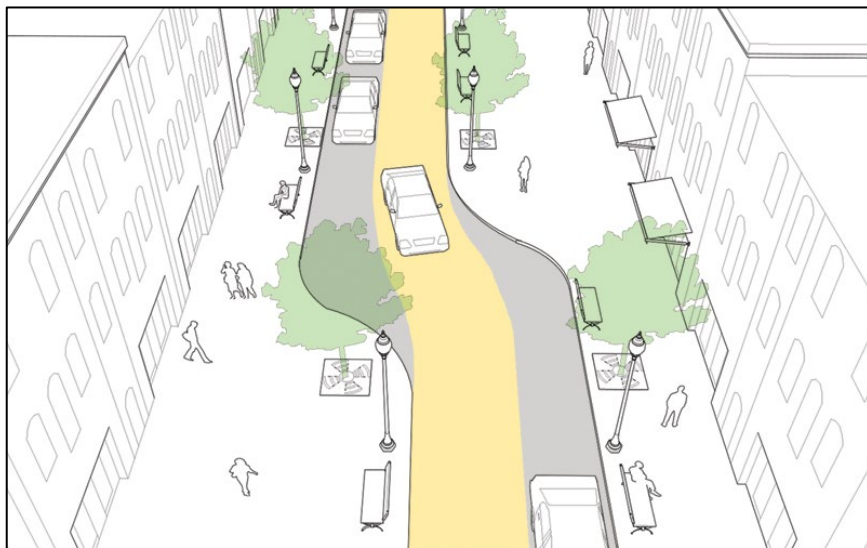
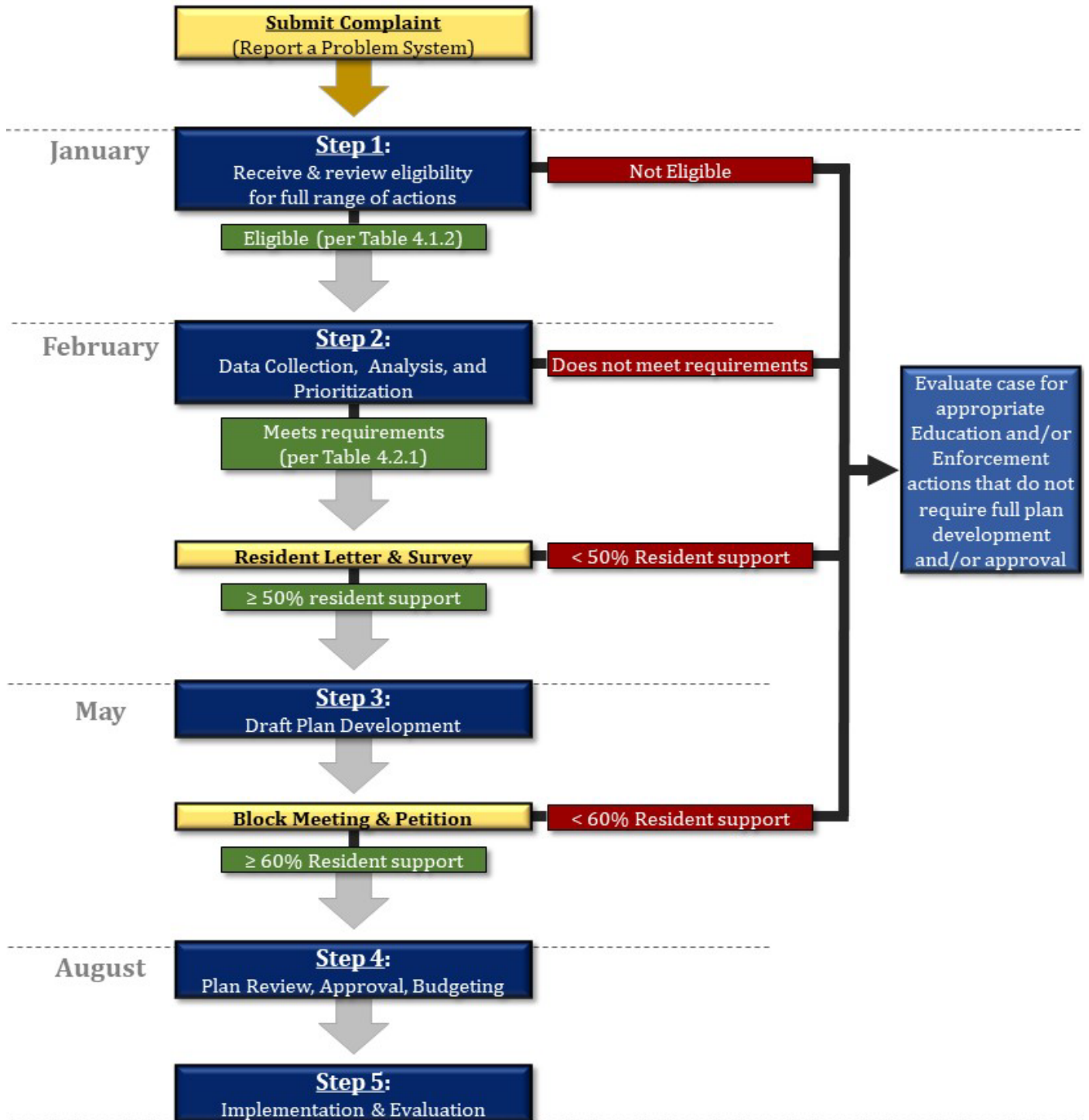


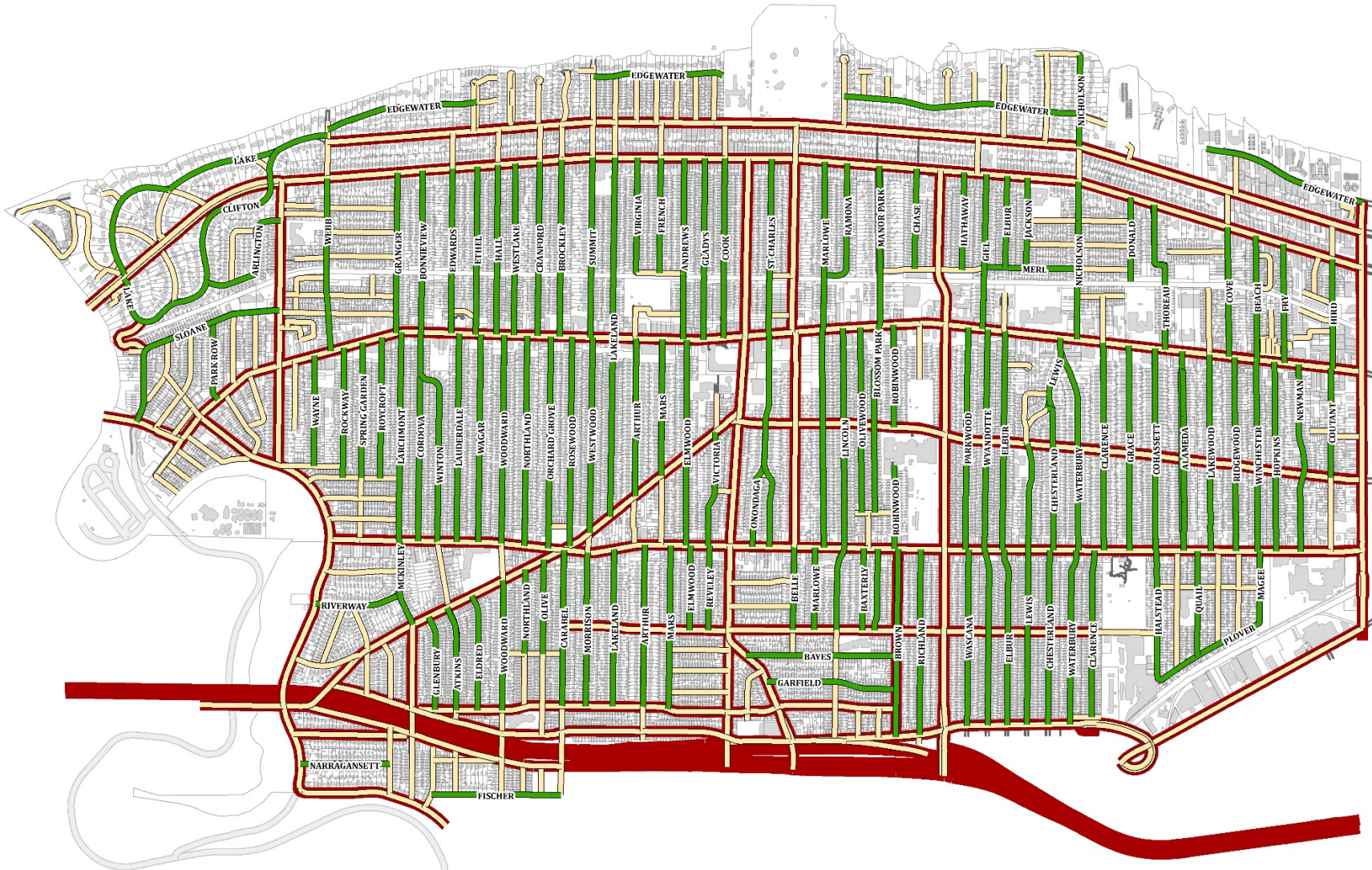
Figure A-14: Example Lateral Shift (Source: NACTO Urban Street Guide).

Appendix B: Process Diagram



CITY OF LAKEWOOD - NEIGHBORHOOD TRAFFIC CALMING PROGRAM

Appendix C: Basic Eligibility of Lakewood Streets



Projection: NAD 1983 State Plane Ohio North FIPS 3401
 Source: City of Lakewood GIS Database
 Created by: David Baas, City Planner
 Date: 15 March 2021

Legend

- █ Meets basic eligibility requirements (Table 4.1.2) for all program actions.
- █ Does not meet basic eligibility (Table 4.1.2), limited to education & enforcement actions.
- █ State/County, 35mph or higher, or Emergency/Snow Ban routes.

