

# Traffic Calming Policy and Procedures

ISSUED BY THE

DEPARTMENT OF PUBLIC WORKS

In cooperation with the

BROOKLINE TRANSPORTATION BOARD  
BROOKLINE POLICE DEPARTMENT



May 21, 2018

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# **TRAFFIC CALMING POLICY & PROCUDURES**

## **A. Statement of Town's Traffic Calming Policy**

The Town of Brookline is committed to:

- Improving the livability and safety of Brookline neighborhoods by mitigating the impact of traffic and promoting safer conditions for residents, motorists, bicyclists, and pedestrians;
- Installing traffic calming measures on streets where their implementation will reduce traffic speeds, minimize cut-through traffic, or improve the safety of movements by pedestrians and bicyclists;
- Implementing traffic calming techniques that are both effective and compatible with the character of the affected neighborhoods and improve public safety without jeopardizing emergency response needs, creating hazards, or reducing mobility;
- Encouraging citizen involvement in all phases of neighborhood traffic management;
- Influencing driver behavior through education and design;
- Ensuring that limited Town resources are utilized in a cost-effective and efficient manner.

To achieve these objectives, the procedures outlined below will be followed when considering requests for developing, designing, and implementing neighborhood traffic calming measures on Town owned public streets. These procedures provide for the submittal of traffic calming requests and their evaluation by Town Boards, staff or consultants; the evaluation of alternative traffic calming measures and development of alternative plans by an interdisciplinary team; and the continual involvement and review of measures by the affected neighborhood and appropriate Boards and Committees.

The procedures below do not apply to: (a) any traffic calming measures that may be required on public streets by the Board of Selectmen and Department of Public Works to comply with State and Federal standards and/or directives; (b) temporary changes in traffic flow that may be needed to stage special events or address emergency situations; or (c) the identification and installation of traffic calming devices that may be required on a street as mitigation for a development project.

## **B. Statement on What Traffic Calming Is Not**

Citizen complaints about speeding traffic are often accompanied by requests for new Stop signs, traffic signals, turn restrictions, speed limit signs and the like. These are not traffic calming devices, but rather regulatory traffic controls that are governed by either national engineering guidelines, state laws, or both.

The Department of Public Works (DPW) and the Transportation Board frequently receives requests for new Stop signs to “slow down traffic” and “improve safety” on a local street. Not only are Stop signs not a traffic calming measure, but research shows that installing unnecessary Stop signs can often result in more collisions and more speeding.

Another common traffic-related request involves the lowering of posted speed limits on Brookline roadways. This is another regulatory control governed jointly by the Massachusetts Department of Transportation (MassDOT) through a state approval process that requires documented speed and engineering studies. Again, most research concludes that driver speed is less a function of posted speed limits and more a function of real or perceived driving conditions.

Unlike the aforementioned regulatory traffic controls that require some form of legal enforcement, traffic calming measures are designed to be self-enforcing. Drivers are slowed down by the physical characteristics of the roadway, not by an artificially imposed speed limit or Stop sign. Traffic calming is also not specifically aimed at reducing the volume of traffic, though it may have that effect when installed on local streets subject to speeding cut-through traffic.

## **C. Definitions**

1. Arterial Street – any two- or four-lane street that is primarily used by through traffic, usually on a continuous route or a street designated as part of an arterial system. Roadways classified as arterial streets are identified in the Road Inventory File maintained by the Massachusetts Department of Transportation, Highway Division.
2. Collector Street – any two- or four-lane street that provides land access and traffic circulation within residential, commercial, and business areas and connects local streets to arterial streets. Roadways classified as collector streets are identified in the Road Inventory File maintained by the Massachusetts Department of Transportation, Highway Division.
3. Cut-Through Traffic – traffic that travels local streets in a residential neighborhood but has no origin or destination within the neighborhood.
4. Design Review Committee – a committee, appointed by the Transportation Board for a potential traffic calming project, and assigned the responsibility to develop a feasible and effective traffic calming plan.
5. 85th Percentile Speed – the speed at or below which 85 percent of motor vehicles travel.
6. Gap Study – A study that details the available break, or gap, in motor vehicle traffic at an intersection which provides pedestrian crossing or opposing vehicle movement opportunities.
7. Initial Needs Assessment Report – a report based on various data collection points used to establish baseline conditions in a clearly defined study area used to determine whether traffic or safety concerns exist that warrant implementation of a traffic calming plan
8. Local Street – any one- or two-lane street with its primary purpose to provide access to abutting residential properties. Roadways classified as local streets are identified in the Road Inventory File maintained by the Massachusetts Department of Transportation, Highway Division.
9. Major Collector - any two- or four-lane street that provides a connection to minor collectors and local streets to arterial streets. Generally they provide access to land uses of a regional importance such schools, parks, and commercial zones. Roadways classified as major collector streets are identified in the Road Inventory File maintained by the Massachusetts Department of Transportation, Highway Division.
10. Meeting Location – a publicly owned building or a privately owned building that has meeting rooms available for public meetings hosted by the Town of Brookline. Private residences cannot be used for any public meeting or hearing as outlined in this

Policy & Procedures.

11. Petitioner – the individual who collects the required signatures and submits the required Traffic Calming Request Form to the Town of Brookline.
12. Speed Study – a study using data collection to measure and statistically analyze the speeds of vehicles traveling on a street.
13. Study Area – the street or streets identified by the Petitioner in the submitted request for traffic calming measures as revised by staff during the Initial Needs Assessment.
14. Traffic Calming Measure – an element of a traffic calming plan selected from among a list of actions and devices deemed to be effective in reducing vehicle speeds, changing traffic flows, or altering driver behavior so as to improve the safety and quality of life on a specific street or streets.
15. Traffic Calming Plan – a combination of traffic management measures determined from an appraisal of traffic conditions to be effective and feasible in reducing vehicle speeds or traffic volumes and enhancing safety on a specific street or streets.
16. Traffic Count – a manual or automated count of the number of vehicles traversing a specific point in a given time period.
17. Warrant – a threshold condition based upon average or normal conditions that, if found to be satisfied as part of an engineering study, shall result in analysis of other traffic conditions or factors to determine whether a traffic control device or other improvement is justified.

## D. Funding

1. **Appropriation for Traffic Calming in Annual CIP.** With input from the Transportation Board and the Department of Public Works, the Board of Selectmen will on an annual basis seek approval from Town Meeting for town funds to be used exclusively for the development and implementation of traffic calming projects throughout the Town. The level of funding approved by Town Meeting for traffic calming projects will be specified in the Town's Capital Improvement Program (CIP) budget for the Department of Public Works. CIP funds for traffic calming may be expended only for traffic calming projects (studies and construction) that have been developed in accordance with the following procedures (if applicable), and approved for implementation by the Transportation Board.

## E. Problem Identification

1. **Request for Neighborhood Traffic Calming Measures.** For a traffic calming plan to be considered, a "*Traffic Calming Request Form*" must be completed and submitted to the Department of Public Works – Transportation Division, 333 Washington Street, Brookline, MA 02445. A copy of the Traffic Calming Request Form is a separate attachment to this policy and is available online at [www.brooklinema.gov/transportation](http://www.brooklinema.gov/transportation)

A request for the installation of traffic calming measures on a specific street or streets may be made by (a) a resident, with the signatures of ten (10) households or 50% of the residences or businesses on the street (whichever is less), (b) a business owner, with the signatures of ten (10) households or 50% of the residences or businesses on the street (whichever is less), (c) the Transportation Board, (d) any Town Department, or (e) the Board of Selectmen.

Following the submittal of a request to the DPW – Transportation Division staff shall confirm receipt within 30 days and send a response letter that includes a list of current Traffic Calming Requests, the steps that are involved in the process, and the approximate time line for the Initial Needs Assessment investigation and report. This list shall be maintained and made available to the public via the Town's website.

2. **Prioritization of Neighborhood Traffic Calming Requests.** It is assumed that, from time to time, there will be more requests for traffic calming measures than available staff time and town resources allows for. In determining the priority list of requests for an Initial Needs Assessment investigation, DPW – Transportation Division staff shall give priority to addressing traffic and safety concerns in the following areas:
  1. Streets that provide access to a public school, or represent major walk-to-school or bicycle-to-school routes;
  2. Streets that are/could be heavily traveled by pedestrians and bicyclists

seeking access to a public park, senior center, public/government building, commercial area, public transit stations, or private facility (e.g., school, healthcare facility);

3. Streets that have been scheduled by the DPW for reconstruction in the near future and thereby present opportunities to leverage reconstruction efforts while simultaneously undertaking traffic calming installation;
4. Date of receipt of submitted proposal.

## **F. Initial Needs Assessment**

1. **Guidance for Initial Needs Assessment.** Traffic calming measures should be installed on streets where high vehicle operating speeds and volumes are in conflict with pedestrian activity and other aspects of the setting including:

- Concentrated generators of pedestrian activity including school campuses, elderly housing, retail districts, public assembly venues, recreation destinations (parks and playgrounds), health care complexes, etc.;
- Neighborhood streets where the street serves both as a transportation facility and community space;
- Sensitive land uses (historic, tourist, retail, civic, institutional) abutting the street.

DPW – Transportation staff should use guidelines issued by state and federal agencies and industry best practices to determine if the roadway conditions warrant the installation of a traffic calming measure.

2. **Preparation for Initial Needs Assessment Report.** DPW – Transportation Division staff will develop a scope of work designed to establish baseline conditions in a clearly defined study area and determine whether traffic or safety concerns exist that warrant implementation of a traffic calming plan. Generally this scope of work should include:

- Street classification as determined by the Massachusetts Department of Transportation
- Traffic volumes (average weekday by direction for each street)
- Traffic speeds
- Traffic composition (including truck and bicycle usage)
- Posted or statutory speed limits and other signage
- Geometric data (number of travel lanes, width, grade and alignment, on-street parking)
- Location of nearest community facilities, schools, parks, and businesses
- Accident data reports for previous five (5) years
- Status of each street as emergency vehicle, bus, truck, or bicycle route

- Alternate routes that traffic may take if diversion occurs
- Extent of cut-through traffic on street (if applicable)
- Pedestrian crossing volumes (peak hours)
- Gap studies

The study area will encompass all streets and intersections identified as problem areas, as well as all reasonably adjacent streets and intersections that might be affected by the diversion of traffic resulting from the installation of various traffic calming measures. Consultant services may be retained, from time to time, to assist DPW – Transportation Division staff in the collection and evaluation of the necessary data and information.

3. **Initial Needs Assessment Report.** Upon timely completion of the above data collection effort, an Initial Needs Assessment Report will be prepared and submitted to the Commissioner of Public Works. This report will (a) summarize the findings of the above field inventory and data collection effort, and (b) compare the baseline conditions found in the impacted area with the criteria and warrants considered applicable to the installation of traffic calming measures. These criteria and warrants shall be based on guidelines, regulations, and best practices issued by the Massachusetts Department of Transportation, the Federal Highway Administration, the Institute of Transportation Engineers, the American Association of State Highway and Transportation Officials, and others.

If the Commissioner of Public Works determines that there is a need for the installation of traffic calming measures within the study area, s/he shall forward the Report to the Transportation Board requesting authorization to develop a Traffic Calming Plan for the area.

If the Commissioner of Public Works determines that there is not a need for the installation of traffic calming measures within the study area but there are concerns that could be rectified with increased police enforcement, improved signage, and/or driver education this determination and a copy of the report shall be forwarded to the Petitioner and take the necessary steps to implement these alternative recommendations.

If the Commissioner of Public Works determines that there is not a need for the installation of traffic calming measures within the study area, this determination and a copy of the report shall be forwarded to the Petitioner.

4. **Appeal of Determination to the Transportation Board.** If the Petitioner disagrees with the staff’s recommendation of not implementing traffic calming measures within the defined study area may petition the Transportation Board, within 21 days of the date of the Commissioner’s letter, requesting that the Transportation Board instruct the DPW – Transportation Division staff to develop a Traffic Calming Plan.

## G. Plan Development By Transportation Board

1. **Review by Transportation Board.** Upon receipt of either a request for authorization by staff or an appeal by the Petitioner, the Transportation Board will notify residents within the study area and the Town Meeting Members from the affected precinct(s) in writing of its intent to discuss and clarify the traffic calming request and need as outlined in the Initial Needs Assessment Report. Following a summary of the report by staff and public comment the Transportation Board will determine by a vote if the request merits the development of a Traffic Calming Plan.
2. **Staff Preferred Plan Development.** Based upon the findings of the Initial Needs Assessment Report, Department of Public Works staff (or its consultants) will identify and evaluate the applicability and likely effectiveness of a variety of traffic calming measures (individually and/or combination) in addressing the identified traffic or safety problems confirmed on each street within the study area. The “*Staff Preferred Plan*” will include selected traffic calming measures that it believes best mitigates the safety concerns and will include, but may not be limited to, such actions and devices as: chokers, neckdowns, chicanes, center islands, raised crosswalks, raised intersections, roundabouts, traffic circles, speed humps, speed tables, textured pavement, one-way street designations, turn prohibition signs, forced turn islands, diagonal diverters, half closures, full closures, median barriers, realigned intersections, lane/pavement narrowing, and on-street parking treatments. The proposed traffic calming measures will be evaluated using the best information available based on: (a) their applicability and effectiveness in addressing a specific problem; (b) the technical feasibility of installing the devices properly within the constraints of the existing right-of-way; (c) the relative costs of their construction; and (d) the impacts they may have on emergency vehicle access, drainage, and maintenance.

The Commissioner of Public Works will determine the design, location and spacing of all traffic calming measures (devices, signs, and pavement markings). All traffic calming devices will be planned and designed in conformance with state and federal regulations, sound engineering standards, and industry best practices. The parking needs of residents will be balanced with the equally important functions of traffic, emergency vehicle access, and pedestrian safety. The design and installation of traffic calming devices should avoid the removal of parking spaces wherever possible.

Re-routing and diverting traffic from a higher classification street to a lower classification street as the result of traffic calming is unacceptable. Traffic may be diverted from one street to another of equal classification if (a) it provides a more equal distribution of the traffic burden, and (b) it does not increase traffic volumes on the affected street by greater than 10%. If a traffic calming plan could increase traffic on a street by more than 10% of its existing peak hour volumes, such street will also be considered for traffic calming.

Due to the costs of installation and maintenance as well as the potential negative effects of raised crosswalks on roadway users, they will only be considered for implementation if:

- the traffic volume on the street is greater than 1,000 vehicles per day; and
- the measured 85th percentile speed is equal to or greater than 10 mph above the speed limit; and
- the street classification is “minor collector” or “local street” as designated by the Massachusetts Department of Transportation.

3. **Neighborhood Meeting # 1.** Staff will notify the Transportation Board, residents within the study area, and Town Meeting Members of the affected precinct(s) in writing of the date, time, and location of a public meeting where staff will outline the identified safety concerns and the proposed traffic calming measures contained within the Staff Preferred Plan.

Following feedback from those in attendance as well as those received in writing, staff may revise the Staff Preferred Plan and develop an Alternative Plan. Similar to the Staff Preferred Plan, the Alternative Plan will be evaluated using the best information available on: (a) the applicability and effectiveness of the requested measures in addressing a specific problem; (b) the technical feasibility of installing the devices properly within the constraints of the existing right-of-way; (c) the relative costs of their construction; and (d) the impact they may have on emergency vehicle access, drainage, and maintenance.

4. **Neighborhood Meeting # 2.** Staff will notify the Transportation Board, residents within the study area, and Town Meeting Members of the affected precinct(s) in writing of the date, time, and location of a public meeting where staff will outline the identified safety concerns and the proposed traffic calming measures contained within the revised Staff Preferred Plan and the Alternative Plan. Additional neighborhood meetings may be needed, at the discretion of staff, to develop a consensus on the Staff Preferred Plan and the Alternative Plan. Notification for additional meetings shall be made in writing to the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s).

5. **Transportation Board Public Hearing: Presentation of Staff Preferred Plan and Alternative Plan(s) to the Transportation Board.** The Transportation Board, via town staff, shall notify residents within the study area and Town Meeting Members of the affected precinct(s) in writing of its intent to discuss and clarify the Staff Preferred Plan and the Alternative Plan(s) at a public hearing. Following the staff presentation and public comment, the Transportation Board will provide guidance to staff of alterations that they would like made in order to develop a Final Traffic Calming Concept Plan for their approval at a future regularly scheduled Transportation Board meeting provided these changes are in accordance with Federal and State standards, industry best practices, and guidelines previously set forth in this policy and procedure. Additional Transportation Board meetings, including a site

visit, may be needed to develop a Final Traffic Calming Concept Plan. Notification for additional meetings shall be made in writing to the residents within the study area, and Town Meeting Members from the affected precinct(s).

- 6. Final Adoption by the Transportation Board.** The Transportation Board, via town staff, shall notify residents within the study area and Town Meeting Members of the affected precinct(s) in writing of its intent to discuss and approve a final traffic calming plan. Staff will present a Final Traffic Calming Concept Plan including the schematic plans identifying the type, location, and design of those individual traffic calming measures determined to be both feasible and effective in addressing the definitive traffic and safety problems found on each street. The Transportation Board will then approve, with or without modification, a definitive traffic calming project for submission to the Department of Public Works and Board of Selectmen for implementation.

## **H. Plan Development By Design Review Committee**

- 1. Review by Transportation Board.** Upon receipt of either a request for authorization by staff or an appeal by the Petitioner, the Transportation Board will notify residents within the study area and Town Meeting Members of the affected precinct(s) in writing of its intent to discuss and clarify the traffic calming request and need as outlined in the Initial Needs Assessment Report. Following a summary of the report by staff and public comment the Transportation Board will determine by a vote if the request merits the development of a Traffic Calming Plan. If the project meets the qualifications for a Design Review Committee, as set forth in Section G.2 of this policy and procedure a Design Review Committee may be appointed by the Transportation Board.
- 2. Appointment of Design Review Committee.** A Design Review Committee (DRC) may be established by a vote of the Transportation Board to guide the development of a traffic calming plan if (a) the study area includes 4 or more streets within 100 yards of the proposed traffic calming elements; (b) 10 or more households within the project area submit a Design Review Committee Request Form stating their reason(s) for requesting a DRC; or (c) the Transportation Board determines that it wishes to have a DRC instead of supervising it directly. To ensure that the traffic calming plan developed not only respects the views of the affected neighborhood, but also the historical, economic and aesthetic values of the Town, this committee will be appointed by the Transportation Board and will consist of at least seven (7) members:

Transportation Board	2 members
Department of Public Works	1 member
Affected neighborhood	3 members
Direct Abutter	1 member

One of the designated members of the Transportation Board will serve as Chairman of the DRC. The DPW staff will provide technical assistance and oversee the

activities of any consultants (if necessary). The designated neighborhood representatives will be responsible for representing the concerns of residents on the affected street(s), neighborhood businesses, and neighborhood organizations. If the project area is within a local Historic District an eighth member may include a representative from the local historic commission. If the project area is within a local Neighborhood Conservation District an eighth member shall include a representative from the local Conservation commission. As appropriate, representatives from other Town Departments or organizations with a stake in the proposed traffic calming project may also be appointed to the DRC (e.g., School Department if project located in vicinity of a public school). Special efforts will be made throughout the plan development process to solicit and incorporate the concerns of the Department of Public Works, Police Department, Fire Department, and Department of Planning and Community Development in the design and selection of the preferred traffic calming plan.

3. **Staff Preferred Plan Development.** Based upon the findings of the Initial Needs Assessment Report, Department of Public Works staff (or its consultants) will identify and evaluate the applicability and likely effectiveness of a variety of traffic calming measures (individually and/or combination) in addressing the identified traffic or safety problems confirmed on each street within the study area. The “*Staff Preferred Plan*” will include selected traffic calming measures that it believes best mitigates the safety concerns and will include, but may not be limited to, such actions and devices as: chokers, neckdowns, chicanes, center islands, raised crosswalks, raised intersections, roundabouts, traffic circles, speed humps, speed tables, textured pavement, one-way street designations, turn prohibition signs, forced turn islands, diagonal diverters, half closures, full closures, median barriers, realigned intersections, lane/pavement narrowing, and on-street parking treatments. The proposed traffic calming measures will be evaluated using the best information available based on: (a) their applicability and effectiveness in addressing a specific problem; (b) the technical feasibility of installing the devices properly within the constraints of the existing right-of-way; (c) the relative costs of their construction; and (d) the impacts they may have on emergency vehicle access, drainage, and maintenance.

The Commissioner of Public Works will determine the design, location and spacing of all traffic calming measures (devices, signs, and pavement markings). All traffic calming devices will be planned and designed in conformance with state and federal regulations, sound engineering standards, and industry best practices. The parking needs of residents will be balanced with the equally important functions of traffic, emergency vehicle access, and pedestrian safety. The design and installation of traffic calming devices should avoid the removal of parking spaces wherever possible.

Re-routing and diverting traffic from a higher classification street to a lower classification street as the result of traffic calming is unacceptable. Traffic may be diverted from one street to another of equal classification if (a) it provides a more

equal distribution of the traffic burden, and (b) it does not increase traffic volumes on the affected street by greater than 10%. If a traffic calming plan could increase traffic on a street by more than 10% of its existing peak hour volumes, such street will also be considered for traffic calming.

Due to the costs of installation and maintenance as well as the potential negative effects of raised crosswalks on roadway users, they will only be considered for implementation if:

- the traffic volume on the street is greater than 1,000 vehicles per day; and
- the measured 85th percentile speed is equal to or greater than 10 mph above the speed limit; and
- the street classification is “minor collector” or “local street” as designated by the Massachusetts Department of Transportation.

- 4. Design Review Committee Neighborhood Meeting # 1.** The Design Review Committee, via town staff, will notify the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s) in writing of the date, time, and location of a public meeting where staff will outline the identified safety concerns and the proposed traffic calming measures contained within the Staff Preferred Plan.

Following feedback from those in attendance as well as received in writing, the DRC will instruct staff to develop one or more Alternative Plans with the preferred traffic calming measures. Similar to the Staff Preferred Plan, the Alternative Plan will be evaluated using the best information available on: (a) the applicability and effectiveness of the requested measures in addressing a specific problem; (b) the technical feasibility of installing the devices properly within the constraints of the existing right-of-way; (c) the relative costs of their construction; and (d) the impact they may have on emergency vehicle access, drainage, and maintenance.

- 5. Design Review Committee Neighborhood Meeting # 2.** The DRC, via town staff, will notify the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s) in writing of the date, time, and location of a public meeting where staff will outline the identified safety concerns and the proposed traffic calming measures contained within the Staff Preferred Plan and the Alternative Plan. Additional neighborhood meetings may be needed, at the discretion of the DRC, to develop a consensus on the Staff Preferred Plan and the Alternative Plan. Notification for additional meetings shall be made in writing to the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s).
- 6. Presentation of Staff Preferred Plan and Alternative Plan(s) to the Design Review Committee.** The DRC, via town staff, shall notify the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s) in writing of its intent to discuss and clarify the Staff Preferred Plan and

the Alternative Plan(s) at a public hearing. Following the staff presentation and public comment the DRC will provide guidance to staff of alterations that they would like made in order to develop a Final Alternative Plan for their approval at a future meeting provided these changes are in accordance with standards and guidelines previously provided in this policy and procedure. Additional DRC meetings, including a site visit, may be needed to develop a the Staff Preferred Plan and the Alternative Plan(s). Notification for additional meetings shall be made in writing to the residents within the study area, and Town Meeting Members from the affected precinct(s).

7. **Presentation & Adoption of Staff Preferred Plan and Alternative Plan by the Design Review Committee.** The DRC, via town staff, shall notify the Transportation Board, residents within the study area, and Town Meeting Members from the affected precinct(s) in writing of its intent to discuss and approve the Staff Preferred Plan and Alternative Plan. Staff will present a Final Traffic Calming Concept Plan that contains the schematic plans, including the staff preferred plan, identifying the type, location, and design of those individual traffic calming measures determined to be both feasible and effective in addressing the definitive traffic and safety problems found on each street. Each optional traffic calming plan may impose different types of impacts and benefits on different groups, and will therefore require tradeoffs if selected for implementation. The impacts, benefits, and tradeoffs associated with implementation of each alternative traffic calming plan will be described in the Traffic Calming Plan Report. The DRC will vote on adoption of this report and forward it to the Transportation Board.
8. **Transportation Board Approval of Traffic Calming Plan.** Upon receipt of the Traffic Calming Concept Plan from the Design Review Committee, the Transportation Board will schedule and conduct a public hearing for the purpose of receiving comment on the proposed traffic calming plan. The Transportation Board, via town staff, shall notify residents within the study area and Town Meeting Members from the affected precinct(s) in writing of the date, time, and location of a public meeting. The Transportation Board will then approve, with or without modification, a definitive traffic calming plan for submission to the Department of Public Works and Board of Selectmen for implementation. Additional Transportation Board meetings, including a site visit, may be needed to develop a Final Traffic Calming Concept Plan. Notification for additional meetings shall be made in writing to the residents within the study area, and Town Meeting Members from the affected precinct(s). Following the approval of the Traffic Calming Plan by the Transportation Board the Design Review Committee is officially dissolved.

## **I. Plan Implementation and Evaluation**

1. **Development of Plan Documents and Cost Estimates.** Following the statutory appeal period of 21 days from the day of the vote for all Transportation Board decisions, the Transportation Board will forward the approved traffic calming plan to the Department of Public Works where the Director of Engineering/Transportation

will prepare detailed design plans and cost estimates of the approved plan.

2. **Prioritization of Traffic Calming Projects for Implementation.** It is assumed (a) that most (if not all) traffic calming projects developed under the above procedures will be implemented using Town funds approved in the 6-year Capital Improvement Program (CIP), and (b) that the combined cost of all approved traffic calming projects may, from time to time, exceed the approved annual appropriation. In anticipation of these conditions, the approved traffic calming plans to be funded with Town monies will be implemented in the order of their approval by the Transportation Board, unless the combined cost of all outstanding traffic calming plans for the fiscal year exceed the available CIP budget. In the event that the construction costs of multiple traffic calming plans exceed the available funding level, plans that involve the installation of traffic calming devices on streets where other capital improvements have been planned and programmed will receive highest priority for funding and implementation. The remaining traffic calming plans will be prioritized for funding and implementation on the basis of the following criteria:

1. Streets that provide access to a public school, or represent major walk-to-school or bicycle-to-school routes;
2. Streets that are/could be heavily traveled by pedestrians and bicyclists seeking access to a public park, senior center, public/government building, commercial area, public transit stations, or private facility (e.g., school, healthcare facility);
3. Date of approval by the Transportation Board.

Proponents of traffic calming projects are encouraged to seek funds from private sources, or from public sources other than the Town of Brookline Capital Improvement Program (CIP) budget, as this will facilitate the implementation of a specific traffic calming project. If there is strong support in a particular neighborhood for a proposed traffic calming plan, consideration may also be given to the establishment of a special assessment district or betterment tax that could generate the necessary revenue directly from those who would benefit most from the project implementation.

3. Upon written request to and a positive vote by the Transportation Board, staff shall prepare a post installation report which shall include (as applicable):
  - Traffic volumes (average weekday by direction for each street)
  - Traffic speeds
  - Traffic composition (including truck and bicycle usage)
  - Accident data reports since installation
  - Extent of cut-through traffic on abutting streets
  - Pedestrian crossing volumes
  - Any public comments received by staff to date.

## **J. Removal of Installed Element For Public Safety Reasons**

1. If the Commissioner of Public Works determines that a dangerous or hazardous condition was created by implementation of a traffic calming plan he may take immediate action to remedy the situation by modifying or removing the device(s). Notice of any such determination and/or action by the Commissioner shall be given to the Transportation Board. The Board shall discuss the Commissioner's determination and either vote to uphold the Commissioner's decision/action or take such other action as they deem reasonable in the particular circumstance.
2. Property owners, residents and occupants of properties in the area impacted may also request removal of a traffic calming device or devices by submission to the Transportation Board of a petition describing their specific concerns. The Transportation Board will review the conditions surrounding said petition at a public hearing and recommend appropriate action to remedy legitimate safety concerns.

## ATTACHMENT A

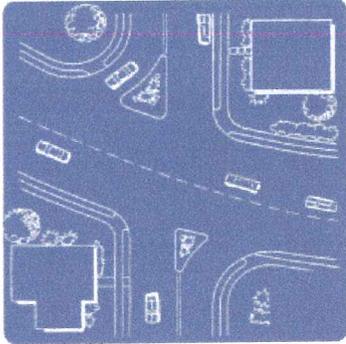
## Menu of Traffic Calming Measures

Traffic calming measures can be used to address the problem of vehicle speeding by narrowing the street or changing its vertical or horizontal alignment. They may also be used to address the problem of cut-through traffic by blocking certain movements and diverting traffic to other streets where it can be handled more safely. The list of traffic calming measures to be evaluated when developing a preferred traffic calming plan may include the following physical devices or actions.

<i>TRAFFIC CALMING MEASURE</i>	page	<i>TRAFFIC CALMING MEASURE</i>	page
<b>Forced Turn Island</b>	A-1	<b>Choker</b>	A-7
<b>Diagonal Diverter</b>	A-2	<b>Neckdown</b>	A-8
<b>Half Closure</b>	A-3	<b>Chicane</b>	A-9
<b>Full Closure</b>	A-4	<b>Center Island</b>	A-10
<b>Median Barrier</b>	A-5	<b>Raised Crosswalk</b>	A-11
<b>Realigned Intersection</b>	A-6	<b>Raised Intersection</b>	A-12
<b>Lane/Pavement Narrowing</b>	-	<b>Roundabout</b>	A-13
<b>On-street Parking Treatment</b>	-	<b>Traffic Circle</b>	A-14
		<b>Speed Hump</b>	A-15
		<b>Speed Table</b>	A-16
		<b>Textured Pavement</b>	A-17
		<b>One-way Street Designation</b>	-
		<b>Turn Prohibition Sign</b>	-

A schematic and pictorial description of each traffic calming measure can be found on the pages indicated above.

## FORCED TURN ISLANDS



### Forced Turn Islands

*a.k.a. forced turn channelizations, pork chops, right turn islands*

Forced turn islands are islands on approaches to an intersection that block certain movements.



Orlando, FL



Phoenix, AZ

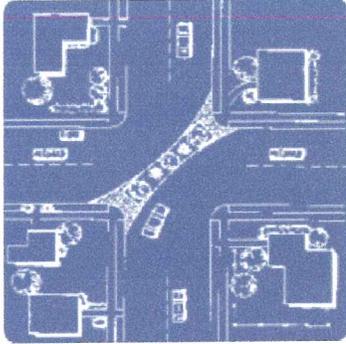


San Jose, CA



Montgomery County, MD

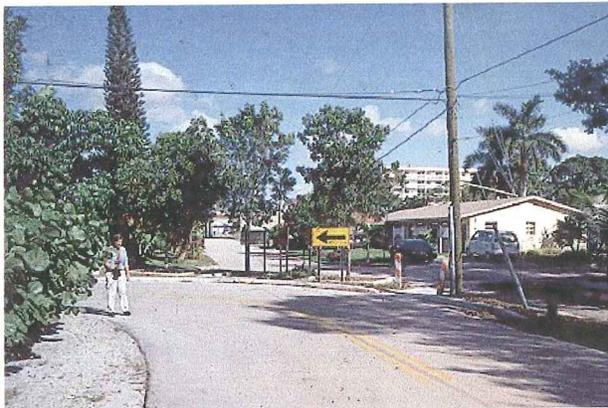
## DIAGONAL DIVERTERS



### Diagonal Diverters

*a.k.a. full diverters, diagonal road closures*

Diagonal diverters are barriers placed diagonally across an intersection, blocking through movement.



Ft. Lauderdale, FL



Boulder, CO

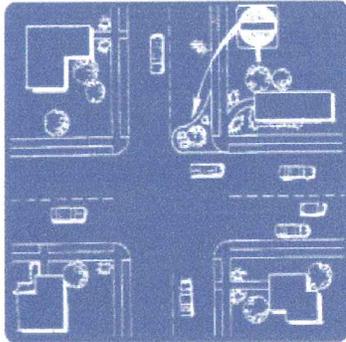


Berkeley, CA



Seattle WA

## HALF CLOSURES



### Half-Closures

*a.k.a. partial closures, one-way closures*

Half closures are barriers that block travel in one direction for a short distance on otherwise two-way streets.



San Jose, CA



Sacramento, CA

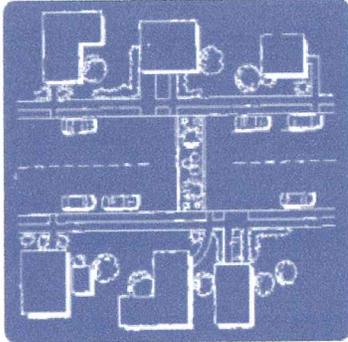


Eugene, OR



Phoenix, AZ

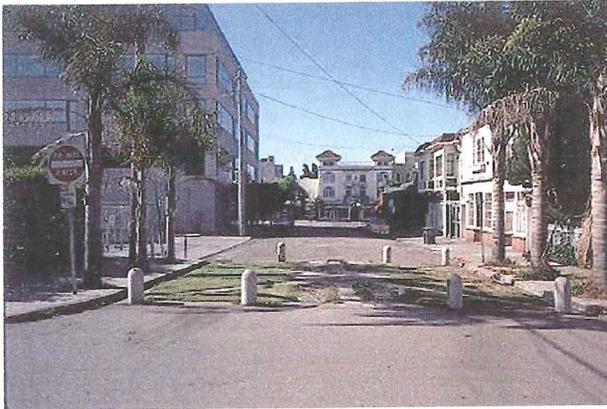
## FULL CLOSURES



### Full Closures

*a.k.a. cul-de-sacs, dead ends*

Full street closures are barriers placed across a street to completely close the street to through-traffic, usually leaving only sidewalks open.



Berkeley, CA



Palo Alto, CA

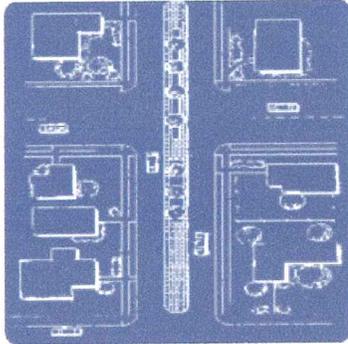


Gainesville, FL



Coral Gables, FL

# MEDIAN BARRIERS



## Median Barriers

*a.k.a. median diverters, island diverters*

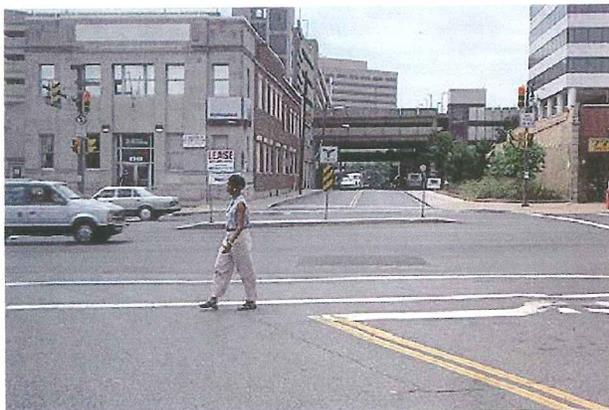
Median barriers are islands located along the centerline of a street and continuing through an intersection so as to block through movement at a cross street.



San Diego, CA



Phoenix, AZ

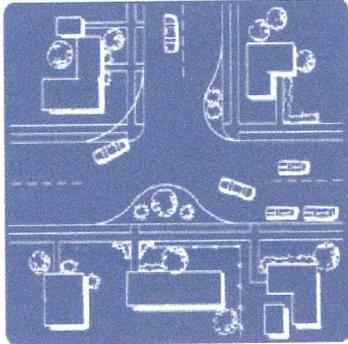


Montgomery County, MD



Berkeley, CA

# REALIGNED INTERSECTIONS



## Realigned Intersections *a.k.a. modified intersections*

Realigned intersections are changes in alignment that convert T-intersections with straight approaches into curving streets meeting at right angles - a straight shot along the top of the T becomes a turning movement.



Boulder, CO



Deerfield Beach, FL

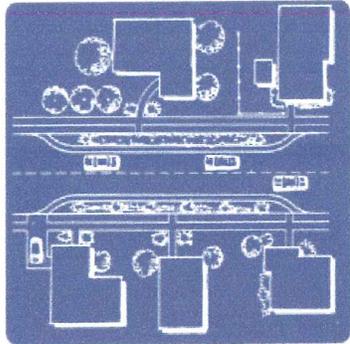


Seattle, WA



Tampa, FL

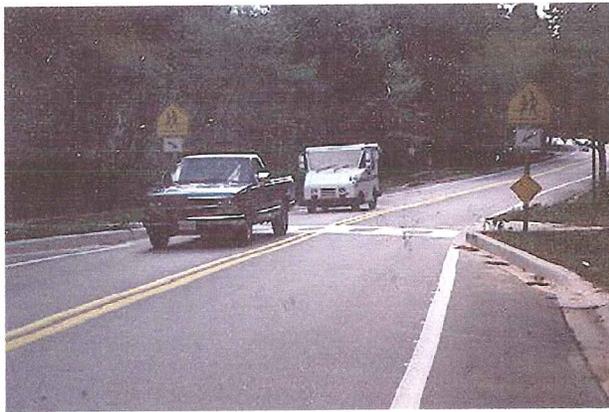
# CHOKERS



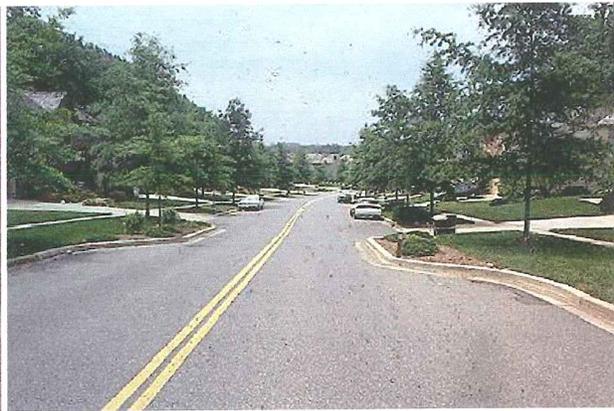
## Chokers

*a.k.a. pinch points, midblock narrowings, midblock yield points, constrictions*

Chokers are curb extensions or islands on one or both sides of the street that narrow the street at that location.



Winter Park, FL



Montgomery County, MD

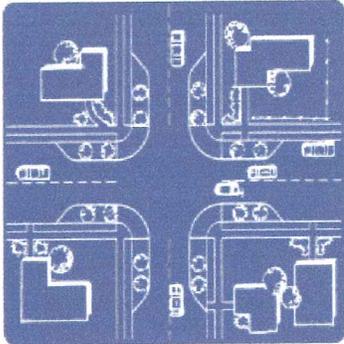


Howard County, MD



Sarasota, FL

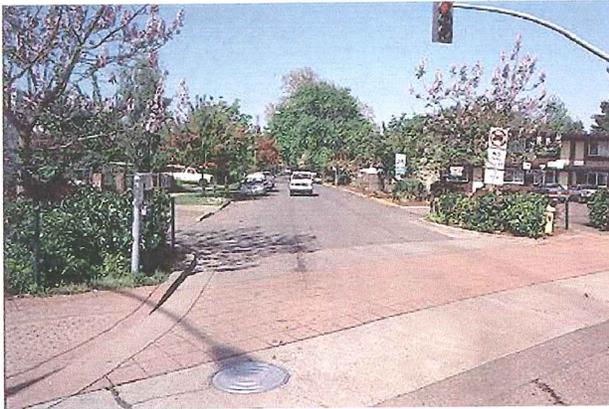
## NECKDOWNS



### Neckdowns

*a.k.a. nubs, bulbouts, knuckles, intersection narrowings, corner bulges, safe crosses*

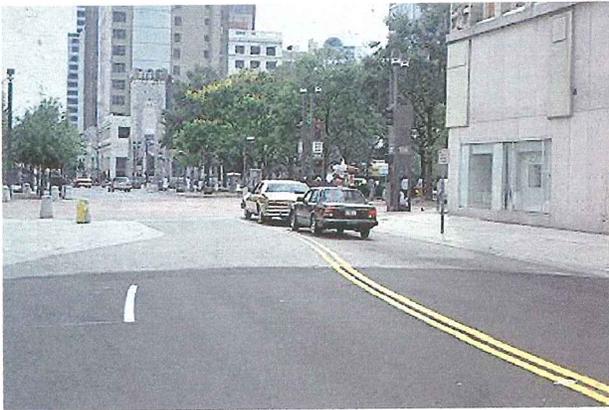
Neckdowns are curb extensions at intersections that reduce roadway width curb-to-curb.



Eugene, OR



Cambridge, MA

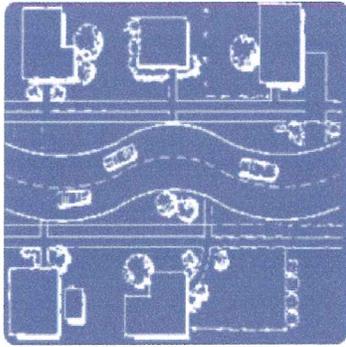


Jacksonville, FL



Sarasota, FL

## CHICANES



### Chicanes

*a.k.a. deviations, serpentine, reversing curves, twists*

Chicanes are curb extensions or islands that alternate from one side of the street to the other, forming S-shaped curves.



Seattle, WA



Alachua, FL

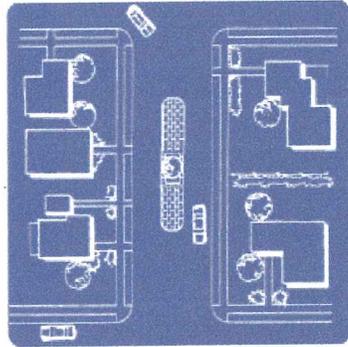


Tallahassee, FL



Montgomery County, MD

## CENTER ISLANDS



### Center Island Narrowings

*a.k.a. midblock medians, median slowpoints, median chokers*

Center island narrowings are islands located along the centerline of a street that narrow the street at that location.



Montgomery County, MD



Portland, OR

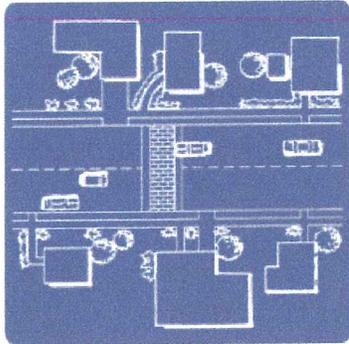


Portland, OR



Ft. Lauderdale, FL

# RAISED CROSSWALKS



## Raised Crosswalks

*a.k.a. raised crossings, sidewalk extensions*

Raised Crosswalks are speed tables outfitted with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing.



Beaverton, OR



Eugene, OR

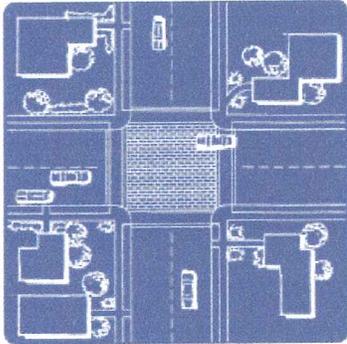


Montgomery County, MD



Tallahassee, FL

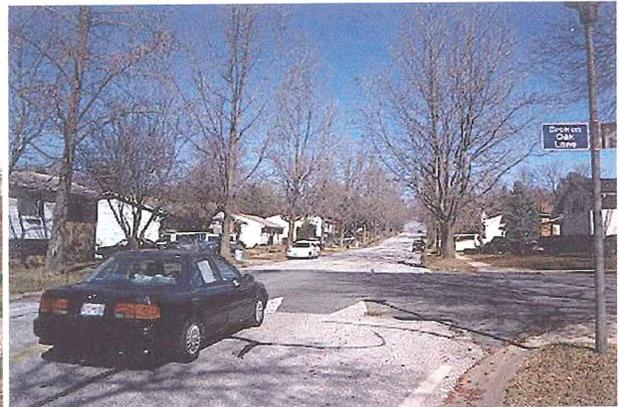
## RAISED INTERSECTIONS



### Raised Intersections

*a.k.a. raised junctions, intersection humps, plateaus*

Raised intersections are flat raised areas covering entire intersections, with ramps on all approaches and often with brick or other textured materials on the flat section.



Columbia, MD

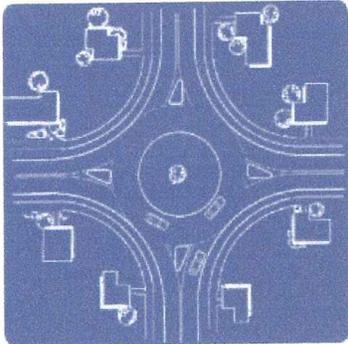


Cambridge, MA



West Palm Beach, FL

## ROUNDBABOUTS



### Roundabouts a.k.a. rotaries

Roundabouts require traffic to circulate counterclockwise around a center island. Unlike traffic circles, roundabouts are used on higher volume streets to allocate rights-of-way among competing movements.



Beaverton, OR



Tallahassee, FL

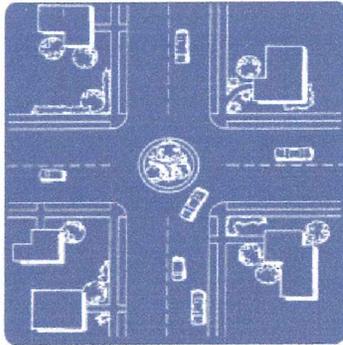


West Palm Beach, FL



Summerlin, NV

## TRAFFIC CIRCLES



**Traffic Circles**  
*a.k.a. rotaries, intersection islands*

Traffic circles are islands, placed in intersections, around which traffic circulates.



Boulder, CO

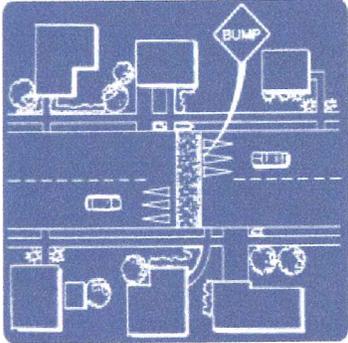


Portland, OR



Eugene, OR

## SPEED HUMPS



**Speed Humps**  
*a.k.a. road humps, undulations*

Speed humps are rounded raised areas placed across the road.



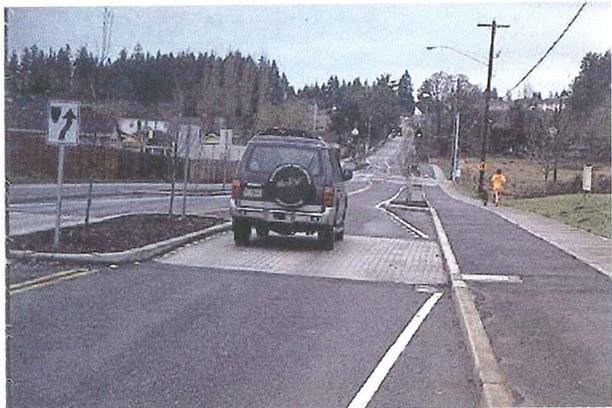
Portland, OR - 14'



West Palm Beach, FL - 12'

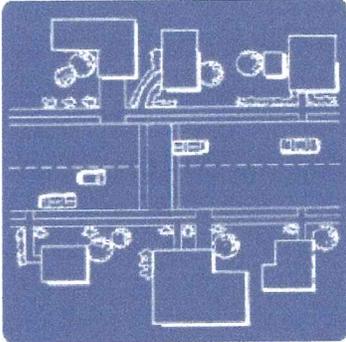


Ft. Lauderdale, FL - 22'



Beaverton, OR - 30'

## SPEED TABLES



### Speed Tables

*a.k.a. trapezoidal humps, speed platforms*

Speed tables are flat-topped speed humps often constructed with a brick or other textured materials on the flat section.



Beaverton, OR



Eugene, OR

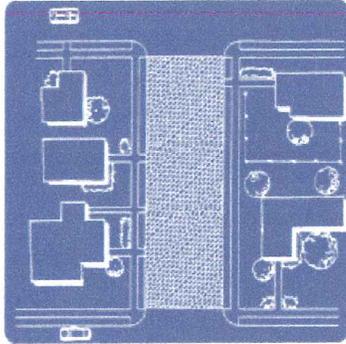


Montgomery County, MD



Tallahassee, FL

# TEXTURED PAVEMENTS



## Textured Pavements

Textured Pavements, such as brick or stone surfaces, cause drivers to have a slightly bumpy ride over an extended distance, while improving the aesthetic quality of the street environment.



Gainesville, FL



Seattle, WA



Winter Park, FL

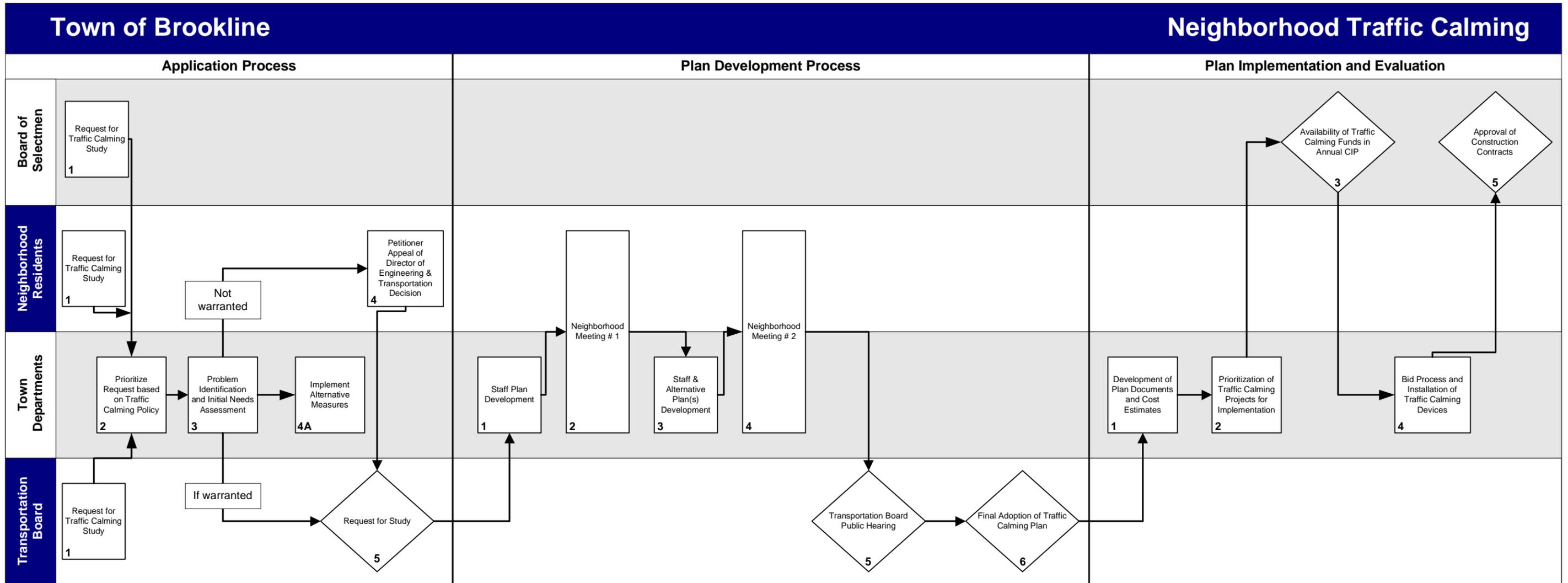


Montgomery County, MD

**ATTACHMENT B**

**CROSS FUNCTIONAL & PROCEDURAL FLOWCHART**

CROSS-FUNCTIONAL FLOWCHART



PLANNING PROCESS FOR NEIGHBORHOOD TRAFFIC CALMING PROJECTS BY TRANSPORTATION BOARD



**ATTACHMENT C**  
**TRAFFIC CALMING REQUEST FORM**



TOWN of BROOKLINE  
Massachusetts  
Department of Public Works

Andrew M. Pappastergion  
Commissioner

## TRAFFIC CALMING REQUEST FORM

The Town of Brookline is committed to:

- Improving the livability and safety of Brookline neighborhoods by mitigating the impact of traffic and promoting safer conditions for residents, motorists, bicyclists, and pedestrians;
- Installing traffic calming measures on streets where their implementation will reduce traffic speeds, minimize cut-through traffic, or improve the safety of movements by pedestrians and bicyclists;
- Implementing traffic calming techniques that are both effective and compatible with the character of the affected neighborhoods and improve public safety without jeopardizing emergency response needs, creating hazards, or reducing mobility;
- Encouraging citizen involvement in all phases of neighborhood traffic management;
- Influencing driver behavior through education and design;
- Ensuring that limited Town resources are utilized in a cost-effective and efficient manner.

Traffic Calming Request Form Directions: Please fill out this form and mail it to the address listed below. By using this form you will help us assess the type of issues or concerns you are having with a street in your neighborhood. Each request will be considered separately. Following the submittal of a request the DPW – Transportation Division staff shall confirm receipt and send a response letter that includes a list of current Traffic Calming Requests, the steps that are involved in the process, and the approximate time line for the Initial Needs Assessment investigation and report.

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Email** \_\_\_\_\_

**Phone (day):** \_\_\_\_\_ **(night):** \_\_\_\_\_

**Please list the street(s)/ location/ intersection that concerns you:**

**What time(s) of day and day(s) of the week do the concerns you have seem most noticeable?**

**Please check each item below that applies to the referenced street(s):**

- |  |   |
|--|---|
| <input type="checkbox"/> Pedestrian/Bicyclist Safety     | <input type="checkbox"/> Speeding Vehicles                  |
| <input type="checkbox"/> High Traffic Volume             | <input type="checkbox"/> Difficult to Cross Street          |
| <input type="checkbox"/> Driver Sight Distance Issue     | <input type="checkbox"/> Poor Roadway Conditions            |
| <input type="checkbox"/> Large # of School Aged Children | <input type="checkbox"/> High Volume of Cut-through Traffic |

**Other:**

**Required signatures:** This form in the space provided below must contain signatures from at least ten (10) households or 50% of the residences or businesses on the street, whichever is less, for the town to begin consideration of a traffic calming plan. You can also obtain more signatures than the minimum to show local support for your request.

Name	Signature	Address
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

**Please return this completed form to:** Department of Public Works, Transportation Division, 333 Washington Street, Brookline, MA 02445