

NEIGHBORHOOD TRAFFIC CALMING POLICY

TOWN OF AVON

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I. PURPOSE OF TRAFFIC CALMING POLICY

The purpose of this document is to set forth the recommended practices in assessing, planning, designing and constructing neighborhood traffic calming devices for existing streets in the Town of Avon. As defined by the subcommittee on Traffic Calming of the Institute of Transportation Engineers in 1997, *“Traffic Calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.”*

The primary objective of traffic calming is to create safer roads and a better quality of life for the community that we live in. The strategic objectives for the Town of Avon are:

- Improve safety for pedestrians, bicycles, children and motorists
- Reduce speeding
- Improve driver behavior, concentration, and awareness
- Reduce cut-through traffic
- Reduce stop sign running
- Reduce the need for frequent law enforcement
- Reduce crashes

II. IMPLEMENTATION PROCESS

Appropriate neighborhood traffic control devices should only be installed to address documented safety or traffic concerns. Concerns will be investigated and the investigation will include an examination of the full array of potential actions beginning with a discussion with stakeholders, including law enforcement officials, concerning existing controls.

The Town’s Public Works Department will use the following process in order to determine the need for traffic calming and implementation for each independent

neighborhood request. The Town may also initiate a traffic calming project if a known problem may be best addressed using a traffic calming solution.

STEP 0: DIY traffic calming techniques may be implemented before pursuing a traffic calming application, while awaiting the results of the Town's investigation, or in the event of a failed petition. These may be initiated by residents, but any methods that utilize public rights of way must be approved by the Town. These are low-cost measures that do not require any changes to town ordinances or permanent changes to town infrastructure. Example techniques include:

- Request speed trailer from Avon Police Department for temporary deployment, to improve compliance with posted speed limits
- Yard signs (placed on private property) encouraging safe driving behavior
- Plant trees in front yards, either on private property or in Town ROW (latter is subject to town permission and planting guidelines)
- Encourage on-street parking, where permitted.

STEP 1: When a neighborhood traffic concern is identified, residents must first build consensus among neighbors by distributing the Petition for Neighborhood Traffic Management. With 75% of homeowners contiguous to and/or required to pass through the area in question in favor, and with the support of the HOA if one is established, the Application for Neighborhood Traffic Management can be submitted to the Town of Avon, along with the Petition and an application fee of \$500.00. These forms are found in the Appendix.

STEP 2: Conduct site investigation. For a complaint of speeding, traffic speeds collected over a period of 24 hours or staff observation during reported periods of incidence may be determined to be the primary data source. For other complaints, some or all of the following information may be considered:

- Street classification (from Thoroughfare Plan)
- Traffic volumes (observed and/or counted)
- Traffic Speeds (observed and/or measured)
- Street width and geometry
- Document observed safety problems, including pedestrian safety.
- Review crash history
- Obtain input from Public Safety representatives (Police, Fire, Ambulance and/or Public Works)

The Traffic Calming review will determine whether or not the information collected supports the need for improvements. The information gathered will be evaluated along with engineering judgment to determine the appropriate course of action. For complaints of speeding, an 85th percentile speed of 10 mph or higher than the posted speed or staff (police, public works, etc.) report of violations, will be considered for traffic calming measures.

STEP 3: Staff will meet to discuss findings and determine recommendations that support safer roads and a better quality of life for the neighborhood residents. For confirmed speeding issues, the Town typically utilizes a standard design speed hump or speed table. For innovative traffic calming solutions, staff may test the effectiveness of proposed countermeasures by installing temporary devices as a demonstration project, then evaluate the effectiveness of the demonstration project and refine recommendations before proceeding with a permanent installation.

STEP 4: Staff shall notify the applicant of their recommendations.

- If no improvements are recommended, then the applicant may be referred to Step 0 DIY Traffic Calming Techniques for alternative solutions.
- Public Works will determine the approved solutions within one year of the application date. Construction is contingent on the adjacent and affected property owners, the HOA and/or other interested parties contributing 50 percent of the cost of improvements and if town funding allows.
- Staff will present the recommendations to Town Council for their approval if recommendations require a modification to a Town Ordinance (i.e. changes to on-street parking restrictions or speed limits).

Definition of Terms

Neighborhood

The 75% of directly affected homeowners in a neighborhood must agree upon the identified traffic concern. In this context, a neighborhood is defined as interconnected local streets governed by a common homeowners or neighborhood association bounded by collector or arterial streets. An affected homeowner is defined as a property owner that resides adjacent to the area of the proposed counter measure and those property owners that have no other route from their residence allowing them to avoid the counter measure.

Traffic Calming Team

The Traffic Calming Team may consist of representatives from the Avon Police Department, Public Works Department, the town's consulting engineer, and/or any other person or department appointed by the Public Works Director. The goal of the Team is to review the requests and issue recommendations that create safer roads and a better quality of life.

Street Classification

Any street may be considered for traffic calming device applications. Traffic calming devices under consideration should be reviewed for effects on pedestrian, bicycle and alternative modes of traffic.

Traffic Speeds

Traffic calming devices should generally be considered on streets where the 85th percentile speed is 10 mph or greater than the posted speed limit or where the traffic calming team or staff has determined that a safety problem exists. Speed measurements using radar or machine tube counters may be obtained.

Stop Sign Running

Stop sign running is a safety concern that may be addressed by increased law enforcement, removal of the stop sign, visual enhancement of the sign (lights, reflectors, increased sign size, adding a sub-marker, etc.), adding an advance warning sign, added pavement markings, removal and replacement of a stop sign with another traffic control/ traffic calming device, etc.

Geometric Data

Traffic calming devices should normally be used on streets with no more than two travel lanes, however, roads with more than two lanes may still be considered for traffic calming measures. The location of a traffic calming device should be carefully considered. Generally, straight tangent sections of roads are the best locations for traffic calming devices such as speed humps.

Crash History

Three to five years of crash history may be reviewed to assist in identifying any safety problems.

Public Safety Input

Public Safety agencies (Police, Fire, Ambulance and Public Works) will be contacted to determine if services for emergency vehicles will be significantly affected by the proposed changes.

Alternative Traffic Calming Measures

Following is a list of alternative measures that should be considered and discussed with the petitioners. A description of these alternatives, which describes the measures, conditions, and circumstances for their use, is located in the next section.

- Thoroughfare Street Improvements/ Improved Signal Progression
- Speed Humps and Raised Intersections
- Pedestrian Crossings and Refuge Islands
- Street and Lane Narrowing
- Curb Radius Reduction/Extension
- Chicanes/Lateral Shift
- Traffic Circles/Roundabout
- Added bike lanes
- Rumble Strips
- Pedestrian Signalization and Illumination
- Vehicle Activated Speed or Warning Sign

III. DESCRIPTION OF ALTERNATIVE MEASURES

Thoroughfare Street Improvement and Improved Signal Progression

Vehicles may travel through alternate routes due to thoroughfare streets over capacity, traffic signals not synchronized or other progression inefficiencies exist. Widening collector or arterial streets to add left-turn lanes or additional through lanes or installing or synchronizing a signal system or roundabouts may improve vehicle safety and efficiency, and may reduce cut through traffic in neighborhoods. The Public Works Department may conduct an investigation to establish potential improvements to the existing system if observed deficiencies exist.

Speed Humps and Raised Intersections

Speed humps and changes in grade at intersections can reduce vehicle speeds on local streets. The speed hump, speed table or raised intersection can be a raised area, constructed to Town Standards, extending transversely across the street from edge of pavement to edge of pavement. For local streets, speed

humps typically are constructed with an approximate longitudinal length of **14** feet. If speed tables are determined to be appropriate, they shall be constructed with an approximate longitudinal length of 22 feet. These longer raised areas may also be considered on streets that serve as primary emergency response routes.

Other criteria to be applied prior to installation of speed humps, speed tables and raised intersections include:

- **Signing/Marking:** Speed humps are required to be signed with a combination of signs and pavement marking to warn motorists and bicyclists of their presence. Advance warning signage should be considered.
- **Traffic Safety and Diversion:** Any use of speed humps must take into consideration the impact the installation will have on long-wheel-based vehicles (fire apparatus, ambulances, snow plows and garbage trucks) and the potential to divert traffic to other adjacent streets. Speed humps should only be installed to address documented safety problems or traffic concerns.
- **Street Width:** Speed humps should generally be used on streets with no more than two travel lanes, but may be considered for streets with greater than two travel lanes.
- **Street Grade:** Speed humps should only be considered on streets with grades of 3% or less approaching the hump.
- **Street Alignment:** Speed humps should not be placed within severe horizontal curves or vertical curves (hills and valleys) that might result in substantial horizontal or vertical forces on a vehicle traversing the hump. Humps should be avoided within horizontal curves of less than 300 feet centerline radius and on vertical curves (hills/dips) with less than the minimum safe stopping sight distance. If possible, humps should be located on straight (tangent) sections of road rather than curve sections.
- **Sight Distance:** Speed humps should generally be installed only where the minimum safe stopping sight distance (as defined in AASHTO's A Policy on Geometric Design of Streets or INDOT's Design Manual) can be provided.
- **Traffic Speeds:** Speed humps should generally be installed only on streets where the posted or prima facie speed limit is 30 mph or less. Speed humps are not generally recommended, but could be

considered on streets where the 85th percentile speed is in excess of 40 mph.

- Traffic Volumes: Speed humps should typically be installed only on streets with 2,000 vehicles per day or less. If considered for streets with higher volume, their use should receive special evaluation.

Pedestrian Refuge Island

Pedestrian refuge islands in the middle of the street provide a safe haven for pedestrians to cross the street. If placed at an intersection, the island may function as a diverter to restrict through traffic and reduce vehicle speeds. Some parking removal may be required and some residents may be inconvenienced. The median should be aesthetically pleasing.

Street and Lane Narrowing/ Choker

Motorists tend to drive at speeds they consider safe and reasonable and tend to drive more slowly on narrower roads and traffic lanes than wider ones. Reducing road widths by widening boulevards or sidewalks intermittently or introducing medians, striping for parking, shoulders or bike lanes or installation of “Neck-downs” can reduce traffic speeds. Road narrowing has the added advantage of reducing the expanse of road to be crossed by pedestrians, thus reducing pedestrian crossing time.

Other criteria to be applied and considered prior to street narrowing include:

- Bicycle Accommodations: On local streets designated as a bike route or serving a significant volume of bicycle traffic, a sufficiently wide bicycle lane or marked shared bicycle lane should be provided through the narrowed area. Physical features (curb, pylons or other barriers) provide a visual cue to protect and separate bicycle traffic and also may result in real or perceived reduced lane width and result in slower vehicle speeds. Where traffic and/or bicycle volumes are sufficiently low, exclusive bicycle lanes may not be justified.
- Snow Removal: The pavement width of streets shall not be narrowed to a point where it becomes an impediment to snow removal.
- Parking Restrictions: In some cases, street narrowing may require the prohibition of parking at all times along the street curb the full length of the narrowed section plus 20 or more feet (influenced by the posted speed). Refer to the Town of Avon Street Section Standards for

parking prohibitions. Alternately, encouraging on-street parking can help to reduce the effective width of roadways.

- Landscaping: Median landscaping can be selected by neighborhood associations from an approved landscaping materials list provided by the Town. Landscaping may be provided and installed by the Town, but regardless, will be maintained by the neighborhood association or landscape volunteer. If the landscaping is not maintained, the median will be seeded with grass.
- Median Width/Lane Width: Travel lanes should not be narrowed to a width less than 10 feet, exclusive of gutter. Bicycle lanes where required shall be four feet wide exclusive of gutter, unless the gutter is poured integral to the bicycle lane, in which case the bicycle lane will be five feet wide. If parking is allowed, the parking and bicycle lane combination shall be a minimum of 13 feet.

Curb Radius Reductions/ Curb Extensions/Bulb-Out

The reduction of intersection curb radii is intended to slow turning vehicles and reduce pedestrian crossing path. The radius should accommodate a passenger vehicle. Usually, a minimum of 10-to-20-foot radius will be required. Primary application is for local streets only.

Curb extensions (bump outs or bulb-outs) are used at intersections to slow turning vehicles, reduce the length of crosswalks, and to slow the speed of through traffic. Added landscaping, which should not obscure necessary intersection sight distance, can also help to slow traffic by calling attention to the existing intersection.

Chicanes/Lateral Lane Shifts

Chicanes are a form of curb extension built at a 45-degree angle that alternate from one side of the street to the other. A Lateral Shift is a single curb extension built at an angle on an otherwise straight street that causes travel lanes to shift in one direction. A typical lateral shift separates opposing traffic through the shift with the aid of a curbed island or other physical barrier. Chicanes and Lateral Lane Shifts should effectively reduce speed and decrease traffic volumes.. Chicanes can result in additional challenges for snow removal activities, especially if they are covered with snow

When parking is permitted on one side of the street only, parking can be arranged to serve as a chicane by alternating blocks with parking on either side. If block 1 has parking on the north side, block 2 has parking on the south side, and so on, requiring through traffic to weave as they proceed along the street.

Traffic Circles

Traffic circles are circles of varying diameter formed by curbs. Motorists must drive around the circle, or in the case of longer vehicles, drivers may drive slowly onto and over a mountable concrete curb forming the circle. Traffic circles reduce motor vehicle speeds through the intersections, depending on current intersection controls in place.

An action plan should be prepared based on field information and any other available data. Other criteria to be applied and considered prior to installation include:

- Design Considerations: For each intersection the size of the circle will vary depending on the circumstances for that specific intersection. In general, the size of the circle will be determined by the geometry of the intersection.
- Where intersecting streets differ significantly in width, it may be more appropriate to design an elongated "circle" using half circles with tangent sections between them. Smaller circles will be constructed on a case-by-case basis. Normally the circle will be located as close to the middle of the intersection as practical. Under special circumstances, such as being on a Fire Department response route, bus route or due to snow removal accommodations, the size and/or location of the circle will be adjusted to more appropriately meet these special circumstances.
- Design Considerations for "T" Intersections: For "T" type intersections, all of the above design considerations apply. In addition, curb extensions (or curb bulbs) may be included along the top of the "T" at the entrance and exit to the intersection.
- Signage: Appropriate signage for traffic circles will be determined by the Public Works Manager and may vary based on the location of the circle.
- Channelization: Where curbs do not exist on the corner radii, painted barrier lines, defining the corners, should be installed. Yellow retro-reflective lane line markers shall be placed on top of the circle at its outer edge. Refer to the most recent Town of Avon Standard Detail Sheets.
- Parking Removal: Normally, parking will not be prohibited in the vicinity of the circle beyond that which is prohibited by the Town, i.e., "within the intersection" or "within 20 feet of a crosswalk area". However,

where special circumstances dictate, such as where the circle is on a response route for the Fire Department or to accommodate snow removal, or in an area where there is an unusually high use by trucks, additional parking may be prohibited as needed.

- Sign Removal: At intersections where circles are to be installed, any previous right-of-way controls may be removed at the time of circle construction completion. However, where special circumstances dictate, the existing traffic control may remain in place or be otherwise modified or relocated at the direction of the Public Works Manager.
- Landscaping: Landscaping will be selected by the affected Neighborhood Association from an approved landscaping materials list provided by the Town. Landscaping may be provided and installed by the Town, but regardless, it will be maintained by the Neighborhood Association. If the landscaping is not maintained, the traffic circle will be seeded with grass.

Temporary Traffic Calming Devices

Traffic Radar feedback signs (“Your Speed is X”) on a trailer or temporary signpost can be deployed at the problem area. They tend to lose effectiveness over time as drivers get used to their presence. The town may elect to install these signs on a short-term rotation between various problem locations. Some of these units are equipped to collect speed data as well.

Temporary demonstration projects include the installation of rubber curb, cones, straw logs, or paint as channeling devices along with portable signs. These can be used to test configurations such as mini-roundabout, chicanes, curb extensions, etc. prior to committing to a permanent installation.

TRAFFIC CALMING MEASURES

Calming Alternative	Volume Reduction	Speed Reduction	Noise & Pollution	Safety	Access Restriction	Emergency Vehicle	Maintenance Problems	Level of Violation	Cost
Rumble Strips/ Surface Changes	Possible	Possible	Increase	Improved	None	No Problems	Street Cleaning	N/A	Low
Speed Humps/Tables Raised Intersections	Possible	Likely	No Change	No Docum. Problems	None	Minor Constraint	Street Cleaning	N/A	Low - Moderate
Pedestrian Refuge Islands	Possible	Likely	Decrease	Improved	Restricts Through Movement	No Problems	Trucks Can Hit Curbs	Low	Low – Moderate
Street and Lane Narrowing/Bike Lane/Marked On-Street Parking	Possible	Likely	Decrease	Improved	None	Minor Constraint	None	N/A	Low – Moderate
Curb Radius Reduction/ Extension/Bulb-Out	Possible	Likely	No Change	Improved	None	Minor Constraint	None	Low	Low – Moderate
Chicanes/ Lateral Lane Shifts	Possible	Likely	No Change	Improved	None	Minor Constraint	None	Low	Moderate
Traffic Circles	Possible	Minor	No Change	No Docum. Problems	None	Some Constraint	Vandalism	Low	Moderate
Chokers	Possible	Likely	No Change	Improved for Pedestrians	None	Minor Constraint	Trucks Can Hit Curbs	N/A	Moderate
Arterial Street Improvements	Possible	Minor	No Change	Unclear	None	No Problems	None	N/A	Varies
HAWK and other alternative Signalization/ Illumination	Possible	Likely	No Change	Improved	None	No Problems	None	Low	Moderate-High
Vehicle Activated Speed or Warning Sign	Possible	Likely	No Change	Improved	None	No Problems	None	Low-Moderate	Moderate

IV. REFERENCES

1. Indianapolis Department of Public Works, *Neighborhood Traffic Calming – Recommended Practices*, 1999.
2. City of Bloomington, Indiana, Neighborhood Traffic Calming Program, <http://www.city.bloomington.in.us/engineering/traffic/ntsp2.html>
3. Institute of Transportation Engineers, *Traffic Calming for Communities*, <http://www.ite.org>
4. Institute of Transportation Engineers, *Traffic Calming, State of the Practice*, prepared by Reid Ewing, August, 1999.
5. City of Seattle, Washington, Neighborhood Traffic Calming Program, <http://www.ci.seattle.wa.us/transportation/ntcphome.htm>
6. City of Portland, Oregon, Traffic Calming Programs, <http://www.trans.ci.pportland.or.us/trafficalming/xxxx.htm>
7. ITE Journal, *Traffic Calming Design Standards for New Residential Streets: A Proactive Approach*, prepared by Joseph E. Womble and W. Martin Bretherton, Jr., March 2003.

APPENDIX

Petition for Neighborhood Traffic Management

Name of Neighborhood
Location of traffic concern

We, the undersigned property owners or residents of <Neighborhood>, request that the Town of Avon conduct a neighborhood traffic management study for <Location of traffic concern>.

Name	Address	Signature	Date
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Application for Neighborhood Traffic Management

Name of Applicant, email, phone number
Name of Neighborhood
HOA contact (if applicable) name, email, phone number
Number of affected residential units in neighborhood
Number of signatures (one per unit) obtained (75% of directly affected homeowners needed)
Location of traffic concern (one street per petition)
Describe the nature of the traffic concern