TRAFFIC CALMING INFORMATION PACKAGE

For information regarding the application of speed humps in the Town of Cornwall.

BACKGROUND

The Town of Cornwall frequently receives feedback from Town residents regarding speeding in local neighbourhoods, potentially endangering the safety of residents. Speeding is often of particular concern to those with young families. The Infrastructure Department supports this feedback from residents, and is committed to making objective, evidence-based decisions to ensure traffic calming measures are properly deployed in the Town's various residential neighbourhoods. One method by which the Infrastructure Department calms traffic is through the installation of speed humps.

To ensure the objective and consistent application of speed humps as a means of traffic calming, the Infrastructure Department follows a regimented application process which incorporates gathering community support for the speed hump, as well as a technical review by the Manager of Infrastructure. In some cases, with use of engineering judgement, installation of speed humps may be deemed necessary or unnecessary despite the outcome of an application for a speed hump or without an application for a speed hump being submitted. For example, a speed hump may be installed as a means of traffic control in an area adjacent to a construction zone due to temporarily increased traffic levels.

Based on staff evaluations of speed hump policies and practices from numerous jurisdictions, the Town of Cornwall has adopted the use of speed humps as a traffic calming measure and considered for installation as a means to assist in reducing the speed of traffic.

ADVANTAGES AND DISADVANTAGES

It has been well documented through research that the installation of speed humps affords many advantageous results, though not without negative effects. Residents must acknowledge that in having a speed hump installed in their neighbourhood may reduce the speed of traffic – increasing safety for pedestrians and other motorists; but will also potentially expose them to additional risk associated with having a speed hump.

Advantages

It has been proven that speed humps are effective in reducing speed of motorists as well as reducing the severity of vehicle-pedestrian collisions, particularly those involving children (June Tester, 2004)(Werner, 2015). This benefit is significant in helping create safe, pedestrian friendly communities. Understandably, residents desire this benefit of speed humps, especially when there are young families in the neighbourhood. It is often the balance between the benefits realized from having reduced traffic speeds and the disadvantages of speed humps. This increased level of safety is also conducive to active transportation (Berthod, 2011), which is a common agenda item for municipal governments.

Another benefit of speed humps that has been observed is reduced traffic volume (Werner, 2015). Although this may appear to be a good thing for the residents of the street, it often leads to increased volumes on parallel streets not equipped with speed humps which may be a cause for concern for residents of those streets. The Town is unable to install speed humps on every

residential street, and thus takes the installation and subsequent analysis of effectiveness for its speed humps very seriously.

Disadvantages

Similarly, there are well defined and studied disadvantages to the use of speed humps, and although this list is not exhaustive, it does present some of the disadvantages that have been established:

- Speed humps may increase emergency vehicle response time by up to ten seconds per speed hump (Berthod, 2011).
- There is a risk of diverting traffic to other streets that do not have speed humps installed (Berthod, 2011).
- There is increased noise caused by the braking, acceleration, and of course the well-known 'ker-thump' caused when vehicles hit them at higher speeds (Berthod, 2011).
- Speed humps are inconvenient for cyclists and other non-motorized users of public streets (Berthod, 2011).
- Increased fuel consumption by vehicles due to stop-and-go tendencies.

SPEED HUMP DEVICES APPROVED FOR TOWN USE

The Department of Infrastructure and the Town of Cornwall as a whole is committed to providing residents with the best services possible, while being cost effective and consistent in the delivery of said services. Specifically, for speed humps, the Town has approved dimensions and specifications that must be followed for speed humps used on public Town streets:

- Speed hump material shall be rubber.
- Reflective tape shall be embedded in each section of the speed hump.
- Each speed hump assembly shall include a tapered endcap for each end of the device.
- Speed hump device components shall have the following dimension:
    - Height of sections: 2"-2.5"
    - Width of sections: 19"-20"
    - Length of sections: 33"-36"
    - Weight of sections: 0 lb.-40 lb.
- Where section dimensions differ (e.g. between two different brands), each speed hump assembly shall be constructed using sections of uniform dimensions.
- Each section shall have a minimum of 4 anchor bolts for securing to the pavement.

Please see below for an image of a typical speed hump used in the Town of Cornwall.

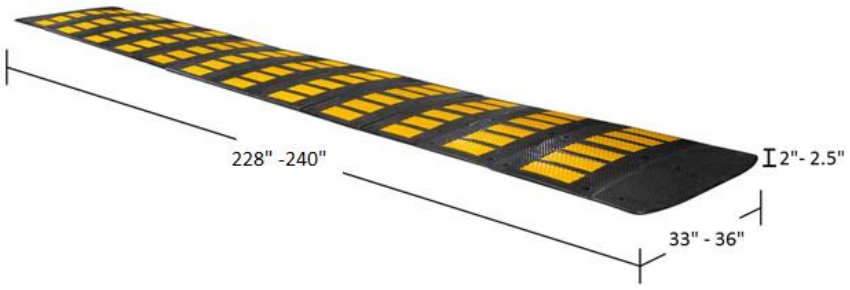

Figure 1 – Typical speed hump used in the Town of Cornwall.

PROCESS TO REQUEST SPEED HUMP IN YOUR NEIGHBOURHOOD

To request installation of a speed hump, residents of Cornwall are advised to follow steps 1 and 2 of the process herein, though please read the entire process for your information on how we will handle your request:

1. Contact the Department of Infrastructure at (902) 566-3234 to obtain a copy of a Speed Hump Application Form.
2. Complete all fields as prompted on the Application, and return to the Department of Infrastructure via mail, email, or by hand delivery. Please ensure that all fields are completed properly, and that you have obtained the expressed support of (66%) of households on the street segment denoted on the Application.
3. Infrastructure staff, under direction of the Manager of Infrastructure shall review the application to ensure that all warranting criteria (as subsequently shown in this document) have been met and that the necessary community support has been obtained. Failure to satisfy the requirements of the warranting criteria shall disqualify the installation of a speed hump. Incomplete applications shall be returned to applicant for a request for more information.
4. Based upon the outcome of the application and its satisfaction of the warranting criteria, as well as engineering judgement, the Manager of Infrastructure shall approve or deny the application for speed hump install. If approved, the location of an installed speed hump shall be at the sole discretion of the Manager of Infrastructure and may be at a different location on the street than what was requested in the Application.
5. The Manager of Infrastructure, upon approving an Application, shall initiate the internal process to have Infrastructure Staff install the Speed Hump at the prescribed location.
6. The installation location and date of install shall be recorded by Infrastructure Staff to ensure that best asset management and inventory keeping practices are followed.

Speed Humps on Local Residential Streets:
Warrant Criteria & Installation Guidelines

Following a warrant analysis using the warranting criteria discuss below, the Manager of Infrastructure may authorize the installation of a speed hump, as per the installation guidelines also denoted below, in response to a speed hump application submitted by a resident.

Warrant Criteria

Failure to meet one or more of the following criteria shall, at the discretion of the Manager of Infrastructure, disqualify the installation of a speed hump.

1. The street is a local residential street, wholly in Cornwall, and is not any of the following:

    a. A collector or arterial street (residential streets only shall be approved)
    b. A cul-de-sacs or dead-end
    c. A major emergency response route
    d. Adjacent to fire halls, hospital or community care facility
    e. Sharply curved, with or without superelevation
    f. Steeply graded (grade not exceeding 8%)
    g. In a commercial or industrial area, or frequently used by single axle or articulated trucks
    h. A street with a posted speed limit exceeding 40 km/hr.
    i. A street with surface course other than asphalt.

2. 2/3 or 66% of the residents on the street segment approve of the speed hump installation (1 vote per address/residence). The Town of Cornwall will conduct a survey once a completed application is received.

3. 85th percentile speed exceeds 50km/h (or 10 km/h higher than warranted speed)

4. The street segment must have a minimum length of 100m. (street segment - a section of roadway or alley that is between two streets)

5. The streetscape and asphalt must be in good shape, and not be scheduled for repair within the next 120 days.

6. A minimum street traffic volume must be at least 300 vehicles per day, as assessed by Infrastructure.

7. Streets adjacent to public parks or in school zones will receive higher priority for speed humps as to reduce the potential and severity of vehicle-pedestrian collisions.

Installation Guidelines

For all speed hump installations in the Town of Cornwall, the following installation guidelines shall be followed to the best ability of the Town. The Manager of Infrastructure reserves the right to approve or deny any installation location regardless of its meeting of guidelines or failure to do so.

1. Speed humps shall be spaced at approximately 50 - 90 meter intervals according to the block length. In some cases, a single speed hump may be installed on a street where two or more speed humps are not deemed necessary.
2. There shall be a minimum distance of 30 meters from the stop bar of a stop sign at a controlled intersection.
3. A “speed hump sign” shall accompany each speed hump and be placed directly beside the installation, and a “speed hump ahead” sign shall be placed in advance of each series of speed humps in a block (in both directions) or with a single speed hump installation, where required.
4. Speed humps shall not be placed in front of driveways or installed over manholes or water valves or be located immediately adjacent to fire hydrants.
5. In determining the location for speed humps, existing street lighting should be taken advantage of as much as possible to increase nighttime visibility.
6. Speed humps shall not be located in horizontal or significant vertical curves.
7. Speed humps shall be placed at higher elevation points to accommodate proper street storm water drainage.
8. Speed humps shall be placed to leave an approximately 6” gap on either side of the asphalt surface to allow for safe bike lanes through the speed hump.
9. Where possible, speed humps should be placed in line with property lines for noise abatement and aesthetic reasons.
10. Speed humps shall not be placed on major emergency vehicle response routes.

REFERENCES

Berthod, C. (2011). *Traffic Calming Speed Humps and Speed Cushions.* Montreal: Ministere des Transport du Quebec.

June Tester, G. R. (2004). *A Matched Case-Control Study Evaluating the Effectiveness of Speed Humps in Reducing Child Pedestrian Injuries.* San Francisco: Am J Public Health.

Werner, T. (2015). *Do Speed Humps Help Reduce Vehicular Speeds, Volumes, and Motorist Accidents?* San Jose: San Jose State University.