



# Development of Traffic Calming Policy

## Recommended Traffic Calming Policy

Wednesday, November 19, 2008



# Agenda

- Introduction to traffic calming
- Common traffic calming measures
- Key points of recommended traffic calming policy
- Best practices research and stakeholder outreach
- Traffic calming policy details



# What is Traffic Calming?

***“Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.”***

- Institute of Transportation Engineers



# Common Traffic Calming Measures

## ■ Horizontal Deflection

- Curb Extension
- Mini Roundabout / Traffic Circle
- Median Island
- Corner Radius Reduction
- Chicane
- On-Street Parking

## ■ Vertical Deflection

- Speed Humps / Tables
- Speed Cushion
- Raised Crosswalk
- Raised Intersection

## ■ Obstruction / Closure

- Directional Closure
- Raised Median
- Channelization
- Full Closure

## ■ Signing

- Regulatory Signs
- “Traffic Calmed Neighbourhood”
- Warning Signs
- Turn Restrictions

# Common Traffic Calming Measures



**Traffic Circle**



**Curb Extension**



# Common Traffic Calming Measures



**Speed Hump**



**Diverter**

# Common Traffic Calming Measures



**Raised Median**

**Raised Crosswalk**





# Common Traffic Calming Measures



**Median  
Island with  
Textured  
Crosswalk**

**Partial  
Closure**





# Common Traffic Calming Measures

## ■ Signing



# Why is Traffic Calming Important?

- Communities have experienced traffic growth due to urban sprawl and automobile dependence
- Considerable strain on the roadway network's ability to safely accommodate all road users
- Lack of arterial road capacity may result in motorists choosing to use collector and residential roadways to circumvent congestion

# Why is a Traffic Calming Policy Necessary?

- The recommended traffic calming policy is intended to
  - Provide a standardized process to address resident complaints
  - Ensure fairness, consistency and cost effectiveness in application
  - Reduce city staff workload and duplication of effort
  - Encourage public involvement in traffic calming activities
  - Avoid the mistakes that some jurisdictions have made in the past

# Traffic Calming Policy Goals and Application

- The primary goals of the recommended policy are to improve **safety and liveability**, particularly for vulnerable road users such as pedestrians and cyclists
- The recommended policy is designed for application to Local Roads, Collectors and Tertiary Arterials only
- Application limitations exist within the accepted classifications
  - Urbanized vs. Rural Areas
  - Roadway Cross Section
  - Posted Speed Limit
  - Grade
  - Transit / Emergency Routes





# Traffic Calming

## Current Best Practices

- Foundation of Greater Sudbury's traffic calming policy
- Review of North American best practices for traffic calming policies and warrants
- Focused on 24 jurisdictions in Ontario, elsewhere in Canada and in the United States
- Communities represent the forefront of traffic calming or share similar characteristics with Greater Sudbury, e.g. similar size and/or setting

# Summary of Best Practices Findings

- Indicate a strong desire to ensure safety of neighbourhoods and local communities
- Most jurisdictions offer variations on a similar theme
- Most common criteria
  - Traffic volumes, speeds and collision histories
  - Pedestrian generators and facilities
- Public involvement is universal
  - All studied municipalities use public consultation and support process

# Stakeholder Outreach

- Two workshops held with City of Greater Sudbury departments and agencies
  - City Councillors, Roads, Engineering, Planning, Transit, Fire, Police, Emergency Services, etc.
- Two public meetings held as part of Southview Drive pilot project
  - City-wide traffic calming survey distributed at each
  - Survey also available online and all Citizen Service Centres
  - Approximately 55 completed surveys, many from Southview Drive neighbourhood

## Stakeholder Outreach (cont.)

- Public survey responses consistent with expectations
  - Two most significant traffic issues are high traffic speeds and non-local traffic
  - Pedestrian and cyclist safety is also important
- Desire to implement traffic calming if it offers a solution to concerns
  - General unfamiliarity with many traffic calming devices, given the lack of such installations in Greater Sudbury
  - Common misconceptions concerning some traffic calming devices

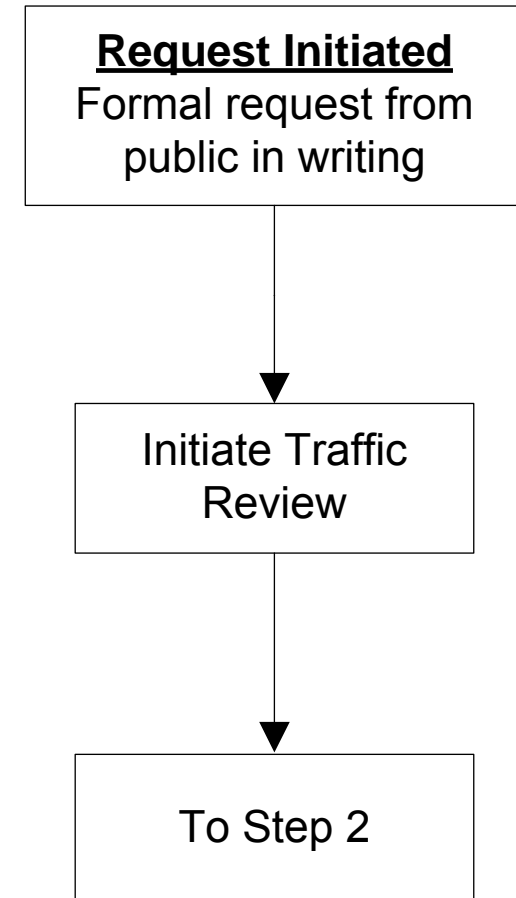


# Recommended Traffic Calming Process

1. Request for Traffic Calming
2. Traffic Calming Screening Process
3. Evaluation Scoring and Ranking
4. Available Traffic Calming Measures
5. Project Selection and Council Study Approval
6. Design, Public Support, Final Council Approval, Implementation

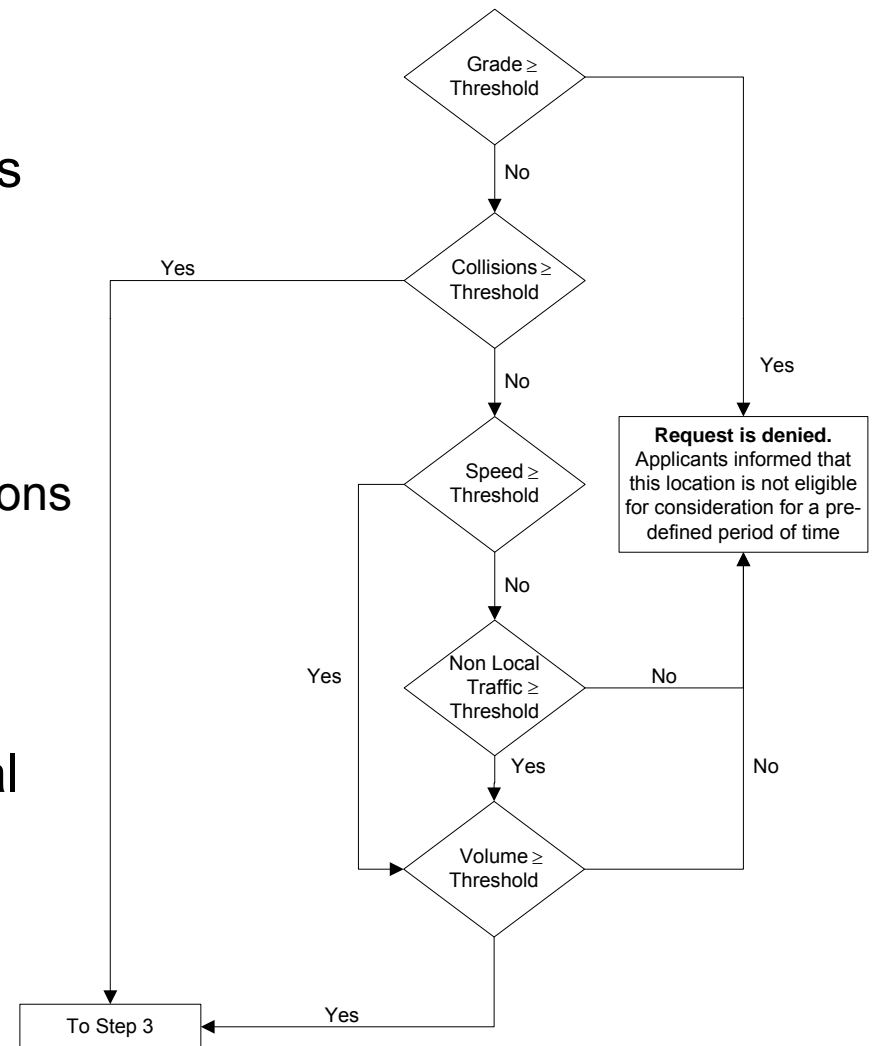
# Step 1: Request for Traffic Calming

- Typically from City residents, business owners, schools or members of Council.
- May also come from on-going staff reviews.
- Roads and Transportation Division staff shall be responsible for the review of all requests.



# Step 2: Recommended Warrant Screening Process

- Initial screening process
- Requirements set in 5 areas
- In order to advance to next stage, must satisfy at least one of
  - Minimum number of collisions
  - Speed + non-local traffic
  - Speed + volume
- Different thresholds for local roads vs. collectors/tertiary arterials



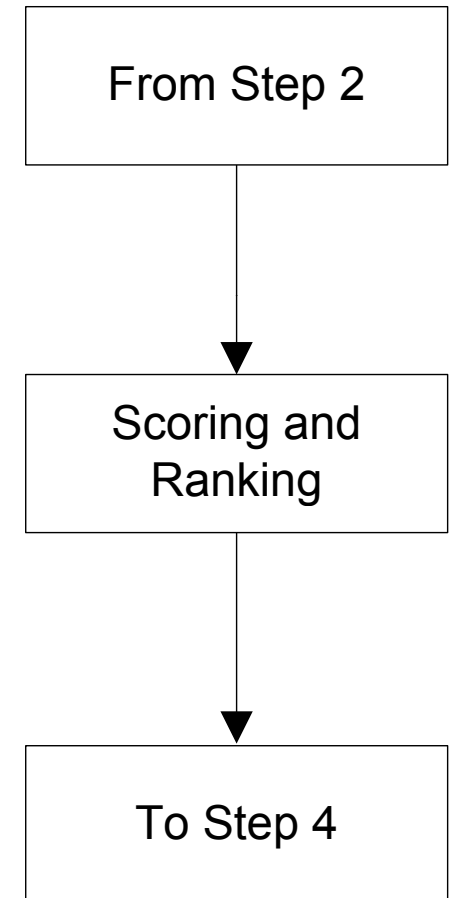
# Recommended Screening Criteria and Thresholds

Criteria	Minimum Threshold		Notes
	Local Road	Collector / Tertiary Arterial	
Grade	$\geq 8\%$		If grade exceeds threshold, traffic calming is not permitted
Collision History	$\geq 6$	$\geq 12$	Number of collisions within the last three years involving vulnerable road users and/or which could potentially be corrected by traffic calming measures
Volume	$\geq 900$ veh/d	$\geq 3,000$ veh/d (Collector) $\geq 5,000$ veh/d (Tertiary Arterial)	Two-way daily volume
Speeds	$\geq$ posted speed limit		85th Percentile speed
Non-Local Traffic	$\geq 30$ Percent		'Cut-through traffic'



## Step 3: Recommended Evaluation Scoring and Ranking

- All sites that pass initial screening are scored independently and ranked against each other
- Criteria include but not limited to
  - Traffic Speeds and Volumes
  - Collision History
  - Non-Local Traffic
  - Pedestrian Generators and Facilities
  - Emergency/Transit Services and Routes
  - Block Length and Adjacent Land Uses
- Different scoring for local roads vs. collectors/tertiary arterials
- Qualitative consideration of potential impacts to adjacent streets

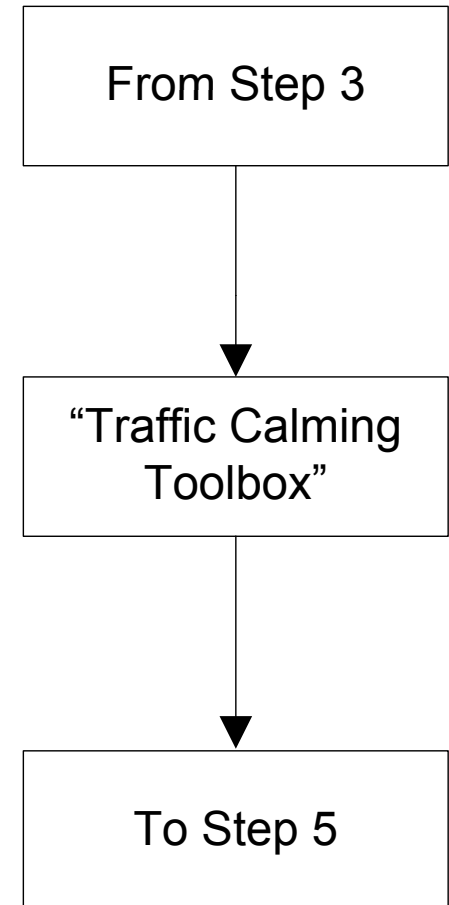


# Recommended Scoring

Factor	Maximum Points (Local Road)	Maximum Points (Collector / Tertiary Arterial)
Collision History	20	15
Traffic Speeds	15	20
Non-Local Traffic	15	10
Traffic Volumes	20	20
Pedestrian Generators	10	10
Pedestrian Facilities	5	10
Emergency Services and Routes	0	0
Transit Services and Routes	0	0
Block Length	10	10
Adjacent Land Uses (residential)	5	5
	<b>100</b>	<b>100</b>

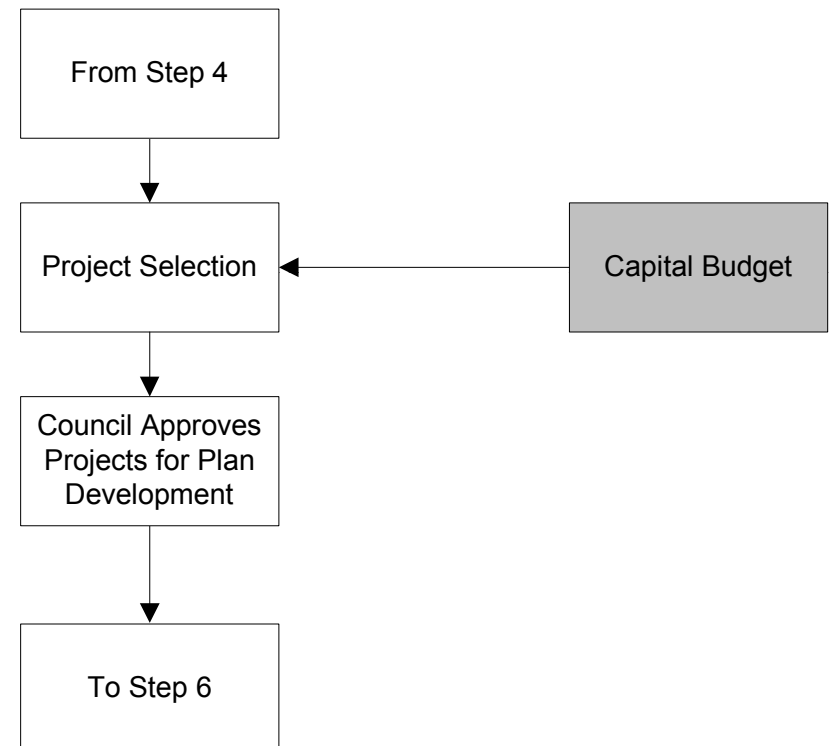
## Step 4: Recommended Available Traffic Calming Measures

- The “traffic calming toolbox” provides guidance for City staff for the selection of appropriate measures
- Measures grouped by type
- Guidance for each measure provided by type of roadway
  - Appropriate Measure
  - Use with Caution
  - Not Recommended
- Staff gather information and begin to develop budget estimates for potential projects to be submitted to Council



## Step 5: Project Selection and Council Approval

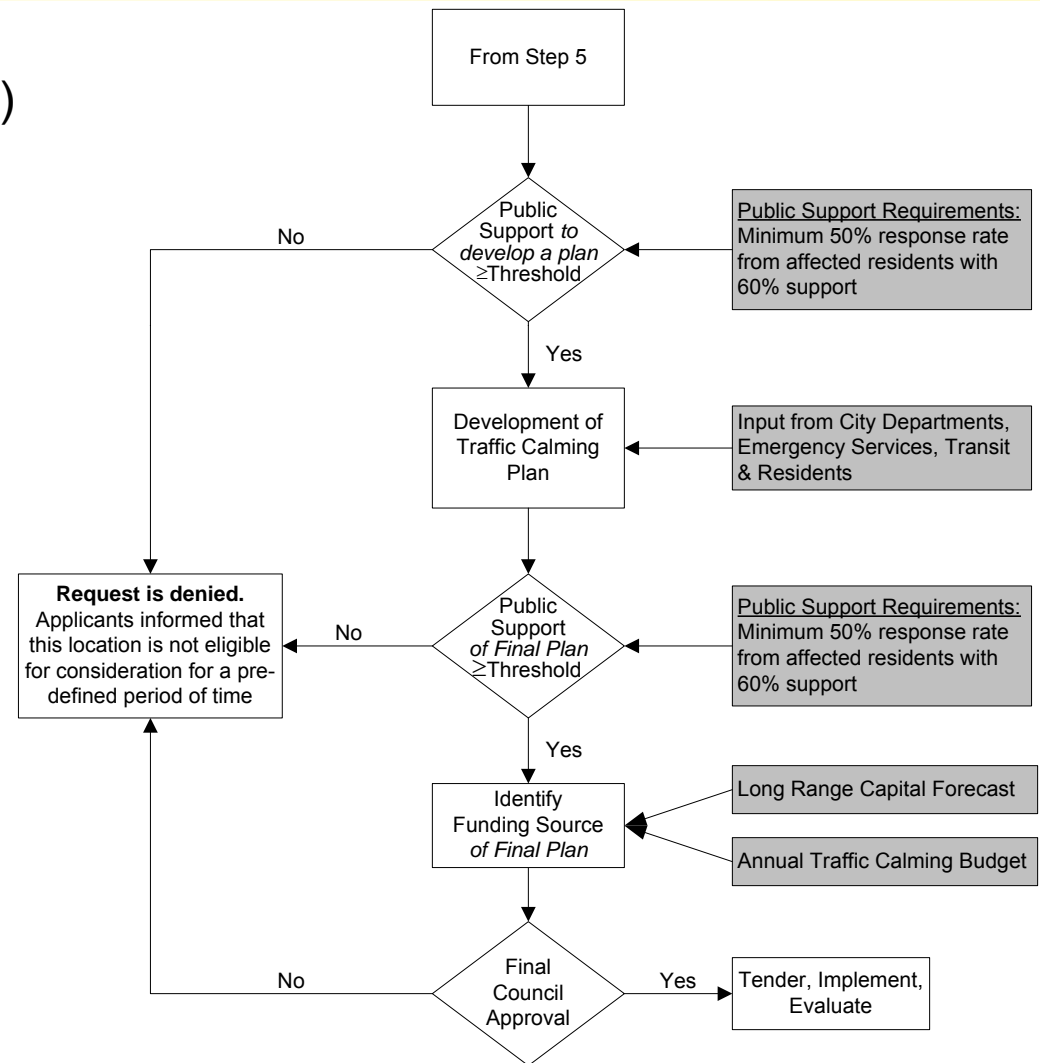
- Staff prepare preliminary estimate ranges for higher-ranking projects
- Also for projects that may be served through signage alone
- Staff forward a list of the recommended project(s) to Council for approval





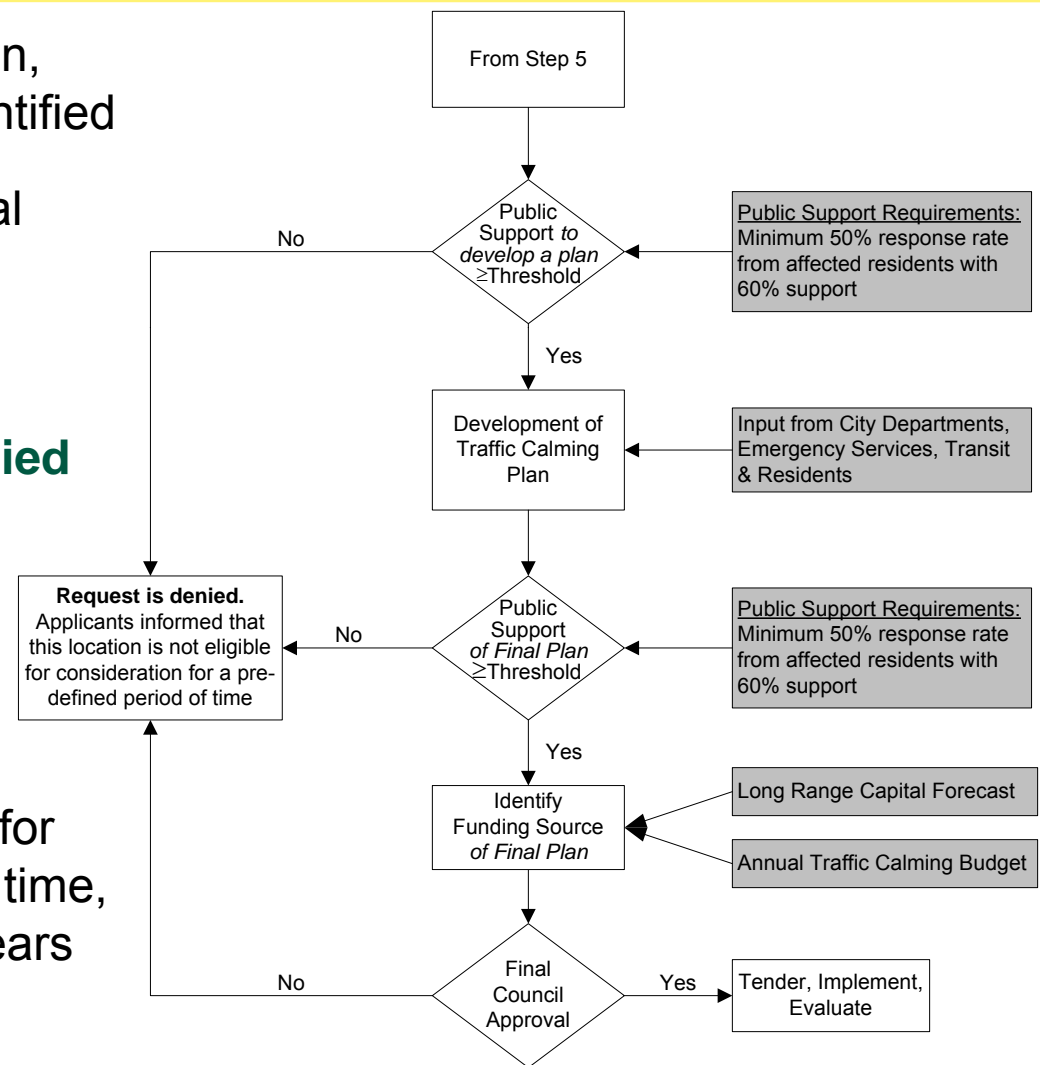
# Step 6: Design, Public Support, Final Council Approval, Implementation

- Council gives initial approval for project(s)
- Residents polled for support
- **A minimum 50% response rate from affected residents with 60% support is recommended to proceed with plan development.**
- Plan development includes input from city departments
- The same requirements are recommended for public approval of a recommended plan.



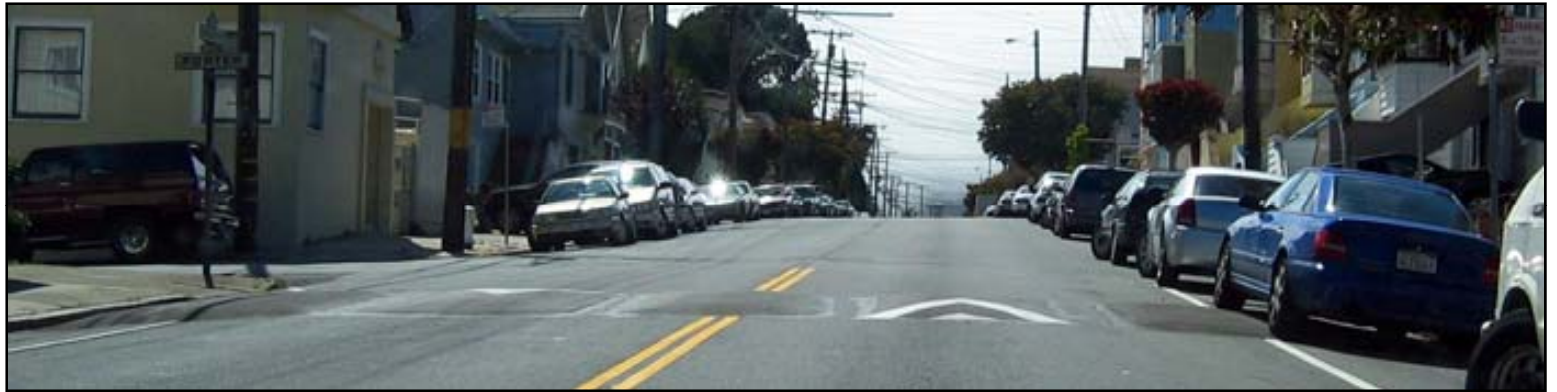
# Step 6: Design, Public Support, Final Council Approval, Implementation

- If public approves plan, funding source is identified
- Final Council approval
- Tender, implement, evaluate/monitor
- **Request can be denied in this stage for**
  - **Lack of public support**
  - **Council rejection**
- Site is then ineligible for pre-defined period of time, recommended two years



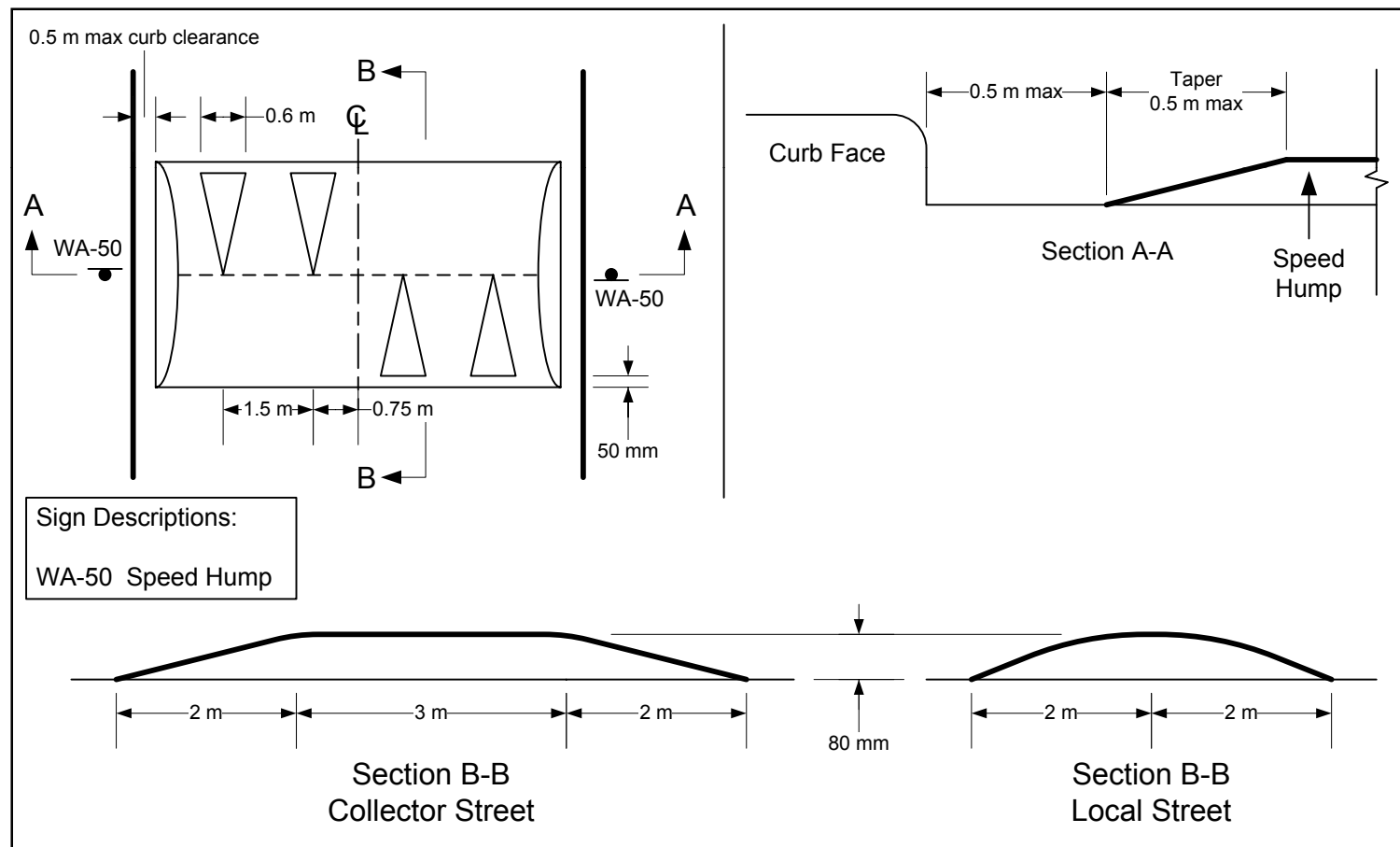
# Common Traffic Calming Measures

## ■ Speed Cushion & Raised Crosswalk



# Common Traffic Calming Measures

## ■ Speed Hump / Table Design Elements



# Common Traffic Calming Measures

## ■ Signing

