Traffic calming: Getting over the hump

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Governments & Growth
November 17, 2004
Traffic calming origins

- Classical traffic engineering brings higher speeds and volumes.
  - Passive safety – for motorists.
  - Induced traffic.
  - Result: physical danger, reduced quality of life.

- Calming techniques develop from grassroots.
  - European response.
  - American response.

Swiss residents installed a curtain to slow vehicles.
Traffic calming defined

- Volume control through street design.
- Speed control (speed management) through street design.
- Not pedestrianization.
- Not enforcement (with exception of fixed cameras).

**Volume control:** half-closure with gap for bikes (above).

**Speed control:** speed table (left).
Speed control techniques

- Vertical (local roads, generally).
  - Speed hump.
  - Speed table.
  - Raised crosswalk.
  - Raised intersection.

Speed hump.

Raised crosswalk.
Speed control techniques (continued)

- Horizontal (local roads or thoroughfares)
  - Roundabout
  - Neckdown
  - Chicane
  - Center island
Speed control techniques (continued)

- Narrowing (local roads or thoroughfares).
  - Raised median.
  - Tightened turn radius.
  - Four- to three-lane conversion (road diet).
  - Lane narrowing.
  - Short building setbacks.

Narrowing achieved by landscaping and adding bike lanes.
Speed control techniques: (continued)

- Miscellaneous
  - Signage.
  - Textured pavement.
  - Gateway.
  - Automated enforcement.
  - Speed-activated stoplight.
  - Traffic-signal coordination.
  - Pavement markings.

Special sign (left), textured pavement (below).
Speed control by design: Some considerations

- Speed limits/enforcement.
  - “Proper” speed.
- Stop signs and stoplights.
- Standards and liability.
- Stakeholder participation.
  - Public.
  - Institutional.
- Areawide effects.
- Role of expertise.
Case study: Decatur

- Extensive streetscaping in the downtown.
- Speed humps and tables, and a few closures, in neighborhoods.
- Red-light cameras on residential thoroughfares.

Downtown Decatur.
Case study: Decatur

Figure 1. Motor vehicle collisions with pedestrians and bicyclists, January 2000-May 2003. (DeKalb County Board of Health.)

Key
- B – Bicycle
- D – Dart out
- CW – Crosswalk
- MB – Midblock
- SW – Sidewalk
- ? – Record missing or unknown
## Case study: Decatur

<table>
<thead>
<tr>
<th>Travel direction</th>
<th>Ponce de Leon Avenue</th>
<th>Commerce Drive</th>
<th>Church Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>West-bound</td>
<td>East-bound</td>
<td>Southwest-bound</td>
</tr>
<tr>
<td>Number of lanes</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Speed limit</td>
<td>30</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Operating/85th percentile speed (mph)</td>
<td>44</td>
<td>45</td>
<td>36</td>
</tr>
<tr>
<td>Maximum speed (mph)</td>
<td>53</td>
<td>53</td>
<td>46</td>
</tr>
<tr>
<td>Difference between 85th percentile speed and posted limit (mph)</td>
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<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Difference between 85th percentile speed and 30 mph</td>
<td>14</td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>
Case study: Decatur

Recommendation: “Road diets”
- Up to 24,000 VPD
- Improved safety
- Lowered speeds
- Little effect on capacity

Ponce de Leon Avenue.

Church Street.
Speed control:
General recommendations

- Better design can produce better results. Make speed control a criterion for road projects.
- Look at state-of-the-art practice, but consider novel designs.
- Engage stakeholders early.
- Pick experts carefully; be skeptical of “AASHTO says no....”
- Integrate traffic-calming projects with broader livability planning efforts.