Traffic Calming in Ada County – A Data Driven Approach

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ITE Western District Meeting
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Our Mission:
We drive quality transportation for all Ada County – Anytime, Anywhere!
Only in California...
Agenda

- Where we started
- Traffic calming survey of other agencies
- Data collection
- New criteria
- How we’re doing
Ada County Highway District

- Single purpose, countywide road district
- Independently governed
- 2200 roadway miles to maintain
ACHD Original TC Policy

- Traffic speeds and volumes
  - Developed in 1991
  - Collectors and local roads
  - 100 vehicles in peak hour
  - Speeds in peak hour based on sliding scale
    - Narrower streets, no sidewalks, sight distance limitations – lower threshold
- Neighborhood petition
- Cut through study
What TC Measures Do We Use?

- Largely speed humps/cushions
- Could use other measures based on site specifics:
  - Chicanes
  - Median islands
  - Bulbouts
- Larger effort ($$) = Larger consensus (and Commission approval)
Why Readdress?

- Program was 20+ years old without modifications
- Update based on “best practice”
- Some streets qualify, but not every street
Other Jurisdictions

- Factors to consider:
  - Street length
  - Street width
  - Posted speed limit
  - Min/Max ADT
  - Grades
  - Transit
  - Emergency access
  - Street classification
  - Petition requirement
Other Jurisdictions

- Street length – 300’–1200’ min.
- Posted speed limit – All < 35 mph
- Min. ADT – 400–900
- Max. ADT – 3500–5000
- Speed survey
  - Tied to posted speed limit
  - Tied to 85th perc. speed
- Grade – < 8%
- Classification – local or collector
- Petition – 60–75% of affected residents
Local Considerations

- Highway District, not a City
  - Can’t set prima facie speed limits
  - Different within the county
  - Boise – 20 mph
  - Meridian – 25 mph
- Fire/police considerations
- Transit agency
- Cut-through potential
- Commission approval
Citizen concerns – pneumatic tubes
- Agreeable location
- Seven days
- Generally during school year
- 186 location sample (2013–15)
- Local roads only

Source: PennDOT
Findings

- 15% qualified on volume (27)
- 5% qualified on speed (10)
  - 8/10 streets <24’ wide qualified on speed
  - Reduce speed threshold for narrower streets
- Eight cut through studies, one qualified
- Relationship between street width and speeds?
Street Width Vs. Average Speed

Average Speed (mph) vs. Street Width (ft)

The data points are plotted with a linear trend line.

The equation of the trend line is:
\[ y = 0.0567x + 19.644 \]

The coefficient of determination, \( R^2 \), is 0.0076.
Street Width Vs. 85th Percentile Speed

\[ y = 0.0005x + 26.594 \]

\[ R^2 = 8 \times 10^{-7} \]
Street Width Vs. 95th Percentile Speed

\[ y = 0.0031x + 29.306 \]

\[ R^2 = 2E-05 \]
Findings

- No “credit” for narrower roadway
- Retain “credit” for lack of sidewalks
- Avg. speed in peak hour limiting
- No “points” system – too difficult to explain to public
- Limited need to “calm” very low volume streets
A New Policy

- Overall speeds, not just peak hour
  - Use higher end of the scale
  - 85th, 95th percentile (30 mph, 35 mph)
- Volumes in peak hour OK
- Implement min. ADT (400)
- Implement max. ADT (4000)
- Implement min. street length (750’)
- Reduce cut through percentage
Post-Policy Implementation

- Speed/volume studies, 2018–9
  - 85 sites
  - Local roadways
- Eight qualified on speed (9%)
- 18 qualified on volume (21%)
- Four qualified on both (4%)
- Five cut through studies completed
  - Three qualified at District expense
# Speed Comparison

- Boise – 20 mph
- Meridian, Ada County – 25 mph

<table>
<thead>
<tr>
<th>Speed</th>
<th>85&lt;sup&gt;th&lt;/sup&gt; Perc. Speed</th>
<th>95&lt;sup&gt;th&lt;/sup&gt; Perc. Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mph</td>
<td>25.5 mph</td>
<td>28.3 mph</td>
</tr>
<tr>
<td>25 mph</td>
<td>25.7 mph</td>
<td>28.6 mph</td>
</tr>
</tbody>
</table>
## Traffic Calming Isn’t Effective!

<table>
<thead>
<tr>
<th>Street</th>
<th>Before Traffic Calming</th>
<th>After Traffic Calming</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(ADT)</td>
<td>(Peak Hour)</td>
<td>(Peak Hour)</td>
</tr>
<tr>
<td>Ellis St.</td>
<td>1401</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Gillis St.</td>
<td>1131</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>Albion St.</td>
<td>971</td>
<td>22</td>
<td>---</td>
</tr>
<tr>
<td>Crescent Rim Dr.</td>
<td>705</td>
<td>24</td>
<td>30</td>
</tr>
</tbody>
</table>

- Percent Change: 
  - Ellis St.: -8% / -15% / -18% / -18%
  - Gillis St.: -33% / -20% / -17% / -21%
  - Albion St.: -20% / -35% / -23% / ---
  - Crescent Rim Dr.: 11% / 0% / -13% / -17%
Going Above and Beyond

- What if street is more than residential?
- What if street has a historic role in the community?
- What if street falls at the higher end of the volume continuum?
“Traffic calming is a Band-Aid for a much more serious issue (poor growth and development management) that isn’t getting addressed in an overall manner by ACHD or the City of Boise.”

“13th Street is a gem of the north end. Any efforts to calm traffic should prioritize pedestrians above all others.”

“Speed bumps are a nuisance...does not decrease speed.”
Recommended Concepts:

- Narrow vehicle lanes from 11-ft to 10-ft
- Chicanes
- Bulb outs
- Sidewalks replacing parking lanes
- RRFB for school crossing at Johnson Street
In Summary...

- Speeds and volumes still key criteria
- No relationship between street width and speeds
- No difference in speeds, 20 vs. 25 mph
- Neighborhood needs consensus (petition)
- Cut through as method of payment still valid
- No substitute for data collection
- Consider a higher level of engagement with higher volume streets
- Leave room for both the “art” and the “science”
Questions?

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