



Mt. Lebanon Commission Goal Setting Session to Improve Vehicle, Pedestrian, and Bicycle Safety

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Agenda

Publications

- PennDOT Publication 383 – *Pennsylvania's Traffic Calming Handbook*
- ITE's *Traffic Calming-State of Practice*

Engineering Options

- Speed reduction options
- Volume reduction options
- Advantages and Disadvantages

Regulatory Devices and Warning Devices

- Signage
- Pavement markings

Questions

Publications

- **PennDOT Publication 383 – Pennsylvania’s Traffic Calming Handbook**
 - Provides guidance to engineers and municipalities
 - Includes common devices and practices used in PA
 - Options for speed reduction and volume reduction
- **ITE’s Traffic Calming-State of the Practice**
 - National publication that provides information about traffic calming
 - Provides traffic calming programs from around the country
 - Should be used in conjunction with Publication 383

Engineering Options – Speed Reduction

■ Bulb-outs / Curb Extensions

- Offsets curblines to reduce vehicular travel lanes and corner radii
- Used at intersections and locations with significant pedestrian activity
- Slows traffic due to reduction in effective roadway width
- Provides safe area for pedestrians and decreases crosswalk length
- Currently exist along Washington Road

■ Chicanes

- Staggered curb extensions on alternating sides of the street
- Meant for local roads with ADT less than 3,500 vehicles per day
- Slows traffic by forcing it to weave through the shifting roadway
- Reduces speeds by 5-13 mph and volumes up to 20%

Bulb-outs and Chicanes



Engineering Options – Speed Reduction

■ On-Street Parking

- Parking on one or both sides of the street
- Slows traffic by reducing the effective roadway width
- Currently exists on many Mt. Lebanon streets

■ Traffic Circles

- A raised center circular island in the center of an intersection
- Meant for local roads with ADT less than 3,500
- Slows traffic by creating horizontal deflection
- Reduces speeds by 4-6 mph

On-Street Parking and Traffic Circles



Engineering Options – Speed Reduction

■ Roundabouts

- Similar to traffic circles but require yield control and more right-of-way
- Slows traffic by creating horizontal deflection
- Reduces speeds to approximately 15 mph through the roundabout



Engineering Options – Speed Reduction

■ Speed Humps

- A raised surface on the roadway
- Meant for roadways with ADT less than 3,500
- Slows vehicles with horizontal deflection
- Reduces speeds to 15 to 20 mph at each hump



Engineering Options – Volume Reduction

■ Semi-Diverter

- Create a one-way roadway on an intersection approach
- Meant for local road intersections with collector streets or arterial streets with ADT less than 3,500
- Reduces traffic by eliminating particular movements
- Volume reductions up to 60%

■ Diagonal Diverters

- A physical barrier crossing diagonally across an intersection creating 2 unconnected roadways
- Meant for local roads with ADT less than 3,500
- Volume reduction up to 20 to 70% (typically around 35%)

Engineering Options – Volume Reduction

■ Right-in/Right-out Island

- Intersection channelization restricting allowable movements to right turns
- Meant for local road intersections with collector streets, major arterials, or other local roads
- Reduces traffic by eliminating particular movements
- Volume reductions of 20 to 60%

■ Street Closure

- A physical barrier along the entire width of a local road to restrict all traffic movements at the intersection
- Meant for local roads with ADT less than 3,000
- Eliminates cut-through traffic

Diagonal Diverters, RIRO, Street Closure, and Semi-Diverter



Engineering Options – Other

■ One-way Streets

- Tend to increase speeds due to reduction in conflicts
- Typically result in increased volumes on adjacent streets

■ Speed cushions / Speed Pillows

- Modified speed humps with spaces between to permit wider axle emergency vehicles to pass without slowing
- Allow bicycle passage
- Typically consist of 3 or 4 cushions (pillows)
- Meant for local roads

Speed Cushions / Speed Pillows



Engineering Options - Advantages and Disadvantages

■ Advantages of traffic calming measures

- Reduction in speeds and / or volumes
- Can improve safety for motorists, pedestrians, and bicyclists
- Reductions in cut-through traffic; keeps motorists on collectors and arterials
- Can reduce conflicts between vehicles, pedestrians, and bicyclists
- Potential for reductions in crashes and collisions
- Increases driver awareness

■ Disadvantages of traffic calming measures

- Emergency response times can increase
- Winter maintenance can be problematic
- Heavy truck operations are hindered
- Some measures increase conflicts for bicyclists
- Some measures can create drainage issues
- Impacts to local residents and access
- Can increase volumes on adjacent streets and neighborhoods

Regulatory and Warning Devices

■ Regulatory Devices

- Regulatory devices includes signs, traffic signals, and pavements markings
- Include “R-Series” signs
 - Stop signs, yield signs, speed limit signs, one-way signs, etc.
 - Signs with black legend on white background (in general)
- Traffic signals
 - Signalized intersections
 - School zone flashers
- Pavement markings
 - Double yellow lines
 - Lane lines (white)
 - Crosswalks
- Citations can be issued when disobeyed

Regulatory and Warning Devices - continued

■ Warning Devices

- Warning devices also include signs, traffic signals, and pavements markings
- Include “W-Series” signs
 - “Ahead” signs, “Watch for” signs, .
 - Signs with black legend on yellow background (in general)
- Traffic signals
 - Signal ahead flashers
 - RRFB flashers at pedestrian crossings (Washington Road, Greentree Road)
 - Other warning flashers in conjunction with warning signs
- Pavement markings
 - “Slow” legend
 - Intersection ahead legends (white “T” or white “+” on intersection approaches)
- Citations generally cannot be issued when disobeyed



Questions?