WHAT IS TRAFFIC CALMING?

by the

Virginia Department of Transportation

Traffic calming is not new

"To bring greater tranquility to the streets of Rome in the days of Julius Caesar, a regulation made the city's central areas off-limits to all vehicles except those of public officials and high ranking citizens."

Traffic calming is not new

"Owing to great danger arising oftimes from coaches, sleighs, chairs, and other carriages, on the Lord's days, as people are going to or coming from the several churches in this town, being driven with great rapidity, and the public worship being oftimes much disturbed by such carriages, it is therefore voted and ordered that no coach, sleigh, chair, chaise, or other carriage shall at such times be driven at a greater rate than that of foot pace, on penalty … of the sum of 10 shillings."

- Boston's Board of Selectmen 1757

Items to Discuss

- Define traffic calming
- Traffic calming objectives
- Traffic calming measures
- Raised medians
- Roundabouts
- Speed humps

Items to Discuss

- Raised crosswalk
- Crosswalk refuge
- Chokers/Bump Out
- Chicanes
- Impacts on speed
- Photo simulations

TRAFFIC CALMING DEFINITION

- Combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users
- Changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes.

TRAFFIC CALMING OBJECTIVES

- Slow speeds
- Reduce cut-through traffic
- Reduce accidents and accident severity
- Increase safety for non-motorized users
- Reduce need for police enforcement
- Enhance street environment
- Increase access for all modes

TRAFFIC CALMING MEASURES

- Community awareness and education
- Enforcement
- Non-physical measures
- Physical measures
- Alternative actions

TRAFFIC VOLUMES AND TRAFFIC CALMING MEASURES

- < 600 vpd
  - Education
  - Enforcement
  - Non-physical measures
- 600 – 4,000 vpd
  - Education
  - Enforcement
  - Non-physical measures
  - Physical measures
- > 4,000 vpd
  - Education
  - Enforcement
  - Alternative actions
  - No traffic calming measures

TRAFFIC CALMING MEASURES

- Non-physical
- Physical

NON-PHYSICAL MEASURES

- Use signing and pavement marking
- Example -

  Pavement markings

  - Delineate a parking lane
  - Bicycle lane
  - Stripe out an area of pavement
- All effectively narrow the width of the travel lane


SLOW

PHYSICAL MEASURES

- Raised median island
- Traffic circle
- Speed hump
- Raised crosswalk
- Crosswalk refuge
- Choker
- Chicane

RAISED MEDIAN ISLAND

Description

Raised median in the middle of the roadway

Placement

Accommodate normal turning radii near intersections; placed in the middle of the roadway with proper warning signing and delineation


DO NOT
PASS
BIKES
THRU
CROSSING

RAISED MEDIAN ISLAND (cont.)

Advantages

- Reduces speeds, shortens pedestrian crossing time and distance

Disadvantages

- Drainage problems, maintenance costs, expense

Estimated cost

- $5,000-$15,000 per island

Roundabouts

Description

Circular intersections with Yield controlled traffic entry, channelized approaches, and geometric curvature with typical travel speeds of ≤ 30 MPH.

Placement

Street grades approaching the intersection should not exceed 10 percent and entrances should be a minimum of 100 feet away on all approaches

ROUNDABOUTS (cont.)

Advantages

Reduces speeds, reduces conflict points, lower maintenance costs, reduces delay, can be visually attractive

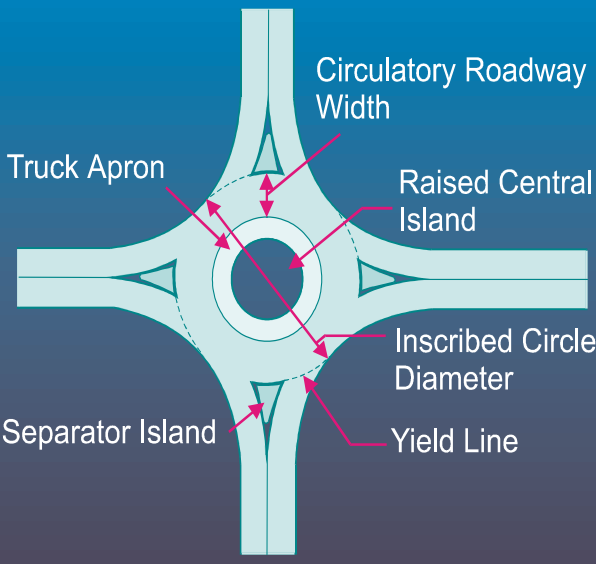
Disadvantages

Placement of circle may reduce parking spaces and require additional right of way

Estimated cost

$3,500 + per circle

MODERN ROUNDABOUT DESIGN



- Yield at entry
- Deflection
- Flair at entry
- Splinter islands

MODERN ROUNDABOUTS

SPEED HUMP

Description

Raised hump in the roadway with a parabolic top, extending across the road at right angles to the traffic

Placement

Spacing should be about 500 feet, clearly visible for 200 feet, and placed at least 200 feet from intersections; should include warning signs

SPEED HUMP (cont.)

Advantages

- Reduces speeds

Disadvantages

- Increases emergency response times and slows emergency vehicles and buses, potential drainage problems, increases noise, increases maintenance costs

Estimated cost

- $2,000-$3,000 per speed hump

RAISED CROSSWALK

Description

Raised hump in the roadway with a 10-foot flat top, extending across the road at right angles to the direction of traffic flow

Placement

Where significant numbers of pedestrians cross the roadway; should include advance warning signs

RAISED CROSSWALK (cont.)

Advantages

- Reduces speeds, provides improved visibility and safety for pedestrians

Disadvantages

- Increases emergency response times and slows emergency vehicles and buses, potential drainage problems, increases noise, increases maintenance costs

Estimated cost

- $2,500-$8,000 per raised crosswalk (higher estimate includes two curb ramps)

CROSSWALK REFUGE

Description

- Raised median in the middle of the roadway with a cut provided for the crosswalk

Placement

- Where a significant number of pedestrians cross the roadway


BUMP

CROSSWALK REFUGE (cont.)

Advantages

- Reduces speeds, provides refuge for pedestrians crossing roadway

Disadvantages

- Increases maintenance costs

Estimated cost

- $5,000-$15,000 per crosswalk refuge

CHOKER

Description

Physical constriction built at the curb side of the roadway to reduce the width of the travel lane

Placement

Normal turning radii should be accommodated; should include advance warning signs and delineation

CHOKER (cont.)

Advantages

- Reduces speeds, provides parking protection, shortens pedestrian crossing distance

Disadvantages

- Potential drainage problems, maintenance costs

Estimated cost

- $7,000-$10,000 per pair

CHICANE

Description

Alternating constrictions built curbside to create a bend in a formerly straight street, forcing vehicles to negotiate the narrowed street in a snake-like fashion

Placement

Should accommodate normal turning radii; sets are to be placed 400-600 feet apart; should include advance warning signing and delineation; used only on roadways divided with a median

CHICANE (cont.)

Advantages

- Reduces speeds, shortens pedestrian crossing time and distance

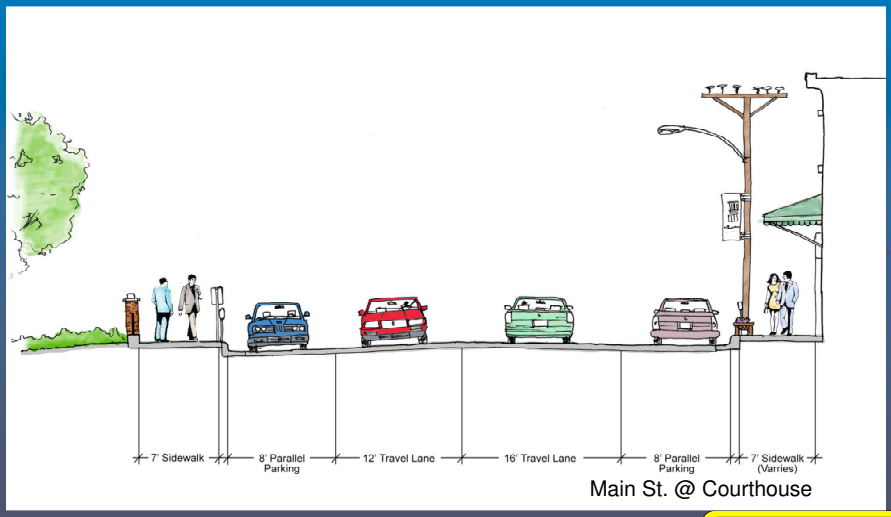
Disadvantages

- Limited to divided roadways, potential drainage problems, maintenance costs

Estimated cost

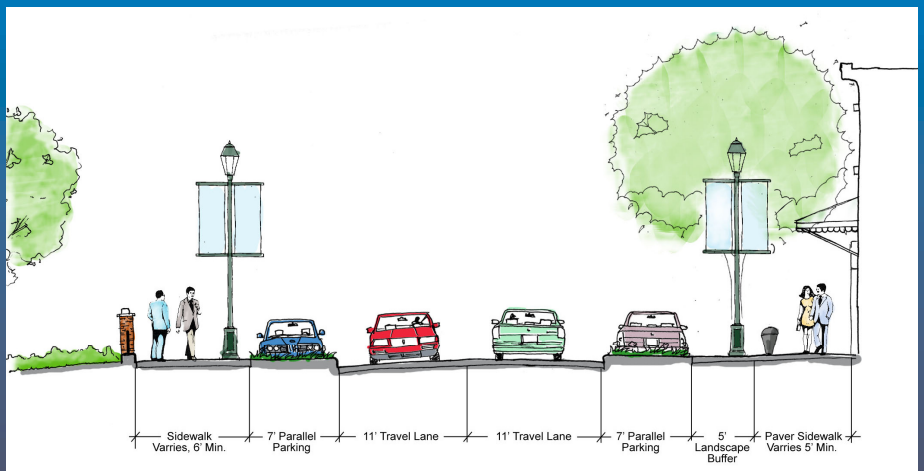
- $5,000-$15,000 per set

Existing Cross Section Downtown Louisa



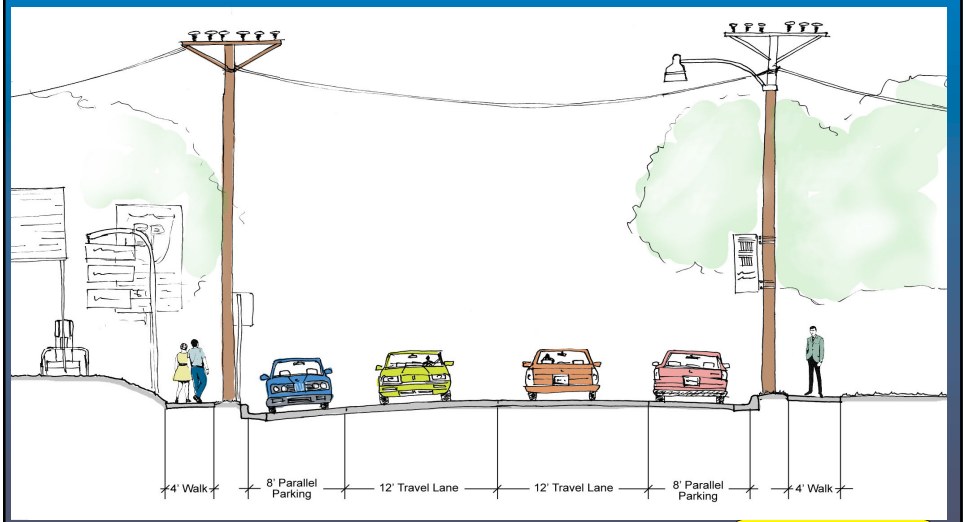
Main St. @ Courthouse

Desired Cross Section Downtown Louisa



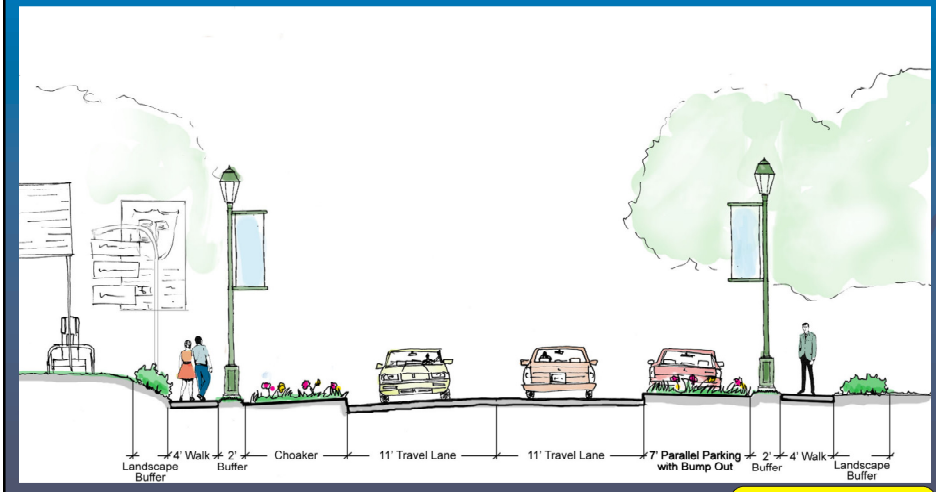
Main St. @ Courthouse

Existing Cross Section Downtown Edge



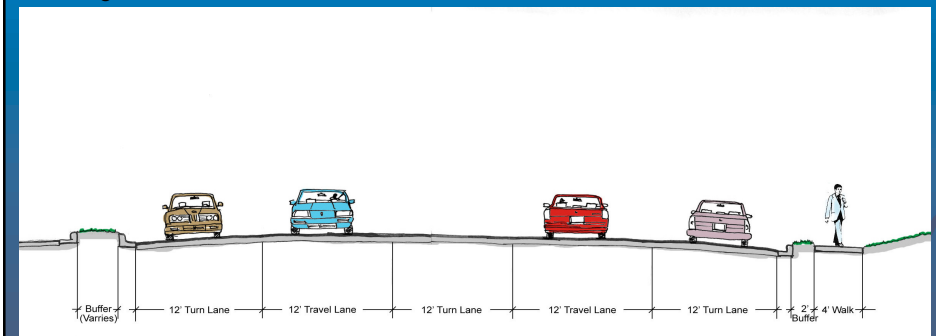
E. Main St.

Desired Cross Section Downtown Edge



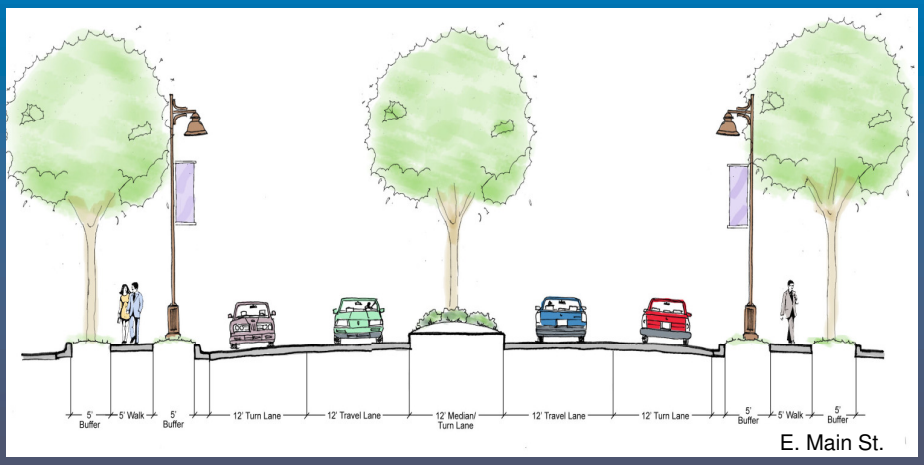
E. Main St.

Existing Cross Section Suburban Area



E. Main St.

Desired Cross Section Suburban Area



E. Main St.

Photo Simulation – What could be……Town of Louisa

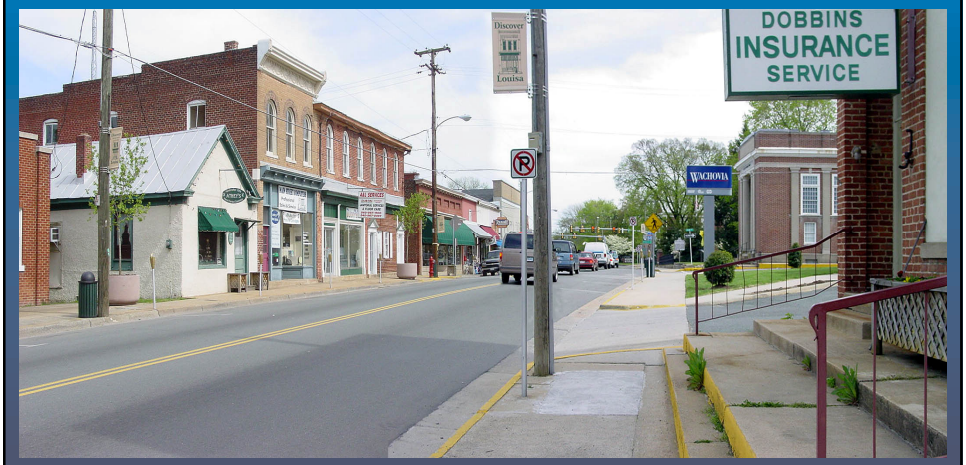


Photo Simulation – What could be……

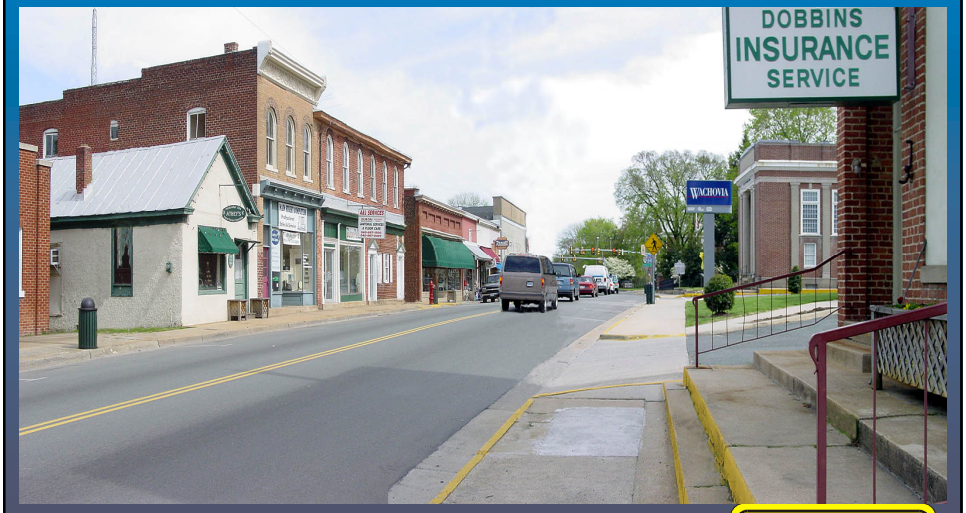


Photo Simulation – What could be……

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AGENCY CONCERNS

- Liability
- Fire
- Police
- Public works
- Sanitation
- School buses