Neighborhood Traffic Engineering

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Webinar Series
Traffic Engineering
Back to Basics

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Traffic Engineering

Manual on Uniform Traffic Control Devices - August 1948

- 5th edition
- Uniformity in traffic laws and regulations emphatically urged by President's Highway Safety Conference - May 1946
- Essential part of the uniformity plan and specifically recommended by the conference
- Intersections most critical points in traffic control
- Recognizes numerous developments in the field of traffic control and new needs resulting from higher traffic speeds
- Advances in sign size, illumination, refectorization, and substitution of symbols for words
- Black on yellow STOP signs

What is Traffic Engineering?

Traffic Engineering is a sub-discipline of transportation engineering that addresses the planning, design and operation of streets and highways, their networks, adjacent land uses and interaction with other modes of transportation and their terminals.

Transportation engineering is a sub-discipline of Civil engineering and is defined as the application of technology and science principles to the planning, functional design, operation, and management of facilities pertaining to any mode of transportation in order to provide for the safe, rapid, comfortable, convenient, economical, and environmentally acceptable movement of people and goods.

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Traffic Engineering - Primary Objective

SAFETY!

- NCDOT - Emphasize safe and rapid movement of people and goods (historically - cars & trucks)
- City - Emphasize safe and comfortable movement of pedestrians and bicycles

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What is Neighborhood Traffic Engineering?

Neighborhood Traffic Engineering specifically addresses the planning, design and operation of streets in residential communities of a city or town in order to preserve and/or enhance the resident's quality of life.

Quality of Life

- Hard to define - subjective
- Prefer low traffic volumes
- Eliminate or minimize "cut-through" traffic
- Drivers do not speed
- Pedestrians and bicyclists feel safe and comfortable

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Base Conditions

- Street classification (type) is local (some collector type streets could be included)
- Residential zoning
- Land use is at least 75% residential
- Statutory speed limit = 35 mph
- Typical posted speed limit for local type streets = 25 mph
- Typical posted speed limit for collector type streets = 30 mph

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Background - Asheville

- City-maintained street mileage = 400+ miles
- 75% is classified as local type streets (conservative estimate)
- Many older neighborhoods
- 41 signalized intersections
- 16 flashers

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Requests - Asheville

- Received by email
- Received by telephone call
- Received by the Asheville App (most common)

Type

- Lower speed limit (drivers constantly speeding)
- No parking issues (blocking driveways and sight distance restrictions)
- ADA parking abuse

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Challenges - Asheville

- Internet & social media
- Infill development (Cities can no longer annex without approval of the affected citizens - July 1, 2012)
- Primarily old infrastructure (established neighborhoods for many years)
- Mountainous terrain (narrow streets and no/limited shoulders)
- Balancing on-street parking with bicycle lanes and sight distance restrictions
- Lack of sidewalks
- Lack of bicycle lanes
- COVID-19 event
- Limited staff capacity

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Resources / Toolkit - Asheville

- Asheville Police Department - Community Resource Officers (CRO)
- Manual on Uniform Traffic Control Devices
- City of Asheville Code of Ordinances
- City of Asheville Complete Streets Policy
- City of Asheville Traffic Calming Policy
- Speed Studies
- USLIMITS2

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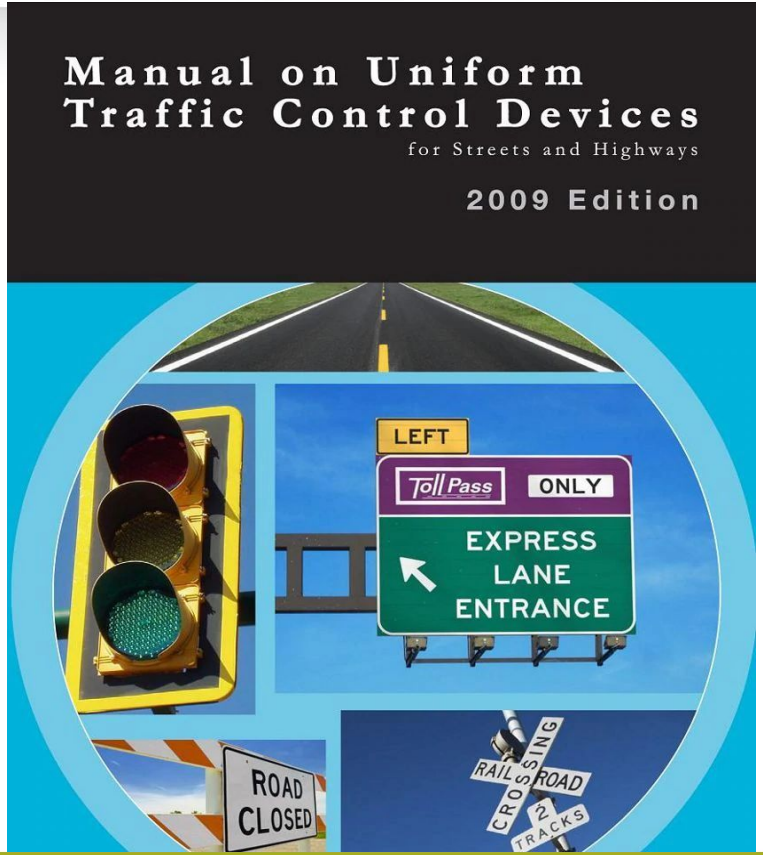
Asheville Police Department - Community Resource Officers (CRO)

- 4 officers covering 4 areas
- Respond to residential community needs
- Meet with the neighborhood associations
- Provide appropriate enforcement
- Work closely with the Transportation Department

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Manual on Uniform Traffic Control Devices

- Must conform to the appearance criteria - GS 136-30
- Provides some flexibility



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City of Asheville Code of Ordinances

- Chapter 19 - Traffic

City of Asheville Complete Streets Policy

- Adopted by City Council - June 2012

City of Asheville Traffic Calming Policy

- Adopted by City Council - February 2000
- Updated by City Council - March 2014
  (Only speed humps & speed cushions)
- Addresses residential local and collector streets

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Speed Studies

- Collect 72-hour traffic counts and speed data - Tuesday, Wednesday, Thursday
- Share the data with the Asheville Police Department
- USLIMITS2 (typically used for collector and arterial type streets)
- Review and gain concurrence for speed limit recommendations with the Asheville Police Department
- Seek approval by City Council
- Sign mounted radar speed signs
- If thresholds are satisfied, move to traffic calming phase
  (85th percentile speed > 5 mph above the posted speed limit or total traffic volume > 1,000 vpd)

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Traffic Calming

- Review and approval by the Asheville Fire Department
  (Standard of coverage = 5 minutes 12 seconds; industry moving to 4 minutes)
- Currently testing speed cushions
- 60% petition to move to construction phase
- Construction funds are available

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QUESTIONS?

