

LEGISLATIVE

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Public Works Department

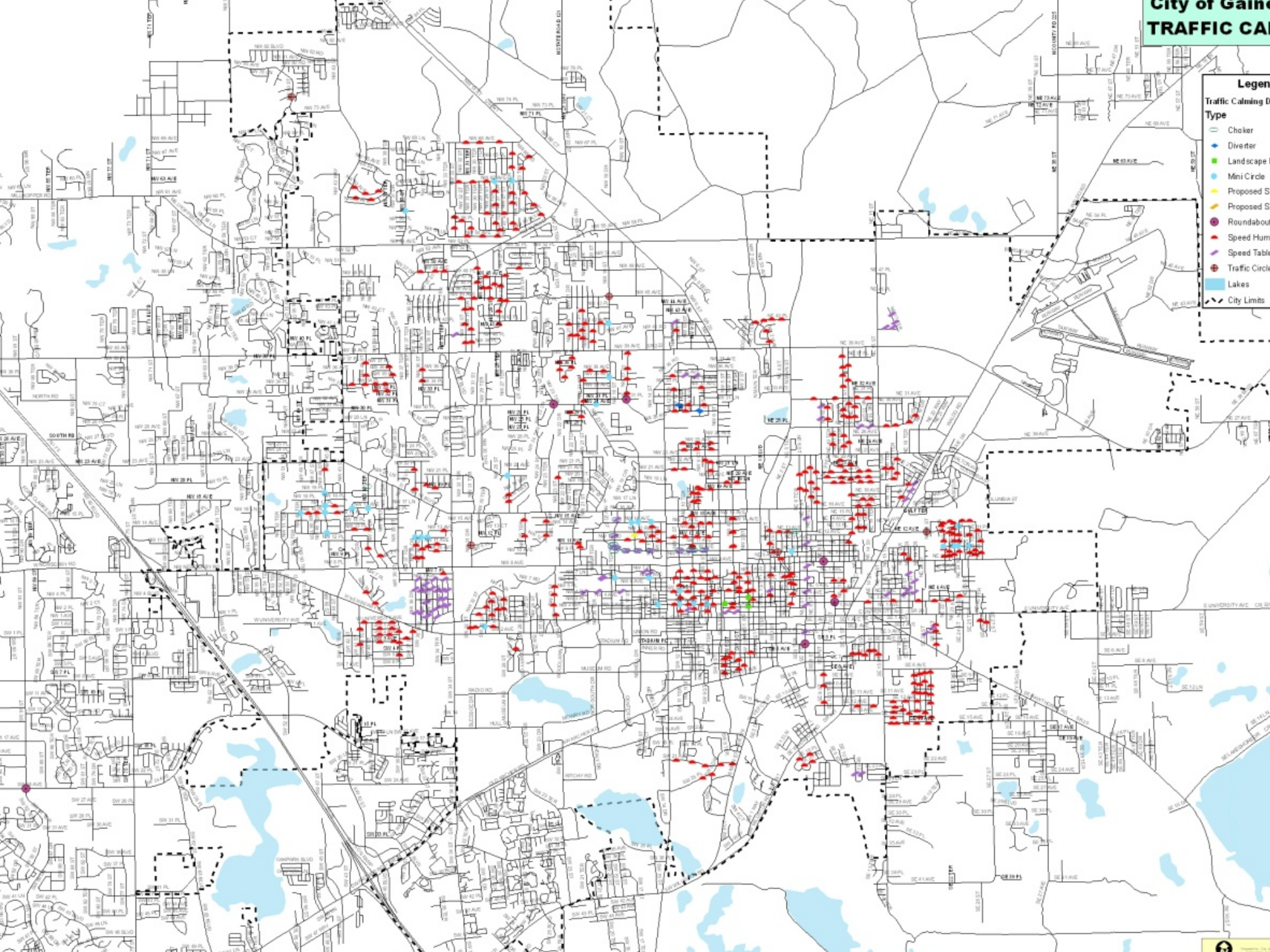
Residential Traffic Calming 2012 Program Status

Program Beginnings

- Public Works Dept. began implementing traffic calming in the mid 1980's
- City Commission adopted the formal Traffic Calming Program Policy in 1997
- Public Works Dept. received an average of 100 requests per year for traffic calming
- 58% of the requests were eligible with 6% of eligible requests being voted down by the affected parties

Program Beginnings (cont.)

- Public Works Department spent over \$500,000 in speed humps & tables
- On average \$75,000 per year was spent on installation of traffic calming devices
- Speed tables had a positive net effect in reducing speeds (10-20% reduction) and eliminating high end speeds – most popular part of program



Legend

Traffic Calming Measure Type

- Choker
- Diverter
- Landscaper
- Mini Circle
- Proposed Street
- Proposed Street
- Roundabout
- Speed Hump
- Speed Table
- Traffic Circle
- Lakes
- City Limits

Program Elimination

- Traffic Calming Program was having a negative impact on emergency response times
- 10% to 15% reduction in response times – per device – for Fire-Rescue & EMS
- Last “Traffic Calming Fund” project was the radar speed signs in 400-700 block of NW 22nd Street in June, 2008

Commission Action

June 28, 2004 – Gainesville City Commission
Action:

- Placed a moratorium on speed humps and speed tables
- Decreed that all mini-traffic circles shall be converted to all-way yields and that all traffic shall rotate around them in a counter-clockwise direction
- Most residents want speed humps/tables – obvious speed deterrent

GFR Concerns

- Dramatic increase in response times in areas where traffic calming devices (TCD's) had been installed
- TCD's were installed by Public Works after a traffic study; GFR was opposed
- Higher roadway curbing caused fire and Emergency response vehicles to travel farther distances with more turns and stops, eliminated direct routes from major roadways

1 Gallon of Water

- Weighs 8.34 lbs
- X 750 gallons = 6255 lbs (just over 3 tons)
- A movable weight that has dramatic effects with stopping, moving and stopping again
- Engine Vehicle width tire to tire = 8 ft
- Engine Front axle to Rear axle = 16 ft 8 in

GFR Apparatus

6 Engines



Advanced Life Support Services

Fire Suppression

Carry 750 gallons of water

Can pump 1750 gallons per minute

1 $\frac{3}{4}$ inch hose = 400 feet

3 inch hose = 800 feet

5 inch hose = 1200 feet

GFR Apparatus

1 Quint



Advanced Life Support
Services

Fire Suppression
Rescue

Ventilation

75 ft extendable ladder

Rescue tools

Carries 500 gallons of water

Can pump 1750 gallons per
minute

1 ¾ inch hose = 400 feet

3 inch hose = 800 feet

5 inch hose = 1200 feet

GFR Apparatus

2 Towers (Trucks)



Advanced Life Support Services

Fire Suppression

Rescue

Ventilation

100 ft ladder with bucket

Rescue tools

Carry 300 gallons of water

Can pump 1750 gallons per
minute

1 $\frac{3}{4}$ inch hose = 350 feet

3 inch hose = 300 feet

5 inch hose = 300 feet

Water + Ladder + Equip

- 1 Ton of water
- 73,500 lbs of truck
- 4,500 lbs of tools and equipment

We Measure Everything, Its All About Time

- Dispatch time
- Out the door times
- Travel times
- On-scene times
- How long until fire out
- How long until patient transported

GFR Traffic Calming History

- Higher fuel costs and vehicle emissions
- Vehicle and equipment damage
- Emergency personnel injured
- Field trials completed
- Compared to Portland Fire Bureau for validity

GFR Testing Results

- Conducted in conjunction with Public Works
- 12% increase of travel time after the installation of TCD's February 2001 – February 2003
- 2.05 % increase in Emergency Response Force for NFPA standard 1710
- EMS calls 7.68% increase in response times post device
- 25% increase in braking, wheel alignment and physical damage to GFR vehicles
- 4% rise of onboard equipment repair post TCD installation

GFR Testing Results (cont.)

- Field Tests resulted in increased travel times from 25.64% to 107.81% and confirmed the cumulative effects of multiple devices significantly increases response time.
- Speed humps – three in a route adds 40 – 69 seconds.
- Speed tables – three in a row adds 20 – 31 seconds

GFR Bottom Line

- Traffic calming devices accomplish what they are designed to do – slow down vehicles which results in longer response times

Annual PW Costs

- There are annual maintenance costs for the existing traffic calming that are encumbered in the Public Works Budget
- These costs included:
 - Traffic Signs & Pavement Markings
 - Landscaping & Irrigation
 - Curb and asphalt repair

Speeding Complaints Continue

- During peak travel times, motorists are seeking alternatives to travelling on the major roadways
- In the off-peak travel times, motorists can travel at higher rates of speed from the back of the neighborhood to the entrance / exit
- This is due to the gridded nature of some neighborhoods and the single access point design of others

Traffic Calming Options

- Roundabouts / traffic circles
- Speed tables
- Speed Cushions
- Raised Intersections
- Street closures / diverters
- Chicanes
- Staggered on-street parking
- Chokers / Neckdowns

Roundabouts

- Difficult to retro-fit into residential neighborhoods
- Requires additional right of way
- Must accommodate the turning radii of fire trucks, school buses and refuse collection trucks
- All-way yields with traffic circulating in a counter-clockwise pattern

Roundabouts



Speed tables

- Vertical traffic calming devices
- Retrofittable on existing street networks and existing curb and gutter lines
- 6' approach ramps on either side and 10' flat top table
- Reduce travel speeds
- Reduce response times for emergency vehicles

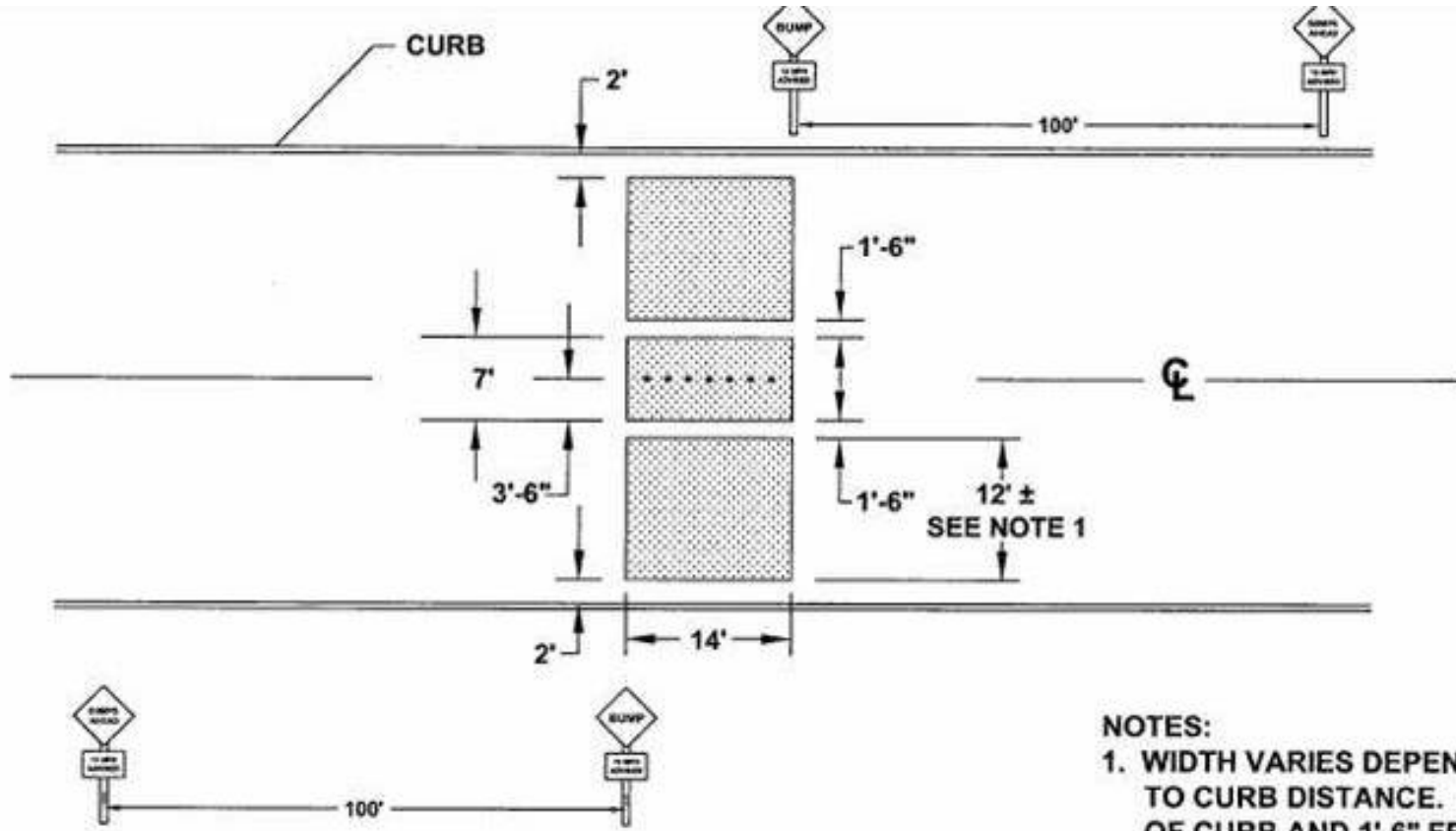
Speed tables



Speed Cushions

- Vertical traffic calming devices
- Similar to a Speed Table except there are gaps that an emergency vehicles tires will fit through
- Cushion: 6' approach ramps on either side and 10 flat top table
- Reduce travel speeds
- Reduce response times for emergency vehicles

Speed Cushion Design



- NOTES:**
1. WIDTH VARIES DEPENDING ON CURB TO CURB DISTANCE. 2' FROM FACE OF CURB AND 1'-6" FROM CENTER CUSHION (CRITICAL DIMENSIONS).
 2. DIMENSIONS ARE FINISH DIMENSIONS.

Speed Cushions
Typical - Not to Scale

Raised Intersections

- Vertical traffic calming device
- Retrofittable into existing intersections
- 6' approach ramps on either side and raised intersection
- NW 5th Avenue & 22nd Street
- New Super Wal-Mart Site
- Reduce response times for emergency vehicles

Street Closures

- Access restrictive traffic calming devices
- Creates dead-end streets
- Creates closed neighborhoods
- Maintains pedestrian connectivity
- Minimal impact on response times for emergency vehicles

Street Closures



Chicanes

- Horizontal traffic calming devices
- Retrofittable on existing street networks
- Bulb-out islands are constructed on either side of the street
- Reduces travel speeds when there is traffic on the street
- Minimal impact on response times for emergency vehicles

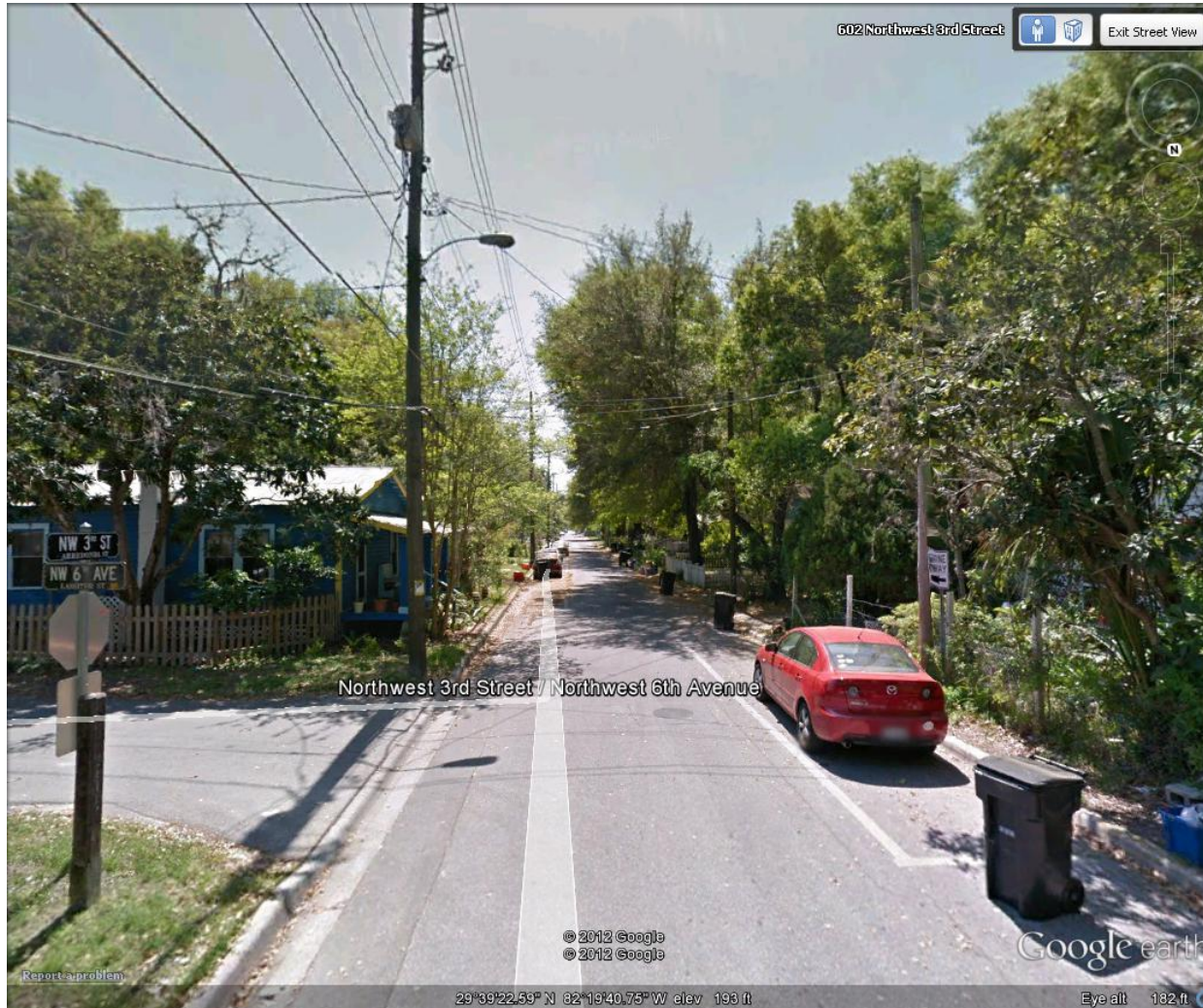
Chicanes



Staggered On-Street Parking

- Effective on narrow and/or one-way streets
- Retrofittable on existing streets
- On-street parking is marked on one side of street for $\frac{1}{2}$ block and then moved to the other side of street
- Reduce travel speeds
- Only effective on streets where on-street parking is utilized

Staggered On-Street Parking



Chokers / Neckdowns

- Chokers and neckdowns are the installation of islands on one side of a street or on both sides of the street to make the street appear narrower
- The islands can also be installed in the center of the street
- They reduce travel speeds by creating a street with a narrower looking appearance

Chokers / Neckdowns



NW 31st Drive Data

- 2 Day Study:
 - Monday, September 24, 2012 &
 - Tuesday, September 25, 2012
- Posted Speed Limit 25 MPH
- Total Vehicles: 4428
- Average Speed: 20.5 MPH
- 50th Percentile Speed: 20 MPH
- 85th Percentile Speed: 27 MPH
- 10 Mile Pace: 13 MPH to 22 MPH

Monterey Subdivision Data

- 2 Day Study (NW 40th Street):
 - Wednesday, December 12, 2012 &
 - Thursday, December 13, 2012
- Speed Limit 30 MPH (now 25 MPH)
- Total Vehicles: 1259
- Average Speed: 17.72 MPH
- 50th Percentile Speed: 17 MPH
- 85th Percentile Speed: 23 MPH
- 10 Mile Pace: 11 MPH to 20 MPH

Questions

