

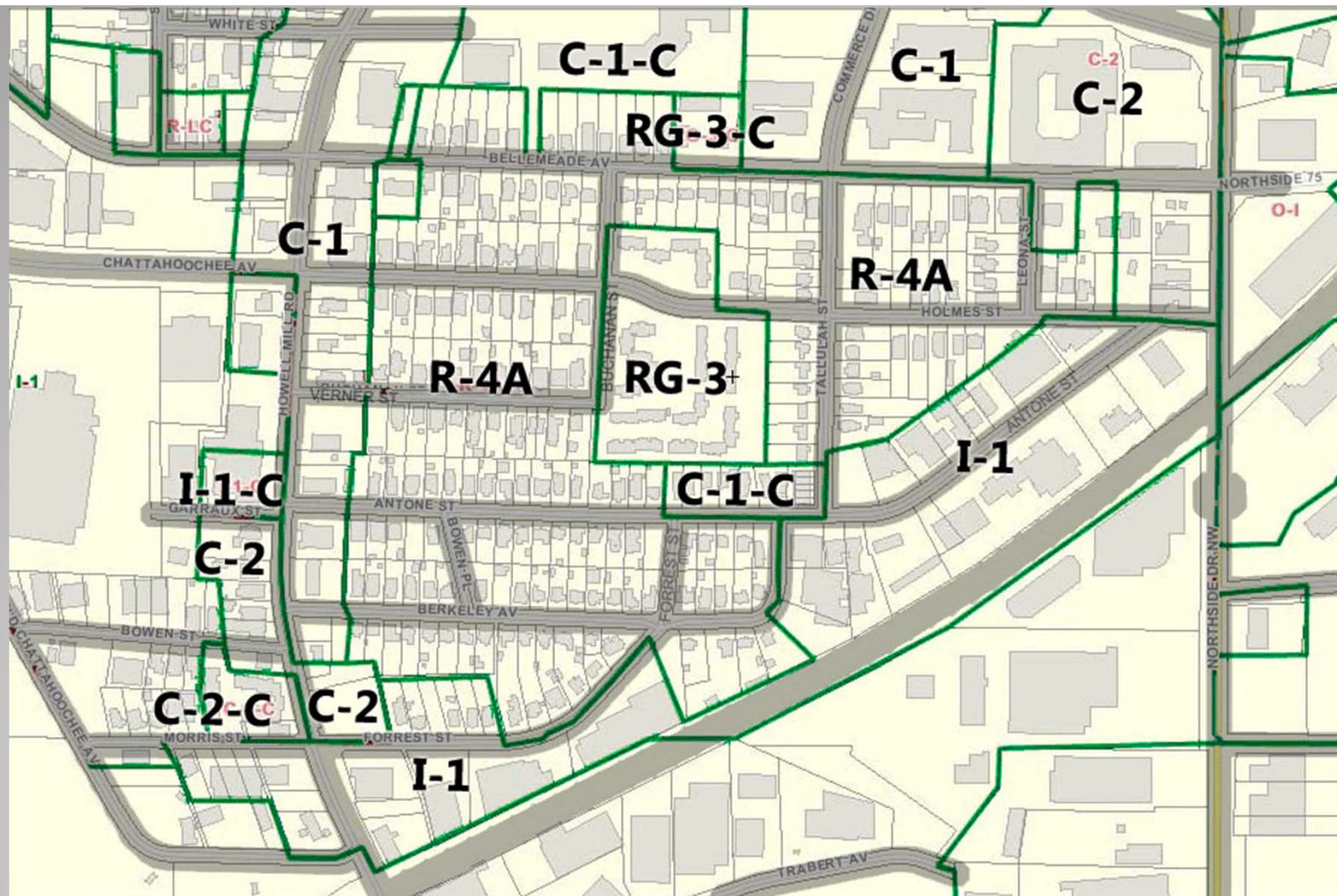
# Berkeley Park Neighborhood Traffic Calming Plan

Prepared by  
A&R Engineering, Inc.  
August 21, 2012

## **Sec. 138-84. - Traffic calming devices— Installation.**

- *Traffic Calming Device Implementation Guidebook*
- *Guidelines for the Design and Application of Speed Humps*
- Petition with 75% percent of property owners on any street in favor of the calming device
- Street segment must be a residential street
- Speeding problem exists
- Funding can be applied for with the city or privately financed
- Speed humps meet ITE guidelines

**City Requirements**



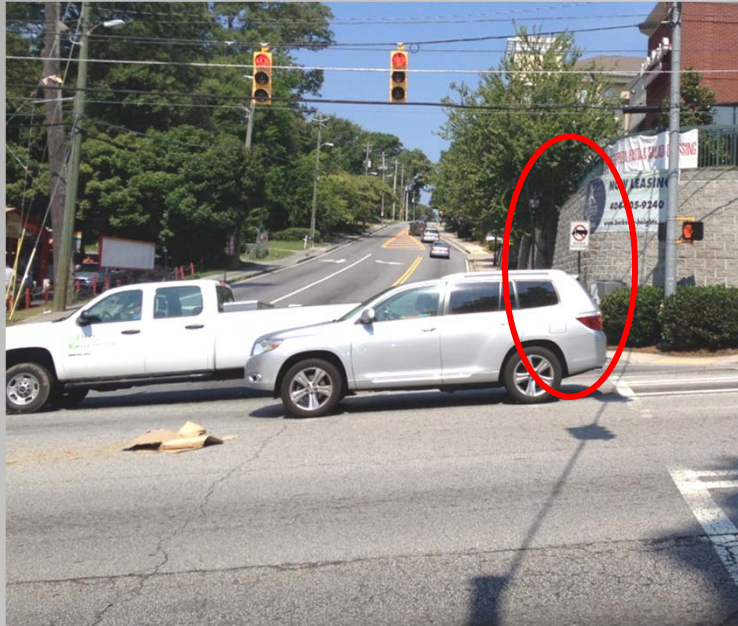
## Berkeley Park Layout and Zoning

- Consists of mostly signage at neighborhood entrances
- Speed humps on Verner St and Holmes St



**Existing Traffic Calming**

- Bellemeade Avenue:
  - NO TRUCKS



Existing Traffic Calming

- Holmes Street:
  - NO TRUCKS
  - Turn Restrictions at Howell Mill (NO LEFT & NO THROUGH)
  - Turn Restrictions at Northside Drive (RIGHT ONLY)
  - Speed Bumps



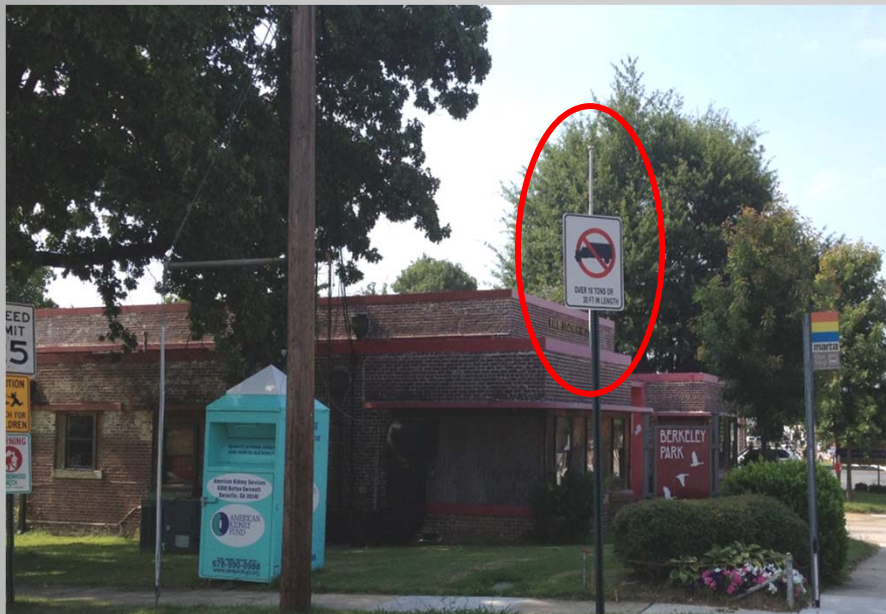
Existing Traffic Calming

- Verner Street
  - NO TRUCKS
  - Speed Humps



Existing Traffic Calming

- Antone Street
  - NO TRUCKS
  - ROAD CLOSED TO THROUGH TRAFFIC



Existing Traffic Calming

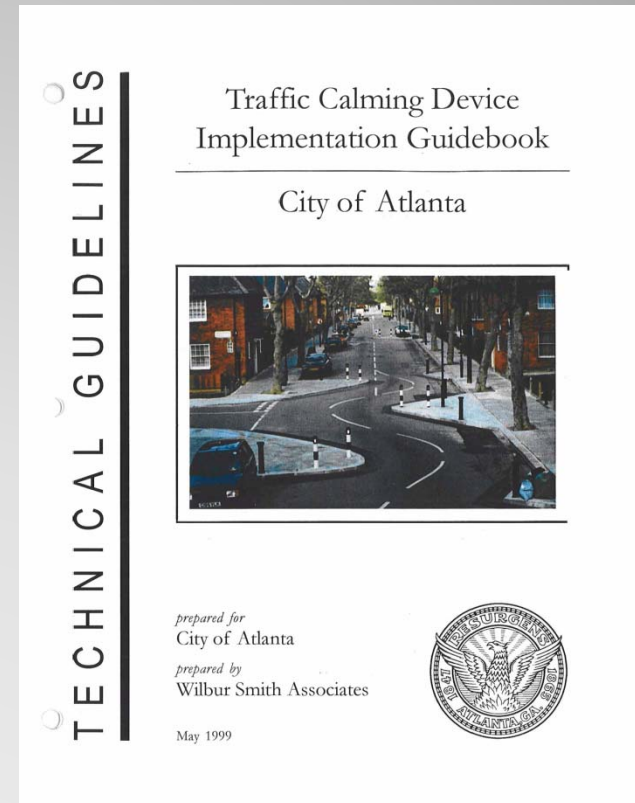
- Berkeley Avenue
  - NO TRUCKS



Existing Traffic Calming

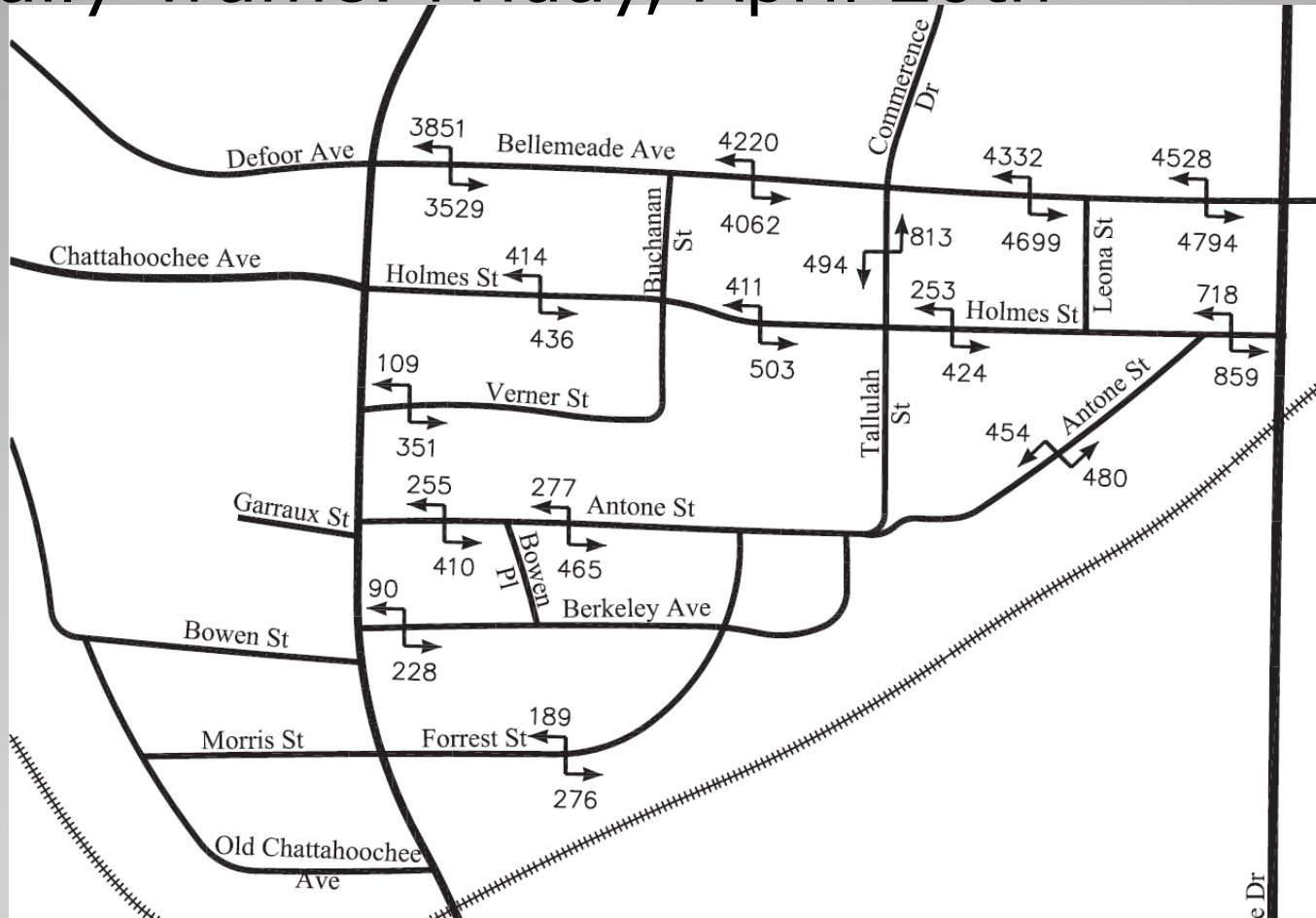
- Field Studies Recommended by Atlanta Traffic Calming Guidebook:

- Excessive Traffic Volumes
  - ADT Counts
  - Turning Movements Counts
  - O-D Study
- Speeding
  - Spot Speed Survey
  - Accident Study



## Data Collection Results

- Daily Traffic: Friday, April 20th



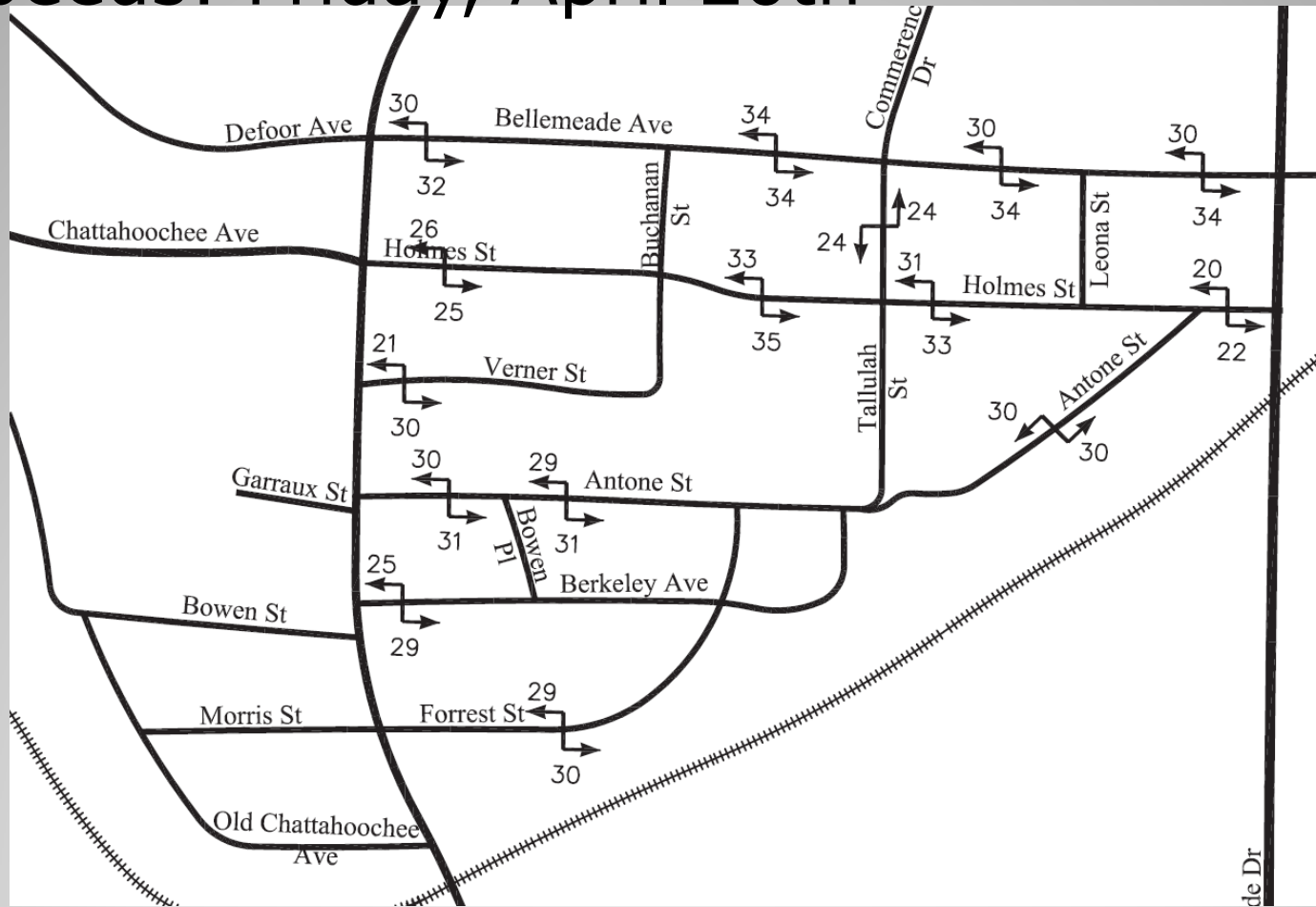
# Data Collection Results

- Daily Traffic:

Counted Traffic Volumes		
Road Name	Daily Volumes (veh / day)	Peak Hour (veh / hour)
Bellemeade	7,380 – 9,322	690
Holmes St	677 – 1,577	138
Antone St	655 – 934	103
Tallulah St	1307	150
Forrest St	465	91
Verner St	460	63
Berkeley Ave	318	55

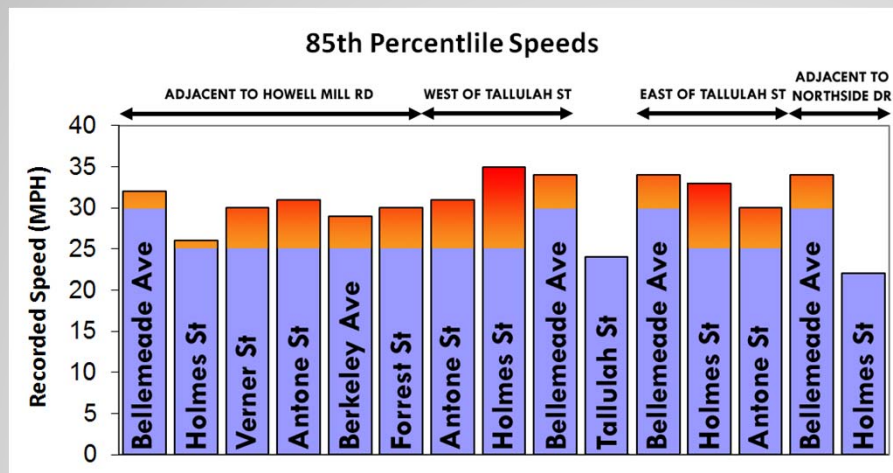
# Data Collection Results

- Speeds: Friday, April 20th



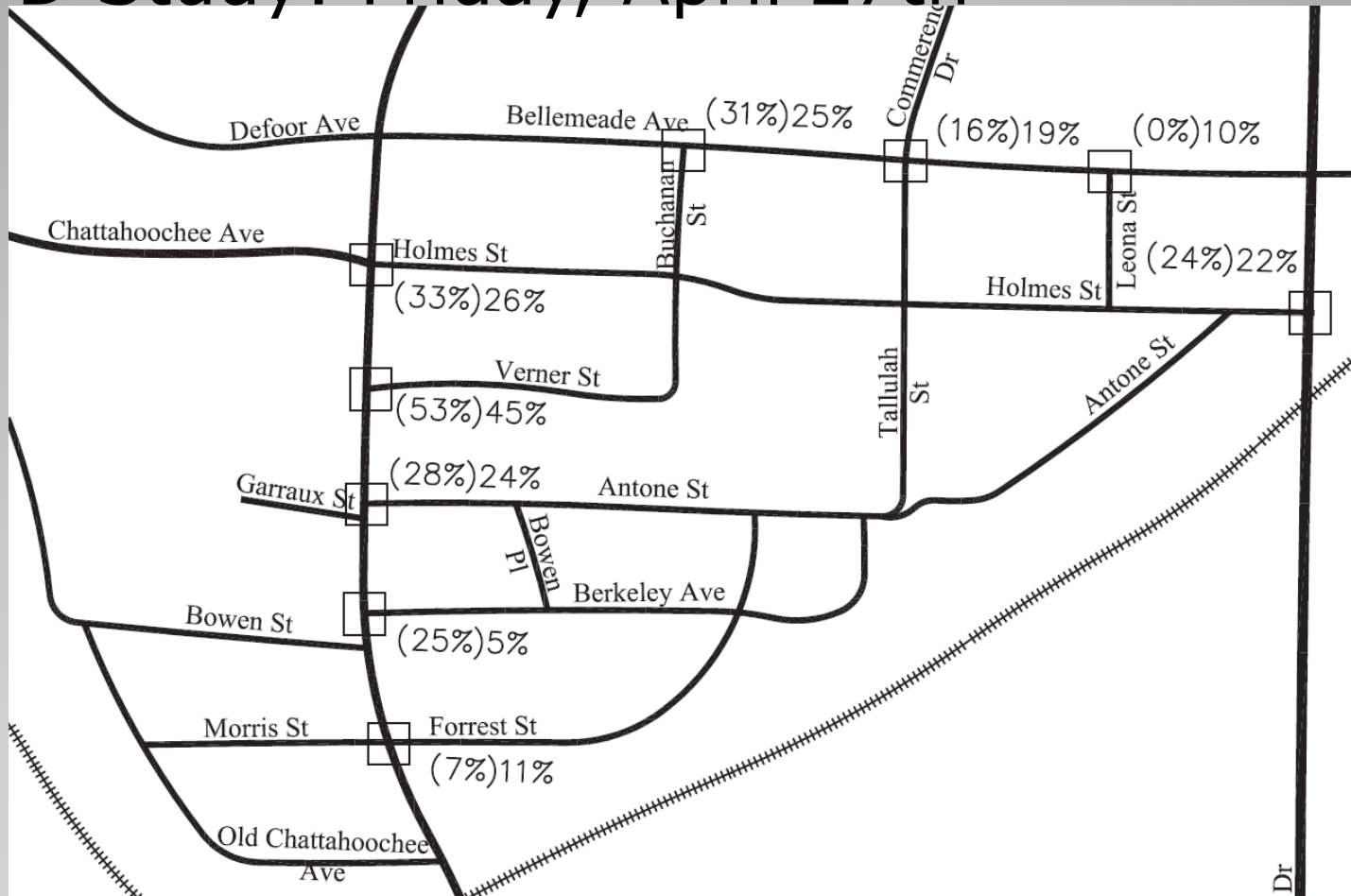
Data Collection Results

- Speeds:
  - 85<sup>th</sup> percentile speeds:
    - 85 percent of the counts are at this speed or lower
  - City of Atlanta criteria:
    - $\leq 10$ mph in excess: "Moderate Condition"
    - $\geq 10$ mph in excess: "Serious Condition"



## Data Collection Results

- O-D Study: Friday, April 27th



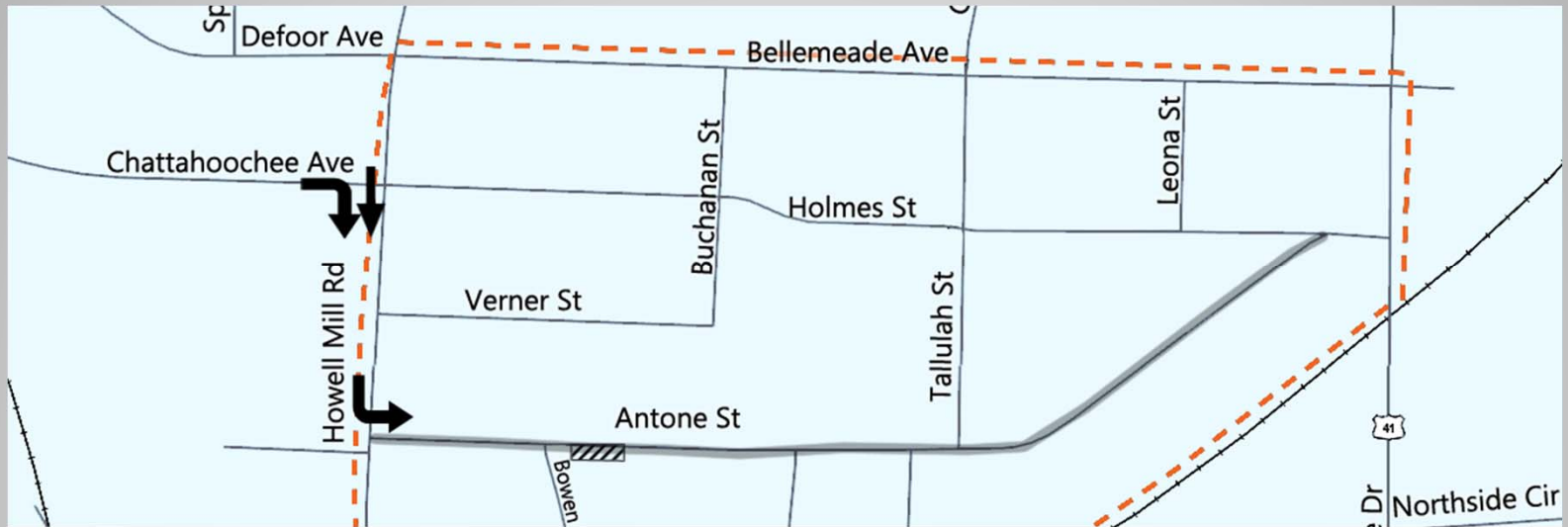
**Data Collection Results**

- City of Atlanta cut-through criteria:
  - < 2 veh/min – “Tolerable”
  - 2-2.5 veh/min – “Moderate Problem”
  - > 2.5 veh/min – “Serious Problem”
- According to *ITE Traffic Calming State of the Practice*
  - “They [volume impacts] depend on the entire network of which a street is a part, not just on the characteristics of the street itself.”
  - “depend fundamentally on the split between local and through traffic”

## Data Collection Results

- O-D Study: Friday, April 27th

AM Peak Hour (8:00am to 9:00am)		
Enter	Exit	Number of Vehicles
Antone Street / Howell Mill Rd	Holmes Street / Northside Dr (US 41)	9
Verner Street / Howell Mill Rd	Buchanan Street / Bellemeade Ave	8
Verner Street / Howell Mill Rd	Holmes Street / Northside Dr (US 41)	5
Chattahoochee / Howell Mill Rd	Buchanan Street / Bellemeade Ave	4



# Data Collection Results

- O-D Study: Friday, April 27th

PM Peak Hour (5:00pm to 6:00pm)		
Enter	Exit	Number of Vehicles
Verner Street / Howell Mill Rd	Buchanan Street / Bellemeade Ave	11
Antone Street / Howell Mill Rd	Holmes Street / Northside Dr (US 41)	4
Chattahoochee / Howell Mill Rd	Holmes Street / Northside Dr (US 41)	3
Antone Street / Howell Mill Rd	Tallulah Street / Bellemeade Ave	3
Buchanan Street / Bellemeade Ave	Chattahoochee / Howell Mill Rd	3
Buchanan Street / Bellemeade Ave	Tallulah Street / Bellemeade Ave	3



# Data Collection Results



**Back-up on Chattahoochee Ave**

- Speeding Measures:

- Vertical

- Speed Humps / Bumps
- Speed Tables

- Horizontal

- Lateral Shifts
- Traffic Circles

- Narrowing

- Medians
- Curb Extensions

- Volume Measures:

- Closures

- Full Street Closures
- Half Street Closures

- Diverters

- Diagonal diverters
- Median Barriers

- Forced Turn Islands

- Pork chop island
- Channelized islands

## Traffic Calming Measures

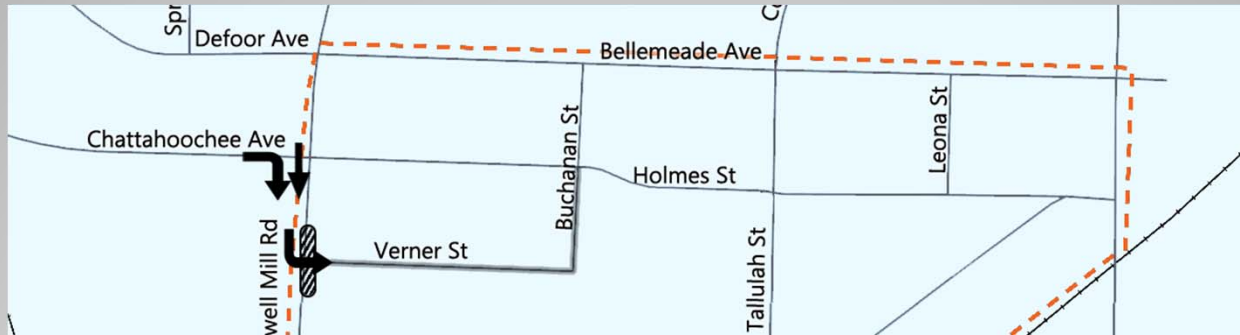
- Many of the available measures effect speed and volumes in some capacity...

Traffic Management Device	Traffic Reduction	Speed Reduction	Noise and Pollution	Safety	Traffic Access Restrictions	Emergency Vehicle Access	Maintenance Problems	Level of Violation	Cost
Speed Humps	Possible	Limited	Increase Noise	No Documented Problems	None	Minor Problems	None	Not Applicable	Low
STOP Signs	Unlikely	None	Increase	Unclear	None	No Problems	None	Potentially High	Low
NO LEFT/RIGHT TURN Signs	Yes	None	Decrease	Improved	No Turn(s)	No Problems	Vandalism	Potentially High	Low
One-Way Street	Yes	None	Decrease	Improved	One Direction	One Direction	None	Low	Low
Chokers	Unlikely	Minor	No Change	Improved For Pedestrians	None	No Problems	Trucks Hit Curbs	Not Applicable	Moderate
Traffic Circle	Possible	Likely	No Change	Unclear	None	Some Constraint	Vandalism	Low	Moderate
Median Barrier	Yes	None	Decrease	Improved	Right Turn Only	Minor Constraint	None	Low	Moderate
Forced Turn Channelization	Yes	Possible	Decrease	Improved	Some	Minor Constraint	Vandalism	Potentially High	Moderate
Semi-Divertor	Yes	Likely	Decrease	Improved	One Direction	Minor Constraint	Vandalism	Potentially High	Moderate
Diagonal Diverters	Yes	Likely	Decrease	Improved	Thru Traffic	Some Constraint	Vandalism	Low	Moderate
Cul-de-Sac	Yes	Likely	Decrease	Improved	Total	Some Constraint	Vandalism	Low	High

Street Transportation Division, City of Phoenix, AZ

## Traffic Calming Measures

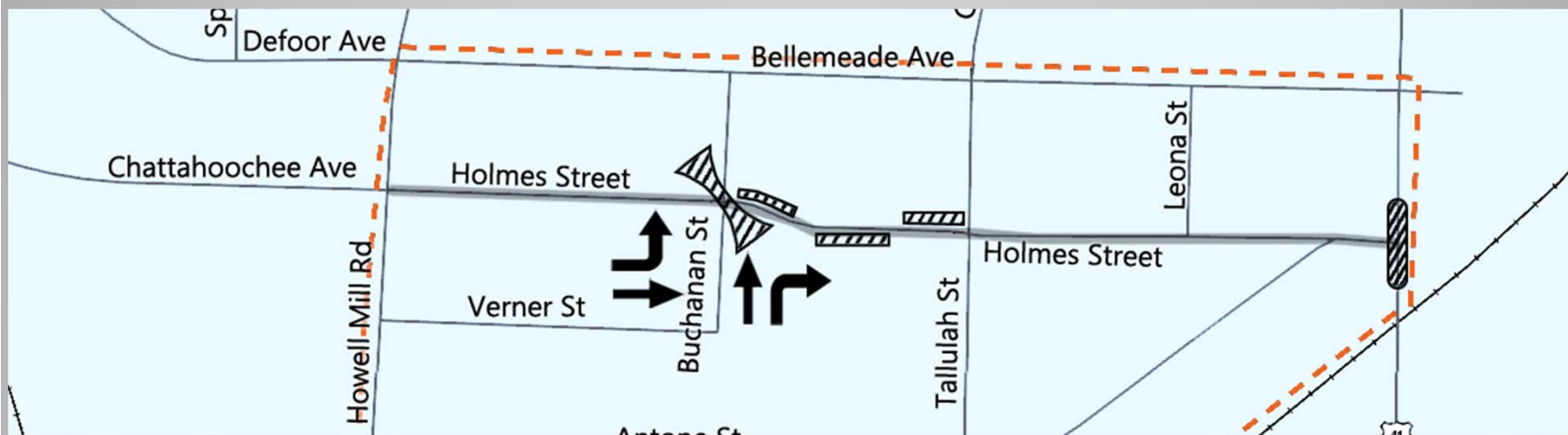
- VERNER ST / HOWELL MILL RD
  - Highest amount of measured cut-through
  - Median Barrier Recommended on Howell Mill Rd



Recommendations

- **HOLMES ST**

- Large amount of cut-through
- Speeding problem b/t Buchanan St & Tallulah St



## Recommendations

- CHATTAHOOCHEE AVE / HOWELL MILL RD
  - Channelized Right Turn Lane at Chattahoochee Ave

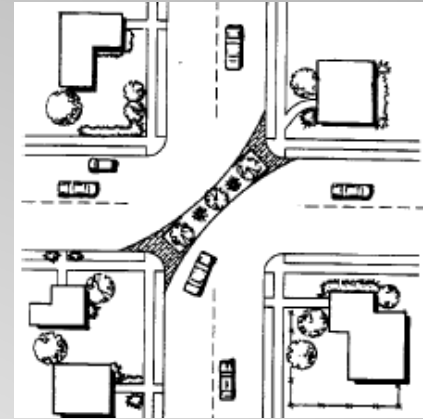


Recommendations

- HOLMES ST / BUCHANAN ST

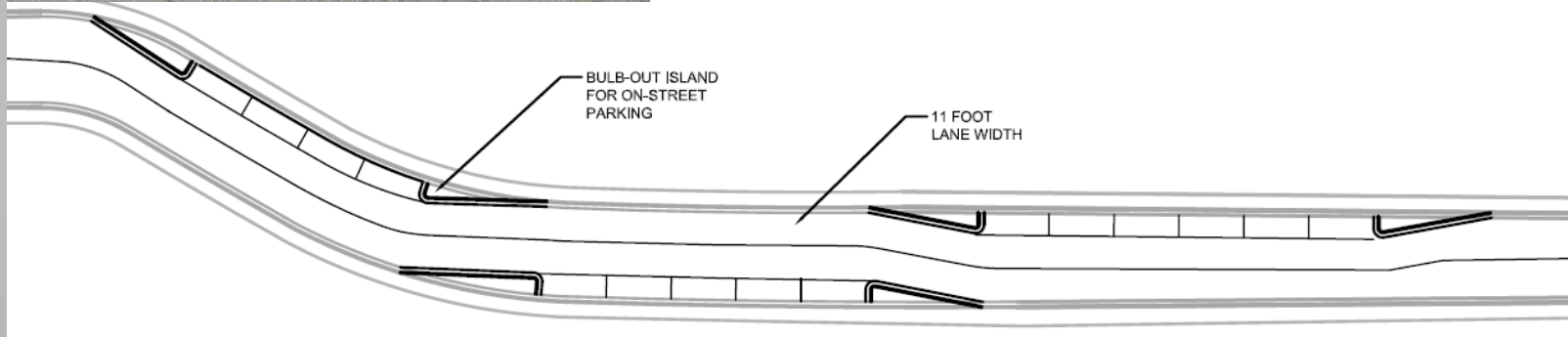
- Diagonal Diverter at Holmes St / Buchanan St

TO BE REVISED INTO  
MORE MODERATE  
MEASURE BASED ON  
NEIGHBOR FEEDBACK



Recommendations

- HOLMES ST (between Buchanan St & Tallulah St)
  - Chicanes / Parking Bulb-outs



Recommendations

- **ANTONE ST**

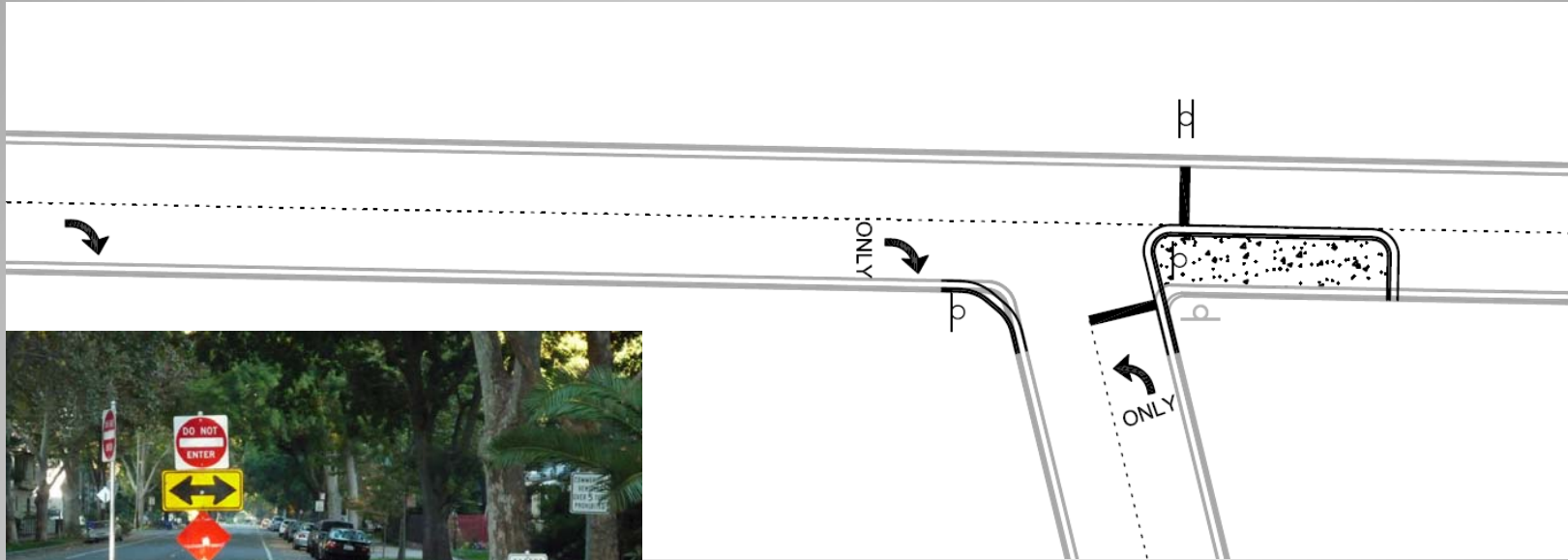
- 2nd highest entrance point for cut-through traffic in the AM peak hour



## Recommendations

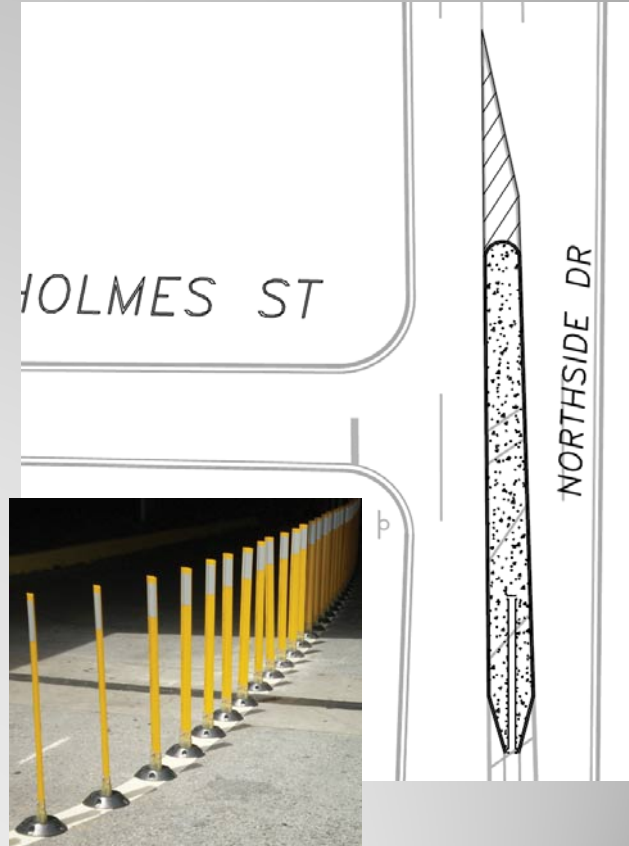
TO BE REVISITED FOR  
ALTERNATE SOLUTIONS  
BASED ON NEIGHBOR  
FEEDBACK

- ANTONE ST (east of Bowel Pl)
  - Half Closure



Recommendations

- Northside Drive
  - Raised Median to replace flexible delineators



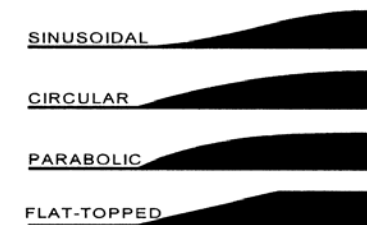
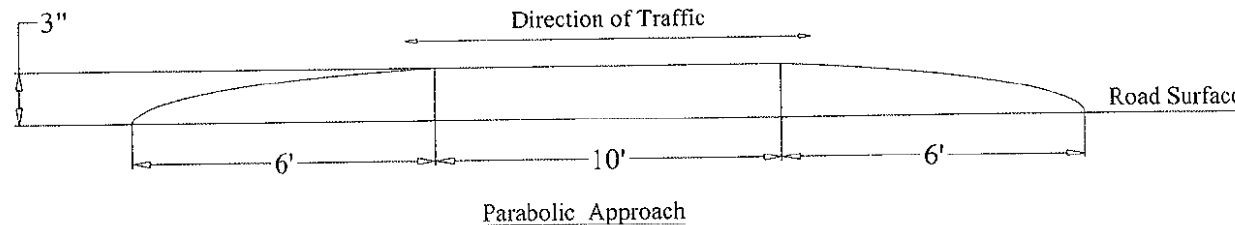
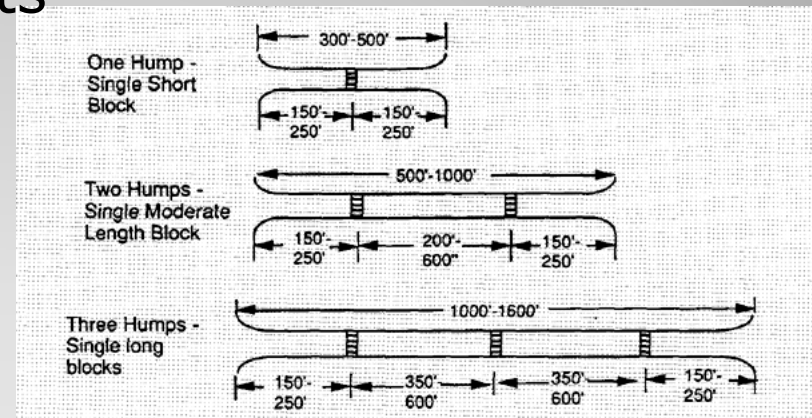
Recommendations

- Forrest Street, Tallulah Street, and Berkeley Ave...
  - Speed humps to discourage shifted cut-through trips



**Recommendations**

- Speed Hump Design:
  - City Code: "shall be no less than 22 feet in width" (aka speed table)
  - ITE recommends that speed tables have parabolic sides with a 3"-4" heights



# Speed Humps

- Additional signage at neighborhood entrance points



- Use of temporary measures
  - Temporary measures will generally not be as attractive as landscaped permanent measures
  - Costs versus Aesthetics
  - Traffic diversion from one local street to another often requires fine tuning of designs
  - Maintenance of landscaping



## Other Recommendations



UNIT DESCRIPTION		TOTAL
1	SPEED BUMPS (8 HUMPS @ \$1,500 each)	\$12,000.00
2	IMPROVEMENTS AT ANTONE ST / BOWEN PL INTERSECTION	\$15,000.00
3	MEDIAN ON HOWELL MILL RD AT VERNER ST	\$5,000.00
4	IMPROVEMENTS AT HOLMES ST / HOWELL MILL RD INTERSECTION	\$2,000.00
5	DIAGONAL DIVERTER OF BUCHANAN ST / HOLMES ST INTERSECTION	\$5,000.00
6	HOLMES STREET PARKING BAYS	\$15,000.00
7	MEDIAN ON NORTHSIDE DR AT HOLMES ST (OPTIONAL / POSSIBLE GDOT FUNDING?)	\$16,000.00
GRAND TOTAL		\$68,000.00

## Overall Recommendations & Cost Estimates