

PROPOSED NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM



WHY DOES THE POLICY NEED REVISING?

- ▶ Written in 1999
- ▶ To reflect changing industry standards
- ▶ Streamline process based on 14 years experience

SPECIFIC PROBLEMS WITH EXISTING POLICY

- ▶ Three ways to initiate a study
- ▶ Unclear as to when to conduct the traffic study
- ▶ Engineer's solution not the neighborhoods
- ▶ Council report for each traffic calming project

TRAFFIC CALMING POLICY V.S. NTMP

Existing Traffic Calming Policy

- ▶ Blurry
- ▶ Can be driven by single voice
- ▶ Drawn out

Neighborhood Traffic Management Program

- ▶ Transparent
- ▶ Data Driven
- ▶ Responsive

TRAFFIC CALMING POLICY V.S. NTMP

Existing Traffic Calming Policy

- ▶ Farfetched
- ▶ Unfulfilling
- ▶ Council report for each project

Neighborhood Traffic Management Program

- ▶ Credible
- ▶ Evaluation
- ▶ Single annual report

FOR BEGINNERS

- ▶ ADT- Average Daily Traffic

- ▶ Number of cars that drive on that street a day



- ▶ 85th Percentile Speed

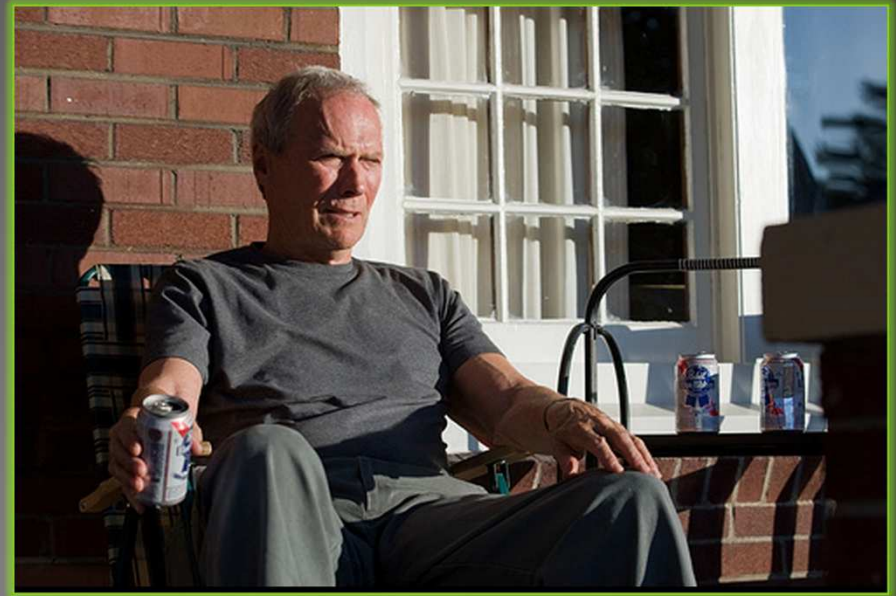
- ▶ Speed at or below which 85 percent of vehicles travel

CNN Entertainment

Justin Bieber had better slow down, neighbors say

WHAT IS TRAFFIC CALMING?

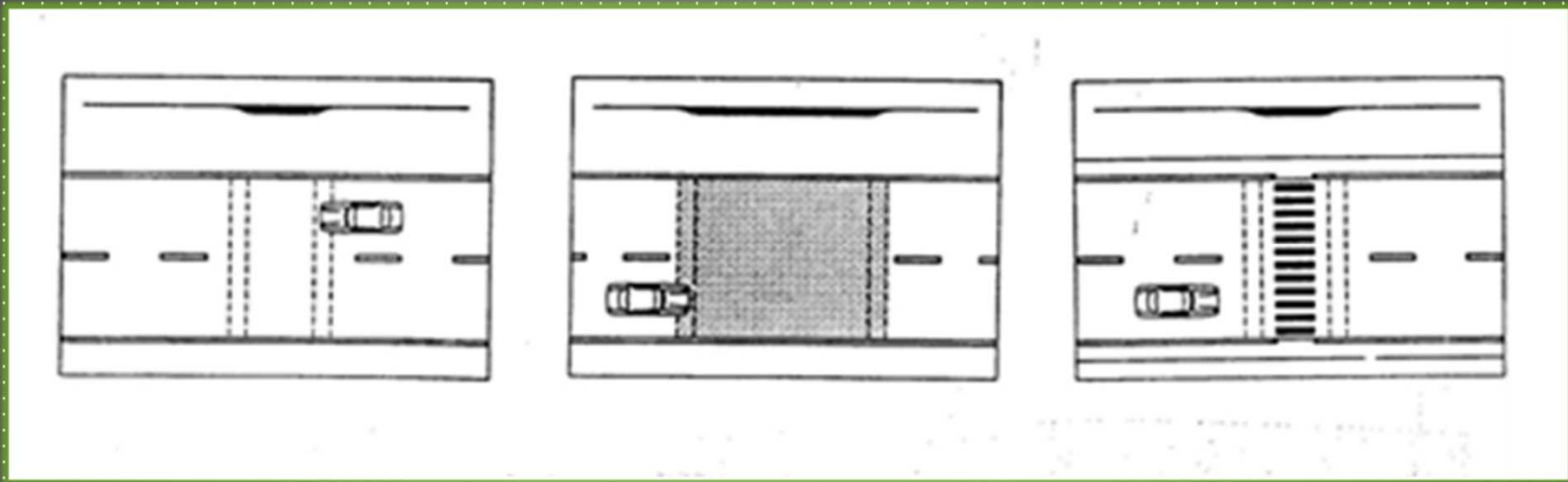
- ▶ Too many people, driving too fast, past my house!



TRADITIONAL TRAFFIC CALMING DEVICES

▶ **RAISED SURFACES**

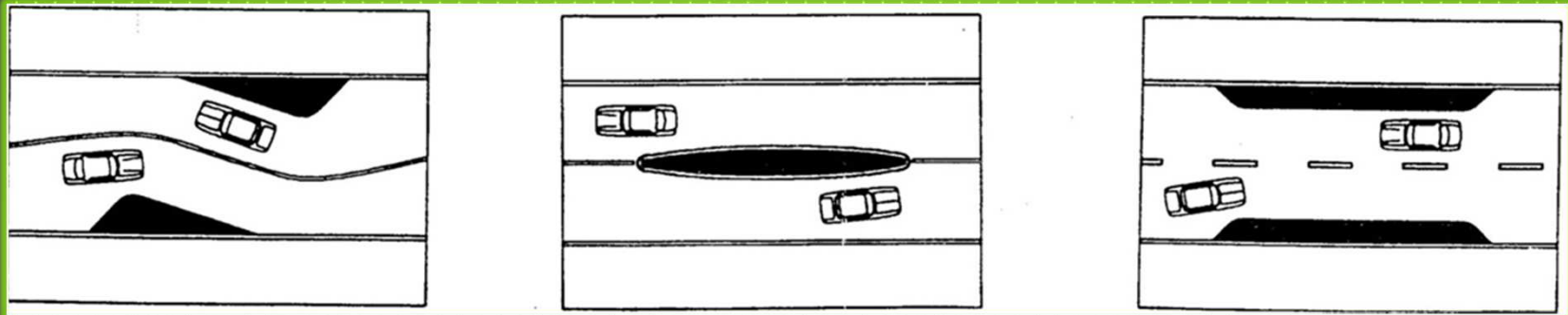
- ▶ Speed humps
- ▶ Raised intersections
- ▶ Raised crosswalks



TRADITIONAL TRAFFIC CALMING DEVICES

▶ ROAD NARROWING

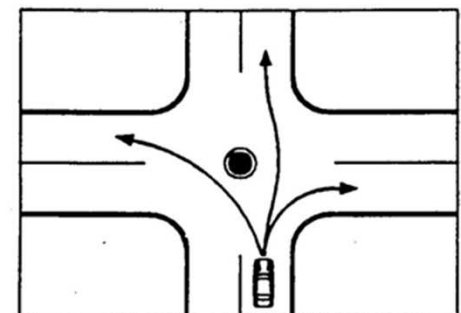
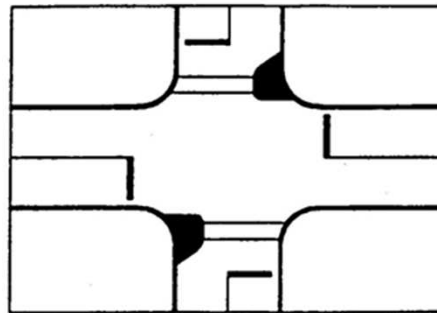
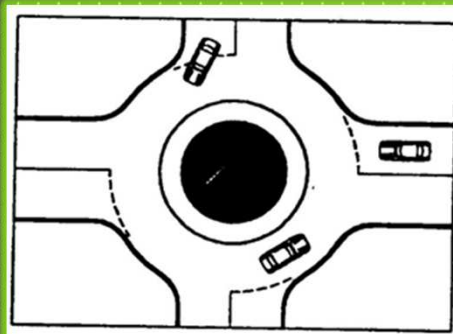
- ▶ Bulbouts
- ▶ Chicanes
- ▶ Medians



TRADITIONAL TRAFFIC CALMING DEVICES

► INTERSECTION CHANGES

- Traffic circle/roundabouts
- 1/2 closures
- Right-in, right-outs



FOUNDATION OF NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

- ▶ Reduce collisions and the severity of collisions should they occur
- ▶ Improve the neighborhood quality of life and the safety of the residents in the neighborhood
- ▶ Integrated approach by utilizing the 5 E's
 - ▶ Education
 - ▶ Engineering
 - ▶ Enforcement
 - ▶ Emergency Response
 - ▶ Evaluation

GOALS OF NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

- ▶ Increase transparency
- ▶ Prioritize solutions based on data
- ▶ Improve customer service by being more responsive

REFERENCES

▶ Columbia is:

- ▶ A college town
- ▶ Population of $\approx 100,000$
- ▶ Bike friendly



▶ Cities Referenced

- ▶ Eugene, OR
 - ▶ Population 157,000
 - ▶ University of Oregon
- ▶ Baton Rouge, LA
 - ▶ Population 230,000
 - ▶ Louisiana State University
- ▶ Athens/Clark County, GA
 - ▶ Population 116,000
 - ▶ University of Georgia
- ▶ Ann Arbor, MI
 - ▶ Population 115,000
 - ▶ University of Michigan

LEVELS OF TRAFFIC CALMING

- ▶ Three basic levels of traffic calming
- ▶ Level 1: Increase Safety
- ▶ Level 2: Reduce Speed
- ▶ Level 3: Mitigate cut-through traffic

LEVEL APPROACH TO TRAFFIC CALMING

- ▶ Provide a high level of customer service. Level I implementations are designed to be quick and visible.
- ▶ Allows the neighborhood to take ownership in the problem and result
- ▶ Continues the discussion with the neighborhood

LEVEL I

▶ Level I: Increase Safety

- ▶ Basic traffic calming elements implemented on a day to day basis to regulate, warn, guide, inform, enforce and educate.
- ▶ Includes standard striping and signing, increased enforcement, radar trailer, curb markings, high visibility crosswalks, neighborhood traffic safety campaigns
- ▶ Neighborhood Speed Watch Program
- ▶ Co-fund Speed limit signs



LEVELS 2 AND 3

- ▶ Level 2: Reduce Speed
 - ▶ Includes speed humps, medians, chicanes etc...
- ▶ Level 3: Mitigate cut-through traffic
 - ▶ Includes diverters, extended medians, and street closures



PETITION FOR TRAFFIC CALMING

Neighborhood Request for Level 1 Traffic Calming

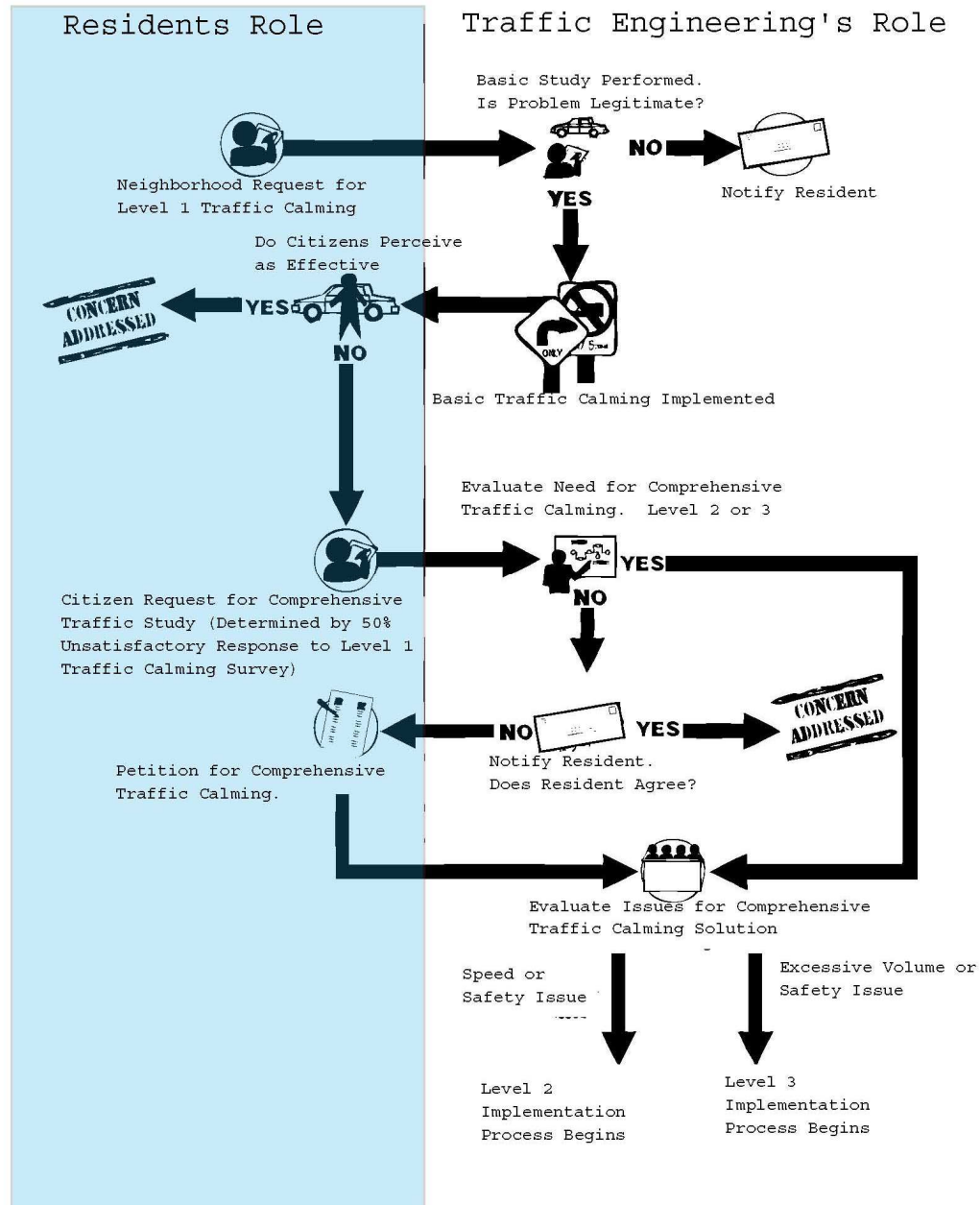
#	Name	Address	Phone #	E-mail	Signature
*1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

*Name is line number 1 will be assumed the main point of contact throughout the project

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM QUALIFICATIONS

- ▶ Paved Street in the City Limits
- ▶ Must be a residential street
- ▶ Minimum ADT of 400 & 85th percentile speed of 33
- ▶ OR
- ▶ Minimum ADT of 250 & 85th percentile speed of 38

Traffic Calming Decision-Making Process



- ▶ Level 1: Increase Safety
- ▶ Standard striping and signing
- ▶ Increased enforcement
- ▶ Radar trailer
- ▶ Curb markings
- ▶ Neighborhood traffic safety campaigns
- ▶ Neighborhood Speed Watch Program
- ▶ Co-fund Speed limit signs

NEIGHBORHOOD SPEED WATCH PROGRAM



- ▶ To be used as a Level I Traffic Calming Device
- ▶ Loan a radar gun out for a deposit of \$200
- ▶ Have the citizens collect data to see if the speeds are still a problem
- ▶ City can send co-send letter with neighborhood



NEIGHBORHOOD SPEED WATCH PROGRAM

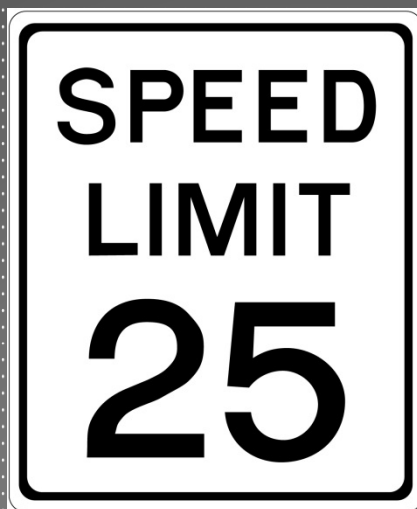


Benefits:

- ▶ Can create a behavioral change (which is very hard to make)
- ▶ Low cost to the City
- ▶ Citizens complete the study
- ▶ Transparency
- ▶ Problem may be “resolved” with minimal staff time



CO-FUNDING SPEED LIMIT SIGNS



Traffic Calming Decision-Making Process

Residents Role

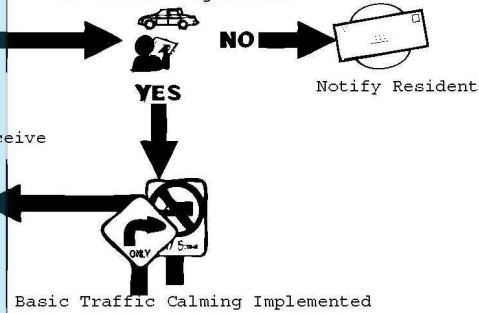


Citizen Request for Comprehensive Traffic Study (Determined by 50% Unsatisfactory Response to Level 1 Traffic Calming Survey)

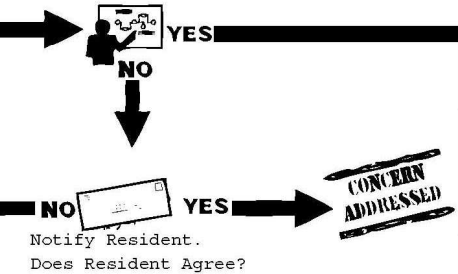
Petition for Comprehensive Traffic Calming.

Traffic Engineering's Role

Basic Study Performed.
Is Problem Legitimate?



Evaluate Need for Comprehensive Traffic Calming. Level 2 or 3



Evaluate Issues for Comprehensive Traffic Calming Solution

Speed or Safety Issue

Excessive Volume or Safety Issue

Level 2
Implementation
Process Begins

Level 3
Implementation
Process Begins

LEVEL I TRAFFIC CALMING SURVEY

- ▶ Are you satisfied with the results of the Traffic Calming Project Installed?
 - ▶ Satisfied
 - ▶ Unsatisfied
 - ▶ Neither
- ▶ Did the Traffic Calming Project fix the problem at hand?
 - ▶ Score from 1 to 5. 1 being somewhat fixed and 5 being problem fixed
- ▶ Blank space for description of any problems seen since the installation of the Traffic Calming Project.

Petition for Comprehensive Traffic Calming

This form is designed to help you evaluate your street, and to indicate if you support the City investigating potential traffic calming devices on your street. The information you supply is also crucial for helping the City understand and define specific problems. Please answer the questions below and mail this postage paid sheet by following the instructions on the back. Your survey will not be counted if you do not return this form indicating your decision.

*** Required**

Name of Observer *

one form per household please

Are you in favor of the City investigating potential comprehensive (Level 2 or 3) traffic calming devices? *

☐ Yes

☐ No

Address *

Age

age in years

☐ 18-40

☐ 41-64

☐ 65+

Phone Number

E-mail Address

► Web-based form

Are you a

Check all that apply

☐ pedestrian

☐ bicyclist

☐ motorist

☐ disabled

Please indicate the number that best describes conditions in your neighborhood

	1 Not a Problem	2	3	4	5 Serious Problem
Motorist courtesy toward pedestrians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crossing the street as a pedestrian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Backing out of driveways (difficult due to speeding cars)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speeding Cars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motorist behavior at intersections (turning fast, disobeying signs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

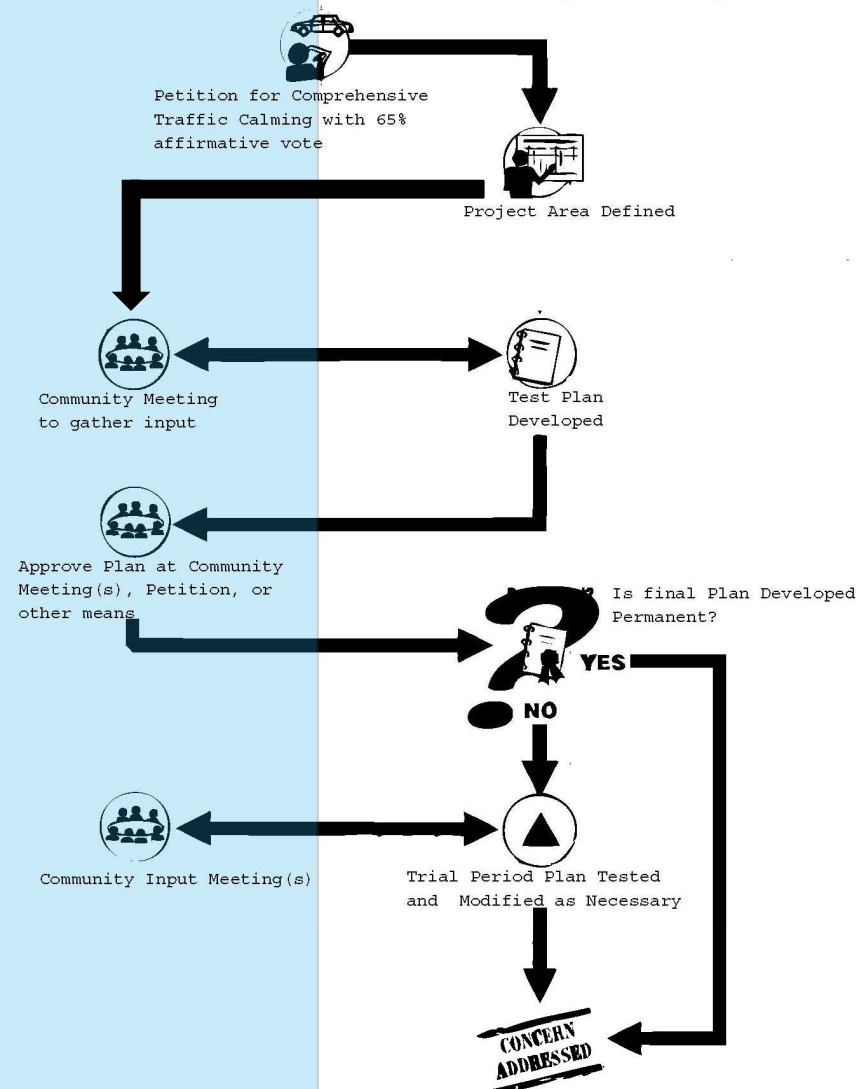
Describe problems at specific intersections

Where are important pedestrian crossings?

Level 2 and 3 Implementation Process

Resident's Role

Traffic Engineering's Role



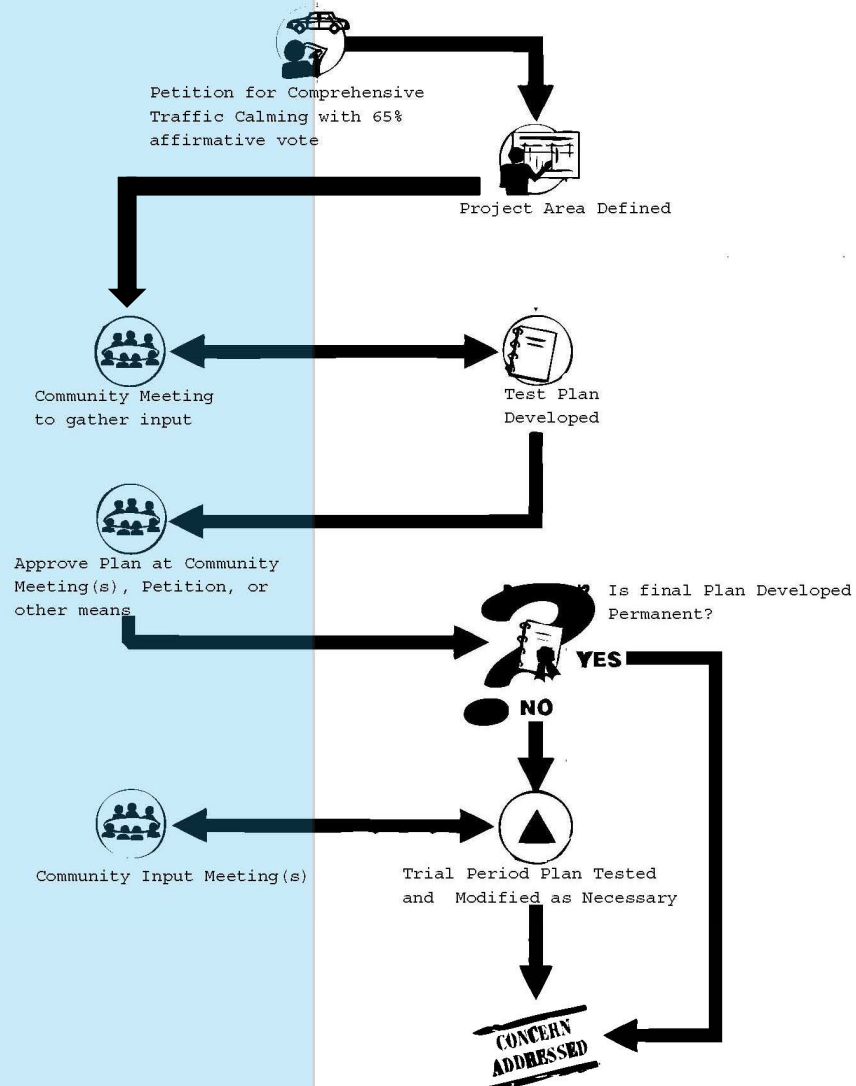
DEFINING PROJECT AREA

- ▶ The following are the only options to define a project area:
 - ▶ Houses along the street in question
 - ▶ Homeowners Associations
 - ▶ Per plat(s)/legal description(s)
 - ▶ Engineer's defined area

Level 2 and 3 Implementation Process

Resident's Role

Traffic Engineering's Role



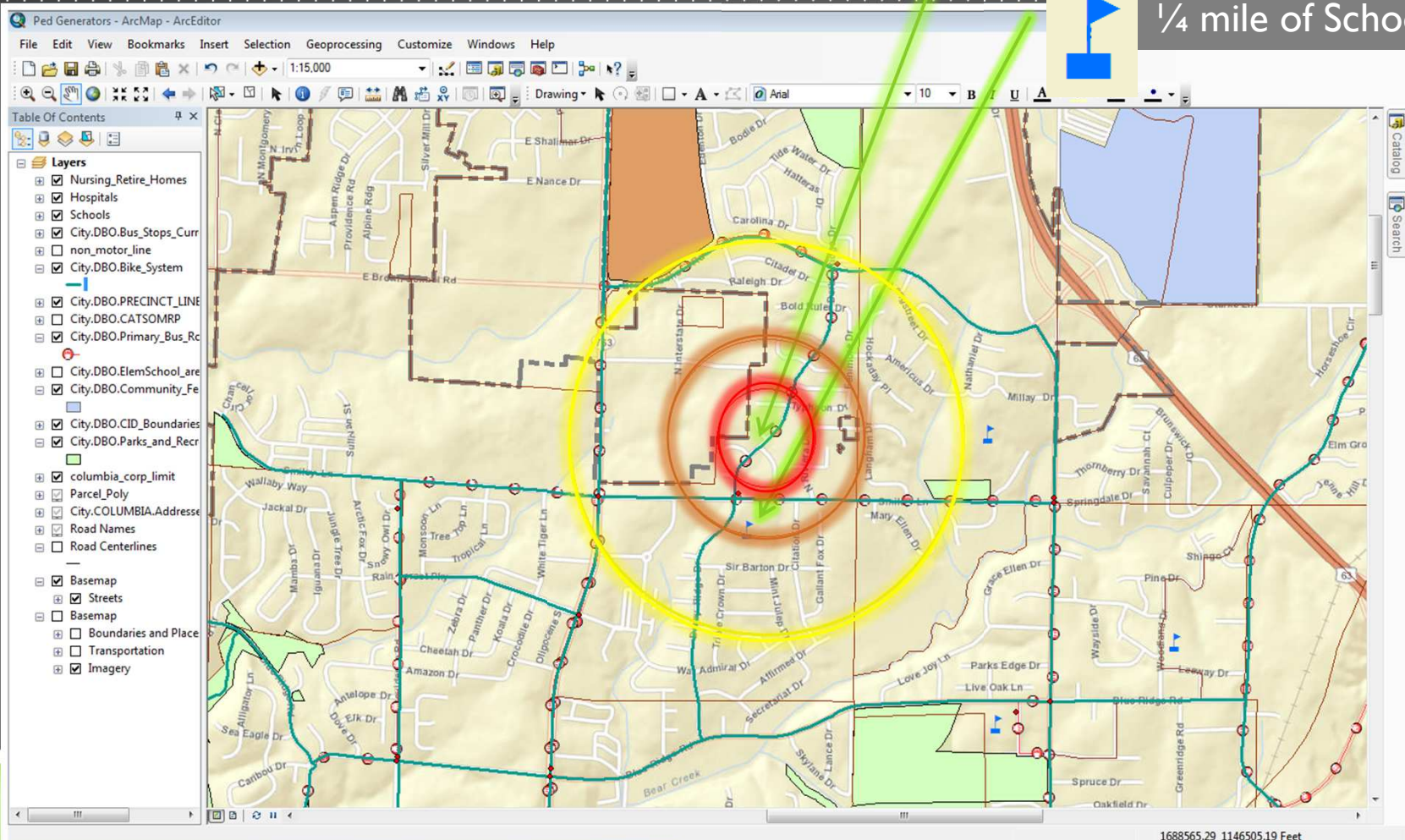
SCORING/PRIORITIZATION SYSTEM

▶ Traffic Volume	20
▶ Speed	45
▶ Collisions	10
▶ Bicycle Routes	5
▶ Schools	10
▶ <u>Ped Generators</u>	<u>10</u>
▶ Point total	100

USE GIS TO SCORE

On Bike Route- 5 pts

1/4 mile of School – 10 pts



CURRENT PROJECTS

- ▶ Score all existing projects
- ▶ Ask contact person to verify in writing to still participate in program
- ▶ OR ask council person

Annual Neighborhood Traffic Management Program Report

Neighborhood	Score	Volume	Volume Score	Speed	Speed Score	Parks	Ped Generators					Schools					Bike Route	Ward	Request Year
							Bus Stop	C2	Hospital	College	Trail	Total Ped	1/4 Mile	1/2 Mile	Total School				
Derby Ridge-Riva	80	2,470	20	40	45	0	0	0	0	0	0	0	5	5	10	5	2	2008	
Sexton	74	2,239	19	35	30	5	5	0	0	0	0	10	5	5	10	5	1	2012	
Hanover- N Charleston	73	2,106	18	40	45	0	5	0	0	0	0	5	0	0	0	5	3	2008	
Rice- McKee	73	1,509	13	40	45	5	5	0	0	0	0	10	0	0	0	5	3	2006	
College Park	80	1,244	10	40	45	5	0	0	0	0	5	10	5	5	10	5	4	2006	
Bold	67	1,616	13	38	39	0	0	0	0	0	0	0	5	5	10	5	2	2008	
Derby Ridge-Seattle	66	1,134	9	39	42	0	0	0	0	0	0	0	5	5	10	5	2	2008	
Rice - Twin Oak	65	1,835	15	40	45	0	0	0	0	0	0	0	0	0	0	5	3	2006	
Parkside	61	660	6	40	45	5	0	0	0	0	0	5	0	0	0	5	2	2007	
Rice- Laclede	61	777	6	40	45	5	0	0	0	0	0	5	0	0	0	5	3	2006	
Derby Ridge-Omaha	59	905	8	37	36	0	0	0	0	0	0	0	5	5	10	5	2	2008	
Kelsey-5602	54	539	4	40	45	0	0	0	0	0	0	0	0	0	0	5	3	2007	
Kelsey- 5502	53	497	4	38	39	5	0	0	0	0	0	5	0	0	0	5	3	2007	
Upland Creek	48	301	3	40	45	0	0	0	0	0	0	0	0	0	0	0	3		
Crabapple 3500	47	1,013	8	38	39	0	0	0	0	0	0	0	0	0	0	0	5	2013	
Boum (N of Rollins)-204	47	290	2	40	45	0	0	0	0	0	0	0	0	0	0	0	4	2010	
Rainforest Parkway	47	589	5	39	42	0	0	0	0	0	0	0	0	0	0	0	2	2006	
4th Avenue	46	528	4	34	27	5	0	0	0	0	0	5	5	5	10	0	1	2006	
Muirfield	45	513	4	37	36	0	0	0	0	0	0	0	0	0	0	5	5	2008	
Crabapple 3302	44	558	5	38	39	0	0	0	0	0	0	0	0	0	0	0	5	2013	
Kennesaw Ridge	43	386	3	35	30	0	0	0	0	0	0	0	5	5	10	0	2	2007	

FUNDING

- ▶ Funding will be shown in the annual report given to City Council. The score sheet will give the project name, score, and “Cost to City.” This will allow lower priority projects to be built due to the funding.

Project	Score	Cost to City
Project “X”	80	\$0
Project “Y”	70	\$25,000
Project “Z”	60	\$4,000

- ▶ Policy would allow for “in kind” funding also. The neighborhood could work with Volunteer Services for landscaping etc... where applicable.

PUBLICLY FUNDED

- ▶ Currently Traffic Calming projects come out of the Roadway Safety account
- ▶ Roadway Safety account is funded by 2005 transportation tax that sunsets in 2015
- ▶ The roadway safety account is also used signs, delineators and other roadway safety projects
- ▶ Typically spend \$30,000 on traffic calming
- ▶ This systems allows us to serve more customers faster

EVALUATION

- ▶ Six months after the project is implemented a survey will be sent out to see if the concern is addressed.
- ▶ Survey will be the same as original Level I survey
- ▶ With positive evaluations the project can be closed out

FIREVEHICLE SPECIFICATIONS

Vehicle	Overall Length	Wheelbase	Weight (lbs)	Horse Power (HP)	Wt/HP Ratio (lbs/HP)	0-40 accel time (sec)
Engine 18	29'10"	15'5"	34,860.00	185	188	19
Rescue 41	21'	11'6"	N/A	185	na	12
Squad 1	27'	14'6"	23,170.00	275	84	17
Truck 1	48'	21'0"	5,300.00	450	118	20
Truck 4	57'	13'0"	53,960.00	450	120	22
Truck 41	37'6"	16'9"	42,100.00	350	120	27

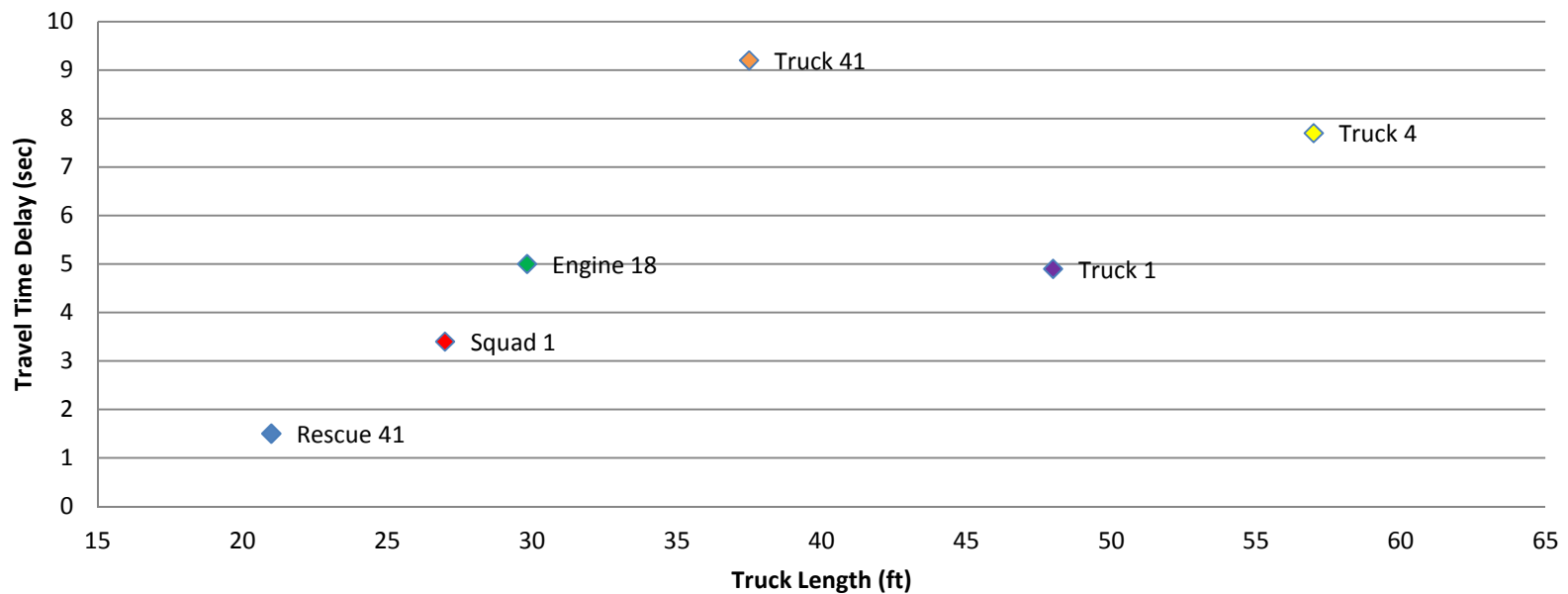
"Truck 4"



Aerial Ladder – Tiller Single Rear TractorAxle

IMPACTS OF 22' SPEED HUMPS ON EMERGENCY VEHICLES

Truck Length vs Time Delay
Desirable Speed of 40 mph



CONCLUSIONS OF STUDY

- ▶ 22 foot bumps: 0 to 9.2 seconds of delay per bump
- ▶ 14 foot bumps: 1.0 to 9.4 seconds of delay per bump
- ▶ Assess of the impacts on response times for a given set of traffic calming devices needs to be balanced with the benefits of traffic calming on reducing speeding problems and enhancing public safety and livability along neighborhood streets.

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM SUMMARY

- ▶ Level 1: Improve safety
- ▶ Level 2: Reduce speed
- ▶ Level 3: Mitigate cut through traffic

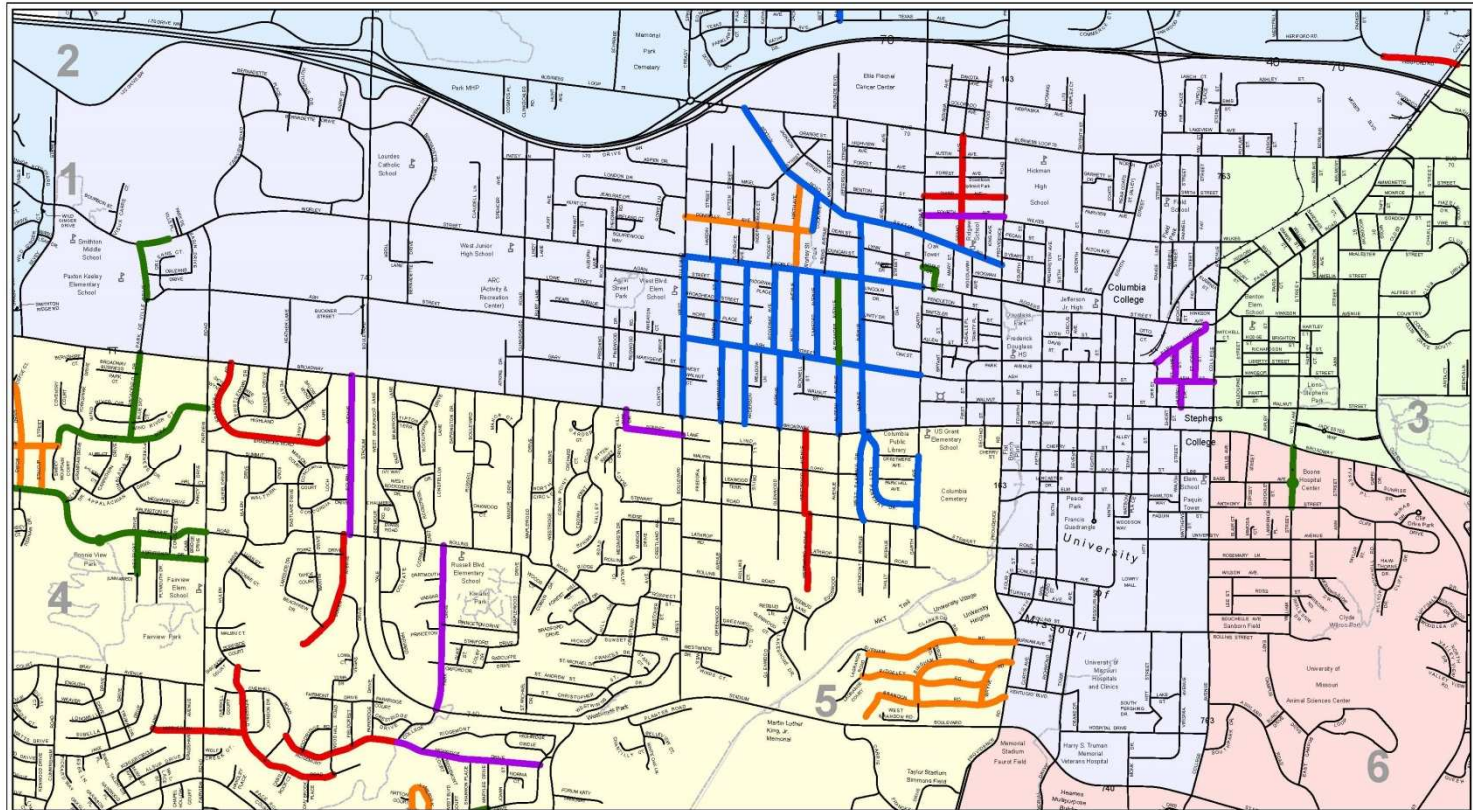
NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM SUMMARY

- ▶ Use Data to prioritize projects
- ▶ Diagrams make the program transparent
- ▶ More responsive for our customers
- ▶ Performance measures are built in, making it credible

RECOMMENDED ACTION

- ▶ If Council agrees with staff, recommend that Council authorize staff to move forward with policy revision.

TRAFFIC CALMING BY WARD



CALMING STATUS

- EXISTING TRAFFIC CALMING
- STUDY COMPLETED, CALMING NOT PURSUED
- STUDY STARTED
- NEED TO STUDY
- WAITING ON NEIGHBORHOOD PETITION

Wards



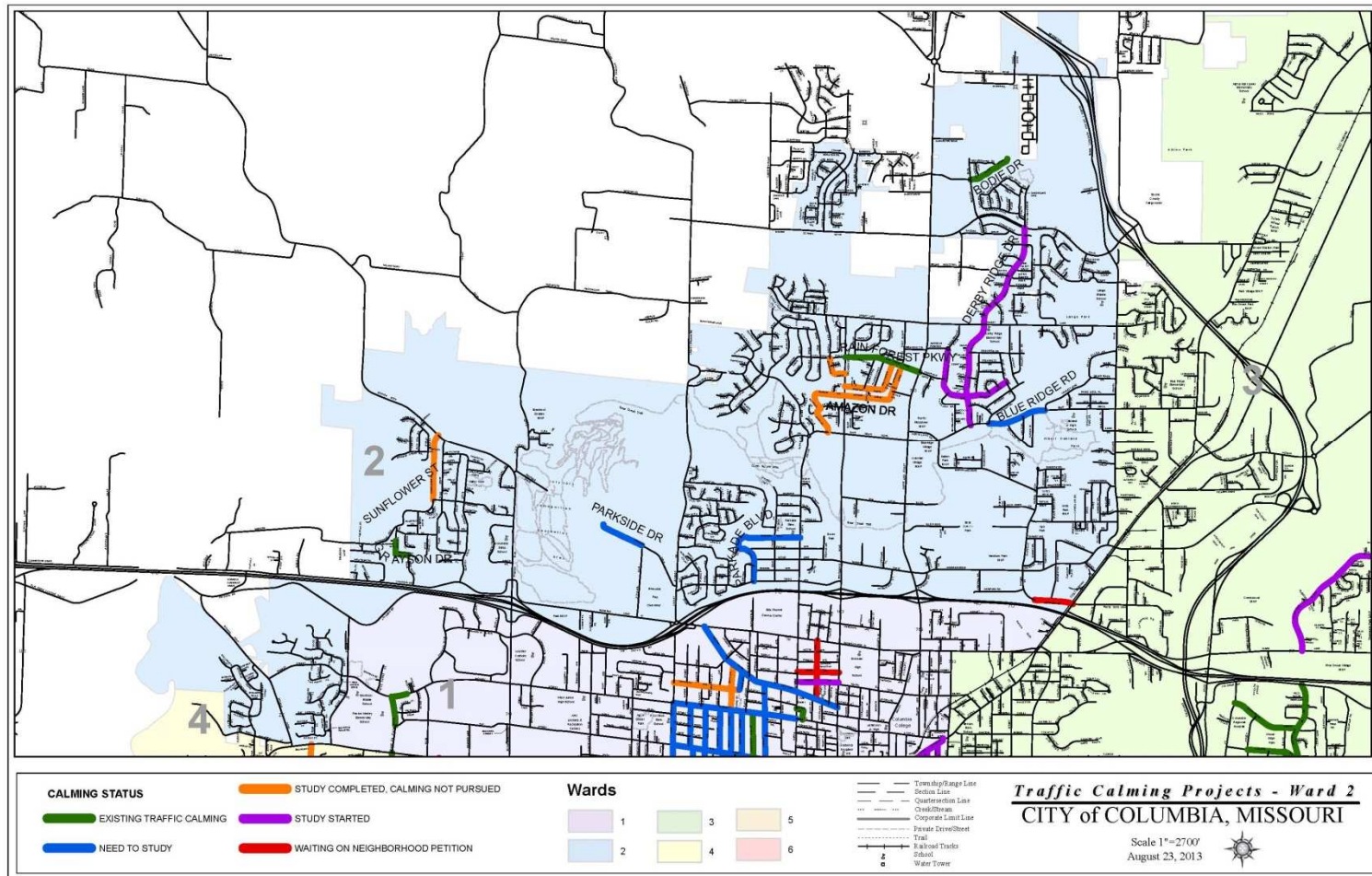
Township/Range Line
 Section Line
 Quartersection Line
 Circle/Choke
 Corporate Limit Line
 Private Drive/Street
 Trail
 Railroad Tracks
 School
 Water Tower

Traffic Calming Projects - Ward 1 CITY OF COLUMBIA, MISSOURI

Scale 1"=1500'
August 23, 2013



TRAFFIC CALMING BY WARD



CALMING STATUS

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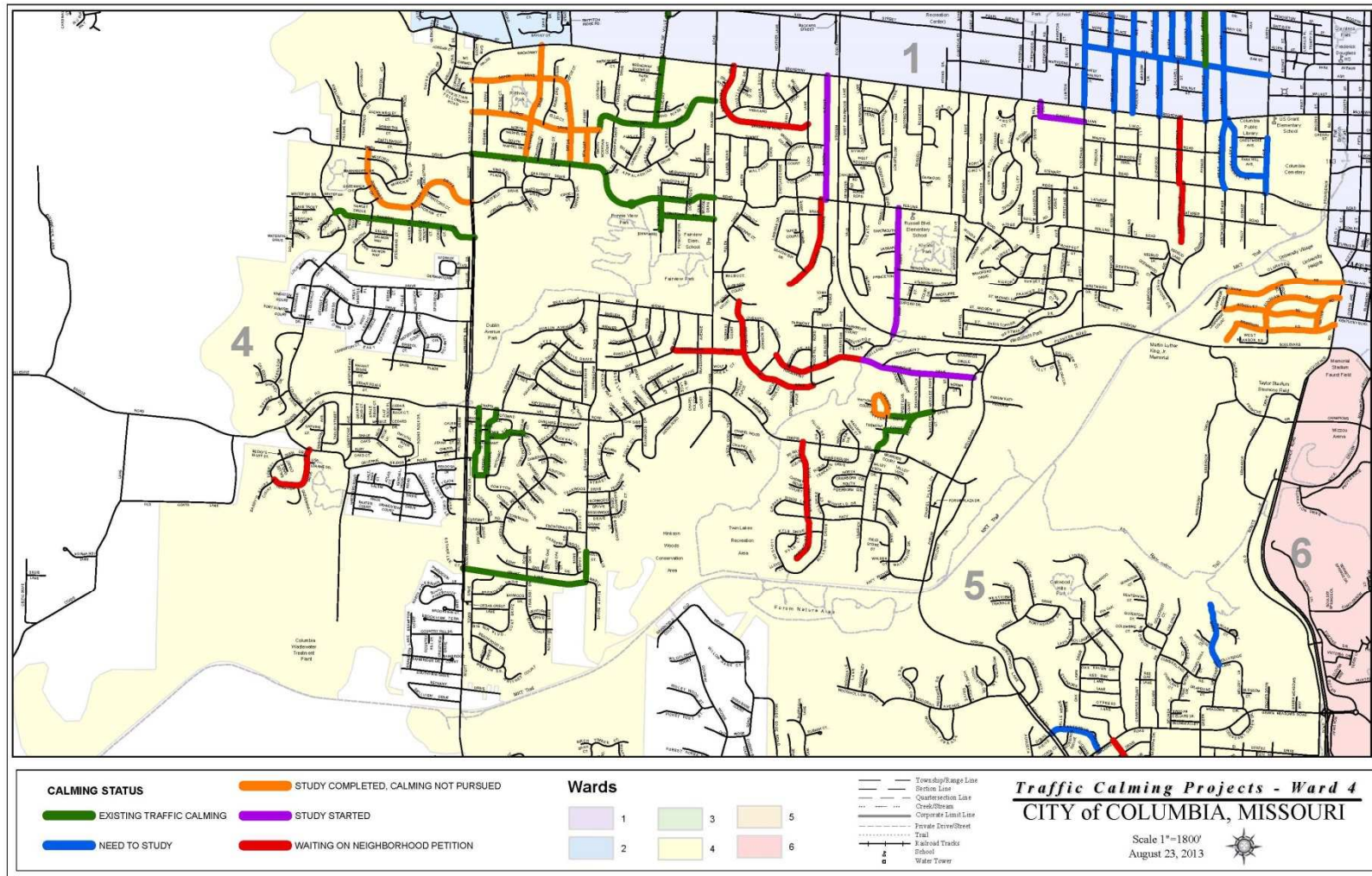
Wards

- 1
- 2
- 3
- 4
- 5
- 6

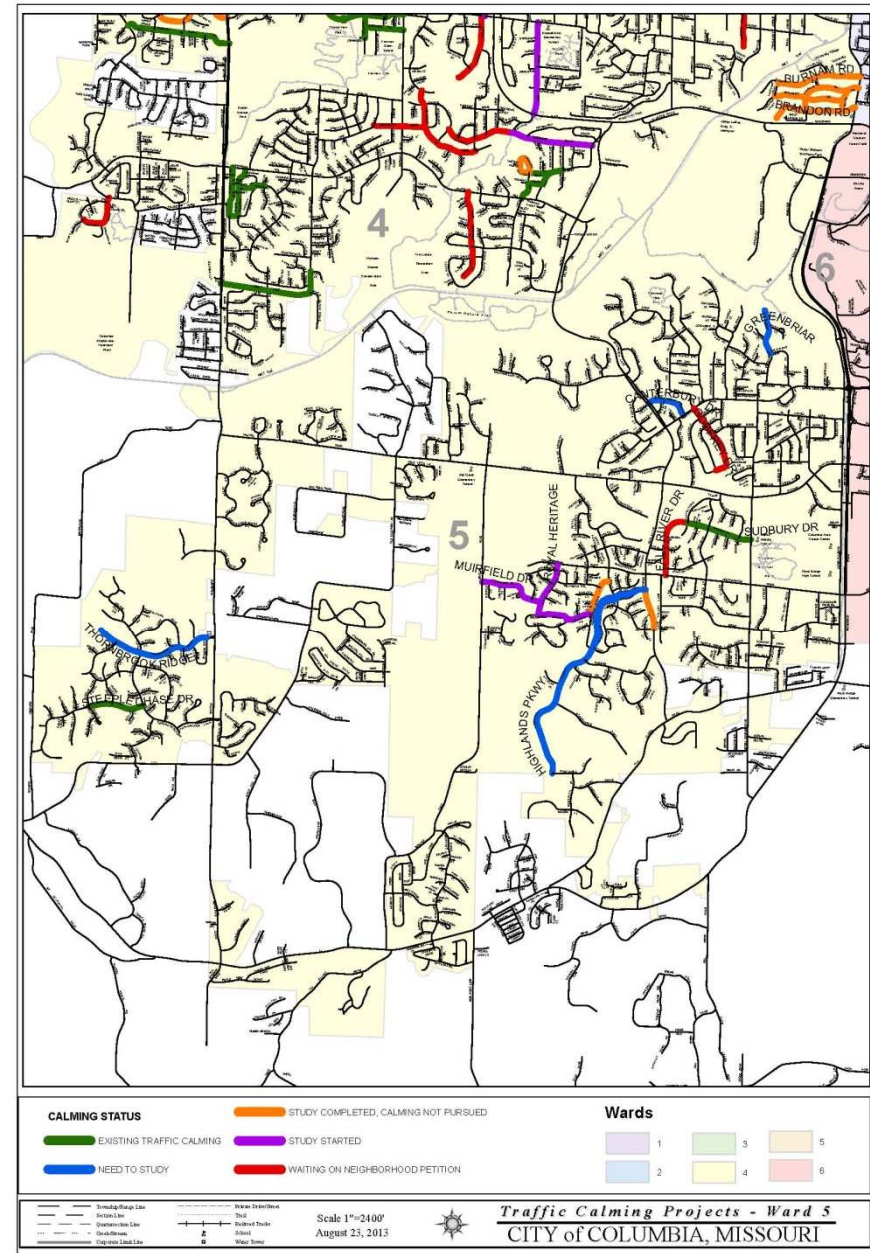
Scale 1"=2700'
August 23, 2013

Traffic Calming Projects - Ward 3
CITY OF COLUMBIA, MISSOURI

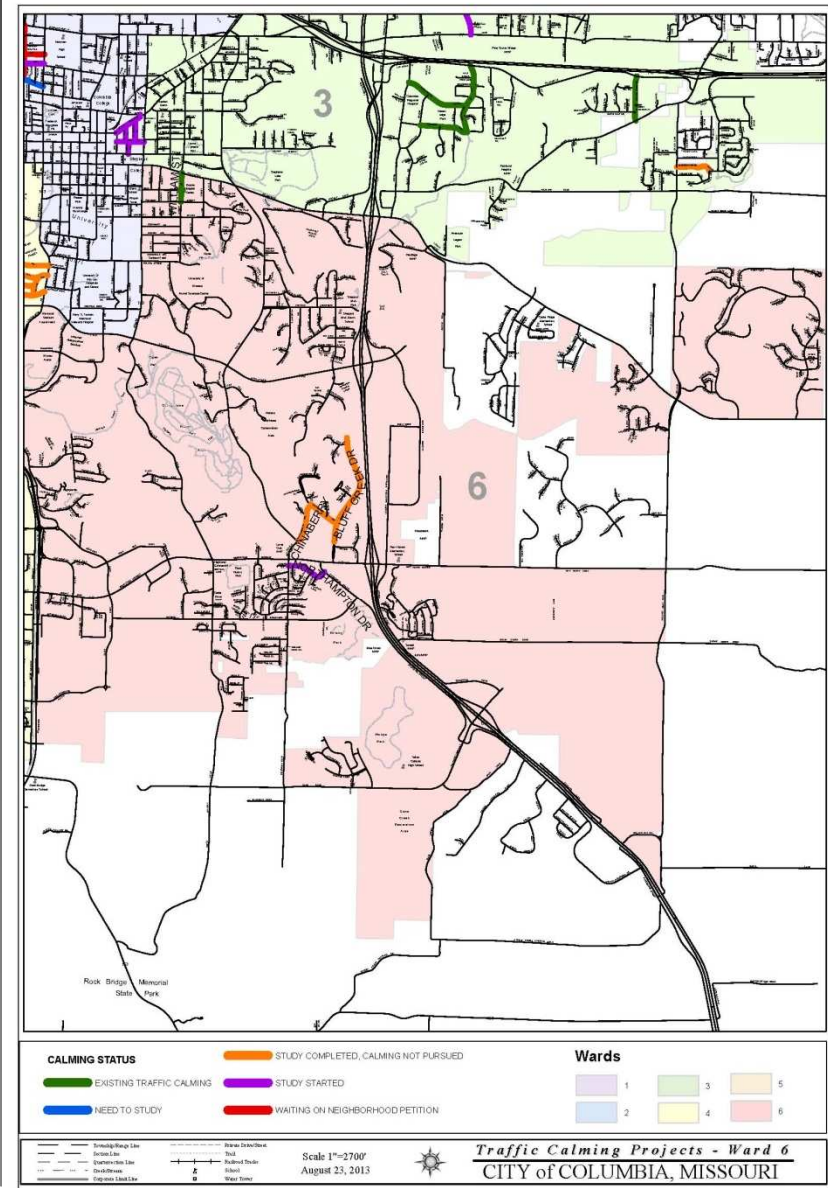
TRAFFIC CALMING BY WARD



TRAFFIC CALMING BY WARD



TRAFFIC CALMING BY WARD



QUESTIONS