

BROAD BAY ROAD PHASE IV TRAFFIC CALMING PLAN



CITY OF VIRGINIA BEACH
**Public
Works**

**Traffic
Engineering**

November 15, 2023



TRAFFIC CALMING PROGRAM (TCP)





TRAFFIC CALMING PROGRAM (TCP)

Objectives:

- Reduce speeds on residential streets
- Minimize non-neighborhood traffic
- Improve neighborhood quality of life



TCP Program Phases:

PHASE I - Community Contact and Education

PHASE II - Selective Police Enforcement

PHASE III - Additional \$200 Fine (by petition)

PHASE IV - Physical Devices (by petition)

A street must progress through each phase to be considered for the next phase



Program Qualification Criteria:

The street **MUST**:

- Have a posted speed limit of **25 mph**,
- Predominantly **residential**, with residences facing the street,
- Have at least **12 dwellings** fronting street **per 1,000** feet of roadway,
- Have an Average Daily Traffic of **at least 600 vpd** but **no more than 5,000 vpd**, **AND**



Program Qualification Criteria (Cont.):

- Have **one** of the following two speed criteria:
 - An **85th percentile speed** of **at least 33 mph** (the 85th percentile speed is the speed at which 85% of the motorists are traveling at or below), **OR**
 - An **average speed** of **at least 29 mph**.

Only one street per neighborhood



PHASE I

Community Contact & Education

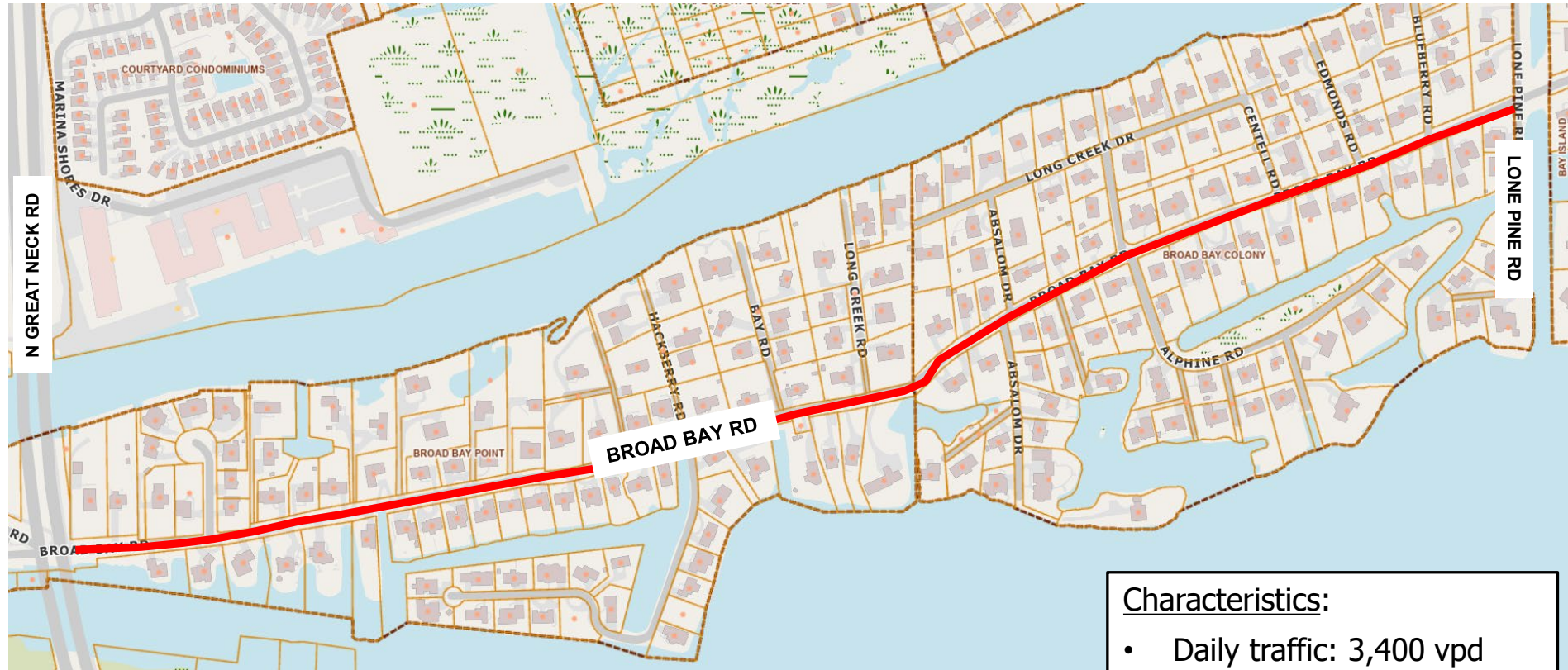
- The city performs a speed study with tubes to identify 85th percentile speed, average speed, & periods of highest speeding
- Qualifies/disqualifies neighborhood for TCP:
 - Qualifies moves to Phase II
 - Disqualifies, then neighborhood may contact the Police directly
- **OPTION:** Speed trailer set up to help educate motorists

BROAD BAY ISLAND CIVIC LEAGUE AREA



BROAD BAY ROAD

N Great Neck Rd to Lone Pine Rd



Characteristics:

- Daily traffic: 3,400 vpd (3/23)
- Approx. 21 feet wide
- No curb or gutter
- No on-street parking
- No sidewalks

BROAD BAY ROAD

Eastbound

b/t Bay Island Quay & White Hill Rd

Site Code: 230359
Station ID:
Location 1: BROAD BAY RD.
Location 2: BAY ISLAND QUAY --- WHITE HILL RD.
Location 3:
Location 4:
Direction: Eastbound

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 0.000000
Longitude: 0.000000

3/23/2023	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time	0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
1:00	0	0	0	0	2	0	0	0	0	0	0	0	2
2:00	0	0	0	0	1	0	0	0	0	0	0	0	1
3:00	0	0	0	2	0	0	0	0	0	0	0	0	2
4:00	0	0	0	2	0	0	0	0	0	0	0	0	2
5:00	1	0	0	1	2	0	0	0	0	0	0	0	4
6:00	0	2	4	10	4	0	0	0	0	0	0	0	20
7:00	0	2	15	24	9	1	0	0	0	0	0	0	51
8:00	0	0	19	36	18	2	0	0	0	0	0	0	75
9:00	4	4	14	34	20	3	0	0	0	0	0	0	79
10:00	1	7	17	34	15	0	0	0	0	0	0	0	74
11:00	0	5	19	32	33	0	0	1	0	0	0	0	90
12:00 PM	1	0	18	71	35	5	0	0	0	0	0	0	130
1:00	4	0	11	48	29	1	0	1	0	0	1	0	95
2:00	2	1	11	55	36	8	2	0	0	0	0	0	115
3:00	0	1	11	65	28	6	1	0	0	0	0	0	112
4:00	0	0	10	84	31	5	1	0	0	0	0	0	131
5:00	0	0	14	75	42	4	0	0	0	1	0	0	136
6:00	1	0	14	66	41	5	0	0	0	0	0	0	127
7:00	1	0	26	48	22	2	0	0	0	0	0	0	99
8:00	0	1	6	41	20	1	0	0	0	0	0	0	69
9:00	0	1	6	22	14	4	0	0	0	0	0	0	47
10:00	1	0	0	15	9	1	0	1	0	0	0	0	27
11:00	0	0	2	4	5	0	0	0	0	0	0	0	11
Total	16	24	217	769	417	48	4	2	1	0	1	1	1500
Grand Total	51	92	728	2272	1171	148	14	3	3	0	1	1	4478

Stats	Percentile	15th	50th	85th	95th
Speed		24	28	32	34
Mean Speed (Average)		28.1			
10 MPH Pace Speed		25-34			
Number in Pace		3434			
Percent in Pace		76.7%			
Number > 25 MPH		3607			
Percent > 25 MPH		80.5%			

85th percentile speed = 32 mph

80.5% > 25 mph

BROAD BAY ROAD

Westbound

b/t Bay Island Quay & White Hill Rd

Site Code: 230359

Station ID:

Location 1: BROAD BAY RD.

Location 2: BAY ISLAND QUAY --- WHITE HILL RD.

Location 3:

Location 4:

Direction: Westbound

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Latitude: 0.000000

Longitude: 0.000000

3/23/2023	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time	0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	1	1	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	2	0	0	0	0	0	0	0	0	2
4:00	0	0	0	1	3	0	0	0	0	0	0	0	4
5:00	0	0	0	6	12	8	0	0	0	0	0	0	26
6:00	0	1	7	26	20	5	1	0	0	0	0	0	60
7:00	4	1	9	44	51	15	0	0	0	0	0	0	124
8:00	1	1	5	63	51	4	0	0	0	0	0	0	125
9:00	1	1	7	68	52	3	1	0	0	0	0	0	133
10:00	4	1	8	49	38	3	0	0	0	0	0	0	103
11:00	0	2	10	43	37	4	1	0	0	0	0	0	97
12:00 PM	1	1	13	50	35	4	0	0	0	0	0	0	104
1:00	1	0	11	39	38	10	2	0	0	0	0	0	101
2:00	2	2	8	47	45	5	0	0	0	0	0	0	109
3:00	0	0	4	41	41	20	1	0	0	0	0	0	107
4:00	0	1	8	45	44	6	1	0	0	0	0	0	105
5:00	1	0	8	36	44	15	1	0	0	0	0	0	105
6:00	3	1	8	46	39	5	1	1	0	0	0	0	104
7:00	0	1	4	23	12	3	1	0	0	1	1	0	46
8:00	0	0	2	19	8	2	1	0	0	0	0	0	32
9:00	0	0	0	8	7	3	0	0	0	0	0	0	18
10:00	0	1	0	2	3	0	0	0	0	0	0	0	6
11:00	0	2	1	3	7	2	0	0	0	0	0	0	15
Total	18	16	113	661	588	118	11	1	0	1	1	0	1528
Grand Total	57	66	377	1935	1704	354	30	4	0	2	1	0	4533

Stats	Percentile	15th	50th	85th	95th
Speed		26	30	34	36
Mean Speed (Average)		29.6			
10 MPH Pace Speed		25-34			
Number in Pace		3612			
Percent in Pace		79.7%			
Number > 25 MPH		4033			
Percent > 25 MPH		89.0%			

85th percentile speed = 34 mph

89% > 25 mph



PHASE II -

Selective Police Enforcement

If the street qualifies for selective enforcement:

- Approximately 4 targeted enforcements per month
- Spring and Fall enforcement schedules
- If after one-year of continued non-compliance with selective Police enforcement, neighborhood may request to go to Phase III – Additional \$200 Fine

PHASE II - Selective Police Enforcement

POLICE SELECTIVE ENFORCEMENT SCHEDULE Sept-Dec 2023

2nd Precinct

Bay Colony Dr: b/t Crystal Lake Cir & Bruton Ln
Street Total

Broad Bay Rd: b/t Lone Pine Rd & ramps to/from Great Neck Rd
Street Total

Cardinal Rd: b/t Tanager Trl & Oriole Dr
Street Total

Pinewood Rd: b/t 103 Pinewood Rd & Holladay Point
Street Total

S. Woodhouse Rd: b/t Stephens & Alanton Dr
Street Total

2nd PRECINCT TOTAL:

SPEED TRAILER

Speed Trailer can be utilized even if a street does not qualify for TCP to bring driver awareness to their speed.



Speed Trailer
on Broad Bay Road

6/16-30/23

3/3-9/23

12/16-1/6/23

6/10-17/22

3/18-25/22

11/19-12/3/22

6/25-7/2/21

Speed Trailer can also be requested from Police

PHASE III -

Additional \$200 Fine (by petition)

If continued non-compliance,
increased fine implementation:

- Requires a petition signed by 75% of affected street property owners
- Approved by City Council to be added to the ordinance
- Police can write tickets with the increased fine



Phase III Approved for Broad Bay Road 10/2022

PHASE IV -

Physical Devices & TC Restrictions (by petition)

If non-compliance continues, physical devices may be installed:

- Requires a petition signed by 75% of affected street property owners.
- Traffic Engineering works with the neighborhood to develop a traffic calming plan that is suitable for the neighborhood as well as the constraints of the street.
- The primary physical device is the speed table, but mini-roundabouts, chicanes and diverters are also options.



PHASE VI

Physical Devices

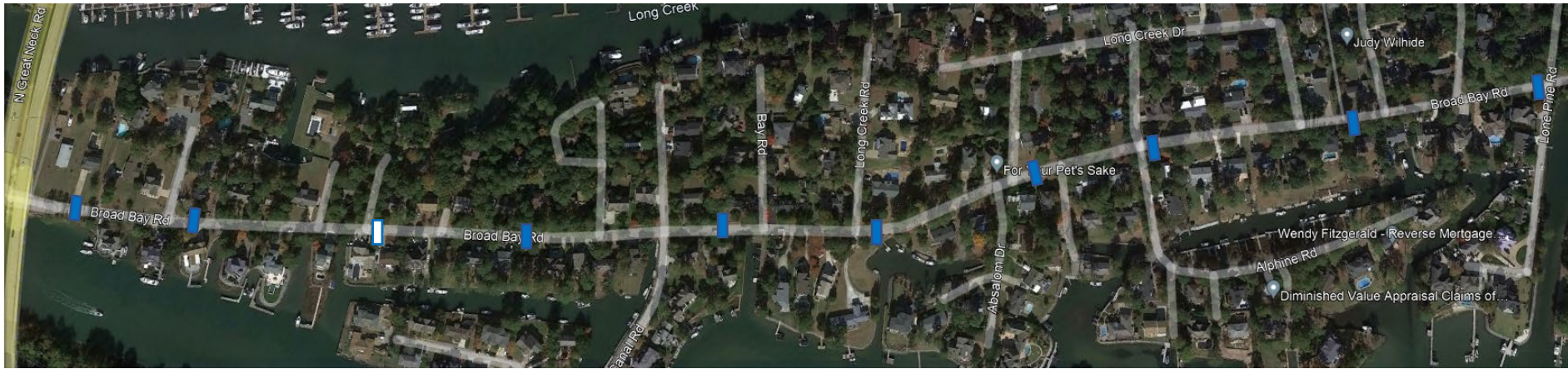
Phase IV has been successfully implemented in eight neighborhoods with all of them having significant and sustained speed reductions between the devices (not just at a device).

Neighborhoods currently in Phase IV

1. Lord Dunmore Drive (speed tables)
2. Indian Hill Road (speed tables)
3. Lake James Drive (speed tables)
4. Mediterranean Avenue (chicanes & bulb-outs)
5. Stratford Chase Drive (speed tables)
6. Langston Road (speed tables)
7. Sullivan Blvd (chicanes & bulb-outs)
8. Croatan Road (speed tables)

BROAD BAY ROAD - PHASE IV TRAFFIC CALMING PLAN

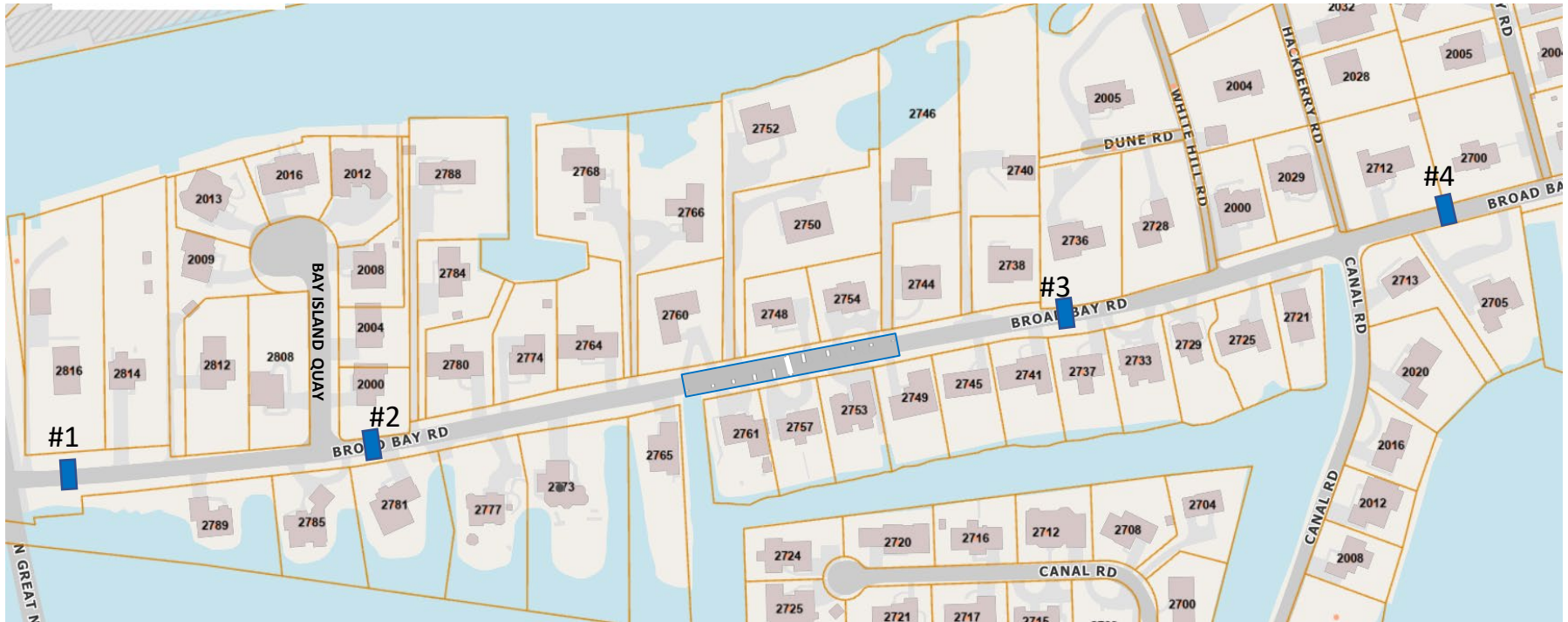
Overall Layout




- The speed tables are not speed “bumps”
 - 14 foot flat top with 3.5 foot ramp on each side – total length 21 feet.
 - Can be driven over by most vehicles at 25 mph, so that a vehicle does not need to stop to go over them.
- Spacing at 400 to 700 feet.
- Each location, requires any house that is within 100 feet of the table to sign off to keep the table at least one year.
- In locations that don't get all the required signatures, pavement markings are used as a substitute.

BROAD BAY ROAD - PHASE IV TRAFFIC CALMING PLAN

Detailed Layout



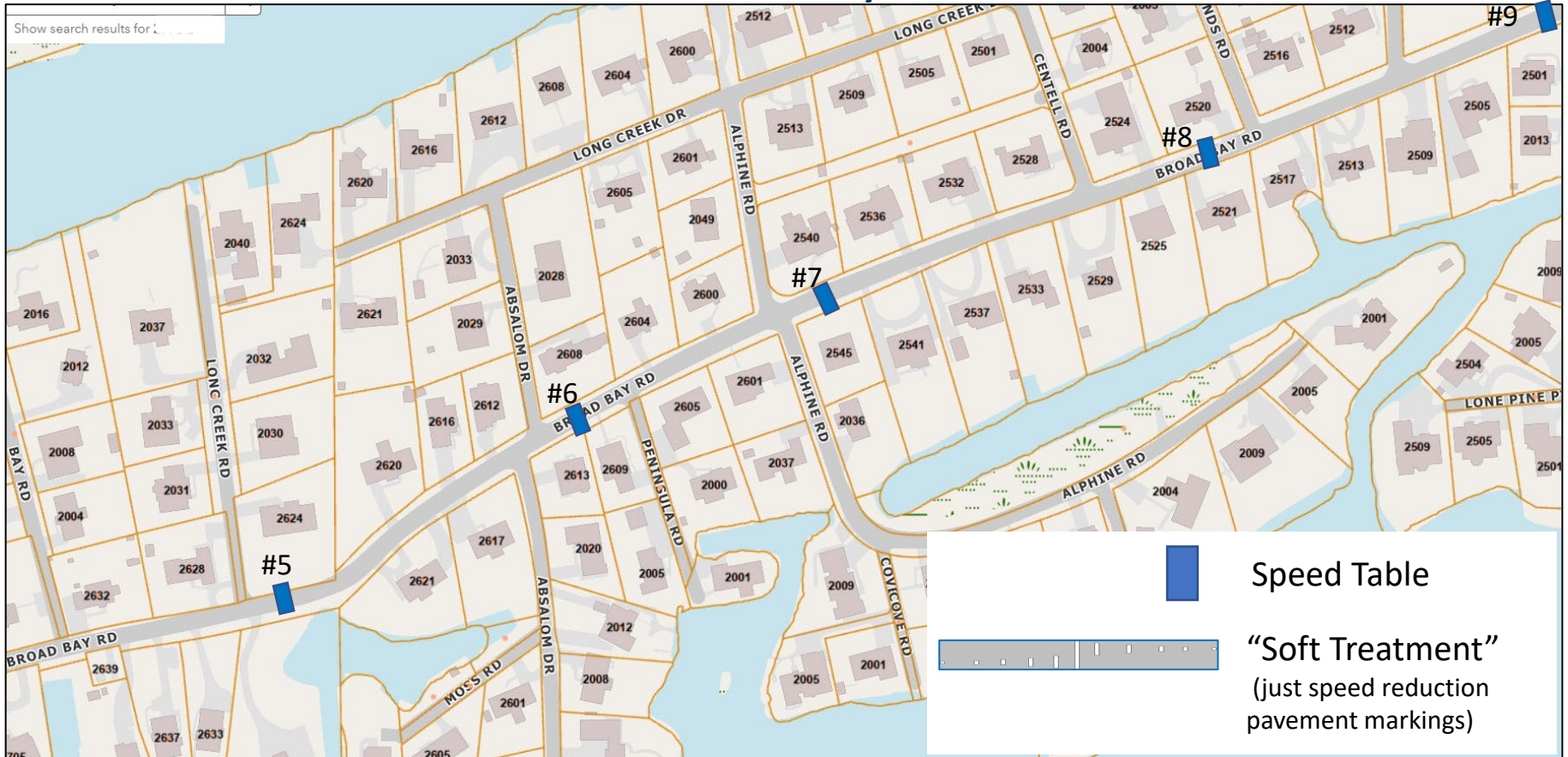
 Speed Table



"Soft Treatment"
(just speed reduction pavement markings)

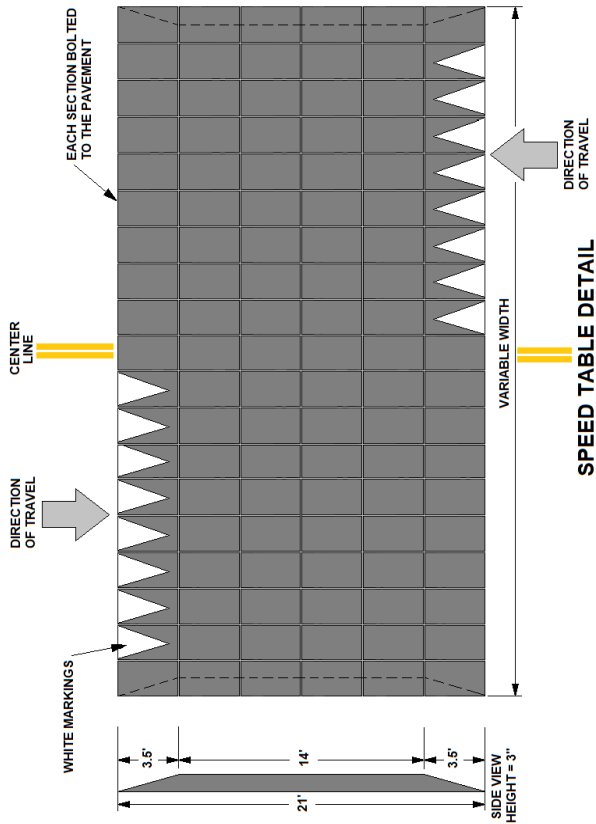
BROAD BAY ROAD - PHASE IV TRAFFIC CALMING PLAN

Detailed Layout



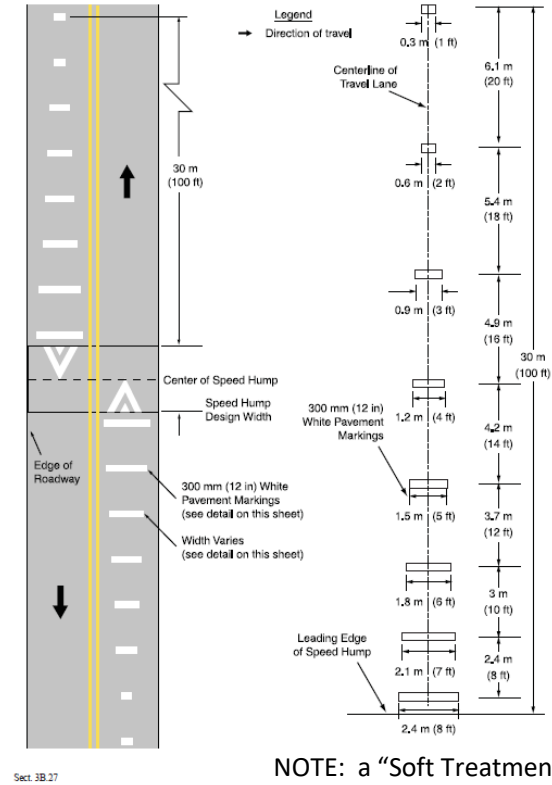
BROAD BAY ROAD - PHASE IV TRAFFIC CALMING PLAN

Typical Speed Table:



Speed Table Pavement Markings:

Figure 3B-30. Typical Advance Warning Markings for Speed Humps



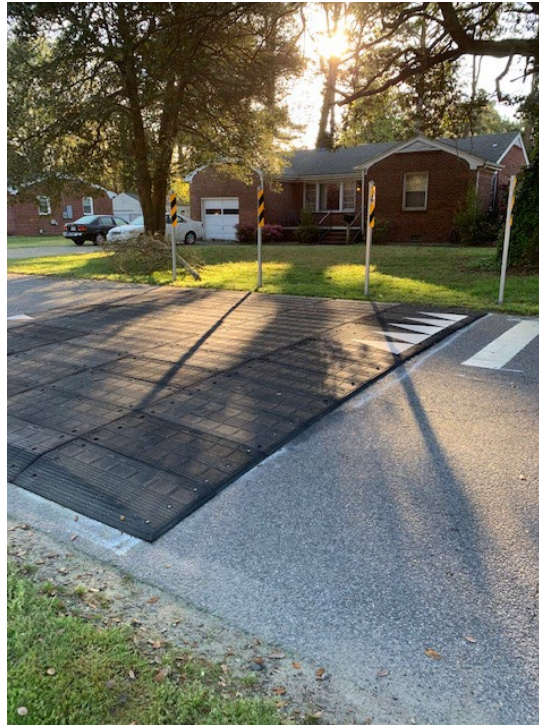
NOTE: a "Soft Treatment" is the speed table markings without an actual speed table

EXAMPLES PHASE IV TRAFFIC CALMING

Speed Table – Croatan Rd



Speed Table – Indian Hill Rd



“Soft Treatment”
(pavement markings but no speed table)



* “Soft treatment” is utilized when agreements for one-year placement of table is not achieved at a location.

BROAD BAY ROAD – PHASE IV TRAFFIC CALMING

Where are you now?

For PHASE IV – Physical Devices:

- Petition is complete ✓
- Traffic Engineering develops a plan for neighborhood review ✓
- Traffic Engineering reviews plan with neighborhood leadership ✓
- **Presentation to neighborhood** ←

BROAD BAY ROAD – PHASE IV TRAFFIC CALMING

Where do you go from here?

NEXT

- City provides Speed Table Acceptance Form for each speed table location to Civic League Leadership.
 - Sign-off is needed for impacted properties within 100 ft of each speed table to keep the table for 1-year.
- Speed table plan gets implemented at approved locations.
- Follow-up speed studies are taken.
- After one (1) year:
 - Civic League Leadership can submit a letter to permanently install tables.
 - Resident(s) at particular speed table location can request removal.

BROAD BAY ROAD – PHASE IV TRAFFIC CALMING

Comments

- Speed tables allow most drivers to go 25 mph over the table.
- Does not delay emergency vehicles:
 - Laid out for testing in our Operations yard prior to first installation.
 - No reports from Emergency Services of delayed responses on any current installations.
- If sign-off is not complete for a particular table, a pavement marking “soft” treatment can be utilized in partnership with speed tables.
 - ❖ **HOWEVER**, need at least half to be actual speed tables to be effective (4-5 tables).

PEDESTRIAN SAFETY

SEE AND BE SEEN

VISIBILITY = SAFETY



#BEVISIBLE

#COEXIST

#ILLUMINATE

#RESPECT

#SHARETHEROAD



“Let’s Be Careful Out There”

SEE

❖ Don't be distracted



❖ Be patient



❖ Be aware of vehicles blind spots

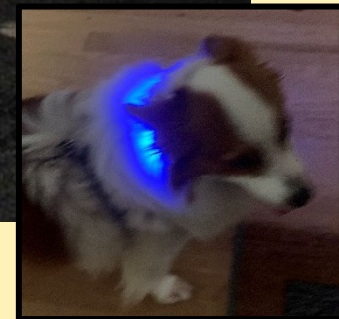
(e.g. vehicle "A" pillar can block view of pedestrians)

BE SEEN

❖ Walk facing traffic



❖ Wear reflectorized clothing (collars?)



❖ Don't do anything unpredictable



Alcohol & Pedestrians

- In Virginia, greater than **50%** of pedestrian casualties involve drug/alcohol consumption on the part of the pedestrian
- So far in 2023, **67%** pedestrian & bicycle fatalities in Virginia Beach involved drug/alcohol consumption on the part of the pedestrian or bicyclist.



NEW LEGISLATION: STOP for Pedestrian Effective 7/1/2023

2023 SESSION

CHAPTER 117

An Act to amend and reenact § 46.2-924 of the Code of Virginia, relating to drivers stopping for pedestrians; certain signs; stops.
[S 1069]
Approved March 21, 2023

Be it enacted by the General Assembly of Virginia:

1. That § 46.2-924 of the Code of Virginia is amended and reenacted as follows:

§ 46.2-924. Drivers to stop for pedestrians; installation of certain signs; penalty.

A. The driver of any vehicle on a highway shall ~~yield the right of way to~~ **stop** when any pedestrian crossing such highway ~~by stopping and remaining stopped is~~ **within the driver's lane or within an adjacent lane and approaching the driver's lane** until such pedestrian has passed the lane in which the vehicle is stopped:

1. At any clearly marked crosswalk, whether at midblock or at the end of any block;
2. At any regular pedestrian crossing included in the prolongation of the lateral boundary lines of the adjacent sidewalk at the end of a block; or
3. At any intersection when the driver is approaching on a highway where the speed limit is not more than 35 miles per hour.

QUESTIONS

BROAD BAY ROAD - PHASE IV TRAFFIC CALMING PLAN

Houses within 100 feet of Proposed Speed Table

