



# Seminole County Traffic Calming Update

**May 9, 2023**



# OUTLINE

- Background
- Current Status
  - Fire Department Input
  - Resource Management Input
- Staff Recommendation

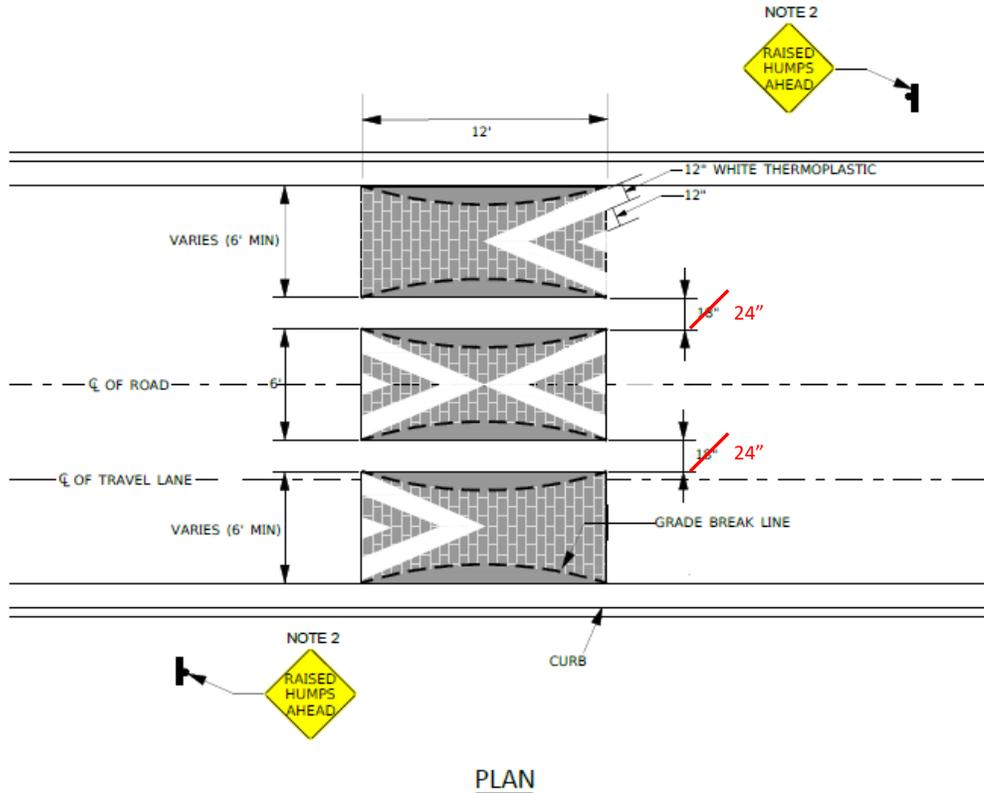
# BACKGROUND

- Presented various Traffic Calming (TC) treatments and our former TC program back in March 2018.
- In 2019 a Speed Cushion Pilot Project was initiated at 4 locations in Chuluota, Sanford and Altamonte. Pre-form speed cushions installed to allow easier passage of emergency vehicles.
- 8/11/2020 - Public Works presented Speed Cushion Update at Virtual BCC Work Session.
- 10/27/2020 - Agenda item #46, Resolution amending Administrative Code to include Section 34.35 "Traffic Calming Devices". City of Orlando cushion design adopted.

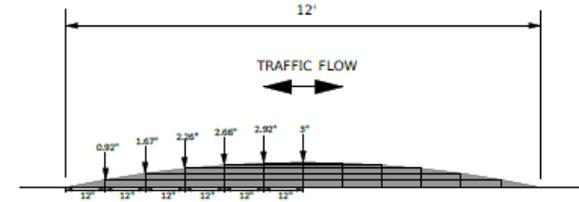
# City of Orlando Cushion Design (3 Cushion)

**NOTES:**

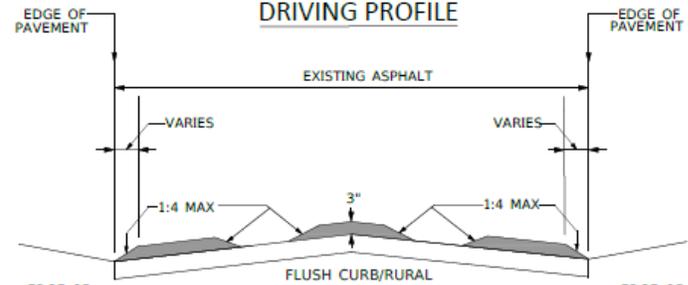
1. UNDISTURBED CLEARANCE FOR DRAINAGE SHALL BE 18" MINIMUM FOR TYPE D OR VERTICAL CURB. FOR TYPE F/E CURB & GUTTER, THE TRANSITION SHALL END AT THE EDGE OF PAVEMENT.
2. ADVANCE WARNING SIGN (W17-1) SHALL BE PLACED PER MUTCD AHEAD OF FIRST SPEED CUSHIONS FOR EACH DIRECTION.  
IF THE SIGN IS INSTALLED PRIOR TO THE CONSTRUCTION, IT SHALL BE COVERED. CONTRACTOR SHALL REMOVE SIGN COVERING WHEN CONSTRUCTION BEGINS.
3. RUNNING BOND BRICK PATTERN ALIGNED AS SHOWN WITH TERRA COTTA COLOR (PANTONE 7609 U) SBI-TC-08
4. SPEED CUSHION SHALL BE 20' MINIMUM FROM DRIVEWAY FLARE, 50' FROM INTERSECTION P.C., AND 100' MINIMUM FROM ANY STOP OR SIGNAL CONTROLLED INTERSECTIONS.



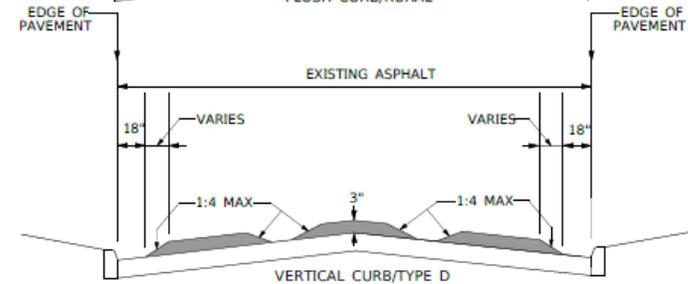
PLAN



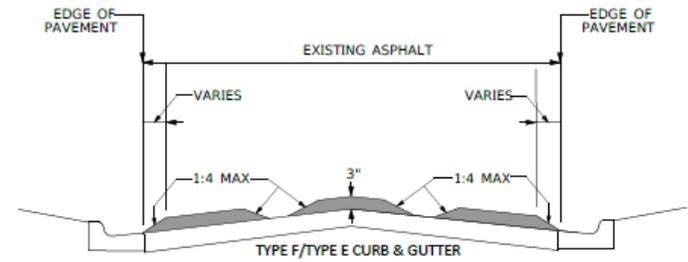
DRIVING PROFILE



FLUSH CURB/RURAL



VERTICAL CURB/TYPE D



TYPE F/TYP E CURB & GUTTER

CROSS SECTION

| DATE | BY | DESCRIPTION | REVISION |
|------|----|-------------|----------|
|      |    |             |          |
|      |    |             |          |
|      |    |             |          |

|                |  |
|----------------|--|
| SUPERVISED BY: |  |
| DRAWN BY:      |  |
| DESIGNED BY:   |  |
| CHECKED BY:    |  |
| DATE:          |  |



|            |  |
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# BACKGROUND

- Traffic Calming Devices Approved in Admin Code:
  1. Speed Cushions / Speed Humps
  2. Speed Display Trailers / Post Mounted Electronic or Solar Radar Speed Signs
  3. Mid-Block Chokers
  4. Chicanes
  5. Traffic Circles
  6. Roundabouts
  7. Median/Center Islands
  8. Gateway/Entry Features

# BACKGROUND

## Approved Traffic Calming Criteria:

- Roadway must have a documented issue with speeding (observed 85th %-tile speed is greater than 10 mph over posted speed limit).
- Minimum/Maximum Roadway Volume: 750 vehicles per day / 5,000 vehicles per day.
- Maximum Speed: The posted speed on the roadway must not exceed 30 mph.
- Homeowner approval for installation (and removal): 65%
- Consider other owners impacted by devices (side streets) on a case by case basis.

# BACKGROUND

## Approved Traffic Calming Criteria (cont.):

- Functional spacing of devices (primarily for speed cushions or humps):
  - 300'-400' between devices
  - Not on curves/turns
  - Minimum of 100' from intersections or curves/turns
  - Spacing subject to adjustment for driveways
- Roadway must have driveways that directly access the road.
- Roadway must be subject to through traffic - not in a "closed development."
- Roadway must not be a principal arterial, minor arterial or major collector roadway – must be a local street or minor collector (evaluated on a case by case basis).
- Roadway character/location (rural vs. urban) – considered on a case by case basis.

# BACKGROUND

## Approved Traffic Calming Criteria (cont.):

“Flexibility Statement” included -

Nothing above shall limit the County Traffic Engineer’s or County Engineer’s ability to install any devices upon the County roadway system that in their sole opinion is justified for the maximum safety of the motorists or residents and does not impede public safety operations.

# CURRENT STATUS

Since 2020 learned that original criteria did not consider impact to Fire Department:

- Per the Florida Fire Prevention Code (Florida Statute 633), the design and use of traffic calming devices on all County roadways are subject to approval by the Seminole County Fire Department as these devices may impact emergency response times.

Seminole  
County  
Fire  
Department



# Fire Department Impacts

- Response time delays of approximately 3.5 - 10 seconds per device
  - Seconds count when responding to life threatening events such as a cardiac arrest, choking, as well as fires in occupied structures.
  - Response time delays due to traffic-calming measures are experienced both enroute to emergency events as well as during transport of patients to hospitals.
- Patients being transported by ambulance may experience adverse effects that exacerbate their injuries/illnesses while the ambulance traverses speed humps.



# Speed Cushions & Apparatus Travel Time Analysis

We have collected historical data for Engines and Rescues that drove through Miami Springs Dr while on a 911 emergency response before and after the installation.

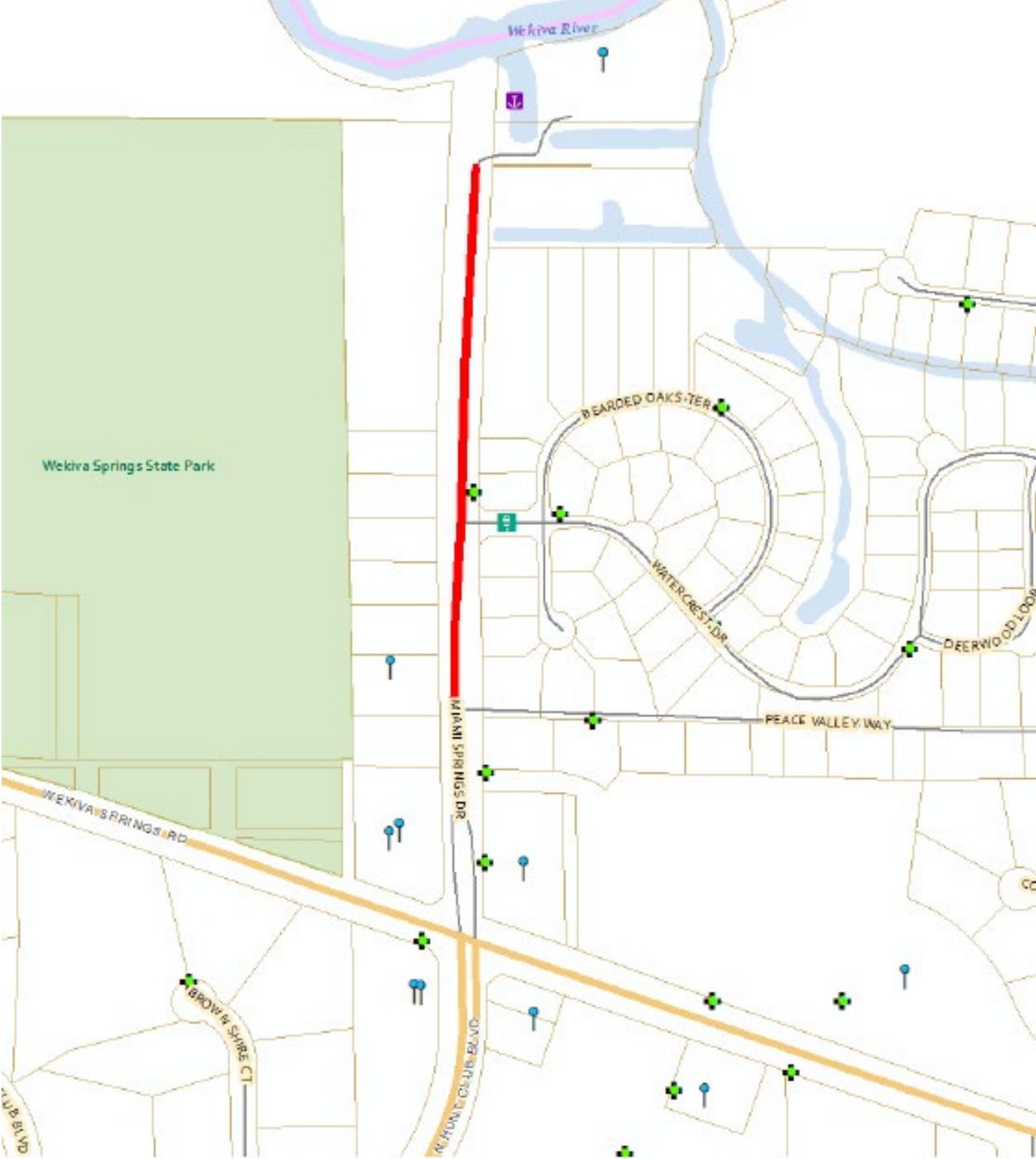
Location: Miami Springs Drive

# of Devices: (2) Speed Cushions

Installation Date: October 2022

| 90th percentile MPH when dispatched through Miami Springs Dr |             |              |            |
|--|-------------|--------------|------------|
|  | Pre-Install | Post-Install | Difference |
| Engine   | 45          | 33           | -12        |
| Rescue   | 43          | 33           | -10        |

90 percent of the time, emergency vehicle speeds have been reduced by 12 MPH for a Fire Engine and 10 MPH for an Ambulance when compared to their pre speed bump percentiles.



# Being part of the process

## Language to be added to Seminole County Administrative Code, Section 34.35

- (11) The design and use of traffic calming devices on all County roadways are subject to approval by the Seminole County Fire Department per the Florida Fire Prevention Code (Florida Statute 633) as these devices may impact emergency response times.
- (12) Traffic calming devices discussed in this document should not be placed on any street that is a primary/routine response route for emergency vehicles, including departure routes from a fire station. Primary/routine response routes are defined by the Institute of Transportation Engineers (ITE) as any street that emergency vehicles commonly use to allow for faster speeds, cut through access to adjacent areas and lesser physical impediments to achieve the shortest response time to their destination.

# Seminole County Fire Department SPEED CUSHION EVALUATION



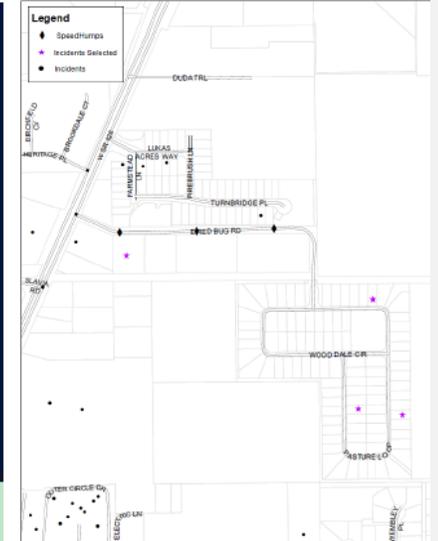
## East Red Bug Road

Date: 5/19/2022

# of Speed Cushions Proposed: 03

Evaluated By: Fire Marshal Christina Diaz  
Deputy Chief Ben Decuir

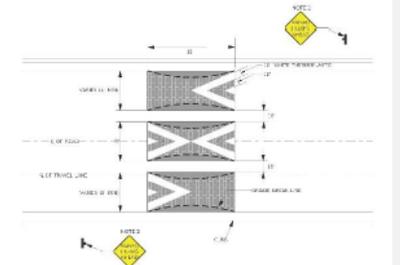
**Traffic Calming Devices: Section 18.2.3.5.7 (NFPA 1, 2018 Edition)**  
The design and use of traffic calming devices shall be approved by the AHJ. The requirement for the AHJ to review and approve traffic calming devices applies to both private and public fire apparatus access roads



| Posted Speed | Posted Travel Time | Study Based Travel Time | Number of Speed Humps |
|--------------|--------------------|-------------------------|-----------------------|
| 25           | 0:50               | 1:00.5                  | 03                    |

| Total IRs* | Unique Incidents** | Incidents Responded To*** |
|------------|--------------------|---------------------------|
| 8          | 4                  | 6                         |

~ Source: CAD  
 ~ 3.5 sec/ speed hump added to posted travel time  
 \* 1 IR per unit responding  
 \*\* # Unique IR  
 \*\*\* Comes from CAD using a "bounding box" around the street of interest



## IMPACTS:

- Fire department response can be reduced by a minimum of 10.5 seconds due to the (3) proposed speed cushions.
  - Please note, this apparatus access road was utilized 6 times in CY2021 while responding to emergency incidents within this area.
- Response time increased by a minimum of 21% due to the proposed speed cushions.



# Fire Department Requirements:

## **D. SPECIFIC FIRE DEPARTMENT DESIGN CONSIDERATIONS.**

- 1) No Parking signage to be installed on both sides of roadways where such traffic calming devices installed and present within 100ft of either direction.
  - 2) Mountable curbs or an Accessible Right-of-Way to be present to allow drivers to yield for passage of on-coming emergency vehicles.
  - 3) Traffic calming device(s) shall not increase response times by more than one minute and the travel time to the furthest protected structure along the response route will not be increased to more than 5 minutes.
  - 4) Fire Inspection required after installation of approved devices for final on-site evaluation and verification of compliancy.
- Considerations for approval will look at compounding factors to emergency vehicle response (i.e. other traffic calming devices on route)

(Section D. to be added to Seminole County Admin Code, Section 34.35)

# TRAFFIC CALMING

## Current Process To Evaluate A Request

- The requested roadway must meet the criteria noted below to qualify for traffic calming consideration:
  - Roadway must be subject to through traffic - not in a “closed development”.
  - Roadway must have driveways that directly access the road.
  - Maximum posted speed limit 30 MPH.
- If the roadway meets the noted criteria, Traffic Engineering will schedule a speed and volume study.
- If the speed studies indicate that there is an issue with excessive speeds (85th %-tile speed is at least 10 mph over posted speed limit) and traffic volumes are between 750 and 5,000 vehicles per day, we draft a solution and cost **and forward to Fire Department (FD) for review and evaluation.**

# TRAFFIC CALMING

## Current Process To Evaluate A Request (cont.)

- If FD does not deny the request based on their initial criteria, we present FD findings to the area beyond the roadway in question that would be impacted by increased response times.
- If the impacted area approves the TC request by a simple majority (>50%) and the applicant still wishes to move forward with Staff's proposed solution, we would have them formally apply to Resource Management through the County's MSBU Program. As a reminder, an MSBU requires 65% approval of the owners on the roadway.

# Pending Applications

- Three (3) roadways have met engineering criteria and would like to move forward with a MSBU.
  - The surrounding area should be supplied the Fire Department report of additional response time and surveyed for majority approval (>50%).
- Lockhaven has been working with Community Services through MSBU to use CDBG funds for traffic calming devices.
  - The surrounding area should be supplied the Fire Department report of additional response time and surveyed for majority approval (>50%).
- There are two (2) other roadways that meet criteria and appear to be potential for CDBG funding for traffic calming.

# STAFF RECOMMENDATION

- Update Traffic Engineering Admin Code to include Fire Department approval and MSBU Admin Code to include Traffic Calming MSBUs.
- After approval from the Fire Department, a survey of the surrounding area is performed with information provided about the proposed devices and additional response time to gain a majority approval (>50%) to move forward with the project.
- After majority approval by the surrounding area, the roadway could be considered for grant funding. Engineering works with Community Services to install the devices eligible for grant funding.
- If not eligible for grant funding, Engineering delivers information to MSBU to begin communication for creating a MSBU.
- Each traffic calming project shall be approved by the Board, regardless of funding.

**QUESTIONS?**