Push 2 Cross
Pedestrian Safety System

Application Guide

TRAFFICALM®

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Document: 006-00017-0000 rev A
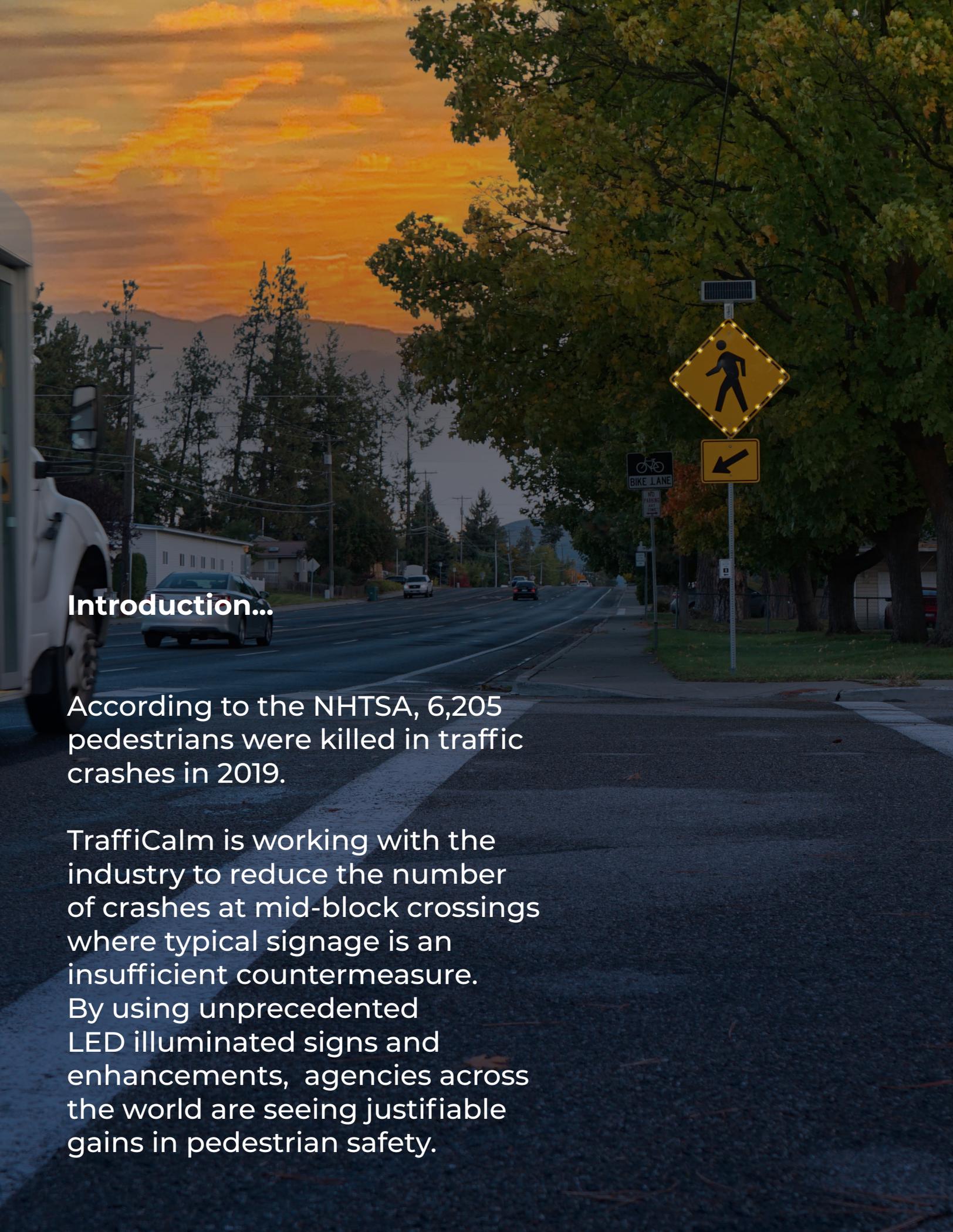
Introduction...

According to the NHTSA, 6,205 pedestrians were killed in traffic crashes in 2019.

TraffiCalm is working with the industry to reduce the number of crashes at mid-block crossings where typical signage is an insufficient countermeasure. By using unprecedented LED illuminated signs and enhancements, agencies across the world are seeing justifiable gains in pedestrian safety.
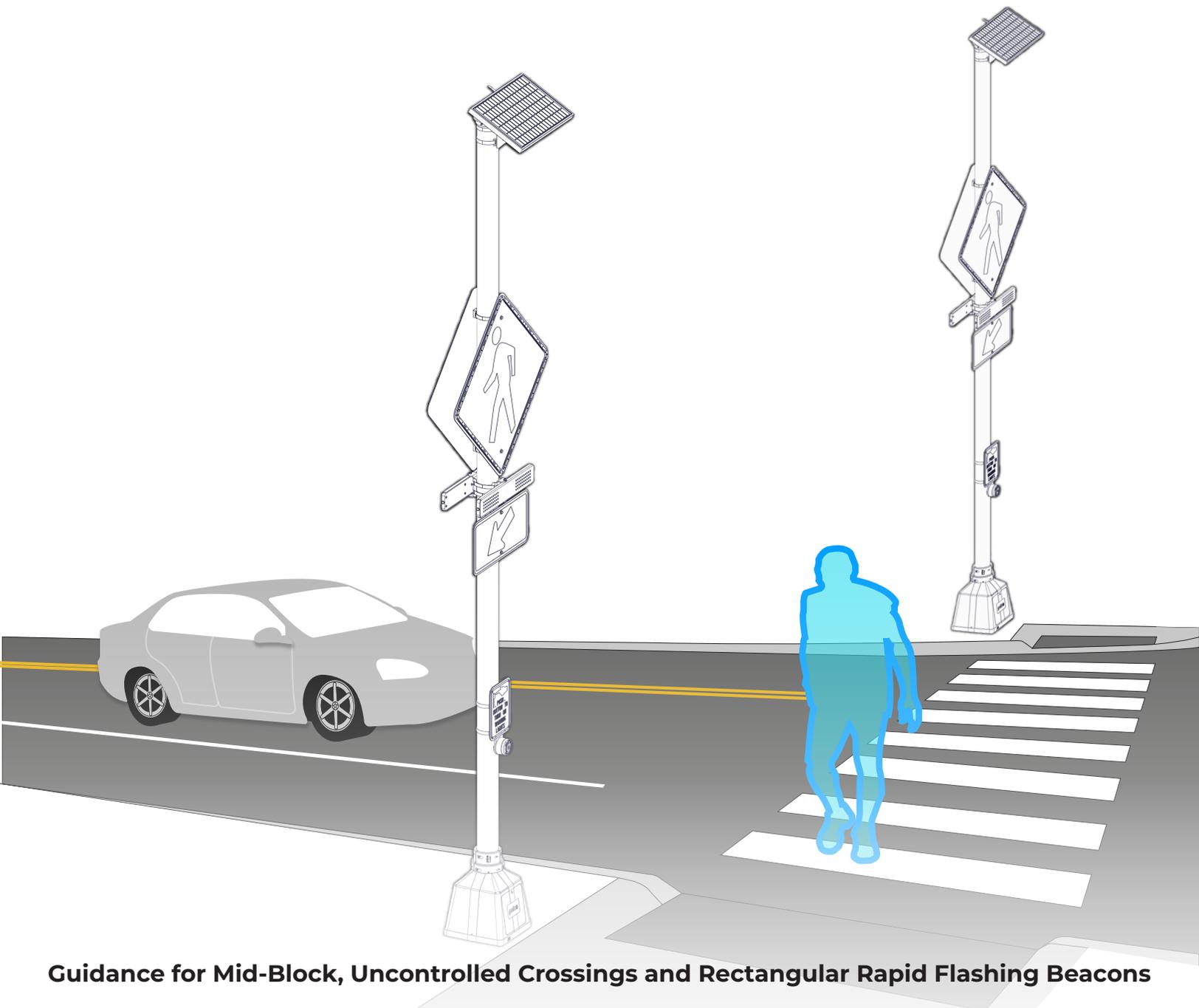
Guidance for Mid-Block, Uncontrolled Crossings and Rectangular Rapid Flashing Beacons

MUTCD 2009 Section 3B.18 states...
- Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops.
- In conjunction with signs and other measures, crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs.
- At non-intersection locations, crosswalk markings legally establish the crosswalk
- Because non-intersection pedestrian crossings are generally unexpected by the road user, warning signs (see Section 2C.50) should be installed for all marked crosswalks at non-intersection locations and adequate visibility should be provided by parking prohibitions.

FHWA Interim Approval 21 states...
- The Office of Transportation Operations reviewed the available data in 2008 and considered the RRFB to be highly successful for the applications tested (uncontrolled marked crosswalks). The RRFB offers significant potential safety and cost benefits because it achieves high rates of compliance at a low relative cost in comparison to other more restrictive devices that provide comparable results, such as full midblock signalization or pedestrian hybrid beacons.

STOP

Application 1

Application 2
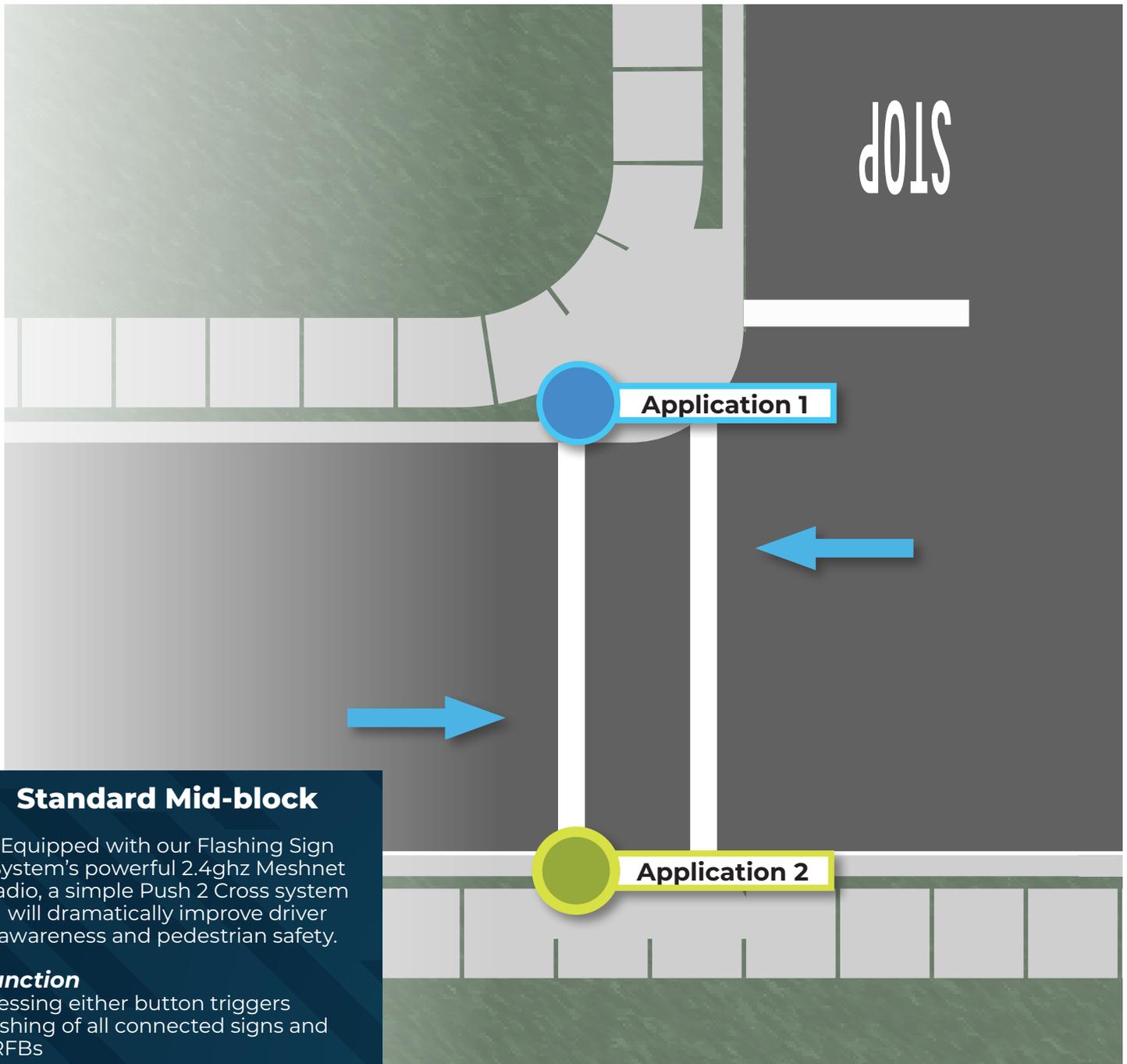
Standard Mid-block

Equipped with our Flashing Sign System's powerful 2.4ghz Meshnet radio, a simple Push 2 Cross system will dramatically improve driver awareness and pedestrian safety.

Function
Pressing either button triggers flashing of all connected signs and RRFBs

Flexibility
Select from a broad range of devices to suit the installation and project requirements. Options include solar or AC power, ADA-compliant push buttons, flashing LED sign rings, and RRFB warning devices

Compatability
Mix and match components and mount them to virtually any type of post, even on existing signs. Our systems are designed to make ownership and maintenance as friction-free as possible.

Wireless Installation
With solar power and Meshnet device-to-device radios, no wires have to pass under the roadway.

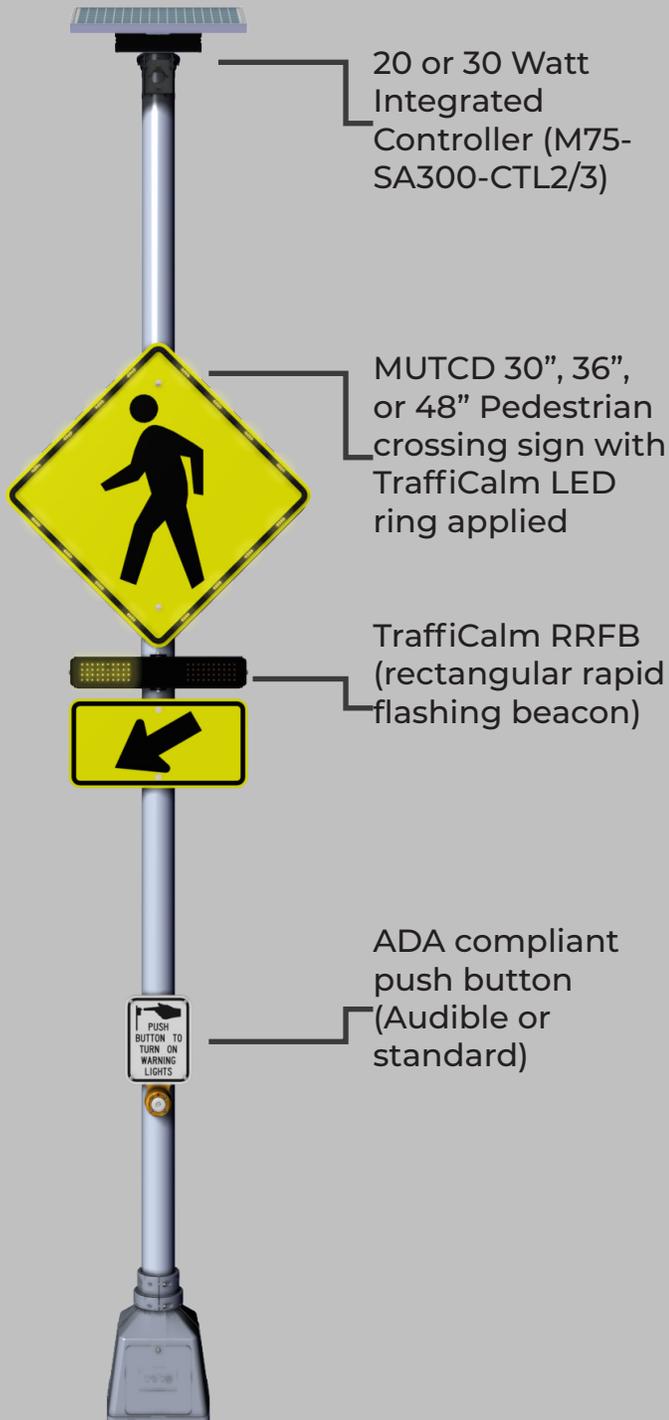Description
Standard Mid-Block System Placement

Date Created
Sep 29, 2021

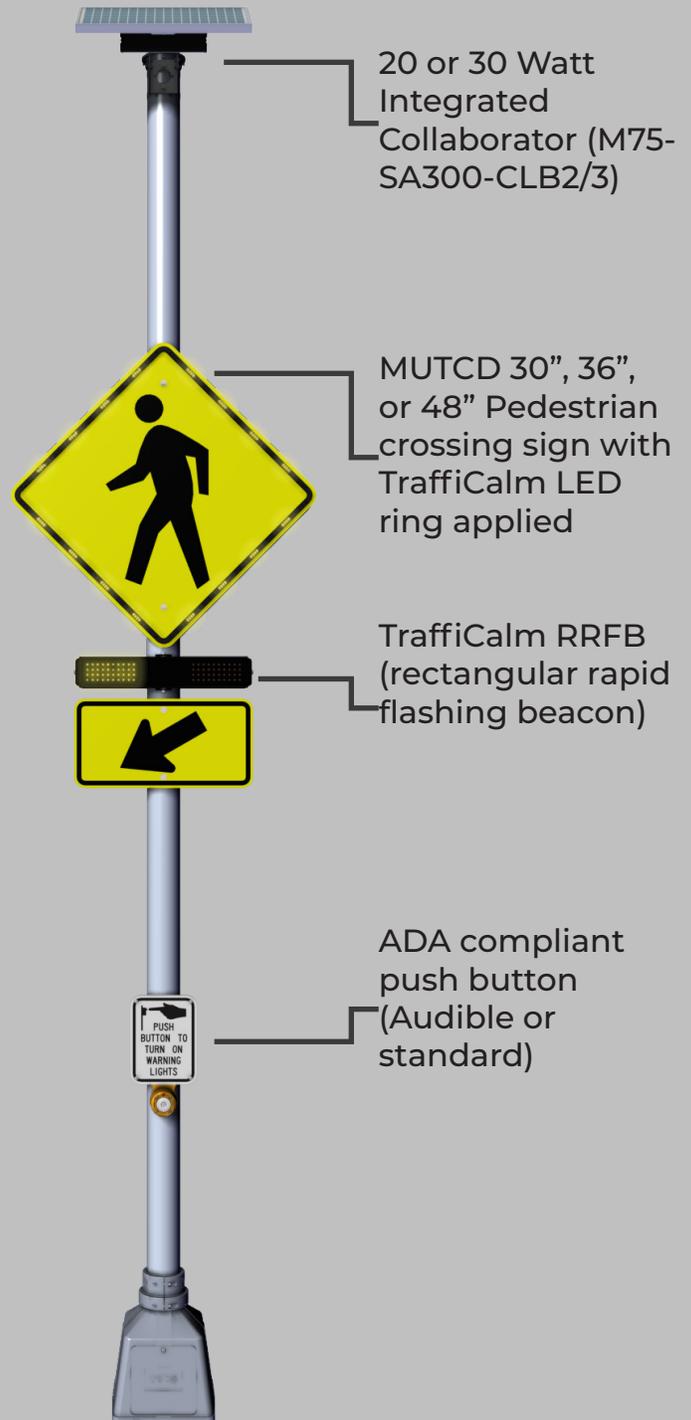*See opposite page for Application Details..*

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Application 1

20 or 30 Watt Integrated Controller (M75-SA300-CTL2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

Application 2

20 or 30 Watt Integrated Collaborator (M75-SA300-CLB2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

For most installations Solar Power offers the greatest measure of flexibility and ease of installation. AC powered options available.

It is possible to apply this system to existing signs and posts. Extensions may be needed to accommodate the hardware stack.

Signs and RRFBs can be mounted back to back to produce and unmistakable warning to drivers from both approaches

Description	
Standard Mid-Block System Detail	
Date Created	
Sep 29, 2021	
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Application 1

Application 2

Application 2
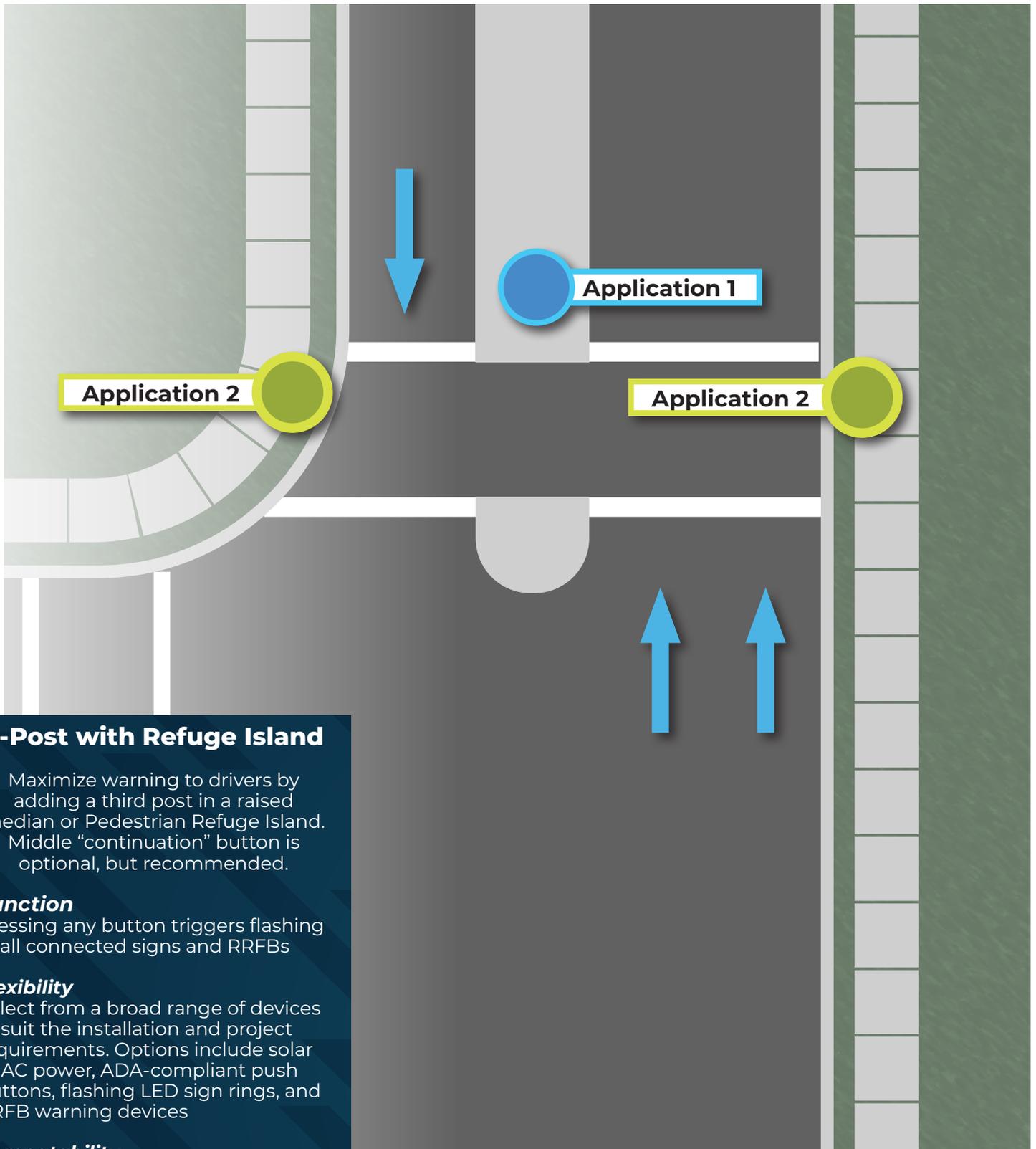
3-Post with Refuge Island

Maximize warning to drivers by adding a third post in a raised median or Pedestrian Refuge Island. Middle "continuation" button is optional, but recommended.

Function
Pressing any button triggers flashing of all connected signs and RRFBs

Flexibility
Select from a broad range of devices to suit the installation and project requirements. Options include solar or AC power, ADA-compliant push buttons, flashing LED sign rings, and RRFB warning devices

Compatability
Mix and match components and mount them to virtually any type of post, even on existing signs. Our systems are designed to make ownership and maintenance as friction-free as possible.

Best Use
Apply a third post in the median or refuge where vehicle traffic lanes exceed 3 and average daily traffic is above 10k.

Description	
3-Post With Refuge Island Placement	
Date Created	
Sep 29, 2021	
See opposite page for Application Details...	Pg. 6

Application 1

20 or 30 Watt Integrated Controller (M75-SA300-CTL2/3)

Back to back MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

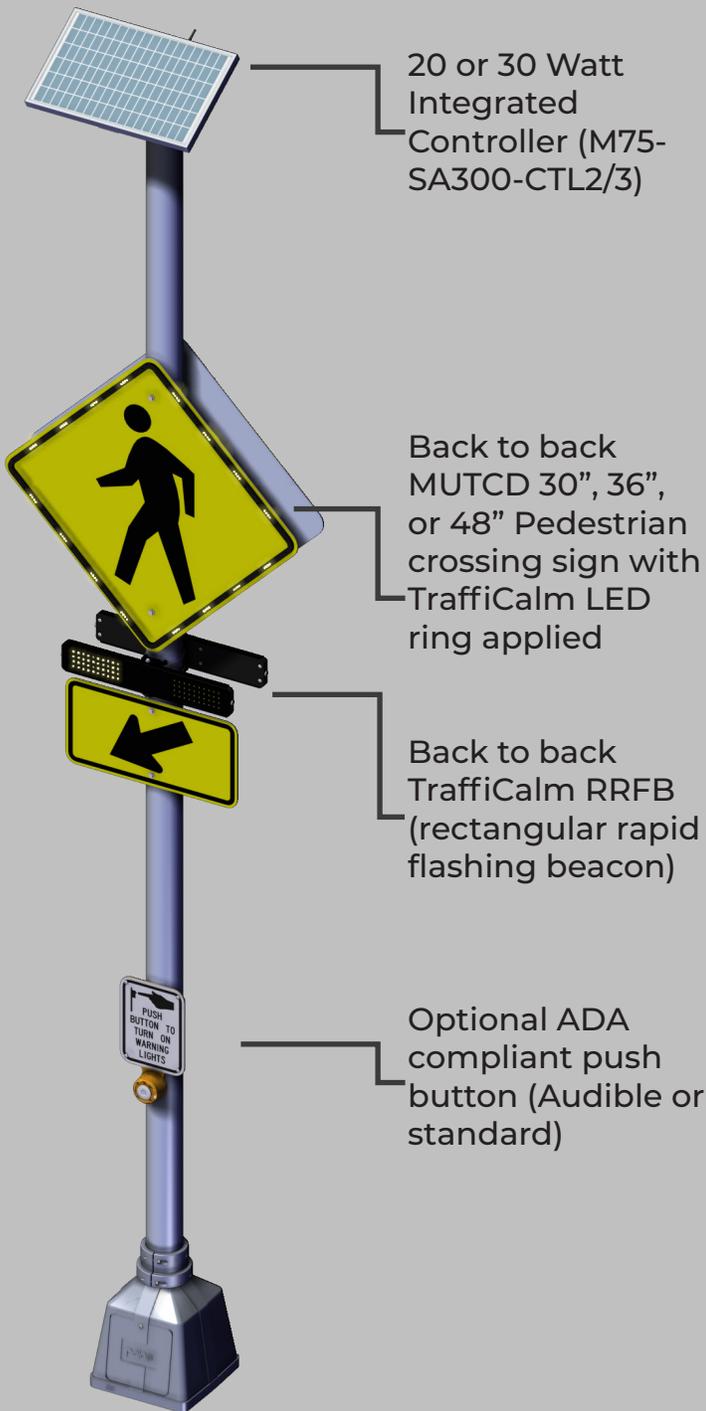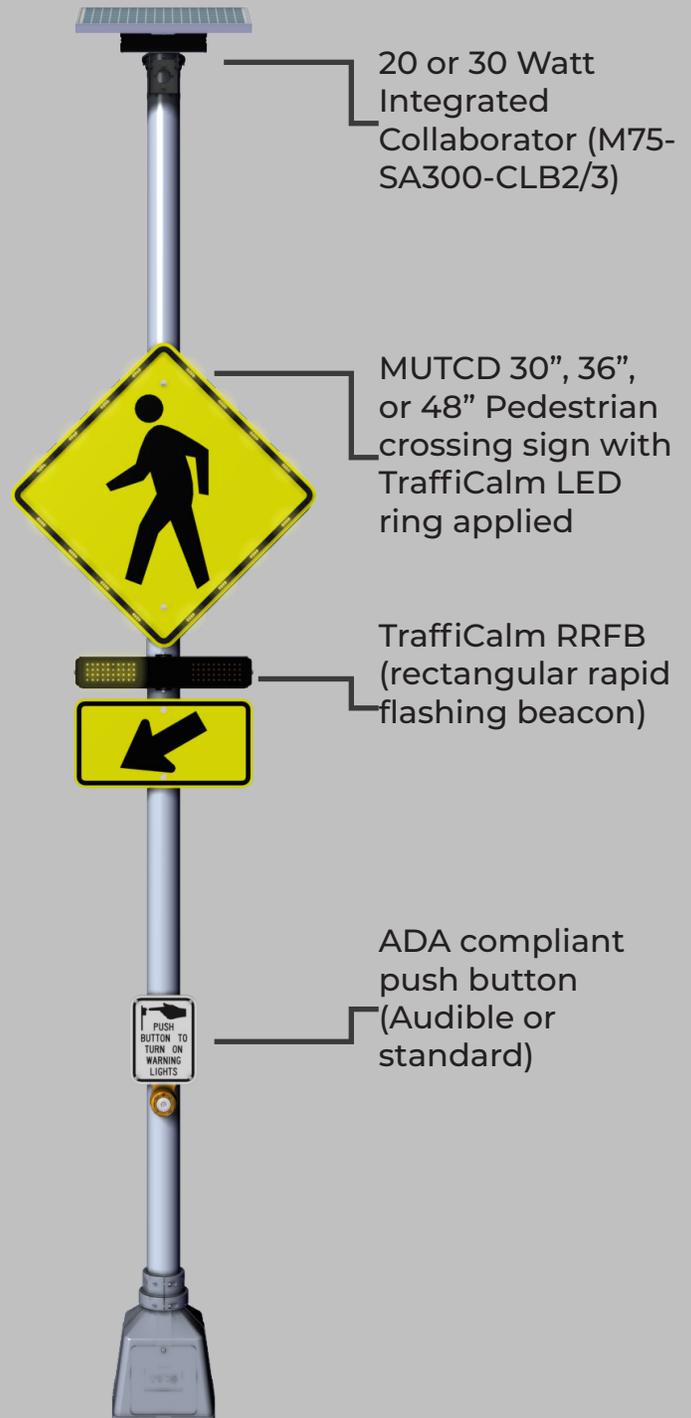**Back to back TraffiCalm RRFB (rectangular rapid flashing beacon)**

Optional ADA compliant push button (Audible or standard)

PUSH BUTTON TO TURN ON WARNING LIGHTS

Application 2

20 or 30 Watt Integrated Collaborator (M75-SA300-CLB2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

ADA compliant push button (Audible or standard)

PUSH BUTTON TO TURN ON WARNING LIGHTS

For most installations Solar Power offers the greatest measure of flexibility and ease of installation. AC powered options available.

It is possible to apply this system to existing signs and posts. Extensions may be needed to accommodate the hardware stack.

Description		
3-Post With Refuge Island		
Date Created		
Sep 29, 2021		
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Application 1

Application 2

Application 2

Application 2
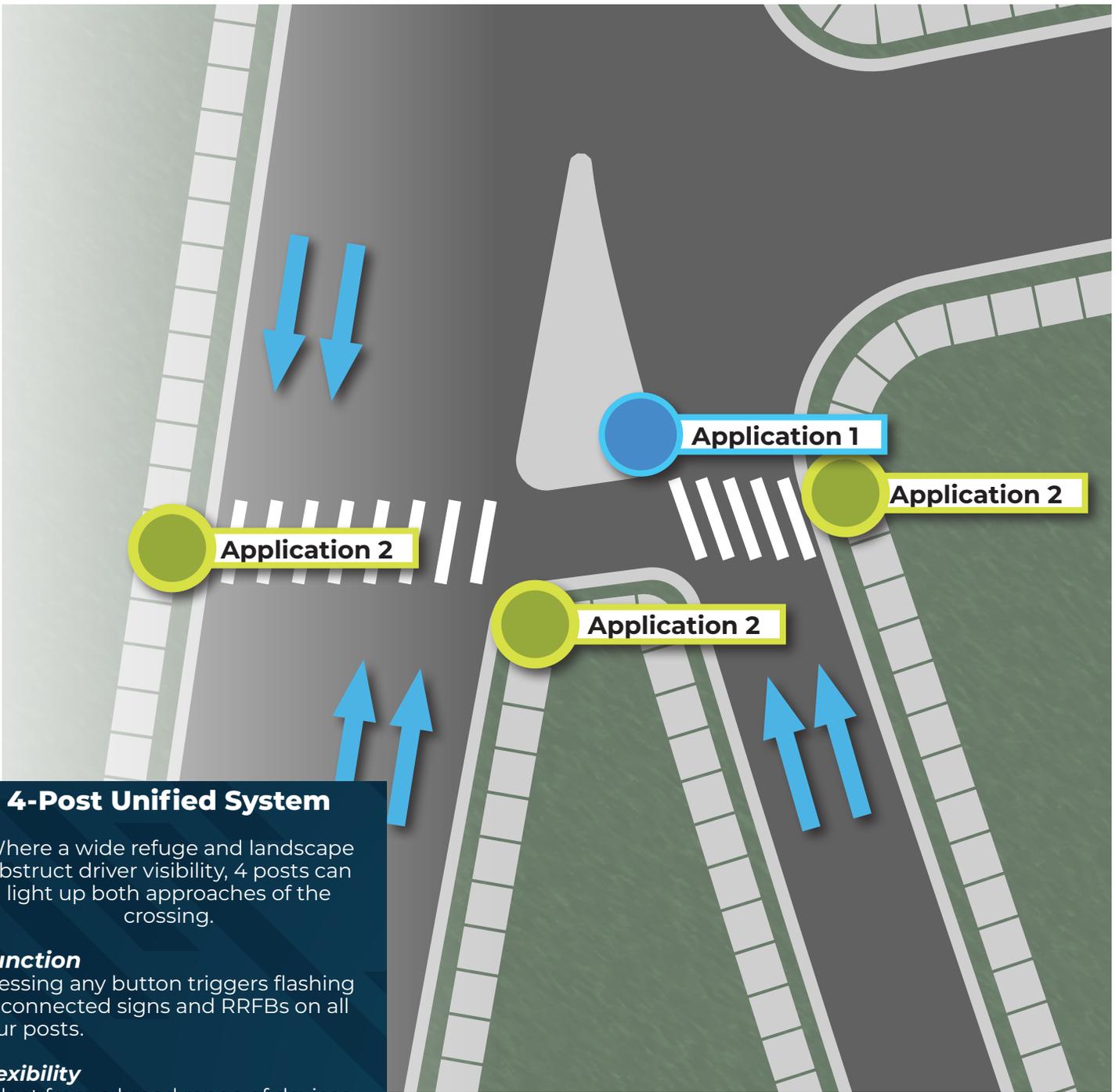
4-Post Unified System

Where a wide refuge and landscape obstruct driver visibility, 4 posts can light up both approaches of the crossing.

Function
Pressing any button triggers flashing of connected signs and RRFBs on all four posts.

Flexibility
Select from a broad range of devices to suit the installation and project requirements. Options include solar or AC power, ADA-compliant push buttons, flashing sign rings, and RRFB warning devices.

Compatibility
Mix and match components and mount them to virtually any type of post, even on existing signs. Our systems are designed to make ownership and maintenance as friction-free as possible.

Best Use
Where a refuge provides substantial crossing time, but a back to back post in the center will insufficiently warn approaching vehicles.

Description
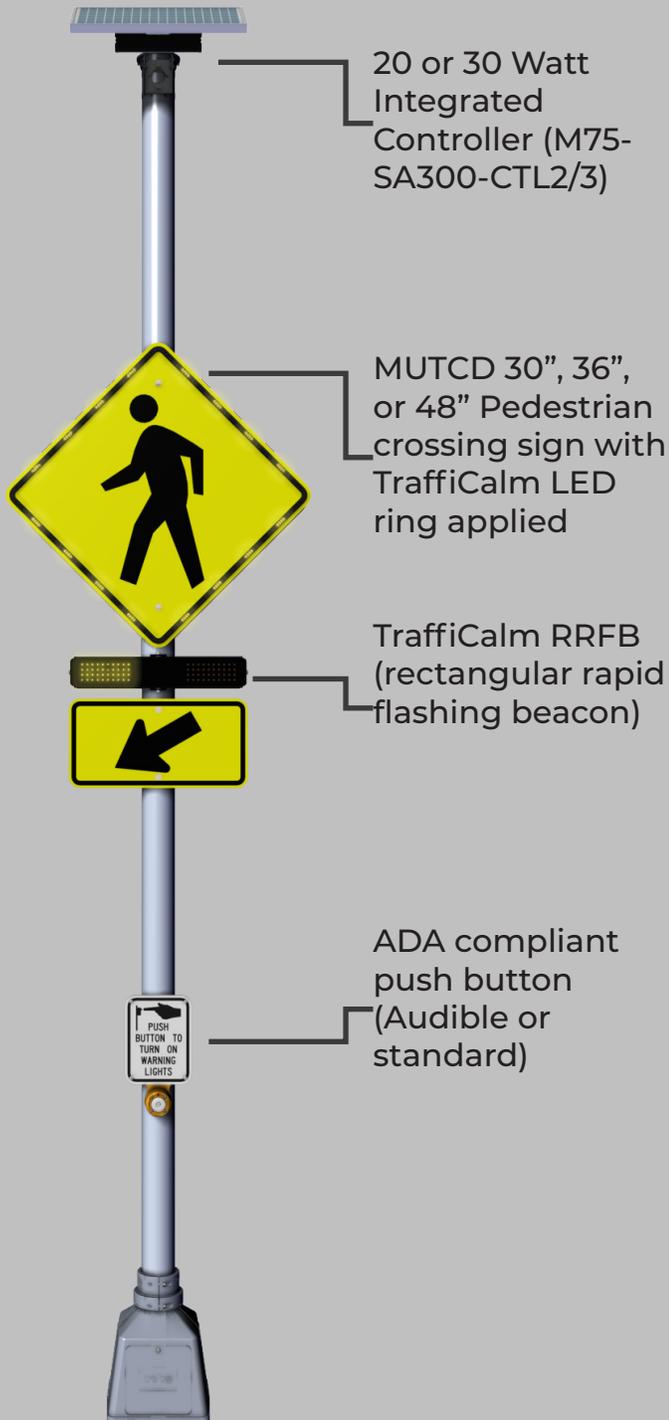4-Post W/ Refuge Island Placement - Unified
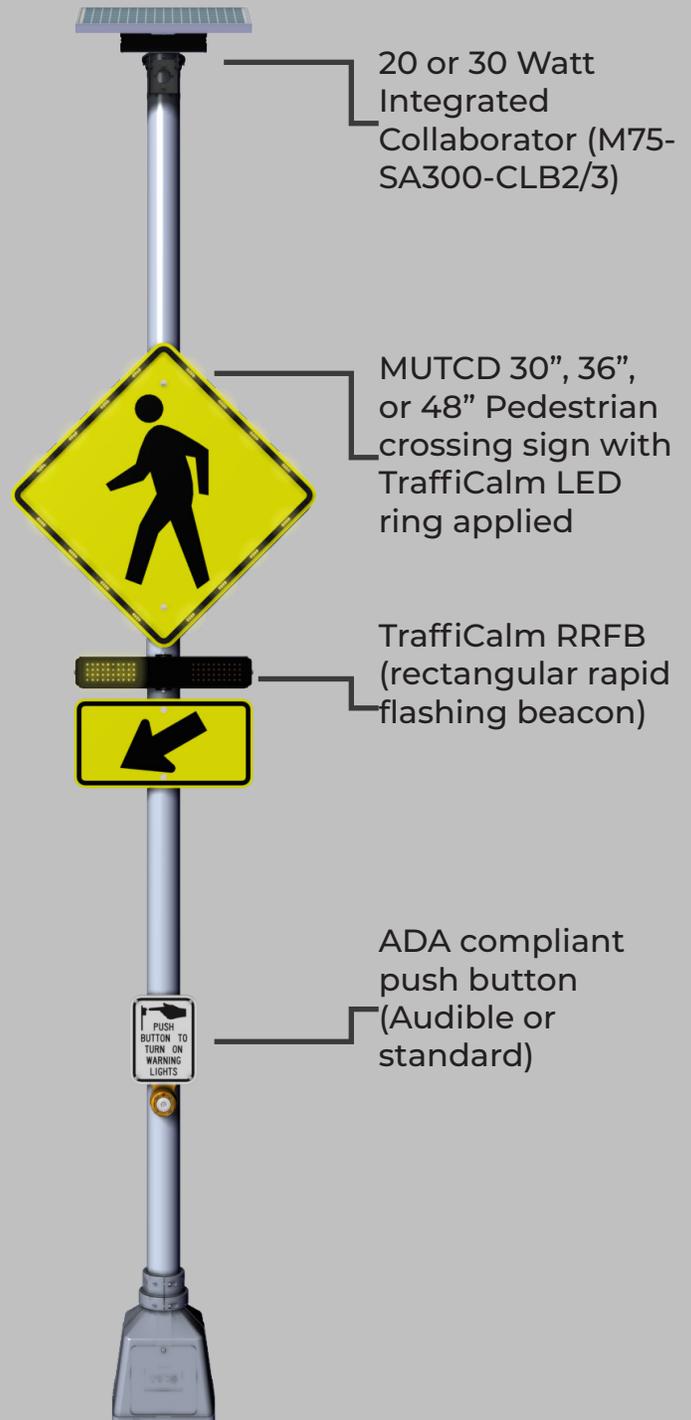
Date Created
Sep 29, 2021

See opposite page for Application Details..

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Application 1

20 or 30 Watt Integrated Controller (M75-SA300-CTL2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

Application 2

20 or 30 Watt Integrated Collaborator (M75-SA300-CLB2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

For most installations Solar Power offers the greatest measure of flexibility and ease of installation. AC powered options available.
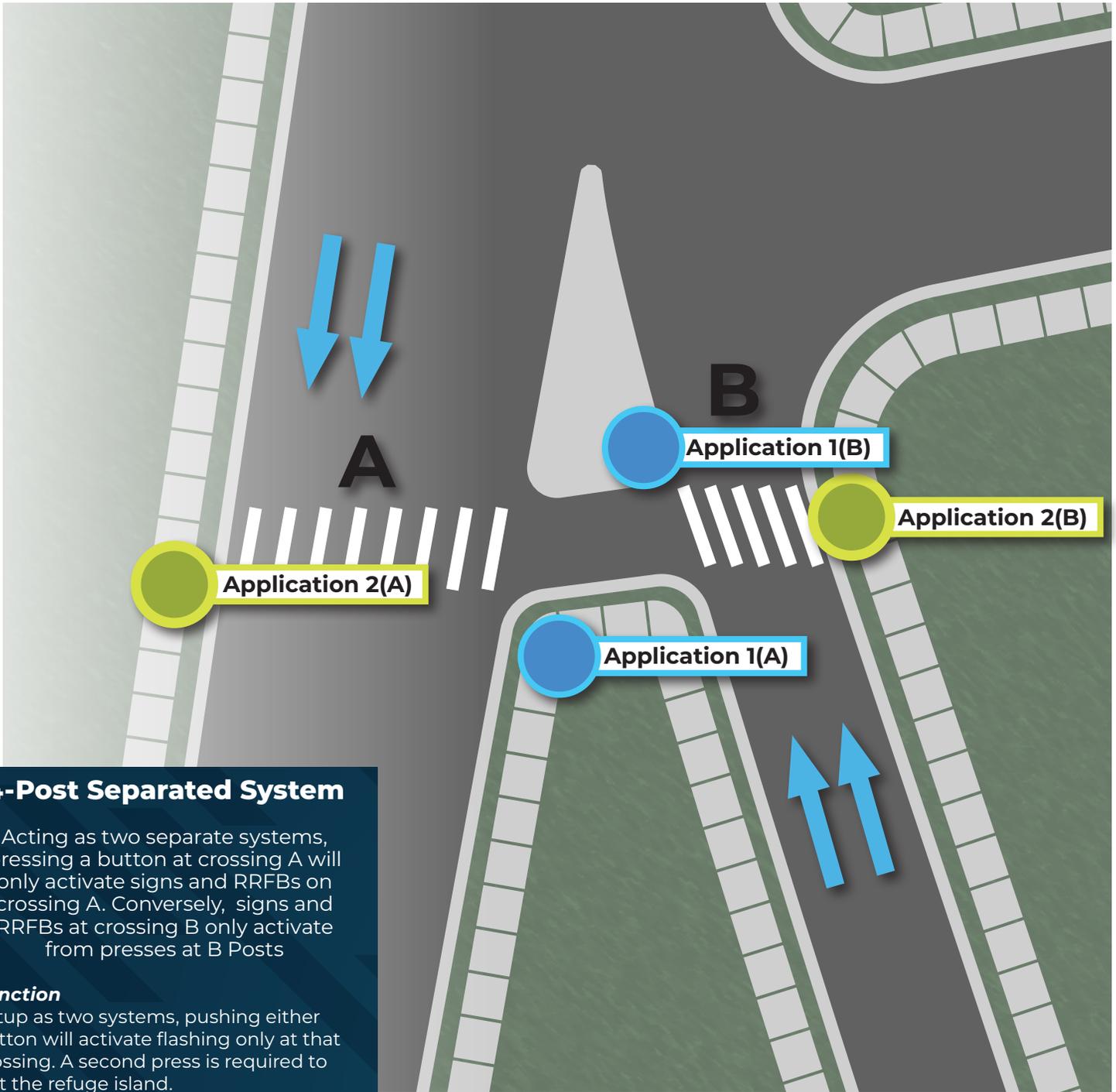
It is possible to apply this system to existing signs and posts. Extensions may be needed to accommodate the hardware stack.

Signs and RRFBs can be mounted back to back to produce and unmistakable warning to drivers.

Description	
4-Post W/ Refuge Island Details - Unified	
Date Created	
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A

B

Application 1(B)

Application 2(B)

Application 2(A)

Application 1(A)

4-Post Separated System

Acting as two separate systems, pressing a button at crossing A will only activate signs and RRFBs on crossing A. Conversely, signs and RRFBs at crossing B only activate from presses at B Posts

Function
Setup as two systems, pushing either button will activate flashing only at that crossing. A second press is required to exit the refuge island.

Flexibility
Select from a broad range of devices to suit the installation and project requirements. Options include solar or AC power, ADA-compliant push buttons, flashing LED sign rings, and RRFB warning devices.
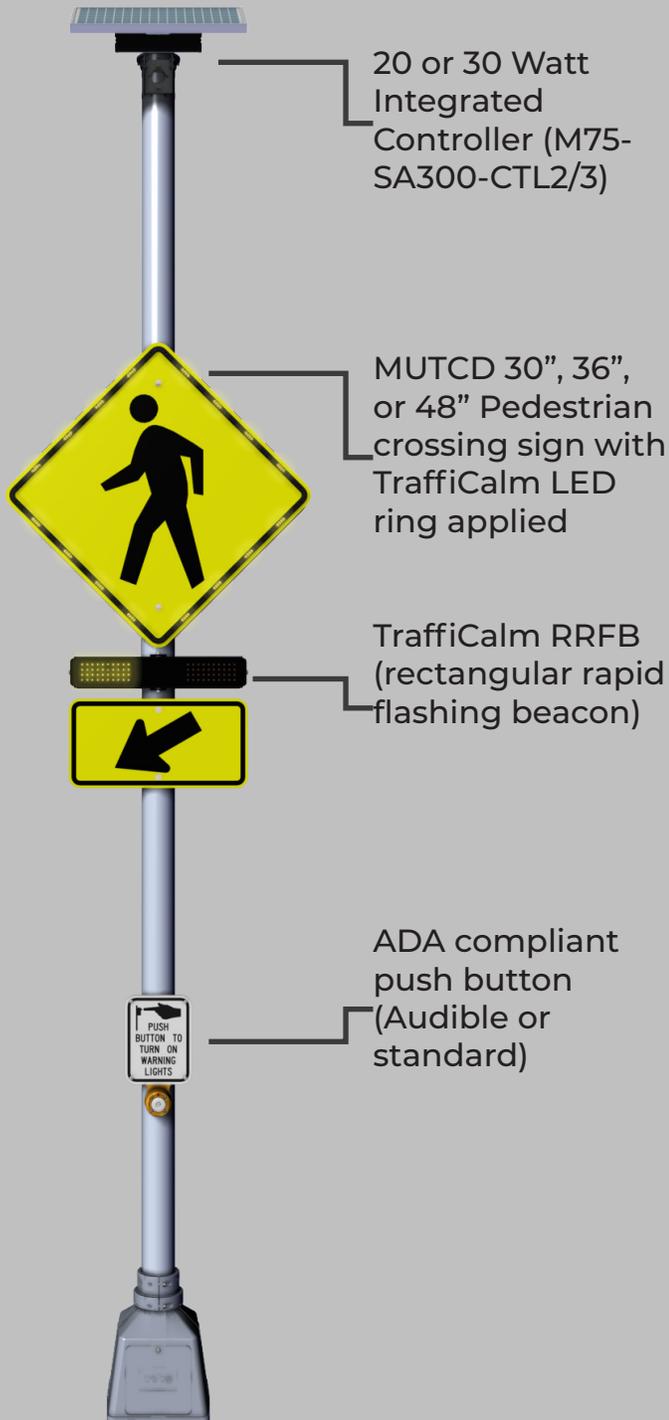
Compatibility
Mix and match components and mount them to virtually any type of post, even on existing signs. Our systems are designed to make ownership and maintenance as friction-free as possible.

Best Use
Where a large refuge island requires more time to navigate a safe crossing.
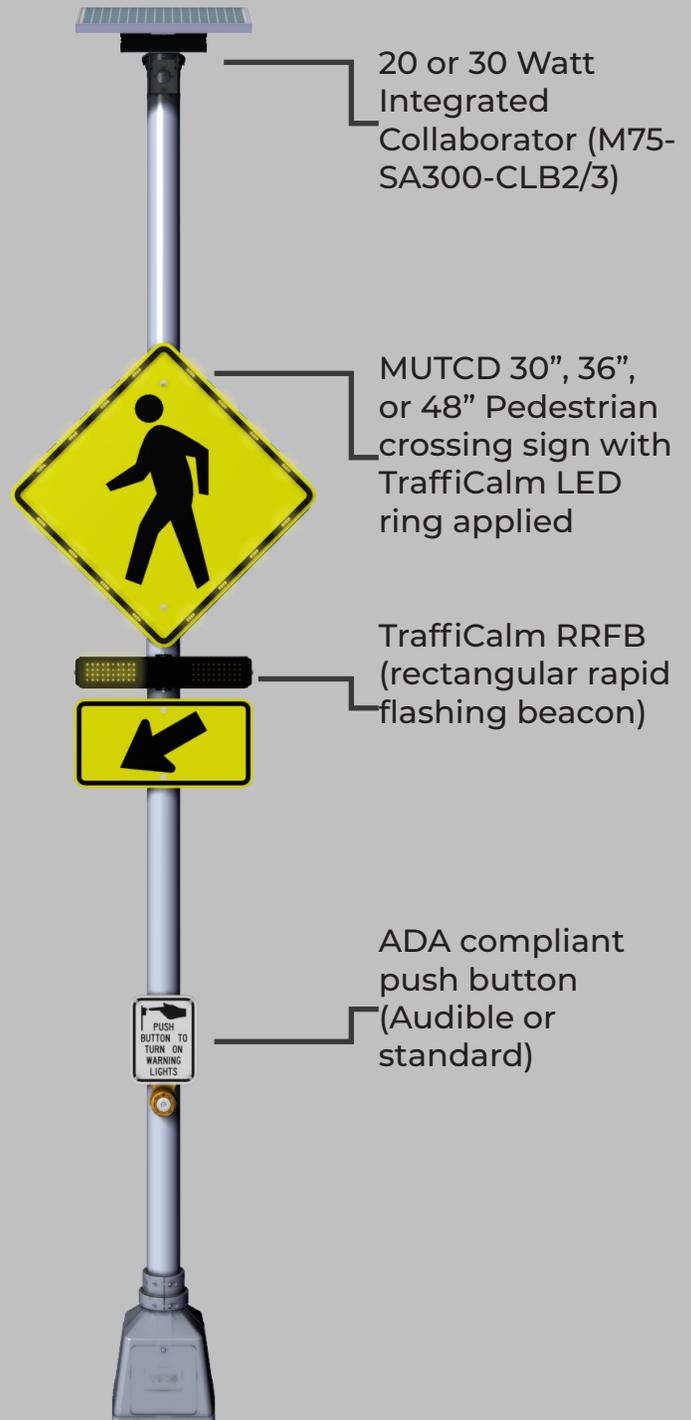
Application 1

20 or 30 Watt Integrated Controller (M75-SA300-CTL2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

Application 2

20 or 30 Watt Integrated Collaborator (M75-SA300-CLB2/3)

MUTCD 30", 36", or 48" Pedestrian crossing sign with TraffiCalm LED ring applied

TraffiCalm RRFB (rectangular rapid flashing beacon)

PUSH BUTTON TO TURN ON WARNING LIGHTS

ADA compliant push button (Audible or standard)

For most installations Solar Power offers the greatest measure of flexibility and ease of installation. AC powered options available.

It is possible to apply this system to existing signs and posts. Extensions may be needed to accommodate the hardware stack.

Signs and RRFBs can be mounted back to back produce and unmistakable warning to drivers.

Description
4-Post W/ Refuge Island Details - Seperated
Date Created
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Flashing Sign Controllers and Collaborators

SKU: M75-SA300-CTLX/ CLBX

Physical Description

- Mounting: Universal bracket accommodates most industry standard round or square posts of suitable load rating
- Designed for retrofit installation to existing infrastructure
- Nema 3R, 3RX, and 4X enclosures (depending on device selected)
- All electronics potted for weatherproofness
- Stainless fasteners used for corrosion resistance

Input/Output

- Inputs: 1 per controller, accept dry contact closure, optional input devices include Push Button, Environmental sensors, and others.
- Outputs: 2 per controller, 12W max requirement, output devices include Sign Rings, RRFBs, Beacons.
- Radar Port: accepts input from TraffiCalm® Radar
- Alternative Sign Flashing: utilizes Radar Port + and -, radar input cannot be used in this scenario
- Light sensor for configurable auto-dimming feature based on ambient light conditions

TraffiCalm® User Interface

- Wi-Fi Connectivity - No Internet Connection required
- Mode Selection: Pedestrian Crossing, Curve Warning, All Flash, Conflict Intersection,, High Water Warning
- Configurable Flash Duration (1 flash/second for All Flash configuration, RRFB for P2C configuration)
- Retrievable activation log stored for at least 365 days
- On screen status reporting includes:
  - Controller to Collaborator(s) signal strength
  - Controller and Collaborator(s) flasher output voltages
  - Controller and Collaborator(s) input voltage (battery or AC devices)
  - Controller and Collaborator(s) charging voltage
  - Controller and Collaborator(s) firmware versions

Performance

- Wireless activation within 100 mS
- Wireless range of 1500 ft/457m (2.4GHz radios)
- -34º C to +74º C operating range (varies with battery type used)
- 5 year warranty, excluding batteries
- Lifetime product support

Model Details

	M75-SA300-CTLA* M75-SA300-CLBA* M75-SA300-BSCA*	M75-SA300-CTL2* M75-SA300-CLB2* M75-SA300-BSC2*	M75-SA300-CTL3* M75-SA300-CLB3* M75-SA300-BSC3*	M75-SA300-CTLE* M75-SA300-CLBE*	M75-SA30M-CTL2 M75-SA30M-CLB2 M75-SA30M-BSC2	M75-SA30M -CTL3 M75-SA30M-CLB3 M75-SA30M-BSC3
Weight	22.0lbs/10.0kg	25.0 lbs/11.3kg	28.0 lbs/12.7kg	29.0 lbs/13.1kg	36.0 lbs/16.3kg	39.0 lbs/17.7kg
Dims	9.28"W x 10.5"H x 5.21" D (23.6cm,26.7cm,13.2cm)	22.7"W x 14.1"H x 3.9"D (57.7cm,35.8cm,9.9cm)	21.3"W x 20.1"H x 3.9"D (54.1cm, 51.1cm, 9.9cm)	9.28"W x 10.5"H x 5.21" D (23.6cmx26.7cmx13.2cm)	22.7"W x 14.1"H x 6.2"D (57.7cm,35.8cm,15.7cm	21.3"W x 20.1"H x 6.2"D (54.1cm, 51.1cm, 13.2cm)
AC/Solar	Integrated AC	Integrated Solar	Integrated Solar	Solar Panel Kit sold separately	Integrated Solar	Integrated Solar
Battery	Does not apply	AGM, 12Ah, 12V	AGM, 12Ah, 12V	Extreme Climate AGM, 13Ah, 12V	AGM, 24Ah, 12V	AGM, 24Ah, 12V
Solar Panel	Does not apply	20W/1.16A (incl.)	30W/1.74A (incl.)	30, 50, or 60W kits available	20W/1.74A (incl.)	30W/1.74A (incl.)
AC Input	0.43A/100-277VAC	Does not apply	Does not apply	Does not apply	Does not apply	Does not apply
Continuous Performance	Unlimited flashes/day	800 30sec activations per day with 2 hours sunlight	800 30sec activations per day with 2 hours sunlight	860 30sec activations per day with 2 hours sunlight	1600 30sec activations per day with 2 hours sunlight	1600 30sec activations per day with 2 hours sunlight

Description

Date Created

Sep 29, 2021

# TraffiCalm Rectangular Flashing Beacon SKU: M75-SA328-0000

Performance

- Rated for 800, 30 second activations per day with 2 hours sunlight for continuous operation
- 12 AH ~5.5 days of 800, 30 second activations without solar panel.
- Wireless activation within 100 mS
- Wireless range of 2000'
- 5 year warranty
- Potted and sealed electronics, connections, and cables- IP-67 Rated.

RRFB Physical Construction

- Impact resistant 12ga 5052 Aluminum faceplate powdercoated gloss black
- 80 LEDs with built-in 15 degree UV resistant lens recessed behind faceplate
- Mounting brackets accommodate back-to-back mounting
- Horizontal aiming adjustment
- Dimensions: 24"W x 4.183"H x .85"D (60.96 x 10.63 x 2.16 cm)

Visual

- MUTCD and FHWA IA-21 compliant design, flash pattern, and duration timing.
- 80 Amber LEDs for Redundancy and Uniform Light Distribution
- Side-mounted LEDs for pedestrian side visual confirmation
- Exceeds SAE J595 Class 1 Intensity
- Auto Dimming
- Meets SAE J578 for chromaticity
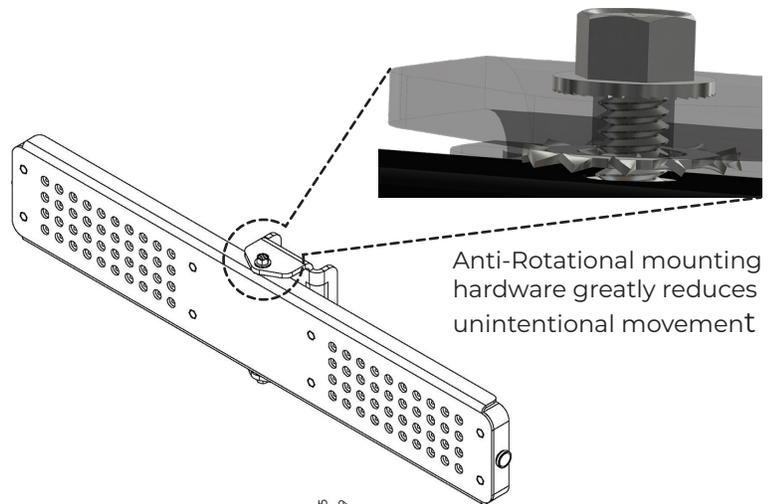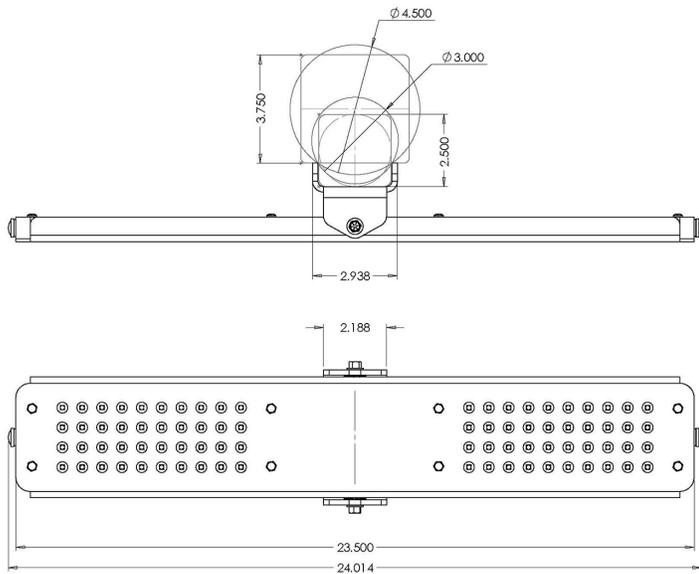
Anti-Rotational mounting hardware greatly reduces unintentional movement
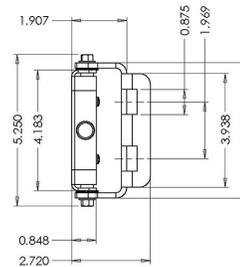
Description		
Date Created	Sep 29, 2021	

S1-1 School Crossing Enhancement Ring

Illumination

- LEDs configured in clusters of four around perimeter of sign (fully MUTCD compliant design)
- LED Pitch within cluster: .35 in (.95cm) (on center)
- Cluster Pitch: 6 in (15.24cm) (on center)
- Amber LEDs with 30º Viewing Angle

Compatibility

- Integrates with all Trafficalm SA300 Controllers and Collaborators and can be push button, speed (radar), time clock, or sensor activated

Environmental

- Nema 4x Enclosure
- Potted electronics (hermetically sealed)
- -34º C to + 60º C operating range (-29º F to +140º F)

Construction

- 14 gauge 5052 aluminum construction
- Individually lensed LEDs recessed behind faceplate

Physical Description

- Available Size: 30x30 or 36x36 (to fit to an R5-1 Sign)
- Retrofits to any existing School Zone Speed Sign manufactured to MUTCD requirements of corresponding size
- Mounting: all LED hardware mounted within the printed border of the sign. Mounted either with adhesive backing or included self tapping screws. Rivets may be utilized to improve tamper resistance
- Fully MUTCD compliant LED placement and usage
- 10ft. (3m) single cable extension to reach Controller or Collaborator

S1-1 MUTCD Sign Size	Part Number	Height (A)	Width (B)	LED Pitch	LED Group offset (C)	LED Count	Light Output (cd)	Power (Watts)
30x30	M75-R3030-BA45	29 in / 73.7cm	29 in / 73.7cm	.35" / .89cm	6" / 15cm	56	109,200	3.36
36x36	M75-R3636-BA45	35 in / 88.9cm	35 in / 88.9cm	.35" / .89cm	6" / 15cm	60	117,000	3.60
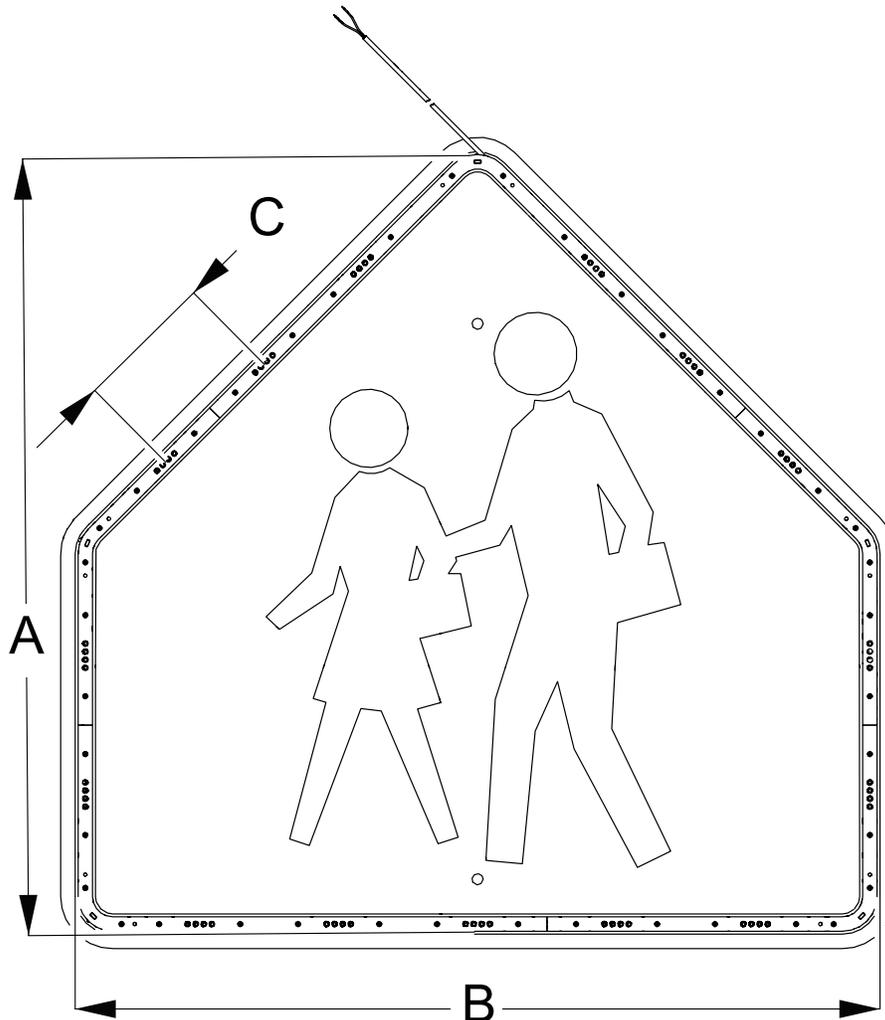
Description **S1-1 School Crossing Enhancement Ring**

Date Created Sep 29, 2021

5 YEAR Limited Warranty

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Warning Sign Enhancement Ring

Illumination
- LEDs configured in clusters of four around perimeter of sign (fully MUTCD compliant design)
- LED Pitch: .35" (.89cm) (on centers) within the cluster
- Cluster Pitch: 6 in (13.46cm) (on center)
- Amber LEDs with 15º Viewing Angle

Compatibility
- Integrates with all Trafficalm SA300 Controllers and Collaborators and can be push button, speed (radar), time clock, or sensor activated

Environmental
- Nema 4x Enclosure
- Potted electronics (hermetically sealed)
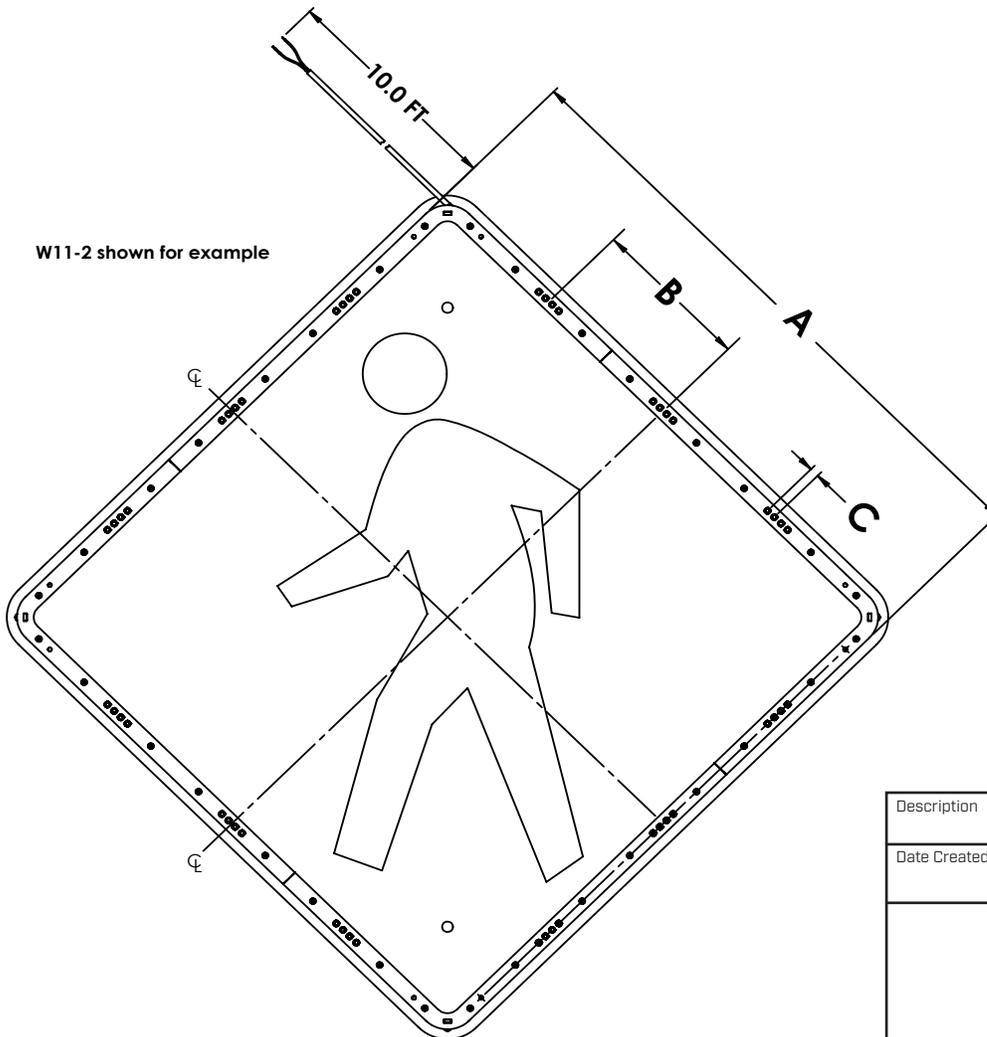- -34º C to + 60º C operating range (-29º F to +140º F)

Construction
- 14 gauge 5052 aluminum construction
- Individually lensed LEDs recessed behind faceplate

Physical Description
- Available Sizes: 24", 30", 36", 48"
- Retrofits to any existing Warning Sign manufactured to MUTCD requirements of corresponding size
- Mounting: all LED hardware mounted within the printed border of the sign. Mounted either with adhesive backing or included self tapping screws. Rivets may be utilized to improve tamper resistance
- MUTCD compliant LED placement and usage
- 10ft. (3m) single cable extension to reach Controller or Collaborator

MUTCD Sign Size	Part Number	A (Ring Width)	B (LED Group offset)	C (LED Pitch in group)	LED Count	Light Output (cd)	Power (Watts)
24"	M75-R2424-BA47	23.3"/7.6cm	6"/15cm	.35"/.89cm	48	936000	2.88
30"	M75-R3030-BA47	29.0"/73.7cm	6"/15cm	.35"/.89cm	64	1248000	3.84
36"	M75-R3636-BA47	34.8"/88.4cm	6"/15cm	.35"/.89cm	80	1560000	4.80
48"	M75-R4848-BA47	46.5"/118.1cm	6"/15cm	.35"/.89cm	112	21840000	6.72

W11-2 shown for example

10.0 FT

A

B

C

Limited Warranty
5 YEAR

TRAFFICALM®

For Any Further Assistance Please Call our Technical Service Department at: 855-738-2722

Document: 006-00017-0000 rev A

Revision	Reason	Owner/Date
A	Initial Release	AP 20210914

TRAFFICALM®