



FDOT

TRANSPORTATION SYMPOSIUM

2019

Pedestrian Temporary Traffic Control

Ed Cashman and Mary O'Brien

Background

Pedestrian

A mode of transportation





Photo credit: <http://www.broward.org/BCT/Schedules/Pages/default.aspx>



Photo credit: <https://www.tripsavvy.com/best-beach-wagons-4158060>



Photo credit: <http://megakidsnaples.com/product/stroller-1/>

For some, their only mode.



Photo credit: <https://www.popalockofjacksonville.com/tag/children-safety/>



Photo credit: <http://www.free-foundation.org/walkers---wheeled-walkers>



Photo credit: <https://www.wphf.org/2014/10/22/three-local-mayors-walk-with-students-on-international-walk-to-school-day/>



Photo credit: <http://www.sun-sentinel.com/features/sfl-blind-pedestrians-white-cane-safety-walk-20141015-photogallery.html>



Photo credit: <https://www.mountnittany.org/articles/healthsheets/183>



Photo credit: <https://www.tripsavvy.com/florida-special-needs-traveler-guide-1513987>



Child
Friendly
Cities
Initiative

unicef 
for every child

UNICEF
Innocenti Research Centre



WHO Global Network
for Age-friendly Cities
and Communities

Pedestrian Safety Statistics



National Work Zone Safety
Information Clearinghouse

Library of Resources to Improve Roadway Work Zone Safety for All Roadway Users

National: 2017



Total

710

Fatal Crashes

Previous 3-year average:
649.7

799

Fatalities

Previous 3-year average: 721



Pedestrian-Involved**

129

Fatal Crashes

Previous 3-year average: 108

126

Fatalities

Previous 3-year average:
107.3

Source: <https://www.workzonesafety.org/crash-information/work-zone-fatal-crashes-fatalities/#national>

Florida: 2017



Total

71

Fatal Crashes

Previous 3-year average:

70.3

76

Fatalities

Previous 3-year average:

76.3



Pedestrian-Involved**

16

Fatal Crashes

Previous 3-year average:

12.7

13

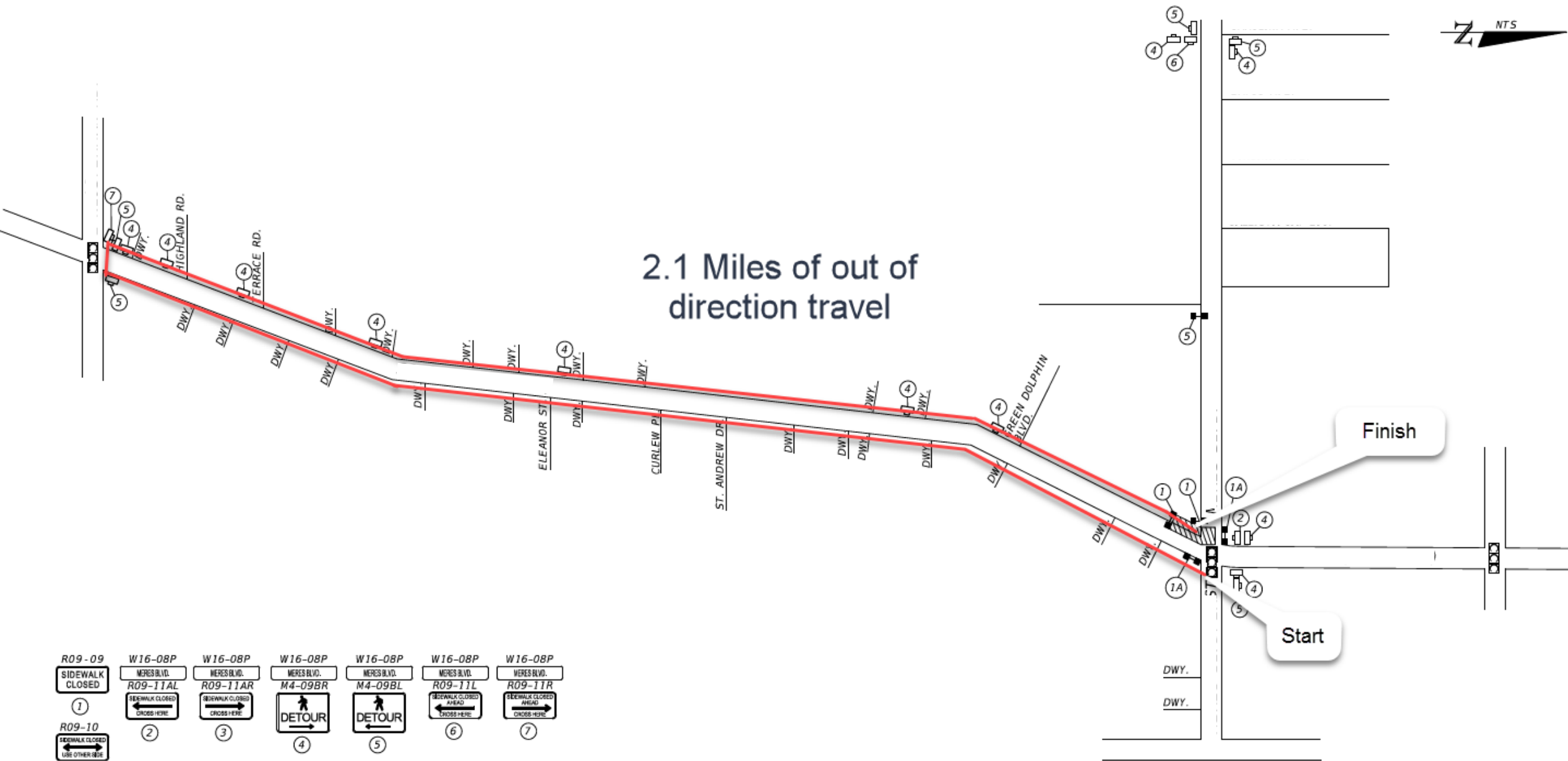
Fatalities

Previous 3-year average: 12

Source: <https://www.workzonesafety.org/crash-information/work-zone-fatal-crashes-fatalities/#florida>

A Problem:

Pedestrian Detours
that are too long



- R09-09
SIDEWALK CLOSED
①
- R09-10
SIDEWALK CLOSED
USE OTHER SIDE
- W16-08P
MERES BLVD.
R09-11AL
SIDEWALK CLOSED
CROSS HERE
②
- W16-08P
MERES BLVD.
R09-11AR
SIDEWALK CLOSED
CROSS HERE
③
- W16-08P
MERES BLVD.
M4-09BR
DETOUR
④
- W16-08P
MERES BLVD.
M4-09BL
DETOUR
⑤
- W16-08P
MERES BLVD.
R09-11L
SIDEWALK CLOSED
AHEAD
CROSS HERE
⑥
- W16-08P
MERES BLVD.
R09-11R
SIDEWALK CLOSED
AHEAD
CROSS HERE
⑦

So, what is FDOT doing to address this?

Pedestrian Temporary Traffic Control

➔ 1. CHANGES

Pedestrian Special Detour
Staff Hours for Pedestrian TTCPs

2. CURRENT REQUIREMENTS

FDOT Design Manual (FDM) 240
Standard Plans, Index 102-660
Standard Specifications, Section 102



Revised the Design Scope of Services and Staff Hour Estimation Guidelines to provide for pedestrian Temporary Traffic Control Plans (TTCPs)

Task No.	Task	Units	Staff Hour Range	Basis for Staff Hour Range
4.10	Temporary Traffic Control Plan (TTCP) Analysis	LS	See Basis for Staff Hour Range	<p>Includes all work necessary to develop a TTCP concept, such as determining the usage of lane closures, traffic pacing, detours, diversions, lane shifts, temporary drainage, temporary signals, retaining walls, and pedestrian TTCP. See FDOT Design Manual for guidance and requirements.</p> <p>(Level I) Includes all analysis necessary to develop a TTCP concept, such as determining lane configurations, lane closure analysis, traffic pacing analysis, and creating a pedestrian TTCP concept. (LS) 16-80 hours.</p> <p>(Level II and Level III) Includes all analysis necessary to develop a TTCP concept, such as determining lane configurations, lane closure analysis, traffic pacing analysis, detour usage, diversions usage, lane shift usage, and creating a pedestrian TTCP concept. (LS) 40-160 hours.</p> <p>Add Ons: Temporary Signalization: Analysis for any temporary signalization. Structural analysis not included. This may include adjustment of signal heads on existing poles/span wire or new temporarily installed signals including development of any sheets or details when no other signalization work is included on the project. This effort shall be included in the signalization plans activity when there are other signalization efforts included on the project. (LS) 4-40 hours per location. Cross sections: Analysis and development of TTCP cross sections, including any temporary profiles, criteria development, etc. (LS) 40-80 hours per mile per phase based on 100 ft. cross section spacing. Frontage roads or Collector Distributors: Effort required for analysis should be negotiated on a case by case basis. Temporary drainage and temporary highway lighting to be included in the plans should be negotiated on a case-by-case basis. Analysis for Temporary Drainage and Temporary Highway Lighting to be included in the respective activities.</p>
4.11	Master TTCP Design Files	LS	See Basis for Staff Hour Range	<p>Develop master TTCP files showing each phase of the TTCP. Includes all work necessary for designing lane configurations, diversions, lane shifts, signing and pavement markings, temporary traffic control devices, and temporary pedestrian ways.</p> <p>Vehicular TTCP (for Level II and Level III only): 32-48 hours per mainline mile per phase. Pedestrian TTCP (for work involving temporary pedestrian ways): 8-80 hours per phase of pedestrian facility work. Temporary drainage and temporary highway lighting to be placed in the Master TTCP Design Files should be negotiated on a case-by-case basis.</p>

Task 4.10 – Temporary Traffic Control Plan (TTCP) Analysis:

Includes all work necessary to develop a TTCP concept, such as determining the usage of lane closures, traffic pacing, detours, diversions, lane shifts, temporary drainage, temporary signals, retaining walls, and pedestrian TTCP. See FDOT Design Manual for guidance and requirements.

(Level I) Includes all analysis necessary to develop a TTCP concept, such as determining lane configurations, lane closure analysis, traffic pacing analysis, and **creating a pedestrian TTCP concept**. (LS) 16-80 hours.

(Level II and Level III) Includes all analysis necessary to develop a TTCP concept, such as determining lane configurations, lane closure analysis, traffic pacing analysis, detour usage, diversions usage, lane shift usage, and **creating a pedestrian TTCP concept**. (LS) 40-160 hours.

Add Ons:

Temporary Signalization: Analysis for any temporary signalization. Structural analysis not included. This may include adjustment of signal heads on existing poles/span wire or new temporarily installed signals including development of any sheets or details when no other signalization work is included on the project. This effort shall be included in the signalization plans activity when there are other signalization efforts included on the project. (LS) 4-40 hours per location.

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Frontage roads or Collector Distributors: Effort required for analysis should be negotiated on a case by case basis.

Temporary drainage and temporary highway lighting to be included in the plans should be negotiated on a case-by-case basis.

Analysis for Temporary Drainage and Temporary Highway Lighting to be included in the respective activities.

Task 4.11 – Master TTCP Design Files:

Develop master TTCP files showing each phase of the TTCP. Includes all work necessary for designing lane configurations, diversions, lane shifts, signing and pavement markings, temporary traffic control devices, and temporary pedestrian ways.

Vehicular TTCP (for Level II and Level III only): 32-48 hours per mainline mile per phase. Pedestrian TTCP (for work involving temporary pedestrian ways): 8-80 hours per phase of pedestrian facility work. Temporary drainage and temporary highway lighting to be placed in the Master TTCP Design Files should be negotiated on a case-by-case basis.

Based on these revisions:

- It is anticipated that a pedestrian TTCP will always be provided when pedestrian facilities are impacted.
- A “simple” TTCP (Level I) may include a master TTCP design file for only the pedestrian temporary traffic control.



Florida Department of Transportation

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ERIK R. FENNIMAN
INTERIM SECRETARY

ROADWAY DESIGN MEMORANDUM 19-01 PROGRAM MANAGEMENT MEMORANDUM 19-01

DATE: January 7, 2019

TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Construction Engineers, District Geotechnical Engineers, District Structures Design Engineers, District Maintenance Engineers, District Consultant Project Management Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers, District Materials Engineers

FROM: Michael Shepard, P.E., State Roadway Design Engineer
Stefanie D. Maxwell, P.E., Manager, Program Management Office

COPIES: Brian Blanchard, Courtney Drummond, Tim Lattner, Rudy Powell, David Sadler, Amy Tootle, Paul Hiers, Gregory Schiess, Trey Tillander, Dan Hurtado, Robert Robertson, Lora Hollingsworth, Kevin Burgess (FHWA), Nick Finch (FHWA), Chad Thompson (FHWA), Bren George (FHWA)

SUBJECT: **Pedestrian Special Detours**

This memorandum highlights a new pay item for temporary pedestrian ways during work zone operations. Payment for temporary pedestrian ways was previously included in the pay item for Maintenance of Traffic - lump sum. However, to track cost and usage, temporary pedestrian ways will now be paid for as Pedestrian Special Detour (pay item 102- 4). Specification 102 will be updated for the *July 2019 Standard Specifications eBook*. See Attachment 'A' for a draft of the proposed revisions. Additional guidance on the usage of the pay item is provided in the *Basis of Estimates*.

The change will be effective with the *July 2019 Standard Specifications eBook* for all projects beginning with July 2019 lettings.

CONTACT

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Added a new pay i

102-2.2 Detour: Provide
detours.

102-6.8 Pedestrian Sp
temporary pedestrian way that
surface.

102-11.25 Pedestrian
Plans, the work of constructing
will be paid for under pedestria
warning devices, barriers, sign
be paid for under their respecti

102-13.24 Pedestrian
providing all pedestrian specia

New!

New!

New!

Added a new pay item for Pedestrian Special Detours, LS

102-2.2 Detour: Provide all materials for the construction and maintenance of all detours.

102-6.8 Pedestrian Special Detour: A pedestrian special detour is defined as a temporary pedestrian way that requires temporary pavement or other stable, firm, slip-resistant surface.

102-11.25 Pedestrian Special Detours: When a pedestrian special detour is shown in the Plans, the work of constructing, maintaining, and subsequently removing such detour facilities will be paid for under pedestrian special detour, lump sum. However, traffic control devices, warning devices, barriers, signing, pavement markings, and restoration to final configuration will be paid for under their respective pay items.

102-13.24 Pedestrian Special Detours: Price and payment will be full compensation for providing all pedestrian special detours shown in the Plans.

New!

New!

New!

Pedestrian Special Detour Highlights:

- Pedestrian Special Detours are similar in usage to Special Detours.
- There is an associated Summary Box and secondary unit of measure for Pedestrian Special Detours. See the Basis of Estimates for additional information.

Pedestrian Temporary Traffic Control

➔ 1. CHANGES

Project Management
Standard Specifications, Section 102

2. CURRENT REQUIREMENTS

FDOT Design Manual (FDM) 240
Standard Plans, Index 102-660
Standard Specifications, Section 102



240.4.2.4 Bicycle and Pedestrian Accommodations

TTC plans must provide safe, continuous, and ADA compliant routes for pedestrians, bicyclists, and transit users. Except on Limited Access facilities, all roadways are considered bikeways regardless of whether a bicycle-specific facility is present.

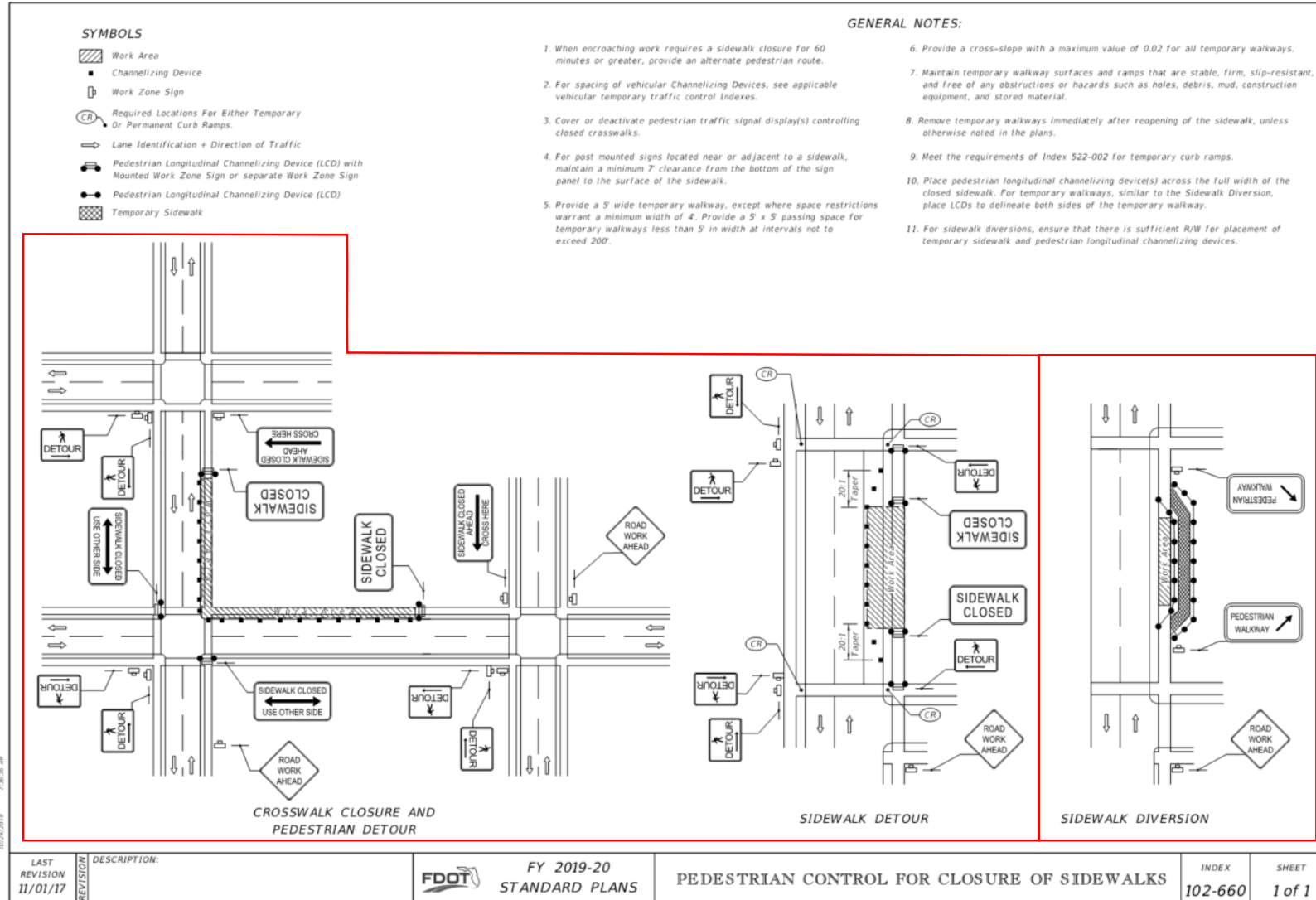
When existing pedestrian facilities are disrupted, closed or relocated in a TTC zone, the temporary facility or route must be detectable and include accessibility features consistent with the features present in the existing facility. See **Chapter 6D of the [MUTCD](#)** for additional guidance.

Pedestrian Requirements

Requirements for pedestrian safety in work zones are as follows:

- (1) Do not lead pedestrians into direct conflicts with worksite vehicles, equipment, or operations.
- (2) Do not lead pedestrians into direct conflicts with mainline traffic moving through or around the work site.
- (3) Provide positive protection where necessary.
- (4) Maintain or replicate existing pedestrian access ways to the greatest extent practical. Pedestrian access ways through work zones must include provisions for the disabled at the same level of accessibility as the existing facility or greater.
- (5) Ensure passengers have the ability to access transit stops, and to board and depart transit vehicles safely. Temporary transit access must include provisions for the disabled at the same level of accessibility as the existing facility or greater. See FDOT's [Accessing Transit](#) for guidance on transit stops.

Maintain or replicate existing pedestrian access ways to the greatest extent practical. Pedestrian access ways through work zones must include provisions for the disabled at the same level of accessibility as the existing facility or greater.



The alternative treatments:

- Pedestrian Detour
- Temporary Pedestrian Way

A pedestrian detour should be considered under the following conditions:

- There are sufficient existing pedestrian facilities for a pedestrian detour.
- The construction work can be staged in a manner that leaves one side of the roadway unaffected.
- Pedestrian access to existing businesses or attractions can be maintained.
- The increase in travel time for pedestrians will be minor.

A temporary pedestrian way should be considered under the following conditions:

- A pedestrian detour is infeasible (e.g., travel time increase will be significant, curb ramp reconstruction, etc.).
- Existing pedestrian facilities are located on only one side of the roadway.
- Sufficient right-of-way exists for a temporary pedestrian way.

Sub-article 102-6.2:

Where pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities. When temporary walkway surfaces and ramps are required to be constructed, ensure surfaces are stable, firm, slip resistant, and kept free of any obstructions and hazards such as holes, debris, mud, construction equipment and stored materials.

EXAMPLE: A well-constructed temporary pedestrian way with pedestrian longitudinal channelizing devices.



EXAMPLE: A poor temporary pedestrian way.

What's wrong with this picture?

Issues:

- No LCDs delineating the way
- Incorrect placement of the LCD/barricade combination
- Dubious quality of the surface

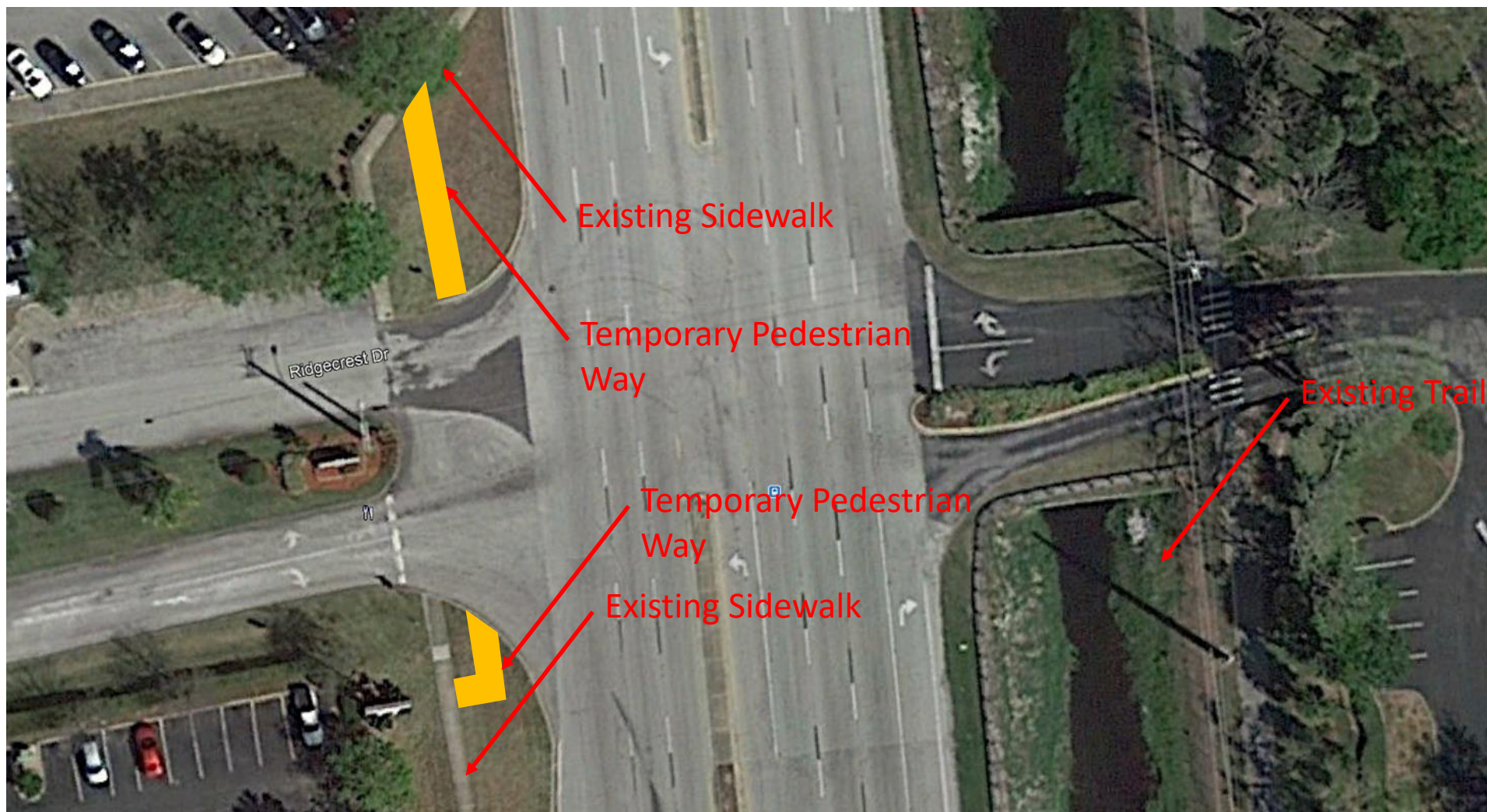




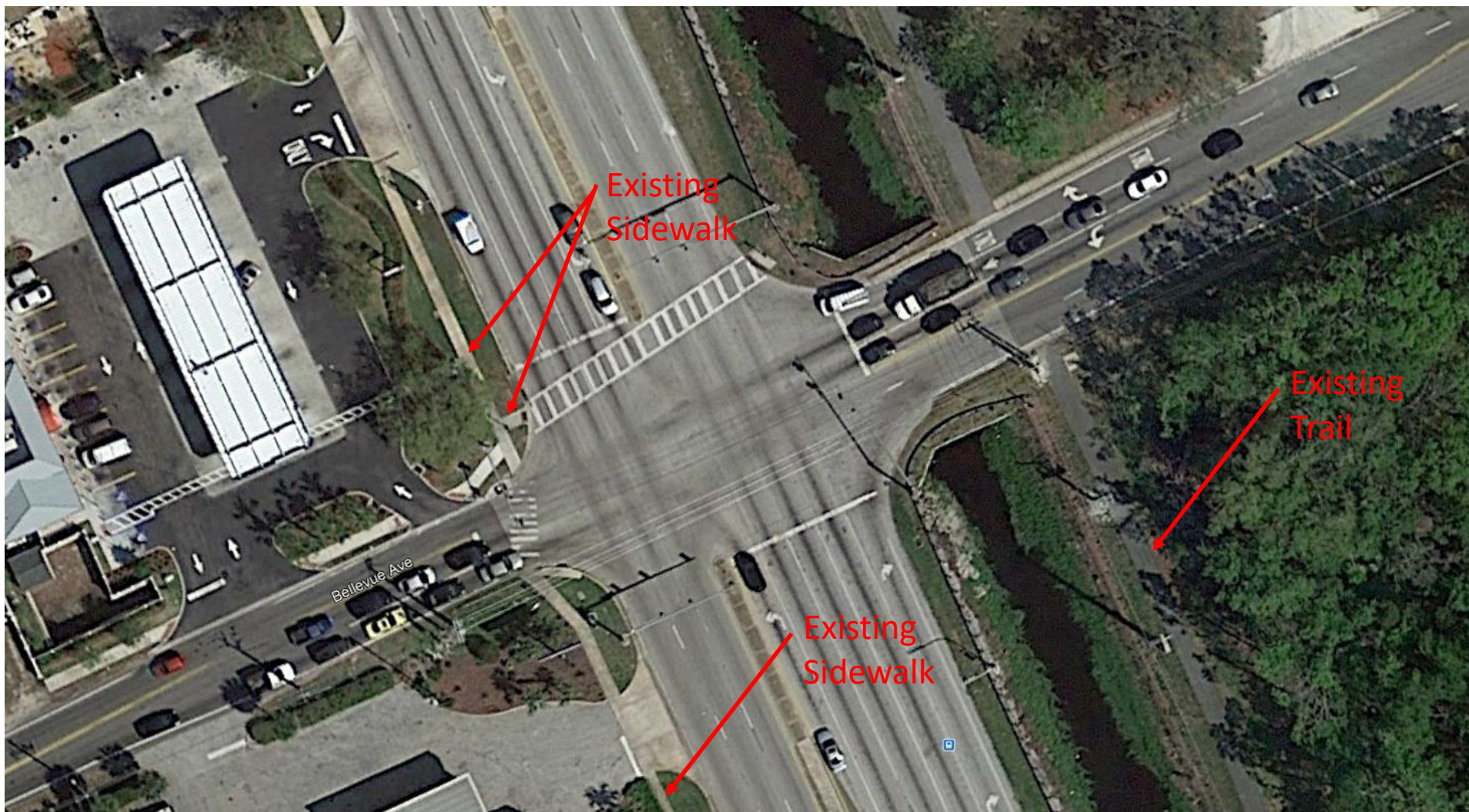
Objective:

- Reconstruct existing sidewalk curb ramps to standard.

How to maintain access during construction?



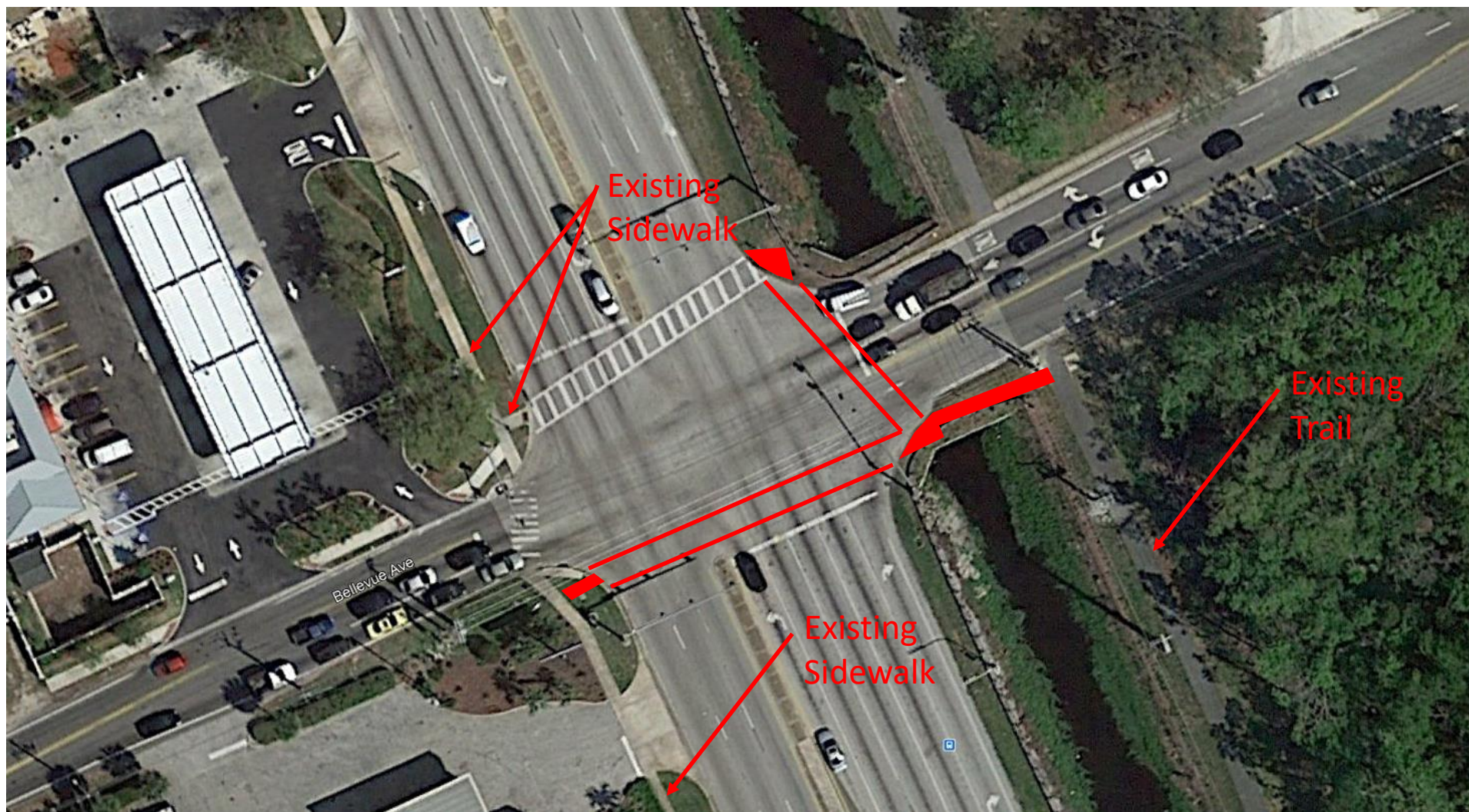
Construct a temporary pedestrian way (Pedestrian Special Detour pay item) to maintain access until the permanent curb ramps are completed.



Scope:

- Reconstruct existing sidewalk curb ramps to standard.
- Add crossings to all legs.
- Connect to trail, if possible.

How to maintain access during construction?



Stage the construction. Some elements such as the NE & SE quadrants can be constructed prior to tangling with the existing ramps in the NW & SW quadrants. Separate the curb ramps where possible.

Pedestrian Temporary Traffic Control

Questions?

