

2022 EDITION

THE ULTIMATE TTC (MOT) RESOURCE GUIDE

A Comprehensive Guide With Links To Commonly Used TTC Publications, Training Resources and Videos.

PROVIDED BY

myTTConline
Florida's Choice For Virtual TTC Training!

INTRODUCTION

Based on Client feedback we created this guide to help you with your TTC Projects. We know that it can be difficult to find what you may be looking for at times. This is why we created this guide.

While this guide is extremely comprehensive there may be resources that are not mentioned as we cannot list everything and new publications may be produced.

The links for all resources provided have been tested and confirmed to work as of January 2022.

If you come across a link that is not working please let us know so we can make an update.

Always refer to the FDOT website if you are not able to find what you are looking for with regards to Temporary Traffic Control.

- <https://www.fdot.gov/>

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FDOT TTC Training

<https://myttconline.com>

myTTConline is a State Approved TTC Training Provider, # 249. myTTConline offers Virtual Training classes to the general public every month and can provide private virtual or in-person training at your location to organizations or groups.

Here is a list of benefits of taking your training with myTTConline:

- ✓ **100% Money Back Guarantee**
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- ✓ **Standard Plan Cliff notes**
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TTC Training & Certification**

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250+ ★★★★★ Reviews

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FDOT TTC Training Administrator

<https://www.motadmin.com/home.aspx>

The FDOT TTC Administrator is responsible for administration of all training and certification aspects of TTC, including approving all providers, Exam creation and grading and TTC Exam Scores & Certification tracking.

NOTE* You cannot take a Refresher course if your certificate has expired and you cannot apply for an extension.

After you take a TTC Training and Exam with an approved Provider, they will submit your exam to the Administrator. The Administrator will grade your exam and create your certificate as long as you scored a 70% or higher.

Your Certificate is valid for 4 years from the date of your last past Exam.

The Administrator will then contact you via email to give you access to your score and certificate. You will access your score and certificate on the TTC Administrators website.

Verify A Certificate

- <https://www.motadmin.com/verify-a-certificate.aspx>

Student FAQ's

- <https://www.motadmin.com/student-faqs.aspx>

Contact Information

- Cindy Rullan
813.419.1730
admin@motadmin.com

FDOT Standard Plans

<https://www.fdot.gov/design/standardplans/sprbc.shtm>



FY 2022-23 STANDARD PLANS FOR ROAD CONSTRUCTION

*Effective for Projects with Lettings in the Fiscal Year (FY) from
July 1, 2022 through June 30, 2023*

The FDOT Standard Plans are intended to support the various engineering processes for construction operations on the State Highway Systems. They are established to ensure the application of uniform standards in the preparation of the contract plans for construction of roadways and structures. These Standard Plans may be used for maintenance operations or adopted by other authorities for the use on projects under their jurisdiction.

It is the responsibility of the Engineer of Record using these Standard Plans to determine the fitness for a particular use of each in the design of a project. The inappropriate use of and adherence to these standard Plans does not exempt the engineer from the professional responsibility of developing an appropriate design

FDOT Standard Plans Quick Reference Sheet: 102 Series Table

<https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2022/102-600-quickguide.pdf?>

TABLE 1 CHANNELIZING DEVICE SPACING				
Work Zone Speed (mph)	Maximum Spacing (feet)			
	Cones or Temporary Tubular Markers		Type I Barricades, Type II Barricades, Vertical Panels, or Drums	
	Taper	Tangent	Taper	Tangent
≤ 45	25	50	25	50
≥ 50	25	50	50	100

TABLE 2 TAPER LENGTH "L"	
FORMULAS	
$S \leq 40$	$L = (W \cdot S) / 60$
$S \geq 45$	$L = W \cdot S$
Where: L = Taper Length in feet W = Width of Offset in feet S = Work Zone Speed in mph	
NOTE: See Table 9 for example taper length values.	

TABLE 3 WORK ZONE SIGN SPACING "X"	
Road Type	Minimum Spacing (feet)
Arterials and Collectors with Work Zone Speed ≥ 40 mph	200
Arterials and Collectors with Work Zone Speed ≤ 45 mph	500
Limited Access Roadways (See Note)	1,500
NOTE: For limited access roadways with work zone speed ≤ 55 mph, the minimum spacing may be reduced in accordance with the MUTCD and as approved by the Engineer.	

TABLE 4 BUFFER LENGTH "B"	
Work Zone Speed (mph)	Minimum Length (feet)
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
NOTE: When Buffer Length "B" cannot be attained due to geometric constraints, use the greatest length possible, but not less than 155 feet.	

TABLE 5 CLEAR ZONE WIDTHS FOR WORK ZONES			
Work Zone Speed (mph)	Travel Lanes & Multilane Ramps (feet)	Auxiliary Lanes & Single Lane Ramps (feet)	
60-70	30	70	18
55	24	14	14
45-50	18	10	10
30-40	14	10	10
ALL SPEEDS CURB & GUTTER	4' BEHIND FACE OF CURB	4' BEHIND FACE OF CURB	
NOTE: For temporary conditions where existing curb has been removed but not reconstructed, curb and gutter values may be used.			

TABLE 6 MINIMUM RADIUS FOR NORMAL CROWN	
Work Zone Posted Speed (mph)	Minimum Radius (feet)
70	4090
65	3130
60	2400
55	1840
50	1390
45	1080
40	820
35	610
30	430
Super-elevate When Smaller Radius is Used	

442.0100N

The FDOT Standard Plans Quick Reference Sheet is to be used in conjunction with your standard Plans.

This Quick Reference Sheet has copies of 8 tables that are in the Standard Plans plus an additional table (table 9) that gives you the various lengths needed for tapers at 5 mile per hour increments and various roadway widths.

FDOT Approved Products List

<https://fdotwp1.dot.state.fl.us/ApprovedProductList/Specifications>

The Approved products list is a database available on the FDOT website that provides you the details of approved devices that can be used for temporary traffic control.

Below is a screenshot of an approved Type I barricade



Acme 1 (APL Product)

by [Acme Barricades \(Manufacturer Website\)](#)

APL Certification

- 102-000-010 (Approval Date: 8/5/1993) (Service Life Expectancy:)
 - Previous APL Numbers
 - S102-0010

Product Types

- Barricade Type I

Resource Links

- [FDOT Standard Specifications for Road and Bridge Construction](#)
- [FDOT Standard Plans for Road and Bridge Construction](#)
- [Construction, Bulletins-Memorandums](#)

Random Sampling Frequency

There are no items to display.

Limitations

Use in accordance with Vendor drawing

Documents

- [Acme 1 S102-0010 \(good for projects let on or after 1-1-16\) \(PDF 462 KB\)](#)
- [Acme 1 S102-0010 \(good for projects let on or before 12-31-15\) \(PDF 59 KB\)](#)

[Download the Adobe Reader](#)

Comments

There are no items to display.

Manufacturer Detail

Acme Barricades
9800 Normandy Blvd
Jacksonville FL 32221
(904) 781-1950

FDOT Basis of Estimates

<https://www.fdot.gov/programmanagement/estimates/documents/boemanual>



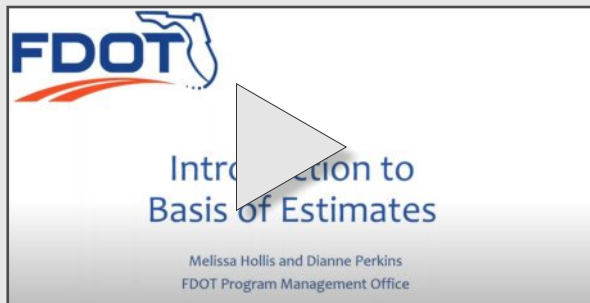
Basis of Estimates Manual 2022

The Basis of Estimates Manual sets forth the standard methods of documenting design quantities, as well as selection criteria, for pay items for Florida Department of Transportation (FDOT) projects.

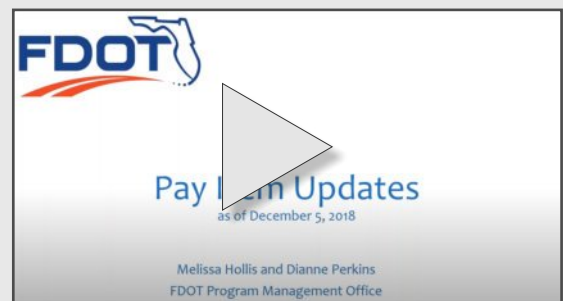
Pay items are used to define, quantify, and pay for items of work to be completed on the Department's Maintenance and Construction Contracts.

FDOT Basis of Estimate 2 Part Training

(click image to open training)



introduction to Basis of Estimates



Pay Item Updates

Lane Closure Analysis

<https://myttconline.com/wp-content/uploads/2021/10/2021fdm241laneclosranlys.pdf>

Lane closure analysis is a process used to calculate the peak hour traffic volume and the restricted capacity for open road and signalized intersections. The analysis will determine if a lane closure should be allowed and the time period a lane closure could occur without excessive travel delay.

Many roadways have directional peak hour traffic volumes, with inbound morning traffic, and outbound afternoon traffic. Doing a composite lane closure analysis would in many cases require night work or create very short allowable lane closure periods. If a separate lane closure analysis is calculated for inbound and outbound separately, night work may be avoided and longer lane closure periods may be allowed.

Lane Closure Worksheet

<https://www.motadmin.com/media/1965/laneclosure.xls>

The screenshot shows the 'INPUTS' section of the Lane Closure Worksheet. It includes fields for Financial Project ID Number, Federal Aid Project Number, County, Designer, Number of Existing Lanes, Location, Scope of Work, and Report Date. There are also buttons for 'Example 1', 'Example 2', 'Reset Form', and 'Worksheet'. Below these are input fields for ATC, PID, D, PSOC, and RTP. A 'Lane Closure Capacity Table' is displayed with six rows of capacity options. Further down are fields for C, TLW, LC, WZL, and G/C. At the bottom, a diagram illustrates the 'Work Zone Length (WZL) for 2-Lane Roadways' and the 'Distance between opposing traffic queues'. The diagram shows a cross-section of a road with various zones: ADVANCE WARNING AREA, TRANSITION AREA, BUFFER SPACE, WORK AREA, and TERMINATION AREA.

This Excel file assists in the preparation of the Lane Closure Worksheet. The program can be found at the Department's TTC Resources web page: TTC Resource Download Library. The Excel worksheet is based on the methods presented the Lane Closure Analysis; Districts may require alternate methods.

The Excel worksheet also illustrates two examples: a widening project and a resurfacing project.

Traffic Pacing Worksheet

<https://www.motadmin.com/media/1989/trafficpacing.xls>

Traffic pacing is a temporary traffic control technique that allows short duration work operations by pacing traffic at a slow speed upstream of the work zone. The Department frequently allows this technique for:

- Installing overhead sign structures
- Replacing sign panels
- Placing bridge beams
- Installing utility crossings

See the Standard Plans for additional traffic pacing information.

Specify traffic pacing restrictions for all multilane roadways with a work zone speed of 50 mph or greater. See FDM 242 for the procedure for calculating the traffic pacing restrictions.

The screenshot displays the 'FDOT Traffic Pacing Analysis Tool Main Menu' interface. At the top left is the Florida Department of Transportation logo. The title 'FDOT Traffic Pacing Analysis Tool' is centered, with 'Main Menu' below it and 'OFFICE OF ROADWAY DESIGN' to the right. The interface is divided into three main sections: 'Input' on the left, 'Output' at the bottom left, and a vertical 'RESOURCES' bar on the right. The 'Input' section contains buttons for 'Clear Sheets', 'Enter', 'Enter Traffic Data', 'Run Example Lee Rd @ I-4', 'Print Preview Inputs', and 'Print Inputs'. The 'Output' section contains buttons for 'Print Preview Report' and 'Print Report'. A large 'Run Analysis' button is positioned in the center, flanked by two horizontal blue arrows. The 'RESOURCES' bar is a vertical column of letters on the right side.

Input	Buttons	Output	RESOURCES
Input	Clear Sheets	Print Preview Report	RESOURCES
	Enter		
	Enter Traffic Data		
	Run Example Lee Rd @ I-4	Print Report	
	Print Preview Inputs		
	Print Inputs		
Run Analysis			

Bicycle & Pedestrian Temporary Traffic Control

https://myttconline.com/wp-content/uploads/2021/10/04-Slide-142-TTCtipcard-ltr_onepage_June2021.pdf

This is a great worksheet that points out important information regarding traffic control zones that involve Bicycle and Pedestrian walk ways.

Bicycle & Pedestrian Temporary Traffic Control (TTC)

Expectations and Concepts

If the Bike Facility is a Paved shoulder, then it is kept free of stored equipment, vehicles and other obstructions.

Sidewalk Closures use pedestrian Longitudinal Channelizing Devices (LCDs) across full width of closed sidewalk. Include Sidewalk Closed sign in accordance with Index 102-660.

A Temporary Pedestrian Walkway is provided if pedestrian way is closed for more than 60 minutes. Is firm, stable, slip resistant. No obstructions or hazards. Minimum 5' width.

Walkway Delineation Longitudinal Channelizing Devices (LCDs) are interlocked, joints are free of sharp edges and have a maximum off-set of 1/8 inch on any plane. LCDs are used where a drop off greater than 10 inches is within 2 feet of pedestrian way, or where active work zone is within 2 feet of pedestrian way. LCDs are used along both sides of a temporary pedestrian way.

Crosswalks within a work zone must be installed at all signalized intersections, have a functioning pedestrian signal, align with adjusted pedestrian path. Remove existing crosswalk markings that conflict with the adjusted pedestrian path.

Detectable Warnings must be installed on both new and temporary curb ramps, before opening to pedestrian traffic, place across full width of the ramp or landing at a depth of 2-5 feet, place in accordance with Indexes 102-660 and 522-002.

Portable Changeable Message Signs are used to notify motorists and non-motorists of additional crossings, more non-motorists on the road, and facility closings.

ADA accessibility must be the same as the existing facility or greater.

Preserve safety features, connectivity of the facilities to and through the project, and directness of routes.

Provide like for like bicycle and pedestrian facilities. e.g. a permanent shared use path has a temporary shared use path.

Phase work so the facility is only closed when necessary.

Separate pedestrians and bicyclists from work area (vehicles, equipment, and operations).

Keep detours and diversions short. Detours should not create more than a 30% increase in the length of the non-motorized facility, or not longer than 0.5 miles for bicyclists.

The order of preference for routing:
1. maintain facility on the same side of the road
2. divert to the opposite side of the road
3. detour to another road.
Return to original road and original side of road as soon as possible.

Standard Plans Indexes: 102-600, 102-660, 102-681, and 522-002
FDOT Design Manual (FDM): 240.2.1.9
Last edited: June 2021

Training Video

This is a training that was produced by FDOT for Bicycle and pedestrian Temporary Traffic Control.

Click the link below or image to access this training.

<https://www.youtube.com/watch?v=JSIb42s7aqQ&t=4s>



FDOT TTC Basic Flagger Training

Flaggers are your first line of defense from traffic in a workzone. FDOT requires all individuals that are operating as flaggers must be trained. FDOT does allow companies to train their own flaggers as long as the instructor is certified in either the TTC Intermediate or TTC Advanced Training.

Below are links to resources you can use to train your employees. Be sure to keep training records for all employees trained. These records should include that date of training, the instructor and their certificate level, and record that the employee demonstrated their ability to use, paddles, flags and as well as the proper signaling.

Power Point Training For Instructor



https://drive.google.com/file/d/1DWC_bVVCWuCq7rnjmxq5noLcxB8x4RCd/view?usp=sharing

Presentation With Notes for Employees



<https://drive.google.com/file/d/1JUoifWM4eYm0E5Bxmnmp9oFL1C1bzaaV/view?usp=sharing>

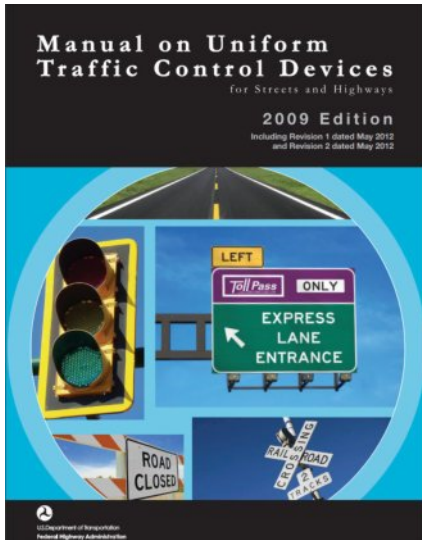
Video Presentation



<https://www.youtube.com/watch?v=wMCJkMsLVYE&t=8s>

Manual on Uniform Traffic Control Devices (MUTCD) (May 2012 Revision)

<https://www.motadmin.com/media/1968/mutcd2009r1r2edition-may-2012-rev.pdf>



The Manual on Uniform Traffic Control Devices (MUTCD) is incorporated by reference in 23 Code of Federal Regulations (CFR), Part 655, Subpart F and shall be recognized as the national standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel (see definition in Section 1A.13) in accordance with 23 U.S.C. 109(d) and 402(a). The policies and procedures of the Federal Highway Administration (FHWA) to obtain basic uniformity of traffic control devices shall be as described in 23 CFR 655, Subpart F.

FDOT Design Manual

<https://www.fdot.gov/roadway/fdm/default.shtm>



This Florida Department of Transportation (FDOT) Design Manual (FDM) sets forth geometric and other design criteria, as well as procedures, for all new construction, reconstruction, and resurfacing projects on the State Highway System and the National Highway System. The information contained herein applies to the preparation of contract plans for roadways and structures

Standard Specifications Library

<https://www.fdot.gov/programmanagement/implemented/specbooks/default.shtm>



These Specifications are written to the bidder, prior to award of the Contract, and to the Contractor. Within Divisions I and II of the specifications, sentences that direct the Contractor to perform work are written in the active voice-imperative mood. These directions to the Contractor are written as commands. In the imperative mood, the subject “the bidder” or “the Contractor” is understood.

All other requirements to be performed by others, with the exception of the Method of Measurement and the Basis of Payment Articles, have been written in the active voice, but not in the imperative mood. Sentences written in the active voice identify the party responsible for performing the action. For example, “The Engineer will determine the density of the compacted material.” Certain requirements of the Contractor may also be written in the active voice, rather than active voice-imperative mood.

Division III of the Specifications (Materials) is written in the passive voice writing style.

More FDOT Documents and Publications

<https://www.fdot.gov/publications/publications.shtm>

This is a list of Florida Department of Transportation Maps and Publications.

Documents and Publications

Publication Name	Free Publication Link	Publication Type	Hardcopy Availability/Cost	Office	Office Phone	Mailing List
2014 Traffic Analysis Handbook-A Reference for Planning and Operations	Download	Handbook	N/A	Planning	(850) 414-4900	
Access Management Guidebook November 2019	Download	Handbook	N/A	Planning	(850)414-4900	
Adopted 5 Year Work Program	Download	Handbook	N/A	Work Program	(850) 414-4627	
Basis of Estimates	Download	Manual	N/A	Program Management	(850) 414-4110	
Best Maintenance Practices for Stormwater Runoff	Download	Manual	N/A	Maintenance	(850) 410-5757	
Building Facilities Design Manual	Download	Manual	N/A	Support Services	(850)414-4360	
CADD Customer Support Guide	Download	Handbook	N/A	Production Support	(850) 414-4711	
CADD Manual	Download	Manual	N/A	Production Support	(850) 414-4711	
CADD Software	Download	Software	N/A	Production Support	(850) 414-4711	
Commercially Useful Function (CUF) DBE Monitoring Report	Download	Form	N/A	Procedural Document Library	(850) 414-4067	
Construction Aggregate Manual	Download	Manual	N/A	Materials	(352) 955-6600	
Construction Contract Compliance Handbook	Download	Handbook	N/A	Equal Opportunity	(850) 414-4747	
Construction Contract History	Download	Handbook	N/A	Program Management	(850) 414-4110	
Construction Math	Download	Manual	N/A	Construction	(850) 414-4492	
Construction Project Admin. Manual	Download	Handbook	N/A	Construction	(850) 414-4492	

View Our Online Testimonials



MG Michael Galura
1 review US



4 days ago

TTC Advanced

Instructors were very well informed and the class was what I expected, professionally run and well organized. I would recommend it to any P.E.'s that do maintenance of traffic plans.

HW Herbert Wickward
1 review US



Nov 13, 2021

This class what is convenient highly...And efficient on her teaching methods. Highly recommended one of the best classes I have taken in my 30 years of this trade.

SR Sharon Robles
1 review US



Nov 23, 2021

This was a great online visual class

This was a great online visual class. I appreciate all your hard work in helping out everyone in the construction industry that has to work with the FDOT MOT. I will recommend this class to my colleagues.

KB Kortney B
1 review US



Aug 9, 2021

I enjoyed not only the training but...

I enjoyed not only the training but Mike and Glenn. They were so helpful and attentive. Made the days fly by!

S Stacy H
Local Guide · 28 reviews

★★★★★ 6 months ago

I was hesitant about virtual training but this class was surprisingly spot-on to in-person training. Definitely recommend!

K Kim Spivey
6 reviews

★★★★★ 4 months ago

Instructor was very informative. Clear communication and knowledgeable of all material!

P Pamela Moore
1 review

★★★★★ 5 months ago

This was a great class! Engaging, knowledgeable instructor, and information was presented very thoroughly. Will definitely return for re-certification!!! Highly recommend!!!

Sarah Hansen
1 review

★★★★★ 10 months ago

As an engineer, I found the material and instruction of my training easy to follow and understand. I would recommend myttconline for training.

J Jeff Canatsey
10 reviews

★★★★★ 2 months ago

Very simple and easy to train at home.



Florida's Choice For Virtual TTC Training!

Please Contact Us With Any Questions or
If You Found A Link That No longer Works

407.901.0206
support@myttconline
myttconline.com

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