

TRANSMITTAL

TO: Mike Davis and Tom Pridgen

RE: Updates for Website

FROM: Jerry Sudimick

Type of Update:

DATE: April 27, 2004

☐ New Criteria

☒ Addendum

☐ Lessons Learned

I am sending you ☒ Attached
☐ Under Separate Cover

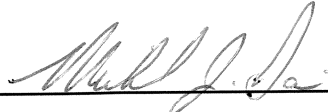
the following item(s) for review and concurrence:

COPIES	DATE	No. of Sheets	DESCRIPTION
1	4/04	2	Traffic Pacing Guide Drawings 301 & 302
1	4/04	1	Revised third paragraph to Chap. 10 Section 10.14.7

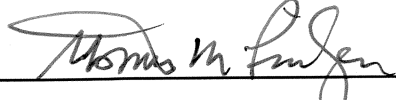
REMARKS: Previous guide drawings in the PPPH for Rolling Road Blocks have been revised, sent out for review and are now ready to be added to the PPPH. The new guide drawings will revise the following sections of the PPPH:

1. "Table of Contents Chapter 10 Section 10.14.19", the description "rolling road block" will be removed and replaced with "traffic pacing".
2. "Chapter 10 Section 10.14.7 Lane Closure Analysis", the words "rolling road block" will be removed and replaced with the words "traffic pacing".
3. "Chapter 10 Section 10.14.7 Lane Closure Analysis", remove the third paragraph and replace with attached revision.
4. "Chapter 10 Section 10.14.19 Rolling Road Blocks" The section title will be removed and replaced with "10.14.19 Traffic Pacing".
5. "Chapter 10 Section 10.14.19", throughout this section the use of the words "rolling road blocks" will be removed and replaced with the words "traffic pacing".
6. "Guide Drawings Section 301 through 303 Rolling Road Blocks" will be removed and replaced with "Guide Drawings Section 301 through 302 Traffic Pacing".

I recommend the Traffic Pacing Guide Drawings as well as the other changes noted be added to the Turnpike's Bulletin Website.

Concurrence: 
Michael Davis, P.E., Program Manager

4-28-04
Date

Concurrence: 
Thomas Pridgen, P.E., Assistant Turnpike Design Engineer

4/28/04
Date

Chap. 10, Section 10.14.7 Lane Closure Analysis: Revision to the third paragraph for traffic pacing.

Certain activities require the use of a traffic pacing procedure. These activities include but are not limited to bridge beam setting, sign panel replacement and sign truss installation. The method most often used by the Turnpike for such activities is traffic pacing. Traffic pacing includes the use of off duty highway patrol officers to slow the main line traffic far enough in advance to give the Contractor approximately a 20 to 30 minute period to perform his work. The pacing procedure may involve stopping the traffic at the work site. However, stopping of traffic shall only be considered in emergency conditions. If there are entrance ramps between the point where the pacing begins and the work site, then additional officers must be used to close the ramps temporarily. Often, the Turnpike performs this type of work at night to reduce traffic impacts and delays. In rural areas this work can be done in the daytime during off peak or weekend periods. Details are required in the plans if such work activities are necessary.

TRAFFIC PACING GUIDE

A traffic pacing procedure is a traffic control technique to slow but not stop traffic to facilitate overhead construction without an elaborate and difficult detour or diversion. Off-duty FHP officers pace or slow the traffic to a speed that provides approximately 20-30 minutes to perform the overhead construction. The Turnpike has frequently used this technique for setting bridge beams, overhead sign structures and replacing overhead sign panels.

The traffic pacing begins with approval of the exact date of the activity that shall be made 14 days in advance. Advance notification to the public shall begin at least one week in advance by Variable Message Signs (VMS). The Public Information Office, Traffic Operations Engineer and local emergency management agencies shall also be notified.

The day of the traffic pacing procedure, the VMS sign messages shall be revised to indicate the activity will occur that night or day. The traffic pacing begins with a FHP supervisor at the work site initiating the procedure. An FHP officer starts an approach towards the work site maintaining speed with the cars ahead. He will be the last vehicle before the construction activities start. As this FHP officer passes entrance ramps, other officers close these ramps. The arrival of the lead FHP officer at the work site is the beginning of the lift over the roadway. When the lead FHP officer reaches the work site, a group of FHP vehicles, one per lane, begin their approach to the work site. They form a traffic pacing alignment and reduce the traffic stream to a predetermined speed, 20 mph preferred (10 mph min.). As they pass entrance ramps, the officers on the ramps reopen the ramps to allow vehicles to follow the pacing traffic. The intention is to not completely stop traffic unless there is an emergency. It is safer to keep the vehicles moving at a reduced speed because of the closure speed of a rear-end accident.

The starting point of a traffic pacing procedure must consider the following factors: the speed of the pacing officers, the location of entrance ramps, horizontal and vertical alignment of the facility, the required time needed to complete the work activity. In some instances, it may be necessary to close a lane at the work site to position a crane(s) and the materials to be lifted. All material to be installed shall be on-site before the traffic pacing procedure begins. It may be necessary to install temporary barrier walls to protect pre-positioned and assembled materials in the right of way.

TRAFFIC PACING GENERAL NOTES

1. THE TRAFFIC PACING GUIDE DRAWINGS ARE A DESIGN GUIDE TO BE USED BY ALL OF FLORIDA'S TURNPIKE DESIGNERS. THESE GUIDE DRAWINGS ARE NOT SITE SPECIFIC AND REQUIRE DETAILED TRAFFIC CONTROL PLANS FOR EACH LOCATION. INFORMATION IN THIS GUIDE REPRESENT MINIMUM REQUIREMENTS FOR TRAFFIC PACING PROCEDURES ON FLORIDA'S TURNPIKE.
2. ALL EQUIPEMENT AND MATERIALS SHALL BE REMOVED FROM THE TRAVEL LANES TO A LOCATION OUTSIDE OF THE CLEAR ZONE OR AN AREA APPROVED BY THE PROJECT ADMINISTRATOR AT THE END OF EACH TRAFFIC PACING PROCEDURE.
3. W20-3 SIGNS SHALL REMAIN COVERED UNTIL THE PROCEDURE BEGINS AND COVERED WHEN THE PROCEDURE HAS ENDED. THE ROAD CLOSURE SIGNS SHOULD BE PLACED APPROXIMATELY 1000' PRIOR TO THE WORK ZONE.
4. VMS SIGNS SHALL BE DISPLAYED ONE WEEK PRIOR TO WORK USING MESSAGES DESCRIBED IN THE TRAFFIC PACING PLAN. THE NUMBER AND LOCATION OF VMS SIGNS SHALL BE CALLED OUT IN THE TRAFFIC CONTROL PLANS.
5. A MINIMUM OF ONE CRASH TRUCK WITH REAR MOUNTED IMPACT ATTENUATOR(S) AND VMS SIGN SHALL BE PROVIDED AT THE CONSTRUCTION SITE FOR USE WITH EACH TRAFFIC PACING PROCEDURE.
6. A TROOP 'K' SUPERVISOR SHALL BE STATIONED AT THE CONSTRUCTION SITE CONTINUOUSLY THROUGHOUT THE PACING PROCEDURE TO INSURE RADIO COMMUNICATIONS BETWEEN THE CONTRACTOR AND/OR THE PROJECT ADMINISTRATOR, THE POLICE VEHICLES AT THE UPSTREAM END AND THE POLICE VEHICLES COMPRISING THE PACING PROCEDURE.
7. PRIOR TO REQUESTING THAT THE TROOP 'K' SUPERVISOR INITIATE THE PACING PROCEDURE, THE CONTRACTOR SHALL ENSURE THAT THE NECESSARY EQUIPMENT IS PROPERLY POSITIONED (OFF THE ROADWAY) FOR THE CONSTRUCTION ACTIVITY REQUIRING THE TRAFFIC PACING PROCEDURE.
8. WHEN MORE THAN ONE PACING PROCEDURE IS REQUIRED IN ONE WORK PERIOD THE CONTRACT SHALL ALLOW SUFFICIENT TIME BETWEEN PACING PROCEDURES TO PERMIT TRAFFIC TO RETURN TO NORMAL SPEEDS AND FLOW. THE PROJECT ADMINISTRATOR MAY REQUIRE ADDITIONAL TIME BETWEEN PACING PROCEDURES IF THE PROJECT

The diagram illustrates a traffic pacing procedure on a multi-lane highway. The top section shows a plan view of the highway with a 'MAINLINE' and a 'WORK AREA' indicated by a hatched rectangle. A 'VARIABLE MESSAGE SIGN' (VMS) is shown at the entrance to the work area. The distance from the VMS to the work area is labeled as L , the 'LENGTH OF TRAFFIC PACING PROCEDURE'. The distance from the VMS to the work area is divided into two segments of $\frac{1}{2}L$ each. A distance of ± 1 MILE is also indicated. A circled '1' is shown near the VMS, indicating its placement.

The bottom section shows the VMS messages for the mainline and ramp during different stages of the pacing procedure.

VMS MESSAGE (MAINLINE)

ONE WEEK PRIOR TO PACING PROCEDURE	EXPECT DELAYS ON	MMW DD-DD X AM - X AM
DURING DAY OF PACING PROCEDURE	ROAD WORK TONIGHT	EXPECT PERIODIC DELAYS
DURING PACING PROCEDURE	SLOW TRAFFIC AHEAD	CAUTION REDUCE SPEED

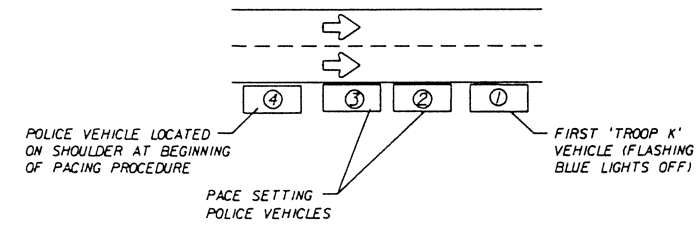
VMS MESSAGE (RAMP)

ONE WEEK PRIOR TO PACING PROCEDURE	EXPECT DELAYS ON	MMW DD-DD X AM - X AM
DURING DAY OF PACING PROCEDURE	ROAD WORK TONIGHT	EXPECT PERIODIC DELAYS
DURING DAY OF PACING PROCEDURE	CAUTION	SLOW TRAFFIC AHEAD

① = TO BE PLACED THE DAY OF PACING PROCEDURE

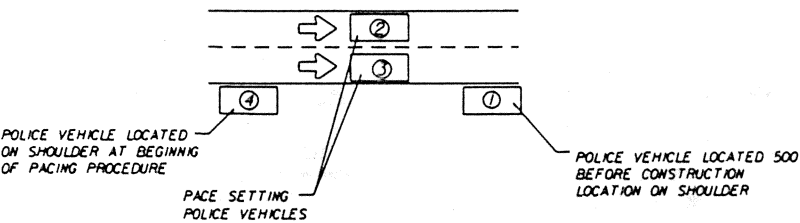
REVISIONS						STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TRAFFIC PACING DRAWING 1		GUIDE NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						
						ROAD NO.	COUNTY	FINANCIAL PROJECT ID			301

MAINLINE PACING DETAILS
(TWO LANE ROADWAY EXAMPLE)



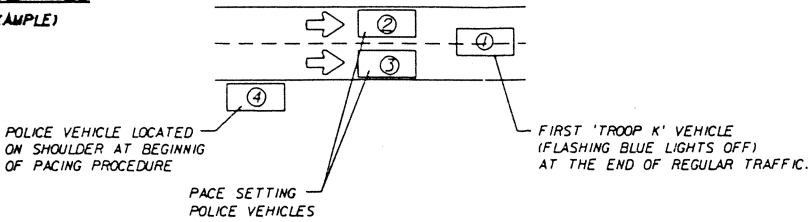
STAGE ONE

1. FOUR FHP 'TROOP K' VEHICLES LOCATED UPSTREAM OF THE CONSTRUCTION SITE THE BEGINING LOCATION OF THE TRAFFIC PACING PROCEDURE WITH FLASHING LIGHTS OFF.



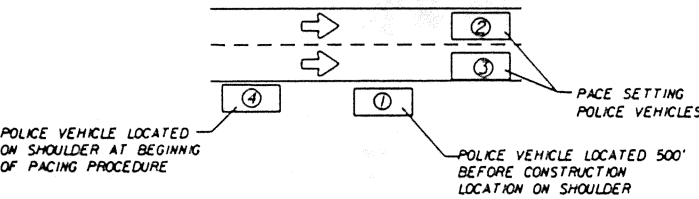
STAGE THREE

1. THE TWO 'TROOP K' VEHICLES FORMING THE PACING PROCEDURE SHALL BEGIN TO SLOW TO THE PACE SPEED OF 10 MPH, PACING TRAFFIC AT 10 MPH FOR THE DURATION OF THE TRAFFIC PACING PROCEDURE.
2. THE FIRST VEHICLE (WITHOUT BLUE LIGHTS FLASHING) SHALL MATCH THE SPEED OF THE LAST VEHICLES AHEAD OF THE PACING VEHICLES AND CONTINUE FOLLOWING TRAFFIC UNTIL A POINT 500' IN ADVANCE OF THE CONSTRUCTION SITE. THE FIRST 'TROOP K' VEHICLE SHALL THEN COME TO A COMPLETE STOP ON THE RIGHT SHOULDER AND TURN ON ITS FLASHING BLUE LIGHTS. CRASH TRUCK(S) WITH REAR MOUNTED IMPACT ATTENUATOR(S) AND VMS SIGN(S) SHALL MOVE INTO THE TRAVEL LANES APPROXIMATELY 200 FT. UPSTREAM OF THE CONSTRUCTION SITE WITH THE IMPACT ATTENUATORS DOWN AND OPERATING ONCE TRAFFIC HAS CLEARED THE CONSTRUCTION AREA.



STAGE TWO

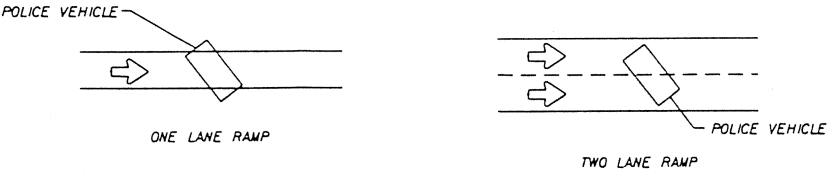
1. ONCE THE 'TROOP K' VEHICLES ARE IN PLACE AND THE 'TROOP K' SUPERVISOR AT THE CONSTRUCTION SITE RADIOS TO BEGIN THE TRAFFIC PACING PROCEDURE THE LAST THREE 'TROOP K' VEHICLES SHALL TURN ON THEIR FLASHING BLUE LIGHTS. THE FIRST THREE 'TROOP K' VEHICLES SHALL ENTER THE TRAVEL LANES WITH THE SECOND AND THIRD 'TROOP K' VEHICLES IMMEDIATELY FORMING A SIDE BY SIDE 'PACING PROCEDURE' OF ALL LANES BEHIND THE FIRST 'TROOP K' VEHICLE(FLASHING BLUE LIGHTS OFF).



STAGE FOUR

1. WHEN THE PACING 'TROOP K' VEHICLES ARE WITHIN TWO MILES OF THE CONSTRUCTION SITE THEY SHALL NOTIFY THE ON SITE 'TROOP K' SUPERVISOR WHO WILL IMMEDIATELY INFORM THE CONTRACTORS ON SITE SUPERVISOR OF THEIR LOCATION. ONCE THE CONTRACTORS ON SITE SUPERVISOR HAS BEEN NOTIFIED OF THE PACING VEHICLES LOCATION THE CONTRACTOR SHALL BEGIN TO CLEAR THE TRAVEL LANES OF ALL EQUIPMENT AND DEBRIS IN ORDER TO REOPEN ALL TRAVEL LANES.
2. IN CASE OF EMERGENCY THE PACING VEHICLES SHALL COME TO A COMPLETE STOP ONCE THEY REACH THE FIRST 'TROOP K' VEHICLE. IF NO EMERGENCY IS ENCOUNTERED THE CRASH TRUCK(S) SHALL BE MOVED FROM THE TRAVEL LANES AND THE TWO 'TROOP K' PACING VEHICLES SHALL CLEAR THE CONSTRUCTION SITE AND IMMEDIATELY MOVE TO THE RIGHT SHOULDER OR AN AREA DESIGNATED BY THE 'TROOP K' SUPERVISOR AND TURN OFF THE FLASHING BLUE LIGHTS. ONCE THE TWO 'TROOP K' PACING VEHICLES PASS THE CONSTRUCTION SITE THE 'TROOP K' SUPERVISOR SHALL INSTRUCT THE FIRST AND LAST 'TROOP K' VEHICLES TO TURN OFF THEIR FLASHING BLUE LIGHTS.

RAMP PACING DETAILS



RAMP CLOSURE DETAIL

1. ONCE NOTIFIED BY THE ON SITE 'TROOP K' SUPERVISOR TO BEGIN THE TRAFFIC PACING PROCEDURE EACH 'TROOP K' VEHICLE AT THE INDICATED RAMPS SHALL TURN THEIR FLASHING BLUE LIGHTS ON AND POSITION THE VEHICLES ACROSS THE RAMP TO CLOSE RAMP ACCESS.
2. ONCE THE PACING PROCEDURE PASSES THE CLOSED ON RAMP THE 'TROOP K' VEHICLE ON THE RAMP SHALL TURN OFF THE FLASHING BLUE LIGHTS AND MOVE FROM THE RAMP LANES TO ALLOW TRAFFIC TO ENTER THE MAINLINE PACING PROCEDURE.

GENERAL NOTES:

1. OFF DUTY OFFICERS EACH WITH FULLY-MARKED VEHICLES WITH ROOF-MOUNTED, FLASHING BLUE LIGHTS, WILL BE REQUIRED FOR THE PACING PROCEDURE. THE LOCATION AND NUMBER OF OFFICERS AT EACH LOCATION WILL BE AS FOLLOWS:

NO. OF TROOPERS WITH VEHICLES	FUNCTION	LOCATION
x	SUPERVISOR	CONSTRUCTION SITE
x	PACING PROCEDURE	MOBILE OPERATION BEGINNING X MILES UPSTREAM (BOTH WAYS) AND TERMINATING AT THE CONSTRUCTION SITE
x	ENTRANCE RAMP ROADBLOCKS	ONE AT EACH OF THE ENTRANCE RAMPS UPSTREAM OF THE CONSTRUCTION SITE.

PACING PROCEDURE CALCULATIONS

TIME ALLOWED FOR CONSTRUCTION ACTIVITY = 30 MINUTES MAXIMUM

PACING PROCEDURE LENGTH = 10 MILES MAXIMUM.

AVERAGE PACING PROCEDURE RUNNING SPEED = 20 MPH

THE DESIGN SHALL EVALUATE THE ACTUAL DISTANCE REQUIRED FOR THE PACING PROCEDURE. THE DISTANCE USED MAY ALSO DEPEND ON THE GEOMETRIC LAYOUT OF THE ROADWAY. THE DESIGN SHALL SPECIFY THE SPEED USED FOR THE PACING PROCEDURE. THE MINIMUM SPEED ALLOWED FOR A PACING PROCEDURE IS 10 MPH WITH 20 MPH THE PREFERRED SPEED. THE 30 MINUTE TIME PERIOD FOR THE CONSTRUCTION ACTIVITY DOES NOT INCLUDE TIME FOR SLOWING TRAFFIC OR TIME FOR TRAFFIC TO CLEAR THE CONSTRUCTION SITE.

REVISIONS						STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TRAFFIC PACING DRAWING 2	GUIDE NO. 302
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		