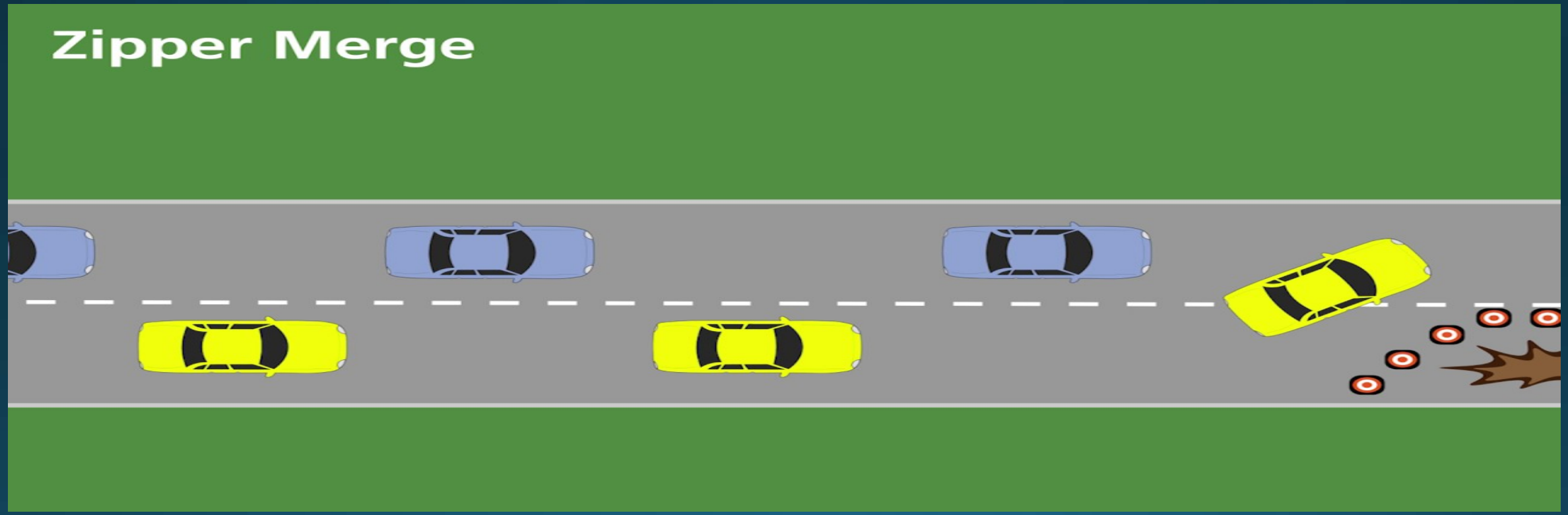
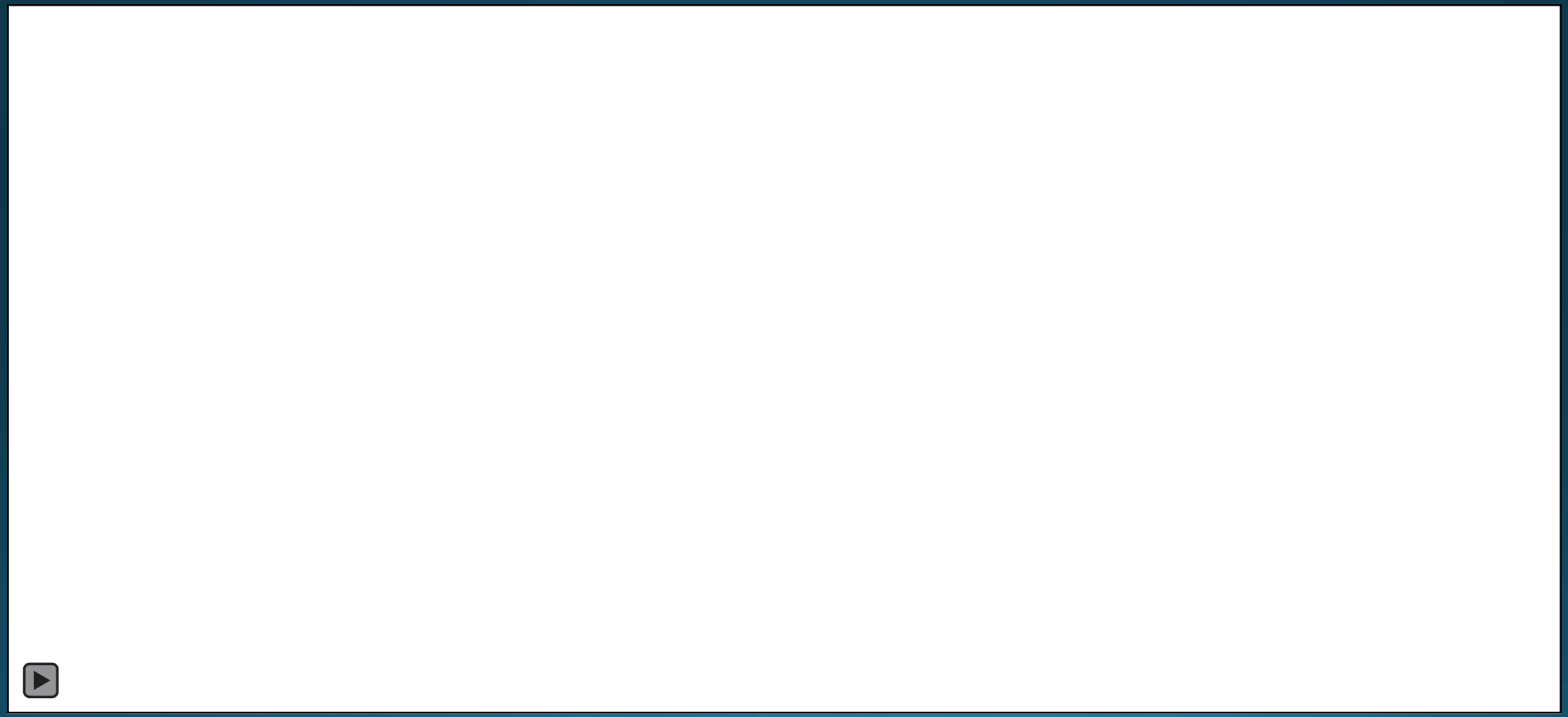
ALDOT LATE MERGE STRATEGY
"ZIPPER" MERGE IMPLEMENTATION



Pre Construction Conference
Thursday, April 11, 2019
Prattville, Alabama

LATE MERGE INTRODUCTION



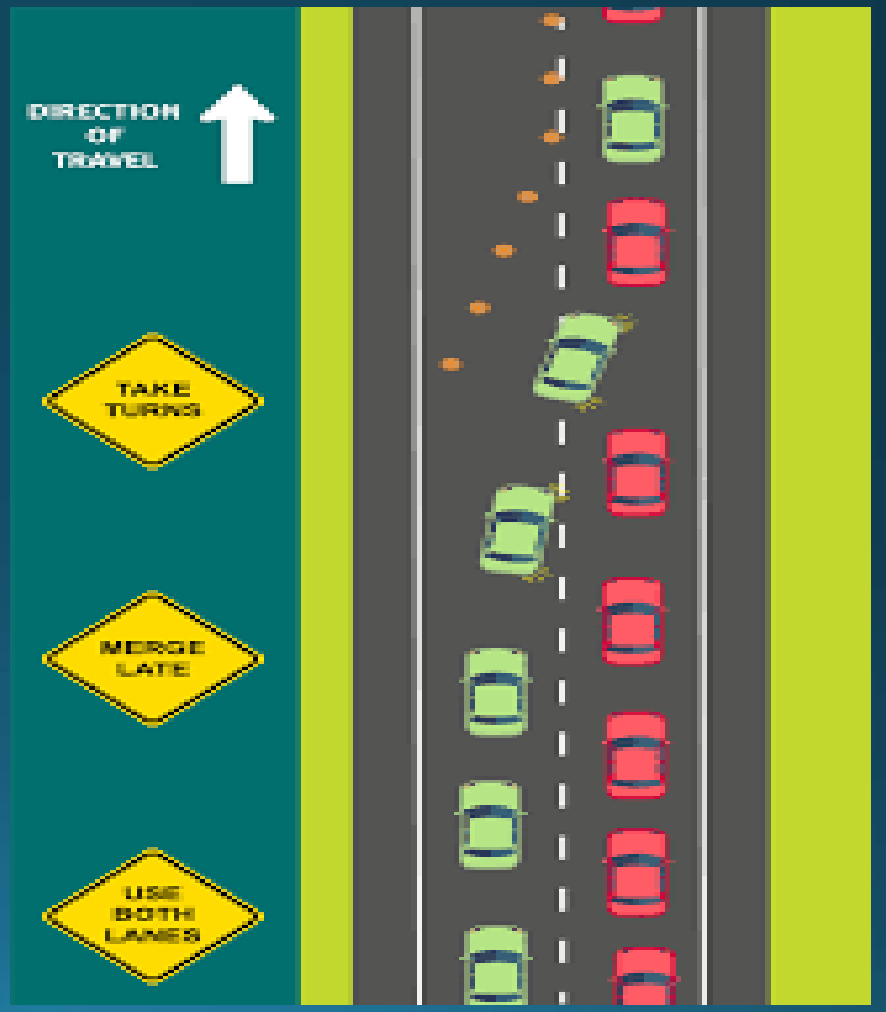
PUBLIC PERCEPTION

- KEY FACTOR
  - DRIVER BEHAVIOR

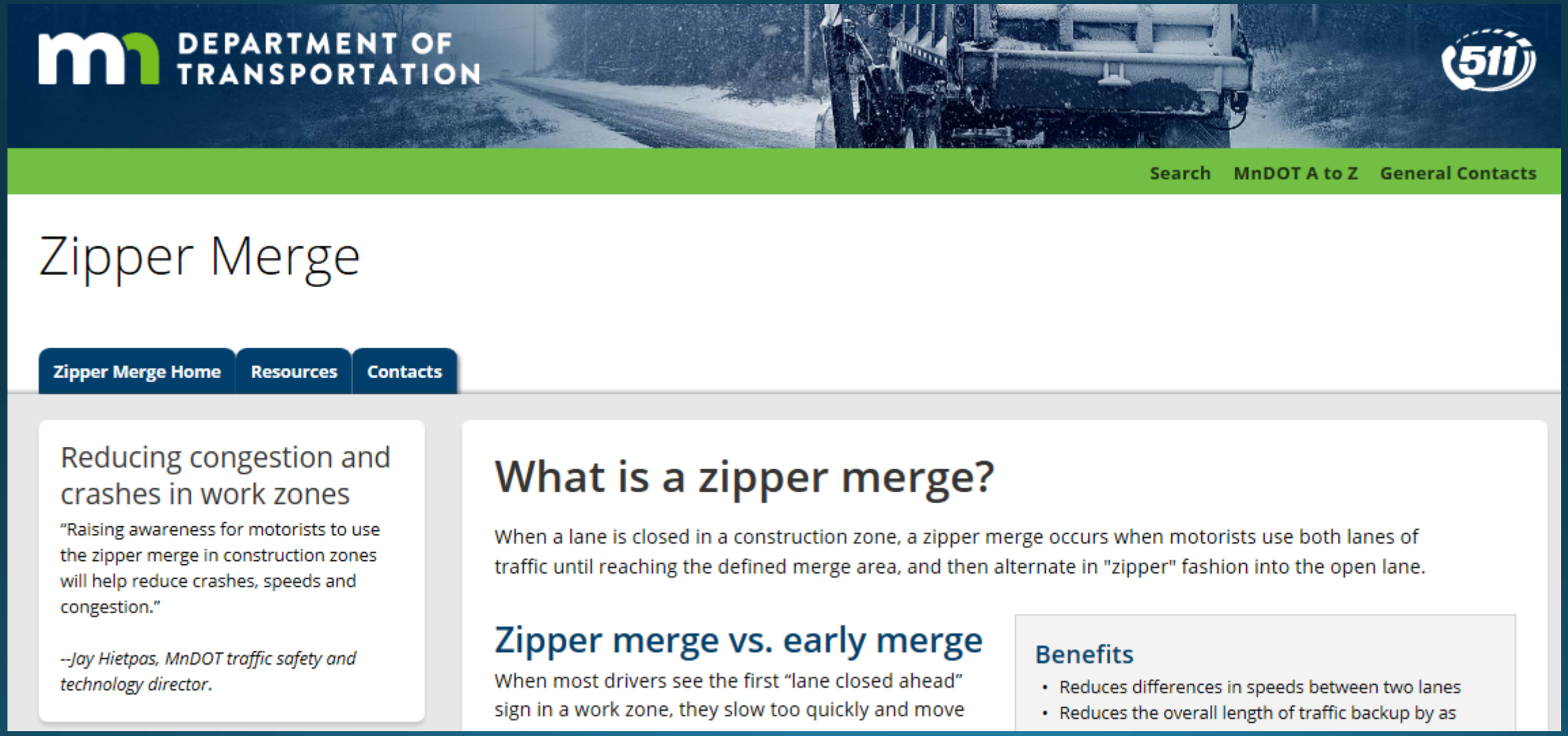
INSERT COLORFUL PHRASE HERE

BENEFITS OF "ZIPPER" MERGE

- REDUCED QUEUE LENGTH +
- REDUCED TRAVEL TIME =
- DECREASE THE POTENTIAL FOR CRASHES



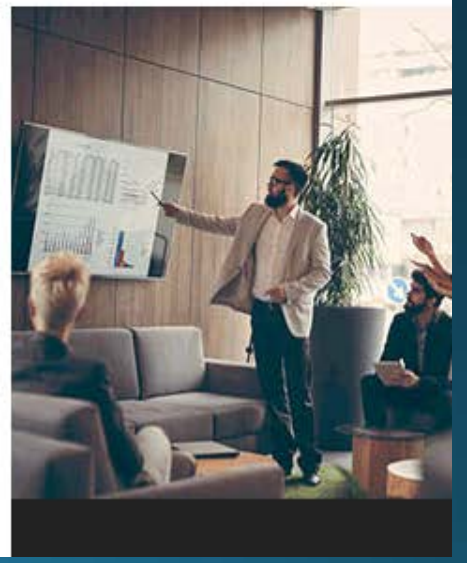
WHAT OTHER STATES ARE DOING



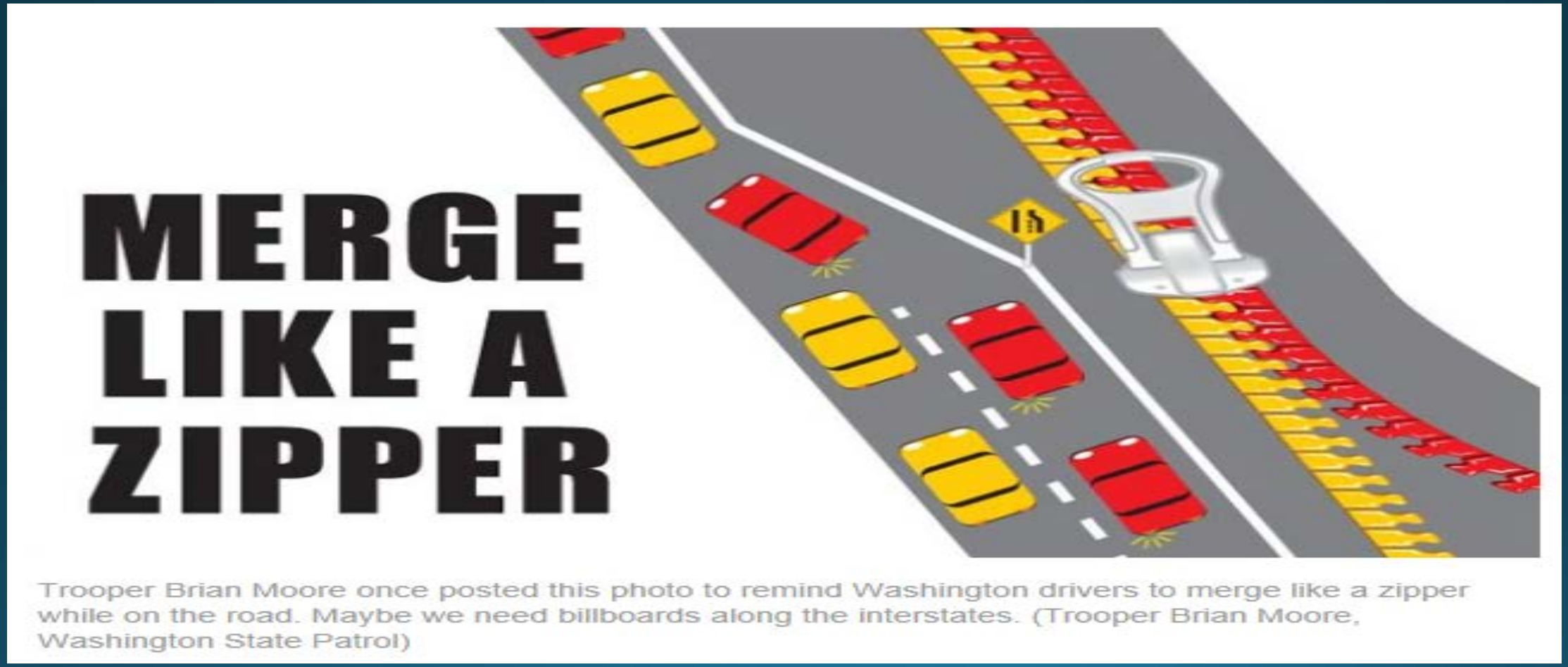
WHAT OTHER STATES ARE DOING

Missouri, Kansas join other states pushing 'zipper merge'

AP Bill Draper, Associated Press Jul. 9, 2016, 1:10 PM



WHAT OTHER STATES ARE DOING



Trooper Brian Moore once posted this photo to remind Washington drivers to merge like a zipper while on the road. Maybe we need billboards along the interstates. (Trooper Brian Moore, Washington State Patrol)

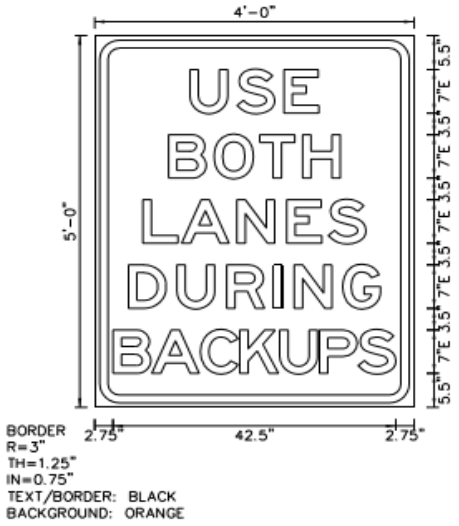
WHAT OTHER STATES ARE DOING

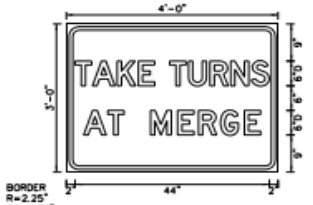
Proposed bill would add 'zipper merge' to driver's ed manuals

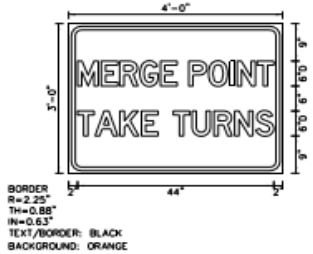
by Natalie Guevara, SeattlePI | Thursday, February 28th 2019

TEMPORARY TRAFFIC CONTROL PLAN SHEET

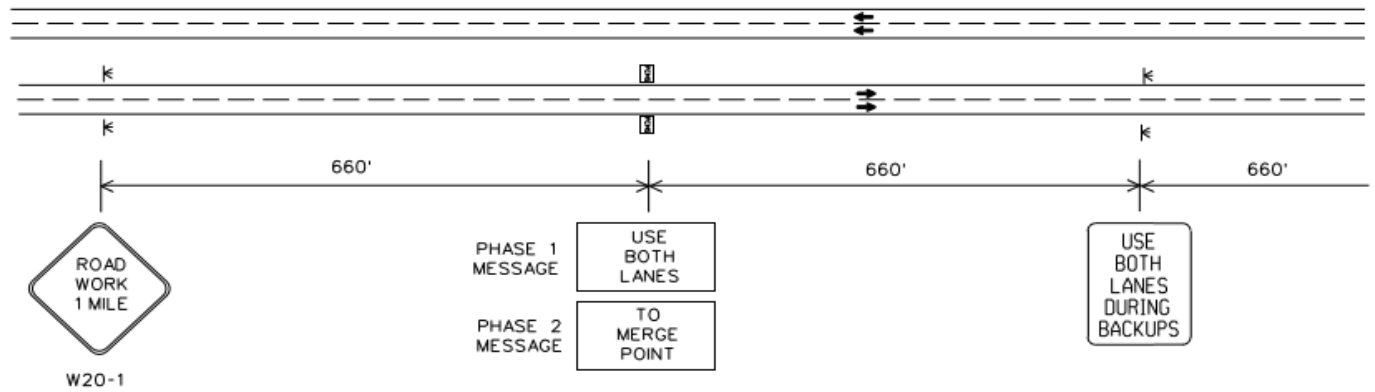
REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO







REQUIRED SIGN SIZES	
W20-5R	48" X 48"
W20-1	48" X 48"
W4-2R	48" X 48"

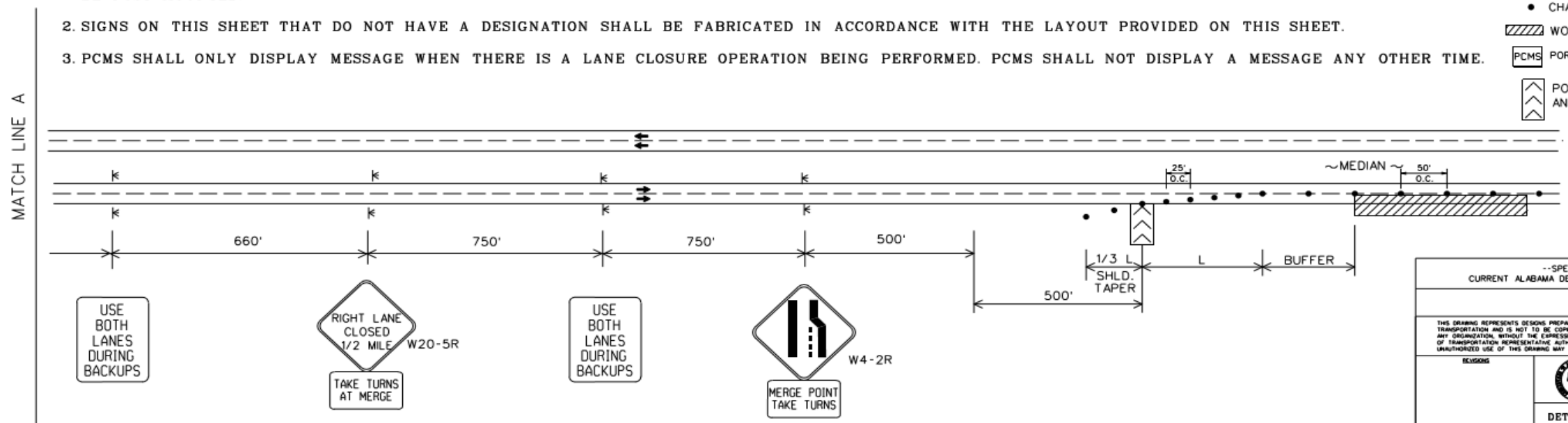


GENERAL NOTES

1. ALL SIGNS SHALL BE TEMPORARY MOUNTED AS SHOWN, UNLESS THE WORK PERIOD EXCEEDS FOUR (4) DAYS. IN SUCH CASES, THE SIGNS SHALL BE POST MOUNTED.
2. SIGNS ON THIS SHEET THAT DO NOT HAVE A DESIGNATION SHALL BE FABRICATED IN ACCORDANCE WITH THE LAYOUT PROVIDED ON THIS SHEET.
3. PCMS SHALL ONLY DISPLAY MESSAGE WHEN THERE IS A LANE CLOSURE OPERATION BEING PERFORMED. PCMS SHALL NOT DISPLAY A MESSAGE ANY OTHER TIME.

LEGEND

- TEMPORARY MOUNTED SIGN
- CHANNELIZING DRUM
- WORK AREA
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT



--SPECIFICATIONS--
CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION

REVISIONS

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 COLISEUM BOULEVARD
MONTGOMERY, AL 36130-3050

DESIGN BUREAU SPECIAL DRAWING

DETAILS FOR MULTILANE DIVIDED HIGHWAY RIGHT LANE CLOSURE WITH LATE MERGE STRATEGY

ALDOT IMPLEMENTATION CRITERIA

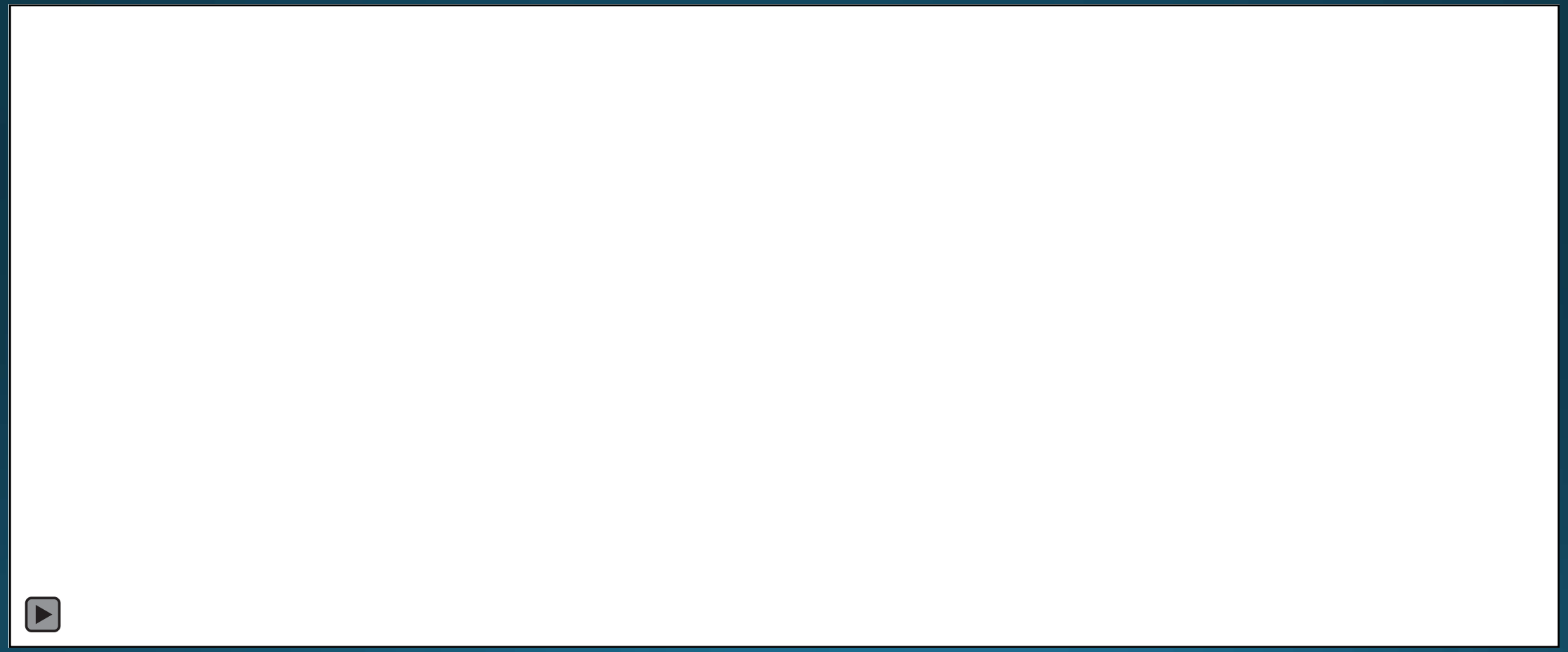
- INTERSTATE WORK
- TWO-LANE
- SPEED LIMIT ≥ 65 MPH
- SINGLE LANE CLOSURE

ALDOT IMPLEMENTATION

- LOCATION
  - HOLLIS CROSSROADS DISTRICT
  - I-20
  - M.P. 203.3
- TYPE OF WORK
  - BRIDGE INSPECTION
  - SINGLE LANE CLOSURE
  - WB/EB INSPECTION

THE GOOD

THE BAD & UGLY

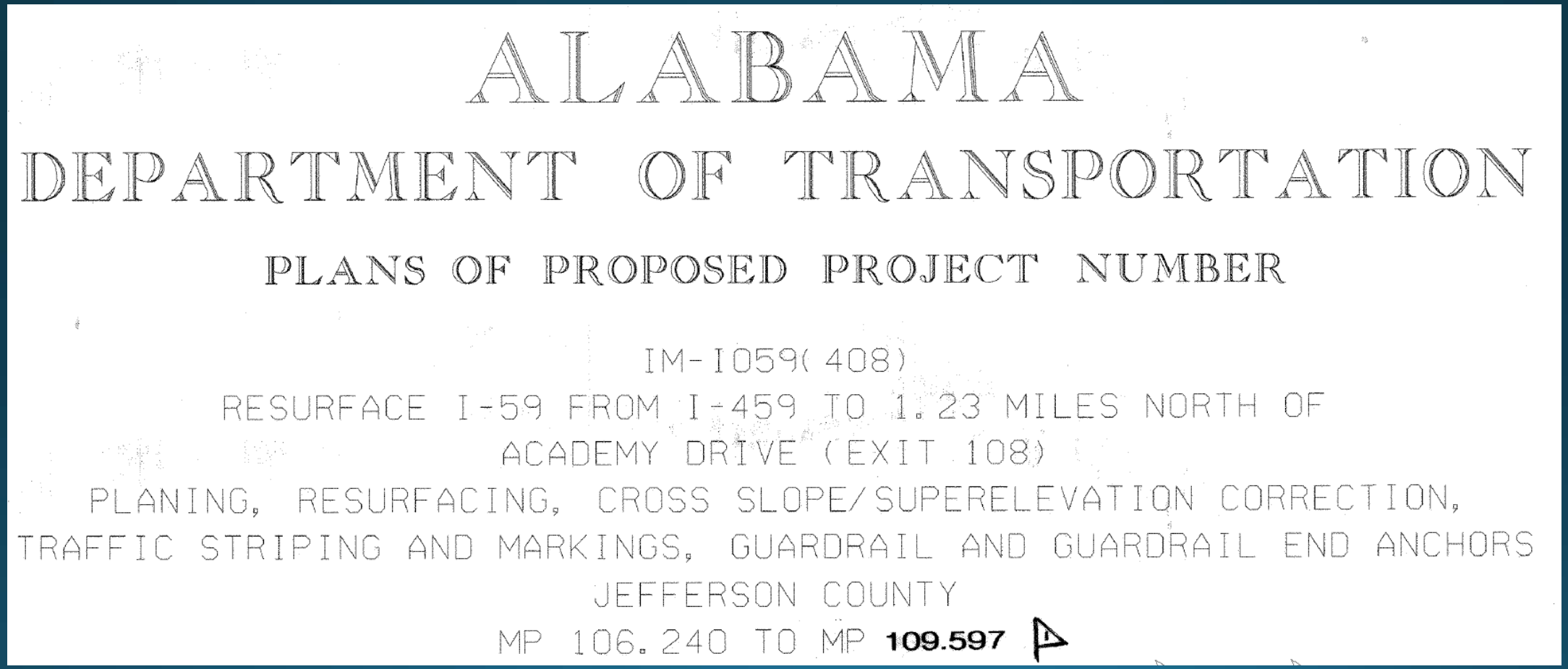


IMPLEMENTATION REPORT

- WESTBOUND LANE CLOSURE
  - 1100 VPH

- EASTBOUND LANE CLOSURE
  - 1500 VPH

FUTURE IMPLEMENTATION



ALABAMA

DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED PROJECT NUMBER

IM-I059(408)

RESURFACE I-59 FROM I-459 TO 1.23 MILES NORTH OF
ACADEMY DRIVE (EXIT 108)

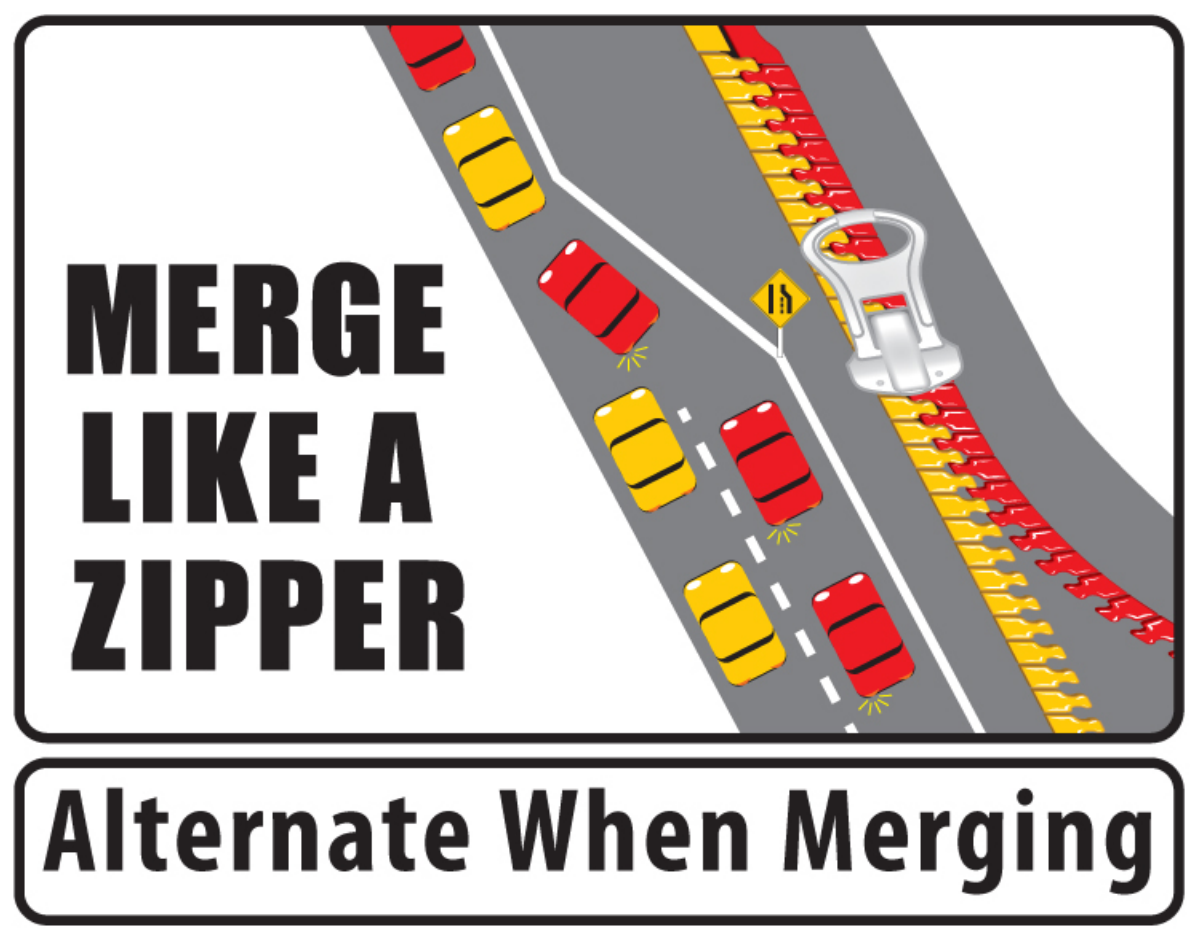
PLANING, RESURFACING, CROSS SLOPE/SUPERELEVATION CORRECTION,
TRAFFIC STRIPING AND MARKINGS, GUARDRAIL AND GUARDRAIL END ANCHORS

JEFFERSON COUNTY

MP 106.240 TO MP 109.597

NEXT STEPS

- CONTINUE EVALUATING WHEN TO IMPLEMENT ZIPPER MERGE
- CREATE A GFO/SOP FOR DETERMINING WHEN ZIPPER MERGE COULD BE IMPLEMENTED IN A WORK ZONE



ALDOT STANDARD OPERATING PROCEDURE FOR SETTING LIMIT(S) IN WORK ZONES

BACKGROUND

- FEDERAL REQUIRMENT TO PERFORM BIENNIAL WORK ZONE REVIEW
- REVIEW IS PERFORMED BY DESIGN, CONSTRUCTION, AND MAINTENANCE PERSONNEL

ALDOT REVIEW PROCESS

- IDENTIFIED OBJECTIVE
  - HOW ARE SPEED LIMIT(S) DETERMINED FOR WORK ZONE?
- CREATED COMMITTEE
  - DESIGN, CONSTRUCTION, AND MAINTENANCE INVOLVEMENT
- PERFORMED RESEARCH
  - REACHED OUT TO OTHER STATES FOR CURRENT POLICIES AND PRACTICES
  - SENT SURVEY TO PRE-CONSTRUCTION PERSONNEL AND DESIGN CONSULTANTS FOR FEEDBACK

PROCESS REVIEW OBJECTIVES

- HOW DOES ALDOT CURRENTLY DETERMINE THE APPROPRIATE SPEED LIMITS FOR WORK ZONES?
- HOW DO OTHER STATES DETERMINE THEIR SPEED LIMITS FOR WORK ZONES?
- IS IT NECESSARY TO CHANGE THE SPEED LIMIT IN A WORK ZONE?
- DOES ALDOT PRESENTLY HAVE A POLICY/PROCEDURE FOR DETERMINING WORK ZONE SPEED LIMT(S)?

PROCESS REVIEW OBJECTIVE/RESULT

- HOW DOES ALDOT CURRENTLY DETERMINE THE APPROPRIATE SPEED LIMITS FOR WORK ZONES?

ENGINEERING JUDGEMENT AND PRIOR EXPERIENCE.

*ENGINEERING JUDGEMENT CAN VARY FROM AREA TO AREA BASED ON EXPERIENCE.

PROCESS REVIEW OBJECTIVE/RESULT

- HOW DO OTHER STATES DETERMINE THEIR SPEED LIMITS FOR WORK ZONES?

OF THE STATES THAT RESPONEDED SOME STATED THEY DO HAVE A WRITTEN POLICY AND THAT IT IMPROVED CONSISTENCY AND CREDIBILITY FOR THEIR WORK ZONE LIMIT(S)

PROCESS REVIEW OBJECTIVE/RESULT

- IS IT NECESSARY TO CHANGE THE SPEED LIMIT IN A WORK ZONE?

YES, TO IMPROVE SAFETY FOR THE TRAVELING PUBLIC AND WORKERS IN AN ACTIVE WORK ZONE

PROCESS REVIEW OBJECTIVE/RESULT

- DOES ALDOT PRESENTLY HAVE A POLICY/PROCEDURE FOR DETERMINING WORK ZONE SPEED LIMIT(S)?

NO FORMAL POLICY OR PROCEDURE EXIST DURING THE DISCOVERY PERIOD OF THIS REVIEW

PROCESS REVIEW OUTCOME

- OUTCOME OF PROCESS REVIEW
  - ALDOT NEEDED TO DEVELOP A WRITTEN POLICY/PROCEDURE
- NEXT STEP
  - CREATE COMMITTEE TO WRITE POLICY/PROCEDURE
  - COMMITTEE MEMBERS:
    - DESIGN
    - CONSTRUCTION
    - MAINTENANCE
    - REGION/AREA

ALDOT SOP

OUTLINE FOR PRE-CONSTRUCTION AND CONSTRUCTION PERSONNEL TO FOLLOW FOR DETERMINING AND ENFORCING SPEED LIMIT(S) IN WORK ZONES

TABLE OF CONTENTS

SECTION 2 – DESIGN

- KEY TAKEAWAYS FROM SECTION 2
  - DETERMINE CONSISTANT AND RELEVANT SPEED LIMIT(S) IN WORK ZONE
  - DETERMINE APPROPRIATE LOCATION FOR WORK ZONE SPEED LIMIT SIGNAGE
- DECISION MATRIX
  - CHART USED TO PROMOTE UNIFORMITY THROUGHOUT THE STATE WHEN DETERMINING SPEED REDUCTIONS IN WORK ZONES

DECISION MATRIX – TYPE OF WORK

Type of Work

1. Roadside Activity – Work performed next to the roadway that may fall within the clear zone but does not require that the adjacent lane be closed to finish the task.
2. Lane/Paved Shoulder Closure – Work within or adjacent to the roadway that will require the closure of a travel lane(s) or paved shoulder in order to complete it. Work performed within two feet of the edge of pavement shall require a lane closure.
3. Temporary Roadway Diversion – Work that requires rerouting of traffic onto a temporary or permanent roadway/alignment around the work area. This type of work would include, but is not limited to bridge replacements, bypasses, etc.

DECISION MATRIX – 2-LANE HIGHWAY

2-LANE HIGHWAY		
Type of Work	**Posted Speed Limit**	**Work Zone Speed Reduction**
1	All	No Reduction
2	55 MPH 50 MPH ≤ 45 MPH	10 MPH 5 MPH No Reduction
3	55 MPH 50 MPH ≤ 45 MPH	45 MPH (Desirable) 35 MPH (Minimum)

DECISION MATRIX – MULTI-LANE HIGHWAY

MULTI-LANE HIGHWAY		
Type of Work	**Posted Speed Limit**	**Work Zone Speed Reduction**
1	All	No Reduction
2	≥ 55 MPH 50 MPH ≤ 45 MPH	10 MPH 5 MPH No Reduction
3	55 MPH 50 MPH ≤ 45 MPH	45 MPH (Desirable) 35 MPH (Minimum)

DECISION MATRIX – NON-INTERSTATE

MULTI-LANE DIVIDED HIGHWAY (NON-INTERSTATE)		
Type of Work	**Posted Speed Limit**	**Work Zone Speed Reduction**
1	All	No Reduction
2	≥ 65 MPH ≥ 50 MPH ≤ 45 MPH	10 MPH 5 MPH No Reduction
3	≥ 55 MPH 50 MPH ≤ 45 MPH	45 MPH (Desirable) 35 MPH (Minimum)

DECISION MATRIX – INTERSTATE HIGHWAY

INTERSTATE HIGHWAY		
Type of Work	**Posted Speed Limit**	**Work Zone Speed Reduction**
1	All	No Reduction
2	70 MPH 65 MPH ≥ 50 MPH	10 MPH* 10 MPH 5 mph
3	70 MPH 65 MPH ≤ 50 MPH	55 MPH (Desirable), 45 mph (Minimum) 55 MPH (Desirable), 45 mph (Minimum) 45 MPH (Desirable), 35 mph (Minimum)
*When work is being performed in the closed lane the speed limit shall be reduced to 55 MPH		

SECTION 3 – CONSTRUCTION

- KEY TAKE AWAYS FOR SECTION 3
  - ENSURE SIGN LOCATIONS ARE IN ACCORDANCE WITH PLANS
  - PERFORM DAILY SIGN INSPECTIONS TO ENSURE COMPLIANCE
  - ADDITIONAL ENFORMCEMENT OPTIONS
  - STEPS TO CHANGE/MODIFY WORK ZONE SPEED LIMIT

SECTION 4 – GFO UPDATES

- GFO 3-49 & 4-9

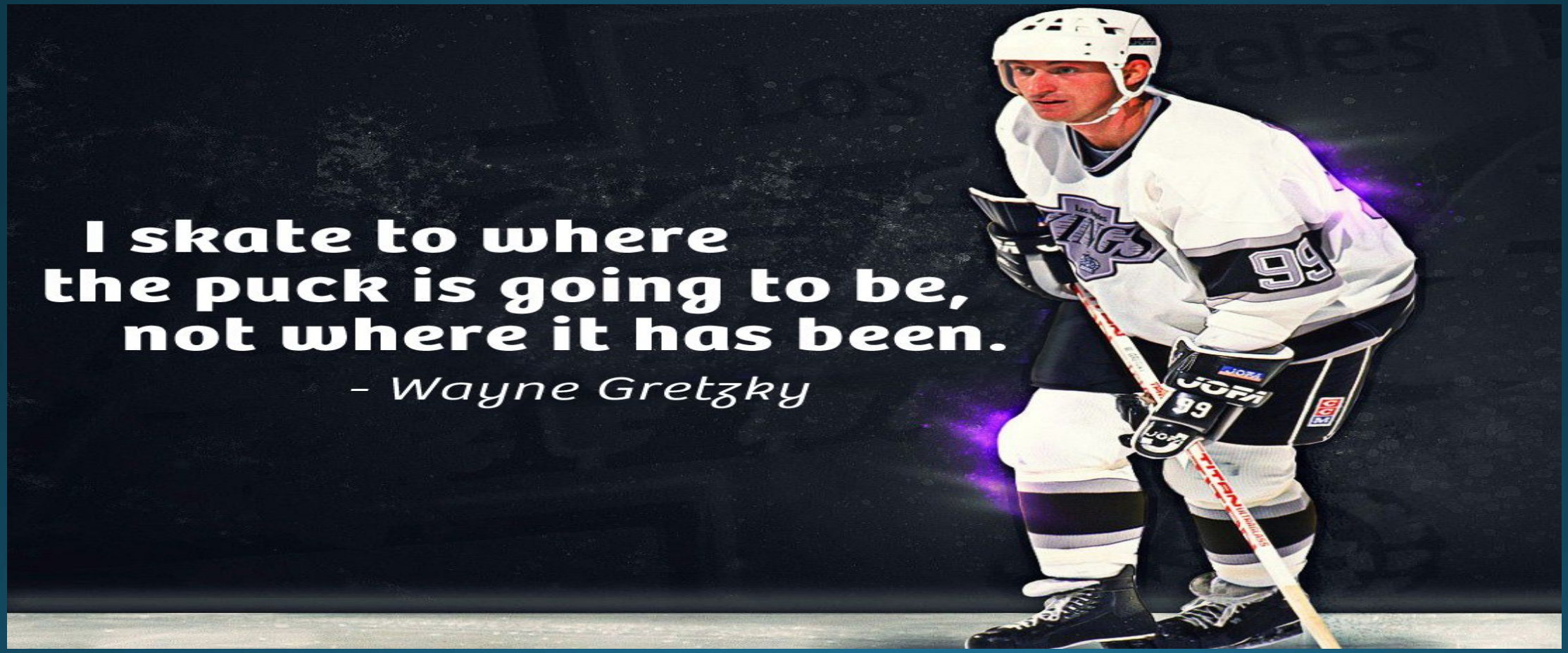
- GFO'S WILL BE UPDATED TO REFLECT THE USE OF THIS SOP WHEN SPEED LIMIT CHANGES OCCUR IN A WORK ZONE.

FUTURE SOP

- STANDARD OPERATING PROCEDURE FOR INTERSECTION CONTROL EVALUATION (ICE)

- PROCEDURE FOR DETERMINING "BEST FIT" FOR INTERSECTION CONTROL

THANK YOU


I skate to where
the puck is going to be,
not where it has been.
- Wayne Gretzky