

DEVELOPMENT OF THE PILOT CAR DRIVER
CERTIFICATION PROGRAM
FOR ALABAMA

by

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A THESIS

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ABSTRACT

Oversize and overweight loads are an essential part of the economy and current life. Unfortunately, with these loads comes a potential danger to the public. Roads, bridges, and railroad crossings are not built to support these loads or allow for easy access. Pilot car escorts are an essential element to safely and efficiently moving the oversize loads. These escorts have the responsibility of keeping the public and load safe. Yet, only eleven states have training and certification requirements for the driver of the escort vehicle. Alabama is not one of these eleven states. The Alabama Department of Transportation (ALDOT) partnered with the University Transportation Center of Alabama (UTCA) to develop a program. This thesis documents the development of the Alabama Escort Driver Certification Program and focuses on the development of the curriculum.

For the escort driver certification program to be effective, The Code of Alabama must be updated to include certification requirements. After extensive research, UTCA staff recommended changes to The Code of Alabama to update the rules and regulations regarding pilot/escort driving. UTCA also suggested course logistics such as course instructors, course availability and locations, class size, budget, proof of certification, and course evaluation. UTCA then developed a one day (eight hour) curriculum based on Florida's current curriculum. Participants must attend the course, demonstrate proper flagging technique, and pass a written exam with a minimum score of 80% to receive certification. The thesis also describes the multi-media presentation, instructor's manual, and participant's manual's content format and content. The development of a website to serve as a media for advertisement and a registration aid is also

presented. This report documents relevant information and decisions made in the development of an important and possibly life-saving program.

LIST OF ABBREVIATIONS

ALDOT	Alabama Department of Transportation
CDL	Commercial Driver's License
NTSB	National Transportation Safety Board
PCE	Pilot Car Escort
RITA	Research and Innovative Technology Administration
SASHTO	Southeastern Association of State Highway and Transportation Officials
SC&RA	Specialized Carrier & Rigging Association
UTCA	University Transportation Center for Alabama
WASHTO	Western Association of State Highway and Transportation Officials

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CONTENTS

ABSTRACT.....	ii
LIST OF ABBREVIATIONS.....	iv
ACKNOWLEDGMENTS	v
CHAPTER ONE INTRODUCTION.....	1
1.1. Project Objectives	3
1.2. Report Organization.....	3
CHAPTER TWO LITERATURE REVIEW	5
2.1. Specialized Carrier & Rigging Association.....	5
2.2. Other States	6
2.2.1. Virginia	6
2.2.2. North Carolina	8
2.2.3. Missouri	8
2.2.4. Texas	8
2.2.5. Florida.....	9
2.2.6. Utah.....	10
2.3. Transportation Research Information Services.....	11
2.3.1. Escort Vehicle Drivers’ Handbook for Movements Within Atlantic Canada	11

2.3.2. The Highway Accident Report: Collisions between Metrolink Train 901 and Mercury Transportation, Inc., Tractor-Combination Vehicle at Highway Railroad Grade Crossing Glendale California on January 28, 2000	12
2.3.3. The National Transportation Safety Board Safety Recommendation.....	14
2.4. Research and Innovative Technology Research	15
CHAPTER THREE DATA ANALYSIS.....	17
3.1. Rules and Regulations.....	17
3.1.1. Southeastern States Rules and Regulations	17
3.1.2. The Code of Alabama	20
CHAPTER FOUR METHODOLOGY & RESULTS	23
4.1. Alabama Rules and Regulations	23
4.2. Format Determination	23
4.3. Course Logistics.....	24
4.3.1. Course Instructors	25
4.3.2. Course Availability	25
4.3.3. Course Location	25
4.3.4. Class Size	26
4.3.5. Budget.....	26
4.3.6 Proof of Certification	26
4.3.7. Course Evaluation.....	27
4.4. Course Curriculum & Materials.....	27

4.4.1. Course Outline and Session Objectives	27
4.4.2. Course Agenda.....	30
4.4.3. Presentation.....	30
4.4.4. Instructor’s Manual.....	31
4.4.5. Participant’s Manual	31
4.4.6. Supplemental Material.....	32
4.5. Program Website.....	32
CHAPTER FIVE CONCLUSION.....	34
REFERENCES	36
Appendix – A State Escort Requirements Comparison (2008)	38
Appendix – B Regional Pilot Car Certification Recommendations	69
Appendix – C Example Pages of Instructor’s Manual.....	78
Appendix – D Eexample Pages of Participant’s Manual.....	82
Appendix – E Deployment of Pilot Car Certification Program in Alabama Preliminary Report.	86

LIST OF TABLES

Table 1: Individual State Requirements for Pilot Car Driver Certification	13
Table 2: Alabama Escort Requirements Comparison	18
Table 3: Certification Reciprocity	24
Table 4: Course Agenda.....	30

CHAPTER ONE

INTRODUCTION

The January 28, 2000 tractor-combination vehicle and train collision in Glendale, California, caused injuries to six persons, and total damages were estimated to be over two million dollars. In response to this accident, the National Transportation Safety Board (NTSB) presented a safety recommendation designed to prevent accidents and save lives. The recommendations addressed the appropriateness of the actions of the truck driver, pilot car drivers, and police escorts; the weakness in the planning, coordination, and execution of the oversize/overweight movement; and pilot car driver and truck driver fatigue (Blakey, 2001).

Pilot car drivers perform “a safety-sensitive function and are an integral component of many oversize/overweight vehicle movements; consequently, it is important that they be trained and qualified (Blakey, 2001, pg. 3).” Yet at the time of the release of the safety recommendation, only eight states required a form of certification of the pilot car drivers (Colorado, Florida, Kansas, New York, Oklahoma, Utah, Virginia, and Washington). The National Transportation Safety Board recommended the American Association of Motor Vehicle Administrators, the California Professional Escort Car Association, the Texas Pilot Car Association, and the United Safety Car Association to perform the following actions:

Work with the Federal Highway Administration to develop a model pilot car driver program. The training should address, at a minimum, issues such as (1) how to conduct route surveys; (2) the maneuvering limitations of heavy-haul vehicles; (3) the effects of fatigue on performance; (4) the need to assess the dangers at railroad crossings, particularly for low-clearance vehicles; and (5) the need and requirements to notify the railroads before an oversize/overweight vehicle is escorted across a highway/rail grade crossing.

Work with the Federal Highway Administration to develop model oversize/overweight vehicle movement guidelines. The guidelines should address, at a minimum, issues such as (1) when pilot cars and police escorts are required; (2) the training, testing, and certification of pilot car operators, police officers, and truck drivers in the movement of oversize/overweight loads; (3) the use of height poles and traffic controls; (4) how to conduct route surveys; (5) the maneuvering limitations of heavy haul vehicles; (6) the effects of fatigue on performance; (7) the need to assess the dangers at railroad crossings, particularly for low-clearance vehicles; and (8) the need and requirements to notify the railroads before an oversize/overweight vehicle is escorted across a highway/rail grade crossing (Blakey, 2001, pg. 5).

Currently only eleven states have pilot car certification programs (Arizona, North Carolina, and Oregon have added programs since 2001.) Of these eleven, only two are in the southeast. Although the NTSB safety recommendations were not addressed to the state of Alabama, they were taken into consideration as a safety improvement by the Alabama Department of Transportation (ALDOT). Partnered with the University Transportation Center for Alabama (UTCA), ALDOT decided to implement a pilot car driver certification program. The development and initial implementation of the curriculum and teaching materials would be performed by UTCA and funded through ALDOT's Research and Development Bureau.

ALDOT established guidelines for the pilot car driver certification program. These included establishing reciprocity agreements with other states, performing a student assessment at completion of the certification course, employing highly qualified instructors, being self-sufficient financially, selecting convenient and inexpensive venues, and charging competitive registration fees. Please refer to Appendix E for the complete preliminary report.

Lindly and Wilkes (2009) identified the development and implementation of the pilot car certification program as a multi-step procedure:

- Changing the Code of Alabama to require all pilot car drivers to be trained and certified.

Again, ALDOT and UTCA are partners in this effort.

- Researching existing materials and developing the curriculum of Alabama's certification program, the main focus of this thesis.
- Implementing the curriculum including but not limited to advertising, registration, and class room logistics.

1.1. Project Objectives

The objective of this thesis was to research existing pilot car certification curriculums and to develop a curriculum for the state of Alabama. Accompanying objectives became apparent during the research. They include developing a website for advertising and registration purposes, investigating possible venues, developing sample wallet cards for certified drivers, and making other recommendations.

1.2. Report Organization

The remainder of this thesis is organized into the following headings:

- Chapter 2 - Literature Review: This chapter discusses other pilot car driver certification programs including the curriculum, teaching materials, fees, and other information as available.
- Chapter 3 - Data Analysis: This chapter discusses current pilot car regulations in other southeastern states and the regulations that will be changed in the Code of Alabama to make it more uniform with those states.
- Chapter 4 – Methodology and Results: This chapter gives a detailed account of the steps involved in the selection and development of curriculum material. It includes sample pages from the instructor and participant manuals.

- Chapter 5 – Conclusions and Future Work: This chapter presents the conclusions derived from this research and gives suggestions for enhancement of Alabama’s pilot car driver certification program.

CHAPTER TWO

LITERATURE REVIEW

The following literature review provides information of various pilot car driver certification programs and manuals. The current curriculum of the Specialized Carrier & Rigging Association (SC&RA) Pilot Escort training is reviewed as a general guideline. Other states' pilot car certification programs and/or pilot car regulations are also reviewed. A search of the Transportation Research Information Services (TRIS) provided by the Transportation Research Board was also performed, along with a search of the Research and Innovative Technology Administration (RITA) publications.

2.1. Specialized Carrier & Rigging Association

SC&RA provides a training program for pilot car escorting (Specialized Carrier & Rigging Association, 2003). An SC&RA packet can be purchased online that includes a power point presentation and literature for civilian and law enforcement escorts. The program is very general and is based on the "Best Practices" of the industry. There are no state-specific rules or regulations. The objectives of the presentation are to (1) build a foundation of knowledge for the professional pilot car escort based on the "Best Practices" of the industry, (2) set standards of operation that are effective, efficient, and safe, and (3) clarify oversize/overweight load movement team member roles and responsibilities. The agenda of the presentation includes introduction and overview, pre-trip planning, pre-trip meeting, modified pre-trip meeting, oversize/over load movement, assignment conclusion, and quality assurance review/after action report. The material is a very good resource for generic information, especially federal

regulations. The railroad safety crossing material is very thorough. A laminated quick reference card for railroad crossings is included with simple rules to follow before, during, and after crossing the railroad, what to do in case of an emergency, and important phone numbers. The card could be an inexpensive but invaluable addition to all pilot cars. The quick reference should be used as an additional source of information but not as the basis of the Alabama program.

2.2. Other States

Other states' rules, regulations, and pilot car driver certification programs were studied to determine the best procedures and curriculum for Alabama. Per the recommendation by ALDOT personnel Virginia, North Carolina, Missouri, Texas, Florida, and Utah rules and regulations were reviewed.

2.2.1. Virginia

The Virginia Escort Driver's Manual was first published in June of 1979 and was initially prepared by the Virginia Transportation Research Council. The Virginia Transportation Research Council is a joint venture of the Virginia Department of Transportation and the University of Virginia. As an operating division of the Virginia Department of Transportation's Central Office, Virginia Transportation Research Council fosters innovative research and implements improved practices in transportation. "Promoting safety, giving the traveling public advanced warning of the overdimensional load and ensuring the safe passage of the movement itself are byproducts of the training and certification [of escort drivers]" (Virginia Department of Transportation, 2006, pg. ii). The objectives of the certification program are to enhance the safety of the traveling public, to enhance the safety of the people involved in the movement of the overdimensional load, to prevent damage to the highway system, to prevent damage to the load being transported, to reduce undue delay to normal traffic, to assure continuation of the industry's safe

transportation record, to prevent increases in insurance costs, to avoid costly damage suits, and to encourage uniform escort operations. The State of Virginia's escort driver certification program involves a written test which must be successfully completed for certification. All certified drivers are required to have a valid driver's license. Virginia provides an escort manual (Virginia Department of Motor Vehicles, 2006) to study along with the Virginia Driver's Manual. The manual covers the following topics:

- Escort Driver Certification: general requirements for escorting, why certification is required, the purpose of certification, and applicability.
- Certification Program: logistics of when and where to apply, what to bring to the test, notice of results, remote testing, etc.
- Safe Driving Practices: general rules of the road and defensive driving.
- Duties and Responsibilities of Escort Drivers: general duties, front escorts, rear escorts, and authority of escort drivers.
- Equipment for Escort Vehicles: mandatory equipment, desirable equipment, flags, and amber flashing lights.
- Escort Procedures: before the trip, during the trip.
- Methods of Flagging Traffic: duties and responsibilities, recommended equipment, flagging devices, where to stand, and flagging procedures.
- Don'ts of Escort Driving
- Emergencies: What to do if there is a crash

This is a good reference, especially since the manual has been updated by professionals five times. Post trip procedures are not included. There is no teaching program involved in the certification process.

2.2.2. North Carolina

The North Carolina Department of Transportation's (2008) Oversize/Overweight Permit Handbook serves as an overall permit guide. The handbook covers qualification, application, and payment of permits along with the types of permits and responsibility of the permittee. It also provides an overview of the qualifications of pilot car drivers and vehicles. North Carolina does require all pilot car drivers to be certified. North Carolina requires an eight hour course to be completed along with the passing of a written examination. North Carolina uses state community colleges to implement the pilot car driver certification program. This manual is another good reference, but mainly for rules and regulations. This program does not provide instructor material. The instructors teach from the manual.

2.2.3. Missouri

Missouri's Oversize/Overweight Permit Regulations (Missouri's Code of State Regulations Title 7, Division 10, Chapter 25) defines an escort as a vehicle which accompanies oversize moves to serve as a warning to other traffic that extra caution is required. Missouri requires the operator of the escort to be properly licensed and at least eighteen years of age. They do not require a pilot car driver certification (Missouri Department of Transportation, 2009). Although Missouri does not require certification, the escort requirements section of the manual provide more examples of current rules and regulations.

2.2.4. Texas

Texas Administrative Code Chapter 28, Subchapter B, Section 11.k states "escort vehicles are provided to facilitate the safe movement of permitted vehicles and to protect the traveling public during the movement of permitted vehicles." Texas code does not require any

further certification. The operator of the escort vehicle must comply with all applicable law (Texas Department of Transportation, 2008). Like Missouri's manual, this manual is most useful for general requirements of escorts in Texas.

2.2.5. Florida

The Florida Department of Transportation (2006) publishes the Commercial Motor Vehicle Manual. The manual states the escort vehicle must be operated by a qualified escort. Escort regulations are found in Florida Administrative Code-14-26.012. UTCA personnel reviewed the Florida curriculum and teaching materials (Florida Transportation Technology Transfer Center, 2009). Florida requires an eight hour course along with an 80% correct completion of an examination. Florida also requires all certified drivers to pass an eight hour defensive driving class. The participants also must demonstrate correct flagging abilities to be certified. A five session course is taught. The topics include an introduction, the escort driver, the escort vehicle, the overdimensional load, and maneuvering techniques. The course materials include a multi-media presentation, instructor's manual, and participant's manual. Some words are omitted from the presentation in the participant's manual but are included in the instructor's manual and presentation. This is to allow for the participants to be interactive with the presentation and spur participation. Supplemental information is also included in both manuals:

- Resource Information
- Florida Administration Code
- Related Florida Statutes
- Related Code of Federal Regulations
- Permit Example
- After Action Report

- Flagging Operations Handout
- State-by-State Contact Listing
- Pre-Test
- Answers to Slide Blanks

The material has had five revisions and is an excellent resource. UTCA based the Alabama pilot car driver certification course on Florida's course.

2.2.6. Utah

The State of Utah requires all escort drivers to be a minimum age of eighteen and certified by an authorized certification program. Utah requires the driver domiciled by another state to be certified under a program that meets the minimum requirements outline in the Pilot/Escort Training Manual – Best Practices Guidelines as endorsed by the Specialized Carriers and Rigging Association, Federal Highway Administration; and/or a state with a reciprocal agreement (Utah Department of Transportation, 2008). The Utah Administrative Code Rule R912-10 (State of Utah, 2010) defines an authorized certification program. The curriculum must cover the following topics to be accepted in Utah:

- Department rules and regulations governing over-size load movements
- Pilot/escort operations
- Flagging maneuvers for over dimensional loads
- Oversize/Overweight load movement, coordination, planning, and communication requirements/best practices
- Pilot/escort vehicle positioning and situational training
- Rail grade crossing safety

- Routing techniques, including pre-trip surveys
- Insurance coverage requirements and liability issues

The Utah Administrative Code also regulates other details such as application process, testing procedures, and maintaining a current database of certified drivers. Utah's program is a very good source for guidelines and suggestions of curriculum. Since Alabama wants reciprocity with as many states as possible, as many of these requirements should be met as possible.

2.3. Transportation Research Information Services

The Transportation Research Information Services (TRIS) database is the largest online bibliographic database of transportation research (tris.trb.org). TRIS currently contains more than 650,000 records of published research covering all modes and disciplines of transportation. TRIS is produced and maintained by the Transportation Research Board of the National Academies with sponsorship by state Departments of Transportation, the U.S. Department of Transportation, and other sponsors of TRB's core technical activities.

2.3.1. Escort Vehicle Drivers' Handbook for Movements Within Atlantic Canada

The TRIS database included the *Escort Vehicle Drivers' Handbook for Movements Within Atlantic Canada (Draft November 2008)*. This handbook defines the pilot car driver as a "part of a team doing the important job of safely moving overdimensional loads on public highways. You carry much of the responsibility for protecting the public, a valuable load, the load driver and yourself. Your duties go beyond just carrying an overdimensional sign. At every phase of the movement of an overdimensional load, you will have specific tasks to perform. The success of the trip will depend a lot on your skill, alertness and good judgment" (Ottawa, Ontario

Canada, 2008, pg. 3). Pilot car drivers are required to have a valid driver's license from their resident province, territory or state; have a full year of experience with a full driver's license; have successfully completed a defensive driver's course; and comply with all terms, conditions, requirements and/or regulations set forth by the agency(s) responsible for the permit. Flagging and traffic control demonstrations are not required for certification, but the manual states all persons performing traffic control are responsible for knowing and abiding by the required procedures, policies, and regulations in each province for controlling traffic.

2.3.2. The Highway Accident Report: Collisions between Metrolink Train 901 and Mercury Transportation, Inc., Tractor-Combination Vehicle at Highway Railroad Grade Crossing Glendale California on January 28, 2000

The National Transportation Safety Board's *Highway Accident Report: Collisions between Metrolink Train 901 and Mercury Transportation, Inc., Tractor-Combination Vehicle at Highway Railroad Grade Crossing Glendale California on January 28, 2000* (2002) records the factual information of the accident and performs an extensive analysis. The report describes ten states (Arizona, Colorado, Florida, Kansas, New Mexico, New York, Oklahoma, Utah, Virginia, and Washington) that require pilot car certification. However, Arizona and New Mexico do not have their own certification programs; they require certification from other programs. The eight state requirements for certification at the time of publication can be seen in Table 1.

Table 1: Individual State Requirements for Pilot Car Driver Certification

State	Requirements	Test Administration
Colorado	Test and evidence of completing defensive driving course or valid CDL, certificate of commercial insurance, and 5-year driving record. Colorado honors Virginia, Florida, and Utah certification.	Test administered by Colorado Department of Transportation Transport Permit Office for \$5; certification good for 5 years.
Florida	Completion of 8-hour defensive driving class and 8-hour pilot/escort driving class.	Test administered by University of Florida Transportation Safety Transfer Center.
Kansas	Evidence of completing a National Safety Council-approved defensive driving course or valid CDL.	Not available.
New York	Test of State Manual.	Test administered by Department of Motor Vehicles for \$40 fee.
Oklahoma	Completion of 8-hour course on escort driver manual and test.	Test administered by Oklahoma State University; cost to applicant \$90. State currently in final negotiations with university for record maintenance and access.
Utah	Completion of 8-hour course on escort driver manual and test.	Test administered by Utah Valley Community College; cost to applicant \$120. College maintains records and issues certification cards.
Virginia	Test of State Escort driver manual.	Test administered by Virginia Commonwealth University. No cost to in-State applicant; cost to out-of-State applicant \$30. Renewals free.
Washington	Completion of 8-hour course and test based on WASHTO guidelines.	Test administered by Evergreen Safety Council for \$145.

The accident report noted the Colorado, New York, Virginia, and Utah pilot car certification manuals and the WASHTO policy manual had several common topics, although they did not include procedures for conducting a route survey or for notifying railroads of low-clearance vehicle crossings. In the report, representatives from the California Professional Escort

Car Association, the Texas Pilot Car Association, and the United Safety Car Association stated “the primary purpose of the pilot car operator is not to ensure that the vehicle/load is on the correct route, although being on the correct route is factored into the operation, but to provide advance warning whenever route hazards, such as a bridge with inadequate clearance or a raised grade crossing that the load cannot traverse, are present” (National Transportation Safety Board, 2001, pg. 34). The lead pilot car driver was certified in Utah and had eight years of experience at the time. However, the Utah pilot car certification curriculum does not include railroad notification for crossing tracks before the load crosses the tracks. Railroad notification is not required by law, but it is considered a Best Practice. The accident may have been prevented had the driver received the training that emphasized hazards of railroad crossings for oversize/overweight vehicles.

2.3.3. The National Transportation Safety Board Safety Recommendation

The National Transportation Safety Board Safety Recommendation, H-01-32 and -33 addresses the need to develop a model pilot car driver training program and model oversize/overweight vehicle movements guidelines. The recommendations were made as a result of the January 28, 2000 tractor-combination vehicle and train collision in Glendale, California. The recommendations address the appropriateness of the actions of the truck driver, pilot car drivers, and police escorts in that particular crash; the weakness in the planning, coordination, and execution of the oversize/overweight movement; and pilot car driver and truck driver fatigue. Pilot car drivers perform “a safety-sensitive function and are an integral component of many oversize/overweight vehicle movements; consequently, it is important that they be trained and qualified” (Blakey, 2001, pg. 3). The NTSB recommended that the American Association of

Motor Vehicle Administrators, the California Professional Escort Car Association, the Texas Pilot Car Association, and the United Safety Car Association perform the following actions:

Work with the Federal Highway Administration to develop a model pilot car driver program. The training should address, at a minimum, issues such as (1) how to conduct route surveys; (2) the maneuvering limitations of heavy-haul vehicles; (3) the effects of fatigue on performance; (4) the need to assess the dangers at railroad crossings, particularly for low-clearance vehicles; and (5) the need and requirements to notify the railroads before an oversize/overweight vehicle is escorted across a highway/rail grade crossing. (Blakey, 2001, pg. 5)

Work with the Federal Highway Administration to develop model oversize/overweight vehicle movement guidelines. The guidelines should address, at a minimum, issues such as (1) when pilot cars and police escorts are required; (2) the training, testing, and certification of pilot car operators, police officers, and truck drivers in the movement of oversize/overweight loads; (3) the use of height poles and traffic controls; (4) how to conduct route surveys; (5) the maneuvering limitations of heavy haul vehicles; (6) the effects of fatigue on performance; (7) the need to assess the dangers at railroad crossings, particularly for low-clearance vehicles; and (8) the need and requirements to notify the railroads before an oversize/overweight vehicle is escorted across a highway/rail grade crossing. (Blakey, 2001, pg. 5)

2.4. Research and Innovative Technology Research

The Research and Innovative Technology Administration (RITA) coordinates the U.S. Department of Transportation's research and education programs, and it is working to bring advanced technologies into the transportation system. RITA also offers vital transportation statistics and analysis, and supports national efforts to improve education and training in transportation-related fields. RITA works to ensure that the nation's transportation research investments produce results for the American people.

In 1996 RITA published The U.S. Department of Transportation's *Accidents That Shouldn't Happen: A Report of the Grade Crossing Safety Task Force to Secretary Federico*. The report was authored by a task force charged to review the decision making process for designing, constructing, and operating rail-crossings. The report listed five safety problem areas for detailed examination. One of the five safety problem areas listed was special vehicle

operating permits and information. The report continues to say there has been little emphasis placed on escort training for railroad crossings. While there is a high rate of turnover for escort and commercial drivers, rail crossing education must be a continuing process. “While a state supported education program might not reach all available drivers, the training and testing through certification programs would certainly reach them” (Grade Crossing Safety Task Force, 1996, pg. 22). The Grade Crossing Safety Task Force listed the development of certification programs for escort drivers as a long-term recommendation to increase safety at railroad crossings.

CHAPTER THREE

DATA ANALYSIS

UTCA collected data on other state rules and regulations for escorting oversize vehicles. This section describes what was discovered.

3.1. Rules and Regulations

To help achieve reciprocity with other states, extensive research was done by UTCA personnel to compare Alabama and other southeastern states regulations with the Pilot Car Escort Training Manual: Best Practice Guidelines (Specialized Carrier & Rigging Association, 2003). UTCA and ALDOT personnel then worked together to recommend changes concerning pilot car operation in The Code of Alabama.

3.1.1. Southeastern States Rules and Regulations

Dr. Jay K. Lindly, PhD, P.E. and graduate students of The University of Alabama reviewed other southeastern state's pilot car rules and regulations. The workers compared dimensional requirements, safety equipment, escort requirements, and other information from southeastern states with the *Pilot Car Escort Training Manual: Best Practice Guidelines* (PCE) (2003) by the Federal Highway Administration, the Specialized Carrier & Rigging Association, and the Commercial Vehicle Safety Alliance. These comparisons were performed in 2008 and reflect the requirements at that time. Table 2 shows the comparison of current Alabama requirements with the PCE. Please refer to Appendix A for comparisons with Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

Table 2: Alabama Escort Requirements Comparison

	Alabama Escort Requirements	PCE Training
Height	Overall load height greater than 16ft requires 1 front escort with height pole	Load height greater than 14' 6" requires 1 front escort w/ vertical clearance measuring device
Width	Overall load width greater than 12ft requires 1 front & 1 rear escort, see notes 1 & 2	1)Load width greater than 12' requires one front escort (2 lane rd) 1 rear escort(multi lane rd) 2) Load width greater than 14' requires one front and one rear escort
Length	Overall load whose length is between 75ft and 105ft requires 1 rear escort	1)Load length greater than 90' requires one rear escort
	Overall load length greater than 105ft requires 1 front & 1 rear escort	2)Load length greater than 150' requires one front & one rear escort
Rear Overhang	Rear overhang greater than 5ft requires 1 rear escort, see note 3	
Front Overhang	Front overhang greater than 10ft requires 1 front escort, see note 3	
Bulldozer Blade Overhang	Minimum of 1escort	
Oversize Load Sign Required @	When Escort is required, front & rear bumper or roof mounting	Top mount visible from front & rear for 100 ft
Oversize Load Sign Size	7' x 18", Width is 48" or more	1' x 5'
Oversize Load Sign Lettering	Black Letters, 10" high x 2" wide black , 1.625" brush stroke, yellow or orange background	Black letters at least 10" w 1" brush stroke on yellow background
Flags	Red 18" square, displayed front & rear corners	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Lights	Amber flashing or revolving lights, roof mount only. Visible @ 1,000 ft. 120 degree visibility.	Top mount 2 or more high intensity amber flashing or rotating lights
	1)Two- 5' flashing amber lights mounted 6' from ground at rear corners of mobile homes. System controls in tractor cab w warning device for malfunction	visible for a full 360 degrees for at least 500 ft in daylight
Communication Equipment	Ability to communicate with oversize load driver or vehicles,CB or 2-way radio with at least ½ mile range	Permanently mounted operable CB radio & backup unit
Restricted Travel	Loads that are greater than 150' in length, are restricted to travel between 9am and 3pm, M-F in metro areas	
Railroad Crossings	Restricted to cross if traveling less than 10mph or clearance is less than 1/2" per ft of distance between	Include railroad crossing analysis in route survey
	2 adjacent axles or less than 9" clearance above the surface	Evaluate approach rise, descend slope, length of crossing

Table 2: Alabama Escort Requirements Comparison

	Alabama Escort Requirements	PCE Training
Pre Railroad Crossing	Stop not less than 15' nor greater than 50' from 1st track and check both ways	Evaluate and comply with advance railroad notification requirements
	Do not cross if warning signal or flagman is present until signaled	Evaluate approach & descend demographics
Escort Vehicle	Pickup truck or passenger vehicle, carryall or station wagon, Passenger vehicle or light truck under 10,000 lbs. GVW	Select vehicle to create maximum contrast in color & size to transport required equipment, affix required signage, lighting
Escort Vehicles Miscellaneous Equipments	Orange vest or jacket. Stop / Slow hand sign. 2 ea. 16" square hand flags.	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slow face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triangles or cones and two red flags
Distance		1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.
Mobile homes	1)Overall width greater than 12ft requires one front escort and 1 rear escort (rear escort may be replaced by additional lighting system.)	
	2)Overall length greater than 76-105ft requires one rear escort which may be replaced by an additional lighting system.	
	3)Two- 5" flashing amber lights mounted 6' from ground at rear corners of mobile homes	

Following the review, Dr. Lindly met with the Southeastern Association of State Highway and Transportation Officials (SASHTO) to discuss a potential “Regional Pilot Car Certification.” He presented recommended treatments for 15 variables that Southeastern states have concerning pilot cars and received recommendations in return from the SASHTO Multi-State Permit group. The product of his presentation would help develop the ALDOT program. Both Dr. Lindly’s and SASHTO’s recommendations can be seen in Appendix B. To date, SASHTO has taken no action concerning regional certification, but ALDOT hopes that its work in this area will stimulate renewed interest in regional certification.

3.1.2. The Code of Alabama

UTCA then studied The Code of Alabama to determine what needed to be modified to incorporate the SASHTO recommendations. The Code of Alabama (1975) Section 32-9 regulates motor vehicles and traffic. ALDOT and UTCA agreed to produce recommendations to update Alabama’s legislation to produce regulations that are more uniform with the southeastern states. Considering the recommended changes by the SASHTO Multi-State Permit group and in coordination with Mr. Randy Braden, Assistant Maintenance Bureau Chief of Permits and Operations at the Alabama Department of Transportation, the following changes were recommended:

- Allowing over width loads to travel on the Interstate.
- Increasing permitted load travel time from sunrise to sunset, instead of 30 minutes after sunrise to 30 minutes before sunset.
- Adding Memorial Day as a no travel holiday for permitted loads.
- Excluding special regulations for construction/off-road equipment.

- Requiring multiple assemblies to maintain a 500 foot interval between the last vehicle in the preceding assembly and the first vehicle of the following assembly, instead of a 500 foot interval between the permitted loads.
- Adding a clause requiring the permitted party to contact the Alabama Department of Transportation Permit Office for an alternate route if permitted route becomes inaccessible.
- Requiring an escort with a height indicator for loads over fourteen feet six inches instead of sixteen feet.
- Requiring loads 12'-14' wide to have one front escort on 2-lane roads and one rear escort on multilane roads and one front and one rear escort on all roads for loads over 14 feet wide. Previously all loads over 12 feet wide required a front and rear escort.
- Requiring mobile homes to have one front escort on 2-lane roads and one rear escort with approved lighting system for multi-lane roads instead of allowing the rear escort to be replaced with the approved lighting system.
- The approved lighting system now consists of rotating or strobe amber lights that are visible 360° instead of two 5' flashing amber lights mounted approximately 6 feet from the ground on the rear corners of the mobile home.
- Requiring rear escorts for lengths 90-150 feet inclusive instead of 76-105 feet.
- Requiring front and rear police escorts for loads over 150 feet instead of civilian escorts.
- Adding a clause allowing the Alabama Department of Transportation Permit Office to only require one police escort for some loads over 150 feet.
- Extending the rear overhang length from 5 feet to 10 feet for requiring a rear escort.

- Excluding special escort requirements for bulldozers and other construction equipment being transported with the blade intact.
- Adding that an escort vehicle must be a properly licensed vehicle and can be a sport utility vehicle. Carry alls and station wagons were excluded from the list of accepted vehicles.
- Adding that the escort vehicle must provide an unobstructed 360° view for safety.
- Requiring the escort vehicle to be equipped with two 18” square red flags mounted on the roof at 45° and two rotating or strobe amber lights that are visible 360° instead of no flags and just stating flashing or revolving lights.
- Requiring the escort vehicle’s light to be turned to low beam.
- Requiring an “OVERSIZE LOAD” sign be placed on the front and rear of any overwidth or overlength vehicle or combination of vehicles and loads.
- Requiring an “OVERSIZE LOAD” sign be mounted on the front of the escort vehicle (for a front escort) and on the rear of the escort vehicle (for rear escort).
- Adding the “OVERSIZE LOAD” sign should be five feet by twelve inches with black letters ten inches high with 1 1/2 inch brush stroke on a yellow background.
- Adding a clause stating front escorts should provide enough room between them and the load to be able to alert the load to stop and rear escorts should follow 3-4 seconds behind.

These recommended changes are currently under review by the Alabama Department of Transportation.

CHAPTER FOUR

METHODOLOGY & RESULTS

This chapter gives a detailed account of the steps involved in the selection and development of curriculum material. It includes sample pages from the instructor and participant manuals.

4.1. Alabama Rules and Regulations

Currently, The Code of Alabama does not require pilot car drivers to obtain a certification. ALDOT plans to add a clause requiring all drivers acting as an escort to be certified. The addition should also clarify the qualifications of other certification programs to be accepted in Alabama, along with a recommended minimum age for pilot car drivers and situations under which certification can be revoked.

4.2. Format Determination

Many states have reciprocity for pilot car certification with other states. Using various department of transportation websites and private contacts, UTCA compiled Table 3 listing states that require certification and further listing the other states with which they have reciprocity. New York and Virginia do not accept any other certifications. Colorado, Florida, Oklahoma, and Washington certifications are accepted in all states requiring a certification (with the exclusion of New York and Virginia).

Table 3: Certification Reciprocity

State	Acceptable Certifications
Arizona	Colorado, Florida, North Carolina, Oklahoma, Utah, Virginia, Washington
Colorado	Florida, Oklahoma, Utah, Washington
Florida	Arizona, Colorado, North Carolina, Oklahoma, Utah, Washington, Wisconsin
Kansas	All other states
New York	None
North Carolina	Arizona, Colorado, Florida, Kansas, New York, Oklahoma, Utah, Virginia, Washington
Oklahoma	Colorado, Florida, North Carolina, Utah, Virginia, Washington
Oregon	Arizona, Colorado, Florida, Kansas, North Carolina, New York, Oklahoma, Virginia, Washington
Utah	Colorado, Florida, Oklahoma, North Carolina, Washington
Virginia	None
Washington	Colorado, Florida, North Carolina, Oklahoma, Utah

Considering Florida’s large reciprocity, close physical relation with Alabama, and the program’s structure of using Florida University’s Florida Transportation Technology Center to manage the program, ALDOT and UTCA decided to use Florida’s certification program as a basis for Alabama’s. The format and verbiage of the two programs will be very similar, along with the structure of the class and the course examinations. This similarity should minimize confusion for instructors and students who may cross state lines.

4.3. Course Logistics

To provide the best training to the participants, ALDOT and UTCA developed guidelines for the implementation of the certification program. Training will consist of an eight-hour (one day) training course, and a minimum score of 80% on a written exam will be required to pass the course. Certification is proposed to be good for four years, and participants will be given a wallet card as proof of certification. Course logistics are described in the following sections.

4.3.1. Course Instructors

ALDOT and UTCA agreed that Alabama State Troopers are logical instructors for the course. They are already trained in safety and often have knowledge and experience with pilot car escorting. Currently, state troopers and escorts usually do not interact unless accidents occur or troopers hand out punishment for not obeying the law. Too often when the state troopers are involved with oversized vehicles, it is too late to prevent loss of money, time, or even life. The certification course can offer a bridge between the escort drivers and law enforcement. The troopers will also offer knowledge of current rules and regulations that a civilian instructor may not have. As part of its work, UTCA will execute individual contracts with Alabama State Troopers to teach the initial set of pilot car driver certification courses.

4.3.2. Course Availability

UTCA proposes teaching the first classes bi-monthly (six times a year) unless a need to increase or decrease the occurrence is observed. The bi-monthly spacing will allow for certification to be obtained relatively quickly, but not overburden the budget with recurring costs. Consideration should be given to the instructors and participants in regard to travel times. Courses should not be taught on holidays. The course should be offered on varying days of the week (including Saturday if possible) to allow for convenient scheduling.

4.3.3. Course Location

The Alabama Department of Transportation consists of nine divisions. Each division has conference rooms that can be utilized as class rooms. Due to the well-spaced locations of each division office, UTCA proposes to use these offices as classroom locations. UTCA recommends use of the centrally located divisions until a need is shown to use more remote divisions.

Division 3 (Birmingham) and Division 6 (Montgomery) are ideally located centrally in the state. When considering holding a course in south Alabama, consideration should be given to the availability and location of Florida pilot escort certification courses. UTCA should coordinate with the University of Florida's Transportation Technology Transfer Center on whether to offer simultaneous course dates or not.

4.3.4. Class Size

To maintain feasibility and maintain the quality of teacher-participant interaction, UTCA recommends a class size of 10-30 participants. The minimum of ten participants will allow the course to be self-sufficient. More than 30 participants could potentially be intimidating for participants and cause classroom management to be difficult. The course is designed to be interactive, and this size allows for optimal interaction.

4.3.5. Budget

A fee will be charged a fee for certification. The fee should be set to allow the program to be self-sufficient and should cover costs such as instructor's fees, class room rental (if applicable), production of student manuals, class room supplies, and testing materials. Other costs such as wallet card production, website maintenance, and administration support should also be included in the fee. Initial costs such as a laptop computer, projector, and projection screen should be considered as costs. This fee should also be set to be competitive with other programs.

4.3.6 Proof of Certification

To enforce certification requirement, a proof of certification must be carried by drivers. UTCA recommends that wallet cards be provided to all certified drivers. The card should include

name, date of birth, individual certification number, expiration date of certification, and a contact number for the Alabama Department of Transportation Permit Office. The wallet card should be made of a durable material or be laminated to prevent damage. Replacement cards should be available for the amount of production costs.

4.3.7. Course Evaluation

At the completion of each course, participants will be asked to complete an evaluation of the course. This evaluation will ask the participant to rate details such as classroom location, beginning and end time of course, session lengths, course material, instructor's performance and knowledge, and registrations process. The evaluations will be reviewed by UTCA staff, and appropriate actions will take place to improve the program. The evaluations will be anonymous, and participants will be asked to complete them after the examination.

4.4. Course Curriculum & Materials

The course curriculum consists of five instruction sessions plus testing time. Both instruction and testing will occur in an eight hour, one-day session. A multi-media presentation will be used by the instructors along with instructor's and participant's manuals. The course will be taught by Alabama State Troopers and will be held in ALDOT division offices.

4.4.1. Course Outline and Session Objectives

The five sessions and their objectives are listed below:

- Session 1: Introduction – The instructor will review the agenda and course objectives with participants, as well as set classroom rules. Participant introductions will be made to familiarize the instructor as well as the participants with the range of participant's experience. A pre-test will given at the conclusion of session 1.

- Session 2: The Escort Driver – By the end of this session, participants will be able to complete the following tasks:
 - List qualification options for escorting in Alabama
 - Describe recommended apparel
 - Demonstrate proper flagging procedures

Instructors will review The Code of Alabama for qualification options and recommended safety apparel. Responsibilities of escorts and their liability will be discussed. Flagging procedures from the Manual on Uniform Traffic Control Devices will be viewed and demonstrated by each participant. Each participant must demonstrate proper procedure to achieve certification.

- Session 3: The Escort Vehicle – By the end of this session, the participants will be able to complete the following tasks:
 - Describe escort vehicle specifications and required equipment
 - Discuss licensing and insurance

The instructor will list acceptable escort vehicle types, as well as the equipment on the inside and outside of the vehicle. If participants drive their escort vehicle to the course location, the instructor may inspect the escort vehicle and discuss possible violations and associated fees. Though commercial driver license status of the driver and minimum insurance for the escort vehicle is not required in Alabama, pros and cons of each will be discussed.

- Session 4: The Overdimensional Load – By the end of this session, participants will be able to complete the following tasks:
 - Describe the maneuvering limitations of over- height, width, and length loads

- Identify load stipulations that affect the escort driver
- Explain communication needs before, during, and after an escort job

Participants will learn when and how many escorts are needed for loads of particular dimensions (over- width, length, or height). Load stipulations, such as travel times and route surveys that affect escorts, will be discussed. These and other stipulations will be reviewed on an example permit. Pre- and post movement meetings will be explained.

- Session 5: Maneuvering Techniques – By the end of this session, participants will be able to complete the following tasks:
 - Illustrate safe maneuvering techniques for common road configurations
 - Explain procedure during emergency situations

Participants will separate into groups to diagram how an escort is to assist with a load maneuvering exercise in several different situations. Various emergency situations, such as breakdowns and clearance issues, and proper procedures during those circumstances will be discussed along with minimum travel and braking distances for the escorted load.

- Exam – The 50-question, closed book exam will be in English. All questions will be in multiple choice format. Most questions will be based on procedure and general knowledge, such as the responsibilities of the rear escort. The remaining questions will require specific knowledge, such as the load width at which an escort is required.

Participants will be dismissed after submittal of their test materials and evaluation, which must be completed within 120 minutes.

4.4.2. Course Agenda

The time line for the course is shown in Table 4: Course Agenda. Times marked with an asterisk (*) indicate the break time may be shortened at the discretion of the instructor due to varying discussion needs of participants and course size considerations.

Table 4: Course Agenda

Session 1	Introduction	8:00am	30 Minutes
Session 2	The Escort Driver	8:30am	60 Minutes
	Break	9:30am	15 Minutes*
Session 3	The Escort Vehicle	9:45am	45 Minutes
	Break	10:30am	15 Minutes*
Session 4	The Overdimensional Load	10:45am	60 Minutes
	Lunch	11:45am	60 Minutes
Session 5	Maneuvering Techniques	12:45am	90 Minutes
	Break – Study Time	2:15 pm	45 Minutes*
	Exam	3:00 pm	120 Minutes
	Dismissal	5:00 pm	

4.4.3. Presentation

Instructors will be supplied a multi-media presentation that corresponds with each session. The slides are designed to be simple while providing information and spurring conversation. When possible, real examples are used to illustrate proper or improper techniques. For example, a photograph will be shown of a overlength load that did not complete a turn successfully. The story will be told from the view point of the escort, and the instructor will lead a discussion of what went wrong. A discussion of how this particular situation could be avoided and the actions that should take place in a similar situation will then ensue. To help encourage participation, some words in the visual presentation are underlined. These words are missing from the participant's manual and should be filled in by the participants as the material is covered.

The presentation has 60 slides including introduction slides. Session 5: Maneuvering Techniques also includes a team activity that is described in the instructor's manual but not

included in the slides. The activity requires the participants to form teams and develop a plan of action for several different scenarios. Each team receives a different scenario. The team works on a potential plan and presents the plan to the class. An example scenario would be an overlength load making a left turn on a two-lane highway.

4.4.4. Instructor's Manual

The instructor's manual includes the course outline with session objectives as stated in section 4.4.1. Short descriptions of the course organization, class size and organization, target audience, goals and objectives, lesson plans, and agenda are also provided. The instructor's manual also contains additional material for most slides along with the background of the real examples. Some slides in the instructor's manual contain underlined words. The underlined words indicate a missing word from the participant's manual. During class, the participants will hand-write the missing words into their manuals. This technique is meant to keep the participants interested and engaged in the presentation. Appendix C of this thesis, Example of Instructor's Manual, shows typical pages of the instructor's manual. Supplemental material is also included in the instructor's manual and is discussed in Section 4.4.6.

4.4.5. Participant's Manual

The participant's manual includes everything the instructor's manual includes with the exception of the additional materials for the presentation and the words intended to be filled in by the participant. The presentation pages include space for note taking instead of the additional materials. Appendix D of this thesis, Example of Participant's Manual, shows typical pages of the Participant's Manual. Supplemental material described in section 4.4.6 is also included.

4.4.6. Supplemental Material

The supplemental material includes material the program is based upon. This material is intended to be a reference and not a source of teaching material. The supplemental material includes the following items:

- Resource Information (Phone Numbers and Websites of relevant organizations)
- Code of Federal Regulations related to Alabama escort regulations
- Code of Alabama §§ 35-9-1 through 32-9-32
- Example of After Action Report
- Manual on Uniform Traffic Control Devices Chapter 6E: Flagger Operations
- Permits & Pilot Escort Driver Requirements Contact List
- Alabama Pilot/Escort Flagging Training Pre-Test
- Answers to Participant's Manual Blanks

4.5. Program Website

The program website was under construction at the time this thesis was being written. A University of Alabama computer science student has been contracted to develop the website. UTCA will manage the website initially, and then it will be passed to ALDOT at the completion of the contract.

The website serves two main purposes: to manage course advertisement and enrollment and to provide a list of persons who have achieved certification. The website can be updated regarding course dates and locations. Registration will also be managed through the website, but payments will be mailed to UTCA during the duration of its contract. The website will have a private (username and password accessed) database listing all participants and whether they achieved certification or not. A public database will also be included and will include the names

of persons who have achieved certification and have agreed to have their name published.

Another private page will be available to instructors. This instructor's page will include the latest version of the course and any other announcements applicable only to instructors.

The website will be arranged in a six page format.

- Main Page:
 - Mission Statement
 - Enrollment Eligibility
 - Short Course Description
 - Dates and Locations of Upcoming Courses
- Frequently Asked Questions
 - Policies, etc.
 - Licensing in other states
- Contact Us
 - UTCA Contact Information
 - ALDOT Permit Office Contact Information
- Full Course Schedule
 - Dates & Locations
 - Course Agenda
- Course Registration
- Certified Escorts
 - Certified Escorts (Public)
 - All Participants with Results (Private)

CHAPTER FIVE

CONCLUSION

Overdimensional loads are a necessary factor of everyday life in the transportation world. Pilot car drivers hold the responsibility of warning the public of the oversize load while keeping both the public and the load safe. Pilot car drivers perform “a safety-sensitive function and are an integral component of many oversize/overweight vehicle movements; consequently, it is important that they be trained and qualified” (Blakey, 2001, pg. 3)

Currently, only eleven states require certification for pilot car drivers, and Alabama isn't one of them. The Alabama Department of Transportation contracted the University Transportation Center for Alabama to develop a certification program for Alabama. After performing research of existing certification programs, UTCA personnel decided to use Florida's program as a basis for its program. The resulting training course lasts one-day with a written examination at the conclusion of training. A minimum score of 80% correct on the examination and proper demonstration of flagging will merit certification. Wallet cards will be distributed as proof of certification, and a list of certified escorts will be maintained in a database. The course will be offered bi-monthly and will be taught by Alabama State Troopers. A class size of 10-30 participants will be desired. ALDOT division offices at six locations around the state will be used for classroom.

The course material will consists of a multi-media presentation, an instructor's manual, and a participant's manual. The manuals will contain paper copies of the presentation. The instructor's manual will have additional information regarding each slide, while the participant's

manual will have room to take notes. The participant's manual will also have blanks in the slides that will be filled in during the presentation. These blanks will promote participation during the presentation and hopefully spur conversation and discussions. The instructor's manual will have the answers to blanks included in the presentation. Supplemental material will be included in both manuals. The supplemental material will include state and federal rules and regulations the course is based on and helpful contact information.

The program's website will provide information about the course, dates, and locations for offerings of the course, and provide a place to register. This website will initially be managed by UTCA and then managed by ALDOT at the completion of the UTCA contract.

At the time of publication of this thesis, the course materials have been submitted to ALDOT for review. During finalization of all course materials, UTCA will execute contracts with state troopers to teach the course. Upon finalization of materials and contracts, a course schedule will be implemented. UTCA will manage the program until December 2011. At that time, all materials and responsibility will be transferred to ALDOT.

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Appendix – A
State Escort Requirements Comparison (2008)

Table 1: Florida Escort Requirements Comparison

	Florida Escort Requirements	PCE Training
Height	1)Overheight vehicle and/or load whose height is greater than 14' 6" and up to 16' requires 1 front escort vehicle with a vertical height indicator	
	2)Overheight vehicle and/or load whose height exceeds 16' requires 1 front&1 rear escort vehicles and height pole, a minimum of ine must be law enforcement. Appropriate utility personnel will also be required whenever the load will encounter low barriers, such as overhead structures, traffic signals, and low wires	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1)Overwidth vehicle and/or load whose width is greater than 12' and up to 14' requires min 1 escort vehicle. (See Note1)	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
	2)Overwidth vehicle and/or load whose width is greater than 14' and up to 16' requires 1 front& 1 rear escort vehicles	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
	3)Overwidth vehicle and/or load whose width exceeds 16' requires same as criteria for "Over 14 Feet up to 16 Feet" except movement will be restricted to local moves	
Length	1)Overlength vehicle and/or load whose length is greater than 80' and up to 95' requires warning lights on the top of the vehicle and the rear of the load.	
	2)Overlength vehicle and/or load whose length exceeds 95' requires escort vehicle(s),and warning lights on the top of the vehicle and the rear of load.	
	3)Truck tractor semi-trailers with three points of articulation are allowed up to 105 feet without an escort vehicle. (See note 2)	1) Load whose length exceeds 90ft requires 1 rear escort
Rear Overhang	When overhang exceeds 4 ft requires two red lamps and two red reflectors and on each side of the load shall be one red lamp visible from a distance of at least 500 ft	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
Front Overhang	When overhang exceeds 4 feet, a warning light is required on the top of the vehicle visible from a distance of at least 500 ft	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	1)All Escort vehicles shall display either a bumper mounted or a roof mounted (or may display both) sign, which must be visible from front and rear.	Sign shall be top mounted and visible from front & rear for 100 ft

Table 1: Florida Escort Requirements Comparison

	2)All vehicles or loads exceeding 10ft in width, exceeding legal length, or exceeding legal overhang must display two warning signs. Voids (holes) can be cut in warning signs for lights. One sign shall be fastened at the front of the power unit and the other at the rear of the towed unit or at the rear of the load. Signs must not cover any vehicle light or reflector.	
Oversize Load Sign Size	18" x 7'	1' x 5'
Oversize Load Sign Lettering	1) Black Letters, min 12" high, min 1.50" wide brush stroke, yellow background for load vehicle	
	2) Black letters min 10" high and 1.50" wide on yellow background for escort vehicle	Black letters at least 10" w 1" brush stroke on yellow background
Lights	1)All escort vehicles must be equipped with Class 2 amber warning lights	Top mount 2 or more high intensity amber flashing or rotating lights
	2)All vehicles or loads exceeding 10' in width or 14' 6" in height shall have warning lights. Lights shall be mounted at least one at the front and at least one at the rear of the load so as to be seen by approaching traffic at all distances between 500ft and 50ft under clear atmospheric conditions.	
	3)When overhang exceeds 4 ft requires two red lamps and two red reflectors and on each side of the load shall be one red lamp visible from a distance of at least 500 ft	
	4)Overlength vehicle and/or load whose length exceeds 80' requires warning lights on the top of the vehicle and the rear of load.	
Communication Equipment	Operable two-way electronic communications. Qualified escorts must be in radio contact with load drivers at all times during movements.	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	Escort vehicle(s) must be a single unit vehicle weighing more than 2,000 pounds with a manufacturer's gross vehicle weight rating less than 15,000 pounds, must be properly licensed, and must be operated by a qualified escort	Select vehicle to create maximum contrast in color & size Size to transport required equipment, affix required signage, lighting

Table 1: Florida Escort Requirements Comparison

Flags	1)Escort vehicle(s) shall have two flags, either red or fluorescent orange in color, which must be at least 12"x 12", shall be mounted at approximately a 40 to 70 degree angle on the escort vehicle's roof rack.	
	2)Overwidth vehicle and/or load whose width is less than 10' requires only flags and up to 16' requires flags, and warning lights	
	3)Flags shall be clean, have high visibility, and be displayed so as to wave freely on four corners of over width loads and at the extreme ends of all protrusions, projections, or overhangs	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	Identification signs or placards showing the name of the company or the owner or driver of the escort vehicle must be in a conspicuous place on both the right and left sides of the escort vehicle. The signs or placards shall be at least 8 in x 12 in, or contain the equivalent square inches, and shall also contain the telephone number of the owner or driver plainly legible and visible to the motoring public.	
Escort Vehicles Miscellaneous Equipments	Two 5-lb. fire extinguishers, "STOP" and "GO" or "STOP" and "SLOW" paddle (minimum 18 inches in diameter with 6 inch high letters), one hand-held flag (either red or fluorescent orange in color and at least 12" x 12"), two oversize banners, safety orange vest, shirt, or jacket, hard hat, 3 reflective triangles or 18 inch traffic cones, height indicator, i.e., height pole for over height loads	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	Qualified escorts shall operate no more than 300 ft in front of or behind the load unless road conditions dictate otherwise.	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.

Table 1: Florida Escort Requirements Comparison

<p>Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools</p>	<p>1)All manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools, over 12ft up to 16ft requires min 1 escort and min 4 warning lights mounted two in the front and two in the rear at each corner of the towed or hauled unit.</p>	
<p>Travel Restrictions</p>	<p>Unless otherwise noted on the permit, movements are prohibited on weekends and holidays</p>	
	<p>1)No travel is allowed when road conditions, weather conditions, or horizontal visibility is less than 1,000 feet. Vehicles which are underway when inclement weather occurs must exit the road at the first available safe location and park in a safe place until the weather clears or until road conditions improve.</p>	
	<p>2)Width up to 10', length of 65'-80', front overhang of 3'-9' on total length up to 40', front overhang over 9' on total length up to 50' and height up to 14'6" Movement permitted all days, all hours</p>	
	<p>3)Overall width between 12'-16' may be restricted in congested areas during peak traffic hours</p>	
	<p>4)Movement of empty truck tractor semi-trailers up to 11 feet in width, not exceeding 105 feet in length, traveling on or within five miles of limited access roadways, when operating with a valid permit will be allowed to travel nighttime hours</p>	

1)On roadway lanes less than 12ft wide, bridges with less than 30ft curb to curb, and in rural areas with traffic volume greater than 12,000 Average Daily Traffic (hereinafter ADT) per lane or in urbanized areas (more than 50,000 population) with ADT greater than 8,000 vehicles per lane, 2 qualified escorts are required except on loads with a minimum of four warning lights mounted two in front and two in the rear at each corner of the towed or hauled unit

2)Movement over 85 feet shall have time restrictions in areas with traffic volume greater than 12,000 ADT per lane or in urbanized areas (more than 50,000 population) with ADT greater than 8,000 vehicles per lane.

Table 2: Georgia Escort Requirements Comparison

Criteria	GA Escort Requirements	PCE Training
Height	Overheight vehicle and/or load whose height is 15ft 6" or greater requires 1 front escort with Height Sensor, unless the hauler has a valid ticket from the Utility Protection Center	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1)Overwidth vehicle and/or load whose width is between 12ft and 14' 8" requires 1 front escort and amber lights on the rear of the load vehicle on a 2 lane road; only 1 rear escort on a multi lane road; and 1rear amber light on a limited access highway.	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road.
	2)Overwidth vehicle and/or load whose width is between 14' 8" and 16' requires 1 front & 1 rear escort on 2 lane road; only 1 rear escort on a multi lane road, or on a limited access highway	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
	3)Overwidth vehicle and/or load whose width exceeds 16', the Department shall determine escort requirements on a case by case basis and may require a Police Escort	
Length	1)Overlength vehicle and/or load whose length is between 75"ft and 100' requires amber light on the load vehicle	1) Load whose length exceeds 90ft requires 1 rear escort
	2) Overlength vehicle and/or load whose length is between 100' and 125' requires 1 rear escort	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
	3)Overlength vehicle and/or load whose length exceeds 125' requires 1 front & 1 rear escorts.	
Rear Overhang	No information	
Front Overhang	No information	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	1) Sign shall be mounted on the front of the escort vehicle (for a front escort) and to the rear of the escort vehicle (for a rear escort)	Sign shall be top mounted and visible from front & rear for 100 ft
	2) Sign shall be mounted on both front & rear of the vehicle or load which is over 8' 6" wide, 13' 6" high and 100' in length. Such signs shall be removed when an oversize load is no longer being transported by a vehicle that exceeds the legal dimensions.	
Oversize Load Sign Size	1' x 6'	1' x 5'
Oversize Load Sign Lettering	Black Letters, 8" high, 4" wide, on orange or yellow background	Black letters at least 10" w 1" brush stroke on yellow background
Lights	Revolving or flashing amber warning light on top of the vehicle	Top mount 2 or more high intensity amber flashing or rotating lights
		visible for a full 360 degrees for at least 500 ft in daylight

Table 2: Georgia Escort Requirements Comparison

Communication Equipment	Escort vehicle and load vehicles will be equipped with 2-way constant radio, in good working order	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	Automobile or pickup truck	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	A red square 18" flag, on a side, shall be displayed at the corners (both side corners front & rear) of a vehicle or load which is over 8'6" wide, 13'6" high and 100' in length.	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	No information	
Escort Vehicles Miscellaneous Equipments	No information	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	No information	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.

Table 2: Georgia Escort Requirements Comparison

Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	No information	
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Table 3: Kentucky Escort Requirements Comparison

Criteria	Kentucky Escort Requirements	PCE Training
Height	The max. height for each single-trip overdimensional permit shall be determined by the cabinet, based upon underpass and bridge heights along the designated route.	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1)Overwidth vehicle and/or load whose width is between 10' 6" and 12ft requires 1 front escort on 2 lane road	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road.
	2)Overwidth vehicle and/or load whose width is between 12ft and 14ft requires 1 front&1 rear escorts on 2 lane road; and only 1 rear escort on multi lane road	
	3)Overwidth vehicle and/or load whose width is between 14ft and 16ft requires 1 front and 1 rear escort.	
	4)If over 16ft requires 1 front and 2 rear escorts.	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
Length	1)Overlength vehicle and/or load whose length is between 75ft and 85ft requires 1 front escort on 2 lane road	1) Load whose length exceeds 90ft requires 1 rear escort
	2)Overlength vehicle and/or load whose length exceeds 85ft requires 1 front&1 rear escorts on 2 lane road	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
	3) Overlength vehicle and/or load whose length is between 110ft and 120 ft requires 1 rear escort on multilane road	
	4)Overlength vehicle and/or load whose length exceeds 120ft requires 1 front&1 rear escorts on multilane road	
Rear Overhang	Overhang exceeding 10ft in rear requires an escort.	
Front Overhang	Maximum 10ft front overhang	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	A vehicle exceeding 10' 6" in width or having front overhang shall display 2 warning signs which shall be mounted at the front of the power unit and the rearend of the towed unit or at the rear of the load.	Sign shall be top mounted and visible from front & rear for 100 ft
Oversize Load Sign Size	7' x 18"	1' x 5'
Oversize Load Sign Lettering	Black Letters, 1.4" brush stroke, yellow background	Black letters at least 10" w 1" brush stroke on yellow background
Lights	1)Amber strobe lights or flashing light on the escort vehicle	Top mount 2 or more high intensity amber flashing or rotating lights
	2) Escort vehicle shall keep its headlamps lit at all times the vehicle is on or beside a highway	visible for a full 360 degrees for at least 500 ft in daylight

Table 3: Kentucky Escort Requirements Comparison

	3)If the front overhang exceeds 10ft, an amber strobe or flashing light shall be placed on the power unit of the towing vehicle and shall be in use any time the power unit is in operation. (See the same remark in criteria "Front Overhang")	
Communication Equipment	The towing vehicle shall maintain radio contact with each required escort vehicle.	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	No information	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	1)Red or orange fluorescent flags which are a minimum of eighteen (18) inches square shall be displayed on each vehicle and load operating under the auspices of either an overlength or an overwidth permit.	Top mount 2 or more red or orange 18" square flags @ 45 degrees
	2) Vehicles operating overwidth shall display four warning flags; one at each of the four corners, and if any portion of the load extends beyond the four corners, additional flags shall be displayed at the widest points of the load.	
	3) Vehicles operating overlength or with a rearend overhang shall display two warning flags at the extreme rear of the vehicle or load. These flags shall be located to indicate maximum width of the rearend	
Escort Identification	Post appropriate signs on the vehicle.	
Escort Vehicles Miscellaneous Equipments	As a special provision of the permit, the Department of Vehicle Regulation may require additional escort vehicles, lighting or warning flags.	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	1)Required escort vehicles shall accompany the overdimensional vehicle at a distance of 300 feet on open highways	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load

Table 3: Kentucky Escort Requirements Comparison

	2) In cities or congested areas, the escort vehicle shall travel at a distance closer than 300 feet as necessary to protect other traffic.	2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.
Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	1)A manufactured home with a combined length of manufactured home and towing vehicle greater than 120 feet shall not be towed upon any Kentucky highway. The manufactured home shall not exceed eighty-five (85) feet in length	
	2)House moving permits shall not be issued unless the movement is done during off-peak hours when other traffic will be least affected.The mover shall be required to furnish all escorts and flagmen required in the interest of public safety.	
Speed	1)Load traveling below the average speed of traffic on a 2 lane road requires 1 rear escort.	
	2)Loads that do not maintain 45mph on a multilane road require 1 rear escort	
Travel Restriction	1)The department may further prohibit movements in congested areas within the peak traffic hours. The additional restrictions shall be noted on the permit when issued.	
	2)House moving shall be done during off-peak hours when other traffic will be least affected	
	3)Travel on all overweight and overdimensional permits shall not be permitted in Boone, Kenton, Campbell, Fayette, Jefferson County (Louisville) or at the Owensboro, Kentucky 2155 bridge from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m. Monday through Friday.	
	4)Moves of overdimensional loads more than twelve (12) feet wide shall not be made on any highway if wind velocity exceeds twenty-five (25) MPH; or if adverse weather conditions or road conditions would cause these moves to be dangerous.	

As a special provision of the permit, the Department of Vehicle Regulation may require additional escort vehicles, lighting or warning flags.

Table 4: Mississippi Escort Requirements Comparison

Criteria	Mississippi Escort Requirements	PCE Training
Height	No information	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1)Overwidth vehicle and/or load whose width is between 12ft and 16ft, 1 front escort and flashing amber lights mounted on the rear of the load is required on 2 lane road; 1 rear escort and flashing amber lights mounted on the rear of the load (multi lane road)	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
		2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
Length	Overlength vehicle and/or load whose length exceeds 99ft requires at least 1escort; escorts may be increased to front and rear according to routes and or loads.	1) Load whose length exceeds 90ft requires 1 rear escort
	No information	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
Rear Overhang	Load vehicle with an overhang of 15ft or greater requires 1 rear and/or 1 front escort depending on the location of the overhang(s)	
Front Overhang		
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	1)Sign shall be mounted on top of the vehicle and mounted on front and back of rear escort vehicles.	Sign shall be top mounted and visible from front & rear for 100 ft
	2) If the escort vehicle travels from front tp back of load, escort must have an Oversize Load sign on front and rear of escort vehicle	
	3) Sign is required on all loads in excess of 12ft.	
	4) Eart Moving Equipment must have "Wide Load" signs on each unit and each escort vehicle.	
Oversize Load Sign Size	84" x 18"	1' x 5'
Oversize Load Sign Lettering	Black Letters, 10" high with 1.625" brush stroke on yellow or orange background	Black letters at least 10" w 1" brush stroke on yellow background
Lights	1)Amber flashing or revolving lights mounted on the top of escort vehicle	Top mount 2 or more high intensity amber flashing or rotating lights
	2)Load exceeding 10ft in width, towing vehicles, escorts, and trailers shall operate all legally required running lights including headlights	visible for a full 360 degrees for at least 500 ft in daylight
	3)Earth Moving Equipment must have flashing amber lights	
Communication Equipment	Two way communication required on all loads requiring escorts.	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	

Table 4: Mississippi Escort Requirements Comparison

Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	A single motor vehicle with flashing or revolving lights and 2 red flags	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	1) Two (2) Red 18" square flags, displayed on top of the vehicle.	Top mount 2 or more red or orange 18" square flags @ 45 degrees
	2) Loads between 10ft and 12ft in width requires the use of only red flags mounted on all corners of the load, at least 6ft above the pavement	
	3) Loads exceeding 12ft in width must display red flags on the front corners of loads and mount flashing amber lights on rear corners	
Escort Identification	No information	
Escort Vehicles Miscellaneous Equipments	No information	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	No information	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.
Manufactured buildings, manufactured homes, mobile homes, modular buildings,	1)Earth moving equipment, motor cane and/or off-road self-powered equipment, and manufactured homes require escorts with a height pole and/or additional escorts due to particular loads and/or routes	
	2)Earth Moving Equipment must have escorts 1 front& 1 rear, flashing amber lights, on load and radio contact with all units. Must have " Wide Load" signs on each escort vehicle.	

Table 4: Mississippi Escort Requirements Comparison

sheds, and swimming pools	3) MDOT can require additional escorts for safety measures as deemed advisable due to particular loads and/or routes for manufactured homes.	
Speed	Must be able to travel with flow of traffic	
Time Restrictions	Monday through Saturday from 30 minutes after sun-rise to 30 minutes before sun-set unless otherwise specified on the blanket	
	1)57 foot box van trailers, which are otherwise legal, are allowed seven day twenty four hour movement with a blanket permit	
	2)Sealed containers which are allowed seven day twenty four hour movement with a permit	
	3)Transports of loads in excess of twelve (12) feet shall time movements to avoid the major urban areas of Jackson, Memphis/Southaven and the Gulf Coast (excluding I-10) from 7:00 am to 8:30 am and from 4:30 pm to 5:30 pm	

Vehicles will need only flags if Vehicle total length is equal or less than 99ft and trailer, itself, is equal or less than 53 ft.

Table 5: North Carolina Escort Requirements Comparison

Criteria	North Carolina Escort Requirements	PCE Training
Height	Overheight vehicle and/or load whose height exceeds 14'5" requires 1 front escort with 'Height Pole Indicator'.	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	Overwidth vehicle and/or load whose width exceeds 12ft requires 1 front escort on a 2 lane/2 way traffic highways; and only 1 rear escort on a multi lane road.	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road.
	Loads whose width exceeds 14ft requires 2 escorts on 2 lane/2way highways.	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
Length	1) Overlength vehicle and/or load whose length is between 110' and 150' requires 1 rear escort	1) Load whose length exceeds 90ft requires 1 rear escort
	2)Overlength vehicle and/or load whose length exceeds 150' requires 1 front & 1 rear escorts.	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
	3) Overlength vehicle and/or load whose length exceeds 100' and whose weight exceeds 132,000lbs requires 1 rear escort. (See the same remark in "Weight" criteria)	
Rear Overhang	Excessive overhang requires 1 escort	
Front Overhang	Excessive overhang requires 1 escort	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	Sign shall be mounted on bumper or roof. ("WIDE LOAD" OR "OVERSIZE LOAD")	Sign shall be top mounted and visible from front & rear for 100 ft
Oversize Load Sign Size	Sign is required to extend the entire width of the escort vehicle or bumper.	1' x 5'
Oversize Load Sign Lettering	Black Letters, 10" x 1.5" brush stroke lettering, yellow background, visible from the front or rear as required by location of the escort vehicle.	Black letters at least 10" w 1" brush stroke on yellow background
Lights	1)Flashing amber lights - rotating sealed beam or strobe light, min 5" diameter base/min 4" lens height to be mounted on the top of the escort vehicle	Top mount 2 or more high intensity amber flashing or rotating lights
	2) Headlamps must be running during movement	visible for a full 360 degrees for at least 500 ft in daylight
Communication Equipment	2-way radio contact must be maintained with power unit of permitted load.	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey

Table 5: North Carolina Escort Requirements Comparison

		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	A truck (single vehicle) at least 1/4 ton rated load capacity but no more than 17,000 pounds GVWR or a single passenger vehicle at least 2000 pounds gross weight.	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	No information	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	1)Escort vehicles must display placards or identification signs measuring at least 8"x12" providing escort company's or individual's name, address and telephone number. Display on the right and left side of the escort vehicle.	
	2)Escort vehicle operators must carry their certificate card while escorting a permitted load. No driver or passenger other than a certified escort vehicle operator will be allowed to travel in the escort vehicle.	
Escort Vehicles Miscellaneous Equipments	No information	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	Escort vehicles shall accompany the overdimensional vehicle at a distance of 300ft to 500ft whichever is appropriate for the geographic location	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.

Table 5: North Carolina Escort Requirements Comparison

Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	<p><u>The requirements for vehicles escorting 16' wide mobile homes are different than those indicated above, reference publication MH-2.</u></p>	
Weight	1) Overlength vehicle and/or load whose length exceeds 100' and whose weight exceeds 132,000lbs requires 1 rear escort. (See the same remark in "Length" criteria)	
	2) Load whose weight of 150,000lbs or greater requires 1 front escort.	

Multiple escorts may be required for a combination of over dimensions.

Additional escorts may be required for any vehicle/vehicle combination with individual consideration of width, length, height, weather, geographic location or route of travel as determined by issuing agent.

Table 6: South Carolina Escort Requirements Comparison

Criteria	South Carolina Escort Requirements	PCE Training
Height	Overheight vehicle and/or load whose height exceeds 16' requires 1 front escort with height measuring device	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width (See Note 1&2)	1)Overwidth vehicle and/or load whose width is between 12'1 and 14' requires 1 front escort vehicle on 2 lane road, the Department reserves the right to require a rear escort where it is deemed necessary for safety purposes.	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
	2)Overwidth vehicle and/or load whose width is between 14' 1 and 16' requires 1 front&1rear escort vehicles	
	3)Overwidth vehicle and/or load whose width exceeds 16' requires at least 1front&1rear civilian and 1 rear police escort vehicles	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
Length	Overlength vehicle and/or load whose length exceeds 125' require 1 front and 1 rear civilian escort	1) Load whose length exceeds 90ft requires 1 rear escort
Rear Overhang	Loads on expandable or pole trailers with more than a six (6) foot rear overhang shall be equipped with flags and a rotating amber beacon or strobe light on the rear of the load or flags and a rear escort with such warning devices as may be required by the Department. Overhang that exceeds 15 feet require one rear escort for interstate routes and one front and rear for intra state routes.	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
Front Overhang	No information	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	All Escort vehicles are required to mount to sign reading "WIDE LOAD" or "OVERSIZE LOAD" on the front of the front escort vehicle and on the rear of the rear escort vehicle, on front and rear of all loads and mobile homes 12 ft wide and wider	Sign shall be top mounted and visible from front & rear for 100 ft
Oversize Load Sign Size	No information	1' x 5'
Oversize Load Sign Lettering	12" high and 1.5" wide letters on all loads and mobile homes 12 ft wide or wider	Black letters at least 10" w 1" brush stroke on yellow background
Lights	A rotating amber beacon or strobe light must be displayed on top of all escort vehicles	Top mount 2 or more high intensity amber flashing or rotating lights
	1)Rotating amber beacon or strobe light on the rear of the mobile home or load 12'-14- in width	
	2)Rotating amber beacon or strobe light on each outer rear corner of all loads or mobile homes over 14ft wide up including 16 ft wide.	

Table 6: South Carolina Escort Requirements Comparison

Communication Equipment	Radio contact between the escort vehicles and the towing vehicles at all times	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	must comply with SC Code of Law 56-5-2725	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	No information	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Escort Identification	No information	
Flags	Red flags must be displayed at each outer four corners of the load or mobile home exceeding 12ft in width	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	No information	
Escort Vehicles Miscellaneous Equipments	No information	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slw face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triagles or cones and two red flags
Distance	No information	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
	No information	2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.

Table 6: South Carolina Escort Requirements Comparison

<p>Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools</p>	<p>The maximum speed on the Interstate highways of this State for a new mobile home shall be 10mph less than posted, not to exceed 55mph. All other mobile homes are not to exceed 45mph. Loads shall not exceed 55mph on the Interstate.</p>	
<p>Time Restrictions</p>	<p>Travel shall be made between one-half (1/2) hour after sunrise to one-half (1/2) hour before sunset Monday through Saturday.</p>	
	<p>1)No movement shall be allowed during inclement weather such as heavy rain or fog when visibility is restricted to less than 1,000 feet. Movement shall also be prohibited during periods of high winds or when highways are slippery or hazardous due to ice, snow or sleet. The South Carolina Department of Public Safety Transport Police may direct or escort a vehicle off the highway to a place of safety</p>	
	<p>2)No loads or mobile homes over 12 feet wide up to and including 14 feet box width plus a maximum 12 inches top overhang for mobile homes and 15 feet wide for all other loads are to move over the States highways in and in close proximity of large urban areas between the hours of 7:00 and 9:00 A.M. or 3:00 and 6:00 P.M. during school days or 7:00 and 9:00 A.M. or 4:30 and 6:00 P.M. other days</p>	
<p>3)All loads over 15 feet wide and mobile homes over 14 feet box width up to and including 16 feet wide must be moved Monday through Saturday between the hours of 9:00 A.M. and 3:00 P.M. during school days and 9:00 A.M. and 4:00 P.M. other days</p>		

1)All loads and mobile homes over 14 feet wide up to and including 16 feet wide must travel on four-lane highways. Travel on two-lane highways will be restricted to 12 foot wide or wider lane width where possible

2)All loads or mobile homes over 14 feet wide up to and including 16 feet wide must be the only vehicle on any bridge that is 18 feet wide or less.

Table 7: Tennessee Escort Requirement Comparison

	Tennessee Escort Requirements	PCE Training
	Overheight vehicle and/or loads whose height exceeds 15' require 1 front vehicle with height indicator pole.	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width (See note1&2)	1)Overwidth vehicle and/or load whose width is between 10' and 12' 6" requires no escort vehicle on four-lane highways and 1 front escort vehicle where the min pavement width is less than 24' on 2 lane road	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
	2)Overwidth vehicle and/or load whose width is between 12' 6" and 14' requires 1 rear escort vehicle on four-lane highways and 1 front escort vehicle on two-lane highways	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
	3)Overwidth vehicle and/or load whose width is between 14' and 16' requires 1 front & 1 rear escort vehicles on all highways	
Length	1)Overlength vehicle and/or load whose length is between 85' and 120' requires 1rear escort vehicle	1) Load whose length exceeds 90ft requires 1 rear escort
	2)Overlength vehicle and/or load whose length exceeds 120' requires 1 front&1rear escort vehicles	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
Rear Overhang	No information	
Front Overhang	No information	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	1)All movement exceeding 10 ft in width and/or seventy-five (75) feet in length shall bear signs mounted on the front and the rear of the load.	Sign shall be top mounted and visible from front & rear for 100 ft
	2) Signs shall be durable wood or metal construction. Heavy canvas or cloth signs, otherwise meeting same requirements, will be permitted if they can be securely fastened to the movement against a flat surface backing up the entire area of the sign.	
	3)Overwidth vehicle and/or load whose width is between 10' and 16' requires load vehicle and escort vehicles be signed with "OVERSIZE LOAD"	
	4)Escort vehicles shall display bumper mounted or roof mounted yellow sign(s) reading "OVERSIZE LOAD" with black letters a minimum of 10" high, one and 1.5" wide brush stroke, which must be visible from front and rear.	
Oversize Load Sign Size	7' x 18"	1' x 5'
Oversize Load Sign Lettering	Black Letters, 10" high with 1.625" brush stroke on yellow background, durable woog or metal construction for load vehicle	Black letters at least 10" w 1" brush stroke on yellow background

Table 7: Tennessee Escort Requirement Comparison

Lights	1)All escort vehicles must be equipped with a rotating amber light or a strobe type amber light which is visible from at least 500 feet and has a horizontal placement which shall be visible from all directions, 360 degrees.	Top mount 2 or more high intensity amber flashing or rotating lights
	2)Any motor vehicle having a load or vehicle component which extends more than 4” beyond the sides of the vehicle or more than 4’ beyond the rear of the vehicle shall have a red flag and a lamp at each point.(See same remark in the 'Flags' criteria)	visible for a full 360 degrees for at least 500 ft in daylight
Communication Equipment	Two way communication device with the permitted load	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	The escort vehicle must be a vehicle weighing more than 2,000 pounds with a manufacturer’s gross vehicle weight rating less than 10,000 pounds and must be properly licensed, which is to be used to escort one or more other vehicles, when required, due to the vehicle(s) size or character or load, in accordance with the conditions set forth in a permit is used by the appropriate state agency.	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	A solid red, min 18" square flag	Top mount 2 or more red or orange 18" square flags @ 45 degrees
	1)Red flags shall be fastened to the load (front and rear) at the top and bottom of each side which is widest.If the widest part of the load is between the top and the bottom, flags shall be placed at this point both front and rear.	
	2)Any motor vehicle having a load or vehicle component which extends more than 4” beyond the sides of the vehicle or more than 4’ beyond the rear of the vehicle shall have a red flag and a lamp at each point. (See same remark in the 'lights' criteria)	
	3) Flags must be fastened to extreme rear of overlength loads.	
	4)Two flags, either red or fluorescent orange in color, which must be at least 18” in size, shall be mounted at approximately a 40 to 70 degree angle on the escort vehicle’s roof rack	

Table 7: Tennessee Escort Requirement Comparison

Escort Identification	Identification signs or placards showing the name of the company or the owner or driver of the escort vehicle must be in a conspicuous place on both the right and left sides. The signs or placards shall be at least 8" x 12" and shall also contain the telephone number of the owner or driver plainly legible and visible to the motoring public	
Escort Vehicles Miscellaneous Equipments	2lbs fire extinguisher; stop and go paddle (18" with 6" letters); safety orange vest, shirt, or jacket; hard hat; reflecting triangles or 18" traffic cones	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slow face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triangles or cones and two red flags
Distance	No information	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the oversized load
	No information	2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the oversized load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.
Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	1)All proposed site-built house movements over state highways shall be inspected by a representative of the Department within that region.	
	2)1 front & 1 rear escort vehicles which are marked with "OVERSIZE LOAD" shall be required for movement of Site-Built Houses	
	3)Mobile home, based on its height and width, may be met by the use of a front escort vehicle having protrusions equal to the height and width of the mobile home.	
	4)Overwidth vehicle and/or load whose width is between 12' 6" and 14' requires 1 rear escort vehicle on four-lane highways and 1 front escort vehicle on two-lane highways which is marked with "OVERSIZE LOAD"	
	5)Overwidth vehicle and/or load whose width is between 14' and 16' requires 1 front & 1 rear escort vehicles which are marked with "OVERSIZE LOAD" on all highways	
	6)Overwidth vehicle and/or load whose width is between 16' and 17' requires 1 front & 1 rear escort vehicles which are marked with "OVERSIZE LOAD" on all highways	

Table 7: Tennessee Escort Requirement Comparison

	7)Overwidth vehicle and/or load whose width is between 17' and 18' requires 2 front & 1 rear escort vehicles which are marked with "OVERSIZE LOAD" on all highways, the towing vehicle must be at least 14' 6" in length	
Travel Restrictions	Permits will normally be issued for movements during daylight hours only from sunrise to sunset on Monday through Saturday. Time of movement may be restricted upon, among other things, type of load, traffic volume, roadway conditions, and route of move.	
	1)Movement under special permit will not be allowed during inclement weather when conditions prevail which would make the movement unsafe.	
	2)Movements eight-five feet (85') or greater in length and/or movements in excess of twelve feet six inches (12'6") in width will not be allowed within any city limits or any heavily traveled adjoining commercial or residential area between the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. (local time) from Monday through Friday.	
	3) Houseboat movements over 14'-16' shall only be made Monday through Friday between the hours of 9:00 a.m. to 4:00p.m. (local time) on Saturday from sunrise to sunset	
	4)Houseboat movements over 16' may be issued special permits for movements Tuesday, Wednesday, and Thursday between the hours of 9:00 a.m. to 4:00 p.m. (local time)	
	5)All vehicles permitted for movement of overweight sealed containerized units are authorized 24 hours continuous movement Monday through Sunday with normal travel conditions.	

1)The permitted vehicle shall follow the escort vehicle at such a distance and at such a speed as will permit stopping on receipt of advice that any vertical clearance is less than the height of the permitted vehicle.

2) Movements in excess of sixteen feet (16') will not be permitted. A movement needed in the interest of the public welfare, safety, health or defense may be permitted upon submission of proof of necessity, provided the movement is not considered to be detrimental or unsafe to the traveling public and the highway can accommodate the movement.

Table 8: Virginia Escort Requirements Comparison

Criteria	Virginia Escort Requirements	PCE Training
Height	1) Overheight vehicle and/or load whose height exceeds 15ft requires 1 front escort vehicle equipped with a hot-pole. The hot-pole must extend three inches above the specified overall height of the permitted load.	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1) Loads whose width exceeds 12ft requires 1 front certified escort on all highways.	1) Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
	2) Loads exceeding 14' in width must have certified escort on all roads.	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
Length	Overlength vehicle whose length exceeds 85ft requires 1 rear escort required	1) Load whose length exceeds 90ft requires 1 rear escort
Rear Overhang	Escort required on all routes - 15 ft or greater	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
Front Overhang	Front escort required on all roads when exceeding 10 feet of front overhang	
Bulldozer Blade Overhang	12ft wide or less can remain attached to bulldozer. Blade must face to rear of the trailer.	
Oversize Load Sign Required @	"Wide Load", "Oversize Load", "Overdimensional Load" or "Overweight Load" displayed on the vehicle and visible to approaching motorists during day and night.	Sign shall be top mounted and visible from front & rear for 100 ft
Oversize Load Sign Size		1' x 5'
Oversize Load Sign Lettering		Black letters at least 10" w 1" brush stroke on yellow background
Lights	1) At least one amber high-intensity flashing, blinking or alternating light must be located on top of the escort vehicle. The light must be visible for a distance of 500 feet or more.	Top mount 2 or more high intensity amber flashing or rotating lights
	2) High intensity amber flashing lights must be used on any vehicle operating when either the vehicle or the load is more than 12 feet wide or more than 75 feet long. However, an overdimensional vehicle does not need amber lights if it is accompanied by escort vehicles with amber flashing lights mounted on the top of each escort vehicle.	
	3) The escort vehicle's headlights and any other steady burning exterior light must be turned on while escorting an overweight or oversize vehicle	
	4) One amber flashing light must be located on top of the towing vehicle plus one amber flashing light must be located on the upper rear of vehicle or load being hauled, towed or self-propelled.	

Table 8: Virginia Escort Requirements Comparison

Communication Equipment	Two-way radio and maintain communication with the permitted vehicle driver and any other escort vehicles in the convoy.	Permanently mounted operable CB radio & backup unit
Restricted Travel	Case by case. Contained within the body of the permit	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	No information	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	Red or highly fluorescent orange flags must be displayed at each of the four corners of any vehicle configuration that is overlength. Flags must be placed at the extremes of the width or length. Flags must be 18" square and in good condition.	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	Certification required to be on person and required when escorting loads > 12' in width.	
Escort Vehicles Miscellaneous Equipments	1)The escort vehicle's headlights and any other steady burning exterior light must be turned on while escorting an overweight or oversize vehicle.	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slow face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triangles or cones and two red flags
	2)A red or any highly visible fluorescent colored jacket or vest and red flags or fluorescent orange flags and paddles reading "STOP" in white letters with a red background.	
Distance	Front Escort - Far enough to alert permitted truck to stop if required, usually 1/4 to 1/2 mile in front of load max.	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load
	Rear escort - 3 seconds or more behind the load.	2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.

Table 8: Virginia Escort Requirements Comparison

Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	Hauling or towing a mobile home requires an oversize/overweight permit	
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Table 9: West Virginia Escort Requirements Comparison

	West Virginia Escort Requirements	PCE Training
Height	Overheight vehicle and/or loads whose width exceeds 15' requires 1 front escort vehicle with height indicator pole on all roads	Load whose height exceeds 14' 6" requires 1 front escort with vertical clearance measuring device.
Width	1)Overwidth vehicle and/or load whose width is between 10' 6" and 12' requires 1 front escort vehicle on 2 lane road; none on multilane road	1)Load whose width exceeds 12ft requires 1 front escort on 2 lane road, only 1 rear escort on multi lane road
	2)Overwidth vehicle and/or load whose width is between 12' 1" and 14' requires 1 front&1rear escort vehicles on 2 lane road; 1 rear escort vehicle on multilane road	2) Load whose width exceeds 14ft requires 1 front & 1 rear escorts.
	3)Overwidth vehicle and/or load whose width is between 14' 1" and 15' requires 1 front&1rear escort vehicles on 2 lane road and on multilane road. (Districts and Parkway may require additional escort or time restrictions)	
	4)Overwidth vehicle and/or load whose width is between 15' 1" and 16' requires 2 front&1rear escort vehicles on 2 lane road; and 1 front&2 rear escort vehicles on multilane road	
	5)Overall width of 16'1" and above decided by permit	
Length (See note 1)	1) Overlength vehicle and/or load (tractor&trailer) whose length is between 75' and 95' requires 1 rear escort vehicle on 2lane road; and none on multilane road.	1) Load whose length exceeds 90ft requires 1 rear escort
	2) Overlength vehicle and/or load (tractor&trailer) whose length is between 95'1" and 100' requires 1 front&1 rear escort vehicles; and 1 rear escort on multilane road. (Districts and Parkway Authority may require additional escorts)	2) Load whose length exceeds 150 ft requires 1 front & 1 rear escorts.
	3) Overlength vehicle and/or load (tractor&trailer) whose length exceeding 100' 1" requires 1 front&1 rear escort vehicles; and 1 front&1 rear escort vehicles on multilane road.	
Rear Overhang	Rear overhang Exceeds 10' requires 1 rear escort vehicle	
Front Overhang	Front overhang Exceeds 10' requires 1 front escort vehicle	
Bulldozer Blade Overhang	No information	
Oversize Load Sign Required @	All Escort vehicles are required to mount to sign on bumper or roof of the vehicle and sign must be visible from front and rear	Sign shall be top mounted and visible from front & rear for 100 ft
Oversize Load Sign Size	5' x 12"	1' x 5'

Table 9: West Virginia Escort Requirements Comparison

Oversize Load Sign Lettering	Black Letters, 10" high with 1.5" brush stroke on yellow background	Black letters at least 10" w 1" brush stroke on yellow background
Lights	A rotating or strobe amber yellow plastic, acrylic or glass covered flashing light	Top mount 2 or more high intensity amber flashing or rotating lights
	Light shall be visible from at least 500ft and have a horizontal placement which is visible from all directions 360 degrees	visible for a full 360 degrees for at least 500 ft in daylight
Communication Equipment	A CB radio, or any other two way communication device with the permitted load.	Permanently mounted operable CB radio & backup unit
Restricted Travel	No information	
Railroad Crossings	No information	Include railroad crossing analysis in route survey
		Evaluate approach rise, descend slope, length of crossing
Pre Railroad Crossing	No information	Evaluate and comply with advance railroad notification requirements
		Evaluate approach & descend demographics
Escort Vehicle	The escort vehicles must weigh more than 2,000 pounds and have manufacturers gross weight rating less than 26,000 pounds and must be properly licensed.	Select vehicle to create maximum contrast in color & size
		Size to transport required equipment, affix required signage, lighting
Flags	Two (2) Red or safety orange, min 18" square flags, shall be mounted at a 40 to 70 degree angle on the escort vehicle's roof rack or flags may be mounted on all four corners of the vehicle.	Top mount 2 or more red or orange 18" square flags @ 45 degrees
Escort Identification	Identification signs or placards showing the name of the company or the owner or driver of the escort vehicle shall be displayed on the escort vehicle in a conspicuous place on both the right and left side. The signs shall be at least 8" by 12" and shall contain the telephone number of the owner or driver plainly legible to the motoring public.	
Escort Vehicles Miscellaneous Equipments	Fire extinguisher (type a-b-c); a slow sign with a handle with the work "STOP" on one side and "SLOW" on the other of not less than 18" in diameter with 6" letters suitable for directing traffic; a safety orange vest, shirt or jacket; a red hand held sign 18" in size; 2 oversize load banners, yellow with black lettering; three reflecting triangles or 18" traffic cones	Reflective vest or jacket, orange gloves and a hard hat, stop/slow paddle at least 18in in diameter, the stop face must be red with white letters and the slow face must be yellow with black letters, 10 lb multi-purpose ABC rated fire extinguisher, three reflective triangles or cones and two red flags
Distance	No information	1)Rear escort - 3 to 4 seconds distance between the pilot car escort and the overdimensional load

Table 9: West Virginia Escort Requirements Comparison

		2)Front escort - the greater of 4 seconds or 1 second distance between the pilot car escort and the overdimensional load for each 10 feet or portion of 10 feet of the load length. Add another second when the load speed exceeds 40 mph. Adjust spacing for hazardous or congested scenarios; however, do not extend the spacing beyond 1/2 mile.
Manufactured buildings, manufactured homes, mobile homes, modular buildings, sheds, and swimming pools	No information	
Speed	No information	
Travel Restrictions	1)Travel for oversize vehicles which are 14' 0" or less wide, 75' 0" or less length, 10' 0" or less overhang and 14' 0" or less high is allowed where appropriate from sunrise to sunset, seven days a week.	
	2)Vehicles traveling only on Interstate or APD routes can travel with dimensions which are 14' 0" or less wide, 95' 0" or less long, 15' 0" or less overhang and 14' 6" or less high from sunrise to sunset, seven days a week. Oversize vehicles exceeding these dimensions up to and including 16' 0" wide can travel from sunrise to sunset, Monday through Friday.	
	3)Travel for vehicles exceeding 16' 0" wide is allowed only on Sunday mornings.	
	4)Travel for vehicles that are overweight up to and including 110,000 pounds but not oversize is allowed 24 hours a day, seven days a week.	
	5)Overweight vehicle exceeding 110,000 pounds can travel from sunrise to sunset, Monday through Friday.	
	6)Mobile homes up to and including 14' wide can move from sunrise to sunset, Monday through Friday and sunrise until noon on Saturday.	
	7)Mobile homes greater than 14' wide up to and including 16' can move sunrise to sunset, Monday through Thursday and sunrise until 3:00 pm on Friday.	

Table 9: West Virginia Escort Requirements Comparison

West Virginia Parkway Authority restricts all vehicles in excess of 14 feet width to movement on Monday through Thursday and Sunday morning daylight until noon. No movement Friday. Loads greater than 16' wide must be able to clear 2' 9" high concrete barriers.	
15' 1" to 16' width can move Monday through Friday and Sunday morning until noon on two lane highways.	

1) Pole or extendable trailer can legally carry a load of 80' in length (without permit) not inclusive of front and rear bumpers. Escorts are not required but are encouraged for safety

Escort requirements must be stated within the permit. Districts and Parkway Authority may require additional escort or movement requirements, but never less than those listed

Appendix – B

Regional Pilot Car Certification Recommendations

SASHTO Multi-State Permit Group Meeting

October 23, 2008

Audience Responses to “Regional Pilot Car Certification Update” Presentation

Jay Lindly from the University of Alabama presented “Regional Pilot Car Certification Update” on October 23 to the SASHTO Multi-State Permit Group Meeting. He brought forward recommended treatments of 15 variables that Southeastern states have concerning pilot cars. This follow-up document describes the recommendations and gives the responses from the Multi-State Permit Group. These responses will help form the final list of recommendations. In the descriptions below, PCE stands for *Pilot Car Escort Training Manual: Best Practices Guidelines* by FHWA, SC&RA, and CVSA. MSA stands for the *Multi-State Permit Agreement for Oversize and Overweight Vehicles* dated August 21, 2003.

Escort Vehicle Sign Size

- PCE Recommendation: 5’ x 1’
- MSA Requirement: No information
- Our Recommendation: Follow PCE
- Comments: Will it be top mounted or side mounted? (PCE specifies top mounted.)

Where will flags be placed (at each end of sign?) Will sign be mounted at 90° or will it be slanted back to lower wind resistance? Will it be “louvered” (presumably to let air through and create less drag).

Signage Letter Dimension and Colors

- PCE Recommendation: 10" x 1" black lettering with yellow background
- MSA Requirement: 10" x 1.5" black lettering with yellow background
- Our Recommendation: 10" x 1.5" black lettering with yellow background (no orange)
- Comments: Standard for 1 foot tall signs is 8" x 1.25". Should it be reflectorized for night? Should it just be a painted background?

Load Vehicle Front Overhang

- PCE Recommendation: No recommendation
- MSA Requirement: No information
- Our Recommendation: >10 feet, use 1 front escort.
- Comments: Is this for all routes? Some utility companies have 5 foot long poles that stick out and could be dangerous. Is this getting too picky; should we let each state decide?

Load Vehicle Rear Overhang

- PCE Recommendation: no recommendation
- MSA Requirement: no information
- Our Recommendation: >10 ft, use 1 rear escort.
- Comments: Rear overhangs are not as serious as front. All states are different; that's why PCE made no recommendation. Industry comment, "We just hang a light off it unless overall length says to use an escort."

Distance of Pilot Car from Escort

- PCE Recommendation: Rear escort should be 3-4 seconds behind. Front escort distance is provided by a formula based on speed and load length.
- MSA Requirement: No information
- Our Recommendation: Rear escort should be 3-4 seconds behind. Front escort should give enough room to alert the load to stop (1/4 mile to 1/2 mile is typical).
- Comments: Common sense should prevail. On rear escort, why not say, “Provide enough room to alert load to stop” and leave off the distances.

Pilot Car Lights

- PCE Recommendation: Top mount two or more high intensity amber flashing or rotating lights.
- MSA Requirement: Rotating or strobe amber light. Must be visible for ≥ 500 ft and 360°. Low beam headlights on at all times.
- Our Recommendation: Top mount two or more high intensity, amber, strobe or rotating lights. Escort car headlights on. 360° visibility.
- Comments: Take out the 500 feet; no one knows how to define “visible” at 500 feet. We should specify an “AAMVA approved” light, instead.

Pilot Car Flags

- PCE Recommendation: Top mount two or more red or orange 18” square flags at 45°.

- MSA Requirement: Top mount two red or fluorescent orange flags ≥ 18 " square on each side of roof rack at 40°-70°.
- Our Recommendation: Same as PCE but eliminate orange color.
- Comments: FMCSA says red or orange, now, says Jay Thompson of Arkansas.

Load Height Requiring Pilot Car

- PCE Recommendation: >14'-6" requires 1 front escort with height indicator
- MSA Requirement: Not applicable: MSA agreement does not include vehicles over 14 feet.
- Our Recommendation: Follow PCE.
- Comments: Industry rep said, "I like a pole car at 14'-6"."

Time Restrictions on Travel

- PCE Recommendation: No recommendation
- MSA Requirements: M-F 30 minutes after sunrise to 30 minutes before sunset and Saturday from 30 minutes after sunrise to noon. Travel not allowed on six specific holidays. Special state restrictions for urban areas (these are specified in Appendix J of the MSA). Travel not allowed in inclement weather.
- Our Recommendation: Same as MSA
- Comments: Industry might not like the MSA time frame; it might like longer hours. On inclement weather, judgment is required. VA: we use 30 minutes after sunrise to 30 minutes before sunset to avoid high crash times. Arkansas rep said, "Use sunrise to sunset". Mississippi is changing to sunrise to sunset. Teamwork is needed between the

escort and the carrier so that everyone knows when sunrise is in various states. Majority opinion: change hours to sunrise to sunset (note taker wasn't certain whether this meant 5 days per week or 6 days per week.)

Load Length Requiring Pilot Car

- PCE Recommendation:
 - 90-150 feet long, use 1 rear escort
 - >150 feet long: 1 front and 1 rear escort
- MSA Requirement: Not applicable because maximum allowable length is 100 ft.
- Our recommendation: Follow PCE
- Comments: There seem to be more and more moves requiring rear escorts these days. In Louisiana, one (police?) escort can escort 2 different load vehicles. Sometimes, there are not enough police to escort loads.

Load Width Requiring Pilot Car

- PCE Recommendation:
 - 12' – 14': 1 front on 2-lane roads; 1 rear on multi-lane
 - >14': 1 front and 1 rear on all roads
- MSA Requirement:
 - Minimum of 1 escort for widths over 12 feet. States may be more restrictive for high volume roads and lanes < 12 feet wide.
 - Maximum allowable width is 14 feet for the MSA agreement.
- Our recommendation:

- 12' – 14': 1 front on all 2-lane roads; 1 rear on multi-lane
- >14' – 16': 1 front and 1 rear on all roads
- >16': meet individual state's requirements
- Comments: Industry rep said, "Leave it to states' discretion over 16 feet." Mississippi said there is too much geographic, lane width, etc. variables to allow uniformity. Route specific exceptions should always be allowed. Some states may require law enforcement officer when load is over 16' wide.

Escort Vehicle Type

- PCE Recommendation: Select vehicle to create maximum contrast in color and size. Select vehicle to transport required equipment and affix signage and lighting.
- MSA Requirements; Vehicle 2,000 lb to 10,000 lb. GVW.
- Our recommendation: Properly licensed pickup truck, carryall, or passenger vehicle 2,000 lb. up to 10,000 GVW.
- Comments: The 10,000 lb GVW tries to eliminate flat bed trucks that have so much equipment loaded on the bed that the driver can't see behind. If you use a weight maximum, then cap it with GVWR, also; not just GVW. Crane industry representative: he'd like to use the truck carrying the counterweight as the escort car. Industry comment: "Why not just say what you mean: you want a properly licensed vehicle that has an unobstructed 360° view for safety".

Communications Equipment

- PCE Recommendation: Permanently mounted operable CB radio unit and backup

- MSA Requirement: Operable two-way electronic communications with the escorted vehicle.
- Our Recommendation: Permanently mounted operable electronic communications and backup.
- Comments: None

Onboard Equipment

- PCE Recommendation: Reflective vest or jacket, orange gloves, hard hat, stop/slow paddle (size and color requirements given) and supplemental hand-held red or orange flag, 10-lb multi-purpose ABAC rated fire extinguisher, first aid kit, 3 emergency reflective triangles and 3 reflective emergency cones, a traffic wand, and spare/replacement equipment.
- MSA Requirement: Safety orange vest, shirt, or jacket, hard hat, stop/go paddle (18” w/ 6” letters), 2 five-lb. fire extinguishers or equivalent, reflecting triangles or 18” traffic cones, 18” red hand-held flag, 2 oversized load banners (yellow w/ black lettering). Additionally, hand held 2-way communications with ability to talk to driver of escorted vehicle is recommended, along with flares and maps.
- Our Recommendation: Use PCE recommendation and add MSA recommendations.
- Comments: If law enforcement officers are involved, the escort vehicle should supply hand-held communications to the police officer so that all parties can stay in communication. If an individual state allows escorts to act as traffic controllers, the apparel, hard hats, etc. must comply with the FHWA Manual on Uniform Traffic Control Devices (MUTCD).

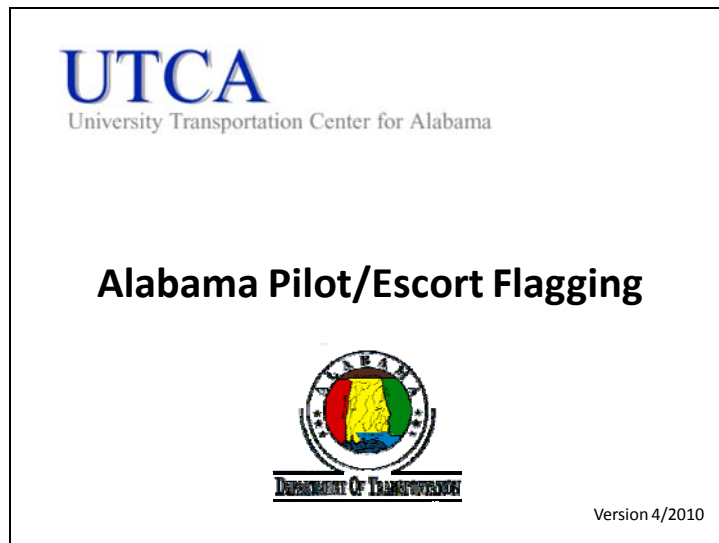
Mobile Homes, Swimming Pools, Sheds, Etc.

- PCE Recommendations: No recommendation
- MSA Requirement: No additional information
- Our Recommendation: Follow standard escort vehicle requirements.
- Comments: Alabama asked if it was alone in allowing extra light systems to replace rear escorts in some situations; all other representatives present except Texas said they allowed no such replacements.

Other General Comments: The note taker received the impression that most state-specific exceptions should be avoided (such as the AL exception for mobile homes). Exceptions that will be allowed should be contained in one or more lists such as the one in Appendix J of the Multi-State Agreement.

Appendix – C

Example Pages of Instructor's Manual



The organization of the instructor notes is summarized as follows:

Key Message: A brief statement of the key points of the slide.

Additional Info: Additional information the instructor should know, say, or do.

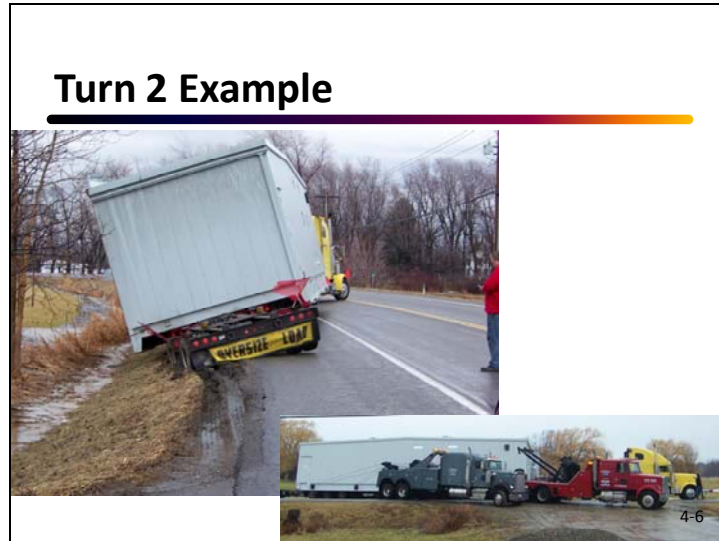
Questions/Interactivity: Any special supportive comments, cues to questions, or interactivity to stimulate conversation and check for session objective comprehension.

Possible Problems: Anything that might create a problem that the instructor should be prepared to forestall. Also, a place for the instructor to make any notes on problems not already addressed.

Objectives are listed at the beginning of each session and are the main ideas that participants should come away with at the end of the session. Some participants need guidance as to what is expected of them, so be sure to review objectives for each session and have participants demonstrate that they completed each objective at the end of each session.

Some words are underlined in the slides. This is because they are blanks in the participant workbook. Discuss the blanked words, and give participants time to fill in the blanks.

The page numbers (at the bottom of page) will not match the participant workbook since the participant workbook has two slides per page, so the slides are numbered with their own session numbering to match.



Key Message:
Turn 2 Example

Additional Info:

This overlength load did not complete his turn as successfully. Pictures courtesy of Richard Sproat, the load driver in photo. Here's his story: "We were on a 2 lane highway with wide paved shoulders. The road curves to the left, we needed to make a right turn into a narrow drive. There were 9 other escorts shutting down the roadway plus 4 other drivers on hand. My rear car was told the road was closed and it was ok to proceed. Everyone else was told to not transmit unless it was an emergency, as we could not close the hwy for more than 15 minutes. Well 6 hrs later it reopened. The grace of God and 30 yrs experience kept the load from rolling over. The unit is a 1.5 million dollar section to a power grid. Once the unit left the pavement the stinger took over and gravity pulled it to the ditch. The SAVE: had I not got the upper front corner to solid ground everything would have been lost. The rear escort said she could not tell where the axles were at on the pavement. The end result was a \$6,000.00 tow bill."

Questions/Interactivity:

Possible Problems:

Route Survey

- Verifies proposed route has clearance to accommodate
 - 6 inches for height
 - 2 feet (each side) for width
- Administered by
 - Qualified escort
 - CDL driver
- Include any weather or other travel conditions



4-10

Key Message: Route Survey

Additional Info:

Surveys should be as current as possible.

If an escort does a survey of the same route frequently, do not assume that clearances are still the same. Events like construction, road blockages, etc. may have occurred since the last route survey.

Questions/Interactivity:

Anyone completed a route survey before? For height? For width? What were any occurrences that caused the load to need to change routes?

Possible Problems:

If participants comment about the missing oversize load banner on this escort vehicle, tell them that this was in another state, but in Alabama, escorts must have an oversize load banner on their car. More than likely, this entourage had some law enforcement ahead.

Appendix – D

Example Pages of Participant's Manual

Alabama Pilot/Escort Flagging



Version 4/2010

Session One

INTRODUCTION

1-1

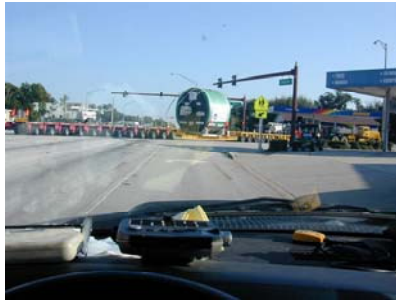
Turn 2 Example



Overwidth



Overheight



4-9

Route Survey

- Verifies proposed route has clearance to accommodate
 - 6 inches for height
 - 2 feet (each side) for width
- Administered by
 - Qualified escort
 - CDL driver
- Include any weather or other travel conditions



4-10

Appendix – E

Deployment of Pilot Car Certification Program in Alabama Preliminary Report

DEPLOYMENT OF PILOT CAR CERTIFICATION PROGRAM IN ALABAMA

In this report, we propose three possible options for the deployment of Pilot Car Certification program in Alabama. One option is have the certification program administered by the University Transportation Center for Alabama (UTCA) at the University of Alabama. The first alternative is for the University of Alabama's College of Continuing Studies (CCS). The final alternative is for the Alabama Department of Transportation (ALDOT) to administer the certification program.

Certification Program Guidelines

Regardless of the deployment option selected for the Alabama Pilot Car Certification Program, there are several suggested guidelines to be followed for a successful program implementation. Each of these guidelines is outlined below.

Pursue Reciprocity Agreements

Obtaining reciprocity agreements by which the Alabama Pilot Car Certification is valid in other states and vice versa is critical. Such agreements lend credibility to the program and also offer a larger potential market of students for the course. For example, North Carolina maintains reciprocity agreements with Oklahoma, Utah, Virginia, and Washington.

Reciprocity agreements may be obtained by contacting the states with which Alabama would like to enter into such an agreement. Note that the Alabama Pilot Car Certification regulations should include a provision allowing for reciprocity. Example text of such regulations can be found in the regulatory materials from other states (i.e., Colorado).

Require an Assessment at Completion of Completion of Certification Course

Some current pilot car certification programs do not require students to take an examination in order to be certified. However, testing is an important element in ensuring the credibility and rigor of the certification process. The certification examination may be created by the deploying group Alabama (UTCA, CCS, or ALDOT), borrowed and modified from another state's program, or Specialized Carriers & Rigging Association (SC&RA) examination may be used. Note that the Florida Pilot Certification Program examination would be made available to Alabama upon request. The SC&RA examination would be made available to Alabama once Alabama has developed a document control policy and a system to maintain records related to the individuals that have taken the exam and have been certified by Alabama.

Deploy Certification Program with a Highly Qualified Instructor

To establish a credible program in Alabama, it would be useful to employ a highly qualified and experience instructor at the beginning of the program. There are a number of such instructors available either recommended by the SC&RA or via a pool of instructors in Florida that have indicated a willingness to travel to teach. After several iterations of the Alabama program, it may possible to develop instructors from within the UTCA, CCS, or ALDOT.

Price Program to be Self-Sufficient

The long term goal of the Alabama Pilot Car Certification program, in addition to the goals related directly to certification, should be to become self-sufficient. Course fees charged to participants should be structured to cover the costs of the program. Initially, this may be difficult as it may be challenging to accurately forecast the number of student participants.

Additional Deployment-Option Independent Discussion

There are several additional issues that are relevant regardless of the deployment option selected. These are discussed below:

Training Program Venue – Venues for conducting the certification program should be selected with two objectives in mind. The first objective should be to select locations such that are easily accessible from various areas of the state and neighboring states. For example, classes may be conducted in the Huntsville area to provide access pilot car drivers in north Alabama, Tennessee, and northern Georgia. The second objective should be to select locations such that the cost of obtaining a venue for the training program is minimized. The Florida pilot car certification program is conducted primarily in various governmental (Florida DOT, etc.) offices throughout the state. Such an approach in Alabama (for example, using the ALDOT offices throughout the state) would potentially allow the certification program to be conducted at minimal cost.

Registration Fees – While there should be a strong desire to develop a financially self-sufficient certification program, there is also the potential to develop a “competitive edge” from a price perspective over the pilot car program in Florida. A representative from Florida’s Technology Transfer Center (a Florida DOT and FHWA training center) indicated that a number of students from Florida and from other states would potentially enroll in Alabama’s program if the price point was set in an attractive manner.

Deployment Options

In this section, each of the three deployment options is discussed.

UTCA Administration of Pilot Car Certification Program

Under this deployment option, the University Transportation Center for Alabama would oversee both the teaching and administration of the Alabama Pilot Car Certification Program. Deploying via the UTCA would be a natural fit for the UTCA due to the technology transfer and training aspects of the pilot car certification program. While a noted expert in the pilot car field would likely be required to initially teach the pilot car program, UTCA staff or associated faculty members could easily take on the role of instructor over time. A potential negative point related to this deployment option is that the administration of the certification program would likely be time consuming, particularly early on the program’s deployment.

CCS Administration of Pilot Car Certification Program

Under this deployment option, the University of Alabama's College of Continuing Studies would oversee the teaching and administration of the Alabama Pilot Car Certification Program with considerable input and guidance from the UTCA. The CCS currently offers both academic degree programs and professional development courses. Placing the certification program under the auspices of the CCS would be a natural fit in that the College has extensive experience in the administration and teaching of similar courses (e.g., Six Sigma certification, Asbestos Inspector, etc.). However, ceding control of the pilot car certification program to the CCS would bring a new stakeholder to the table that would likely desire financial benefit from the administration and teaching of the course. Such a situation may necessitate increased program costs.

ALDOT Administration of Pilot Car Certification Program

Under this deployment option, the Alabama Department of Transportation would oversee the teaching and administration of the Alabama Pilot Car Certification Program. While the pilot car certification program is of great interest to ALDOT, administration and teaching of such a program may fall outside of the bounds of activities traditionally conducted by the Department. Under ALDOT administration, the pilot car certification program would likely begin with an expert instructor. Over time, ALDOT employees may be trained to serve as instructors.

Conclusions and Discussion

This document provides the results of a preliminary investigation into the various options at-hand for the deployment of a pilot car certification program in the state of Alabama. Three deployment options have been presented along with various guidelines for program deployment. Based upon an initial analysis, UTCA administration of the pilot car certification program appears to be desirable, with University of Alabama College of Continuing Studies or ALDOT administration serving as potential alternatives.