



**Commercial Vehicle  
Safety Alliance**

# Pilot Car Escort

## Best Practices Guidelines



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## PILOT CAR ESCORT

# Best Practices Guidelines

### Overview

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The Specialized Carriers and Rigging Association (SC&RA) with funds provided by grant from the Federal Highway Administration (FHWA), Office of Freight Management and Operations and in cooperation with the Commercial Vehicle Safety Alliance (CVSA) prepared these guidelines. The contents of the guidelines are the result of extensive research and analysis conducted by the association, a review of federal and state regulations and “Best Practice” analysis of existing Pilot Car Escort training materials. Input was solicited from subject matter experts representing specialized carriers, pilot car escorts, permitting officials, federal highway officials and training specialists. Comments concerning the contents were received from various entities including, the Western Association of State Highway and Transportation Officials, the Southern Association of State Highway and Transportation Officials, Keen Transport, Inc., DAWES Specialized Transportation, COMDATA and the Pilot Car Escort Training Project Working Group. Their input is gratefully acknowledged. The Working Group included representatives from the pilot car escort industry, SC&RA, FHWA and a training specialist.

The guidelines summarize the results of extensive research and analysis of existing formalized pilot car escort training materials. The analysis culminated in the identification of the noted “Best Practices” for pilot car escort assisted movement of permitted oversize/overweight loads. The outline is intended as a guide for prospective pilot car escort operations and as a review for existing operations. It is recommended that the Pilot Car Escort Training Manual, the Pilot Car Escort Study Guide and the Pilot Car Escort Training Test supplement the guide. The related Microsoft PowerPoint presentation offers an excellent mechanism for classroom presentation and completes this comprehensive Pilot Car Escort Training Program. Each of the program components can be used individually or partnered with one or more of the other components. This format offers flexibility to meet the needs of the one to two employee pilot car escort operation to the more complex multi-state operation.





## PILOT CAR ESCORT: BEST PRACTICES GUIDELINES

# Summary Outline

### I. Pre-trip Planning

(Team work starts with acceptance of the load movement assignment)

#### A. Confirm assignment

1. Carrier confirmation
  - a. Identify load size; width, height, length, and gross weight
  - b. Identify axle configuration and steering limitations
  - c. Determine carrier's preferred route of state(s) permit designated route
  - d. Determine if load is top heavy/over height
    - i. Confirm the presence of top mounted skid boards for over-height loads
    - ii. Determine if "high route survey" is required
  - e. Identify driver's name, truck number, driver's cell phone number, CB channel of preference and other identifiers and contact numbers
    - i. Select a CB channel that maintains awareness of public information
  - f. Identify name and address for point of origin and destination, cross-reference to map
2. Permit confirmation
  - a. Secure copies of the permits, as available
  - b. Secure copies of related route surveys, as available
  - c. Identify required number and type of escorts

#### B. Review route

1. Review route for state prohibitions; size restrictions, on-going construction, dimensional load movement curfews, weight-restricted bridges, height restricted overhead limitations, seasonal restrictions; feasibility and safety
  - a. Identify alternate routes as necessary
  - b. Complete an initial risk assessment to identify potential hazards and obstructions

2. Review route for railroad crossings
  - a. Assess rail traffic
  - b. Review crossing profiles
  - c. Review crossings for: change in ascending and descending slope, length of crossing, number of tracks, road condition on the approach and retreat, i.e. straight, turn, curve and instructions for advance or emergency notification
  - d. Identify pertinent railroad emergency telephone numbers
  - e. Make advance contact with the railroad if in doubt that the load can safely negotiate the crossing or as required by permit or state specific regulations
3. Estimate daily travel distance
4. Identify approved interim stops
5. Identify safe parking and lodging for overnight layovers
6. Cross-reference route to travel maps or electronic medium
7. Complete or review route surveys as appropriate
8. Complete route sheets

### **C. Review permit**

1. Verify accuracy of load representation, travel dates and time, point of origin and destination, and route designation
2. Note any route restrictions
3. Note special equipment requirements
4. Identify traversed municipalities
  - a. Verify municipal permits have been secured
5. Note required law enforcement escort(s), utility company accompaniment, etc.

### **D. Check vehicle/equipment**

1. Comply with all state specific and federal vehicle, equipment and safety requirements/certifications
  - a. Review the Code of Federal Regulations (CFR) Title 49, Volume 4, Chapter III, Part 393, Section 393.95 for regulation on emergency equipment
2. Comply with all other provisions of the law regarding the use, operation and licensing of motor vehicles

3. Test all operational and safety equipment and ensure cleanliness and serviceability
  - a. Lights
  - b. Signs
  - c. Flags (See CFR Title 49, Section 393.95)
  - d. Two-way electronic communications
  - e. Protective/safety clothing; reflective vest, shirt or jacket
  - f. Stop/Slow paddle
  - g. Fire extinguisher (See CFR Title 49, Section 393.95)
  - h. First Aid kit
  - i. Reflective triangles or cones (See CFR Title 49, Section 393.95)
  - j. Vertical clearance measuring device/Height Pole
  - k. Maps
  - l. Spare/Replacement equipment (See CFR Title 49, Section 393.95)
  - m. Flashlight
4. Perform vehicle maintenance
  - a. Check tire condition and pressure and spare tire
  - b. Check hoses and fluid levels
  - c. Check horn, windows, odometer, battery, speedometer and lights
5. Verify required vehicle insurance is current
6. Comply with jurisdictional specific regulations regarding restrictions on vehicle contents and occupants

#### **E. Check pilot car escort**

1. Comply with state escort age requirements
2. Verify required driver's license is current
3. Verify required training has been completed
4. Review escort job-readiness
  - a. Escort is healthy
  - b. Escort is free of fatigue
  - c. Escort must not display badge, shield, emblem or uniform of color or design that may be mistaken for law enforcement badge, emblem or uniform

## **F. Prepare contingency plans**

1. Review contingency plans with the carrier and enroute transfer escorts
  - a. Plan for vehicle breakdowns
  - b. Plan for emergencies (Escort vehicle must not be operated as a law enforcement or emergency vehicle)
    - i. Contact with overhead obstruction
    - ii. Railroad crossing issues
    - iii. Accidents and property damage
  - c. Plan for enroute transfer of escort responsibilities
    - i. Assess the feasibility for overlapping escort services in the event a non-stationary transfer of escort services is necessary
    - ii. Coordinate minimal safety procedures to be completed by two-way electronic communication until a safe stop can be made
    - iii. Identify the first available/authorized safe area to stop following any non-stationary transfer of escort responsibilities
    - iv. Identify and coordinate plan with other responsible entities (law enforcement agencies, utility companies, railroads, etc.)
  - d. Coordinate and record emergency numbers with carrier

## II. Pre-trip Meeting

(Team coordination meeting at the point of origin or a transfer site)

### A. Identify team members

1. Discuss roles and responsibilities of individual team members
2. Review load driver and law enforcement escort's expectations of the pilot car driver

### B. Complete a job hazard/safety analysis

1. Identify load specific risks
  - a. Fire risks
  - b. Explosive potential
  - c. Hazardous material
    - i. Notify the Environmental Protection Agency and state agencies as necessary
    - ii. Identify railroad crossing and tunnel restrictions and corresponding notification requirements
  - d. Load configuration
    - i. Protruding components
    - ii. Weight shift potential
  - e. Collapsible or fragile loads
  - f. Time-sensitive or perishable materials
2. Ensure appropriate emergency equipment is on-hand and available to all team members
3. Review emergency procedures with team
  - a. Review procedures for communicating emergency situations
  - b. Review procedures to abort the transport
4. Review load limitations
  - a. Ground clearance
  - b. Load height
  - c. Maneuverability and turning limitations
5. Review contingency plans for emergencies, enroute transfer of escort responsibilities and vehicle breakdowns
  - a. Identify point of transfer for an enroute transfer of escort responsibilities
  - b. Identify the first available safe stopping site for an enroute transfer of escort responsibilities

### **C. Review permits**

1. Confirm accuracy of travel dates, travel times, point of origin, destination, truck identification and license number, trailer number, route and load dimensions
  - a. Measure load to validate permit specifications
2. Determine if a Route Survey was completed
  - a. Review for changes by permit agency
  - b. Review for previously unidentified route obstructions and potential hazards or safety issues
3. Complete route sheets for permit designated route if not done as part of pre-trip planning
  - a. Review and ensure distribution of route sheets to team
  - b. Cross reference route to maps or electronic medium
4. Determine if advance notifications are designated for law enforcement, railroads, toll road stations and utilities
  - a. Confirm the indicated advance notifications have been completed

### **D. Communications review**

1. Ensure all members of the team are equipped with a two-way radio
2. Identify two-way radio channel
3. Run a test on communications equipment and designated channel
4. Familiarize yourself with the load driver's voice

### **E. Prepare for load movement**

1. Check and mount "Oversize Load" signs, flags and pilot car lights in accordance with regulations
2. Determine the placement of the team vehicles during transport
3. Set vertical clearance measuring device, "height pole," as necessary
  - a. Set height consistent with state regulations and in cooperation with the load driver
  - b. Daily verify accuracy of height pole setting by visually comparing the pole setting to the highest point of the load when the escort vehicle is parked parallel to the load (ensure the load and the escort vehicles are on level surfaces when measuring)

### III. Modified Pre-trip Meeting

(Team coordination for enroute non-stationary transfer of escort responsibilities, i.e. “pick-up on the move”)

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#### A. Review Pre-trip Planning contingency plan for enroute transfer of escort responsibilities

1. An enroute non-stationary transfer should be the exception
2. Overlapping escort services is the preferred method for transferring escort responsibilities when an enroute transfer is necessary

#### B. Complete minimum safety procedures by two-way communication

1. Identify team members
2. Test communication equipment
3. Identify load specific risks and risk control measures
4. Identify emergency situations or previously unidentified risks surfaced to date
5. Verify the existence of the permit and applicable permit restrictions
6. Verify the route sheet matches the designated permit route
7. Review vehicle positioning
8. Identify the next available safe area to stop

#### C. Stop at the next available safe pull-off area

1. Complete the remainder of tasks listed for the Pre-trip Meeting for a point of origin or stationary transfer
2. Review any unforeseen emergencies surfaced to date

### IV. Oversize/Overweight Load Movement

(Movement must, at all times, be operated with regard to public safety)

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#### A. Comply, in all respects, with the state specific vehicle movement laws

#### B. Comply with all permit specified requirements, restrictions and special conditions

**C. Position vehicles in compliance with state regulations**

**D. Display flashing lights, signs and flags as required**

**E. Maintain sufficient team communication to promote public, team and load safety**

1. Avoid unnecessary conversation
2. Keep the load driver informed of your location

**F. Monitor and advise load driver of any malfunction of load lights, tie-down straps and chains and tire and brake problems**

**G. Compare team vehicle speedometer readings as necessary**

1. Advise load driver of any potential violations of state restrictions
  - a. Noncompliance with posted speeds limits and/or permit speed restrictions

**H. Follow safe maneuvering techniques**

1. Estimate braking distance for load
2. Maintain necessary vehicle spacing
  - a. Adjust spacing for congested areas
  - b. Adjust spacing when approaching low clearance structures, narrow bridges and blind curves
  - c. Comply with state specific regulations for multi-load movements
  - d. If vehicle spacing is extended for the presence of hazardous conditions, test the communications quality to verify that extending the spacing has not resulted in ineffective communications and adjust vehicle spacing appropriately to maintain quality communications
3. Advise load driver of impending roadway restrictions or hazards and recommend defensive maneuvers
  - a. Narrow structures and bridges
  - b. Guard rails
  - c. Elevated and/or rough grade crossings



- d. Impaired clearances
  - e. Construction activity and road closures
  - f. Changes in traffic flow or intensity
    - i. Vehicle passing
    - ii. Changes in surrounding traffic speed or volume
  - g. Change in road or weather conditions
  - h. Trees, utility lines and soft shoulders
  - i. Stalled vehicles, mailboxes, telephone poles, pedestrians and road signs
  - j. When potential hazard cannot be adequately assessed by sight, load should be safely parked and warning devices placed, escort driver and load driver should proceed and physically assess hazard
    - i. Determine if alternate route is necessary
      - a. Identify alternate route
      - b. Survey alternate route
      - c. Ensure appropriate notifications are made regarding alternate route (carrier, permit agency and official)
4. Be aware of traffic control light timing risks
- a. Communicate situations where a team member is unable to clear the traffic control light

## **I. Identify and communicate emergency situations to team**

1. Initiate emergency procedures for breakdowns
  - a. Comply with CFR Title 49, Volume 4, Chapter III, Part 392, Section 392.22, regulation on emergency signals
  - b. Pull as far off the roadway as possible
  - c. Place warning cones and/or triangles only after putting on safety apparel
    - i. Comply with CFR Title 49, Section 392.22
    - ii. Provide smooth transition for surrounding traffic
  - d. Turn on vehicle emergency flashers and maintain escort vehicle warning lights
  - e. Apply specific emergency procedures for nighttime breakdowns
    - i. Use reflective equipment and clothing
    - ii. Use flashlights and/or lanterns
  - f. Apply state permissible flagging procedures

- g. Communicate emergency situation to law enforcement and authorities as necessary
  - h. Resolve emergency situation as quickly as possible
    - i. Do not abandon load or leave load unprotected
    - ii. Make every effort to minimize disruption of traffic flow
2. Initiate emergency procedures when vertical measuring device contact is made with an overhead obstruction
- a. Comply with CFR Title 49, Volume 4, Chapter III, Part 392, Section 392.22, regulation on emergency signals
  - b. Immediately advise load driver
  - c. Pull team vehicles as far off the roadway as possible
  - d. Advise appropriate law enforcement agencies and utilities
  - e. Place warning cones and/or triangles only after putting on safety apparel
    - i. Comply with CFR Title 49, Section 392.22
    - ii. Provide smooth transition for surrounding traffic
  - f. Turn on vehicle emergency flashers and maintain escort vehicle warning lights
  - g. Apply specific emergency procedures for nighttime emergency stops
    - i. Use reflective equipment and clothing
    - ii. Use flashlights and/or lanterns
  - h. Apply state permissible flagging procedures
  - i. Resolve emergency situation as quickly as possible
    - i. Do not abandon load or leave load unprotected
    - ii. Make every effort to minimize disruption of traffic flow
3. Initiate emergency procedures for rail grade crossing obstructions
- a. Comply with CFR Title 49, Volume 4, Chapter III, Part 392, Section 392.22, regulation on emergency signals
  - b. Pull as far off the tracks and roadway as possible
  - c. Advise appropriate law enforcement agencies
  - d. Advise railroad
    - i. Emergency contact numbers are posted on or near the crossing
    - ii. Defer to law enforcement contact in the absence of a railroad emergency contact number
  - e. Advise carrier

- f. Place warning cones and/or triangles only after putting on safety apparel
    - i. Comply with CFR Title 49, Section 392.22
    - ii. Consider blind spots and corners when placing warning devices
  - g. Turn on vehicle emergency flashers and maintain escort vehicle warning lights
  - h. Apply specific emergency procedures for nighttime emergency stops
    - i. Use reflective equipment and clothing
    - ii. Use flashlights and/or lanterns
  - i. Apply state permissible flagging procedures
  - j. Resolve emergency situation as quickly as possible
    - i. Do not abandon load or leave load unprotected
    - ii. Make every effort to minimize disruption of traffic flow
4. Initiate emergency procedures for accidents and property damage
- a. Comply with CFR Title 49, Volume 4, Chapter III, Part 392, Section 392.22, regulation on emergency signals
  - b. Pull as far off the roadway as possible
  - c. Place warning cones and/or triangles only after putting on safety apparel
    - i. Comply with CFR Title 49, Section 392.22
    - ii. Provide smooth transition for surrounding traffic
  - d. Turn on vehicle emergency flashers and maintain escort vehicle warning lights
  - e. Apply specific emergency procedures for nighttime emergency stops
    - i. Use reflective equipment and clothing
    - ii. Use flashlights and/or lanterns
  - f. Contact law enforcement, emergency services as necessary
  - g. Apply state permissible flagging procedures
  - h. Advise dispatcher/carrier as appropriate
  - i. Record incident details (Incident Report)
  - j. Contact property owner or appropriate public authority
  - k. Resolve emergency situation as quickly as possible
    - i. Do not abandon load or leave load unprotected
    - ii. Make every effort to minimize disruption of traffic flow

- J. Advise team of additional procedures that may enhance public, team and load safety**

## **V. Assignment Conclusion**

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- A. Turn off vehicle exterior lights**
- B. Remove or cover oversize load signs and flags per state specific regulations**
- C. Remove or cover amber lights per state specific regulations**
- D. Remove or retract vertical clearance measuring device**

## **VI. Quality Assurance Review/After Action Report**

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### **A. Evaluate assignment**

1. Were risks adequately identified
2. Did the remedial measures keep the risks at an acceptable level, maximize the safe movement of the load and protect the public and the team
3. Identify any unforeseen risks
  - a. Assess impact of the unforeseen risks
  - b. Identify modifications to original plan that might have remedied the shortcoming
4. Review emergency incidents
  - a. Assess impact on load, team and public safety
  - b. Assess effectiveness of emergency procedures
  - c. Identify modifications to emergency procedures
  - d. Determine if any emergencies could have been avoided through better planning (i.e., overhead obstruction)

### **B. Evaluate Route Survey**

1. Was the Route Survey accurate and beneficial to the safe movement of the load

2. Did the Route Survey adequately identify potential hazards and obstructions
  - a. If not, how could the route survey procedures be improved

**C. Evaluate the communication equipment and procedures**

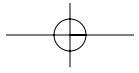
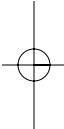
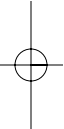
1. Was the communication equipment functional
2. Were the communication procedures effective and efficient
  - a. Did the procedures promote timely and accurate information distribution
3. Identify modifications to the communication equipment and/or procedures to enhance effectiveness and/or efficiency

**D. Evaluate team dynamics**

1. Did the team operate in an effective and efficient manner
2. Did the team dynamics promote the safe movement of the load, and public and team safety
3. Identify modifications to individual team member roles and responsibilities to enhance safety

**E. Communicate the results of the Quality Assurance Review via an After Action Report distributed to the motor carrier, pilot car company and permitting official.**





## Specialized Carriers & Rigging Association

2750 Prosperity Ave.  
Suite 620  
Fairfax, VA 22031  
Phone: 703-698-0291  
Fax: 703-698-0297  
[www.scranet.org](http://www.scranet.org)

## Commercial Vehicle Safety Alliance

1101 17th St., N.W.  
Suite 803  
Washington, DC 20036  
Phone: 202-775-1623  
Fax: 202-775-1624  
[www.cvsa.org](http://www.cvsa.org)

## U.S. Department of Transportation Federal Highway Administration

Office of Freight Management and Operations  
Room 3401  
400 Seventh Street, SW  
Washington, DC 20590  
Phone: 202-366-9210  
Fax: 202-366-3302  
Toll free help-line: 866-367-7487  
Web site: [www.ops.fhwa.dot.gov/freight](http://www.ops.fhwa.dot.gov/freight)



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